Bale Mover

BM1400

Operator's Manual

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Highline MANUFACTURING
A DIVISION OF BOURGAULT INDUSTRIES LTD.

E11553V1_E

Bale Mover 1400
BM1400

Operator's Manual

Effective from Serial Number BM4501301

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Highline Team Message

*Congratulations on your purchase of a **Bale Mover 1400** manufactured by Highline Manufacturing.*

This Operator's Manual has been prepared to provide information necessary for the safe and efficient operation of your Bale Mover 1400. In the manual you will find safety procedures, maintenance routines and detailed operational instructions. We urge you to read through this publication carefully and refer to it as needed. This will help assure you safe and trouble-free operation of your Bale Mover 1400.

If you find that you require information not covered in this manual, please feel free to consult your local dealer. Your dealer is always able to contact Highline for this technical information.

Highline Manufacturing thanks and congratulates you for selecting a Bale Mover 1400 as your machine of choice.

Highline Manufacturing

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1 Introduction

1.1 General Description of the Bale Mover 1400 (BM1400)

The Bale Mover 1400 is designed to pick up round bales while driving in the field without the need to stop to pick up a bale.

The bale pickup fork is lowered and positioned by the tractor driver to slide around the lower portion of the bale. The pickup fork is raised for the bale to be placed on the bale rail. The chains on the rail moves the bale back to give room for another bale to be loaded. Seven round bales can be loaded on both the left and right side of the machine. This gives the bale mover the capacity of loading and moving 14 round bales.

The Bale Mover has 90 degree turn bale forks to automatically turn bales for non-stop loading from virtually any angle. Bales can be picked up from the left side and the right side of the machine without having to reposition the machine. The forks can be adjusted for different sizes of round bales.

For unloading bales, the back end of the bed of the bale mover is lowered. As the Bale Mover is driven forward, the bale chains are rotated to assist in the easy unloading of the row of bales.

A row of bales can also be loaded onto the Bale Mover by lowering the back end of the bed, rotating the bale chains to move bales onto the bed while backing the Bale Mover into the row of bales.

When the Bale Mover is engaged, it uses hydraulic power from the tractor to lower and raise the bale fork. The hydraulics are also used to operate the bale chains to move the bales. The bed is raised or lowered using the tractor hydraulics.

The operator of the Bale Mover is located in the tractor cab where they drive the tractor, control the speed of driving and the operation of the bale forks and the bale chains.

The Bale Mover is transported with the bale forks lifted and locked in position. The Bale Mover is transported on the wheels of the Bale Mover.

1.2 Intended Use of the Bale Mover 1400

1. The Bale Mover is designed to pick up round bales that are in the field and move them to a storage location where they are placed in rows.
2. The Bale Mover is designed to pick up round bales that have been previously placed in a row and move them to another location.
    a. The bales have previously been baled using a round baler.
3. The Bale Mover is intended for use in field farming applications.
4. The Bale Mover is intended for use in locations that are not near people or animals who could be harmed by the movement of the bale loading forks or the unloading of bales from the bed.

Any uses of the Bale Mover other than the above stated 'Intended Uses' shall be considered misuse of the Bale Mover. This misuse shall included (but not limited to):

i. Using the Bale Mover in non-farming applications
ii. Using the Bale Mover around people or in public places
iii. Moving materials other than round bales from fields.

Always use the Bale Mover according to the instructions contained in this Operator's Manual and the safety and instruction decals on the machine.

Perform regular maintenance and repair to ensure that the Bale Mover operates safely and efficiently.

1.3 Capabilities of the Bale Mover 1400

1. The Bale Mover has the ability to pick up round bales from the left and right. It can carry 7 bales in 2 rows. It easily unloads the bales by tilting the bed, driving ahead while the bale chains move the bales off the bed.

Figure 1.1: Bale Mover 1400 carrying bales

2. The Bale Mover can also reload rows of bales to be moved to another location. To reload, tilt the bed and back up while the bale chains move the bales onto the bed.

Figure 1.2: Unloading or reloading bales

1.4 Serial Number Location

The serial number is found on the serial number plate (1) located on the left frame rail behind the left bale lift arm, as shown below in *Figure 1.3*.

Figure 1.3: Serial Number Plate Location

The serial number plate shows the following information that helps to identify the version of the machine:

Model # - model of the machine

Serial # - serial number

Prod # - production number

Year - model year

It is important to record the serial number for proof of ownership and for any service or maintenance assistance.

Model #: _____ Owner: _____

Serial #: _____ Purchase Date: _____

Production #: _____

Model Year: _____

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2 Safety

2.1 Safety Alert Symbol

This Safety Alert symbol means:

ATTENTION!

BECOME ALERT!

YOUR SAFETY IS INVOLVED!

Why is SAFETY important to you?

<u>3 Big Reasons</u>

- **Accidents Disable and Kill**
- **Accidents Cost**
- **Accidents Can Be Avoided**

The Safety Alert symbol identifies important safety messages on the implement and in the manual. When you see this symbol, be alert to the possibility of personal injury or death. Follow the instructions in the safety message.

2.2 Safety Signs & Definitions

⚠ DANGER

DANGER: (White letters on Red background) Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury. This word is to be limited to the most extreme situations, typically for machine components that, for functional purposes, cannot be guarded.

⚠ WARNING

WARNING: (Black letters on Orange background) Indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury, and includes hazards that are exposed when guards are removed. It may also be used to alert against unsafe practices.

⚠ CAUTION

CAUTION: (Black letters on Yellow background) Indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

2.3 General Safety

YOU are responsible for the SAFE operation and maintenance of your equipment. Good safety practices not only protect you but also the people around you. Make these practices a working part of your safety program.

YOU must ensure that you and anyone else who is going to operate, maintain or work around the equipment be familiar with the operating and maintenance procedures and related SAFETY information contained in this manual. Most accidents can be prevented. Do not risk injury or death by ignoring good safety practices.

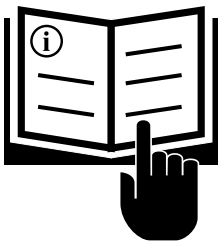
1. Owners must give operating instructions to operators or employees before allowing them to operate the unit, and at least annually thereafter per Occupational Safety and Health Administration (O.S.H.A.) Regulation 1928.57.
2. The most important safety device on this equipment is a SAFE operator. It is the operator's responsibility to read and understand ALL Safety and Operating instructions in the manual and to follow these. All accidents can be avoided.
3. A person who has not read and understood all operating and safety instructions is not qualified to operate the machine. An untrained operator exposes himself and bystanders to possible serious injury or death.
4. Do not modify the equipment in any way. Unauthorized modification may impair the unit's function and/or safety of the operator.
5. Remember, YOU are the key to safety. Think SAFETY! Work SAFELY!

Important

This Safety Section covers general safety practices followed for different operations. Refer to each section in this manual for additional safety information.

2.4 Operating Safety

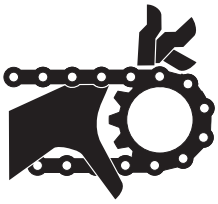
1. Read the Operator's Manual for the tractor and implement(s). Understand all safety signs before operating, maintaining or adjusting the equipment.



2. Only trained competent persons shall operate the unit. An untrained operator is not qualified to operate the machine.

3. Lower machine to the ground, place all controls in neutral, stop engine, turn monitor off, set park brake, remove ignition key, wait for all moving parts to stop before disembarking unit.

4. Install and secure all guards and shields before starting or operating.



5. Keep hands, feet, hair and clothing away from all moving and/or rotating parts.

6. Do not allow riders. Keep unauthorized people off machine. Use care when climbing ladder or working on platform.

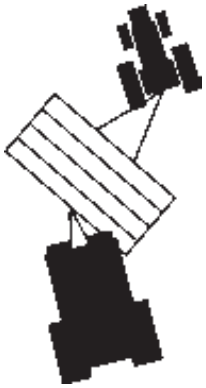
7. Clear the area of all bystanders before starting or operating tractor and implement(s).

8. Attach implement(s) securely to towing unit using a hardened pin with a retainer and a safety chain.

9. Stay clear of obstacles during operation & transport.

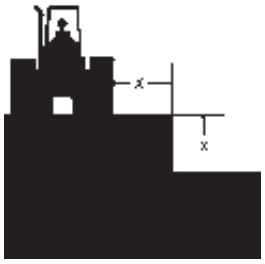
10. Before applying pressure to the hydraulic system, make sure all hydraulic components are securely connected. Use caution when working with or near the hydraulic system.

11. Match the proper tractor for the implement(s). The tractor should be properly weighted and able to control the implement(s), especially when operating up or down slopes. Refer to the Operator's Manual for your equipment.



12. When working on sloping land, add weight to the front and widen the wheel base of the tractor. Avoid sudden turns, uphill turns, or fast turns with a load. Ensure implement(s) are loaded to match field conditions.

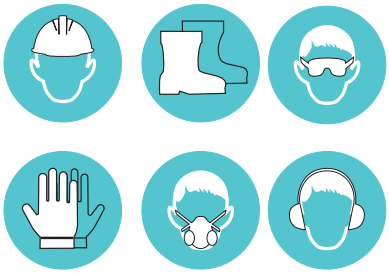
13. Do not operate tractor and implement(s) close to a ditch or embankment. An unstable bank will give way causing a side overturn. Operate at least as far from the edge of a ditch as that ditch is deep.



14. Use a designated signal person to direct the operator when required. Review hand signals prior to operation to avoid confusion. Ensure the signal person is not in the path of the tractor and implement(s).

15. Stay clear of overhead power lines. Electrocution can occur without contacting the power lines.

16. Wear appropriate protective gear. This list includes but is not limited to:



    a. A hard hat
    b. Protective shoes with slip resistant soles
    c. Protective goggles
    d. Heavy gloves
    e. Respirator or filter mask
    f. Hearing protection

17. Do not smoke when refuelling.

18. Each operator must be physically and mentally fit when working. An operator who is sleepy, tired, or not feeling well may not be able to react in time to avoid an accident.

19. Have a first-aid kit available for use should the need arise and know how to use it.

20. Have a fire extinguisher available for use should the need arise and know how to use it.

21. Review safety related items with all personnel annually or more frequently if required.

2.5 Maintenance Safety

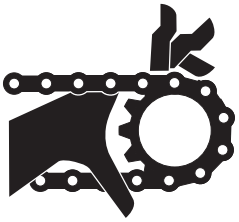
1. Review the Operator's Manual and all safety items before working with, maintaining or operating the implement.

2. Lower machine to the ground, place all controls in neutral, stop engine, turn monitor off, set park brake, remove ignition key, wait for all moving parts to stop, close valves to lockout hydraulic systems before servicing, adjusting, repairing or unplugging.

3. Follow good shop practices:
   a. Keep service area clean and dry.
   b. Be sure electrical outlets and tools are properly grounded.
   c. Use adequate light for the job at hand.
   d. Ensure there is adequate ventilation in the service area.

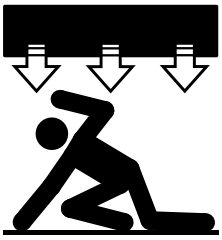
4. Before applying pressure to a hydraulic system, make sure all components are tight and that steel lines, hoses and couplings are in good condition. Relieve pressure from hydraulic circuit before servicing or disconnecting from tractor.

