



# ROUND BALERS

Published 09/01

Part No. 4903WC

## OPERATOR'S MANUAL



This Operator's Manual is an integral part of the safe operation of this machine and must be maintained with the unit at all times. **READ, UNDERSTAND, and FOLLOW** the Safety and Operation Instructions contained in this manual before operating the equipment.

### MODEL 4500

SERIAL NUMBERS 10820 - CURRENT

### MODEL 4590

SERIAL NUMBERS 10904 - CURRENT

#### ATENCIÓN!

LEA EL INSTRUCTIVO

Si No Lee Ingles, Pida Ayuda a Alguien  
Que Si Lo Lea Para Que le Traduzca las  
Medidas de Seguridad.



**M&W**

1020 South Sangamon Ave.  
Gibson City, Illinois 60936  
217-784-4261



\$0.00

# TO THE OWNER/OPERATOR/DEALER

All implements with moving parts are potentially hazardous. There is no substitute for a cautious, safe-minded operator who recognizes the potential hazards and follows reasonable safety practices. The manufacturer has designed this implement to be used with all its safety equipment properly attached to minimize the chance of accidents.

**BEFORE YOU START!!** Read the safety messages on the implement and shown in your manual.  
Observe the rules of safety and common sense!



## CAUTION

1. Read and understand the Operator's Manual.
2. Stop the tractor engine before leaving the operator's platform.
3. Keep riders off the machine.
4. Make certain everyone is clear of the machine before starting the tractor engine and operating.
5. Keep all shields in place.
6. Never lubricate, adjust, unclog or service the machine with tractor engine running.
7. Wait for all movement to stop before servicing.
8. Keep hands, feet and clothing away from moving parts.
9. Use flashing warning lights when operating on highways except when prohibited by law.

1438330

### WARRANTY INFORMATION:

Read and understand the complete Warranty Statement found in this Manual. Fill out the Warranty Registration Form in full and return it within 30 Days. Make certain the Serial Number of the Machine is recorded on the Warranty Card and on the Warranty Form that you retain. The use of "will-fit" parts will void your warranty and can cause catastrophic failure with possible injury or death.

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A safe and careful operator is the best operator. Safety is of primary importance to the manufacturer and should be to the owner/operator. Most accidents can be avoided by being aware of your equipment, your surroundings, and observing certain precautions. The first section of this manual includes a list of Safety Messages that, if followed, will help protect the operator and bystanders from injury or death. Read and understand these Safety Messages before assembling, operating or servicing this mower. This equipment should only be operated by those persons who have read the Manual, who are responsible and trained, and who know how to do so safely and responsibly.

The Safety Alert Symbol combined with a Signal Word, as seen below, is used throughout this manual and on decals which are attached to the equipment. The Safety Alert Symbol means: **“ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!”** The Symbol and Signal Word are intended to warn the owner/operator of impending hazards and the degree of possible injury faced when operating this equipment..

**Practice all usual and customary safe working precautions and above all--remember safety is up to YOU. Only YOU can prevent serious injury or death from unsafe practices.**

**CAUTION!** The lowest level of Safety Message; warns of possible injury. Decals located on the Equipment with this Signal Word are Black and Yellow.



**WARNING!** Serious injury or possible death! Decals are Black and Orange.



**DANGER!** Imminent death/critical injury. Decals are Red and White. (SG-1)



READ, UNDERSTAND, and FOLLOW the following Safety Messages. Serious injury or death may occur unless care is taken to follow the warnings and instructions stated in the Safety Messages. Always use good common sense to avoid hazards.

(SG-2)

**SAFETY INSTRUCTIONS**



**PELIGRO!** Si no lee Ingles, pida ayuda a alguien que si lo lea para que le traduzca las medidas de seguridad. (SG-3)

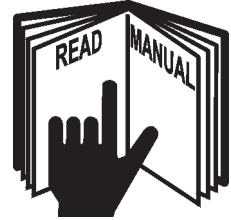


**¡LEA EL INSTRUCTIVO!**

**DANGER!**



Never operate the Tractor or Implement until you have read and completely understand this Manual, the Tractor Operator's Manual, and each of the Safety Messages found in the Manual or on the Tractor and Implement. Learn how to stop the tractor engine suddenly in an emergency. Never allow inexperienced or untrained personnel too operate the Tractor and Implement without supervision. Make sure the operator has fully read and understood the manuals prior to operation. (SG-4)



**WARNING!**

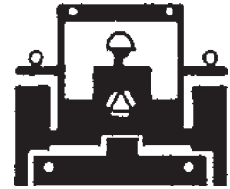


Always maintain the safety decals in good readable condition. If the decals are missing, damaged, or unreadable, obtain and install replacement decals immediately. (SG-5)

**WARNING!**



Make certain the "Slow Moving Vehicle" (SMV) sign is installed in such a way as to be clearly visible and legible. When transporting the Equipment use the Tractor flashing warning lights. Before transporting the equipment on public roads make sure the Implement warning lights are connected, visible and working. Always follow all local traffic regulations. (SG-6a)



**WARNING!**



Operate this Equipment only with a Tractor equipped with an approved roll-over-protective system (ROPS). Always wear seat belts. Serious injury or even death could result from falling off the tractor-particularly during a turnover when the operator could be pinned under the ROPS. (SG-7)



**WARNING!**

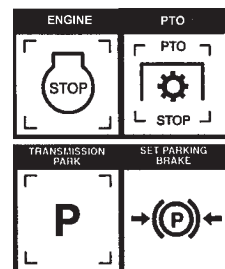


Do not modify or alter this Implement. Do not permit anyone to modify or alter this Implement, any of its components or any Implement function. (SG-8)

**DANGER!**



BEFORE leaving the tractor seat, always engage the brake and/or set the tractor transmission in parking gear, disengage the PTO, stop the engine, remove the key, and wait for all moving parts to stop. Place the tractor shift lever into a low range or parking gear to prevent the tractor from rolling. Never dismount a Tractor that is moving or while the engine is running. Operate the Tractor controls from the tractor seat only. (SG-9)



**DANGER!**



Never allow children or other persons to ride on the Tractor or Implement. Falling off can result in serious injury or death. (SG-10)



**DANGER!**



Never allow children to operate or ride on the Tractor or Implement. (SGM-11)



**WARNING!**



Do not mount the Tractor while the tractor is moving. Mount the Tractor only when the Tractor and all moving parts are completely stopped. (SG-12)



**DANGER!**



Start tractor only when properly seated in the Tractor seat. Starting a tractor in gear can result in injury or death. Read the Tractor operators manual for proper starting instructions. (SG-13)



**DANGER!**



Never work under the Implement, the framework, or any lifted component unless the Implement is securely supported or blocked up to prevent sudden or inadvertent falling which could cause serious injury or even death. (SG-14)



**DANGER!**



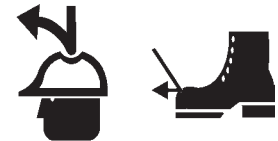
Do not operate this Equipment with hydraulic oil leaking. Oil is expensive and its presence could present a hazard. Do not check for leaks with your hand! Use a piece of heavy paper or cardboard. High-pressure oil streams from breaks in the line could penetrate the skin and cause tissue damage including gangrene. If oil does penetrate the skin, have the injury treated immediately by a physician knowledgeable and skilled in this procedure. (SG-15)



**WARNING!**



The operator and all support personnel should wear hard hats, safety shoes, safety glasses, and proper hearing protection at all times for protection from injury including injury from items thrown by the equipment. (SG-16)



**CAUTION!**



**PROLONGED EXPOSURE TO LOUD NOISE MAY CAUSE PERMANENT HEARING LOSS!** Tractors with or without an Implement attached can often be noisy enough to cause permanent hearing loss. We recommend that you always wear hearing protection if the noise in the Operator's position exceeds 80db. Noise over 85db over an extended period of time will cause severe hearing loss. Noise over 90db adjacent to the Operator over an extended period of time will cause permanent or total hearing loss. *Note:* Hearing loss from loud noise [from tractors, chain saws, radios, and other such sources close to the ear] is cumulative over a lifetime without hope of natural recovery. (SG-17)



**WARNING!**



Never attempt to lubricate, adjust, or remove material from the Implement while it is in motion or while tractor engine is running. Make sure the tractor engine is off before working on the Implement. (SG-20)



**WARNING!**



Periodically inspect all moving parts for wear and replace when necessary with authorized service parts. Look for loose fasteners, worn or broken parts, and leaky or loose fittings. Make sure all pins have cotter pins and washers. Serious injury may occur from not maintaining this machine in good working order. (SG-21)



**WARNING!**

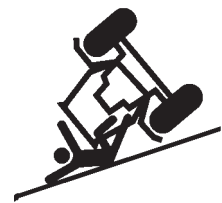


Transport only at safe speeds. Serious accidents and injuries can result from operating this equipment at unsafe speeds. Understand the Tractor and Implement and how it handles before transporting on streets and highways. Make sure the Tractor steering and brakes are in good condition and operate properly.



Before transporting the Tractor and Implement, determine the safe transport speeds for you and the equipment. Make sure you abide by the following rules:

1. Test the tractor at a slow speed and increase the speed slowly. Apply the Brakes smoothly to determine the stopping characteristics of the Tractor and Implement. As you increase the speed of the Tractor the stopping distance increases. Determine the maximum safe transport speed for you and this Equipment.
2. Test the equipment at a slow speed in turns. Increase the speed through the turn only after you determine that it is safe to operate at a higher speed. Use extreme care and reduce your speed when turning sharply to prevent the tractor and implement from turning over. Determine the maximum safe turning speed for you and this equipment before operating on roads or uneven ground.
3. Only transport the Tractor and Implement at the speeds that you have determined are safe and which allow you to properly control the equipment.



Be aware of the operating conditions. Do not operate the Tractor with weak or faulty brakes. When operating down a hill or on wet or rain slick roads, the braking distance increases: use extreme care and reduce your speed. When operating in traffic always use the Tractor's flashing warning lights and reduce your speed. Be aware of traffic around you and watch out for the other guy. (SG-19)

**WARNING!**



Always read carefully and comply fully with the manufacturers instructions when handling oil, solvents, cleansers, and any other chemical agent. (SG-22)



**DANGER!**



Never run the tractor engine in a closed building or without adequate ventilation. The exhaust fumes can be hazardous to your health. (SG-23)

**DANGER!**



KEEP AWAY FROM ROTATING ELEMENTS to prevent entanglement and possible serious injury or death. (SG-24)



**DANGER!**



Never allow children to play on or around Tractor or Implement. Children can slip or fall off the Equipment and be injured or killed. Children can cause the Implement to shift or fall crushing themselves or others. (SG-25)



**WARNING!**



Do not exceed the rated PTO speed for the Implement. Excessive PTO speeds can cause Implement driveline or blade failures resulting in serious injury or death. (SG-26)

**DANGER!**



**NEVER use drugs or alcohol** immediately before or while operating the Tractor and Implement. Drugs and alcohol will affect an operator's alertness and coordination and therefore affect the operator's ability to operate the equipment safely. Before operating the Tractor or Implement, an operator on prescription or over-the-counter medication must consult a medical professional regarding any side effects of the medication that would hinder their ability to operate the Equipment safely. **NEVER** knowingly allow anyone to operate this equipment when their alertness or coordination is impaired. Serious injury or death to the operator or others could result if the operator is under the influence of drugs or alcohol. (SG-27)



**DANGER!**



Operate the Tractor and/or Implement controls only while properly seated in the Tractor seat with the seat belt securely fastened around you. Inadvertent movement of the Tractor or Implement may cause serious injury or death. (SG-29)

**DANGER!**



There are obvious and hidden potential hazards in the operation of this Baler as in all power-driven or pulled equipment. **REMEMBER!** This machine is often operated in rough terrain conditions that include tall grass, weeds, gullies, holes, slopes, hidden obstructions and the like. Serious injury or even death may occur unless care is taken to assure the safety of the operator and bystanders in the area. Do not operate this machine with anyone in the immediate area. Stop baling if anyone comes within 25 feet of the equipment. (SBA-1)

**WARNING!**

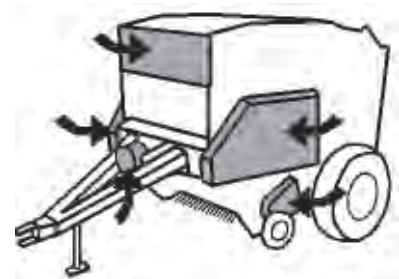


Operate the baler only in conditions where you have clear visibility, either in daylight or with adequate artificial lighting. Never bale in darkness or foggy conditions where you cannot clearly see at least 100 yards in front, to the sides, and to the rear of the Tractor and Baler. Make sure that you can clearly see and identify passersby, steep slopes, ditches, drop-offs, overhead obstructions, power lines, debris and foreign objects. If you are unable to clearly see these types of items discontinue operation of the Baler. (SBA-2)

**DANGER!**



All Safety Shields, Guards and Safety devices including (but not limited to) - the Deflectors, Intake Guards, Steel Guards, Gearbox Shields, PTO Integral Shields, and Retractable Door Shields should be used and maintained in good working condition. All safety devices should be inspected carefully at least daily for missing or broken components. Missing, broken, or worn items must be replaced at once to reduce the possibility of injury or death from entanglement or being crushed. (SBA-3)



**WARNING!**



Operate the Baler only at the speeds that allow you to safely operate and control the Tractor and Baler. Safe Baling speed depends on terrain condition and grass type, density, and height of wind row. Normal ground speed range is from 2 to 8 mph. Use slow speeds when operating on or near steep slopes, ditches, drop-offs, overhead obstructions, power lines, or when debris or obstructions are to be avoided. (SBA-4)

**DANGER!**



Never attempt to open the rear door of the Baler unless the Baler is properly attached to the Tractor drawbar. Opening the door when the Baler is not attached can result in the baler tipping to the rear which could cause serious injury or death. (SBA-5)





**DANGER!**



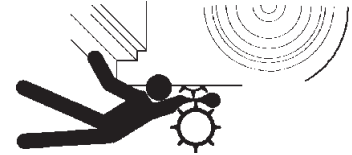
Never walk or work under the rear door unless it is securely locked in place. Make sure the door lock valve is switched to the lock position, locking the door lift cylinders before working under the rear door. Serious injury or death could result from being crushed by the door. (SBA-6)



**DANGER!**



Never attempt to clear, dislodge or remove material from the intake area of the Baler while the Tractor engine is running. Make sure the Tractor engine is off and all rotating motion has completely stopped, and the parking brake is engaged before working on the Baler. (SBA-7)



**WARNING!**



Only transport the Baler at speeds that are safe and which allow you to maintain control and safely stop the equipment. Do not tow the Baler at speeds in excess of 25 mph. (SBA-9)

**DANGER!**



Do not put hands or feet under the Baler. Intake roller contact could cause serious hand or limb injury. Entanglement in the feed rollers could result in serious injury or even death. Stay away until all motion has stopped and the Baler is securely blocked up. (SBA-8)



**WARNING!**



Make sure that no bystanders or animals are behind or in the area of the Tractor and Baler when backing up. The Baler is large and may block the vision of the operator when backing. Use extreme caution and care to make sure no person or structure is contacted while backing. Serious injury or death could result from being crushed by the Baler. (SBA-10)

**DANGER!**



Make sure no bystanders or animals are behind or in the area of the Baler when ejecting the bale from the Baler. The ejected bale, which may weight up to 2,300 pounds, could roll out and crush a bystander or an animal resulting in serious injury or death. Use extreme caution and care to make sure no person or animal is in the area behind the Baler when ejecting a bale. (SBA-11)



**DANGER!**



Make sure no bystanders or animals are behind or in the area of the Baler when opening the rear baler door. The opening door could crush a bystander or animal resulting in serious injury or death. Use extreme caution and care to make sure no person or animal is in the area behind the Baler when opening the door. (SBA-12)



**DANGER!**



Use extreme care when ejecting a bale from the Baler on a sloping field. Make sure the bale does not roll down the slope after ejecting the bale. The bale rolling down the slope uncontrolled could crush a bystander or animal resulting in serious injury or death. Only eject the bale in an area where the bale will not roll when ejected from the Baler. (SBA-13)

**DANGER!**



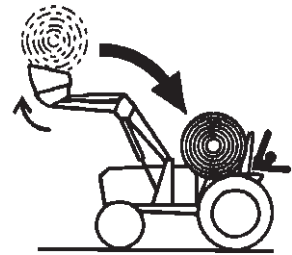
Use extreme care when using a Tractor and Front end Loader to transport a bale. Make sure the area is clear of obstruction and power lines.

