MI-7 HEAVY DUTY POWER MOWER FOR MODEL "MI" TRACTOR

JOHN DEERE

OPERATORS MANUAL

MI-7 HEAVY DUTY POWER MOWER
FOR MODEL "MI" TRACTOR

OMH29350 (01MAR50) English

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FOREWORD

The purpose of this manual is to give you useful information about your new John Deere MI-7 Heavy Duty Power Mower.

The following pages have been carefully prepared in order to give you all the possible information to assure full efficiency of your mower. We suggest you make it your guide. Study it carefully and follow the suggestions it offers. At any time additional information is desired, consult your John Deere dealer who has trained service men available to assist you.

The mower is one of the pioneer implements of the farm—as simple as a pair of shears—as efficient as a safety razor, and still a machine in which causes for trouble are often overlooked, even though apparent. These troubles are usually expressed in terms of poor work, though they are largely due to natural wear or parts not being in original adjustments or condition. Most of these difficulties are not real troubles, but can be taken care of easily and quickly **if the operator knows how to locate and remedy them.** This manual tells you how. If you will read and carefully apply the information it contains you should have no difficulty in keeping your mower the fine machine it is today. Remember, how long the mower will last and continue its good work is a matter entirely in your hands.

The exploded views and parts list are all listed for your model, making it easy to get repairs at all times. When making repairs always see your John Deere dealer.

Save this book. Put it away where you can find it for quick reference. It will save you time, trouble, and money—Don't lose it!

Date of Purchase .....

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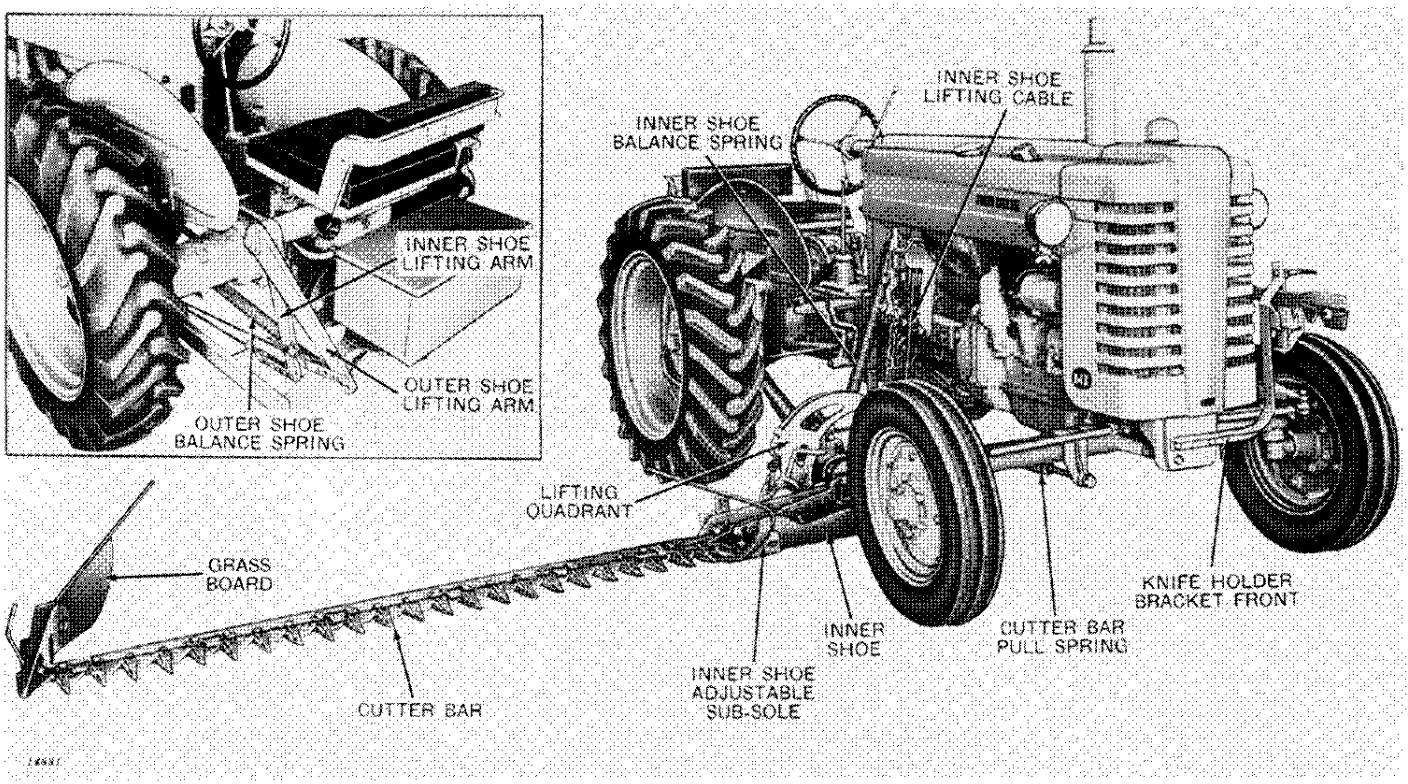

