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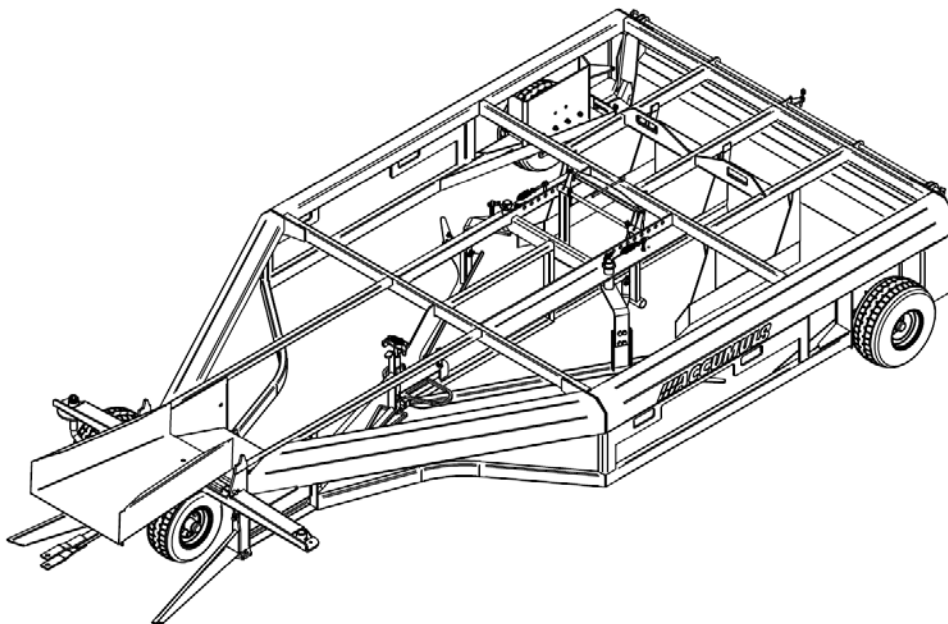
Operator's Manual

Keep this manual with the machine at all times.

ACCUMUL8

Bale Packer

Accumul8/+2/+4



Do not attempt to operate this machine without thoroughly reviewing this manual for safe and proper operation.

Parts Manual

Thank you for choosing the Tubeline Accumulator Bale Packer. Our hope is that it will give you many years of productive service. This tow behind machine is designed to gather small square bales into a large pack for easy transportation and storage, especially when used in conjunction with the Tubeline Accumulator Grabber.

Warranty and Limitation of Liability

All equipment is sold subject to mutual agreement that it is warranted by the company to be free from defects of materials and workmanship. But the company shall not be liable for special, indirect or consequential, damages of any kind under this contract or otherwise. The company's liability shall be limited exclusively to replacing or repairing without charge, at its factory or elsewhere, at its discretion.

Any material, or workmanship defects which become apparent within one year from the date on which the equipment was purchased, and the company shall have no liability for damages of any kind. The buyer by the acceptance of the equipment will assume all liability for any damages, which may result from the use or misuse by his employees or others.

Manuals

Operator's manuals are printed and shipped with machines as they leave the manufacturer. Your machine may include parts or features not yet included in the initially shipped manual. The latest manual version can be found at www.tubeline.ca/support.php. Tubeline reserves the right to update and change manuals as seen fit. Dealers are informed of any pressing changes/ modifications. They can help you with any questions regarding replacement parts and proper operating procedures.

Model Numbers

The Accumulator is available in three configurations:

- AC800 (Stylized as Accumul8) - 8 bale pack
- AC1000 (Stylized as Accumul8+2) - 10 bale pack
- AC1200 (Stylized as Accumul8+4) - 12 bale pack

NOTE: AC1000 & AC1200 share a frame, referred to as Accumul8+, that allows adaption to either model.

Serial Number

The implement serial number is located on the upper front left of the frame. This number helps us to track changes and improvements and must be mentioned when ordering parts or requesting service. For your convenience, a space has been provided inside the front cover of this manual to record the serial number, model number, purchase date, and dealer name.

Model No: _____

Serial No: _____

Date Purchased: _____

Dealer Name: _____

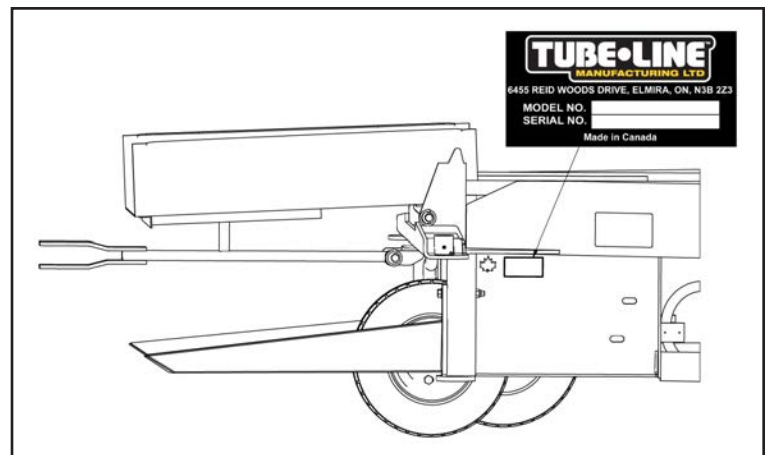


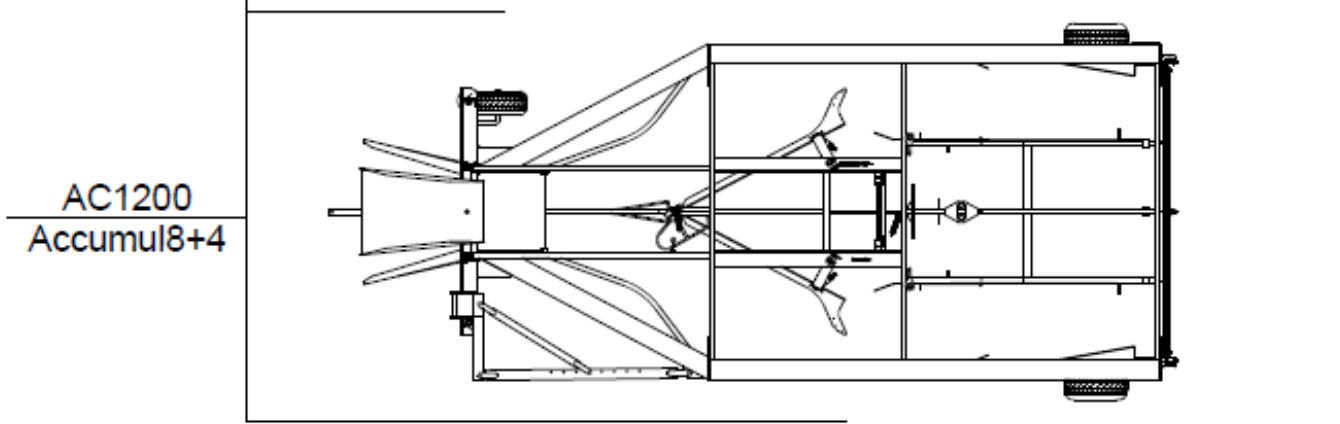
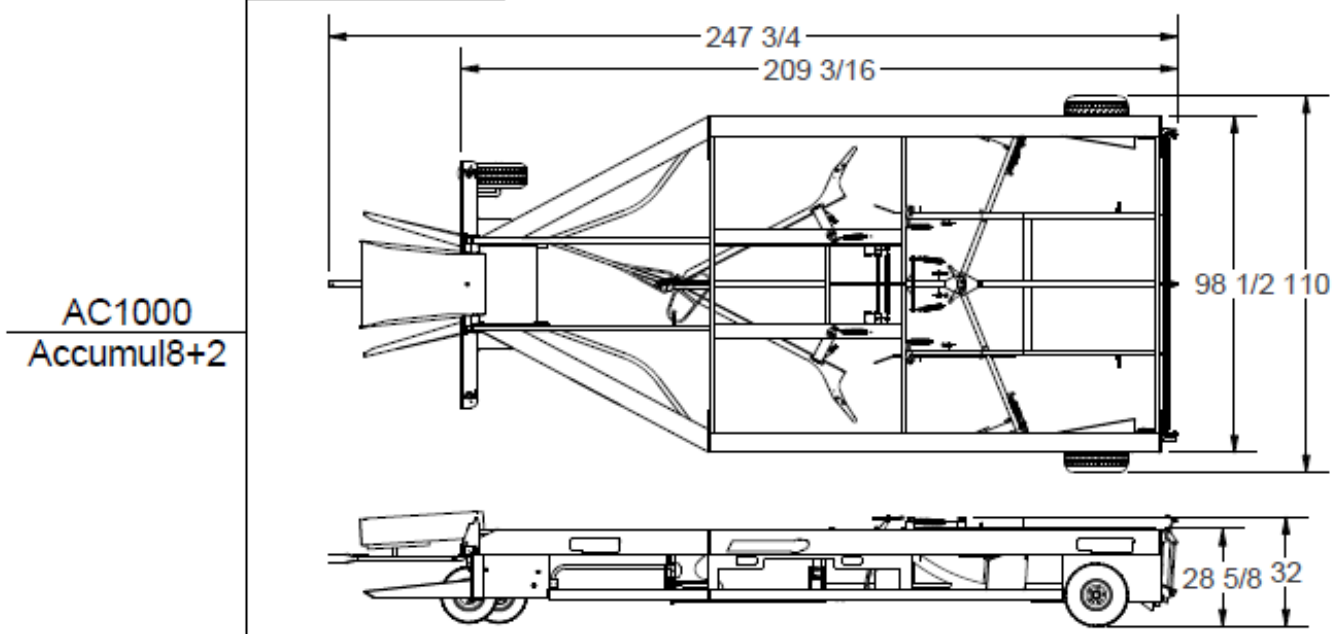
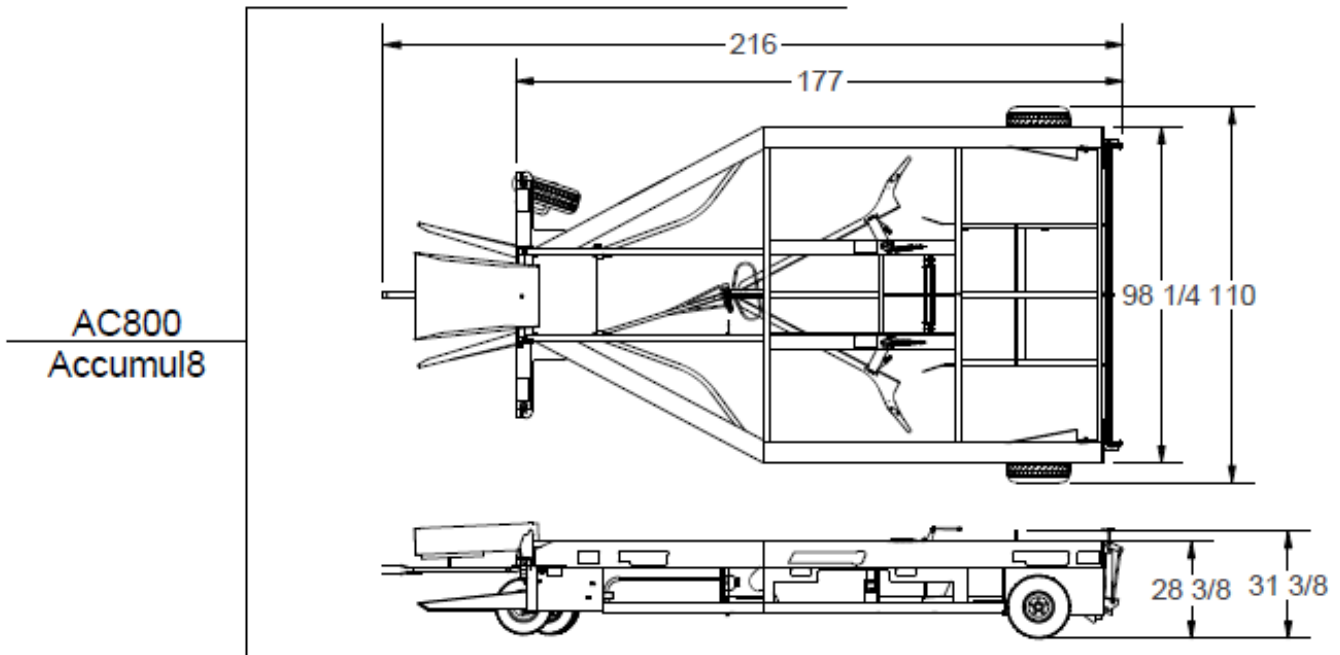
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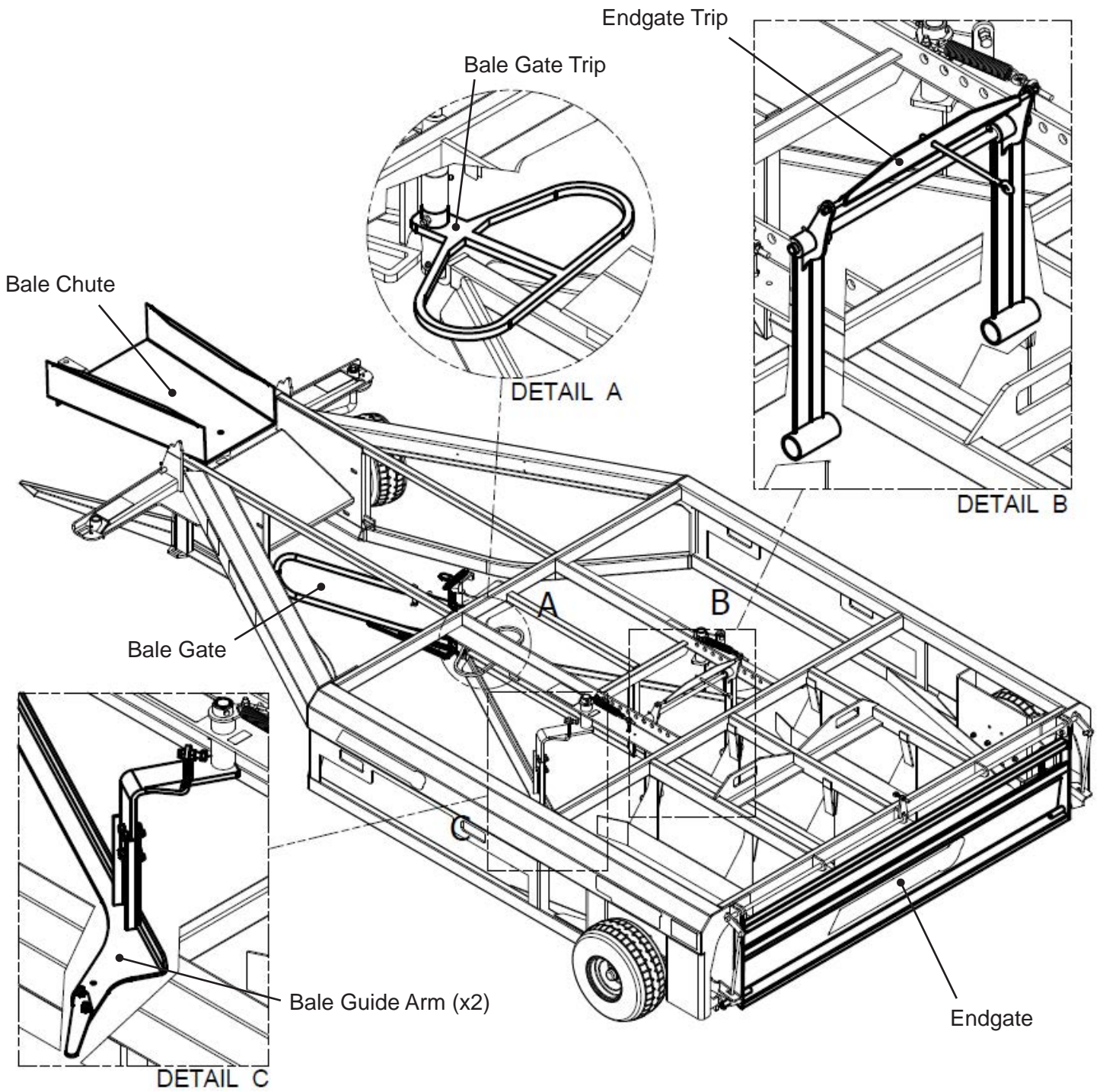
Section 1 - Specifications