5. Keep hands, feet, clothing and hair away from all moving and/or rotating parts.



6. Clear the area of bystanders when carrying out any maintenance and repairs.

7. Place stands or blocks under the frame and close safety isolation valve on hitch (if equipped) before working beneath the machine or when changing tires.



8. Use only tools, jacks and hoists of sufficient capacity for the job.

9. Be sure all guards are in place and secured when maintenance work is completed.

10. Make sure the SMV (Slow Moving Vehicle) emblem and all the lights and reflectors that are required by the local highway and transport authorities are in place, are clean and can be seen clearly by all overtaking and oncoming traffic.

2.6 Hydraulic Safety

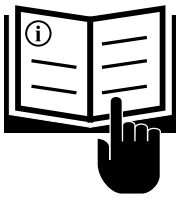
1. Always place all tractor hydraulic controls in neutral before dismounting.
2. Before applying pressure to the system, make sure all components are tight and that lines, hoses and couplings are in good condition.

3. Replace any worn, cut, abraded, flattened or crimped hoses and steel lines.
4. Do not attempt any makeshift repairs to the hydraulic lines, fittings or hoses by using tape, clamps or cements. The hydraulic system operates under extremely high-pressure. Such repairs will fail suddenly and create a hazardous and unsafe condition.

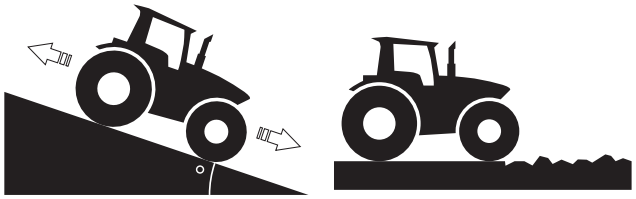
5. Wear proper hand and eye protection when searching for a high-pressure hydraulic leak. Use a piece of wood or cardboard as a backstop instead of hands to isolate and identify a leak.

6. If injured by a concentrated high-pressure stream of hydraulic fluid, seek medical attention immediately. Serious infection or toxic reaction can develop from hydraulic fluid piercing the skin surface.

2.7 Transport Safety



1. Read and understand ALL the information in the Operator's Manual regarding procedures and SAFETY when operating in the field and/or on the road.
2. Check with local authorities regarding transport on public roads. Obey all applicable laws and regulations.
3. Always travel at a safe speed. Slow down when conditions dictate to do so. Some examples include travelling on rough ground, going up or down a slope when towing, or when entering public roadways.



4. Follow recommended transport speeds.
5. Transport speed while towing is dictated by the implement configuration. Reduce speed and take extra caution when challenges are present, such as rough or wet roads, climbing or descending a slope, or reduced visibility.
6. Implement tire capacity must not be exceeded. Ensure implement tire pressures are at the values specified by the manufacturer of the implement.
7. Make sure the SMV emblem and all the lights and reflectors that are required by the local highway and transport authorities are in place, are clean, and can be seen clearly by all overtaking and oncoming traffic. Daybreak and dusk are particularly dangerous and pilot vehicles are recommended. SMV signs are used on vehicles travelling slower than 40 km/h (25 mph).

8. The weight ratio of the unbraked implement to the towing unit should be kept under 1.5 to 1.
9. The above recommendation is for level ground in optimum conditions. Reduce total weight and take extra caution when challenges are present, such as rough or wet roads, climbing or descending a slope, or reduced visibility.

Important

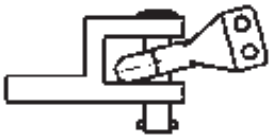
Farm tractor and implement tires are designed for low speed operations.

If tractors or implements are towed at high speeds on the highway, high temperatures may develop under the tread bars and weaken the rubber material and cord fabric. There may be no visible evidence of damage at the time. Later, a premature failure may occur, which experience shows was often started by the overheated condition that developed when the unit was towed at a high speed.

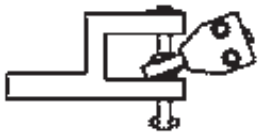
10. Properly configure the implement(s) or tractor to allow proper articulation of the connection(s). Be sure that the implement(s) is hitched positively to the towing vehicle and a retainer is used through the drawbar pin. Always use a safety chain between the machine and the towing unit.

    a. Ensure that all hitch connections allow proper articulation in all directions for the conditions and terrain encountered. Failure to do so may result in hitch or hitch pin failure causing machine damage and serious injury or death.

Proper Hitch Connections

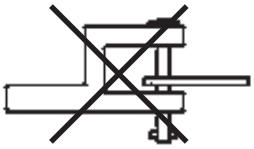


Oversized Hole in Hitch Tongue

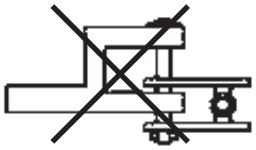


Ball Socket Hitch Tongue

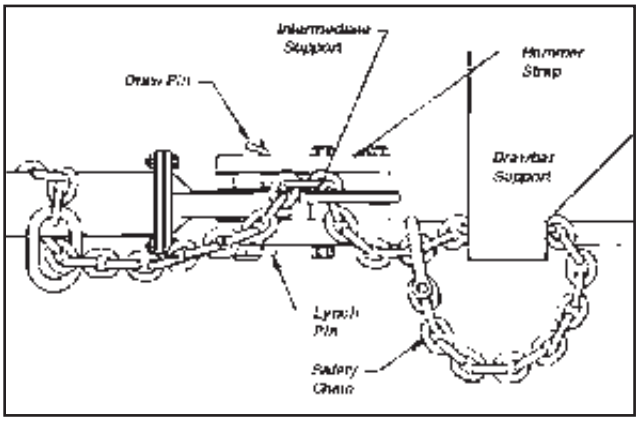
Improper Hitch Connections



Small Hole in Hitch Tongue



Double Clevis Hitch Tongue



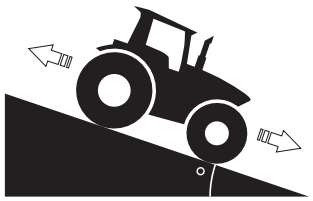
11. Be sure all bystanders are clear of the machine and do not allow riders on machine or tractor.

12. Always use hazard flashers on the tractor when transporting unless prohibited by law.

13. Before entering a roadway, stop and look both directions. Make sure there is no interference with traffic when crossing the road or entering the roadway.

14. Keep to the right and yield the right-of-way to allow faster traffic to pass. Stay on the road.

15. Descend a slope with the same gear that is required to climb the slope. Do not rely on the braking system to avoid accidents. Maintain control of the tractor and implement(s). Improperly loaded implements or too light of a tractor may cause loss of control.



16. Stay away from overhead power lines when transporting equipment. Electrocution can occur without direct contact.

17. Always check behind you when backing up. The width of the towed implement may obscure vision.

18. During periods of limited visibility, use pilot vehicles and use the extra lights on the machine.

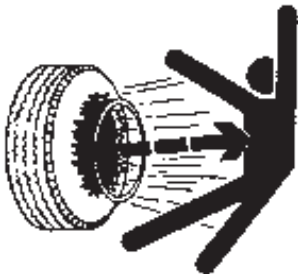
19. This implement is not equipped with a parking brake. Unhooking this implement from the towing vehicle must only be completed on level ground (0° ± 1.5°) and wheel chocks are recommended.

2.8 Storage Safety

1. Store unit in an area away from human activity.
2. Do not permit children to play on or around the stored implements.
3. To ensure the unit's stability, always chock the wheels when decoupling.

2.9 Tire Safety

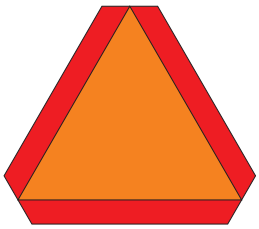
1. Failure to follow proper procedures when mounting a tire on a wheel or rim can produce an explosion which may result in serious injury or death.



2. Do not attempt to mount a tire unless you have the proper equipment and experience to do the job.
3. Have a qualified tire dealer or repair service perform required tire maintenance.
4. Before replacing tires, always consult the specification section of the operator's manual and tire information placard to ensure that the replacement tires will have at least the same ply and load carrying capacity as the Original Equipment Manufacturer tires.
    a. Inflate tires to pressure listed in the operator's manual and tire information placard.

2.10 Safety Signs

1. Keep safety signs clean and legible at all times.
2. Replace safety signs that are missing or have become illegible.



3. Replaced parts that displayed a safety sign should also display the current sign.
4. Safety signs are available from your authorized Highline dealer.
5. How to Install Safety Signs:
    a. Be sure that the surface area is clean and dry.
    b. Decide on the exact position before you remove the backing paper.
    c. Remove the smallest portion of the split backing paper.
    d. Align the sign over the specified area and carefully press the small portion with the exposed sticky backing in place.
    e. Slowly peel back the remaining paper and carefully smooth the remaining portion of the sign in place.
    f. Small air pockets can be pierced with a pin and smoothed out using the piece of sign backing paper.

2.11 Chemical Safety

1. Always follow the chemical manufacturer's label instructions exactly.
2. Misuse, including excessive rates, uneven application, wind drift, and label violations can cause injury to crops, livestock, persons and the environment.
3. Follow the manufacturer's instructions for chemical storage.
4. Keep all chemicals out of reach of children and away from livestock and animals.
5. Store chemicals only in their original containers and in a locked area.

Wear gloves

Don't breath vapor

Don't ingest chemical

6. Do not breathe, touch or ingest chemicals. Always wear protective clothing and follow safe handling procedures.

7. Clear the area of all bystanders before handling or using treated seed or chemical.
8. Check with state or provincial environment department regarding the disposal of small quantities of chemicals, chemical containers, and wash water.
9. Do not burn the containers or leave them lying in the field or ditches. Dispose of them by leaving at a pesticide container disposal site.
10. Wash thoroughly before eating.
    a. Use a detergent to remove all chemical residue.
    b. Rinse carefully and dry with disposable towels.
11. Do not eat in the field when applying chemicals.
12. In case of chemical poisoning, get immediate medical attention. Have container label handy when seeking medical attention.
13. Post the Poison Control Emergency telephone number for your area on sprayer before using Agricultural chemicals.
14. Document the Poison Control Emergency telephone number in this manual in the space below for future reference.

Poison Control Emergency Telephone Number:

15. Thoroughly wash clothing and equipment contaminated by chemicals.
16. Do not allow children or workers on contaminated machines.
17. Clean machine while still in the field. Wash down the machine immediately after field work.
    a. Dispose of the wash water in an environmentally safe manner.
    b. Wash water can contaminate the soil or a clean water supply.

2.12 Sign-Off Form

Highline Manufacturing follows the general Safety Standards specified by the American Society of Agricultural and Biological Engineers (ASABE) and the Occupational Safety and Health Administration (OSHA). Anyone who will be operating and/or maintaining the implement must read and clearly understand ALL Safety, Operating, and Maintenance information presented in this manual.

Do not operate or allow anyone else to operate this equipment until such information has been reviewed. Review this information before the season start-up.

Make these periodic reviews of SAFETY and OPERATION a standard practice for all of your equipment.

A sign-off sheet is provided for your record keeping to show that all personnel who will be working with the equipment have read and understand the information in the Operator's Manual and have been instructed in the operation of the equipment.

