Bale Mover

BM607/605

Operator's Manual

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Highline MANUFACTURING
A DIVISION OF BOURGAULT INDUSTRIES LTD.

E14995V1_C

Bale Mover 605
Bale Mover 607

Operator Manual

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Highline Team Message

*Congratulations on your purchase of the **Bale Mover 605/607** manufactured by Highline Manufacturing.*

This Operator Manual has been prepared to provide information necessary for the safe and efficient operation of your Bale Mover. In the manual you will find safety procedures, maintenance routines and detailed operational instructions.

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 605/607 as your machine of choice.

Highline Manufacturing

Table of Contents

Section 1 - Safety

Section 2 - Transporting the Bale Mover

Section 3 - Bale Mover Preparation

Section 4 - Operating the Bale Mover

Section 5 - Maintaining the Bale Mover

Section 6 - Storing the Bale Mover

Section 7 - Troubleshooting

Section 8 - Specifications

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GENERAL DESCRIPTION OF THE BALE MOVER

The Bale Mover 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. Five or seven round bales (depending on model) can be loaded on the right side of the machine. The bale mover has the capacity of loading and moving 5 or 7 (depending on model) round bales.

The Bale Mover has an automatic advance system to move the bales back to allow for room for the next bale to be loaded onto the chains. The automatic advance system can be turned on or off at the operator's discretion. The bale chains can be operated manually.

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

For unloading bales, the back end of the deck 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 deck, rotating the bale chains to move bales onto the deck 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 deck 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 fork and the bale chains.

The Bale Mover is transported with the Bale fork lifted and locked in position.

INTENDED USE OF THE BALE MOVER

- 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.
- The Bale Mover is designed to pick up round bales that have been previously placed in a row and move them to another location.
- The bales have previously been made using a round baler.

The Bale Mover is intended for use in field farming applications.
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 fork or the unloading of bales from the deck.

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):

- Using the Bale Mover in non-farming applications.
- Using the Bale Mover around people or in public places.
- Moving materials other than round bales from fields.
- Using the bale fork to lift objects other than round bales.

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.

Bale Mover 605/607

The Bale Mover has the ability to pickup round bales from the right. It can carry 5 or 7 bales depending on the model. It easily unloads the bales by tilting the deck, driving ahead while the bale chains move the bales off the deck.

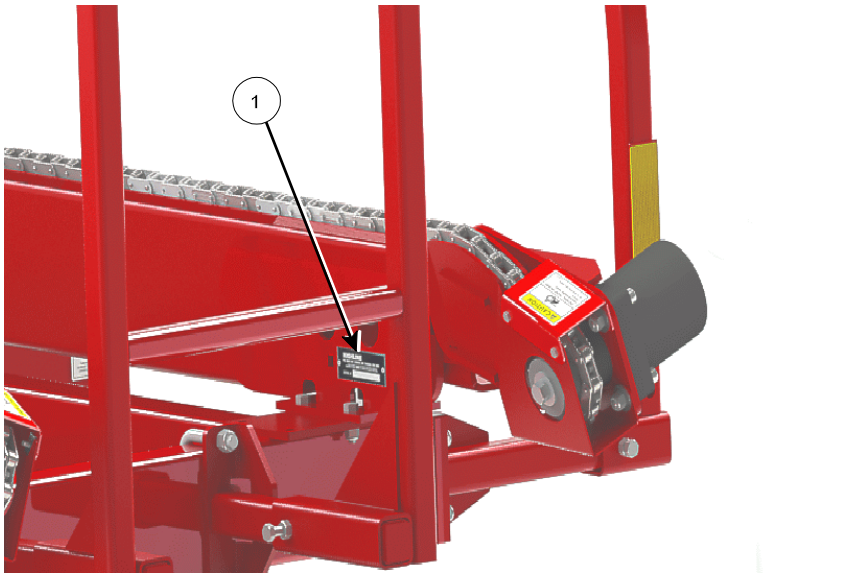
The Bale Mover can also reload rows of bales to be moved to another location. To reload, tilt the deck and backup while the bale chains move the bales onto the deck.

Bale Mover 607 214141

Unloading or Reloading Bales 214142

SERIAL NUMBER

Your serial number is found on the serial number plate (1) attached to the inside of the left rail near the motor mount.



Serial Number Plate Location

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

Serial Number _____

Owner _____

Model _____

Date of Purchase _____

SAFETY 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 Highline Bale Mover should read and clearly understand all Safety, Operating and Maintenance information presented in this manual.

Do not operate or allow someone to operate this equipment until this information has been reviewed. This information should be reviewed by all operator's before the season start-up.

This sign-off sheet is provided for record keeping to indicate that the person working with the equipment has read and understood the information in the Operator's Manual and has been instructed in the safe operation of the equipment.

Date	Employee's Signature	Employer's Signature

SAFETY ALERT SYMBOL

The Safety Alert Symbol means:

ATTENTION!
BECOME ALERT!
YOUR SAFETY IS INVOLVED!

The Safety Alert Symbol combined with a Signal Word alert to the presence of a hazard and the degree of possible injury.

Indicates an imminently hazardous situation that, if not avoided, WILL result in DEATH OR SERIOUS INJURY. The color is Red with White lettering.

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 or unsafe practices. The color is Orange with Black lettering.

Indicates a potentially hazardous situation that, if not avoided, MAY result in MINOR INJURY. The color is Yellow with Black lettering.

GENERAL SAFETY

1. Ensure that anyone who is going to operate, maintain or work near the Bale Mover is familiar with the recommended operating, maintenance procedures and safety information contained in this manual and follows all the safety precautions.

2. In addition to the design and configuration of the equipment, hazard control and accident prevention are dependant upon the awareness, concern, prudence and proper training of personnel involved in the operation, transport, maintenance and storage of the Bale Mover.

3. The Bale Mover shall not be operated without all the guards in place.

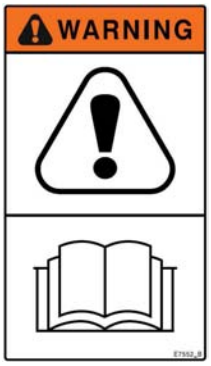
SAFETY DECALS

1. Keep decals and signs clean and legible at all times.
2. Replace decals and signs that are damaged, missing or have become illegible.
3. Replaced parts that displayed a decal should also display the current decal.
4. Decals are available from the Highline Parts Department.
5. Be familiar with the decals, the type of warning and the area or function(s) related to the area(s) that requires your awareness.

STAY AWAY FROM OVERHEAD POWER LINES

Stay away from power lines when transporting or folding equipment.
Electrocution can occur without contacting power lines.

READ, UNDERSTAND, AND FOLLOW SAFETY INSTRUCTIONS

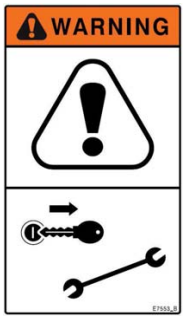


Read, understand and follow all instructions and safety messages included in this manual and on decals attached to the machine.

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

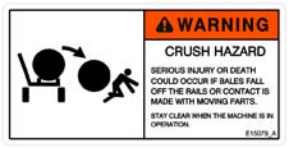
Failure to follow the instructions and safety messages in this manual and on the decals attached to the machine could result in serious injury or death.

Keep all safety and instruction decals in good condition. Replace any missing or damaged decals.



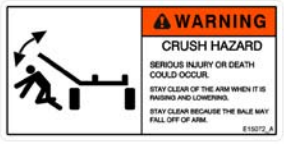
STOP TRACTOR BEFORE GOING NEAR MACHINE

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



KEEP PEOPLE BACK WHEN LOADING OR UNLOADING BALES

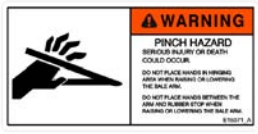
Falling bales can cause serious injury or death.
Stand clear of Bale Mover when PTO is engaged.
Do not operate within 100 ft (30m) of any person.