John Deere No. MI-7 Heavy Duty Power Mower on John Deere "MI" Tractor

SPECIFICATIONS AND DATA

Length of Cutter Bar	5 and 6 Foot
Type of Power	Power Take-Off on Tractor
Type of Drive	V-Belt
Tractor Hook-Up	Mounted on Tractor
Main Drive Shaft Bearings, Rear	Timken Roller
Front	Timken Roller
Flywheel Shaft Bearings, Rear	Timken Roller
Front	Timken Roller
Wrist Pin Bearings, Rear	Timken Roller
Front	Timken Roller
Approximate Shipping Weight Less Cutter Bar	424 lbs.

(Detail design subject to change without notice.)

LUBRICATION CHART

MI-7-HEAVY DUTY MOWER

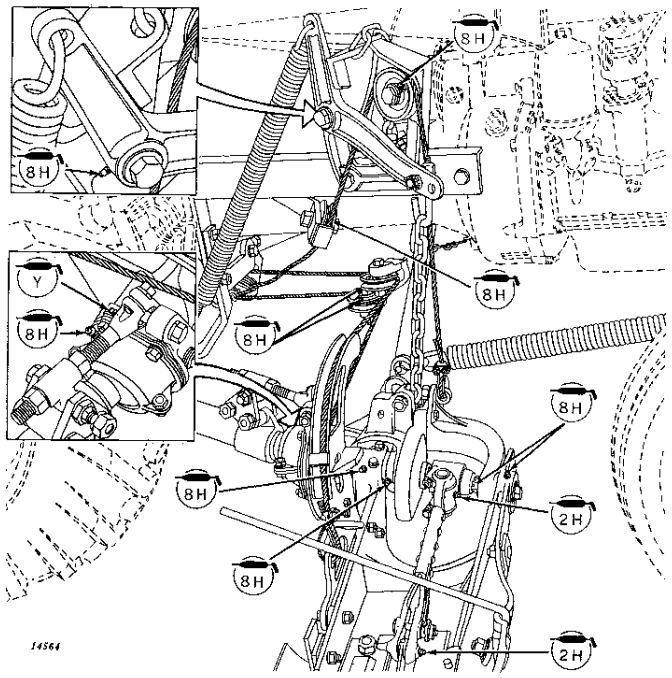

Figure 1

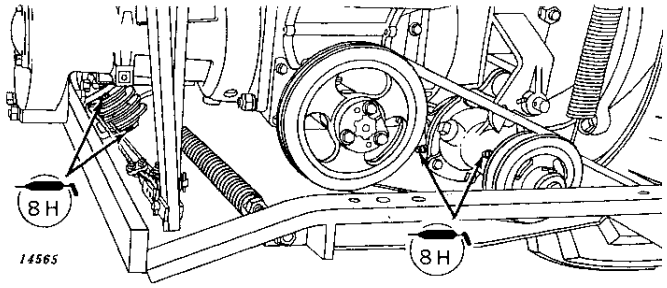

Figure 2

SYMBOLS	
2H	Grease every two hours of operation.
8H	Grease every eight hours of operation.
Y	Grease once a year.