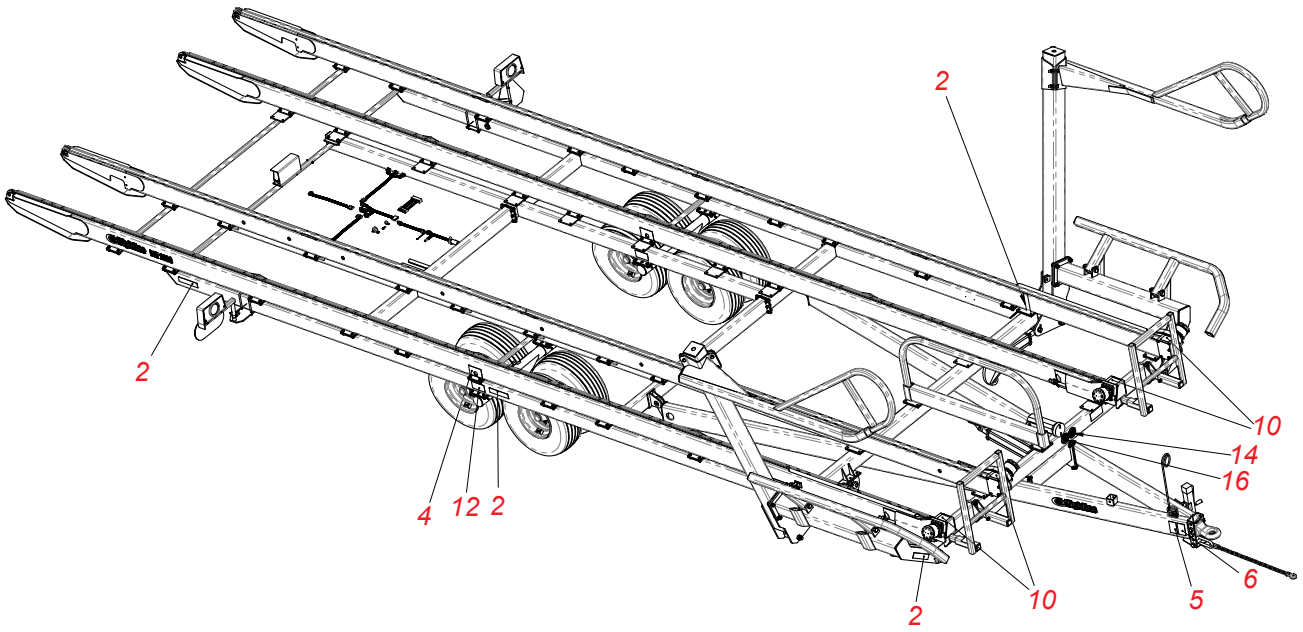
Sign-Off Form		
Date	Employee's Signature	Employer's Signature

3 Decals Locations

The types of safety signs and locations on the equipment are shown in the in this section. Good safety requires that you familiarize yourself with the various safety signs, the type of warning and the area, or particular function related to that area, that requires your SAFETY AWARENESS.

- Think SAFETY! Work SAFELY!

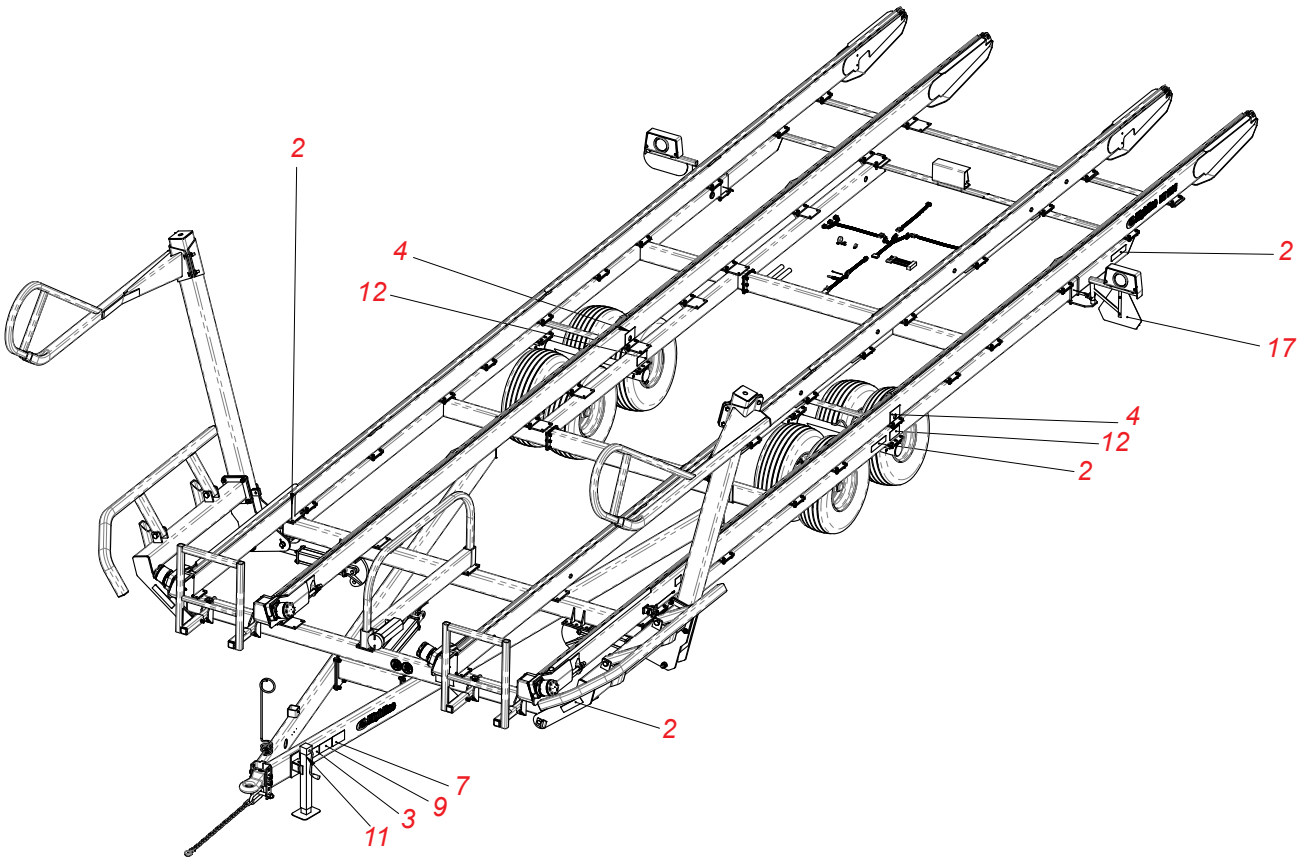
Front Right View



REMEMBER - If safety signs have been damaged, removed, become illegible or parts replaced without safety signs, new signs must be applied. New safety signs are available from your authorized dealer.

Section 3 - Decals Locations

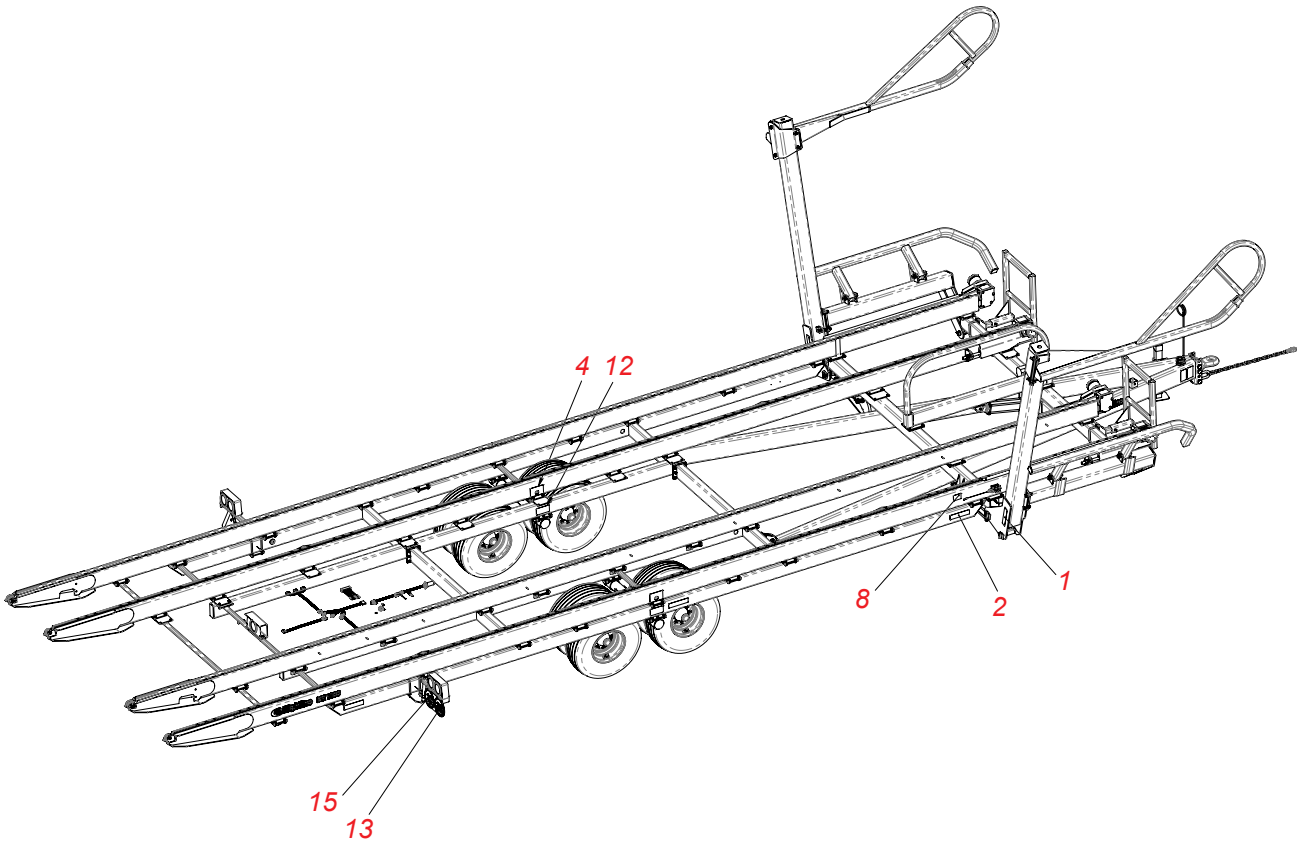
Front Left View



REMEMBER - If safety signs have been damaged, removed, become illegible or parts replaced without safety signs, new signs must be applied. New safety signs are available from your authorized dealer.

Section 3 - Decals Locations

Right Side View



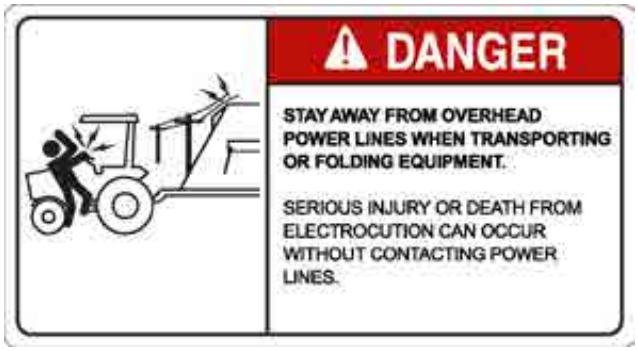
REMEMBER - If safety signs have been damaged, removed, become illegible or parts replaced without safety signs, new signs must be applied. New safety signs are available from your authorized dealer.