STAND CLEAR OF BALE LIFT ARMS

Moving lift arm can cause serious injury or death.
Never stand under lift arms when lowering or raising.
Do not allow people near the lift arms when being moved.
Lift arms must be fully retracted and locked in place before servicing.

Install arm lock chains before transporting bale mover.



DO NOT PLACE HANDS IN THE HINGING AREA WHEN RAISING OR LOWERING BALE LIFT ARM

Pinch hazard could cause serious injury or death when raising or lowering lift arm if hands are placed between the hinge area or between the arm and rubber stop.

STAY CLEAR OF DECK WHEN RAISING OR LOWERING

There is a crushing hazard if limbs or body is placed between the deck and ground or surrounding objects when the deck is raised or lowered.

STAY CLEAR OF DECK WHEN IT IS TILTED

There is a crushing hazard if limbs or body is placed between the hitch and deck when the deck is tilted.
The deck could be lowered or come down causing serious injury or death.

UPENDING HAZARD

The hitch can rise rapidly when there are bales on the end of the rails but not at the front of the rails.

Use a clevis to attach to towing machine.

Ensure implement is attached to machine before hydraulics are activated.

DO NOT RIDE ON MACHINE

Falling from the moving machine can cause serious injury or death.
Falling from the operating machine can cause being entangled under the machine or being injured by the machine.

USE PAPER OR CARDBOARD TO CHECK FOR HYDRAULIC LEAKS

To prevent serious injury or death:
Relieve pressure on hydraulic system before repairing, adjusting or disconnecting.
Wear proper hand and eye protection when searching for leaks.
Use wood or cardboard instead of hands.
Keep all components in good repair.

Fluid injected under the skin must be removed immediately by a surgeon familiar with this type of injury.

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.

Contact with moving chains or parts could cause serious injury or death. Stay clear of moving chain and idler.

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.

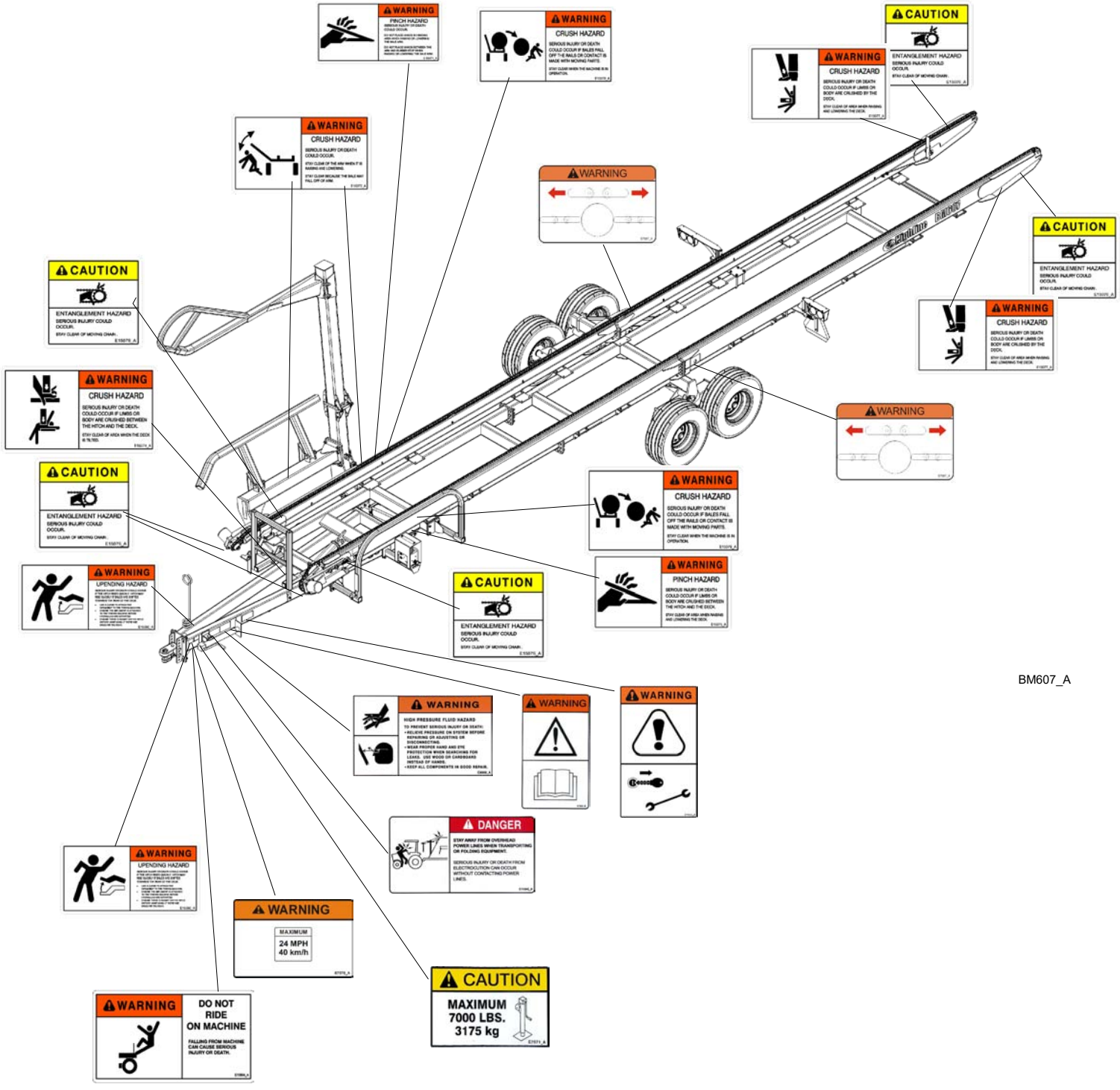
Always disengage power take off, shut off tractor, remove key, set park brake and wait for all parts to stop turning before servicing.

ENSURE SLOW MOVING VEHICLE SIGN IS IN PLACE

Ensure the Slow Moving Vehicle sign is in place, clean and easily visible.

Ensure the reflectors are in place, clean and easily visible.

SAFETY DECAL LOCATIONS



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Transporting the Bale Mover

Only tow the unloaded Bale Mover on public roads behind a properly sized and equipped tractor or vehicle which has a weight of 5,826 lbs (2643 kg) or more. Do not exceed 25 mph (40 km/h).

Shut off the tractor engine before attaching the bale mover or hydraulics.

Do not allow children or other people to ride on the tractor or Bale Mover. Falling off can result in serious injury or death.

1. Tractor requirements.
   - Roll Over Protection System (ROPS)
   - Working seatbelts
   - 2 Spool Control Valves (SCV)
   - Tractor weight of 5,826 lbs (2643 kg) or more for transport of empty bale mover on public roads

2. Lift the hitch.

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

3. Adjust position of the tongue.

   - Level the bale mover by using the hitch jack.

   - Remove the tongue bolts and move the tongue so that the bale mover is level when connected to the tractor drawbar.

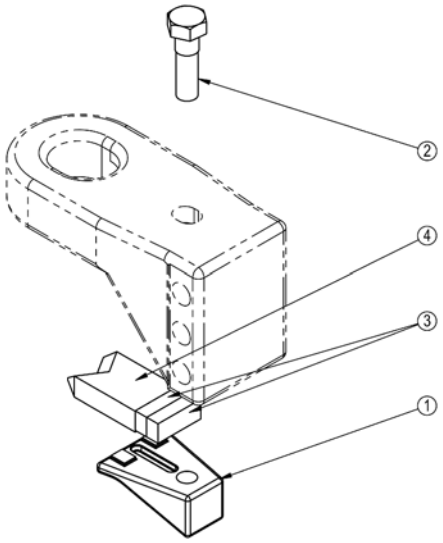
   - Fasten in place.