-Use extreme care when transporting with a bale. Transport at a slow and safe speed. Your forward vision may be reduced by the size of the bale.

-Never raise the loader unless you can clearly see all overhead structures. Make sure you stay well clear of all electrical lines.

-Use long tines and make sure the bale is securely retained in the front end loader.

Raise the loader only as high as necessary. Do not raise the loader and tilt the bucket back allowing the bale to roll backwards onto the tractor and crushing the operator. Serious injury or death could result from being crushed. (SBA-14)



**DANGER!**



Stack the bales in a manner that will prevent them from rolling. Do not stack the bales on top of each other unless they are properly supported and secured to prevent them from accidentally rolling or falling. Serious injury or death could result from being crushed by a rolling or falling bale. (SBA-15)

**DANGER!**



Never attempt to change or insert the Baler twine or netting while the Tractor engine is running. Make sure the Tractor engine is off and all rotating motion has completely stopped before changing or replacing the baling twine and netting. Entanglement in the twine or netting rollers can result in serious injury and dismemberment. (SBA-16)



**DANGER!**



Be particularly careful when transporting the Implement using the tractor. Turn curves or go up or down hills only at a low speed and at a gradual steering angle. Make certain that at least 20% of the tractor's weight is on the front wheels to maintain safe steering. Slow down on rough or uneven surfaces. (STI-1)

**WARNING!**



**Never unhitch without using the Tongue Jack.** The Tongue is very heavy. Attempting to lift the Tongue without using the Tongue Jack could cause **strains or other injury**. Allowing the tongue to fall **suddenly and unexpectedly** could result in **crushing injury**. Use the Tongue Jack for **lifting the mower only**. Overloading the Tongue Jack can cause failure with possible **serious bodily injury or even death**. (STI-4)

**WARNING!**



Only tow the Implement behind a properly sized and equipped Tractor which exceeds the weight of the Implement by at least 20%. **DO NOT** tow the Implement behind a truck or other type of vehicle. Never tow the Implement and another Implement connected in tandem. Never tow the Implement at speeds over 20 MPH. (STI-6)

**In addition to the design and configuration of this Implement, including Safety Signs and Safety Equipment, hazard control and accident prevention are dependent upon the awareness, concern, prudence, and proper training of personnel involved in the operation, transport, maintenance, and storage of the machine. Refer also to Safety Messages and operation instruction in each of the appropriate sections of the Tractor and Equipment Manuals. Pay close attention to the Safety Signs affixed to the Tractor and Equipment.** (SG-18)

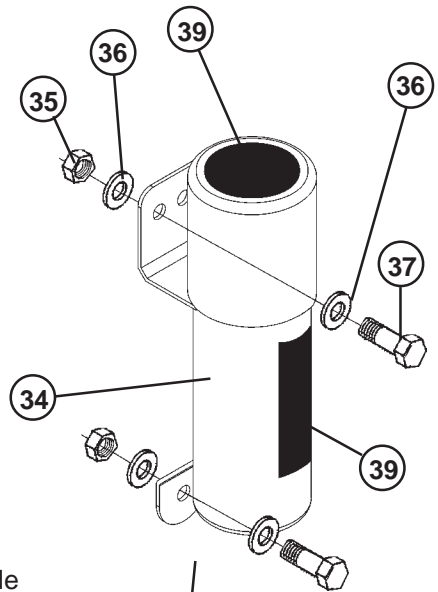
**PARTS INFORMATION**

M&W implement use matched system components for blades, hangers, rollers, and bearings. These parts are made and tested to M&W specifications. Non-genuine "will fit" parts do not consistently meet these specifications. The use of "will fit" parts may reduce implements performance, void warranties, and present a safety hazard. Use genuine M&W mower parts for economy and safety. (SPMW-1)

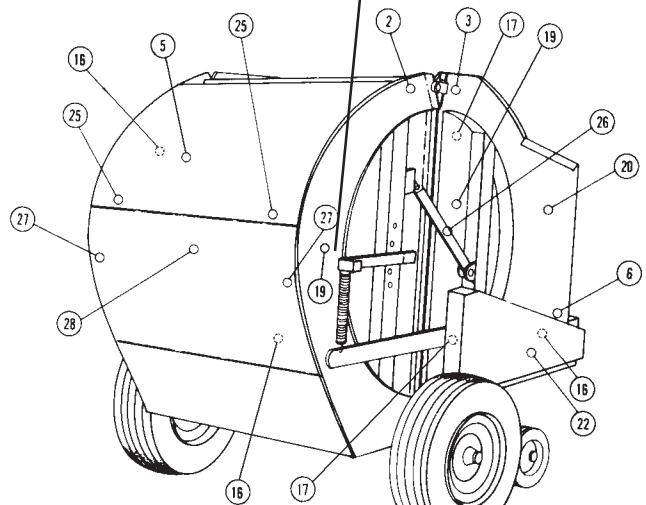
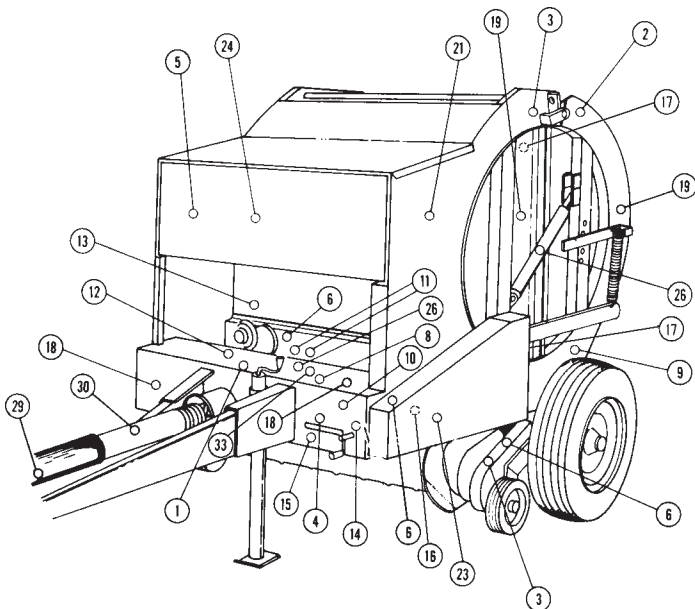
**SEE YOUR M&W DEALER**

# DECAL LOCATION GUIDE

ITEM	PART NO.	QTY.	DESCRIPTION
	<b>1410409</b>	-	<b>4500 Decal Kit #</b>
	<b>1410410</b>	-	<b>4590 Decal Kit #</b>
1	D103	1	PTO Speed (540 RPM)
2	1428302	2	Fill Line Decal
3	1438333	3	Grease Decal. 10 HRS
4	1438303	1	Pick-up Pin
5	1438310	2	Large M & W
6	1438319	4	Oil Decal
7	1438321	1	Control Housing Decal (Not Shown)
8	1438326	1	Dog Clutch Decal
9	1438327	1	Elevator Chain Adjustment Decal
10	1438330	1	Caution Operating Decal
11	1438339	3	Danger - Sharp Knife Decal
12	1458367	1	Door Safety Lock Valve
13	1458363	1	Double Twine Installation Instruction Decal
14	1458310	1	Pick-up Crank Direction Decal
15	1458311	1	Pick-up Height Position Decal Kit
16	1458382	4	Hand Pinch Decal
17	0296276	4	Pinch Point Decal
18	1458316	2	Safety Operation
19	1458317	4	Danger - Tailgate
20	1458332	1	M & W Logo, RH
21	1458333	1	M & W Logo, LH
22	1458334	1	Model No. 4500, RH
	1458336	1	Model No. 4590, RH
23	1458335	1	Model No. 4500, LH
	1458337	1	Model No. 4590, LH
24	1458338	1	Front Stripe Decal
25	1458339	2	Rear Stripe Decal
26	00756059	3	Oil Leak Decal
27	2738332	2	Red Oblong Deflector
28	5W118	1	Slow Moving Vehicle
29	2738315	1	IID Shield (Outer Decal)
30	2738320	1	IID Shield (Inner Decal)
31	1458380	1	Made In USA
32	1458362	1	Warning - Baler Upset
33	00773723	1	Driveline - Spanish Translation
34	00776031	1	Canister Manual
35	32901C	2	Locknut
36	00024100	4	Flatwasher
37	00021400	2	Bolt
38	4903WC	1	Manual For Canister
39	00776481	1	Instruct Decal - Manual Operator's Inside



⊙ Indicates Decal Located under Shield



# DECAL IDENTIFICATION



6 - 1438319



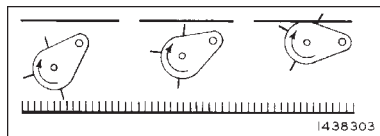
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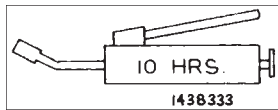
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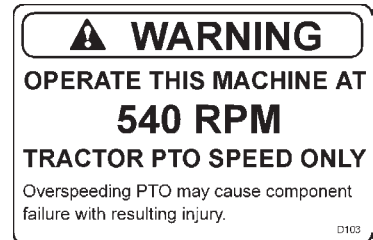
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4 - 1438303



3 - 1438333



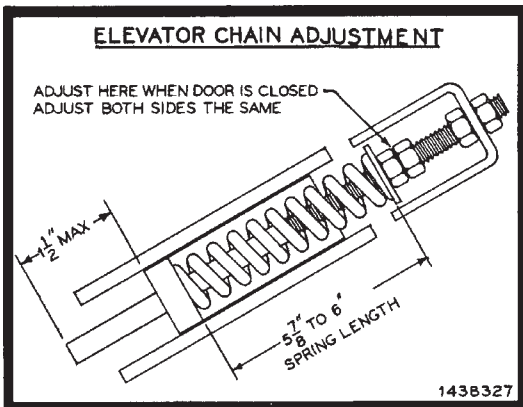
1 - D103



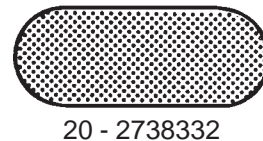
14 - 1458310



15 - 1458311



9 - 1438327



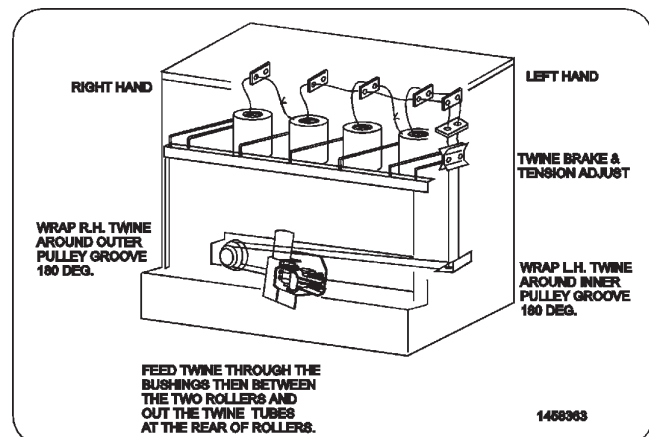
20 - 2738332



26 - 00756059

<h2>PELIGRO</h2>	<p><b>LINEA DE CONDUCCION GIRATORIA-</b> EL CONTACTO PUEDE CAUSAR LA MUERTE <b>¡MANTENERSE LEJOS!</b> NO FUNCIONE SIN QUE-</p> <ul style="list-style-type: none"> <li>• Todos los protectores de la línea de Conducción, alimentador y blindajes del Equipo estén en su lugar</li> <li>• Las líneas de conducción estén conectadas con seguridad en ambos extremos</li> <li>• Los protectores de la línea de conducción den vuelta libremente en la línea de Conducción</li> </ul> <p style="text-align: right;">00773723</p>
<p>Un manual de la seguridad de la línea de conducción n/p 00773776 está disponible en español. Llame el número enumerado para una copia gratis.</p>	

33 - 00773723



13 - 1458363

# DECAL IDENTIFICATION

**CAUTION**

1. Read and understand the Operator's Manual.
2. Stop the tractor engine before leaving the operator's platform.
3. Keep riders off the machine.
4. Make certain everyone is clear of the machine before starting the tractor engine and operating.
5. Keep all shields in place.
6. Never lubricate, adjust, unplug or service the machine with tractor engine running.
7. Wait for all movement to stop before servicing.
8. Keep hands, feet and clothing away from moving parts.
9. Use flashing warning lights when operating on highways except when prohibited by law.

1438330

11 - 1438330

**OPERATOR'S MANUAL INSIDE**  
 READ AND UNDERSTAND Before Operating Tractor & Implement  
 If Manual is missing, obtain one before operating from Dealer or Atamo Group (800) 221-2355 337531

ITEM 1

ITEM 2

00776481 Decal Canister Sheet

39 - 00776481

**DANGER**

\* Never enter area between tractor and baler when machine is running.  
 \* Serious injury or death may result from being pulled into machine.  
 \* Disengage PTO and shut off engine before attempting to clear any obstruction from feed areas.