OPERATION

Read every word of these instructions. You will like this new John Deere MI-7 Heavy Duty Power Mower. With porper care, it will give you years of satisfactory service. You will agree that careless setting up, careless operation and neglect are the causes of most troubles.

This machine will continue to cut like a new mower, if properly oiled and kept in good repair. Cutting parts must be kept sharp; badly worn knife head guides, knife holders and wearing plates must be replaced and carefully set; guards must be kept in alignment; lifting springs should be properly adjusted. Proper attention to these essentials insures clean cutting, light draft, continuous operation and low upkeep cost. The responsibility for this kind of service rests with the owner and operator.

Upkeep costs will be reduced by good storage and by replacing worn parts promptly.

STARTING MOWER IN THE FIELD

Do not start tractor until mower has been carefully checked for correct setting up and assembly. See that all nuts are tight and cotters spread. Be sure all moving parts work freely and are properly lubricated.

Start tractor engine and while idling slowly engage power take-off. Let mower run slowly for awhile and observe knife, pitman connections, and other moving parts to see that they operate freely and normally. Carefully raise and lower cutter bar several times with "Touch-o-matic" control on tractor to see that it works properly. Chcek V-Belt drive for tension and be sure sheaves are lined up.

SAFETY FIRST

Never attempt to clean, lubricate, or adjust mower without first disengaging power take-off and shutting off tractor engine. A careful operator is the best insurance against an accident.

OPERATING SPEED

Under most conditions the tractor can be driven in second gear at full throttle without causing undue wear on mower. **Avoid excessive speeds.** Steady work accomplishes more than fast work for a time. Various mowing conditions require different mowing speeds. Best results will be obtained by running the tractor at the travel speed that will meet crop and field conditions or the speed where the smoothest mowing action results.

Always keep tractor engine running at a normal speed. Running the engine slowly reduces the knife speed and may cause the knife to clog where cutting is heavy. Where difficult conditions make it necessary to slow down travel speed of tractor, the operator should shift the transmission to a lower gear, rather than throttle the engine to slow speed. By Shifting to a lower gear, the engine can be kept at its rated R.P.M. speed which will keep the knife running at the proper speed for best results.

Do not engage power take-off with engine running at high speed. To do so may cause breakage and considerable wear on V-belt due to slippage.

NUMBER OF ACRES CUT PER HOUR

The following is a table showing the number of acres that can be cut with the MI-7 Heavy Duty Power Mower in one hour of continuous cutting at various speeds.

Miles per Hour	1	1-1/2	1-3/4	2	2-1/4	2-1/3	2-1/2	2-3/4	3	3-1/4	3-1/2	3-3/4	4
5-Foot Cut..	.605	.905	1.055	1.210	1.360	1.410	1.510	1.660	1.815	1.965	2.115	2.265	2.420
6-Foot Cut..	.726	1.086	1.266	1.452	1.632	1.692	1.812	1.992	2.178	2.358	2.538	2.718	2.904

TRANSPORTING

When moving from one field to another or any considerable distance, the cutter bar must be placed in its transport position.

Raise cutter bar to its highest position with Touch-o-matic hydraulic lift. Hook transport chain to inner shoe as shown at "A," Figure 3. After this is done, push forward slowly on Touch-o-matic levers and allow transport chain to take weight of cutter bar **gently without jerking.** After this operation is completed Touch-o-matic levers should be as far forward as they will go.