Lift the Hitch, Adjust Position of Tongue 223058

Note: If the clevis hitch is not being used, install the 3 in 1 hitch components. See the following installation diagram.

- Install the 3 in 1 hitch using the following components if not using the clevis hitch.

ITEM	DESCRIPTION	QTY
1	PLATE,TOP,CAST	1
2	BOLT,HEX,3/4X2-1/2,UNC,GR5,ZP	1
3	CUSHION,POLYURETHANE,90	2
4	BLOCK,V,CAST,80-55-06	1



3 in 1 Hitch 42890_A

4. Connect the hitch to the tractor drawbar.

   - Use at least a 1 1/4" (31.75 mm) pin.

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

Connect the Hitch and Safety Chain 215032

6. Tractor wheel tread width settings.
   - When working on inclines or rough ground, use the largest tractor wheel width possible to maintain tractor stability.

7. Attach the hydraulic hoses.

   - Clean the end of the hoses and the connection.
   - Firmly push the hoses into the tractor receptacle according to user preference.
   - Route the hoses so they do not interfere with moving parts.

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

Attach Hydraulics and Lighting 108008-1

9. Route the electric control cable from the hitch into the tractor cab and connect to the control switch.

   - Ensure the cable does not interfere with or contact moving parts.

   - Connect the switch to the battery for 12 volt power supply. Connect with the ring connectors.

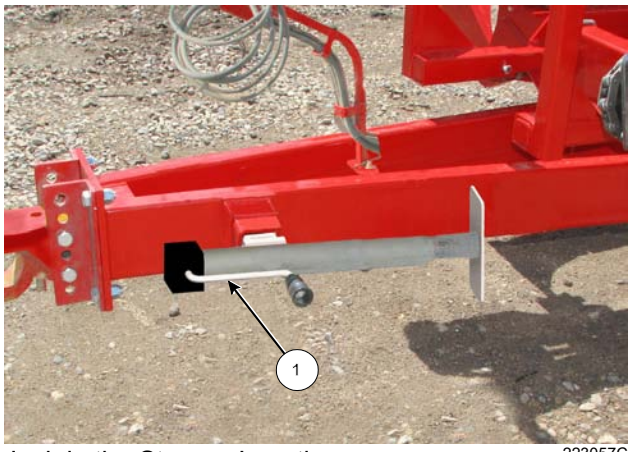
10. Place the hitch jack in the storage location.

    - Remove all weight from the jack.

    - Remove the locking pin holding the jack onto the hitch.

    - Rotate the jack to the storage position (1).

    - Fasten the jack in place with the lock pin.



Jack in the Storage Location 223057C

11. Lower the bale mover deck.

    - Fully retract the deck lift cylinder so the bale deck is sitting on the frame of the bale mover.


Lower the Deck 223059

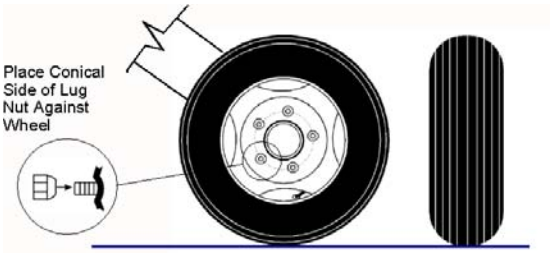
12. Check the condition of all the tires.

- Ensure that the lug nuts have the cone side of the lug nut against the wheel rim.

- Torque the lug nuts to 85-92 lbft (115 - 124 Nm).

- Fill the tires to 52 psi (358 Kpa).

Check the Condition of the Tires 223060



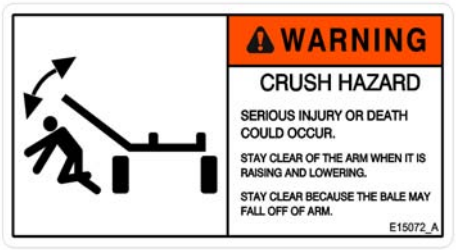
Tires 107094CC

13. Raise the bale lift arm.

Stand Clear of the Bale Lift arm.

A moving lift arm can cause serious injury or death.
Never stand under the lift arm when lowering or raising.
Do not allow people near the lift arm when being moved.

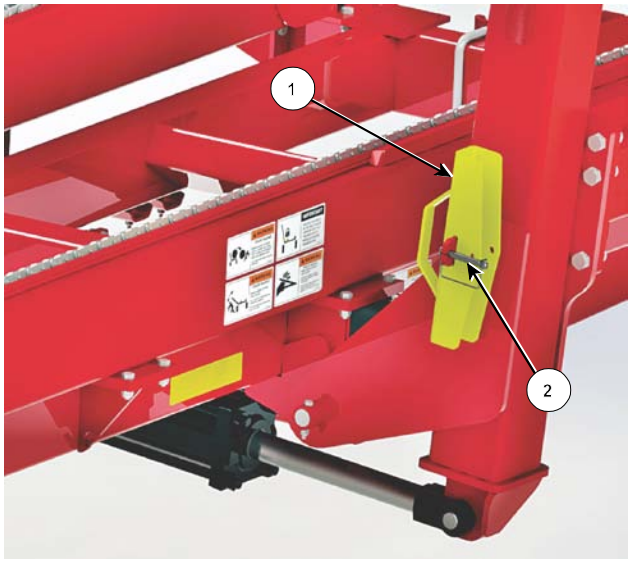
- Activate the hydraulic cylinder to lift the bale lift arm.



14. Remove the lift arm transport lock from the storage position.

    - Remove the clip pin (2) from the storage tab.

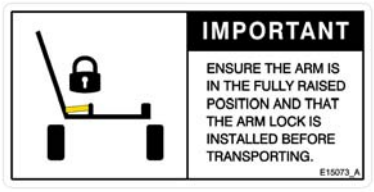
    - Remove the arm cylinder lock (1) from the storage tab.



Remove Lift Arm Lock from Storage 216033C

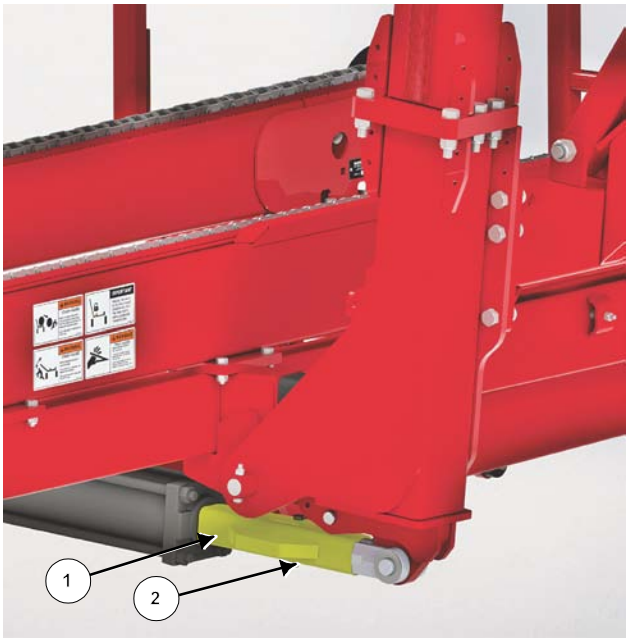
15. Install the lift arm transport lock (1) on the lift arm onto the bale mover frame.

Always use the fork transport lock when transporting the Bale Mover on public roads. The fork may descend rapidly if hydraulic pressure is lost to the lift cylinder.



- Install the arm lock (1) over the cylinder rod.

- Fasten in place with the clip pin (2).



Lift Arm Transport Lock 216034C

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

16. Swing the lights and the Slow Moving Vehicle (SMV) sign out to be visible.

    - Ensure that the Slow Moving Vehicle (SMV) sign is clean and visible.