1458316

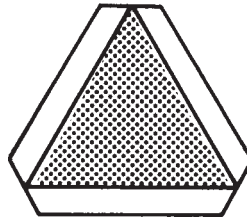
18 - 1458316

**WARNING**

**PINCH POINTS**

02962764

17 - 02962764



28 - 5W118

**DANGER**

**STAY CLEAR OF TAILGATE**

- Tailgate moves faster than you can move away.
- Stay clear of tailgate when it is opening or closing.
- Lock valve in the locked position before working under open gate.

Failure to heed will result in serious injury or death!

1458317

19 - 1458317

**WARNING**

**BALER UPSET**

- \* Baler must be hitched to tow unit when opening tailgate.
- \* Lock hydraulic valve before working under tailgate.

Failure to heed can cause injury.

1458362

32 - 1458362

**DANGER**

**KEEP AWAY!  
 ROTATING DRIVE LINE**

- ★ ENTANGLEMENT CAN CAUSE SERIOUS INJURY OR DEATH.
- ★ KEEP ALL DRIVE SHIELDS & GUARDS IN PLACE & IN GOOD CONDITION.
- ★ TRACTOR PTO YOKE MUST BE LOCKED IN PLACE.
- ★ ADJUST TRACTOR HITCH TO PROPER DIMENSIONS.

2738315

29 - 2738315

**DANGER**

**SHARP KNIFE**

1438339

25 - 1438339

**DANGER**

**SHIELD MISSING  
 DO NOT OPERATE**

**DANGER**

**SHIELD MISSING  
 DO NOT OPERATE**

**DANGER**

2738320

30 - 2738320

**DOG CLUTCH LUBE and ADJUSTMENT**

10 HR.

MAX. 5/16"  
 MIN. 3/16"

GREASE ONLY WHEN DOOR IS OPEN

1438326

8 - 1438326

**WARNING**

MOVING PARTS CAN CRUSH AND CUT. KEEP HANDS CLEAR. DO NOT OPERATE WITH SHIELDS REMOVED.

Reorder No. 1458382

16 - 1458382



## SAFETY DECAL

These decals are installed on the baler for your safety. They must be visible at all times and kept in good condition. The buyer of this machine assumes responsibility for maintaining these warning decals. If they become damaged or unreadable for any reason, replace immediately. A full set of replacement decals are available. Order part number 1410413 for a Safety Decal Kit. For a complete Machine Decal Kit, order part number 1410409 for Model 4500 or 1410410 for Model 4590. You must include the model number and serial number of your baler when ordering.

## INTRODUCTION

The M&W Round Baler has been engineered and built for ease of operation and long service life. It is most important that you thoroughly understand the operation of the baler before use. Read through this manual completely, watching especially for safety symbols (See Illustration 1) which alert you to possible hazards. The word "NOTE" will alert you to special information such as specifications, techniques, reference information and other supplementary information. The word "IMPORTANT" is used to point out a note which is of an immediate and urgent nature.



Illustration 1- Safety Symbol

It is the user's responsibility to read the operator's manual and comply with all instructions pertaining to operation and maintenance. It is also the user's responsibility to inspect the machine at regular intervals and repair or replace worn or damaged parts when continued use would cause damage or excessive wear to other parts. Delivery of the machine to the M&W dealer for repairs under the warranty is also the user's responsibility.

The manufacturer reserves the right to make changes, specifications or improvements without incurring obligations to add them to balers sold before the changes.

When Ordering parts for your baler, please specify the part number and the name of the part as shown in the parts section. Please include the serial number of the of the baler, which is located on the front of the crossbeam, in all correspondence when referring to the baler. Record the serial number and purchase date here for future reference.

Serial No. \_\_\_\_\_ Model \_\_\_\_\_ Purchase Date \_\_\_\_\_



## SAFETY & ACCIDENT PREVENTION

1. Read and understand this manual and use in accordance with instructions.
2. Keep the slow moving vehicle emblem, reflectors and decals clean and visible. Replace if they are damaged or unreadable.
3. Always tow the baler at speeds less than 25 MPH.
4. Always switch the tractor engine off and remove ignition key when working on the machine.
5. Always keep safety guards in place during operation accordance with instructions.
6. Stay clear of baler when in operation!
7. Baler must be hitched to tractor whenever rear door of baler is opened.
8. Always place valve in safety - Locked Position before standing under the rear door or if access into the bale chamber is required.
9. Daily clean off all build up of loose hay that may collect in different locations on the baler. This hay build up is a fire hazard.
10. **WARNING!** Never attempt to remove or disconnect the elevator chain without the proper equipment to support it. This elevator assembly is too heavy to hold by hand and can fall and cause serious injury to nearby persons.
11. **WARNING!** Avoid putting hands in the area of the twine and net feeding conveyor belt while it is running. This belt has cross lugs, which can drag your hands and arms into the twine cutoff knives or other parts of the baler which may have sharp edges. Any work in this area must be done WITH THE TRACTOR ENGINE SHUT OFF AND THE PARKING BRAKE SET.
12. **ATTENTION!** Blockages in the inlet area must be removed WITH THE TRACTOR ENGINE SWITCHED OFF! (See troubleshooting section.)
13. Avoid entering the area behind the baler when the bale is ejected. Be sure that no one is positioned behind baler when ejecting bale.
14. On sloping fields, round bales must be deposited and secured so they cannot roll downhill.
15. When transporting bales with a front loader:
  - a. Be sure that the area is clear of obstructions.
  - b. Use long tines.
  - c. Raise the loader only as high as necessary.

16. Stack the bales so that they cannot roll off or tilt.
17. **WARNING!** Never smoke or use an open flame in proximity to the baler. Dry hay poses a potential fire hazard, which could cause serious injury or death. Damaged or worn bearings may be a potential ignition source when in close proximity to dry hay. Always perform routine maintenance, lubrication, and frequently inspect bearings to prevent a fire hazard. Carry a fire extinguisher where it can be reached easily when baling or performing maintenance. Do not use a tractor with and under frame exhaust for baling.

## CONNECTING TO A TRACTOR

1. Connect the machine to the tractor drawbar so that the lower edge of the frame is level. A level can be placed on top of the front frame cross beam to check the levelness of the baler. If necessary, adjust the angle of the tongue (See Illustration 2). With the jack supporting the baler, loosen the four side bolts on the tongue. Turn the top adjusting bolts clockwise to lower the tongue or counter clockwise to raise it. Turn these bolts the same amount to keep the bolts from binding. Tighten the 4 side bolts after the baler is level.

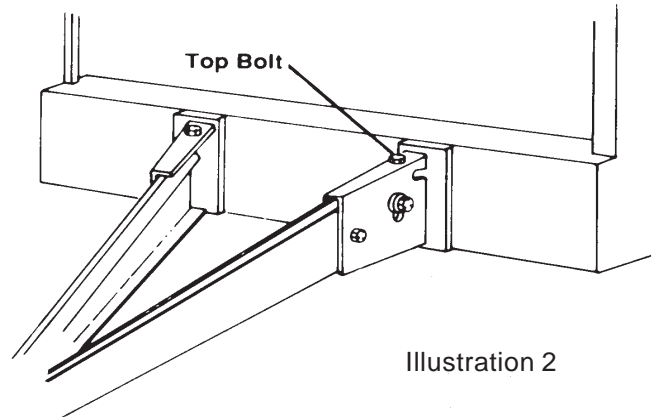
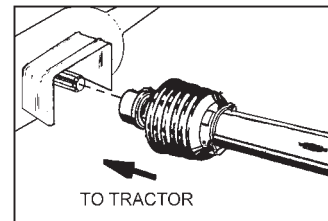


Illustration 2

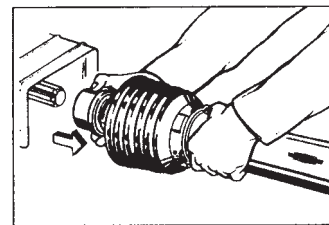
2. Raise the tongue jack to the lowest hole setting and wind the jack pad as high as possible to keep the jack out of the windrow.
3. Connect the hydraulic hoses.
4. Adjust the drawbar so the center of the hitch pin holes is 14" (540 RPM) or 16" (1000 RPM) behind the end of the PTO shaft ( according to ASAE Specifications). Connect the IID shaft to the tractor PTO shaft (See Illustration 3).

**NOTE:** The IID shaft will get shorter as the tractor turns!

Connecting To The Tractor:



Clean PTO Shaft. Depress slide collar and slide onto PTO shaft. Release slide collar and pull or push coupling to seat lock.



Check swivel range.

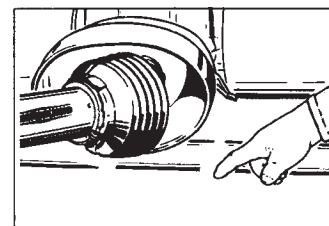


Illustration 3

**CAUTION!** Keep the PTO shaft guard(s) in place. Never operate without the IID shaft guard in place!





5. Install the control panel on the tractor where it is easily seen and can be reached by the operator. Connect the red wire(+) from the panel to the tractor's 12 volt battery (See Illustration 4 & 4A). Connect the black wire (-) to ground, such as the tractor frame.

**CAUTION!**

Position the on/off switch to the off position before attaching wires to the battery. Connect to 12 volt DC only.

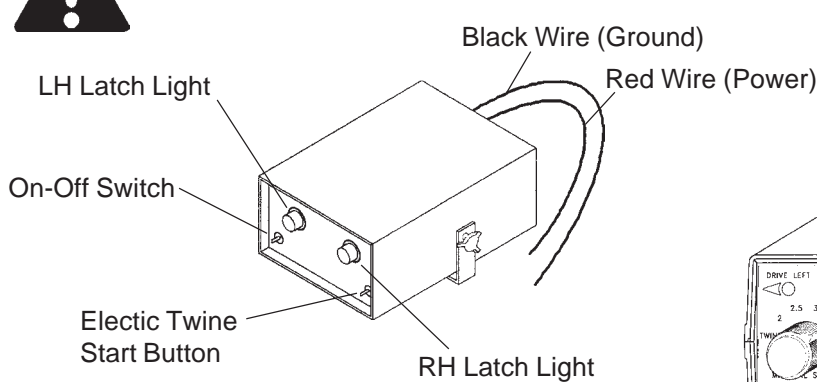


Illustration 4

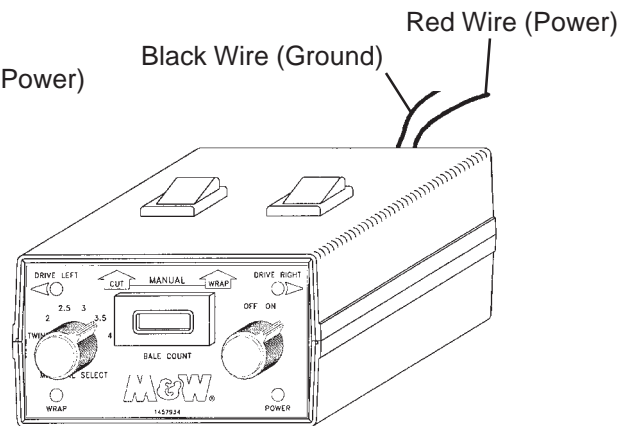


Illustration 4A

**PRE-SEASON PREPARATION**

1. Check that all lubrication points have been greased or oiled (See Lubrication Instructions).
2. Check and retighten all nuts and bolts.
3. After following instructions on connecting the baler to a tractor, start the baler and run for a few minutes at 2/3 to 3/4 full PTO speed. Check the baler once again after this test run. Tighten all nuts and bolts, if necessary, and check the tension of all chains.
4. Open and close the rear door. Check that oil lines and fittings are not leaking. The elevator chain can be lubricated by closing and opening the rear door and advancing chain.

**HYDRAULICS**

The 4500 Baler is equipped with two hoses which connect to the tractor and two 2-way cylinders for opening and closing the rear door (See Illustration 5).

The 4590 Baler is also equipped with a third hose, (not illustrated) for hydraulic lifting of the pick-up.

The rear door cylinders have a "safety lock valve" installed between them and the tractor for locking the door open or closed. Both cylinders are locked by this "Safety Lockvalve".

**WARNING!**



Always close this valve when the door is open and servicing under the door or inside the bale chamber. This valve must be in the unlocked position to open or close the door.

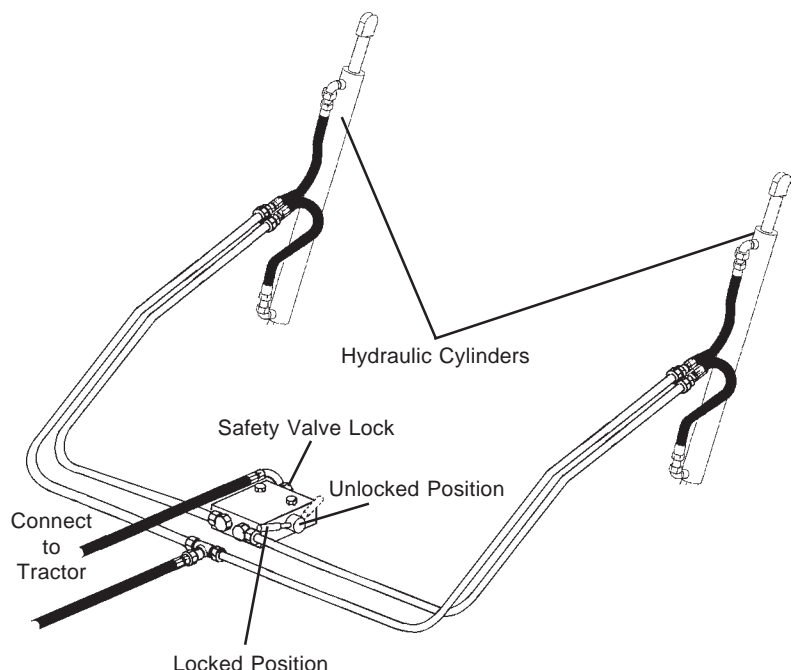


Illustration 5

## PICK-UP SETTINGS

**WARNING!** Never adjust pick-up height while tractor is running. Stop engine and set parking brake.



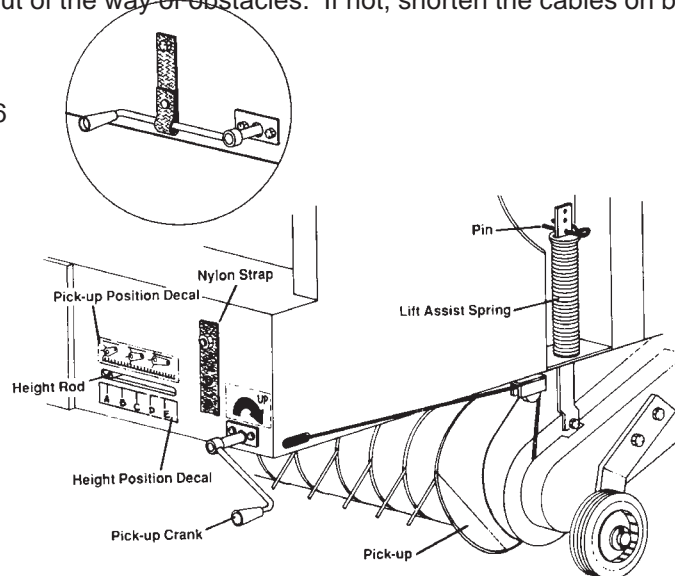
The pick-up height on the 4500 baler, is controlled by a crank (See Illustration 6). A strap secures the handle above the windrow. The strap's button snap is easily unfastened and refastened. The pick-up on the 4590 baler is raised by a one-way hydraulic cylinder. The crank adjusts the lower height stop for the pick-up (See Illustration 6). The stop limits how far the pick-up can be lowered. Turn the crank counterclockwise to lower the stop and clockwise to raise it, as shown by the decal above the crank. The decal below the height rod labels several height positions for the pick-up. This rod moves as the crank turns. The crank can be used to raise and lower the pick-up when the hydraulics are in the "float" position. When the cylinder is not connected to the tractor, the crank can only raise the pick-up.