Section 3 - Decals Locations

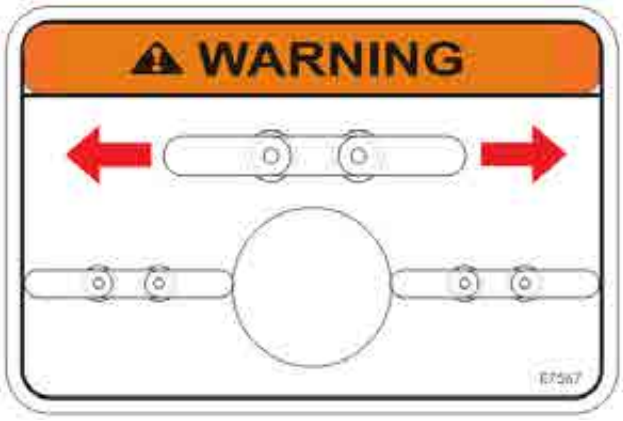
1 - Red Reflective Safety Decal, 2" x 9"

2 - Amber Reflective Safety Decal, 2" x 9"

3 - Danger - Stay Away From Overhead Power Lines

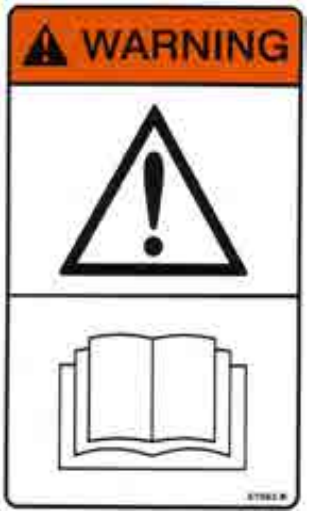


4 - Warning - Check the Tension of All Chains



Refer to *Section 6.3 - Chain Adjustment Procedure* for details.

5 - Warning - Read, Understand & Follow Safety Instructions



Read, understand and follow all instructions and safety messages included in this manual and on decals attached to the machine.

These instructions and safety messages contain important information.

Allow only responsible, properly instructed individuals to operate and service the machine.

Failure to follow the instructions and safety messages in this manual and on the decals attached to the machine could result in serious injury or death.

REMEMBER - If safety signs have been damaged, removed, become illegible or parts replaced without safety signs, new signs must be applied. New safety signs are available from your authorized dealer.

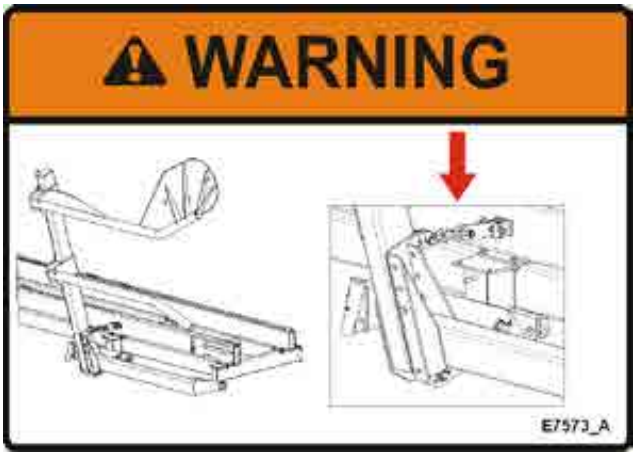
6 - Warning - Shut Down Tractor Before Dismounting Tractor

Shut down the tractor and remove the key before repairing, servicing, lubricating or cleaning the machine.

Relieve all hydraulic pressure in the hoses before going near the machine. Leave the hydraulics in the “float” position.

7 - Warning - High Pressure Fluid Hazard

8 - Warning - Lock Bale Arms in Place



Stand clear of bale lift arms. Moving lift arms can cause serious injury or death.

Never stand under lift arms when lowering or raising.

DO NOT allow people near the lift arms when they are being moved.

Lift arms must be fully retracted and locked in place before servicing.

Install arm lock chains before transporting the bale mover.

Keep people back with loading or unloading bales. Falling bales can cause serious injury or death.

Stand clear of Bale Mover when PTO is engaged.

DO NOT operate within 100 ft (30 m) of any person.

9 - Warning - Do Not Ride on Machine

REMEMBER - If safety signs have been damaged, removed, become illegible or parts replaced without safety signs, new signs must be applied. New safety signs are available from your authorized dealer.

10 - Caution - Do Not Contact Moving Chain

Contacting moving chain or parts could cause serious injury or death.

Never attempt to manually remove bales from rails while hydraulic motors are moving the chain.

Disconnect chain drive hydraulic motors before cleaning the Bale Mover.

Always disengage power take off, shut off tractor, remove key, set park brake and wait for all parts to stop turning before servicing.

DO NOT operate with shields missing.

Close and secure guards and shields before starting machine.

Keep hand, feet, hair and clothing away from moving parts.

11 - Caution - Do Not Exceed Jack Capacity

12 - Caution - Do Not Exceed Maximum Tire Pressure

Note: This CAUTION decal is ONLY used UP TO S.N. BM4534207.

13 - Speed Information Sign, 32 km/h (Rear)

14 - Speed Information Sign, 32 km/h (Front)

REMEMBER - If safety signs have been damaged, removed, become illegible or parts replaced without safety signs, new signs must be applied. New safety signs are available from your authorized dealer.

15 - Speed Information Sign, 20 mile/h (Rear)

16 - Speed Information Sign, 20 mile/h (Front)

17 - Slow Moving Vehicle Sign

REMEMBER - If safety signs have been damaged, removed, become illegible or parts replaced without safety signs, new signs must be applied. New safety signs are available from your authorized dealer.

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REMEMBER - If safety signs have been damaged, removed, become illegible or parts replaced without safety signs, new signs must be applied. New safety signs are available from your authorized dealer.

4 Pre-Operation

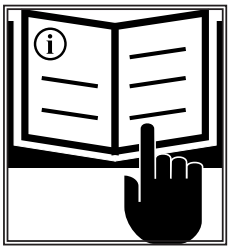
4.1 To the New Operator or Owner

In addition to the design and configuration of equipment, hazard control and accident prevention are dependent upon the awareness, concern, and prudence of personnel involved in the operation, transport, maintenance and storage of equipment or in the use and maintenance of facilities.

It is the responsibility of the owner or operator to read this manual and to train all other operators before they start working with the machine. Follow all safety instructions exactly. Safety is everyone's business. By following recommended procedures, a safe working environment is provided for the operator, bystanders and the area around the work site. Untrained operators are not qualified to operate the machine.

Many features incorporated into this machine are the result of suggestions made by customers like you. Read this manual carefully to learn how to operate the machine safely and how to set it to provide maximum field efficiency. By following the operating instructions in conjunction with a good maintenance program, your Bale Mover unit will provide many years of trouble-free service.

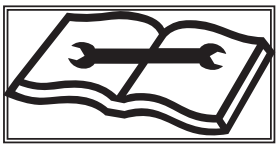
Important



It is the responsibility of the owner or operator to read this manual and to train all other operators before they start working with the machine.

Refer to the *Section 2 - Safety* in this manual. By following recommended procedures, a safe working environment is provided for the operator, bystanders and the area around the work site.

WARNING



Untrained operators are not qualified to operate the machine.

Read all Service, Maintenance and Operator's Manuals before operating.

Figure 4.1: Bale Mover 1400

4.2 Transport

4.2.1 Connecting to the Tractor

1. Tractor requirements:
    a. Roll Over Protection System (ROPS)
    b. Working seat belts
    c. 2 Spool Control Valves (SCV)
    d. Tractor weight of 14,490 lb (6,573 kg) or more for transport of empty bale mover on public roads.
    e. Tractor wheel tread width settings:
        i. When working on inclines or rough ground, use the largest tractor wheel width possible to maintain tractor stability.

2. Lift the hitch with the jack.
    a. Do not attempt to lift the hitch without using the jack.

3. If necessary, adjust the position of the hitch tongue; see *Figure 4.2*.
    a. Position the tongue so that the Bale Mover is level when connected to the tractor drawbar.
    b. Remove the bolts (1) and move the tongue up or down. Fasten in place.
        i. Torque the bolts to 550 ft-lb (746 Nm).

4. Connect the hitch to the tractor drawbar.
    a. Use at least a 1-¼" (31.75 mm) pin.

Figure 4.2: Adjust position of the tongue

5. Remove the hitch jack and place the hitch jack in the storage location on the top of the hitch arm.
   a. Remove all weight from the jack.
   b. Remove the locking pin holding the jack onto the hitch.
   c. Place the jack to the storage position (1), shown in *Figure 4.3*.
   d. Fasten the jack in place with the lock pin.

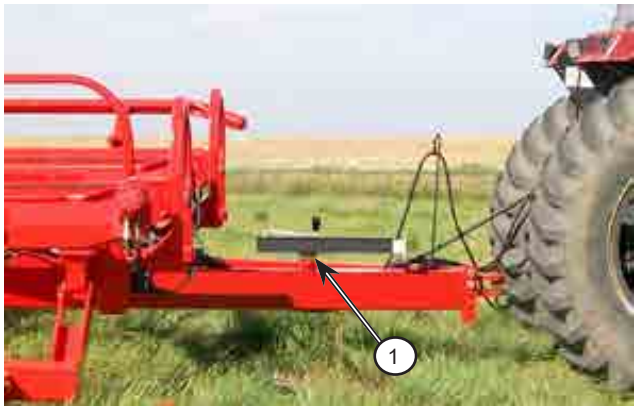


Figure 4.3: Place jack in storage location

6. Connect the safety chain to the tractor and fasten securely.

WARNING

Shut off the tractor before attaching the Bale Mover or the hydraulics.

7. Attach the hydraulic hoses.
   a. Clean the end of the hoses and the connections.
   b. Firmly push the hoses into the tractor receptacle according to user preference.
   c. Route the hoses so they do not interfere with moving parts.

8. Connect the lighting cable to the electrical connection on the tractor.

9. Route the electric control cable.
   a. Route the electric control cable into the tractor cab.
   b. Ensure the cable does not interfere with or contact moving parts.

4.2.2 Prepare the Unit for Transport

1. Lower the Bale Mover bed using the hydraulics; see *Figure 4.4*.

Figure 4.4: Lower the bed

2. Check the condition of all the tires; see *Figure 4.5*.
   a. Ensure that the lug nuts have the cone side of the lug nut against the wheel rim; refer to *Figure 4.6*.
   b. Ensure to follow the manufacturer's recommended torque and air pressure specifications. Check the tire sidewalls.
      i. Torque the lug nuts to 85 - 93 ft-lb (115 - 125 Nm).
      ii. Air Pressure:
         - For bias tires (11L-15FI), fill the tires to 90 psi (620 kPa).
         - For radial tires (IF280/70R15), fill the tires to 60 psi (414 kPa).

         Note: DO NOT fill above a maximum of 70 psi (483 kPa).