17. Ensure the lights are working.

Swing Out the SMV and Lights 223061

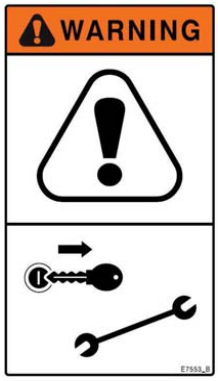
18. Transport on public roads.

Do not tow behind a truck or other type of vehicle.
Check with local traffic regulations to transport on public roads.

- Transport with the Bale Mover empty.
- Transport with a tractor which has a weight of 5,826 lbs (2643 kg) or more.
- Do not exceed 25 mph (40 km/h).

Bale Mover Preparation

1. Park the tractor and Bale Mover on level ground. Engage the tractor parking brake.



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.

2. Ensure all decals are clean and in place.

3. For in field operation, pivot the lights and SMV in toward the rails and pin in place. This will prevent the lights from interfering with the bales.

4. Adjust the deck chain rails for the size and condition of the bales.

   - Suggested rail positions for bale size are shown. Adjust position for the condition of bales.

Suggested Rail Positions for Size of Bale. Adjust for Condition of Bale

223062C

To adjust rail locations:

- Remove the bolts (1) from the rail mounts plates along the length of the rail.

- Slide the rail to the alternate mount positions (2) according to the layout above.

- Fasten the mount plates with the bolts and nuts.

5. Check the condition of both bale chains.

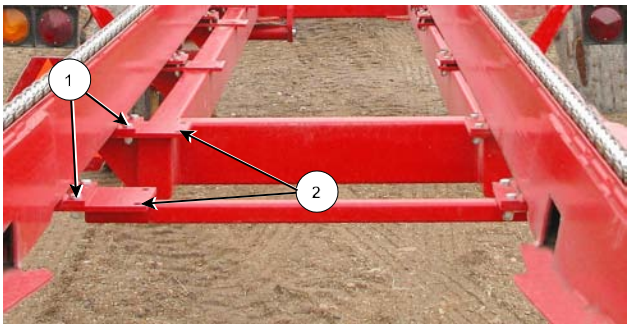
   - Clean debris and material buildup from the chain area and the chain channels.

     - Remove dirt and debris from the rail openings (1) and the end of the rail.

     - Blow out dirt with compressed air or flush with water.

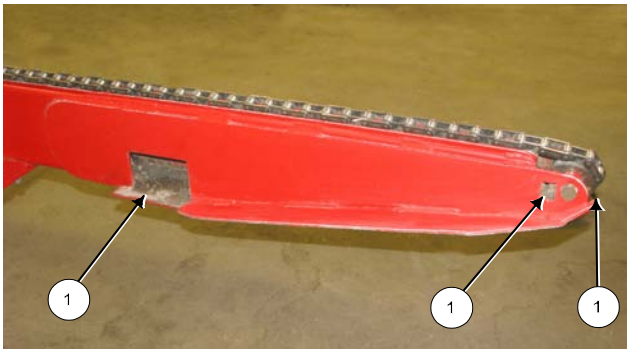
   - Check that no wire or other materials are wrapped in the chain.

   - Check that the chain is secure around the end roller.



Adjust Rails for Size and Condition of Bale 215003C

Check Condition of the Bale Chains 223062



Clean Debris from Rail Openings 215026C

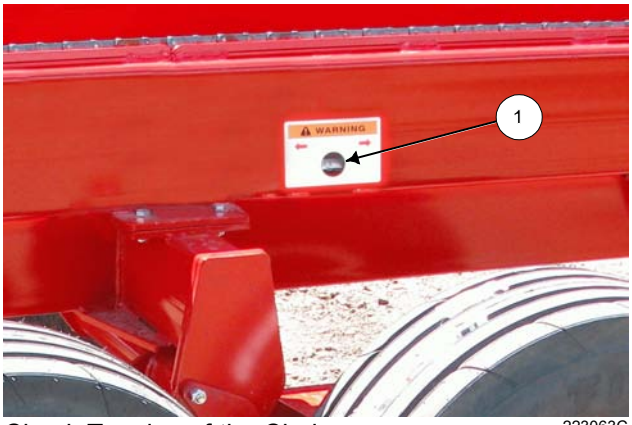
Check That Chain Is On The End Roller 215006

6. Check the tension on both chains.

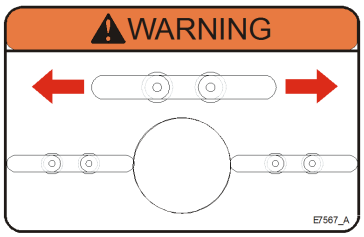
   - The chain can be seen in the sight hole (1) that is in the side of the rail.

   - The chain should be in line with the image of the chain that is on the decal at the sight hole.

   - Adjust tension as necessary. See “Chain Adjustment Procedure” in the Maintenance Section.



Check Tension of the Chains 223063C

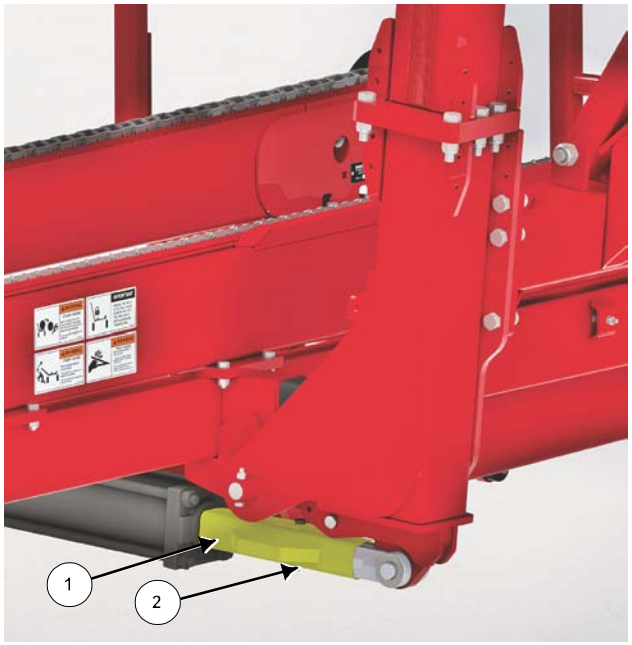


Chain Tension E7567_A

7. Remove the transport lock (1) from the bale lift arm cylinder.

Note: Do not lower the fork when the transport lock is in position or damage to the machine will occur.

   - Remove the clip pin (2) and remove the lock (1) from the cylinder.

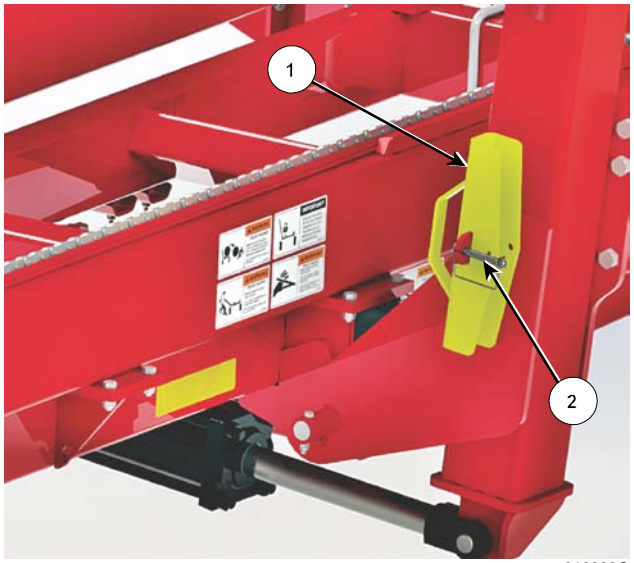


Remove Lift Arm Transport Lock 216034C

8. Place transport arm lock in the storage location.

   - Place the transport arm lock (1) onto the storage tab located on the side of the bale arm.