To lower the pick-up, first turn the crank counterclockwise until the pick-up height rod is in the A to E range. The pick-up can now be raised or lowered hydraulically.

The pick-up has two lift assist springs, one on each side to help carry its weight. When the pick-up is up, adjust the springs so that the pick-up can be lifted by hand. Start with the pin in the third hole from the top of strap. If the pick-up is too heavy, move the pin down one hole. If it too light move the pin up one hole.

When leaving the field, always completely raise the pick-up. In the transport position, the pick-up should be firmly underneath the frame and out of the way of obstacles. If not, shorten the cables on both sides of the pick-up.

Illustration 6



## TWINE INSTALLATION

**WARNING!** Never install twine while tractor is running. Stop engine and set parking brake.



1. Place the balls of twine in the twine box in an upright position (See Illustration 7). Slide the rubber strap back against the balls to prevent them from tipping over. Route the twine through the twine guides and tie the balls together as shown in illustration 7. Make knots small enough to pass through the twine guides.

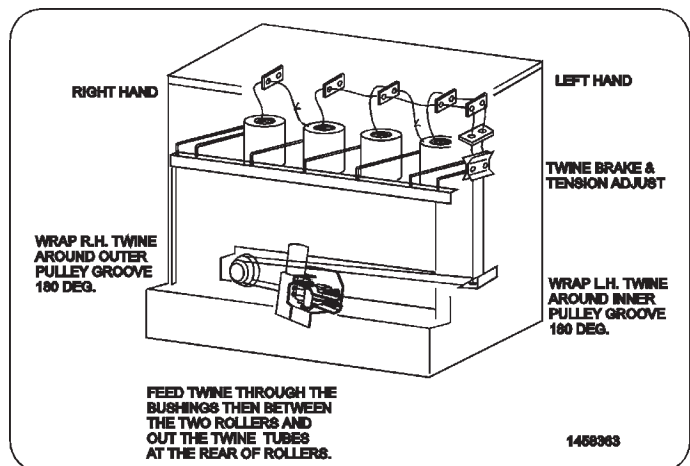


Illustration 7

2. For the left two balls, run the twine towards the left of the baler using the rear series of guide holes, and the front series of guide holes for the right balls. Pull the twine tensioner plates apart and put the twine through the tensioner and the two holes in the twine box floor. Next route the twine through the twine guide below the twine box floor inside the left side wall before routing to the step pulley at the right.

**CAUTION!** Knife blades are very sharp. Use caution when working near twine cut-off knives.



3. Wrap the right and left twines around the two grooves of one of the pulley steps 180° counterclockwise (the twine will come off the bottom of the pulley). Each pulley step represents a different twine spacing on the bale. Using the large pulley step will result in a close spacing between the twine wraps (maximum amount of twine on the bale) excellent for baling short material like wheat stubble. Using the smallest pulley step will result in the widest spacing between the twin wraps (minimum amount of twine on the bale) suitable for baling long material. **NOTE:** Each twine must be in separate grooves, but in the same step. (See Illustration 8).

4. Run the right and left twines through the bushings on the twine starter and then between the two rollers and out the twine tubes at the rear of the rollers. (See Illustration 8). The twine pick-ups should be placed in line with the twine cut off knives for their initial starting position. They must move in toward the starters when the step pulley is turned counterclockwise. They can easily be checked and set by manually turning the step pulley counterclockwise.

5. The distance of the twine from the bale edges can be adjusted by means of the twine limiters. (See Illustration 8). To adjust the twine closer to the outside of the bale, loosen the hardware and move the limiters towards the sides of the baler. Retighten hardware.

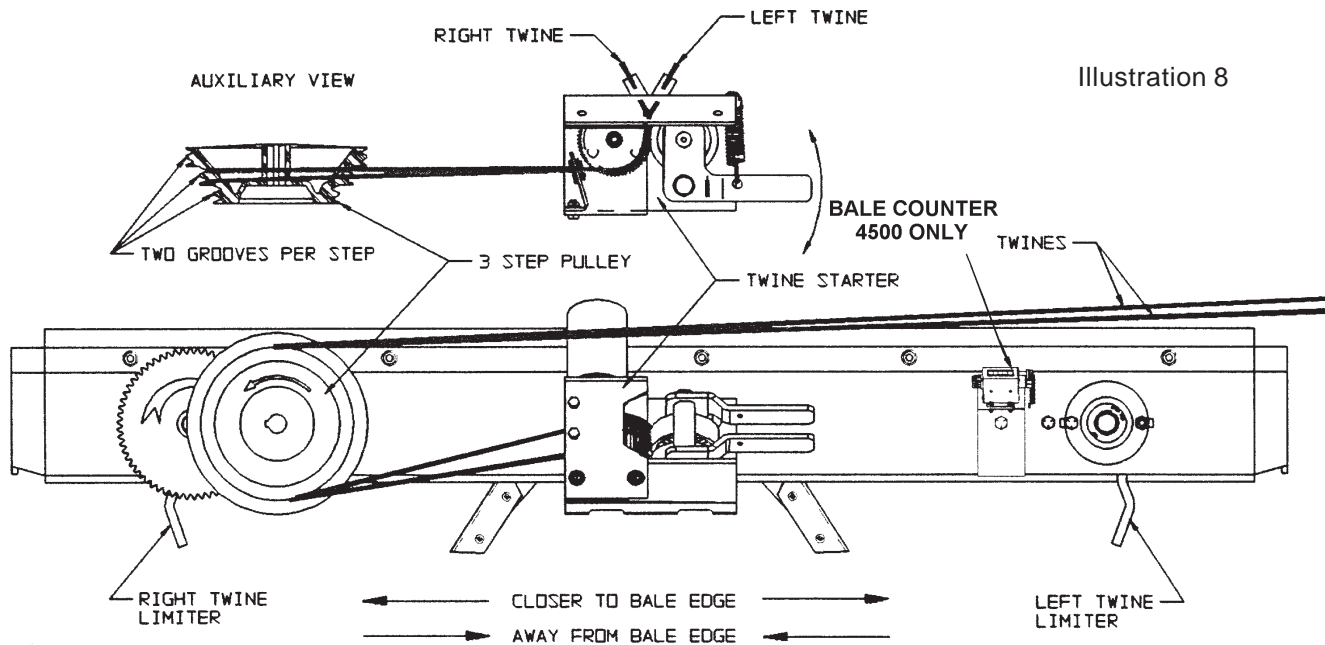


Illustration 8

**NET WRAP INSTALLATION (Model 4590)**

**WARNING!** Never install netting while tractor engine is running. Stop engine and set parking brake.



1. Compare the netting roll core length to the dimension on the specifications page. If it is longer, cut to the proper length. If only netting or plastic is to be used an extra roll can be stored in the twine box. First remove any ball of twine. Take out the twine dividers, except for the two outer ones. Store them on the bottom of the twine box floor. Move the rubber strap forward. Place the roll in the twine box and move the strap back to help hold the roll in place.

2. To install a roll of netting, move the roll latch arm handle to the right and rotate the roll mounting tube out (See Illustration 9). Pull the roll latch, spacer washer and a roll end stop off the tube. Place a roll of netting over the tube. Make sure that the netting comes off the roll on the bottom, towards the rear. Put the left end over the left end stop. Put the other end stop inside the right end of the roll. Replace the latch arm and spacer washer as needed. Move the roll latch arm handle to the right and rotate the roll mounting tube in. Release the handle to secure the tube. Pull on the roll to verify that the tube is locked in position. For a more detailed drawing, see the Wrap Roll Mounting System section in the Parts Listing Section.

3. Check the range of movement of the roll latch arm handle. It should be nearly centered in the available movement it had when no roll was installed. If it isn't the position of the end stops has to be changed. On each end of the tube are square keys which act as stops to the roll end stops. The end stops have 4 inner notches with different depths. The keys extend a different amount into each notch, thereby changing the spacing of the end stops. Rotate the mounting tube out. Rotate one end stop at a time, 90°, to control the position of the end stops on the tube. Use of three spacer washers may be necessary.

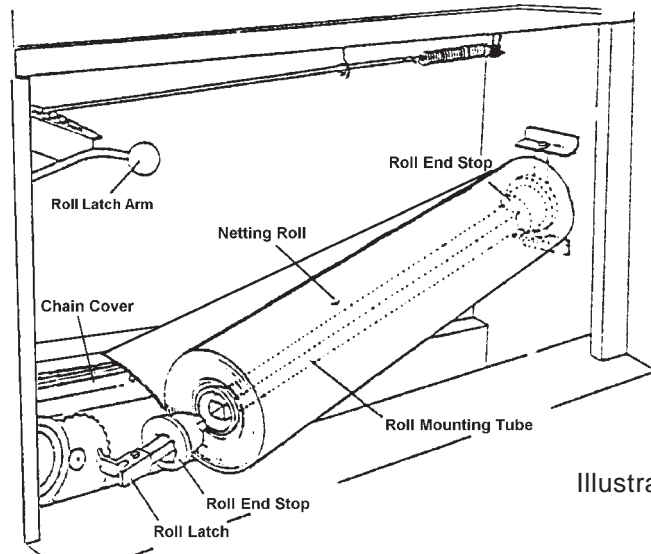


Illustration 9

**CAUTION!**



Knife blades are very sharp. Use caution when working near twine cut-off knives and net wrapping cut-off knives.

**BALE COMPACTION SETTING**

The bale compaction is controlled by spring tension holding the rear door latches locked (See Illustration 11). This spring tension is easily changed by positioning the compaction control levers in one of five different hole locations. Use the top hole for lightly compacted bale and bottom hole for heavily compacted bale.

**CAUTION!**



Lever are under spring tension. Never adjust with door open.

**NOTE:** The levers on each side of the baler must be positioned in the same location. If more or less spring tension is required, adjust the spring mount bolt. Adjust as directed on following page.

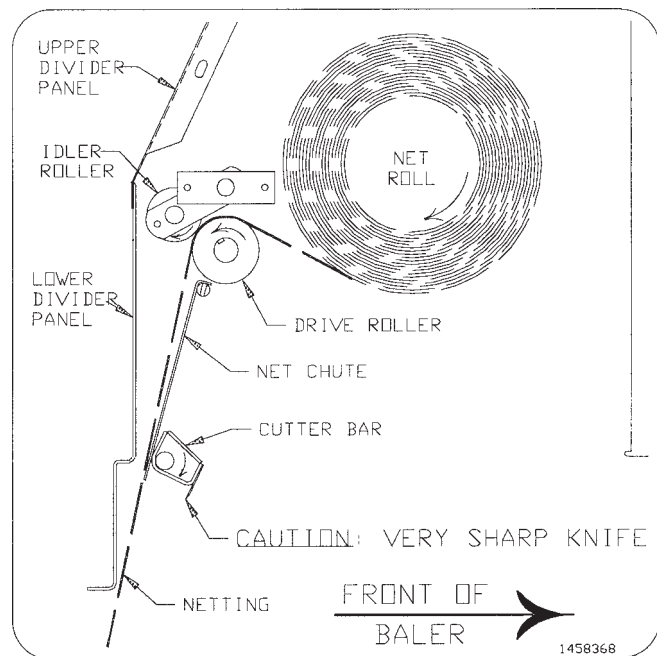


Illustration 10

Normal spring length should be 14-1/2" on the right side and 15" on the left side from the spring bottom to the spring end plug with the adjusting lever in the center position. The elevator chain disconnect spring provides enough resistance to require more spring tension on the left side lever.

A more accurate check of the spring tension can be made using a torque wrench. Place the torque wrench in the square hole on the end of the lever (See Illustration 12). With the lever bolt unlatched and even with the center hole, the torque wrench should read 20 FT-LB on the right side and 25 FT-LB on the left side (keep wrench approximately parallel to the lever). Adjust the spring length if required.

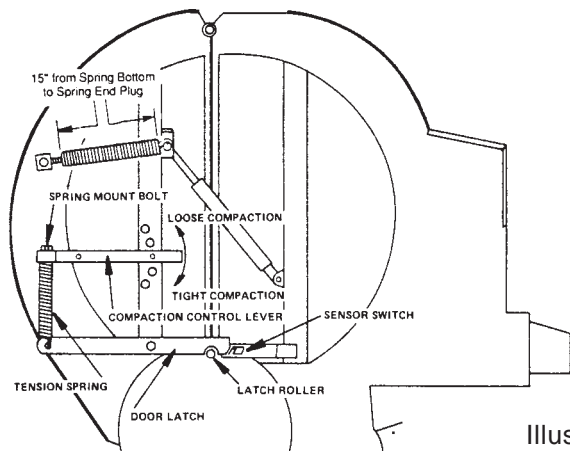


Illustration 11

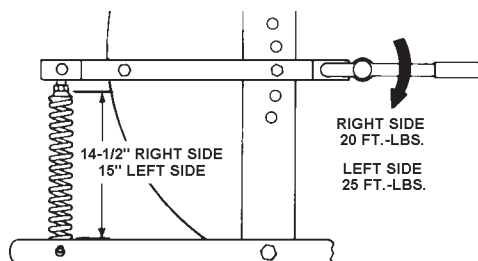


Illustration 12

All crops will not compact the same. Light, dry, crops can be compacted more than heavy, moist crops. You will have to match the tension setting to your crop and desired compaction. Start with the compaction control levels in the top holes for the first bale, then move them down one hole at a time until you have a bale with the desired compaction.