Dimensions

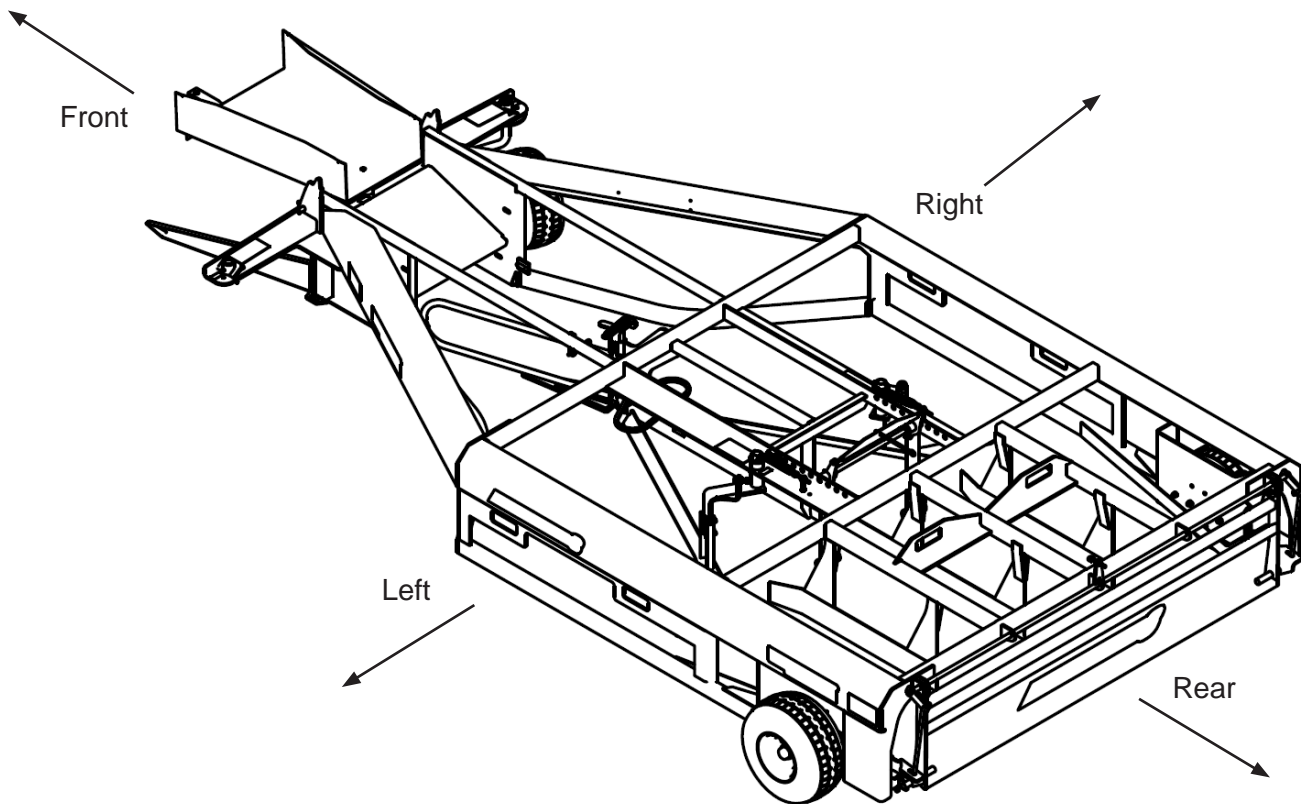


NOTE: Dimensions same as AC1000

Terminology



Orientation



Bale Sizes

The Accumul8 (AC800) and Accumul8+4 (AC1200) can handle bales from 32-42 inches (81-106 cm) long. The Accumul8+2 (AC1000) can handle bales 34-38 inches (86-96 cm) long. The maximum bale width for all Accumulator models is 18", wider bales may become longed and damage machine.

Tire Ratings

Replacement tires must meet or exceed these ratings while matching the dimensions.

SIZE	LOAD RANGE	DIAMETER	WIDTH	RIM WIDTH	MAX CAPACITY	PSI	TREAD DEPTH	SPEED RATING
16.5x6.5-8	LRC	16.5"	6.8"	5.4"	785lbs	70	7/32nds	62mph
18.5x8.5-8	LRC	16.5"	8.6"	7"	935lbs	50	10/32nds	62mph

Section 2 - Safety

Safety Symbol



This safety alert symbol is found throughout this manual to call your attention to instructions involving yourself and others working around the machine. Failure to follow these instructions can result in injury or death. This symbol means: **Attention! Become Alert! Your Safety is involved!**

Safety Signal Words

CAUTION: Indicates a potentially hazardous situation that may result in injury.

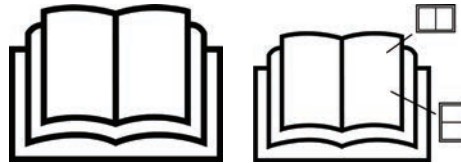
WARNING: Indicates a potentially hazardous situation that could result in serious injury or death.

DANGER: Indicates a hazardous situation that needs to be avoided. It is you the operator that needs to be aware of these dangers.

NOTE: Informative only, not hazard or safety related.

General Safety

Safety of the operator is a main concern. To avoid personal injury study the following precautions and insist those working with you or for you, follow them.



Study the features in this manual and make them a working part of your safety program. Keep in mind that this safety section is written only for the Nitro Manure Spreader.

Accumulator owners must give operating instructions to operators or employees before allowing them to operate the machine, and at least annually thereafter per OSHA (Occupational Safety and Health Administration) regulation 1928.57.

This equipment must not be operated by children, or those unfamiliar with operation of the machine.

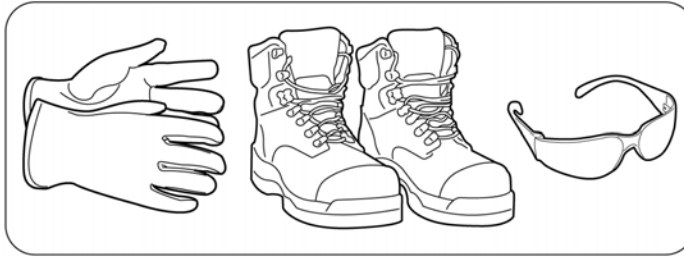
Review safety related items annually with all personnel who will operate or maintain the Nitro Manure Spreader.



WARNING: Pictures in this manual showing safety guards removed are for clarification only. Keep all shields and safety devices in place. If safety features become faulty, replace immediately. Do not operate equipment with them removed.

DANGER: Do not operate this machine while under the influence of drugs or alcohol. Consult your doctor about using this machine while taking prescription medications.

Personal Protection Equipment (PPE)



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

- Protective gloves.
- Protective shoes with slip-resistant soles.
- Protective glasses.
- Hearing protection.
- Respirator or filter mask.

Secure long hair, loose fitting clothing or jewelry.

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

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

Operation Safety

This safety section is intended to point out some of the basic safety situations that can be encountered during the normal operation and maintenance of the Accumulator Bale Packer, and to suggest possible ways of dealing with these situations. This section is **NOT** a replacement for other safety practices featured in other sections of this book.



WARNING: Only use a tractor with a ROPS cab and seat belt. Secure your seat belt before operating machine.

DANGER: Never allow riders on manure spreader. There is no safe place for any riders even for troubleshooting issues. Keep others away from your work area.

All equipment has a limit. Make sure you understand the speed, stability and load characteristics of the Accumulator.

Make sure the tractor is in proper operating condition as stated in the tractor Operator's Manual. The tractor must have enough weight and braking capacity, especially when operating on uneven terrain.

Know your tractor controls and how to stop the engine and machine quickly in an emergency.

Where possible avoid operating the Accumulator near roads, ditches, embankments or holes. Reduce speed when operating on rough, slippery, or muddy surfaces and when turning or crossing slopes, Stay off slopes too steep for proper operation.

Clear area of people, machines and obstacles before using this unit.

Close and secure all guards, deflectors and shields before starting and operating.

Never place any part of your body where it could be in danger if movement should occur during assembly, installation, operation, maintenance, repairing, unplugging or moving.

Turn machine off, stop and disable engine, remove ignition key and place in your pocket and wait for all moving parts to stop before servicing, adjusting, repairing, or unplugging.

Beware of the machine size and have enough space to allow for operation.

Do NOT use attachments unless attachments are approved optional equipment.

Do not exceed a safe traveling speed when transporting.

Always use extra caution when turning around corners or in tight areas.

If elderly people assist with work, their physical limitations need to be recognized and accommodated.

Use only in daylight or good artificial light.

Tire Safety

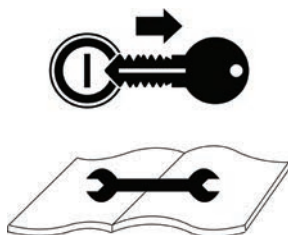


DANGER: Failure to follow proper mounting procedures when mounting a tire on a wheel or rim can produce an explosion which may result in serious injury or death.

- 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.
- When replacing worn tires, make sure they meet the original tire specifications.

NOTE: Proper tire pressure and maximum load details can be found in [Tire Load Ratings, pg.1-3](#).

Maintenance Safety



1. Good maintenance is your responsibility. Poor maintenance is an invitation for trouble.
2. Follow good shop practices.
 - Keep service area clean and dry.
 - Use adequate light for the job at hand.
3. Never work under equipment unless it is blocked securely.
4. Always use personal protection devices such as hand, eye and hearing protectors, when performing any service or maintenance work.
5. Where replacement parts are necessary for periodic maintenance and servicing, genuine factory replacement parts must be used to restore your equipment to original specifications. The

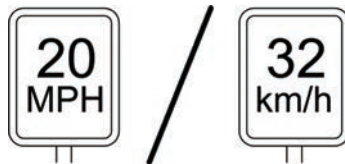
manufacturer will not be responsible for injuries or damages caused by the use of unapproved parts and/or accessories.

6. A fire extinguisher and first aid kit should be kept readily accessible while performing maintenance on this equipment.
7. Do not weld on or near rotating parts. Welding close to rotating parts may cause warping thus creating high stress loads for moving or rotating parts.
8. Do not weld on wheels. Welding on wheels may cause high stress and wheel failure.
9. Do not weld on wheels with a mounted tire, Welding on wheels with a mounted tire may cause tire to burst, causing serious injury or death.
10. Periodically tighten all bolts, nuts, and screws and check that all electrical connections are properly secured to ensure unit is in a safe condition.
11. When completing maintenance or service function, make sure all safety shields and devices are installed before placing unit in service.