   - Fasten onto the storage tab with the clip pin (2).



Arm Lock In Storage Position 216033C

9. Attach the hydraulic hoses.

   - Clean the end of the hoses and the connection.
   - Firmly push the hoses into the tractor receptacle according to user preference.
   - Route the hoses so they do not interfere with moving parts.


Attach Hydraulics 108008-1

10. Connect the control cable at the hitch to the cable that goes to the control switch in the cab.

    - Ensure the cable does not interfere with or contact moving parts.

    - Connect the switch to the battery for 12 volt power supply. Use the ring connectors to make the connection.

11. Lower the bale lift arm.

Stand Clear of Bale Lift Arms

- Moving lift arm 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.

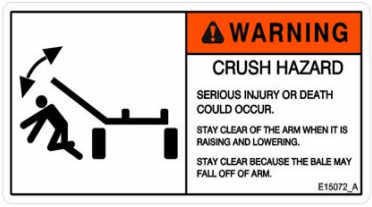
Note: Do not lower the fork when the transport lock is in position or damage to the machine will occur.

12. Set the width of the bale lift arm.

- Loosen the bolts on the holding clamp (1).
- Slide the arm to the suit the size of the bale.
- Tighten the bolts on the holding clamp (1) to fasten to the lift arm.

Slide Clamp for Bale Width 223064C

13. Check that the bale lift arm operates freely when lifting.



Stand Clear of Bale Lift Arms

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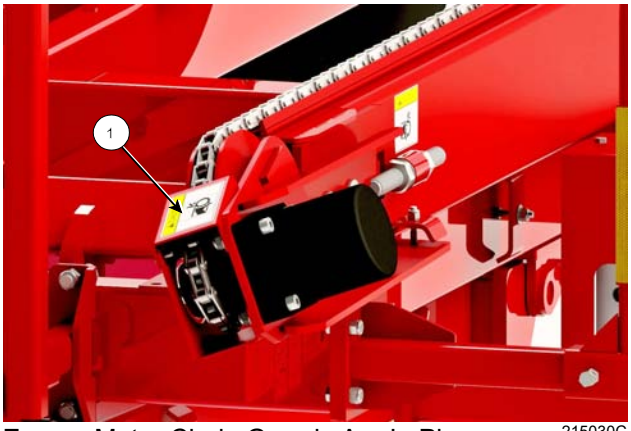
- Never stand under lift arms when lowering or raising.
- Do not allow people near the lift arms when the being moved.

Check that Lift Arm Operates Freely 216041

14. Check that the chain guards (1) on the hydraulic motors are in place and in good condition.



Ensure Motor Chain Guards Are In Place 215030C

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

- Replace missing or broken guards immediately.

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

Keep clear of moving chains. Contacting with the moving chain or parts could cause serious injury or death.

Check that Bale Chains Operate Smoothly 223062

16. Check the condition of the tires.

- Fill to an air pressure of 52 psi (358 kPa).
- Inspect the wheels and tires for damage or foreign objects. Repair or replace as necessary.

Check the Condition of the Tires 223060

17. Remove any twine or netwrap that maybe built up around the hubs or other parts of the machine.

Remove Twine from around Hub 215031

18. Inspect all the hydraulic cylinders and hoses.

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.

Note: If fluid is injected under the skin, it must be removed immediately by a surgeon familiar with this type of injury.


Check All Hydraulic Connections 215029

- Visually inspect all the hydraulic hoses and fittings.
  - See Section 5 "Maintaining the Bale Mover" for conditions indicating that replacement is needed.

- Ensure the proper size cylinder pins are in place and secured.

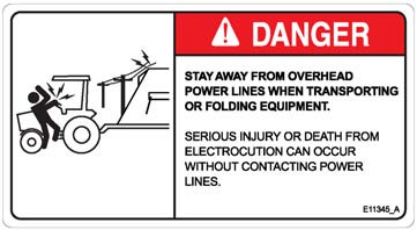
19. Check the condition of the hydraulic motors and the connections.


Check the Motor and Connections 215030

20. Lubricate all grease fittings. See the Maintenance Section.

21. Ensure all fasteners are tightened.

Operating the Bale Mover



Do not allow anyone to ride on the Bale Mover.

- Falling from the machine can cause injury

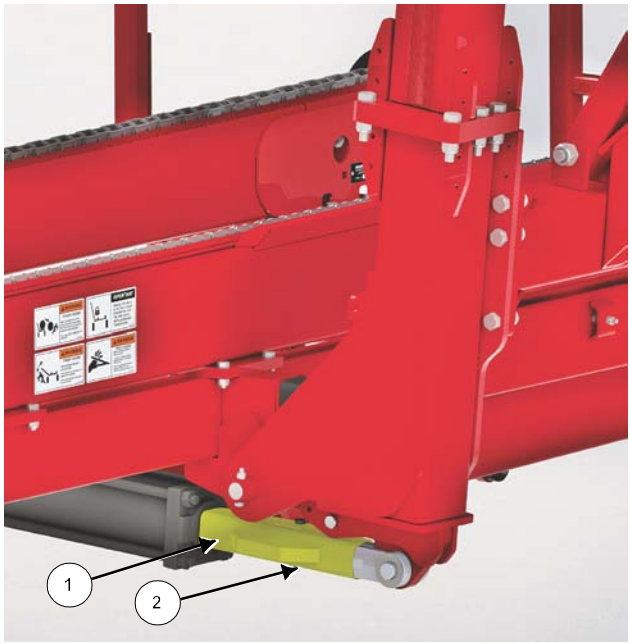
Stay clear of overhead power lines. Electrocution can occur without contacting the power lines.

1. Park on level ground.

2. Remove the lift arm transport lock (1).

Note: Do not lower the fork when the transport lock is in position or damage to the machine will occur.

- Remove the clip pin (2) and remove the lock (1) from the cylinder.

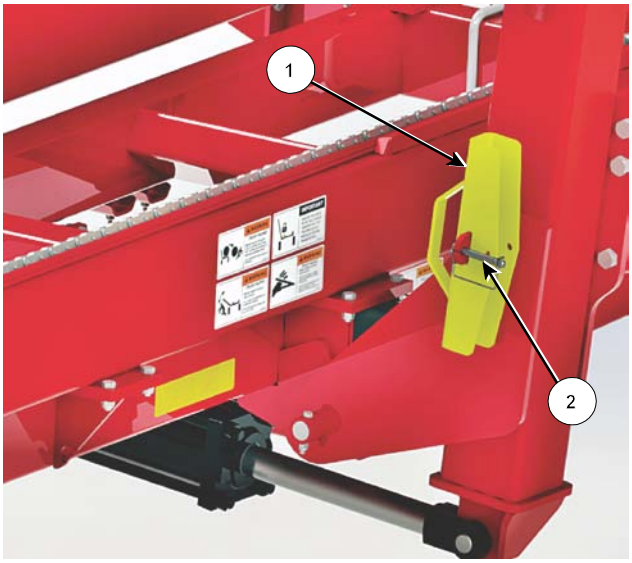


Remove Lift Arm Transport Lock 216034C

3. Place transport arm lock in the storage location.

- Place the transport arm lock (1) onto the storage tab located on the side of the bale arm.

- Fasten onto the storage tab with the clip pin (2).



Place Lift Arm Lock In Storage Position 216033C

4. Drive the Bale Mover into the field area.

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

    - It is not required to stop to pick up a bale.

6. Load the Bale Mover from the right side.

Load Bale Mover 214140

LOADING BALES IN THE FIELD

Tractor Cab Controller Operating Modes

1. The Controller has a 3 position switch that enables the hydraulic remotes to control the bale lift arm and the bale roller chains.