After the compaction of the bale reaches the tension setting of the compaction control levers, a rear door latch will start to rise, activating a sensor switch and turning an indicator light on, indicating that the bale is formed. There is a sensor switch on both sides of the baler and two lights in the control panel. When the right sensor switch is activated, it will turn on the right control panel light. These lights indicate which side of the bale is compacted more or less than the other side.

## SENSOR SWITCH ADJUSTMENT

The sensor switch should turn the lights on after the door latch bar rises 1/8" to 3/16" above the latch roller (See Illustration 11). If not, adjust the switch by moving the compaction levers all the way up past their adjusting holes. This will remove the spring tension on the latch bar. Insert a 1/8" allen wrench through the opening just above the latch roller (See Illust. 13). Center the wrench on top of the latch roller then pinch the wrench in position by moving the compaction lever to its center hole position. Loosen the 2 sensor switch mounting bolts and slide the switch back against the latch bar until the light goes out. Slowly slide the switch back away from the latch bar until the light comes back on. Tighten the 2 mounting bolts at this position, making sure the switch does not move when tightening bolts. Remove the allen wrench and recheck the setting by raising the latch bar manually above the switch.

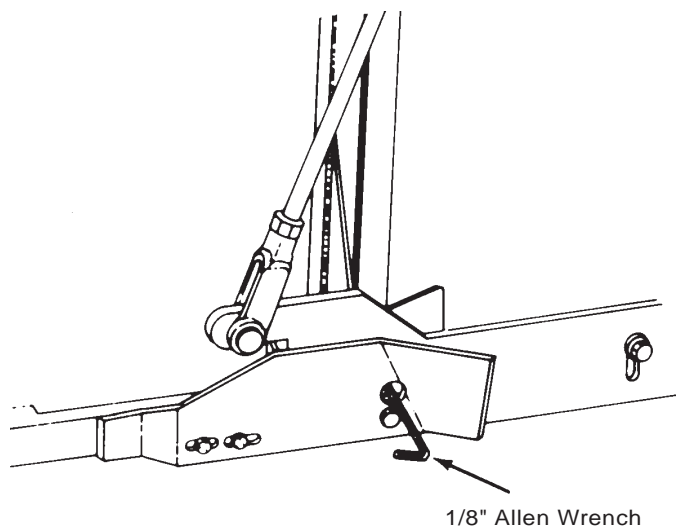


Illustration 13

**NOTE:** The 1/8" to 3/16" setting is when the light comes on, not when it goes out. Set the switch on each side the same.

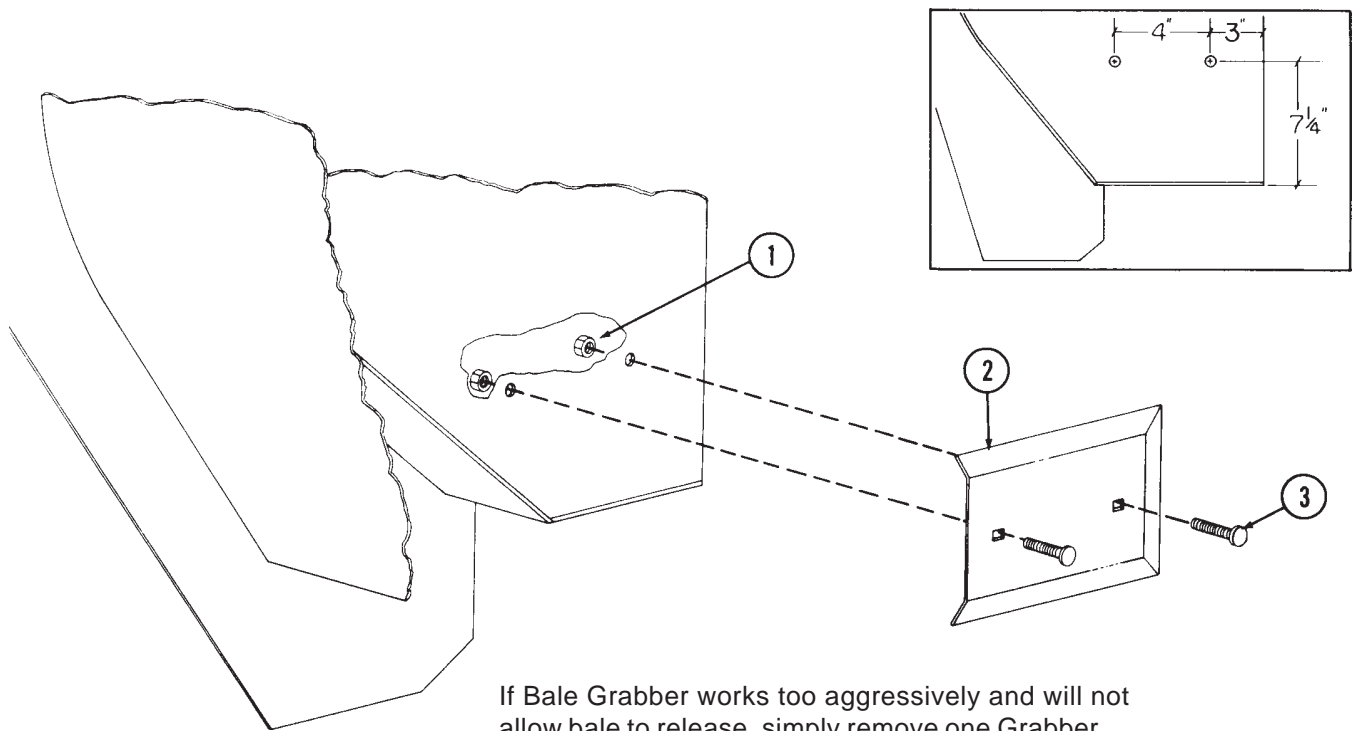
INSTALLATION INSTRUCTIONS

Open baler door approximately halfway. Lock the door safety valve. Locate the two 13/32" holes that are in each side of the rear chamber. Position the bale width reducers in place as shown below. **NOTE:** The open end bale reducer faces towards the rear end of the baler. Secure with 3/8-16 x 1-1/4" carriage bolts and 3/8-16 elastic stop nuts. Repeat on other side of baler.

**NOTE:** In older model balers, the two 13/32" holes will have to be drilled first. The small rectangular box below shows all the dimensions for locating and drilling these holes.

LEFT REAR INSIDE PANEL SHOWN BELOW

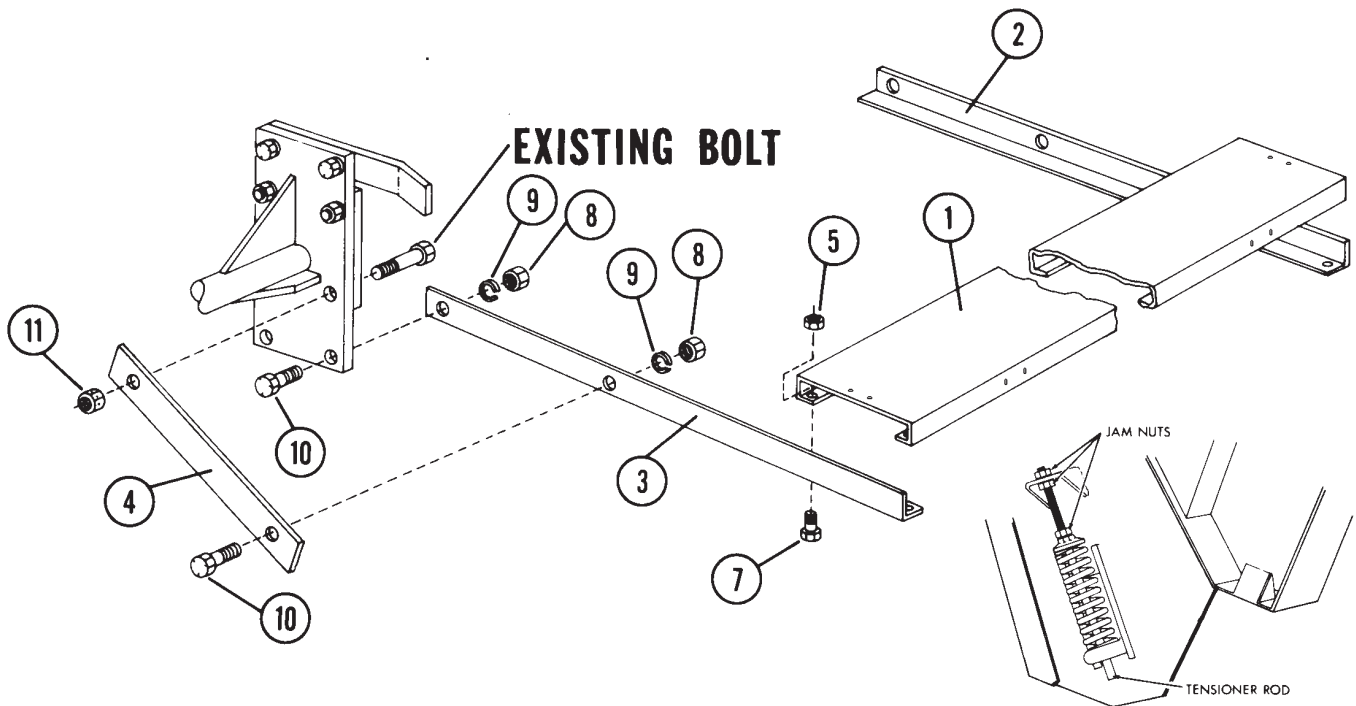
- 1 Elastic Stop Nut
- 2 Bale Width Reducer
- 3 Carriage Bolt



M&W ROUND BALER MODEL 4500  
BALER BALE BUMPER

INSTALLATION INSTRUCTIONS

1. Remove the 3/4" hex nut and lockwasher from the EXISTING BOLT shown in the installation.
2. Place the brace strap as shown and secure with 3/4" locknuts.
3. Mount the mount angle to the spindle weldment at the lower rear hole as shown.
4. Fasten lower end of brace strap to mount as angle.
5. Secure cross channel on mount angle as shown.
6. Install the bale bumper parts as shown on both sides of baler (left side is shown here.)
7. **NOTE:** If the elevator chain spring tensioner rod makes contact with the brace strap on either side of the baler it will be necessary to loosen all three jam nuts, reposition threaded rod, and rest the spring tension to specifications.



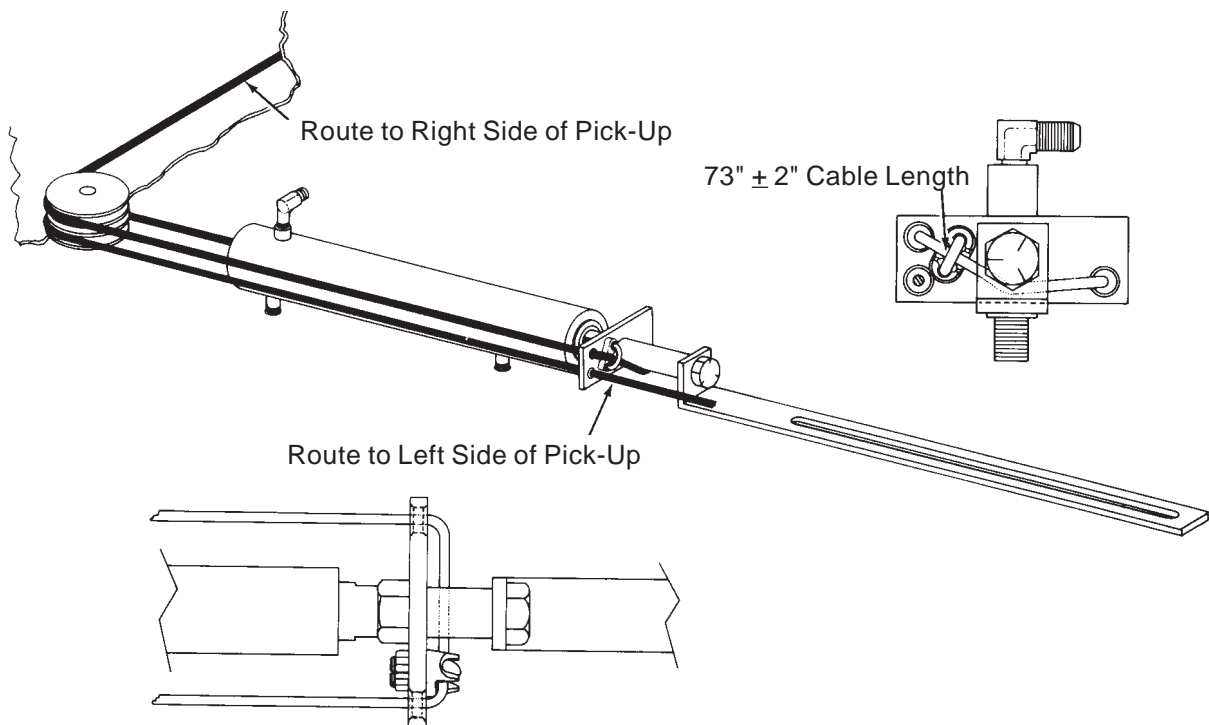
ITEM	DESCRIPTION
1	Cross Channel
2	Mount Angle, RH
3	Mount Angle, LH
4	Brace Strap
5	Flanged Whizlock Nut
7	Bolt
8	Hex Nut
9	Lockwasher
10	Bolt
11	Hex Locknut



ROUND BALER  
OPTIONAL HYDRAULIC LIFT PICK-UP KIT PART NO.1450438

INSTALLATION INSTRUCTIONS

1. Remove the crossbeam cover from the backside of the crossbeam.
2. Crank the pick-up up to its highest position. Block both sides of the pick-up so that the pick-up is as tight against the baler as possible. Slowly turn the pick-up crank down to create slack in your pick-up cable.
3. Please refer to the OPTIONAL HYDRAULIC LINE PICK-UP KIT EXPLODED PARTS VIEW DRAWING AND PARTS LIST accompanied with these instructions during assembly. Next, locate and remove one 3/8-16 Hex Locknut, two 3/8" Flatwashers and one 3/8-16 x 3", GR5 Hex Capscrew (Item 16). These fasteners secure the pick-up cable to the pick-up lift screw crank assembly. This hex capscrew can be found by looking up at the bottom of the left-hand side of the crossbeam. This hex capscrew, flatwashers and locknut will be reinstalled in same location later. Remove cable thimble from cable and discard.
4. Removal of the entire pick-up lift cable is next. Locate and loosen the cable clamps that are securing the cable to both sides of the pick-up. At this time check the routing of the cable on all the pulleys. Their position and direction will be the same for installation of the hydraulic cylinder lift kit. Remove cable from the baler.
5. It is necessary to assemble your cable to the hydraulic cylinder prior to installation. Install the 5/8-11 x 3", GR 5 Hex Capscrew (Item 11) through the Pick-up Lift Connector (Item 10) as shown in the illustration. Place the Tube Spacer (Item 9) over the 5/8" Hex Capscrew (Item 11). Next, position the Cable plate (Item 7) over the remaining portion of thread left on the 5/8" Hex Capscrew (Item 11) as shown in illustration below. Thread one 5/8-11 Hex Nut (Item 6) onto the 5/8" Hex Capscrew. Thread the 5/8-11 x 3" hex Bolt (Item 11) into the end of the cylinder rod. Tighten this assembly keeping all components in place as shown below.