Transport Safety



1. Transport the Tube-line Accumulator with an SMV (Slow Moving Vehicle) sign, displayed at the rear of the Accumulator and use your hazard lights if the law permits. Check local road laws before transporting.
2. When transporting the Accumulator on the road be aware of the width, and length of the machine.
3. Do not transport the machine, at night, at dawn, or at dusk.



4. Do not exceed 32kph (20mph) during transport.

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 displayed in Safety Sign Locations each have a significant purpose and need to be cleaned or replaced when necessary.
5. Safety signs are available from your authorized distributor or dealer parts department or from the manufacturer.

Safety Sign Locations

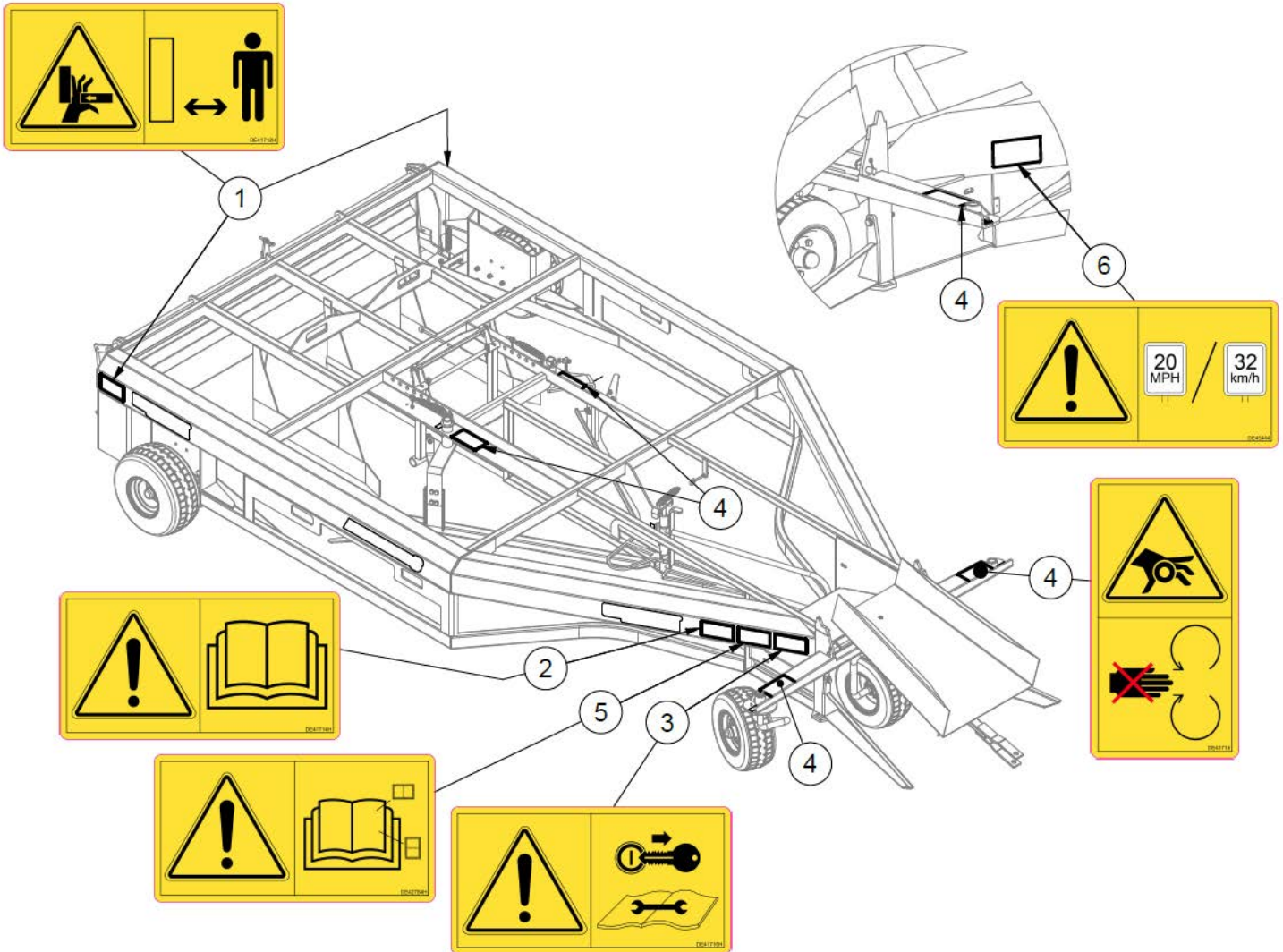
The types of safety signs and locations on the equipment are shown in the illustrations that follow. Good safety requires that you familiarize yourself with the various safety signs, the types of warning, and the area, or proper function related to that area, that requires your safety awareness.

NOTE: Examples only - Actual decals may differ in text and graphic representation.

REMEMBER

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

ISO Safety Decal Locations



ITEM	QTY	PART NUMBER	DESCRIPTION
1	2	DE41712H	ISO Decal - Hand Pinch Point Horizontal (168mm x 88mm)
2	1	DE41714H	ISO Decal - Read OM Horizontal (168mm x 88mm)
3	1	DE41715H	ISO Decal - Remove Key Before Repair Horizontal (168mm x 88mm)
4	4	DE41716	ISO Decal - Shaft Entanglement (88mm x 168mm)
5	1	DE42784H	ISO Decal - Read OM Decal Section Horizontal (168mm x 88mm)
6	1	DE45444	20mph Speed Limit Decal

ISO Safety Decals

Item 1: DE41712H

Stand clear of endgate to avoid pinching hazard.



Item 5: DE42784H

Read Operator's manual decal section to understand safety decals.



Item 2: DE41714H

Read and understand owners manual before operating this equipment..



Item 6: DE42784H

Do not exceed 20mph (32km/h) when towing this equipment.



Item 3: DE4171H

Read and understand owners manual before operating this equipment..



Item 7: DECANADA

Manufacturer's country of origin.



Item 4: DE42784H

Avoid pinch or entanglement by allowing moving parts to fully stop.



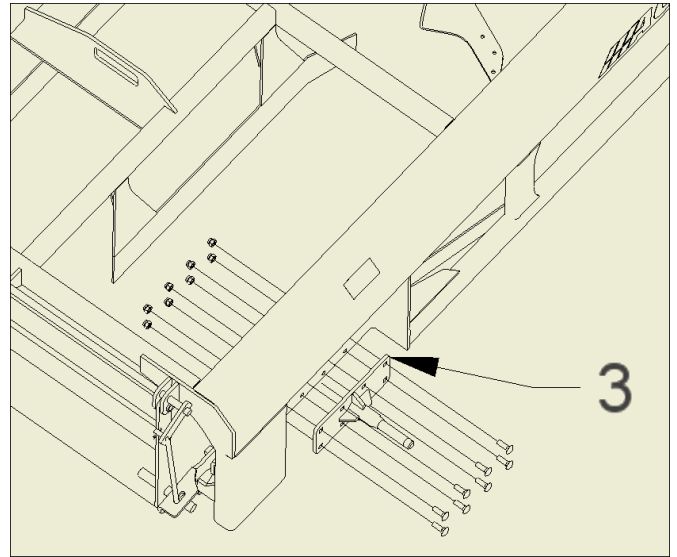
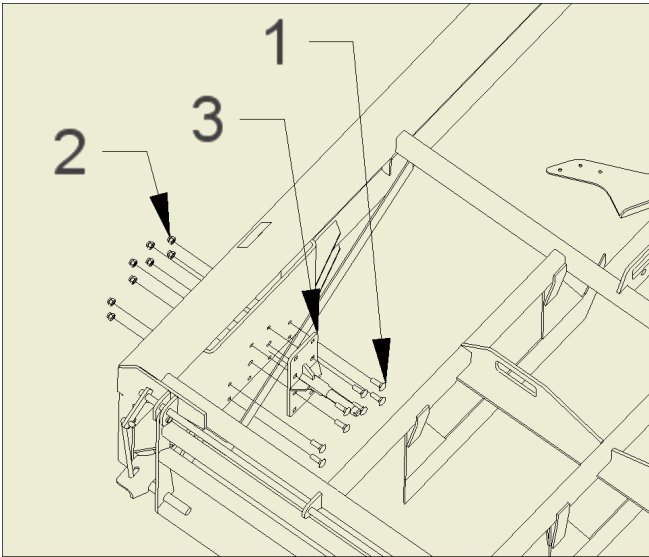
Section 3 - Adjustments

Initial Setup

Assembly is required when receive the Accumulator. You will need to assemble the rear wheels, cables, and you will need to setup your accumulator to be either towed behind a baler or behind a truck or ATV.

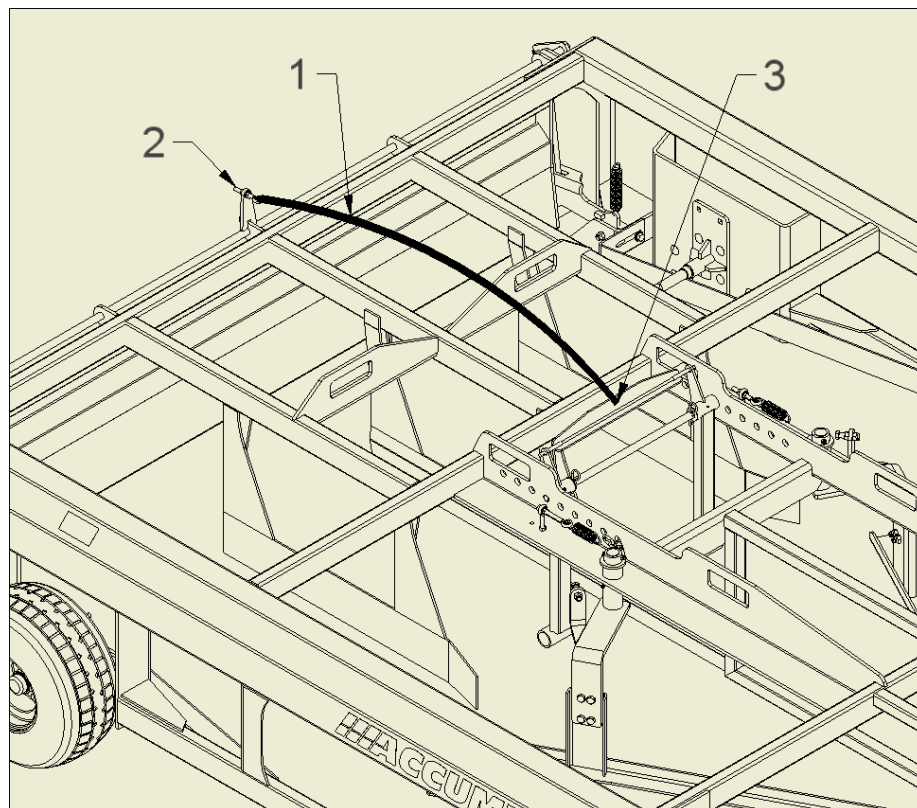
Initial Setup - Rear Wheels

- Loosen and take out ½-13 carriage bolts (1), and ½-13 lock nut (2), and remove wheel assembly.
- Replace wheel assembly (3), on opposite side, and retighten.



Initial Setup - Cables

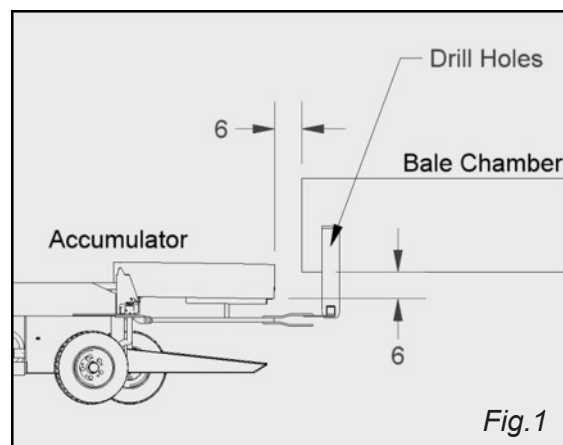
Attach the cable (1), to the rear gate (2), and to the rear gate trip (3).



Optional Baler Hitch Attachment

NOTE: This procedure is for balers that do not have a hitch.

1. Position bale chute 6" back and 6" down from the baler's chamber, as shown in [Fig.1](#).
2. Drill two 1/2" holes through both sides of baler chamber and baler hitch assembly, [pg.7-13](#).
3. Secure with 1/2"-13 bolts, and 1/2"-13 lock nuts.



10 & 12 Bale Kit Installation

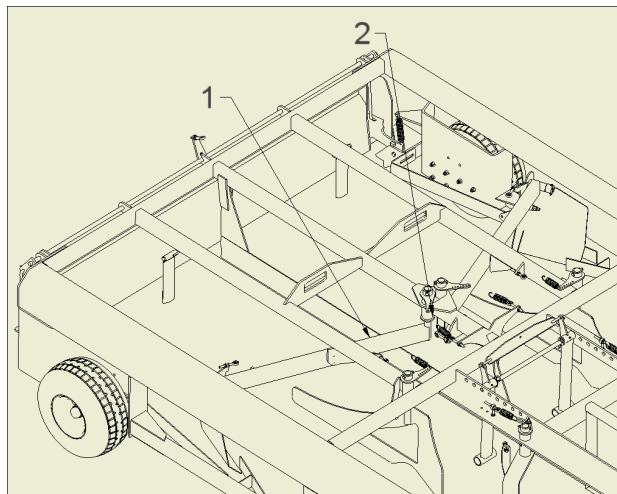
The Tube-line Accumulator+ has the ability to accumulate 10 or 12 bale packs depending on which kit you have installed.