Figure 4.5: Check the tires

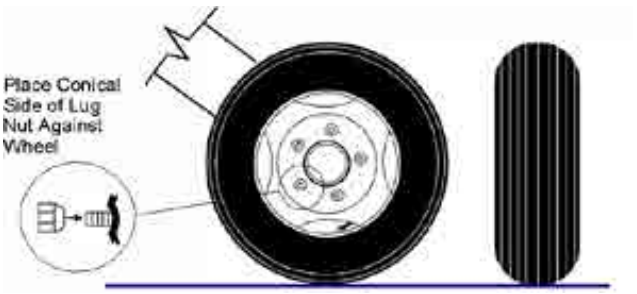


Figure 4.6: Check the lug nuts

3. Raise both bale lift arms.
   a. Use the hydraulic levers to lift the arms.

4. Install the lift arm transport lock chains (1) on both arms; see *Figure 4.7*.
   a. Install the chain pins and secure into place with the clip pins (2).

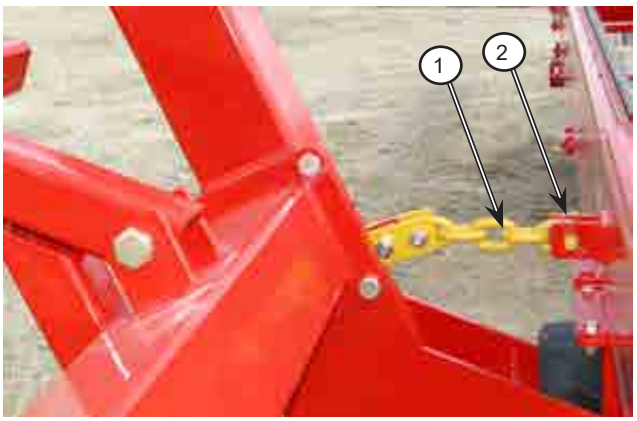


Figure 4.7: Install transport lock chains

WARNING

Always use fork transport chains when transporting the Bale Mover on public road ways. Forks may descend rapidly if hydraulic pressure is lost to a lift cylinder.

5. Swing both light brackets (1) out into the transport position; refer to *Figure 4.8*.
   a. Fasten in place with the pin (2).
6. Ensure that the Slow Moving Vehicle (SMV) sign is clean and visible.
7. Ensure the lights are working.
8. To transport the BM1400 on public roads, use a properly sized and equipped tractor.
   a. Only tow behind an appropriately sized agricultural or highway tractor.
   b. Transport with a tractor which has a weight of 14,490 lbs (6,573 kg) or more.
   c. Check with local traffic regulations to transport on public roads.
   d. Only transport on public roads when the Bale Mover is empty.
   e. Do not exceed 20 mph (32 km/h).

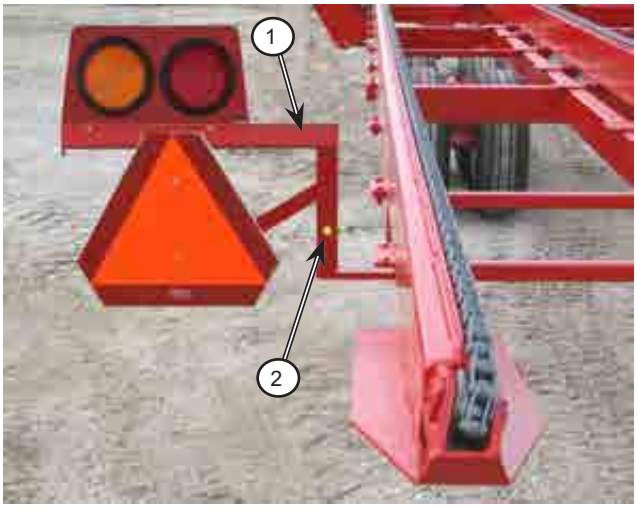


Figure 4.8: Swing SMV/light bracket into transport position

DANGER

Stay away from overhead power lines. Electrocution can occur without contacting power lines.

WARNING

DO NOT allow people to ride on the tractor or Bale Mover. Falling off can result in serious injury or death.

4.3 Pre-Operation Checklist

It is recommended that the operator perform a daily walk around prior to operating the machine. Check these items each time before using the machine.

1. Park the tractor and Bale Mover on level ground.
   a. Engage the tractor parking brake.
2. Ensure that all decals are clean and in place.
3. Ensure that the Slow Moving Vehicle (SMV) sign is clean and visible.
4. Check the condition of the bale chains; see *Figure 4.9*.
   a. Clean debris and material buildup from the chain area and the chain channels.
   b. Check that no wire or other materials are wrapped in the chain.
   c. Check that the chain is secure around the end roller; see *Figure 4.10*.

Figure 4.9: Check the condition of the bale chains

Figure 4.10: Chain is around the end roller

5. Check the tension on all the bale chains; see *Figure 4.11*.

   a. The chain can be seen in the sight hole (1) that is in the side of the rail.

   b. The chain should be in line with the image of the chain that is on the decal at the sight hole; see *Figure 4.12*.

   c. Adjust as necessary. Refer to *Section 6.3 - Chain Adjustment Procedure* for procedures.

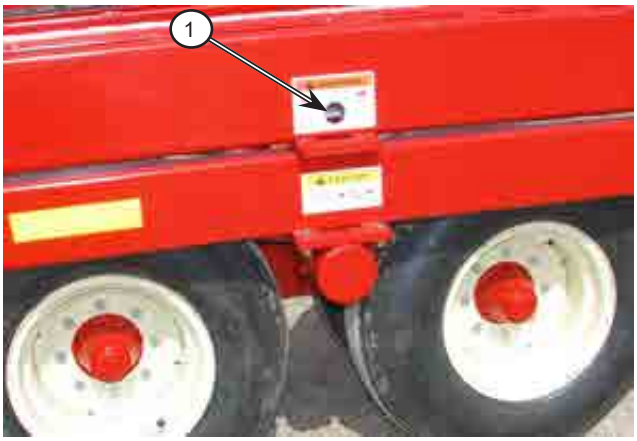


Figure 4.11: Check the tension of all the chains

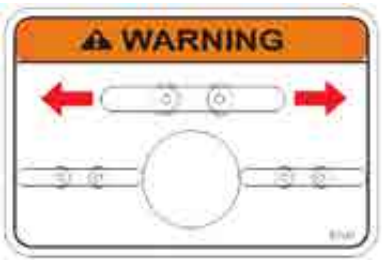


Figure 4.12: Chain tension decal

6. Remove the lift arm transport chains (1) on both arms; see *Figure 4.13*.

   Note: DO NOT lower the forks when transport chains are in position or damage to the machine will occur.

   a. Raise the arms to remove tension on the transport chain.

   b. Remove the clip pin (2) and remove the chain pin.

   c. Place the chain pin back into the tabs and lock in place with the clip pin (2).

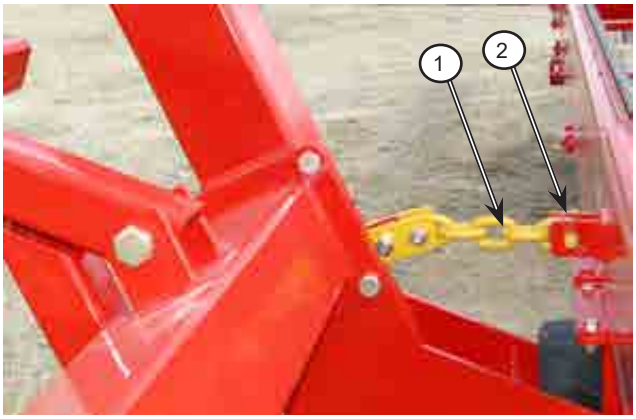


Figure 4.13: Remove the transport lock chains

7. Lower the bale lift arms.

   Note: DO NOT lower the forks when transport chains are in position or damage to the machine will occur.

   a. Use the hydraulic levers to lower the arms.

Figure 4.14: Lower the bale lift arms

WARNING

Stand clear of bale lift arms.

Moving lift arms can cause serious injury or death.

Never stand under lift arms when lowering or raising.

DO NOT allow people near the lift arms when the being moved.

8. Check that the bale lift arms operate freely when lifting.

Figure 4.15: Check that the lift arm operates freely

9. Check that the chain guards (1) on the hydraulic motors are in place and in good condition; see *Figure 4.16*.

   a. Replace missing or broken guards immediately.

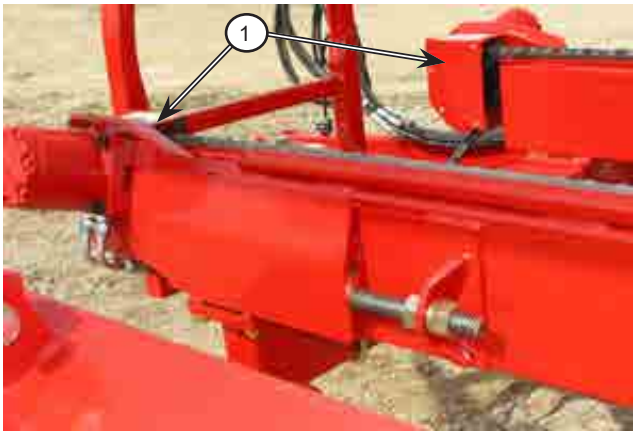


Figure 4.16: Ensure motor chain guards are in place

WARNING

The Bale Mover shall not be operated without all the chain guards in place and in good condition.

10. Engage the bale chains motors to ensure the chains operate smoothly.

Figure 4.17: Check the operation of the bale chains

CAUTION

Contacting moving chain or parts could cause serious injury or death.

11. Check the condition of the tires.

    a. Inspect the wheels and tires for damage or foreign objects. Repair or replace as necessary.

        i. If replacement is needed, refer to *Section 6.4.2 - Tire Changing Procedures*.

    b. Ensure to follow the manufacturer's recommended torque and air pressure specifications. Check the tire sidewalls.

        i. Torque the lug nuts to 85 - 93 ft-lb (115 - 125 Nm).

        ii. Air Pressure:

            - For bias tires (11L-15FI), fill the tires to 90 psi (620 kPa).
            - For radial tires (IF280/70R15), fill the tires to 60 psi (414 kPa).

            Note: DO NOT fill above a maximum of 70 psi (483 kPa).

Figure 4.18: Check the condition of the tires

12. Inspect all the hydraulic motors, cylinders and hoses.
    a. Visually inspect all the hydraulic hoses and fittings.
        i. See *Section 6 - Service and Maintenance* for conditions indicating that replacement is needed.
    b. Ensure that the cylinder pins are properly secured and do not show any noticeable wear.
    c. Check the condition of the hydraulic motors and the connections.

Figure 4.19: Check all hydraulic connections

WARNING

Use a piece of cardboard or heavy paper to check for leaks. DO NOT use your hand. Wear proper hand and eye protection when searching for leaks.

Relieve pressure on hydraulic system before repairing, adjusting or disconnecting.

Hydraulic oil leaking under pressure can penetrate the skin, causing serious injury or infection.

13. Rotate both light brackets (1) against the bale rails; see *Figure 4.20*.
    a. Fasten in place with the pin (2).

14. Lubricate all grease fittings as per the recommended service intervals.
    a. Refer to *Section 6.1 - Lubrication - Grease* for details.