6. Next, route the cable through the top hole on the cable plate and then through the lower hole opposite the first hole. Position the cable clamp loosely as shown in the illustration above. The cable should rest against the bottom of the tube spacer as the end view shows. To aid in assembly a designated cable length is given from the edge of the cable clamp to the end of the cable running through the top hole of the cable plate and to the right side of the pick-up. This distance is 73" + 2". See illustration above. Once this length is established, secure cable tightly with the 3/16" Cable Clamp (Item 8). Any excess cable can be removed after the final adjustment.

7. Prepare the 90° Male Elbow (Item 4) with pipe sealer and thread into hydraulic cylinder. This fitting will need to be positioned at an angle to accept the Hydraulic Hose (Item 1).

8. Place this entire assembly in the lower frame of the crossbeam. Two holes are supplied on the bottom right side of the crossbeam for the cylinder studs. Secure the cylinder in place with two 5/8-11 Hex Locknuts (Item 5).

Attach the Hydraulic Hose (Item 1) to the cylinder as shown in illustration. Secure the Hydraulic Hose (Item 1) to the inside top of Cross Beam to keep hose away from rotating coupling and cross shaft just right of gearbox with hose clamp (Item 12) and bolt & nut (Item 14 & 15). Install grommet (Item 3) in 1-3/8" dia. hole in front of cross beam and route hose (Item 1) through grommet (Item 3). Prepare tractor end of hydraulic hose (Item 1) with pipe sealer and install pipe bushing (Item 13). Also add pipe sealer to external threads of bushing (Item 13) before installing hydraulic quick coupler (not supplied) for tractor.

9. At the other end of the assembly, crank the pick-up Lift Connector (Item 10), and the two holes from the pick-up lift crank assembly arm meet, reinstall the 3/8-16 x 3", Gr 5 hex capscrew, two 3/8" flatwasher and one 3/8-16 hex locknut (Item 16) as shown in illustration.

10. Return the pick-up height indicator back to the right by cranking. This should extend the hydraulic cylinder all the way out.

11. Reroute the pick-up cable as it was previously routed before disassembly.

12. Attach the cable to each side of the pick-up as before, pulling the cable as tight as possible before tightening each cable clamp.

13. Remove the blocks from under the pick-up. Hook up the new hydraulic hose to your tractor. Fill hydraulic cylinder by moving lever back and forth.

14. By positioning the indicator, on the front of the crossbeam, between the letters A and E you can effectively set the amount at which you want your pick-up to drop.

15. Reinstall crossbeam cover.

16. Any excess cable at pick-up can be trimmed off.

## OPERATION

1. The pick-up should be positioned next to the ground so it will pick up all the crop, DO NOT operate the baler if the tines are running in the ground. Adjust the gauge wheels just above the ground when the pick-up is set at the proper operating height.

### CAUTION!

Incorrectly adjusted pick-up may throw rocks & debris toward operator causing injury. Do not set too low.



2. Switch on the controller. If using a 4590 Baler also set the material selector to twine, or the number of wraps when using netting. Using the tractor hydraulics, close the rear door until the latch bars lock the rear door closed and the indicator lights go out.

3. Engage the PTO and bring the baler up to full PTO RPM.

4. Position the tractor over the windrow centrally. The windrow should be straight, consistent and not too thick. The ideal windrow width is the same as the bale width. If the windrow is too wide, the bale will be forced against the side of the chamber and will be difficult to eject.

5. In the case of a narrow windrow, it is advisable to weave the tractor from side-to-side (See Illustration 14). This will ensure that the bale has the same amount of hay on both ends and is evenly compacted. Do not drive in a zig-zag, but drive on one side for a distance, then change to the other side for the next distance. Do not spend a lot of time with the windrow in the center or the bale will have a tight center and loose ends.

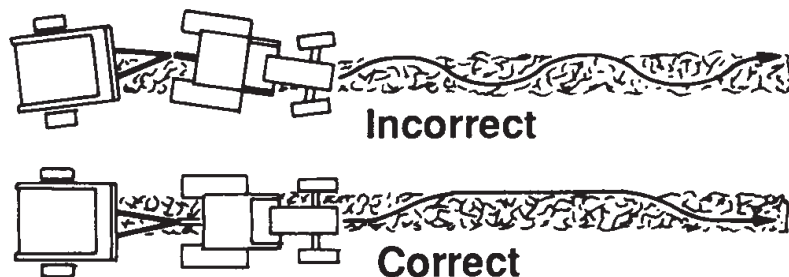


Illustration 14

6. Start moving slowly at full RPM until the crop has started rolling inside the baler. Then increase ground speed. Forward speed will be determined by crop conditions and the size of the windrow. The norm is 5 MPH, when conditions permit, with a range of 3 to 8 MPH.

7. Continue baling until a rear door latch activates an indicator light signaling that the bale is formed. When one light stays on for at least a few seconds ( right or left ), that side is full. Move over to the other side and put more crop into it until that light comes on. Continue this procedure until the lights on both sides stay on. You are now ready for the wrapping operation.

### 4500 BALER WRAPPING OPERATION

Push the electric twine start button for approximately **3/4 second**. Do not hold the button in too long or the twine pick-ups will go past the twine and will have to go one complete round before it will pick the twine up and wind it across the bale.

The twine will fall into the windrow and will be carried into the baling chamber with the windrow. Once the twine is caught by the rotating bale, stop the forward motion of the tractor. Do not disengage the PTO or throttle down. After the twine pick-ups have moved in toward the twine starters and picked up the twine, they will wind the twine across the bale.

The twine will start at the center of the bale, wrap toward both edges and back to the center, where the knives will automatically cut the twine. The wrapping mechanism is then ready for the next bale.

**NOTE:** The knife blades are replaceable. If blades become dull, remove the screws securing each blade and replace with new blades.

4590 Controller functions: (See Illustration 15)

1. Left hand full chamber light.
2. Manual cutter knife switch.
3. Bale counter.
4. Manual wrap switch
5. Right hand full chamber light.
6. On/Off switch.
7. Power light.
8. Wrap light.
9. Wrap material selector switch.

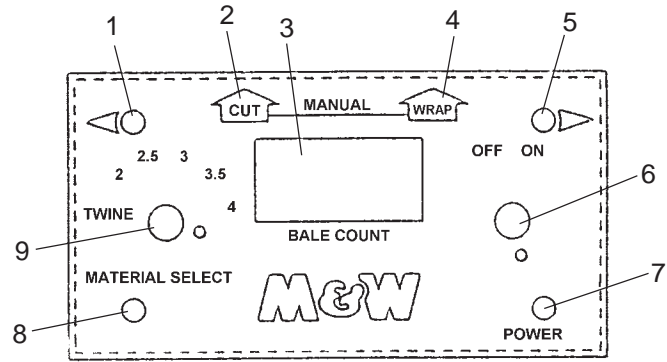


Illustration 15

#### 4590 BALER WRAPPING OPERATION

**Net Wrapping** - Continue to fill the baler until the indicator lights on both sides glow. The wrap cycle must be started manually by pressing the WRAP button. The baler should be centered over the windrow when the wrapping process begins. When the WRAP button is depressed the feed clutch will engage advancing the wrapping material into the windrow. The wrapping material is carried into the bale chamber with the windrow. When the wrapping material is started into the windrow and enters the bale chamber, stop the tractor's forward motion.

When the pre-selected number of wraps have occurred, the cut-off clutch will engage, rotating the cut-off knife into the wrapping material automatically.

The controller also has an audio beeper which will sound each time a full chamber light comes on or the cut clutch is engaged. The cut clutch beeper will only sound in the net mode.

When wrapping with netting it is possible to cut the netting by depressing the cut switch. To determine the desired number of wraps merely look for the crossbars with reflective tape once the netting has begun to feed into the baler. Each bar with reflective tape will represent approximately one wrap of netting on the bale.

**Twine Wrapping** - Continue to fill the baler until the indicator lights on both sides glow. The twine wrap cycle must be started manually by pressing the WRAP button. The baler should be centered over the windrow when the wrapping process begins. When the WRAP button is depressed the twine starter will engage, advancing the twine into the windrow. The windrow will carry the twine into the bale chamber. When the twine has entered the bale chamber stop the forward motion of the tractor. The twine hook guides the twine across the bale and automatically cuts when wrapping is complete.

**Twine Limiter Adjustment** - Adjustment to the twine limiters can be made at the RH and LH bottom corners of the chain beam. This will allow you to adjust the limits of the twine wrap on the bale.

The bales may not roll clear of the door. If so, reverse for approximately 10 feet while the bale is being wrapped.

Discharge the bale after wrapping is completed.

**IMPORTANT: OPEN THE DOOR ALL THE WAY.** The elevator chain is automatically disengaged when the door is opened.

**CAUTION!** Rear door damage may result if these instruction are not followed.



**NOTE:** Before closing the door, drive forward so that the door does not touch the discharged bale.

Close the door until the indicator lights go out. The process is now complete and ready to start a new bale.

## OVERLOAD SLIP CLUTCHES

The baler is equipped with an overload ratchet slip clutch.

1. The overload ratchet slip clutch on the IID shaft will slip and make a loud noise if the baler is filled too full or the bale is too tight. When this happens, disengage the PTO immediately. To restart the baler, slow the engine RPM, then engage the PTO slowly.

## CHAIN TENSIONING ADJUSTMENT

1. Elevator Chain - The elevator chain rear sprockets are spring tensioned to keep the chain tight. These springs (one on each side of baler) are to be measured only when the baler door is closed adjustment may require that the door be opened a little, then close again to re-measure spring length. (See Illustration 16).

**THE BALER MUST BE EMPTY!**

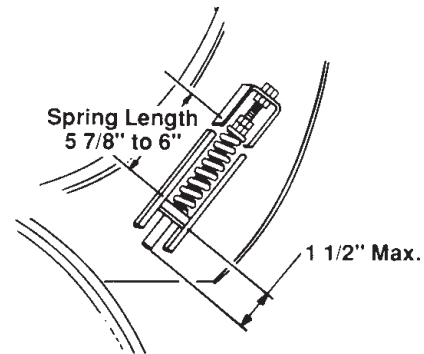


Illustration 16

2. Roller Drive Chain - The upper rear sprocket on the chain (See Illustration 17) is spring adjusted. To increase this tension, tighten bolt "A" and to lower the tension, loosen the bolt.

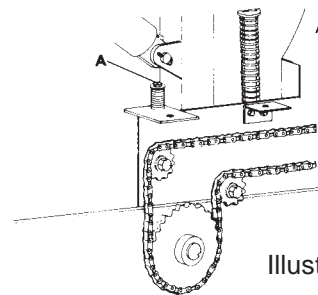


Illustration 17

3. Pick-Up Drive Chain - A leaf spring and coil spring (See Illustration 18) tensions the chain. To adjust the tension, tighten or loosen nut "C". If further tension is needed, loosen bolts "A" on both sides of the pick-up and tension the chain with bolts "B". Retighten bolts "A".

**NOTE:** Both sides of the pick-up must be adjusted the same amount to keep chain sprockets in line with each other. (See Illustration 18).

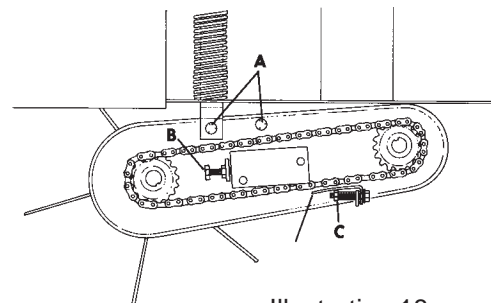


Illustration 18

4. Elevator Drive Chain - The middle sprocket (See Illustration 19) on the chain is spring tensioned. To increase the tension on the chain, tighten nut "A". To decrease the tension, loosen the nut.

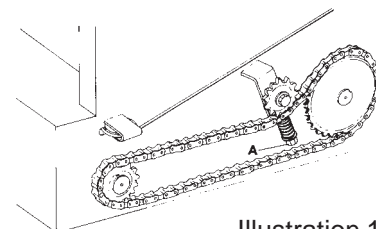
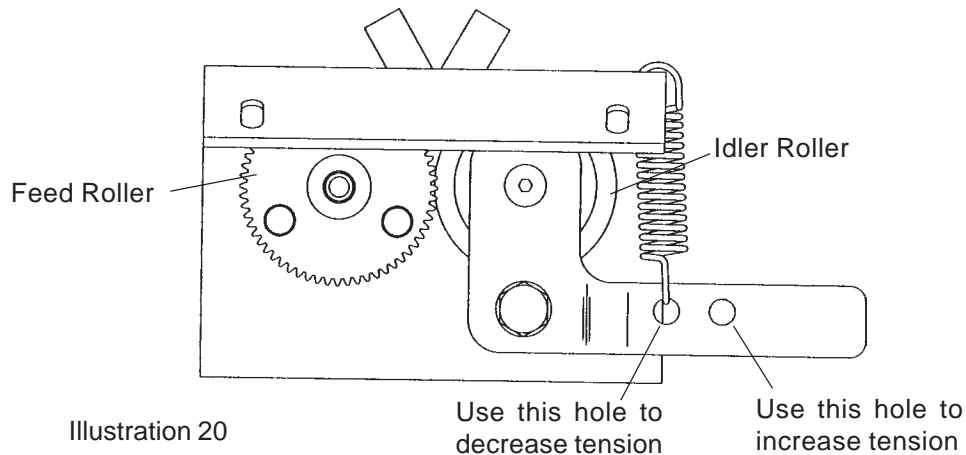


Illustration 19

5. Rear Roller Chain - The chain has a non-adjustable spring tensioner. (Not Illustrated)

## TWINE STARTER TENSION ADJUSTMENT

1. The twine starter idler roller is spring tensioned against the starter feed roller (See Illustration 20). Increase the spring tension if the string slips in the rollers. Decrease the spring tension if the string is being cut by the rollers.