10 Bale Kit Installation

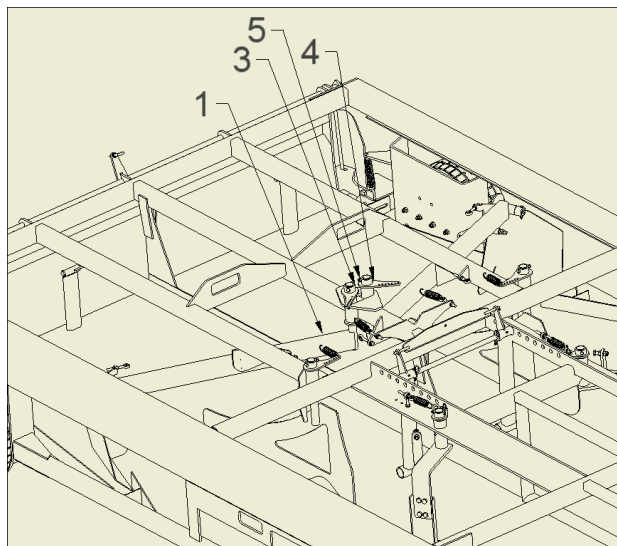
NOTE: Installing a 10 bale kit will only work if you have an Accumul8+, it will not work if you have an Accumul8.

NOTE: Setup assumes no kit has been installed.

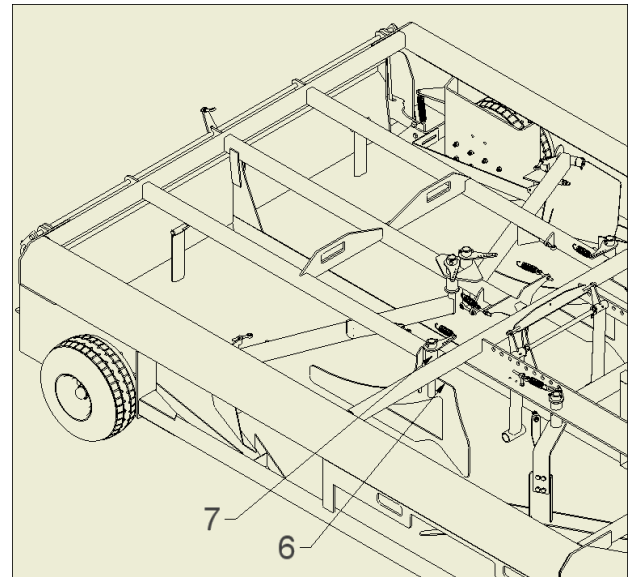
1. Insert the 10 bale swing arms (1) into the holes indicated (2).



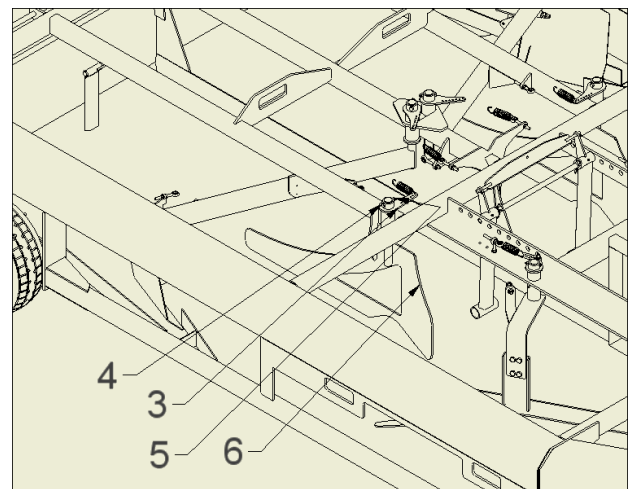
2. Retain the 10 bale swing arms (1), with spring handle (3) and secure with 3/8-16 bolt (4) and 3/8-16 lock nut (5).



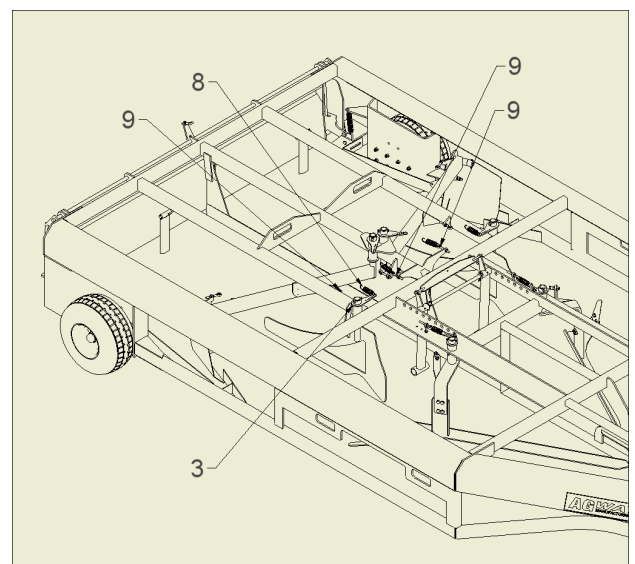
3. Insert side guide (6), in hole location (7).



4. Retain side guide (6), with spring handle (3), and secure with 3/8-16 bolt (4), and 3/8-16 nut (5).



5. Connect 7 1/2" spring (8), into eyebolt (9), and spring handle (3), at four locations.

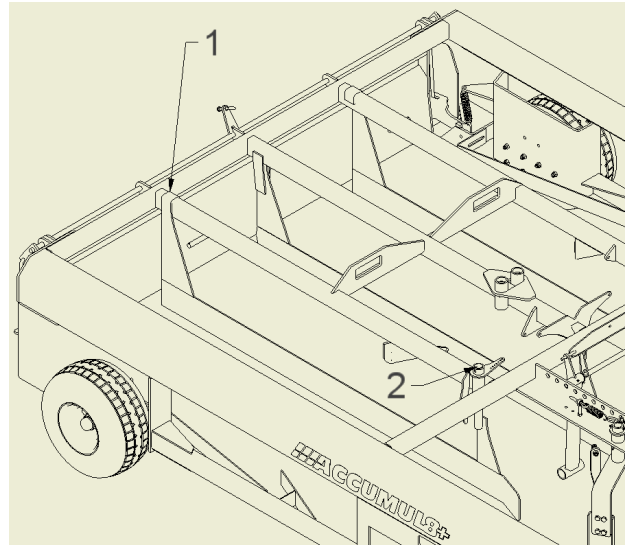


12 Bale Kit Installation

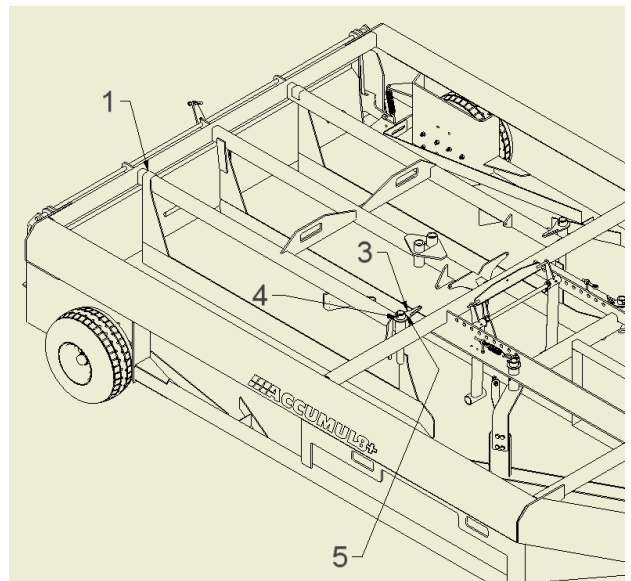
NOTE: Installing a 12 bale kit will only work if you have an Accumul8+, it will not work if you have an Accumul8.

NOTE: Setup assumes no kit has been installed.

1. Insert bale guide **(1)**, into location **(2)**, on the Accumulator.



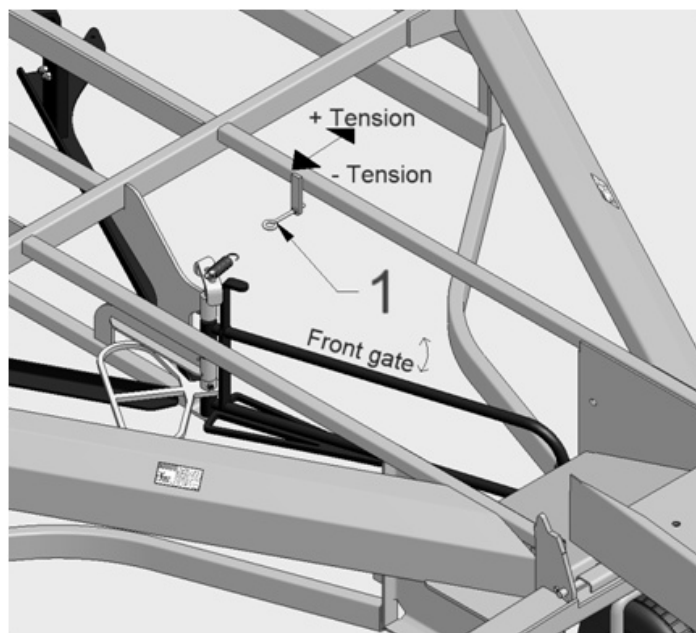
2. Retain bale guide **(1)**, with spring handle **(3)** and secure with 3/8-16 bolt **(4)** and 3/8-16 lock nut **(5)**.



Bale Gate Adjustment

The front gate divides the bales after they come into the chute, adjust the tension eyebolt (1), to set the front gate tension, or it's responsiveness.

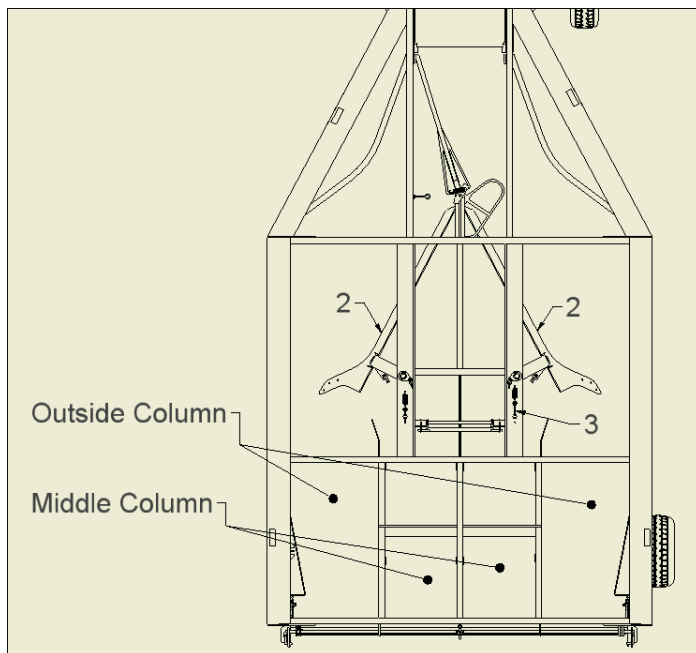
NOTE: Adjusting the tension to high will cause the bales to jam, adjusting the tension too loose then the gate will not swing over before the next bale.



Bale Guide Arms Adjustment

The bale guide arms (2), allow the Tube-line Accumulator to divide the bales in between the center columns, and the outside columns. Adjust the tension eyebolts (3), for more or less tension.

NOTE: Too much tension and the bales will get hung up, not enough and the arms will not travel back in the closed position.

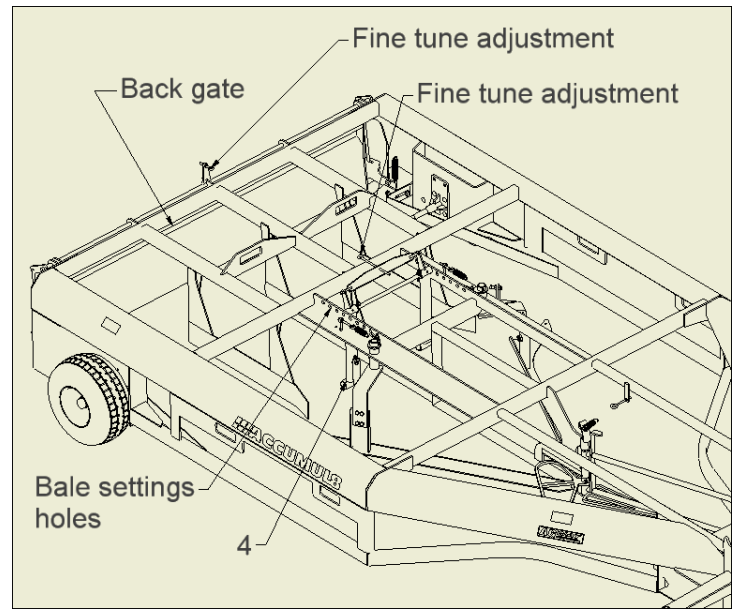


Endgate Trip Adjustment

The bale trip arms have two settings, the holes on the side and the threaded rod on top. The holes on the side are used for different bale lengths, and the threaded rod is used for fine tune adjustment.

NOTE: Setting the trip arms too far ahead on the Accumulator and the bale will trip too soon, and you will not get a tight pack, too far back and it won't trip the back gate at all.