15. Ensure all fasteners are tightened.

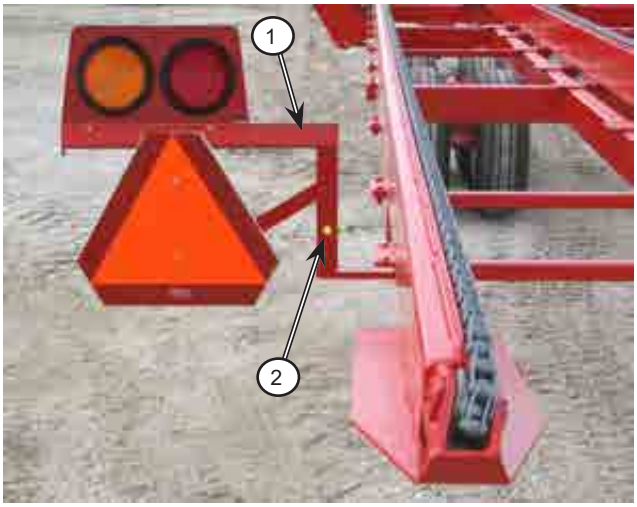


Figure 4.20: Swing light brackets against the bale rails

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5 Operation

5.1 Setting up the Bale Mover

1. Prior to operating the Bale Mover, ensure you have followed all steps in *Section 4.3 - Pre-Operation Checklist*.

2. Park on level ground.

3. Adjust the bed chain rails for the size of bale; refer to *Figure 5.1*.
   a. The inside rails can be moved for the size of bale being handled.
   b. Remove the bolts (1) from the rail mounts plates along the length of the rail.
   c. Slide the rail to the alternate mount position (2) to suit the size of bale being handled.
   d. Fasten the mount plates with the bolts and nuts.

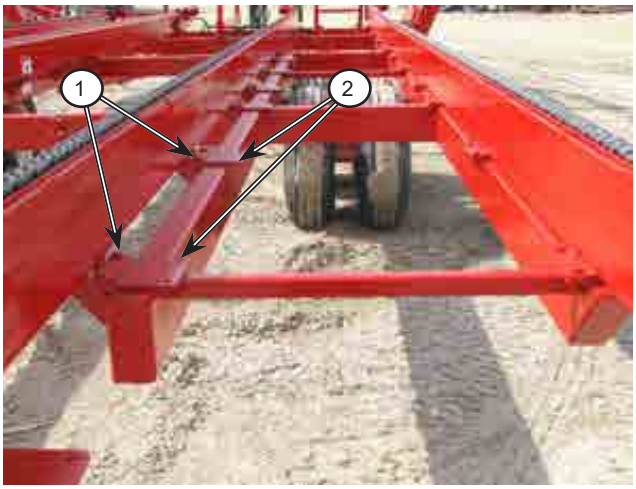


Figure 5.1: Adjust the rails for the size of bale

4. Set the width of the bale lift arms; refer to *Figure 5.2*.
   a. Loosen the bolts on the arm clamp (1).
   b. Slide the arm to the suit the size of the bale.
   c. Tighten the bolts on the holding clamp to fasten the lift arm.

Figure 5.2: Slide clamp for bale width

5. Hang the Control Switch in a convenient location in the tractor cab.
   a. Use the top hook to secure it.

5.2 Loading Bales in the Field

1. Drive the Bale Mover into the field area.

    a. The Bale Mover should be operated at field speeds of 3 - 4 mph (4 - 6 km/h).

DANGER

Stay away from overhead power lines. Electrocution can occur without contacting power lines.

WARNING

DO NOT allow people to ride on the tractor or Bale Mover. Falling off can result in serious injury or death.

2. In the loading modes, the Control Switch in the tractor cab enables the hydraulic remotes to control the bale lift arms and the bale roller chains. Refer to *Figure 5.3*.

    a. To load bales on the right side:

        i. Move the rocker switch to the right position (1).

        - One tractor remote will be used to lift the bales into position onto the right side of the deck.
        - The other tractor remote will be used to push the bale back on the right deck once it is in position.

    b. To load bales on the left side:

        i. Move the rocker switch to the left position (2).

        - One tractor remote will be used to lift the bales into position onto the left side of the deck.
        - The other tractor remote will be used to push the bale back on the left deck once it is in position.

Figure 5.3: Control Switch - right and left side loading

3. Drive up to the bale and position the lift arm forks so that it can lift the bale; see *Figure 5.4*.

   Note: It is not required to stop to pick up a bale.

   a. Continue driving forward.

Figure 5.4: Drive up to a bale with the arm lowered

4. The lift arm can rotate a bale somewhat to align it into the lift arm, as shown in *Figure 5.5*.

Figure 5.5: Bale can be rotated by the lift arm

5. Drive forward until the lift arm forks are fully under the bale, as shown in *Figure 5.6*.

Figure 5.6: Drive forward until fork is under the bale

6. Activate the hydraulic remote to lift the arm and place the bale onto the bale chains, as shown in *Figure 5.7*.

Figure 5.7: Lift the bale onto the bed

7. Activate the bale chain to move the bales back, as shown in *Figure 5.8*.
    a. This will allow room for another bale to be loaded.

Figure 5.8: Move the bales back on the chain rails

8. Load the Bale Mover on both the left and right sides as evenly as possible.
    a. This will ensure maximum stability for the machine when operating and on uneven terrain.

Figure 5.9: Load bales onto right and left

9. When the bales are moved back and there is room for just 1 more bale on the rail, the full load indicator (1) will rise; see *Figure 5.10*.
    a. The maximum number of bales on the 2 rails is:
        i. 16 of 4 foot bales
        ii. 14 of 5 foot bales

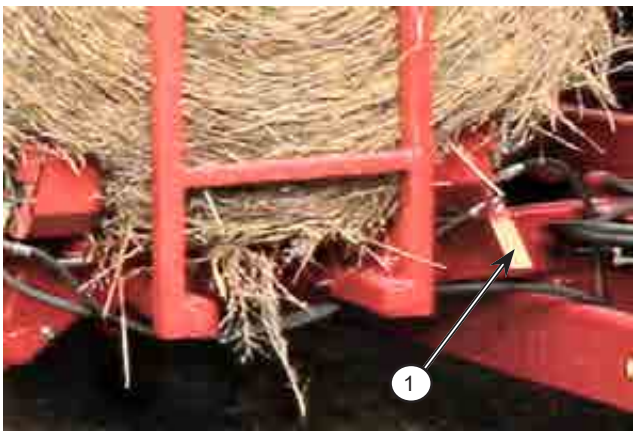


Figure 5.10: Full load indicator

10. Drive to the bale storage site.
    a. Adjust the ground speed to suit the terrain to maintain stability of the load.

Figure 5.11: Drive to the storage site

5.3 Unloading Bales

1. When unloading, the Control Switch in the tractor cab enables the hydraulic remotes to control the bed tilt and the bale roller chains.
   a. Center the electric rocker switch, as shown in *Figure 5.12*.
      i. Use one tractor remote to tilt the bed to the unload position.
      ii. Use the other tractor remote to operate the roller chains to push the bales back and slide them off of the deck.

Figure 5.12: Control Switch - bed tilt and unload

2. Position the Bale Mover to unload the bales in the storage location.

Figure 5.13: Position the Bale Mover

3. Tilt the bed to the fully raised position, as shown in *Figure 5.14*.

Figure 5.14: Tilt the bed

4. Engage the bale roller chains to move the bales toward the back of the Bale Mover and off the bed.

Figure 5.15: Engage the bale roller chains

5. Slowly drive forward as bales are unloading.

6. When bales are unloaded and clear, lower the bed completely into the operating position, as shown in *Figure 5.16*.

Figure 5.16: Lower the bed

5.4 Reloading Bales

Bales can be reloaded from the bale row onto the Bale Mover.

1. When reloading, the Control Switch in the tractor cab enables the hydraulic remotes to control the bed tilt and the bale roller chains.
   a. Center the electric rocker switch, as shown in *Figure 5.17*.
      i. Use one tractor remote to tilt the bed to the reload position.
      ii. Use the other tractor remote to operate the roller chains to push the bales forward onto the deck.

Figure 5.17: Control Switch - bed tilt and reload

2. Position the Bale Mover to reload the bales from the storage location.
3. Tilt the bed to the fully raised position, as shown in *Figure 5.18*.

Figure 5.18: Tilt bed to fully raised position

4. Engage the bale roller chains to move the bales forward and onto the Bale Mover bed.
5. Slowly back up towards the bales as they are reloading.

Figure 5.19: Engage the bale roller chains

6. When bales are reloaded, lower the bed completely into the operating position, shown in *Figure 5.20*.

Figure 5.20: Lower bed when done reloading

5.5 Maneuvering the Bale Mover

1. Crossing Ditches and Steep Inclines:

   a. Cross ditches or inclines at about a 30° approach angle; see *Figure 5.21*.

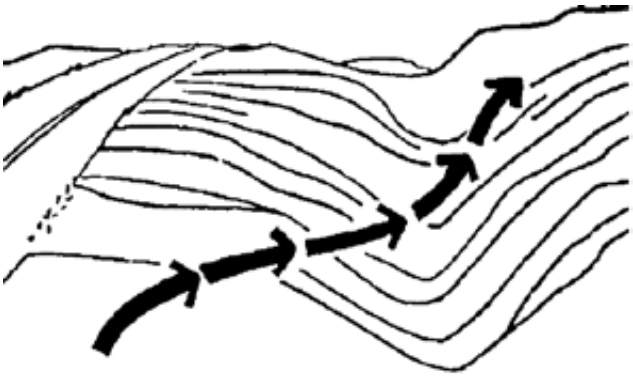


Figure 5.21: Cross ditch at 30° angle

WARNING

DO NOT operate on a side hill.

Tractor or Bale Mover roll over can cause serious injury or death.

Tractor must be equipped with Roll Over Protection System (ROPS).

Always wear seat belts when operating tractor.

5.6 Shutdown Procedure

For your safety and the safety of others, this procedure must be followed before dismounting from the tractor for repairing, servicing, cleaning, or lubricating the Bale Mover.

1. Reduce the engine speed to idle.
2. Fully lower left & right fork lifts.
3. Disengage hydraulic motors.
4. Set the tractor park brake.
5. Shut off tractor engine and remove the key.
6. Relieve hydraulic pressure and disconnect hydraulic hoses.

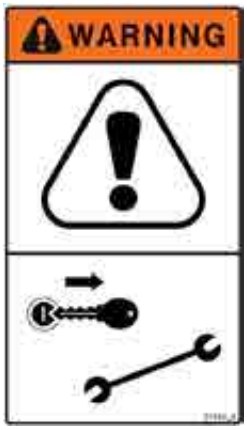
6 Service and Maintenance

WARNING

Shut down the tractor and remove the key before repairing, servicing, lubricating or cleaning the machine.

Relieve all hydraulic pressure in the hoses. Disconnect the hydraulic hoses from the tractor before going near the machine.

Securely block the machine before any work is done to prevent the machine from moving during servicing.



6.1 Lubrication - Grease

Lubricate all grease fittings with a quality lithium complex, extreme pressure N.L.G.I. Grade 2 grease.