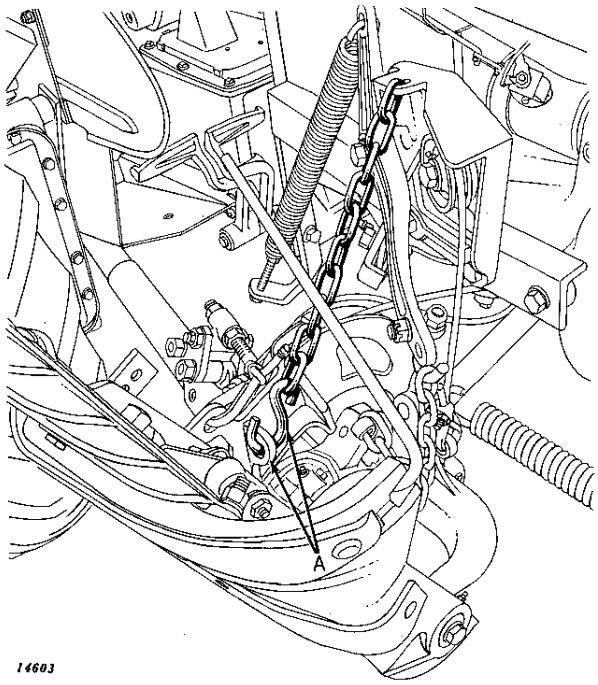

Figure 3

THE COMPLETE OBSERVANCE of one simple rule would prevent many thousand serious injuries each year. THAT RULE IS: "NEVER ATTEMPT TO CLEAN, OIL, OR ADJUST A MACHINE WHILE IT IS IN MOTION."

COMMON MOWER TROUBLES AND THEIR CAUSES

Heavy Draft.

1. Improper setting up.
2. Lack of lubrication.
3. Lagging of cutter bar.
4. Worn knife head, guides, knife holders or wearing plates.
5. Guards loose or out of line.
6. Dull, broken, nicked or loose sections or ledger plates.
7. Knife holders binding.
8. Not enough tension on lifting springs.
9. Too much tilt of cutter bar.
10. Lips of guards bent down too far.

Side Draft and Uneven Stubble.

1. Guards loose or out of line.
2. Dull, broken, nicked or loose sections and ledger plates.
3. Worn knife head, guides, knife holders or wearing plates.
4. Not enough tension on lifting springs.
5. Knife out of register.
6. Bar lifting parts out of adjustment.
7. Knife holders not properly set.
8. Uneven adjustment of shoe soles.

Heating of Pitman Box, Drive Shaft or Crankshaft Bearings.

1. Lack of lubrication.
2. Warped or twisted pitman.
3. Dirt or metal in bearings.
4. Cutter bar need of repairing.

Knife and Knife Head Breakage.

1. Worn knife head, guides, knife holders and wearing plates.
2. Warped or twisted pitman.
3. Guards loose or out of line.
4. Dull sections and ledger plates.
5. Broken or nicked sections.
6. Worn pitman box.
7. Crooked knife.
8. Lagging of cutter bar.
9. Too much tilt of cutter bar.

Choking Down.

1. Lagging of cutter bar.
2. Lack of lubrication.
3. Guards loose or out of line.
4. Too much tilt of cutter bar.
5. Worn cutter bar parts.
6. Bar lifting parts out of adjustment.
7. Lifting springs not properly adjusted.
8. Knife head guide bolts loose.
9. Knife holders not properly set.
10. Lips of guards bent down too far.
11. Dull cutting parts.

Lost Motion.

1. Loose V-belt.
2. Loose pitman bearing.
3. Loose pitman connections.
4. Loose drive shaft or crankshaft bearings.

ADJUSTMENTS

V-BELT DRIVE

Power is delivered to cutter bar by means of a heavy duty V-belt and universal joint drive.

V-belt should be kept tight enough to drive knife under ordinary conditions without slipping.

To Adjust V-Belt.

Loosen lock nut "A", Figure 4, and turn adjusting bolt "B", Figure 4, in or out until belt flexes 1/2" at a point midway between sheaves. Tighten lock nut.

Care of V-Belt.

1. Do not pry belt over sheaves to install.
2. Promptly take up the initial stretch that naturally occurs in new belts. Check tension frequently during first few days.
3. Belt must be kept tight enough to prevent slipping.
4. If cutter bar clogs, do not attempt to continue operating without removing material that has caused clogging.
5. Promptly wipe off any grease or oil that falls onto belt with a gasoline-moistened cloth.
6. A slight application of castor oil on a belt that has been exposed to the weather will make envelope fabrics more pliable. Cover belt when mower is left out of doors at night to protect against moisture.