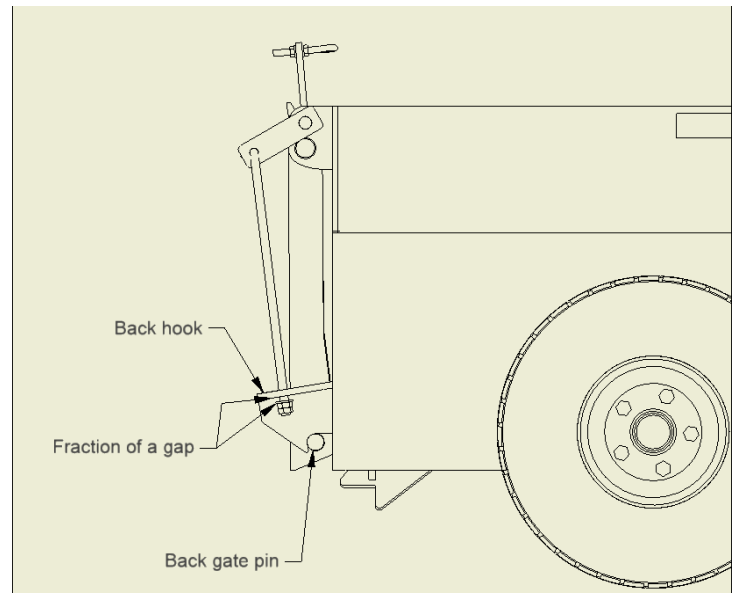
NOTE: Use the threaded rod the fine tune adjust when the endgate opens, not enough tension and the endgate won't open, too much and it will trip too soon, and you won't have a tight pack.



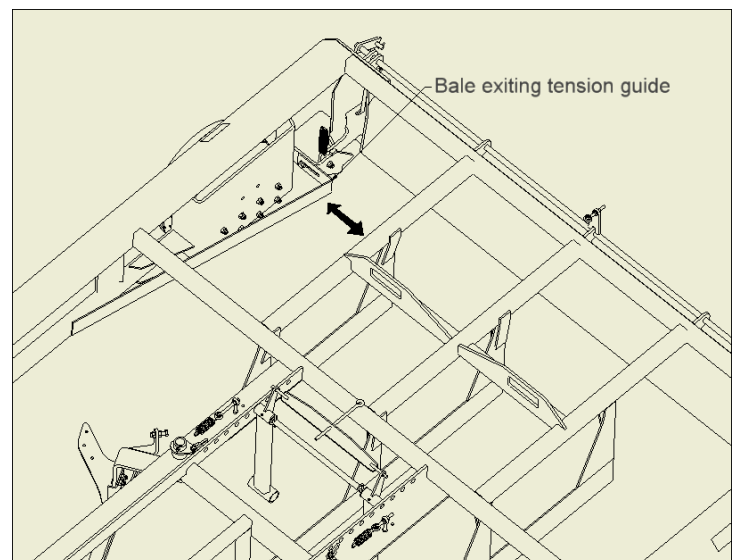
Endgate Adjustment

The endgate latches, release the endgate, to allow the bales to exit the Tube-line Accumulator.

NOTE: The two jam nut should be set so that the hooks are resting on the gate a 1/32".



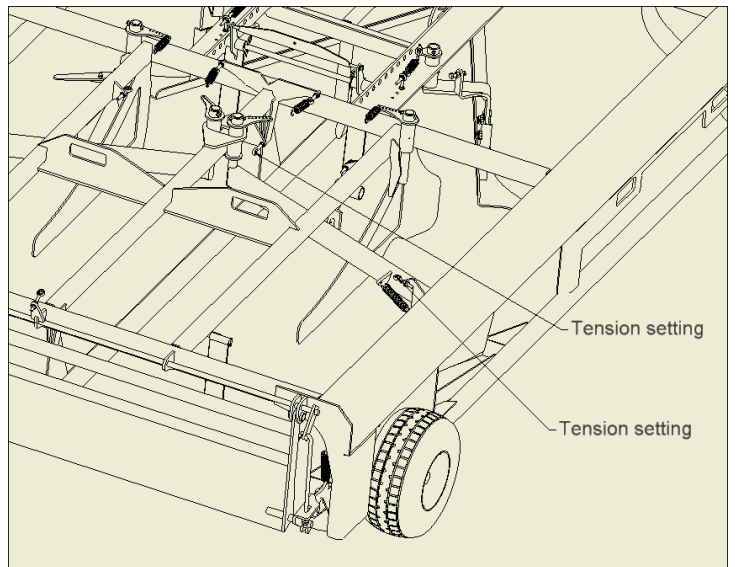
The bale exiting tension can be set to encourage a tighter pack.



AC1000 Bale Swing Arms Adjustment

The swing arms rotate the first two bales a quarter turn before letting them rest against the back gate. Place the spring into one of the holes to set the tension of the arms.

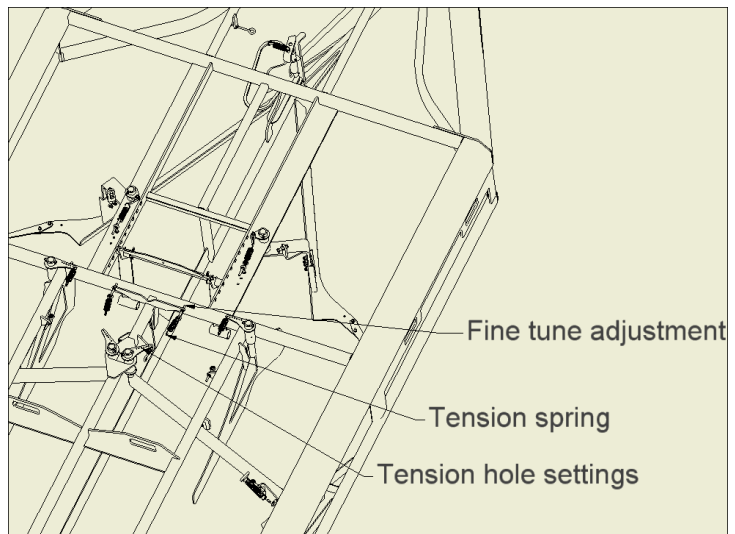
NOTE: With too much tension the incoming bale will not be able to push the arm back, not enough and the arms will not travel back to its home position.



AC1000 Spring Latch Adjustment

The spring latch setting, sets when the bale will be released from the swing arms.

NOTE: Too much tension and the bale will not have fully rotated before it is released, not enough and the bale might not be released at all.

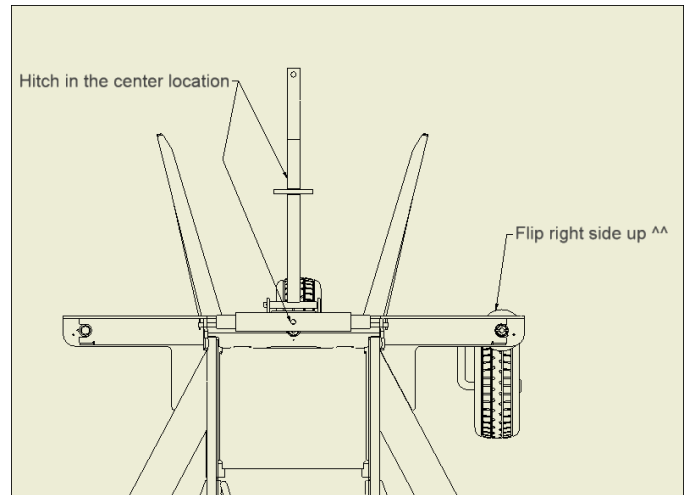


Section 4 - Transportation

See [Transport Safety, pg.2-4](#) before attempting any transportation.

Pre-Transport

1. Make sure the hitch is in the center location of the accumulator and not on the outside positions.
2. Make sure the outside dolly wheel is flipped right side up.
3. Do a complete walk around and visual check to be sure there are no loose parts or components.
4. Check the hitch pins periodically to make sure they are secure.



Baler Hookup

Reverse the baler to the Tube-line Accumulator or pull the Accumulator to the back hitch of the baler and insert hitch pin through the baler and the Accumulator.

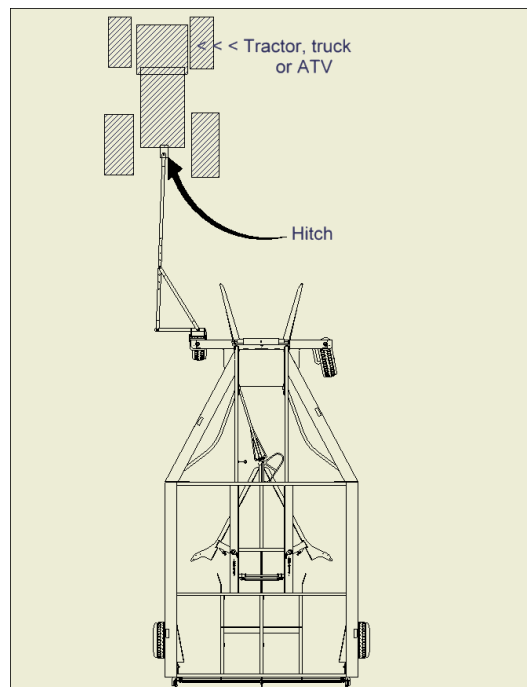
NOTE: Some balers do not have a hook up on the back of the baler, if this is the case, attach the baler hitch assembly, shown on [pg.3-2](#).

Truck / ATV Hookup

NOTE: To tow the Accumulator behind an ATV or truck you must have the Accumulator setup in the offset hitch mode see [pg.4-2,3](#).

Reverse your ATV, or truck to the Accumulator, and secure with a hitch pin.

The offset hitch is used when the Accumulator is being pulled behind an ATV or truck. Below you will find an outline of its functions.



Offset Hitch

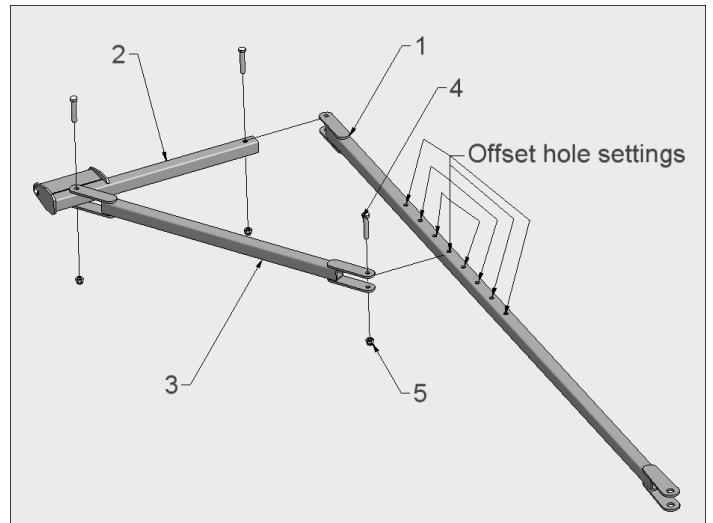
The offset hitch is used when the Accumulator is being pulled behind an ATV or truck. Below you will find an outline of its functions.

The offset hitch consists of 3 main components

1. Hitch tube assembly
2. Hitch offset assembly
3. Hitch tube brace

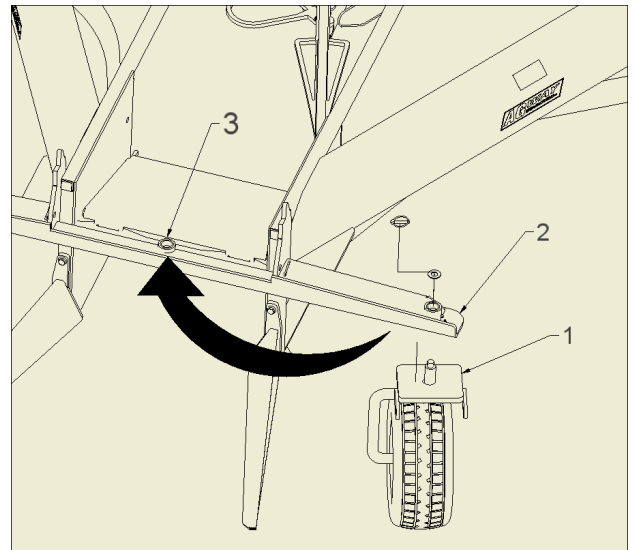
The offset hitch gives the operator the ability to set the distance, or offset the Accumulator to the right, or to the left.

Loosen $\frac{1}{2}$ -13 bolt (4), and nut (5), and set hitch tube brace (3), in desired hole location on the hitch tube (1), and reinsert bolt (4), and nut (5).

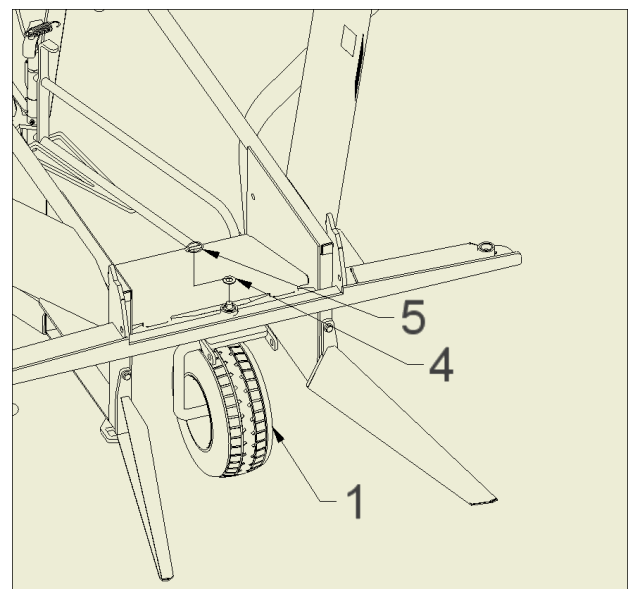


Towing with Baler

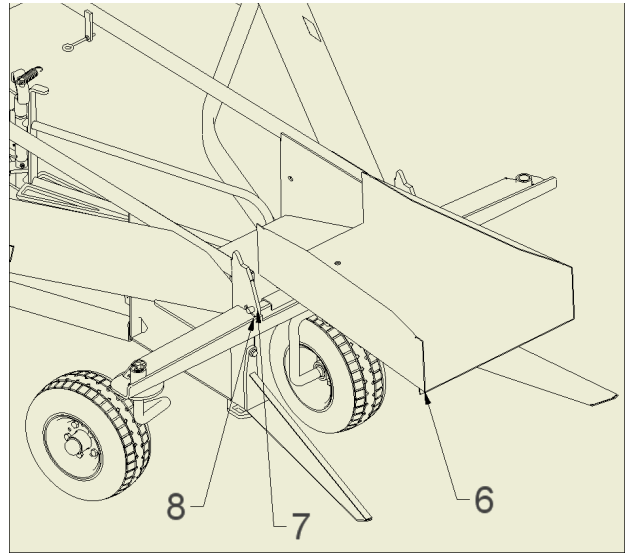
1. Remove center dolly (1), from outer dolly position (2), and insert into center dolly position (3).