6.1.1 Every 10 Hours

1. Lubricate 8 points on each axle shaft; see *Figure 6.1*.
   a. Lubricate 4 points on each end of the axle pivot shafts.
      i. 2 points through the holes in the rail mount plate.
      ii. 2 points on the front and back of the shaft ring.
   b. Lubricate left and right side pivot shafts.

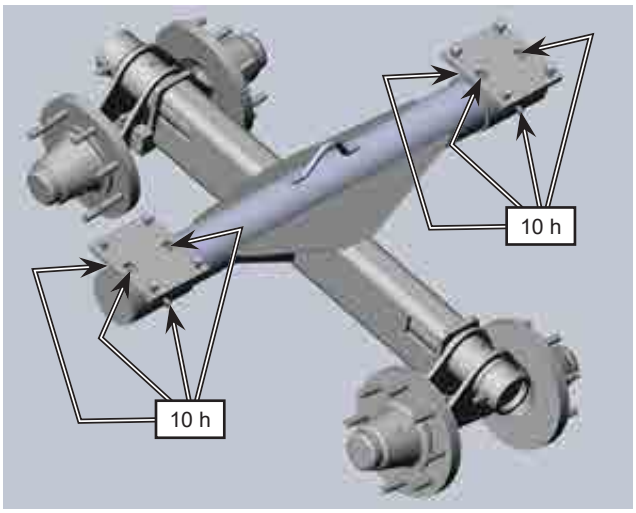


Figure 6.1: Grease each end of the axle pivot shaft

2. Lubricate 2 points on the tandem axle pivots; see *Figure 6.2*.

   a. 1 point on each tandem pivot.

   b. Lubricate left and right side tandems.

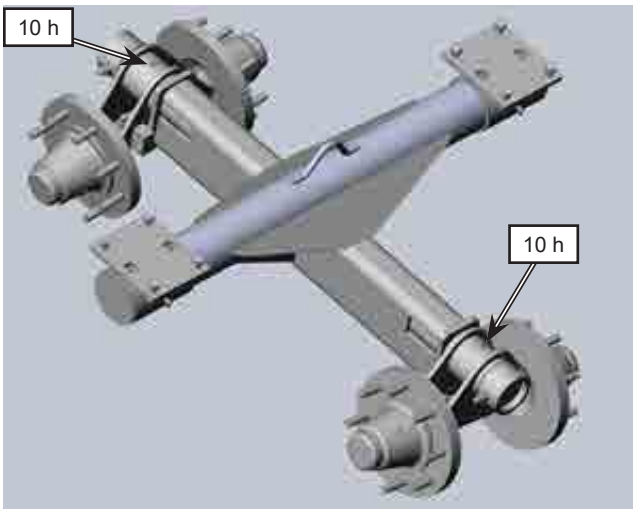


Figure 6.2: Grease each tandem axle pivot

3. Lubricate the chains with a quality chain oil; see *Figure 6.3*.

Figure 6.3: Lubricate the bale chains

6.1.2 Every 100 Hours

1. Lubricate all the hubs on the spindles; see *Figure 6.4*.

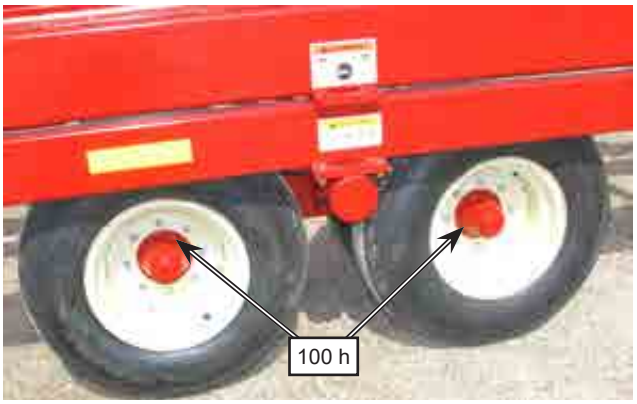


Figure 6.4: Grease hubs on all spindles

6.2 Visually Inspect Hydraulic Hoses, Fittings and Cylinders

1. Shut down the machine. Relieve the pressure on the hydraulic hoses and disconnect them.

2. Visually inspect all hydraulic hoses for the conditions below, and replace any and all hoses that fit any of those conditions. Conditions include:
   a. Fitting slippage on hose.
   b. Damaged, cracked, cut or abraded cover (any reinforcement exposed).
   c. Hard, stiff, heat cracked, charred hose.
   d. Cracked, damaged, badly corroded fittings.
   e. Leaks at fitting or in hose.
   f. Kinked, crushed, flattened, twisted hose.
   g. Blistered, soft, degraded, loose cover.

3. Visually inspect all hydraulic cylinders, looking for leaks and/or other damage.
   a. Ensure the cylinder pins are securely inserted and are in good condition with no signs of wear.
   b. If hydraulic cylinder damage is found, make all necessary repairs or replace before operating the machine.

4. Refer to *Section 6.5 - Recommended Service Intervals* for more details.

WARNING

Use a piece of cardboard or heavy paper to check for leaks. DO NOT use your hand. Wear proper hand and eye protection when searching for leaks.

Relieve pressure on hydraulic system before repairing, adjusting or disconnecting.

Hydraulic oil leaking under pressure can penetrate the skin, causing serious injury or infection.

6.3 Chain Adjustment Procedure

1. Check the tension on all 4 chains; see *Figure 6.5*.

   a. The chain can be seen in the sight hole (1) that is in the side of each rail.

   b. The chain should be in line with the image of the chain that is on the decal; see *Figure 6.6*.

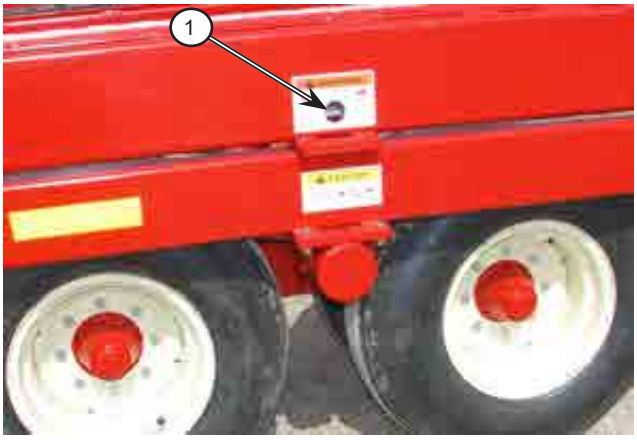


Figure 6.5: Check the tension of all the chains

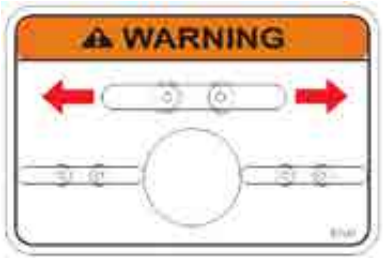


Figure 6.6: Chain tension decal

2. To adjust the chain tension, refer to *Figure 6.7*:

   a. Loosen the nut (2) at the end of the threaded rod on the motor mount.

   b. Adjust the chain tension by turning the inside nut (3) until the bottom of the chain is just off the bottom of the rail.

   c. Tighten the nut (2) at the end of the threaded rod to secure the tension setting.

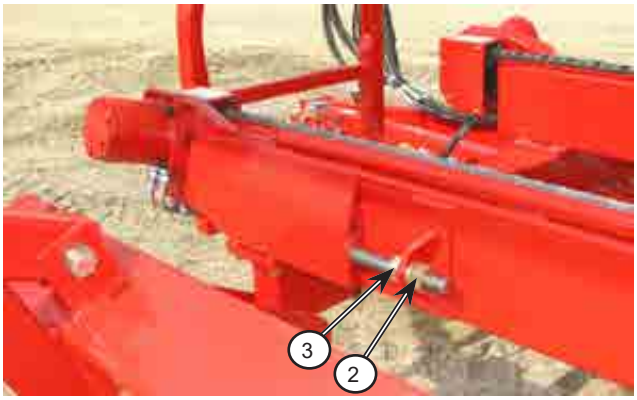


Figure 6.7: Adjust the chain tension

6.4 Tire Maintenance

6.4.1 Tires, Wheel Bolts & Air Pressure

1. Inspect the wheels and tires for damage or foreign objects. Repair or replace as necessary.

2. Torque the lug nuts to 85 - 93 ft-lb (115 - 125 Nm).

3. Check and adjust the tire air pressure.

   a. For bias tires (11L-15FI), fill the tires to 90 psi (620 kPa).

   b. For radial tires (IF280/70R15), fill the tires to 60 psi (414 kPa).

   Note: DO NOT fill above a maximum of 70 psi (483 kPa).

Important

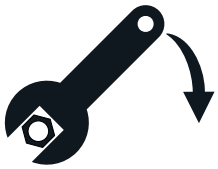
Do not inflate tires above recommended pressure.

Never lean over a tire when inflating it.

Maintain tire pressure to avoid possible tire damage.

4. Refer to *Section 6.5 - Recommended Service Intervals* for more details.

WARNING



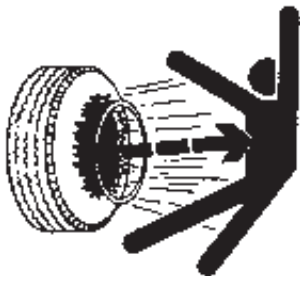
It is critical to frequently check wheel bolt torque until the proper torque is held. Failure to do so could result in wheel fastener failure and wheel loss.

6.4.2 Tire Changing Procedures

1. Hitch the Bale Mover to the tractor.

2. Block the Bale Mover tires on the opposite side to prevent movement of the Bale Mover.

WARNING



Failure to follow proper procedures when mounting a tire on a wheel or rim can produce an explosion which may result in serious injury or death.

DO NOT attempt to mount a tire unless you have the proper equipment and experience to do the job.

Have a qualified tire dealer or repair service perform required tire maintenance.

3. Use two jacks under the main frame of the Bale Mover (at the positions shown by the arrows in *Figure 6.8*).

   a. Raise the side of the Bale Mover high enough to be able to rotate the axle so the tire can be removed.

4. Block the Bale Mover frame in this raised position.

Figure 6.8: Jack on frame to change tires

5. With the tires off the ground, rotate the axle so the tire is below the frame.

   a. Block up the axle so that it cannot rotate when the tire is removed, as shown in *Figure 6.9*. The weight of the remaining tires will want to rotate the axle.

6. Repair or replace the tire.

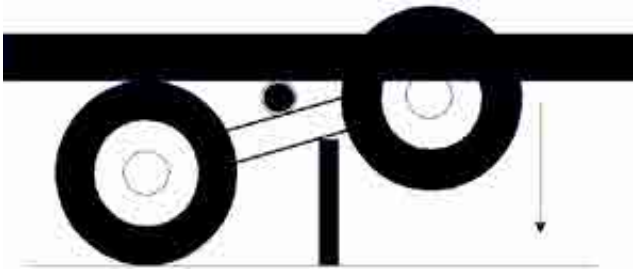


Figure 6.9: Block to prevent rotation when tire is removed

6.5 Recommended Service Intervals

Daily (As Used)
Check the condition of the bale chains
Check the tension on all of the bale chains
Check the condition of the tires, including the lug nuts and the tire inflation
Check the condition of the hydraulic motors, hoses, fittings and cylinders, and check for leaks
Check the lights

Every 10 Hours
Grease the axle shafts
Grease the tandem axle pivots
Grease the bale chains

Every 50 Hours
Check and adjust the tire air pressure

Every 100 Hours
Grease the wheel hubs
Fully inspect the hydraulic hoses, fittings and cylinders

Every 250 Hours or Annually, whichever comes first
Torque the tire lug nuts

As Needed
Adjust the chain tension

7 Storage

7.1 Pre-Storage Checklist

If the Bale Mover is going to be stored for an extended period of time, follow the below steps.