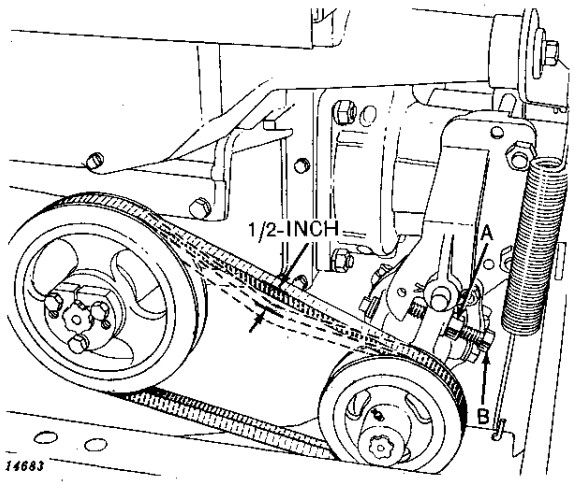

Figure 4

IGNITION CUTOUT SAFETY SWITCH

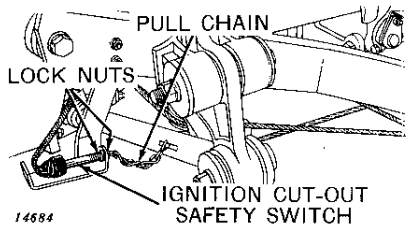

Figure 5

It is very important that the pull chain, which is hooked to the drag bar and the ignition cutout safety switch, be kept at proper working length at all times. When the inner and outer shoe are in highest raised position this chain should be absolutely tight, yet not pulling on safety switch enough to cutout ignition.

To Adjust Chain.

Loosen lock nuts on both sides of ignition cutout safety switch support bracket, move safety switch in or out of support bracket until proper working length on pull chain is obtained. Tighten lock nuts.

PUSH BUTTON SWITCH

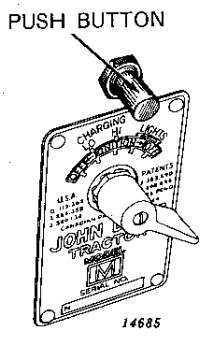

Figure 6

The push button switch, which is installed in tractor instrument panel, is used to reestablish a direct line between battery and ignition thereby making it possible to restart tractor after cutter bar has hit an obstruction and automatically tripped safety switch.

To Operate Push Button Switch.

Place thumb on push button and press in. Start tractor engine, raise cutter bar so it will pass over obstruction, run tractor ahead and lower cutter bar into regular cutting position. Remove thumb from push button.

CUTTER BAR

(See Figures 7 and 8) The cutter bar of the mower, in principle, is nothing more than a multiple set of shears—the blades of shears, to cut properly, must be sharp and have a shear cut; likewise, the sections and ledger plates of a mower must be sharp and have a shear contact. Cutting edges of the ledger plates must line up the full length of the bar if ledger plates and sections are to have a shear cut, and knife holders must be set to hold front part of sections down against ledger plates and heel of sections against wearing plate but must permit knife to run without binding. Wearing plates under knife holders should be replaced when worn enough to cause sections to raise from contact with ledger plates at points. Always look for cutting troubles in the cutter bar: guards out of alignment, worn wearing plates, bent knife back, dull knife and ledger plates, and worn, improperly set knife holders.

Aligning Guards.

Aligning the guards is an important and exacting operation. A new knife or a straight one that is not badly worn, should be used in testing and setting the guards. Insert knife and set each guard up or down as necessary, to obtain a shear cut between knife section and ledger plate. Raise knife holders so knife will have clearance and will not bind or be bent when aligning guards. Have guards bolted tight and then be sure to strike them at the thick part just in front of ledger plate. Pound down high guards first and then bring up the low ones. Be sure to tighten nut on guard bolt each time after using hammer on guard. Remove knife several times as you work in order to look across the ledger plates and be sure you are getting them in line. Guard wings should also be aligned, making a smooth surface for knife back to work against. Position of guard points should not be considered—the ledger plates and wings are the important units that must be aligned.