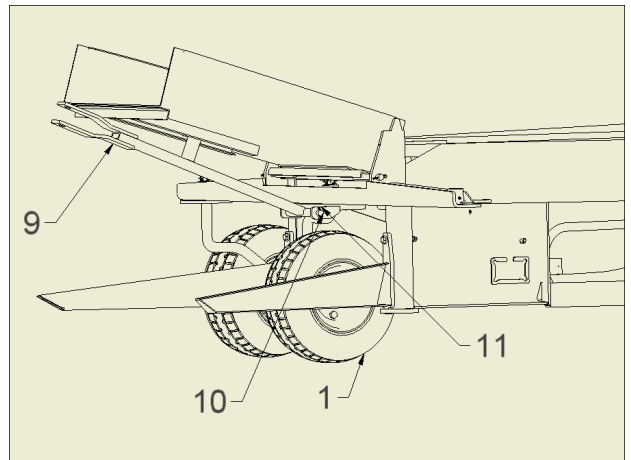
2. Secure center dolly (1), with $\frac{3}{4}$ " washer (4), and lynch pin (5).



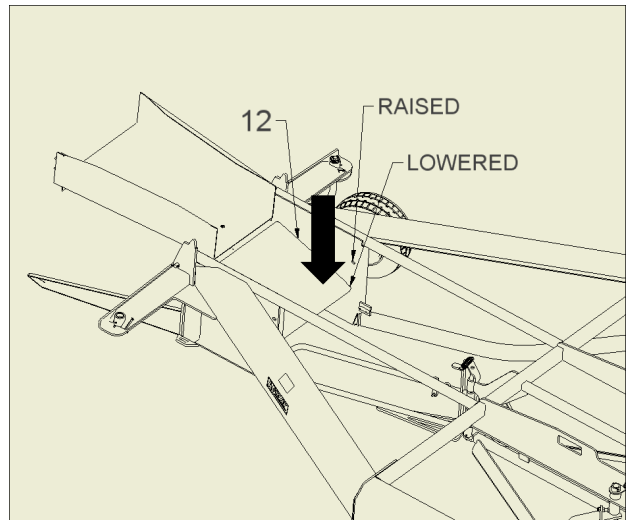
3. Attach bale chute (6), into Accumulator holes (7), and secure with 3/16" cotter pins (8).



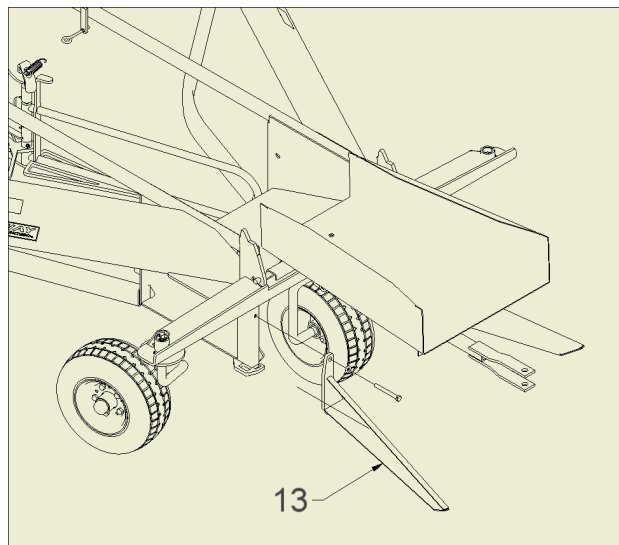
4. Attach hitch (9), to center dolly (1), with hitch pin (10), and secure with 3/16" cotter pin (11).



5. Set bale slide (12), in it's lowered position on the Accumulator.

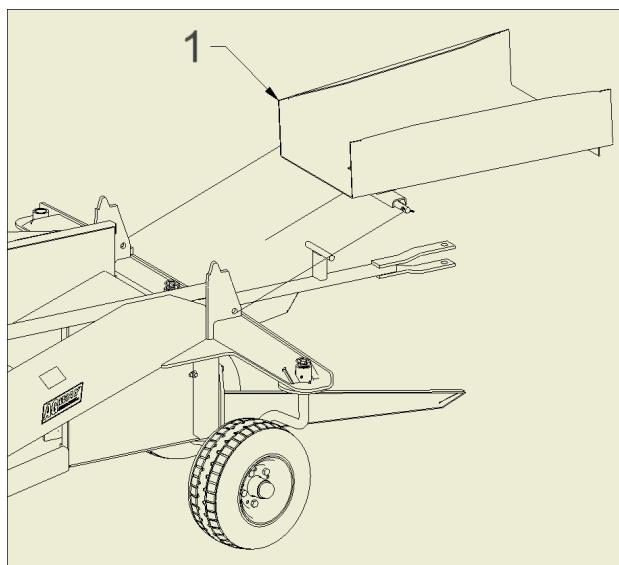


6. Remove flares (13).

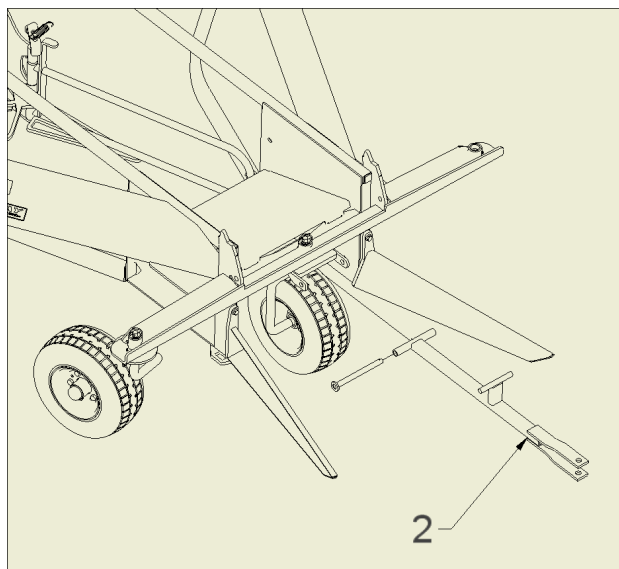


Towing with Truck / ATV

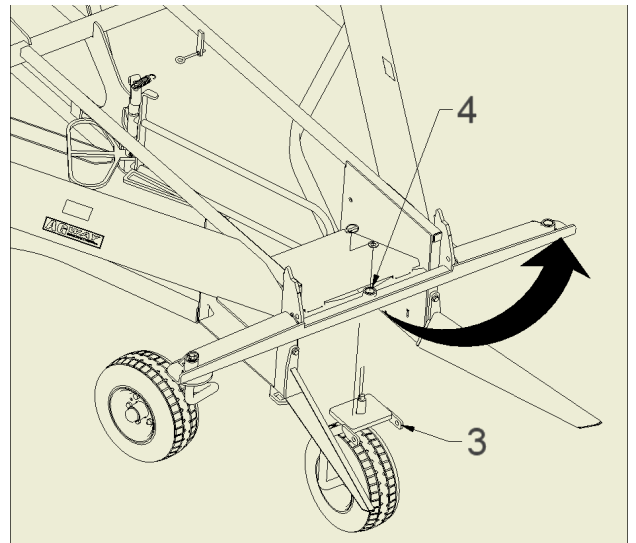
1. Remove shute (1).



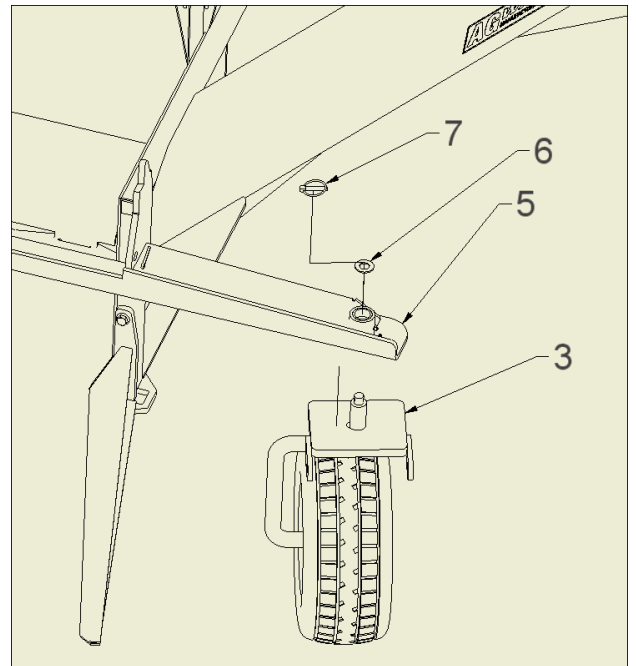
2. Remove hitch (2).



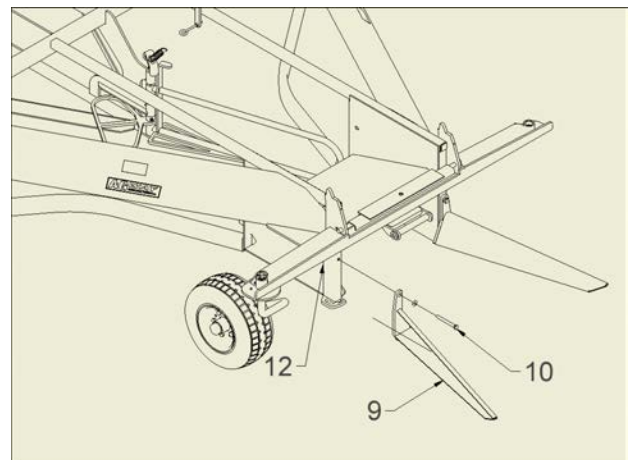
3. Remove center dolly (3), from center position (4).



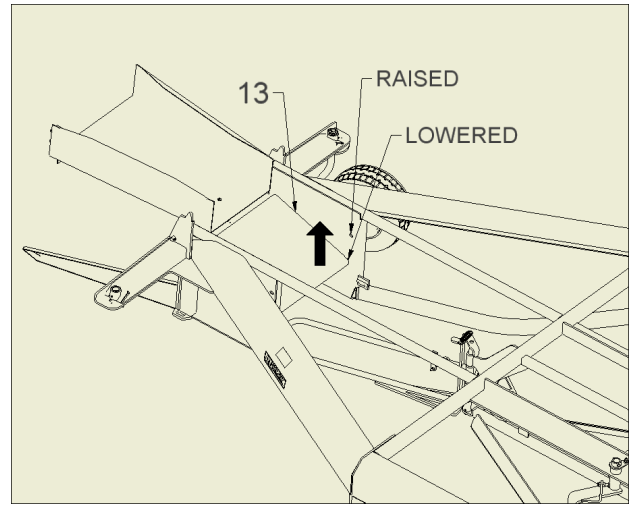
4. Insert center dolly (3), into outer dolly position (5), and contain with washer (6), and lynch pin (7).