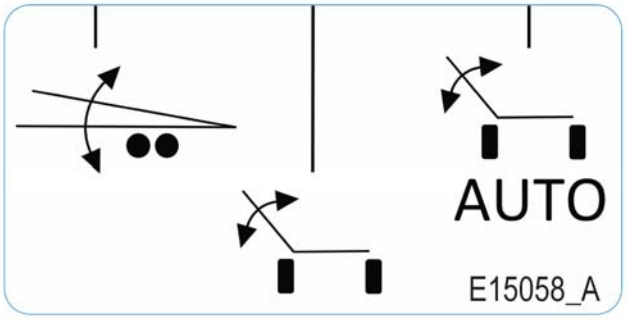
    - **Switch to the Right**
        - Manual bale lift with Automatic bale advance on bale chains.
            - As the lift arm is raised, the hydraulic oil from the lift cylinder rotates the chain motors to move the bale chains.

        - The amount of chain movement is adjustable on the hydraulic block to adjust for the size of bales.

    - **Switch Centered**
        - Manual bale lift with manual bale advance on bale chains.

    - **Switch to the Left**
        - Manual deck raise/lower with manual bale chain movement.

Right Side Loading 211052



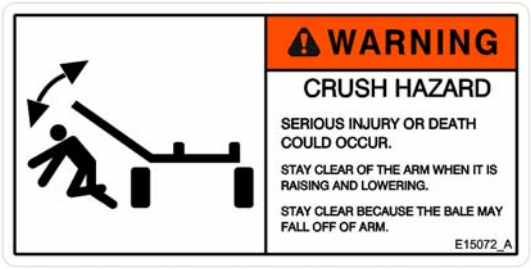
Decal Showing Switch Functions

2. Hang the switch in a convenient location in the tractor cab.

3. Move the controller switch to one of the operating modes.

4. Lower the bale lift arm.

Stay clear when raising or lowering the arm.



5. Drive up to the bale and position the lift arm fork so that it can lift the bale.

Drive Up to Bale with Arm Lowered 215008

6. The lift arm can rotate a bale somewhat to align it into the lift arm.

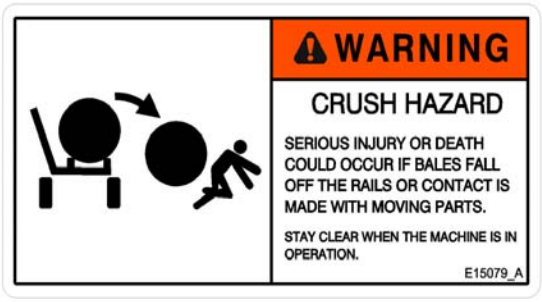
Bale Can Be Rotated Some by the Lift Arm 215009

7. Drive forward until the lift arm forks are fully under the bale.

Drive Forward Until Fork is Under Bale 215010

8. Activate the hydraulic remote to lift the arm and place the bale onto the bale chains.

Stay clear when lifting bales. If a bale falls off it can cause serious injury or death.



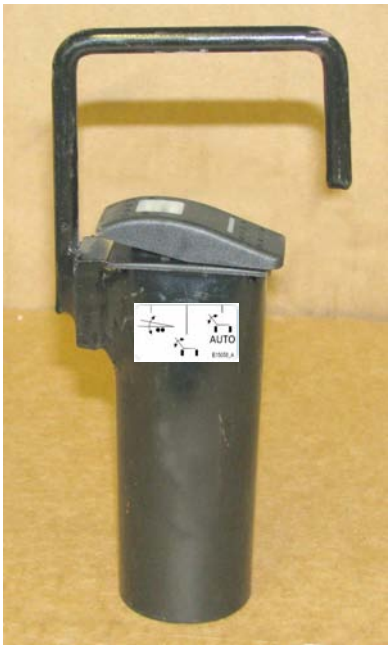
Lift Bale Onto the Rails 215011

Bales On Chain Rails 215012

Automatic Bale Advance

- When in the Automatic bale advance mode (switch to the right), fully raise the lift arm to ensure complete oil flow to the bale chain motors.

- As the lift arm is lowered for the next bale, the chains will move back a set amount to make room for the next bale.

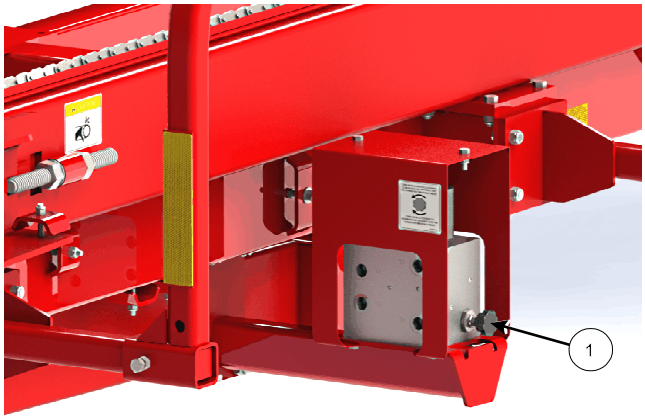


Automatic Bale Advance 211052

Note: The amount the bale chains move is adjustable at the hydraulic block.

- Turn the knob (1) on the hydraulic block counter-clockwise to increase the distance the chains automatically move.

- Turn the knob (1) clockwise to decrease the distance the chains automatically move.



Advance Adjustment on Hydraulic Block 215033C

Manual Bale Advance

In the manual bale advance mode (switch centered), activate the bale chain motors to move the bales back to make room for another bale to be loaded.

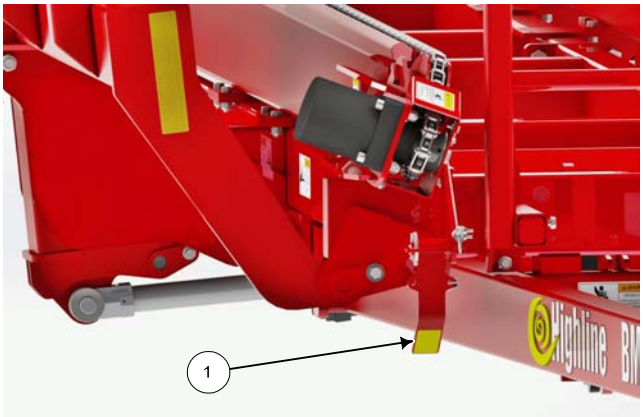
Manual Advance 215055

9. Up to 7 bales or 5 bales (depending on model) can be loaded onto the Bale Mover.


Move Bales Back On Chain Rails 215012

10. There is an indicator (1) on the front of the right rail that will lift when a bale is near the end of the rails.

    - When the indicator lifts there is room for one more bale to be loaded at the front.



Bale Rail Indicator 216037C

11. Drive to the bale storage site.

    - Adjust ground speed to suit the terrain to maintain stability of the load.

Bales Loaded 214140

Do not transport the loaded Bale Mover faster than 24 mph/40 km/h.

Drive To the Bale Storage Site 215013

UNLOADING BALES

Tractor Cab Controller

1. The Control Switch in the tractor cab enables the hydraulic remotes to control the deck tilt and the bale roller chains.

    - Push the electric control switch to the left.
        - Use one tractor remote to tilt the deck to the unload position.
        - Use the other tractor remote to operate the roller chains to push the bales back and slide them off of the deck.

Deck Tilt and Unload 215022

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

Position in the Storage Location 215014

3. Tilt the deck to the fully raised position.

Stay clear when raising or lowering the bale deck.

Serious injury or death could occur from crushing or pinching by the deck.

Tilt Deck to Fully Raised Position 215015

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

5. Slowly drive forward as the bales are unloading.

Engage Chains and Drive Ahead 215016

6. When the bales are unloaded and clear of the machine, lower the deck completely.

Stay clear when raising or lowering the bale deck.