1. Park the Bale Mover on level ground.

2. Clean all the debris off the Bale Mover.

3. Lower the Bale Mover bed to be fully resting on the frame.

Figure 7.1: Park, clean and lower the Bale Mover bed onto the frame

4. Raise both lift arms to the full upright position.

5. Fasten both lift arm transport chains (1) in place to lock the arms; see *Figure 7.2*.
   a. Fasten the chains with the clip pin (2) and lock in place.

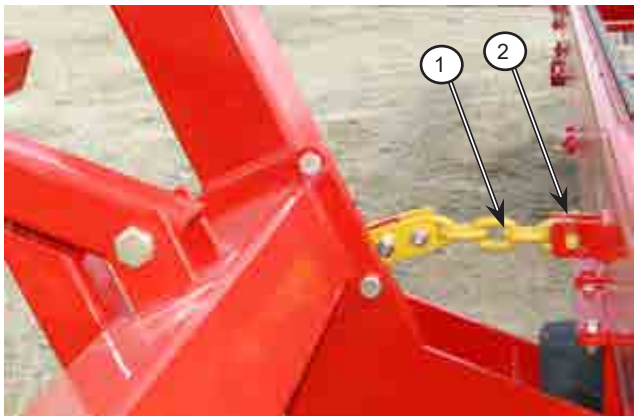


Figure 7.2: Fasten the lift arm with the transport chain

6. Remove the jack from the storage position and place it onto the hitch, as shown in *Figure 7.3*.
   a. Pin the jack in place.
   b. Raise the hitch until the weight is supported by the jack.
   c. Ensure that the jack is resting on solid level ground or resting on a wood block.

Figure 7.3: Raise the hitch with the jack

7. Disconnect the hitch from the tractor.

   a. Remove the hitch pin.

8. Relieve the pressure on the hydraulic hoses and disconnect them.

9. Disconnect the electrical connection.

10. Remove the control switch and cable from the tractor cab. Store in a dry place.

11. Secure the hydraulic hoses and electrical connectors to the hose holder (1) on the hitch to keep them off the ground and clean; see *Figure 7.4*.

Figure 7.4: Secure hoses and cables to hose holder

7.1.1 Pre-Storage Maintenance

1. Lubricate all required grease points detailed in *Section 6.1 - Lubrication - Grease*.

2. Oil the bale chains with a rust inhibiting oil or coating to prevent weathering.

3. Tighten all bolts to the recommended torque.

4. Check the Bale Mover for worn and damaged parts. Replace as needed.

5. Touch-up the paint to prevent rusting.

Figure 7.5: Oil the chains to prevent weathering

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8 Troubleshooting

8.1 Lift Arm

SYMPTOM	PROBABLE CAUSE	SOLUTION
Lift arm not lifting	Control Switch	Place the control switch to the “right” or “left” position.
		Check the wiring to the electric valves for power to the solenoids.
	Hydraulics	Check the hydraulic connections to the electric valves and the lift cylinder.
	Solenoid on Electric Valves	Check for power to the solenoids on the electric valves.

8.2 Chains

SYMPTOM	PROBABLE CAUSE	SOLUTION
Chains do not move	Control Switch	Place the control switch to the "right" or “left” position.
		Check the wiring to the electric valves for power to the solenoids.
	Hydraulics	Check the hydraulic connections to the electric valves and the motors.
Chain comes off the roller	Chain Tension	Adjust the chain tension so the chain is in line with the image of the chain that is on the decal at the sight hole. Refer to *Section 6.3 - Chain Adjustment Procedure*.

8.3 Deck Lift

SYMPTOM	PROBABLE CAUSE	SOLUTION
Deck not lifting	Too much weight at the front of the deck rails	Move bales on the rails toward the rear of the machine.
	Control Switch	Place the control switch to the "center" position.
		Check the wiring to the electric valves for power to the solenoids.
	Solenoid on Electric Valves	Check for power to the solenoids on the electric valves.
	Hydraulics	Check the hydraulic connections to the electric valves and the lift cylinder.

If problems persist, please contact your local Highline dealer.

9 Specifications

Weight, Dimensions & Capacity		
Shipping Weight	9,660 lb	4,386 kg
Hitch Weight (Empty)	1,740 lb	790 kg
Hitch Weight (Loaded)	3,423 lb	1,554 kg
Gross Vehicle Weight (GVW)	38,000 lb	17,252 kg
Total Length	43 ft 9¼ in	13.34 m
Bed Length	37 ft	11.28 m
Total Width (Loaded)	16 ft 8 in	5.08 m
Total Width (Empty)	15 ft 1½ in	4.61 m
Total Height (Max)	12 ft 3¼ in	3.74 m
Maximum Capacity - Bales	16 of 4 ft long bales	
	14 of 5 ft long bales	
	Total bale weight - 23,720 lb (10,759 kg)	

Tires		
Size	11L-15FI, F Ply	IF280/70R15, 137/D
Tire Pressure	90 psi (620 kPa)	60 psi (414 kPa)*
Wheel Nut Torque	85 - 93 lb-ft (115 - 125 Nm)	
*__Note:__ DO NOT fill above a maximum of 70 psi (483 kPa).		

Minimum Tractor Requirements		
Horsepower Required	100 hp	75 kW
Tractor Weight (Min)	14,490 lb	6,573 kg
Hydraulic Outlets	2	
Hydraulic Flow and Pressure	15 gpm @ 3,000 psi	60l pm @ 207 bar

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Highline New Equipment Limited Warranty Policy

One (1) Year / 12 Months - Parts and Labour

Highline Manufacturing (hereinafter "Highline") warrants this new product of Highline's manufacturer to be free from defects in material and workmanship, under normal use and service for one (1) full year after initial purchase/retail sale. Highline will warrant its product for one (1) year parts and labor, if performed by a qualified Dealer. This Limited Warranty shall apply only to complete machines of Highline's manufacture. Parts are covered by a separate Limited Warranty.

EQUIPMENT AND ACCESSORIES NOT OF HIGHLINE'S MANUFACTURE ARE WARRANTED ONLY TO THE EXTENT OF THE ORIGINAL MANUFACTURER'S WARRANTY AND SUBJECT TO THEIR ALLOWANCE TO HIGHLINE ONLY IF FOUND DEFECTIVE BY SUCH MANUFACTURER.

During the Limited Warranty period specified above, any defect in material or workmanship in any warranted item of Highline Equipment not excluded below shall be repaired or replaced at Highline's option without charge by any authorized independent Highline Dealer. An authorized Dealer must make the warranty repair or replacement. Labour is paid in accordance with Highline's Labour reimbursement policy. Highline reserves the right to supply remanufactured replacement parts as it deems appropriate.

RETAIL PURCHASER RESPONSIBILITY
This Limited Warranty requires proper maintenance and periodic inspections of the Equipment as indicated in the Operator's Manual furnished with each piece of new Equipment. The cost of routine or required maintenance and services is the responsibility of the retail purchaser. The retail purchaser is required to keep documented evidence that these services were performed. This Highline New Equipment Limited Warranty may be subject to cancellation if the above requirements are not performed.

EXCLUSIONS AND LIMITATIONS
The warranties contained herein shall NOT APPLY TO:

1. Any defect which was caused (in Highline's sole judgement) by other than normal use and service of the Equipment, or by any of the following:
    a. accident
    b. misuse or negligence
    c. overloading
    d. lack of reasonable and proper maintenance
    e. improper repair or installation
    f. unsuitable storage
    g. non-Highline approved alteration or modification
    h. natural calamities
    I. vandalism
    j. parts or accessories installed on Equipment which were not manufactured or installed by Highline authorized Dealers
    k. the elements
    l. collision or other accident.
2. Any Equipment whose identification numbers or marks have been altered or removed.

3. Any Equipment which any of the required or recommended periodic inspection or services have been performed using parts not manufactured or supplied by Highline or meeting Highline Specifications including, but without limitation, lubricants (oil, grease), belt lacings, and hydraulic fluids.

4. Any Equipment used in demonstrations not performed by a Highline Dealer. Warranty will be at the discretion of Highline for all other demonstration warranty.

5. New Equipment delivered to the retail purchaser in which the warranty registration has not been completed and returned to Highline within ten (10) days from the date of purchase.

6. Any defect that was caused (in Highline's sole judgement) by operation of the Equipment not abiding by standard operating procedures outlined in the Operator's Manual.

7. Tire Limited Warranties and support are the responsibility of the respective product's manufacturer.

8. Transportation costs, if any, of transporting to the Highline Dealer.

9. In no event shall Highline's liability exceed the purchase price of the product.

10. Highline shall not be liable to any person under any circumstances for any incidental or consequential damages (including but not limited to, loss of profits, out of service time and damage to equipment which this equipment may be attached) occurring for any reason at any time.

11. Diagnostic and overtime Labour premiums are not covered under this Limited Warranty Policy.

12. Depreciation damage caused by normal wear, lack of reasonable and proper maintenance, failure to follow operating instructions, misuse, and/or lack of proper protection during storage.

13. Accessory systems and electronics not of Highline's manufacture are warranted only to the extent of such manufacturer's respective Limited Warranty if any.

14. Wear items which are listed by product group below:

COMMON WEAR ITEMS
Roller chain, sprockets, clutches, shear bolts, clutch components, chains, belts, gearbox housings bolts/torqued parts, flails, feed roller belting, coupler chain, DRV couplers, bogie wheels, apron tines and hoses, blades and blade pans, blade bolts and nuts, skid shoes, chain guards, clutches and clutch components.

PARTS WARRANTY
Parts replaced in the warranty period will receive the balance of the one year New Equipment Limited Warranty.
Replacement parts after the original machine warranty are warranted to be free from defects of material for ninety (90) days or the part will be repaired or replaced, without Labour coverage for removal and reinstallation.

EXCLUSION OF WARRANTIES
UNLESS OTHERWISE REQUIRED BY LAW, AND EXCEPT FOR THE WARRANTIES EXPRESSLY AND SPECIFICALLY MADE HEREIN, HIGHLINE MAKES NO OTHER WARRANTIES, AND ANY POSSIBLE LIABILITY OF HIGHLINE HEREIN UNDER IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS, IMPLIED, OR STATUTORY, INCLUDING, BUT NOT LIMITED TO, ANY WARRANTIES OF MERCHANT ABILITY OR FITNESS FOR A PARTICULAR PURPOSE. HIGHLINE RESERVES THE RIGHT TO MODIFY, ALTER AND IMPROVE ANY PRODUCT WITHOUT INCURRING ANY OBLIGATION TO REPLACE ANY PRODUCT PREVIOUSLY SOLD WITH SUCH MODIFICATION. NO PERSON IS AUTHORIZED TO GIVE ANY OTHER WARRANTY, OR TO ASSUME ANY ADDITIONAL OBLIGATION ON HIGHLINE'S BEHALF.