5. Insert flare (9), into slot and secure with bolt (10), and lock nut (12).



6. Set bale slide **(13)**, to it's raised position.

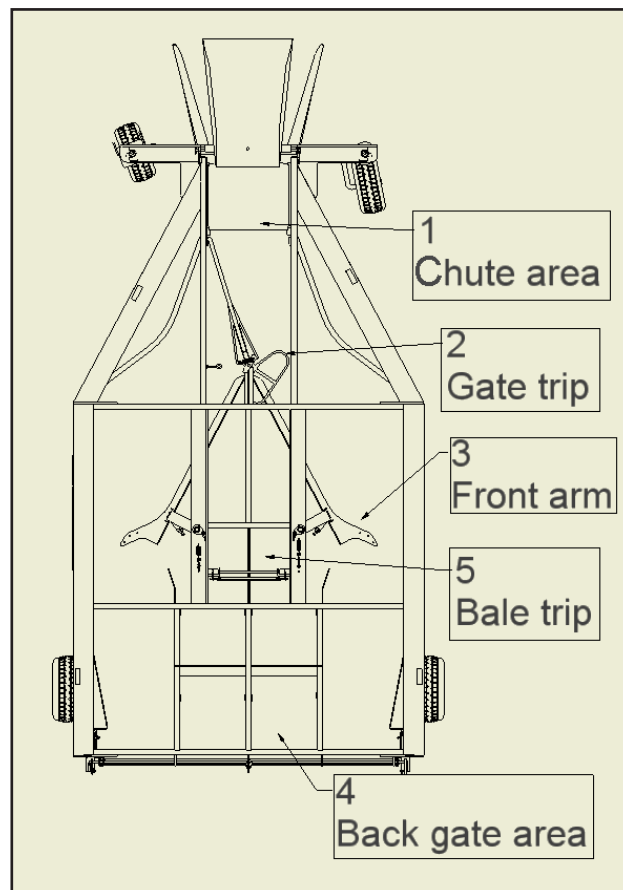
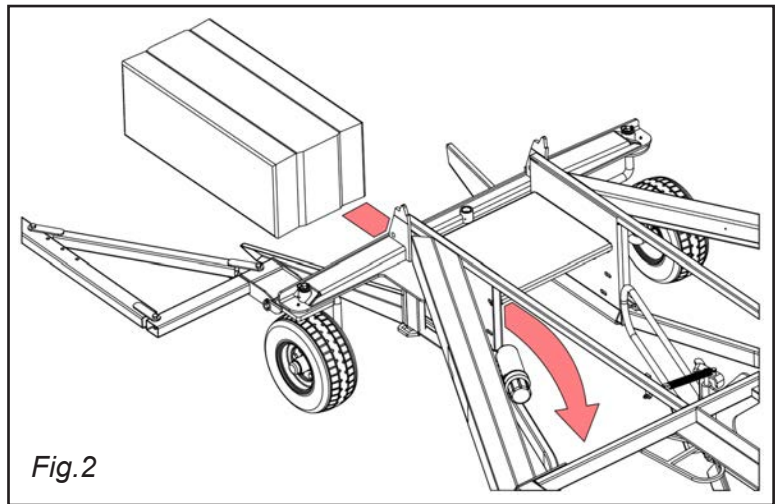
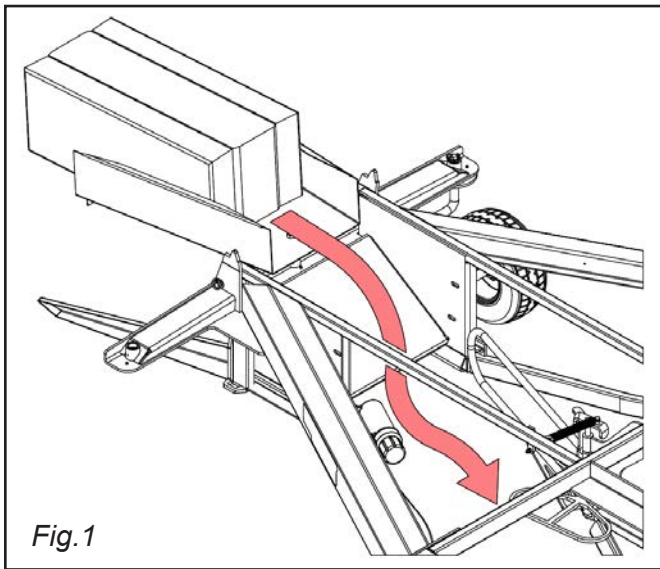


Section 5 - Operation

The Accumulator is a mechanically run machine and does not use any hydraulics. The Accumulator has a series of gates, arms and trips which are activated by the passing bales entering into the Accumulator which cause it to function.

Gathering Bales

Before collecting bales with the Accumulator, a method of gathering must be chosen. Fig.1 shows how bales are guided when collecting bales straight off a baler. Fig.2 shows the offset hitch configuration used for in-field pickup. See [Offset Hitch](#) and [Baler Hookup](#) for setup.

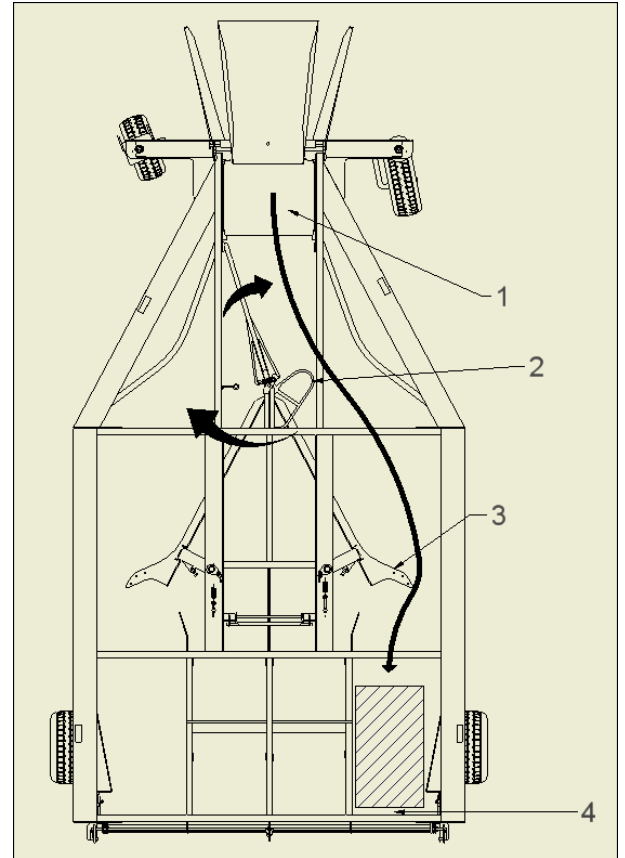


AC800 & AC1200 Operating Sequence

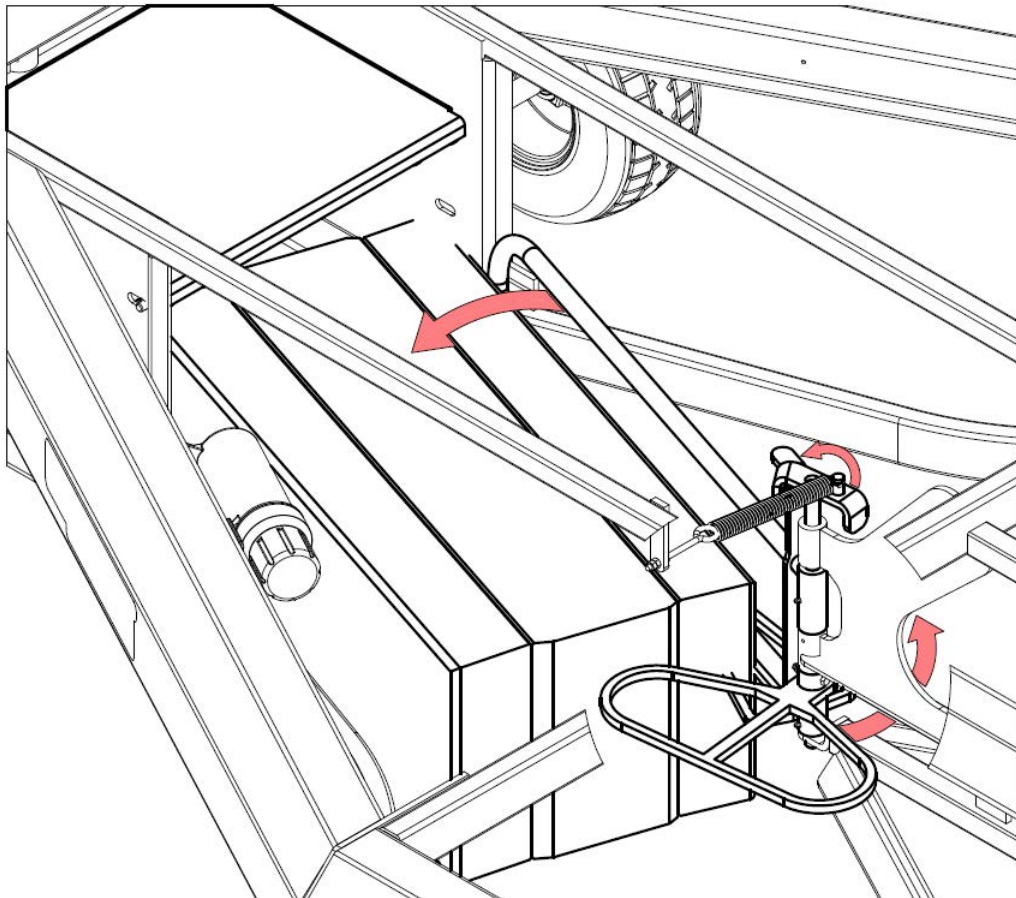
The following is a basic rundown on the function of the Tube-line Accumulator.

NOTE: The illustrations are of the 8 bale Accumulator. The 12 bale Accumulator follows the same pattern with an additional third row. 10 bale Accumulators rotate the first two bales to allow bale packs to be stacked without fear of tipping over due to same pattern with each layer. See [AC1000 Operation, pg.5-6](#).

1. Bale number 1 enters the Accumulator in the chute area (1), and proceeds past the front gate, and trips the gate trip in area (2), causing the front gate to close behind it. The bale then than proceeds, past the front arm area (3), and stops against the back gate in area (4).



Below illustration shows how front bale gate is tripped.



2. Bale number 2 follows the same procedure as bale number 1 except on the opposite side.

3. Bale number 3 follows the same procedure as bale number 1 but continues to trip the front arm in area (3).

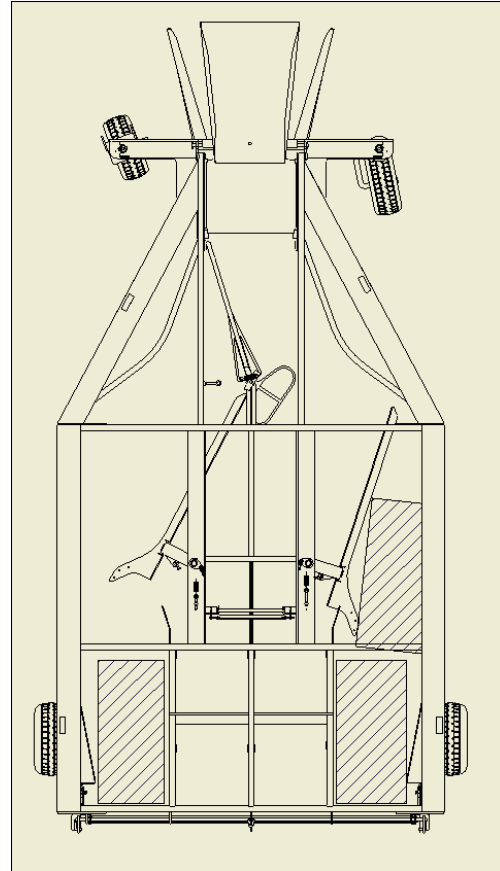
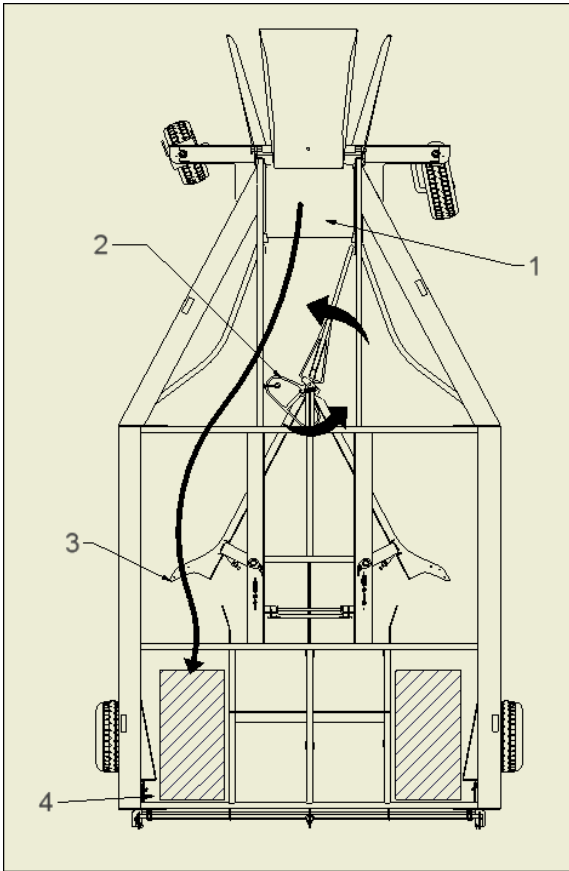
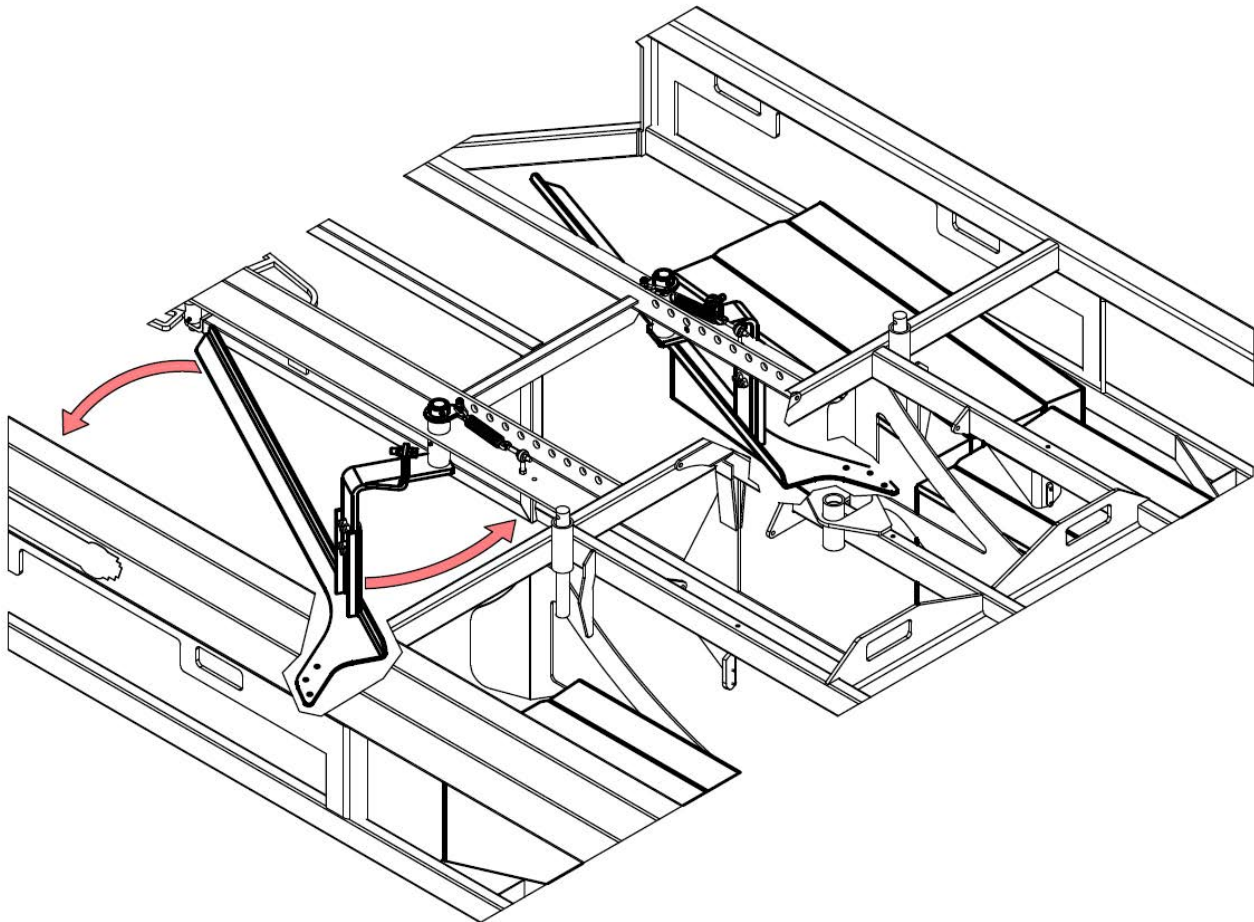
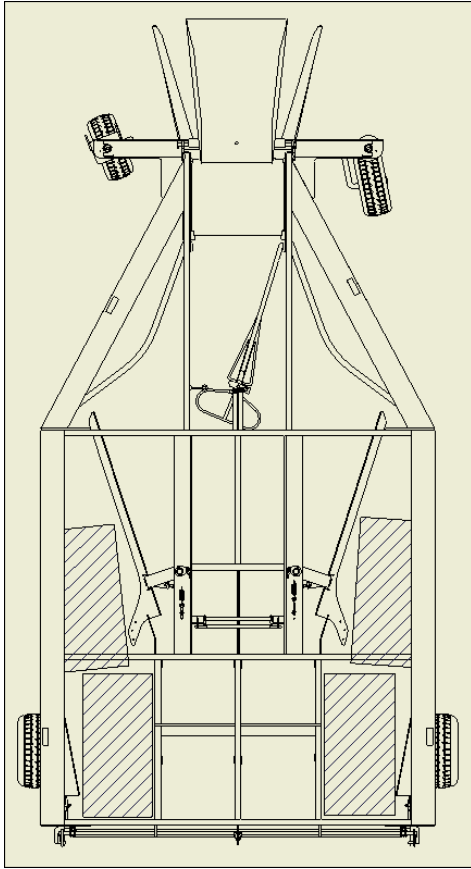