Serious injury or death could occur from crushing or pinching by the deck.

Lower the Deck 215017

RELOADING BALES

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

Tractor Cab Controller

1. The control switch in the tractor cab enables the hydraulic remotes to control the deck tilt and the bale roller chains.

    - Push the electric control switch to the left.
        - Use one tractor remote to tilt the deck to the reload position.
        - Use the other tractor remote to operate the roller chains to push the bales forward onto the deck.

Tilt and Reload Position 215022

2. Position the Bale Mover to reload the bales from the storage location.

Position to Reload Bales 215017

3. Tilt the deck to the fully raised position.

Stay clear when raising or lowering the bale deck.

Serious injury or death could occur from crushing or pinching by the deck.

Tilt Deck to Fully Raised Position 215018

4. Engage the bale roller chains to move the bales forward and onto the Bale Mover deck.

5. Slowly back up towards the bales as they are reloading.

Engage Chains and Back Up 215016

6. When bales are reloaded, lower the deck completely.

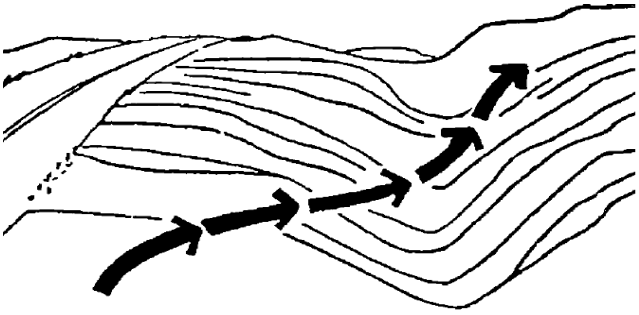
Stay clear when raising or lowering the bale deck.

Serious injury or death could occur from crushing or pinching by the deck.

Lower Deck When Done Reloading 215019

7. Crossing Ditches and Steep Inclines

   - Cross ditches or inclines at about a 30° approach angle.

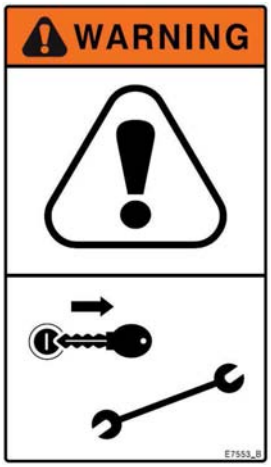


Cross Ditch at 30° Angle 107072

MAINTAINING THE BALE MOVER

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.



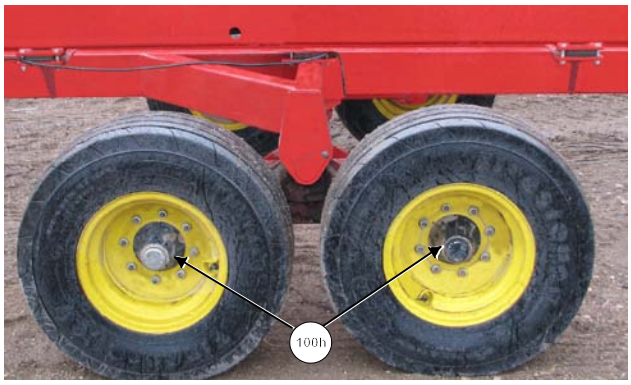
Step 1: Reduce the engine speed to idle.
Step 2: Fully lower bale lift arm.
Step 3: Disengage hydraulic motors.
Step 4: Set the tractor park brake.
Step 5: Shut off tractor engine and remove the key.
Step 6: Relieve hydraulic pressure and disconnect hydraulic hoses.

Lubrication

Lubricate all grease fittings with a quality lithium soap compatible E.P. grease meeting the N.L.G.I. #2 specifications

Every 100 Hours

- Lubricate all the hubs on the spindles.



Grease Hubs on all Spindles 223060C

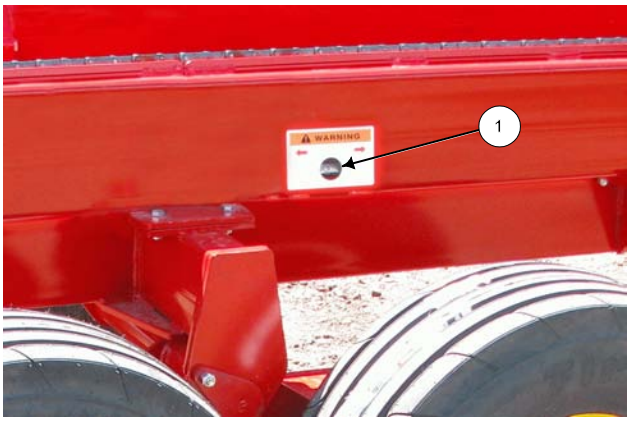
- Lubricate the chains with a quality chain oil.

Lubricate the Bale Chains 223062

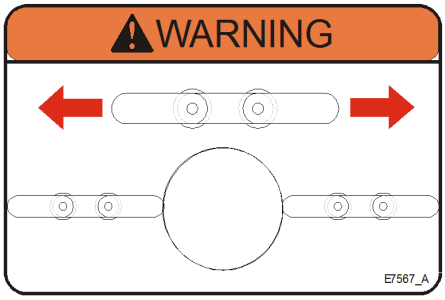
Chain Adjustment Procedure

Check the tension on the 2 rail chains.

- The chain can be seen in the sight hole (1) that is in the side of each rail.
- The chain should be in line with the image of the chain that is on the decal (1) at the sight hole.

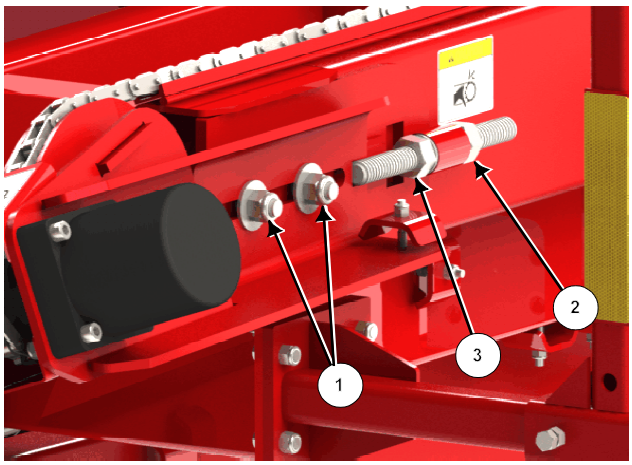


Check the Tension of All the Chains 223063C



To adjust the chain tension:

- Loosen the clamping nuts (1) on the motor mount plate.
- Loosen the nut (2) at the end of the threaded rod on the motor mount.
- Adjust the chain tension by turning the inside nut (3) until the chain is in line with the image of the chain on the decal at the sight hole
- Tighten the nut (2) at the end of the threaded rod to secure the tension setting.
- Tighten the clamping nuts (1) on the motor mount plate.



Adjust the Chain Tension 215024C

Visually Inspect Hydraulic Hoses/Fittings

Shut down the machine and replace the hydraulic hose assembly if any of the following conditions exist:

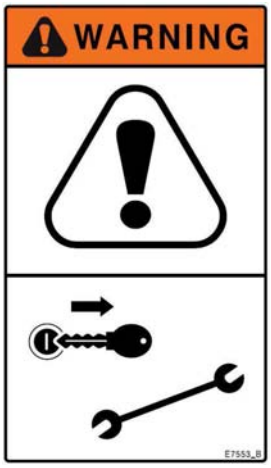
- Fitting slippage on hose.
- Damaged, cracked, cut or abraded cover (any reinforcement exposed).
- Hard, stiff, heat cracked or charred hose.
- Cracked, damaged or badly corroded fittings.
- Leaks at fitting or in hose.
- Kinked, crushed, flattened or twisted hose.
- Blistered, soft, degraded or loose cover.