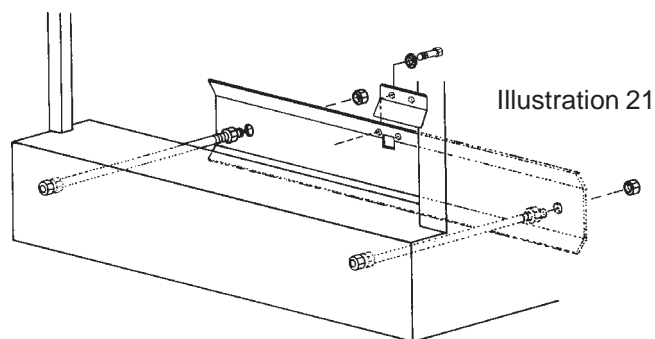


2. To change the spring tension, note the position of the spring end and reposition the spring end in a different hole in the arm as shown.

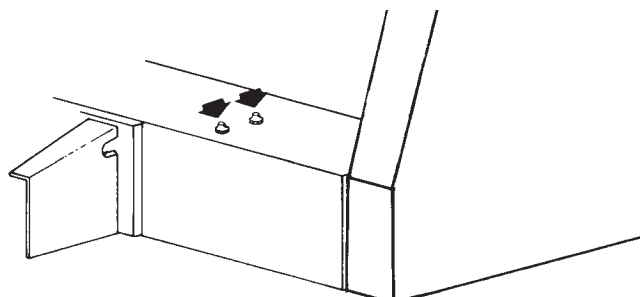
## LUBRICATION

1. All Roller Chains- If not equipped with an automatic chain oiler, lubricate daily with light oil. For longer service life, lubricate at the end of each day. The oil will penetrate into the rollers when the chain is still warm. Fill the chain oiler reservoirs as needed with light motor oil.

2. Gearbox - Remove the hand hole cover (held by 2 bolts) on the rear of the front crossbeam cover (See Illustration 21). Check that the oil level is up to the plug hole in the middle of the back of the gearbox. Change the oil after the first 500 bales or at the end of the first season, whichever comes first. Then, change the oil after every 2,000 bales or every 2 years, whichever comes first. Fill with approximately 1-1/2 quarts of SAE 90 oil, up to the level of the plug. On 4500 balers with serial #14083 and after or 4590 balers with serial #10954 and after, the gearbox top filler plug has an oil level stick. This should be used to check oil level. Operating level should be kept between grooves on level stick. Fill these boxes with approximately 1-3/4 quarts of SAE 90 EP oil.



3. Dog Clutch - ( Elevator chain disengage clutch.) Grease every 10 hours of operation. Grease only when rear door is open ( See Illustration 22 ).



4. Pick-up - Grease pick-up cam rollers and oil pick-up mounts (both sides) every 10 hours of operation. (See Illustration 23).

5. Elevator Drive Shaft Bearing - Located inside of bale chamber. Grease every 10 hours of operation. (See Illustration 24).

**WARNING!** Close the Door Safety Lock Valve before entering bale chamber.

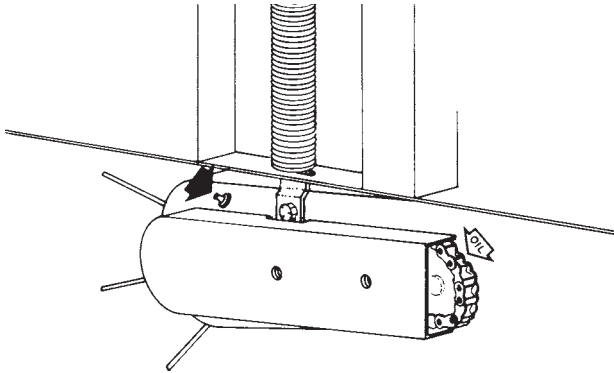


Illustration 23

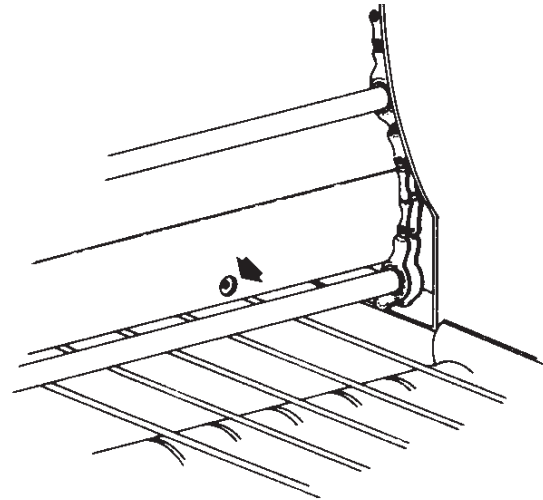


Illustration 24

6. Rear Door Hinge - Grease daily (See Illustration 25).

7. Gauge Wheels - Grease daily (See Illustration 26).

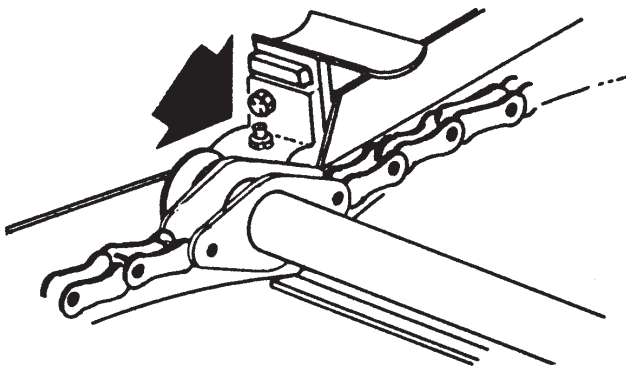


Illustration 25

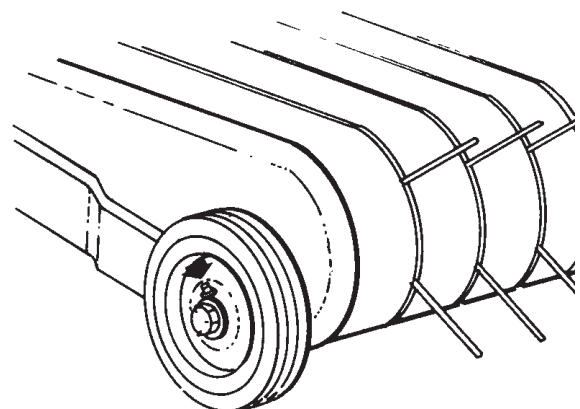
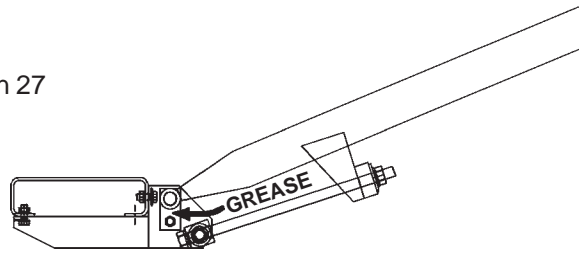


Illustration 26



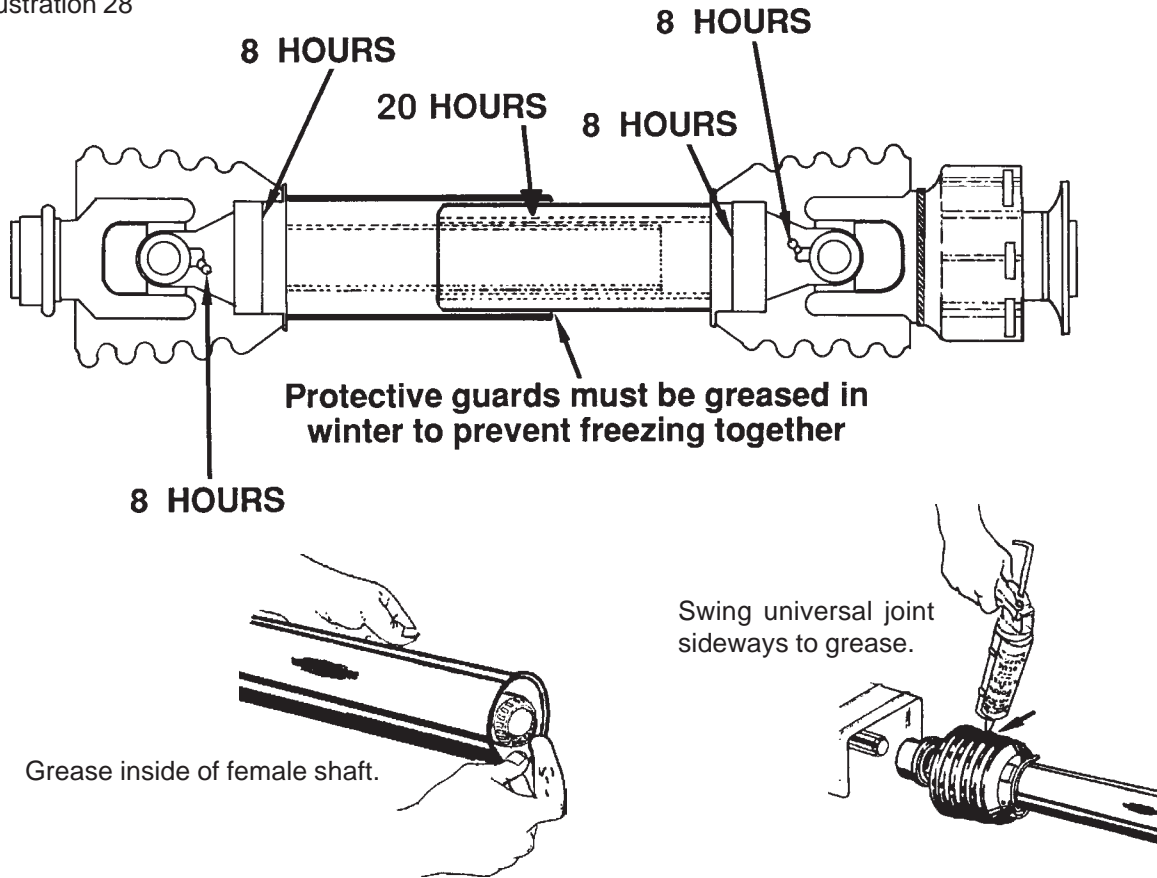
8. Bale Ramp Extension - Grease every 10 hours of operation (See Illustration 27) 2-Fittings and 2-Rollers.

Illustration 27



9. IID Shaft - Lubricate the shaft at the areas shown at the times indicated (See Illustration 28).

Illustration 28



## STORING THE BALER

1. If possible, shelter the machine in a dry place.
2. Disconnect the hydraulic hoses.
3. Secure the tongue jack in the highest hole setting possible. Wind the jack pad down until the tongue no longer rests on the tractor drawbar and unhitch the baler.
4. Clean and check all components after the harvesting season. Tighten all nuts and bolts. Check moveable parts for correct positioning and free running. Replace damaged parts.
5. Lubricate in accordance with the lubrication instructions. Apply corrosion inhibitor to the elevator chain and all exposed areas, particularly inside the bale chamber. Touch-up paint work, if necessary.

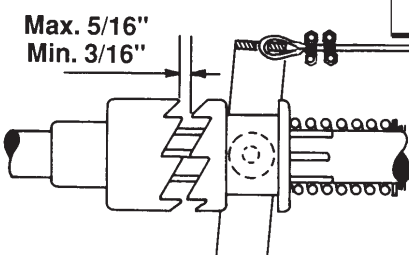
## ATTENTION CUSTOMER

**NOTE: For additional repair and adjustment information, contact your dealer to order a bale repair guide manual. Baler repair guide manual Part Number is 4932W.**

## TROUBLESHOOTING

PROBLEM	PROBABLE CAUSE	SOLUTION
No lights on controller.	No power to controller.	Check that power cord is properly connected to battery.
Tailgate fails to latch.	Trash accumulated between front and rear housings.	Clear trash.
	Latch spring is broken.	Replace spring.
	Hydraulic line is damaged.	Repair hydraulic line.
	Tailgate misaligned to front housing.	Re-align housings at hinge.
The pick-up cannot be lowered.	Cable pulleys rusted.	Lubricate the cable suspension system.
	Screw crank assy. is rusted or binding.	Lubricate
	Hydraulic cylinder doesn't work.	Check tractor hydraulic system for one-way operation
	Pick-up lift assist spring improperly adjusted.	See PICK-UP Setting
	Pick-up mounting pivot is rusted or binding.	Lubricate with oil or grease.
The hay inlet area becomes blocked.	Blockages in the inlet area are caused by uneven and excessively large windrows.	Stop immediately to prevent the crop from being taken up by the elevator chain and lodging between the twine box and the baler shell.
		Remove the blockage by raising and lowering the pick-up with the implement running at a low speed. In case of large obstacles, switch off tractor engine, remove tine bar and remove blockage by hand.
Pick-up stops operating.	Pick-up tines touching ground.	Raise pick-up.
	Pick-up drive chain or lower roller drive chain broken.	Replace drive chain
	Large windrow slugging pick-up assembly.	Slow ground speed while maintaining PTO speed.
Bale Stops turning.	Door is open.	Eject bale and be sure door latches when it closes.
	Elevator chain is not operating.	Check drive chain, sprockets and rollers.
	The slip clutch in the PTO drive line has come into operation due to high torque.	Stop forward operation and PTO. Bale is sufficiently compressed. Start PTO slowly and start wrapping. Harvest the next bale with a lower compaction setting.