Keep points of guards sharp. **Do not pound down lips of guards**—choking will result. The lip of the guard is the portion that covers the ledger plate.

Adjusting Wearing Plates.

Wearing plates under knife holders should be set ahead or replaced to take up wear on knife back, and reduce play of knife back in neck of guards. In setting wearing plates ahead, there should be enough clearance left at front of sections so sections do not strike guards. Turned-down edges of wearing plates must line up with one another to give knife back a straight bearing along its entire length. Be especially careful to properly line up new plates.

Z7961H spacers must be inserted between wearing plates and Z7798H knife holders when knives equipped with extra heavy sections are used.

Setting Knife Holders.

Never bend a knife holder down with knife under holder. Start at outer end of bar by pulling knife under each holder and tapping holder down. Keep trying the knife until holder sets so knife works freely and at the same time is down on knife. Then work each holder in the same manner. If holder is too tight on knife, strike holder between the bolts while knife is under holder. A knife working tight on bar will cause heavy draft. Knife holders should not be set until after guards are aligned. Be sure all guard bolts are tight. After setting knife holders, try knife, put oil on ledger plates and be sure knife is working freely.

Replacing Ledger Plates.

Ledger plates should be replaced when worn dull. Replating guards with the John Deere Mower Guard and Knife Repair Block (see page 18) does away with the hard work and makes it an easy job to keep cutter bar in good working order.

With the Mower Guard Block, you do not take the bar from the mower or the guards from the bar. Set the guard repair block under the bar. The only tools needed are two punches (a heavy one and a light one), a hammer and a chisel. Drive the rivet through ledger plate with heavy punch and follow rivet with small punch and drive through guard. Put on new ledger plate. Put rivet in from underside, set riveting post under head of rivet and rivet over with hammer. Chisel off end of rivet flush with ledger plate to leave a smooth surface for knife. Batter boss on rear of plate to hold plate more securely.

Knife Head Guides.

Knife head guide, front, Z8977H, should be replaced if worn badly. Worn wearing plate and ledger plate on inner shoe should be replaced promptly to avoid knife head breakage.

6-Foot Cutter Bar.

A crown or dish is built into the 6-foot cutter bar (Z6698H regular bar, 6-foot) to compensate for the added weight of the outer shoe and guards. The 6-foot bar has a 9/16-inch dish in the center. This automatically straightens out when the cutter bar is attached to the mower and proper lifting spring tension is applied.

Gummy Trash on Cutter Bar.

Use water to remove gummy trash that packs on wearing plates and guards (operate mower slowly and pour water on bar). **Do not let it harden.**

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Repairing of Cutter Bar.

The repairing of the mower cutter bar is generally put off too long. The mower does not give satisfactory service and is abused more than necessary. This neglect is generally due to lack of proper tools and necessary repairs to make a quick, easy job. Many times new guards are put on when new ledger plates only are needed. Note the helpful suggestions for repairing in Figures 7, 8 and 11.

CUTTER BAR TILT ADJUSTMENT

Cutter bar should be run level to the ground whenever possible. Should it be necessary to change tilt of cutter bar for short cutting or when cutting in hay that is lodged, cutter bar can be tilted by adjusting nuts "C", Figure 10, on tilting link at rear end of yoke until bar is in the desired position.

ADJUSTABLE SUB-SOLES

(See Figure 10) These soles under inner and outer shoes should be adjusted to regulate the height of cut for different field conditions. They will set bar to cut as high as three inches. Be sure to have cutter bar same height at both ends. On rough or stony land, the cutting parts should be protected by adjusting the sub-soles to raise cutter bar.

KNIVES

The two knives packed with the bar should remain with it and be handled so they will not be bent. In sharpening knives, try to maintain angle of bevel and cutting edge of the new knife.

If knife becomes bent in rough cutting or storage, straighten it on level pole or block.

A Guard and Knife Repair Block provides the easiest and quickest way for replating guards, replacing worn or broken sections and straightening knives (See Figure 11, page 18).