Tire Changing Procedure

Before beginning, make sure the tractor is turned off and the parking brake is set.

Securely block the Bale Mover before any work is done around or under the machine.

Relieve hydraulic pressure and disconnect the hydraulic hoses.



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.
3. Place a jack under the spindle tube of the tire to be changed.
4. Jack for sufficient clearance to remove the tire and put the new tire in place.
5. Fasten the tire.
   - Torque the lug nuts to 85-92 lbft (115 - 124 Nm).

Jack Under Spindle Tube to Change Tire 215023C

Tire Pressure

Keep tires properly inflated to 52 psi (358 kPa). Tire damage may occur if tires are under inflated.

STORING THE BALE MOVER

1. Clean all the debris off the Bale Mover.
2. Lubricate all Bale Mover grease points (See Section 5).
3. Lubricate the bale chains to keep them from weather exposure.
4. Tighten all bolts to the recommended torque.
5. Check the Bale Mover for worn and damaged parts. Replace as needed.
6. Touch-up the paint to prevent rusting.
7. Park the Bale Mover on level ground.

Park on Level Ground 223065

8. Lower the Bale Mover deck to be fully resting on the frame.

Stay clear of deck when raising or lowering.

There is a crushing hazard if limbs or body is placed between the deck and ground or surrounding objects when the deck is raised or lowered.

Lower the Deck onto the Frame 223066

9. Lower the lift arm to the ground.

Stand clear of the bale lift arm.

The moving lift arm can cause serious injury or death.
Never stand under lift arms when lowering or raising.
Do not allow people near the lift arms when being moved.

- The lift arm should be lowered during long periods of storage so that the cylinder is in the retracted position. The retracted position will prevent the rod from being exposed to the elements.

Lower the Lift Arm 223067

10. Raise the hitch until the weight is supported by the jack.

- Rotate the jack from the storage position and position it on the hitch.
- Pin the jack in place.
- Ensure that the jack is resting on solid level ground or resting on a wood block.

Raise the Hitch with the Jack 223058

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

Oil the Chains to Prevent Weathering 223059

12. Disconnect the hitch from the tractor.

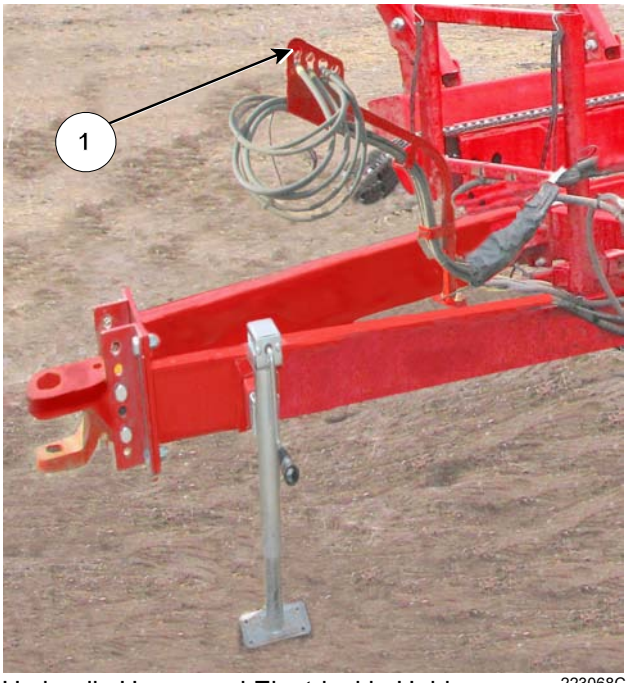
13. Relieve the pressure on the hydraulic hoses and disconnect them.

14. Disconnect the electrical connections.

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

Disconnect Hydraulics and Lighting 108008-1

16. Secure the hydraulic hoses and electrical connectors to the hose holder (1) on the hitch to keep them off the ground and clean.



Hydraulic Hoses and Electrical in Holder 223068C

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7.0 TROUBLESHOOTING

Lift Arm

Symptom	Problem	Solution
Lift Arm Not Lifting	Control Switch	Place the control switch to the “right” or “center” position.
		Check the wiring to the hydraulic block for power to the solenoid.
	Hydraulics	Check the hydraulic connections to the hydraulic block and the lift cylinder.
	Solenoid on Hydraulic Block	Check for power to the solenoid on the hydraulic block.
Arm Not Lowering When in Automatic Bale Advance Mode	Pilot Check Valve	If the pilot line to the check valve is blocked it will prevent the fluid from escaping the cylinder.

Chains

Symptom	Problem	Solution
Chains Do Not Move - Manual Mode	Control Switch	Place the control switch to the "left" or “center” position.
		Check the wiring to the hydraulic block for power to the solenoid.
	Hydraulics	Check the hydraulic connections to the valve block and the motors.

Symptom	Problem	Solution
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. See “Chain Adjustment Procedure” in Section 5.

Automatic Bale Advance Mode

Symptom	Problem	Solution
Chains Do Not Advance	Control Switch	Place the control switch to the “right” position.
		Check the wiring to the hydraulic block for power to the solenoid.
Chains Do Not Advance Enough	Lift Arm Not Fully Raised	Raise the lift arm to the fully upright position when loading a bale. The oil that moves the chain motors comes from the lift cylinder as the arm is lowered.
	Adjustment at Valve Block	Turn the adjustment valve at the valve block for more chain advance.
Chains Advance Too Far	Adjustment at Valve Block	Turn the adjustment valve at the valve block for less chain advance.

Deck Lift

Symptom	Problem	Solution
	Too much weight at the front of the deck rails	Move bales on the rails toward the rear of the machine.
Deck Not Lifting	Control Switch	Place the control switch to the "left" position.
		Check the wiring to the hydraulic block for power to the solenoid.
	Solenoid on Hydraulic Block	Check for power to the solenoid on the hydraulic block.
	Hydraulics	Check the hydraulic connections to the hydraulic block and the lift cylinder.

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BALE MOVER SPECIFICATIONS

	BM607	BM605
Weight (Unloaded)	5826 lb (2645 kg)	5272 lb (2393 kg)
Tongue Weight (unloaded)	1350 lb (613 kg)	1372 lb (623 kg)
Tongue Weight (loaded)	2283 lb (1036 kg)	2255 lb (1024 kg)
Tongue Weight (partially loaded)	4229 lb (1920 kg)	3152 lb (1431 kg)
Total Length	44' 1" (13.43 m)	33' 5 1/4" (10.19 m)
Deck Length	37' 4 1/2" (11.39 m)	26' 8 3/4" (8.14 m)
Total Width	8' 4 1/4" (2.55 m)	8' 4 1/4" (2.55 m)
Total Width - with axle extension	9' 0" (2.74 m)	9' 0" (2.74 m)
Deck Width	44” (1.1 m)	44" (1.1 m)
Total Height (Max)	13' 1 3/4" (4.0 m)	13' 1 3/4" (4.0 m)
Deck Height	3' 4 3/4" (1.04 m)	3' 4 3/4" (1.03 m)
Ground Clearance	13½” (342 mm)	13½" (342 mm)
Maximum Capacity	Seven bales of 5' long Total bale weight - 11353 lb (5150 kg)	Five bales of 5' long Total bale weight - 12062 lb (5471 kg)
Tires	280 - 70R15 12 Ply	
Tire Pressure	52 psi (358 Kpa)	
Wheel Nut Torque	85-92 lbft (115 - 124 Nm)	
Horsepower Required	100 hp (74.5 kW)	
Hydraulic Outlets	2	
Hydraulic Flow and Pressure	15 gpm @ 3000 psi (60 lpm @ 207 bar)	

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Highline New Equipment Limited Warranty Policy

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

Highline Mfg. (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 labour, 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 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 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. 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 thirty (30) 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, 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.