## TROUBLESHOOTING

PROBLEM	PROBABLE CAUSE	SOLUTION
Drive chain jumps sprocket teeth.	Large windrows are overloading the machine.	Slow ground speed while maintaining PTO speed.
	Chain is too loose or over-tensioned.	Check tension and alignment.
Twine will not start.	Twine has kinks.	Remove kinked portion or start with other twine end.
	Twine does not extend far enough away from the feed rollers.	Pull twine out by hand.
	No crop flow to engage twine end.	Move machine forward to pick up crop to take twine in.
	Ball of twine is not positioned and produces a resistance on the twine.	Check twine installation.
	Too much tension on twine. Twine tensioners are too tight.	Lower spring tension.
	Twine is jammed in starter motor.	Free the twine.
Twine motor does not operate.	One or more electrical connections is loose or disconnected.	Check controller connection to battery.
		Check ground wire connection.
		Check that wiring harness has not been disconnected from the baler.
	Circuit breaker tripped.	Wait until breaker cools.
Twine is not cut.	Twine frays; should cut clean.	Clean blades. Check sharpness and installation.
		Check twine installation.
	Gum from plastic twine or hair from hemp collects on knives.	Clean blades. Check sharpness and installation.
		Check twine installation.
	Cutter blades are dull.	Sharpen or replace cutter blades.
The bale will not discharge.	Baler was overfilled.	Reduce pressure setting.*
	Windrows are too wide.	Make narrower windrows.*
	Crop has too high moisture.	Dry crop more.*
		*Optional: Install bale grabber kit.
The elevator chain continues to run when the door is open.	The dog clutch coupling in the front drive shaft does not stop elevator chain.	Adjust clutch (See Illustration 29).
	The cable from the disengaging lever to the coupling is too long.	Shorten the cable by means of the cable near the lever until the coupling is separated at a distance of 3/16" to 5/16" with the door in the opened position. (See Illustration 29).
	Illustration 29	

## TROUBLESHOOTING

PROBLEM	PROBABLE CAUSE	SOLUTION
Not enough twine on bale.	Twine wrapped around a pulley groove that has too small a diameter.	Wrap the twine around a larger diameter pulley groove.
		Traverse windrow to fill bale ends evenly so twine will not slide off an end.
Twine is loose on bale.	Tension on twine clamps insufficient.	Increase tension. If twine does not feed, tension is probably too tight.
	Not enough wraps.	Use coarser twine or closer windings (See Twine Installation).
The twine slips off the edges of the bales.	The side stops are too wide.	Set side stops inward.
		Traverse windrow to fill bale ends evenly so twine will not slide off an end.
Bale out of round.	Baler filled quickly on one side.	Drive slower and make more even windrows.
		Drive slower during the last few feet or stop the tractor and let bale roll more before wrapping.
	Twine is loose on bale.	See problem above.
	Windrow too light.	Rake two or more windrows together.
	Crop extremely dry, grinding up and falling out of bale chamber	Bale crop in early morning or late evening, when there is dew on the windrow.
Bale is "cone" shaped.	Not feeding enough hay into small end of cone.	Drive in weave pattern to distribute crop evenly.
		Rear door latch tensions or latch sensors not evenly set.
		See bale compaction setting and sensor switch adjustment.
Bale ends are small (crowned).	Windrow is wide and crop is scattered.	Make windrows narrower.
		Increase ground speed to force more crop into ends of bale.
	Overfilling center of bale chamber.	Concentrate filling the sides only by prolonged "weaving".
Pick-up does not clean up window.	Pick-up assembly raised too high.	Lower pick-up (See Pick-up Setting).
	Ground speed is too fast.	Slow ground speed while maintaining PTO speed.
	Traveling the wrong direction for the lay of the crop.	Pick up crop in opposite direction.
Bad Bearing on elevator chain cross bar.	Improper chain tensioning or foreign material (rock or stick) on bearing track.	Turn chain until brg. to be replaced is at the top of the baler at rear door hinge. Remove the snap ring and replace the bearing. Check chain tension. Clear track of trash.
Bale sticks in rear half of baler during bale ejection.	Bale grabbers working too aggressively.	Remove one grabber from rear chamber.

## TROUBLESHOOTING

PROBLEM	PROBABLE CAUSE	SOLUTION
Netting will not start.	Too much resistance on the net roll. setting.	Set roll resistance at lower
	Electric feed clutch not engaging.	Check electrical connections.
		Check clutch clearance. (.015")
	Belt Slipping.	Check belt tension.
Check for positive pulley drive.		
	Netting near end of roll.	Set roll resistance at a lower setting.
Netting will not feed.	No crop flow to engage netting.	Feed enough crop into baler to engage netting.
	Too much resistance on net roll.	Set roll resistance at a lower setting.
Netting will not cut.	Not enough resistance on net roll.	Set roll resistance at a higher setting.
	Knife blades are dull or improperly installed.	Check blades for sharpness and proper installation.
	Electric cut clutch not engaging.	Check electrical connections.
	Belt slipping.	Check belt tension and verify positive pulley drive.
	Electric cut clutch engaging but cam wheel does not complete a full revolution.	Check belt tension.
Check knife arm adjustment for proper wheel clearance. Should allow 1/8" extra arm movement past cam wheel.		
Net goes to one side of bale.	Obstruction in pickup/chamber opening.	Clear obstructions from pickup/chamber opening.
	Bale chamber not full on one side.	Fill baler evenly.
Net does not cover edges of bale.	Windrow too wide, more material on sides than center.	Make windrows smaller.
		Fill baler evenly.
	Obstruction in pickup/chamber opening.	Clear obstructions from pickup/chamber opening.

### PROPER TORQUE FOR FASTENERS (See Next Page)

The chart lists the correct tightening torque for fasteners. When bolts are to be tightened or replaced, refer to this chart to determine the grade of bolts and the proper torque except when specific torque values are assigned in manual text.




**NOTE:** These values apply to fasteners as received from supplier, dry or when lubricated with normal engine oil. They do not apply if special graphited or molydisulphide greases or other extreme pressure lubricants are used. This applies to both UNF fine and UNC coarse threads.

RECOMMENDED TORQUE IN FOOT POUNDS UNLESS OTHERWISE STATED IN THE MANUAL \*





## BALER SPECIFICATIONS

MODEL	MODEL 4500	MODEL 4590
Length	139 1/2"	
Width	84 1/2"	
Height	82 5/8"	
Track	72 7/8"	
Pick-Up Width	53 5/8"	
Drawbar Weight	480 Lbs.	
Approximate Weight	3860 Lbs.	3960 Lbs.
Minimum Power Requirement	40 HP	
PTO Speed	540 RPM	
Tires	10.00 x 15-8 Ply Rated	
Tire Pressure	40 psi	
Bale Diameter	59"	
Bale Width	60"	
Twine Capacity	4 Balls	
Twine Size	Sisal: 16,000 Ft./Bale Maximum (170 Lbs. Minimum Tensile Strength) Plastic: 20,000 Ft./Bale Maximum (150 Lbs. Minimum Tensile Strength)	
Netting Roll (4590)	2 Rolls	
Netting Roll Width (4590)	48"	
Netting Roll Diameter (4590)	10"	
Core Inner Diameter (4590)	3"	
Core Width (4590)	49"	

Proper Torque values for bolts that are measured in Inches

Bolt Diameter			
	Head Marking No Marks Grade Two	Head Marking Three Lines Grade Five	Head Marking Six Lines Grade Eight
	Pound - Foot Value Dry	Pound - Foot Value Dry	Pound - Foot Value Dry
1/4"	5.5	9	12.5
5/16"	11	18	26
3/8"	20	33	46
7/16"	32	52	75
1/2"	50	80	115
9/16"	70	115	160
5/8"	100	160	225
3/4"	175	280	400
7/8"	175	450	650
1"	270	675	975
1-1/8"	375	850	1350
1-1/4"	530	1200	1950
1-3/8"	700	1550	2550
1-1/2"	930	2100	3350

Proper Torque values for Metric bolts

Bolt Diameter				
	Head Marking 4.8	Head Marking 8.8 or 9.8	Head Marking 10.9	Head Marking 12.9
	Pound - Foot Value Dry	Pound - Foot Value Dry	Pound - Foot Value Dry	Pound - Foot Value Dry
6mm	4.5	8.5	12	14.5
8mm	11	20	30	35
10mm	21	40	60	70
12mm	37	70	105	120
14mm	60	110	165	190
16mm	92	175	255	300
18mm	125	250	350	410
20mm	180	350	500	580
22mm	250	475	675	800
24mm	310	600	850	1000
27mm	450	875	1250	1500
30mm	625	1200	1700	2000

To get Newton-Meters multiply pound-foot of torque by 1.356

**M&W**  
**LIMITED WARRANTY**  
**Baler**

**1. LIMITED WARRANTIES**

1.01.M&W warrants for one year from the purchase date to the original non-commercial, governmental, or municipal purchaser ("Purchaser") and warrants for six months to the original commercial or industrial purchaser ("Purchaser") that the goods purchased are free from defects in material or workmanship.

1.02.Manufacturer will replace for the Purchaser any part or parts found, upon examination at one of its factories, to be defective under normal use and service due to defects in material or workmanship.

1.03.This warranty does not apply to any part of the goods which has been subjected to improper or abnormal use, negligence, alteration, modification, or accident, damaged due to lack of maintenance or use of wrong fuel, oil, or lubricants, or which has served its normal life. This warranty does not apply to any part of any internal combustion engine, or expendable items such as blades, shields, guards, or pneumatic tires except as specifically found in your Operator's Manual.

1.04.Except as provided herein, no employee, agent, Dealer, or other person is authorized to give any warranties of any nature on behalf of Manufacturer.

1.05.Some parts are covered by an extended warranty. Refer to the inside back cover of your Operator's Manual for extended coverage, if any.

**2. REMEDIES AND PROCEDURES.**

2.01.This warranty is not effective unless the Purchaser returns the Registration and Warranty Form to Manufacturer within 30 days of purchase.

2.02.Purchaser claims must be made in writing to the Authorized Dealer ("Dealer") from whom Purchaser purchased the goods or an approved Authorized Dealer ("Dealer") within 30 days after Purchaser learns of the facts on which the claim is based.

2.03.Purchaser is responsible for returning the goods in question to the Dealer.

2.04.If after examining the goods and/or parts in question, Manufacturer finds them to be defective under normal use and service due to defects in material or workmanship, Manufacturer will:

(a) Repair or replace the defective goods or part(s).

(b) Reimburse Purchaser for the cost of the part(s) and reasonable labor charges (as determined by Manufacturer) if Purchaser paid for the repair and/or replacement prior to the final determination of applicability of the warranty by Manufacturer.

(c) The choice of remedy shall belong to M&W.

2.05.Purchaser is responsible for any labor charges exceeding a reasonable amount as determined by Manufacturer and for returning the goods to the Dealer, whether or not the claim is approved. Purchaser is responsible for the transportation cost for the goods or part(s) from the Dealer to the designated factory.

**3. LIMITATION OF LIABILITY.**

3.01.MANUFACTURER DISCLAIMS ANY EXPRESS (EXCEPT AS SET FORTH HEREIN) AND IMPLIED WARRANTIES WITH RESPECT TO THE GOODS INCLUDING, BUT NOT LIMITED TO, MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

3.02.MANUFACTURER MAKES NO WARRANTY AS TO THE DESIGN, CAPABILITY, CAPACITY, OR SUITABILITY FOR USE OF THE GOODS.

3.03.EXCEPT AS PROVIDED HEREIN, MANUFACTURER SHALL HAVE NO LIABILITY OR RESPONSIBILITY TO PURCHASER OR ANY OTHER PERSON OR ENTITY WITH RESPECT TO ANY LIABILITY, LOSS, OR DAMAGE CAUSED OR ALLEGED TO BE CAUSED DIRECTLY OR INDIRECTLY BY THE GOODS INCLUDING, BUT NOT LIMITED TO, ANY INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES RESULTING FROM THE USE OR OPERATION OF THE GOODS OR ANY BREACH OF THIS WARRANTY. NOTWITHSTANDING THE ABOVE LIMITATIONS AND WARRANTIES, MANUFACTURER'S LIABILITY HEREUNDER FOR DAMAGES INCURRED BY PURCHASER OR OTHERS SHALL NOT EXCEED THE PRICE OF THE GOODS.

3.04.NO ACTION ARISING OUT OF ANY CLAIMED BREACH OF THIS WARRANTY OR TRANSACTIONS UNDER THIS WARRANTY MAY BE BROUGHT MORE THAN TWO (2) YEARS AFTER THE CAUSE OF ACTION HAS OCCURRED.

**4. MISCELLANEOUS.**

4.01.The laws of the State of Texas shall govern the construction of this agreement. Venue for any lawsuits shall be in Guadalupe County, Texas.

4.02.Manufacturer may waive compliance with any of the terms of this limited warranty, but no waiver of any terms shall be deemed to be a waiver of any other term.

4.03.If any provision of this limited warranty shall violate any applicable law and is held to be unenforceable, then the invalidity of such provision shall not invalidate any other provisions herein.

4.04.Applicable law may provide rights and benefits to purchaser in addition to those provided herein.

**KEEP FOR YOUR RECORDS**

ATTENTION: Purchaser should fill in the blanks below for his reference when buying repair parts and/or for proper machine identification when applying for warranty.

M&W Implement Model \_\_\_\_\_ Serial Number \_\_\_\_\_

Date Purchased \_\_\_\_\_ Dealer \_\_\_\_\_

ATTENTION:  
READ YOUR OPERATOR'S MANUAL

**M&W**  
An Alamo Group Company  
1020 South Sangamon Ave.  
Gibson City, Illinois 60936  
217-784-4261







**M&W Extended  
Elevator Chain & Roller Warranty**

M&W warrants the elevator chains and rollers to be free from defects in materials or workmanship for 3 years (1 year for commercial / industrial user), starting from the date of delivery to the first user.

## TO THE OWNER/OPERATOR/DEALER

To keep your implement running efficiently and safely, read your manual thoroughly and follow these directions and the Safety Messages in this Manual. The Table of Contents clearly identifies each section where you can easily find the information you need.

The OCCUPATIONAL SAFETY AND HEALTH ACT (1928.51 Subpart C) makes these minimum safety requirements of tractor operators:

### REQUIRED OF THE OWNER:

1. Provide a Roll-Over-Protective Structure that meets the requirements of this Standard; and
2. Provide Seatbelts that meet the requirements of this paragraph of this Standard and SAE J4C; and
3. Ensure that each employee uses such Seatbelt while the tractor is moving; and
4. Ensure that each employee tightens the Seatbelt sufficiently to confine the employee to the protected area provided by the ROPS.

### REQUIRED OF THE OPERATOR

1. Securely fasten seatbelt if the tractor has a ROPS.
2. Where possible, avoid operating the tractor near ditches, embankments, and holes.
3. Reduce speed when turning, crossing slopes, and on rough, slick, or muddy surfaces.
4. Stay off slopes too steep for safe operation.
5. Watch where you are going - especially at row ends, on roads, and around trees.
6. Do not permit others to ride.
7. Operate the tractor smoothly - no jerky turns, starts, or stops.
8. Hitch only to the drawbar and hitch points recommended by the tractor manufacturer.
9. When the tractor is stopped, set brakes securely and use park lock, if available.

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**Keep children away from danger all day, every day...**

**Equip tractors with rollover protection (ROPS) and keep all machinery guards in place...**

**Please work, drive, play and live each day with care and concern for your safety and that of your family and fellow citizens.**



Published 09/01

**4500 & 4590**  
**ROUND BALER**

Part No. 4903WC



An Alamo Group Company

**M&W®**

1020 S. Sangamon Ave.  
Gibson City, IL 60936-9907

Please fill out owner warranty registration information  
sign, and drop last copy in any mailbox.  
Please fold (do not tear), tape, and drop in any mailbox.

## IMPORTANT!

To place this warranty in effect,  
this warranty registration must be  
filled out, signed, and mailed within 30  
days of delivery date of this machine.  
Dealer and purchaser must sign.

ATTENTION: ANY CLAIM SUBMITTED TO SERVIS-RHINO®  
WILL BE REFUSED UNTIL COMPLETED, SIGNED  
WARRANTY REGISTRATION CARD IS ON FILE.