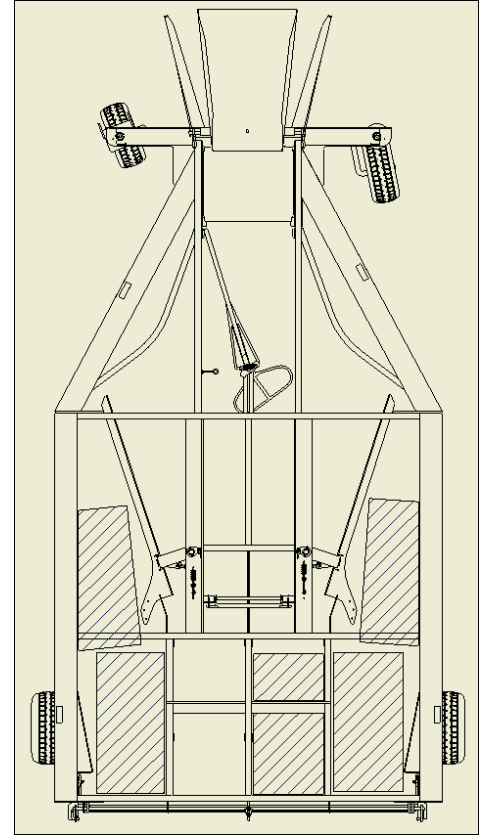
Illustration below shows how front bale guides are tripped by bales 3 & 4.



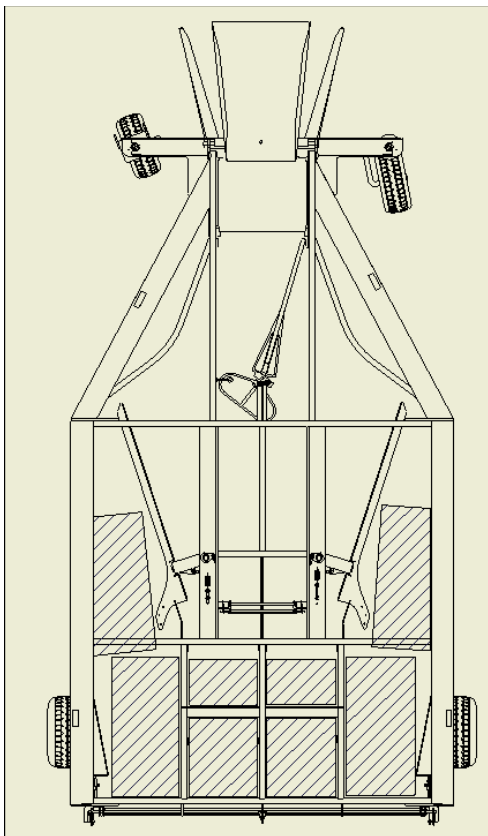
4. Bale number 4 follows the same the same procedure as bale number 3 but on the opposite side.



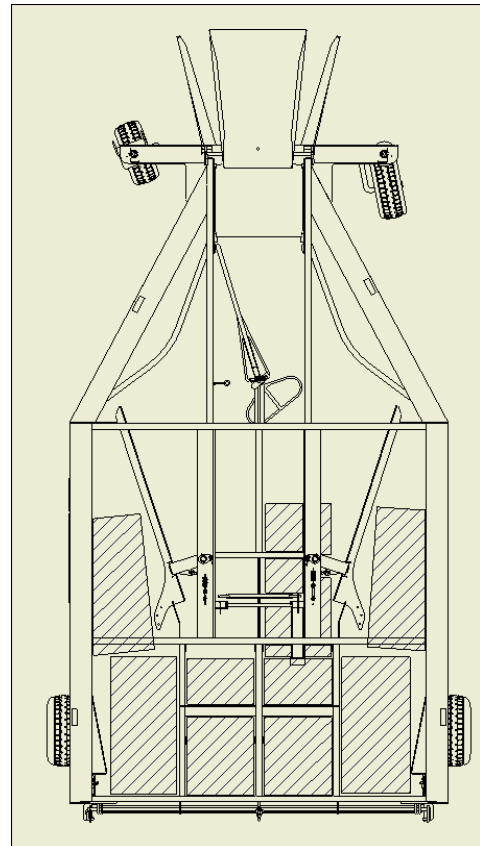
5. Bale number 5 follows the same procedure as bale 3 but follows through the middle of portion of the Accumul8 because of the tripped front arms caused by bales 3 and 4.



6. Bale number 6 follows the same procedure as bale 5 except on the other side.



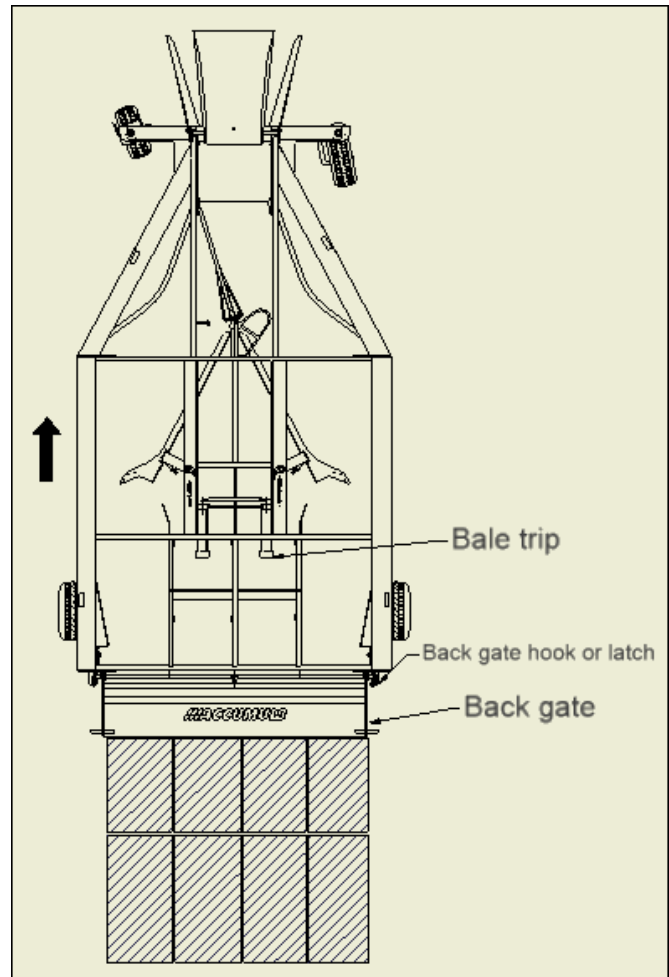
7. Bale number 7 follows the same procedure as bale 5.



AC800 & AC1200 Bale Discharge

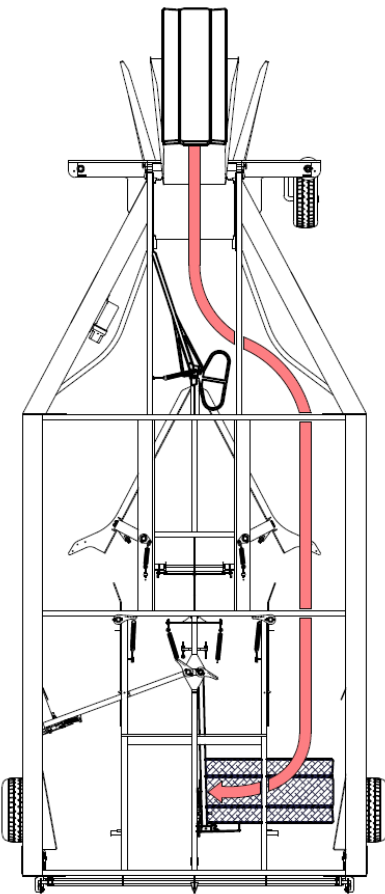
The last bale, 8, follows same procedure as bale 6 but trips bale trip lever in area (5) which releases bales out rear gate as Accumulator is pulled forwards.

See [pg.5-9](#) for further illustrations and procedures, taking note that the 8 and 12 bale Accumulators do not utilize the swing arm system as the AC1000 does.



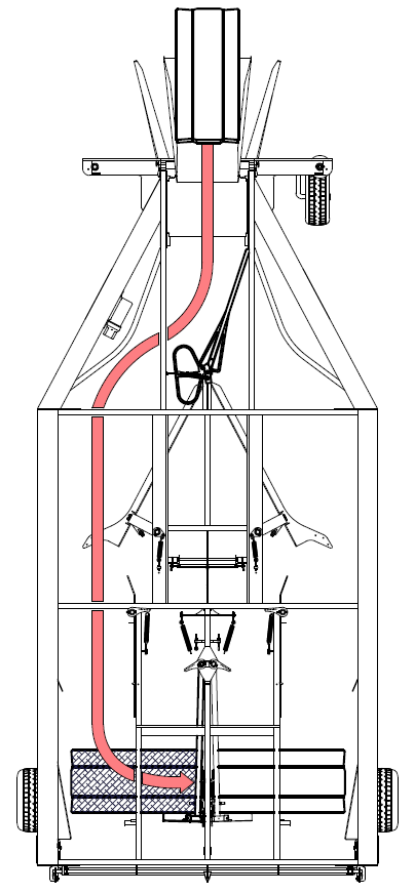
AC1000 Operation

Bale 1



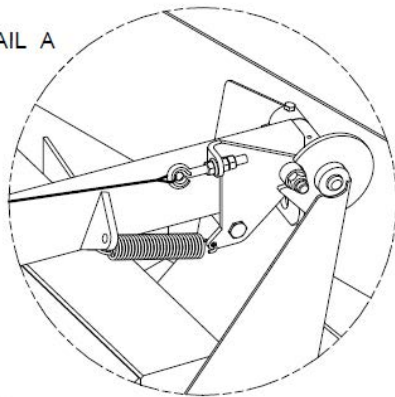
1. First bale enters the bale chute and travels down bale slide. It then passes the bale gate, flipping the bale trip which in turn pivots the bale gate to the other side. The bale is guided to the rear outside column and rotated 90° by the swing arm. It stops parallel to the endgate.
2. The second bale follows the same path as bale 1 but on the opposite side. It will end up in line with bale 1, parallel to the endgate.

Bale 2

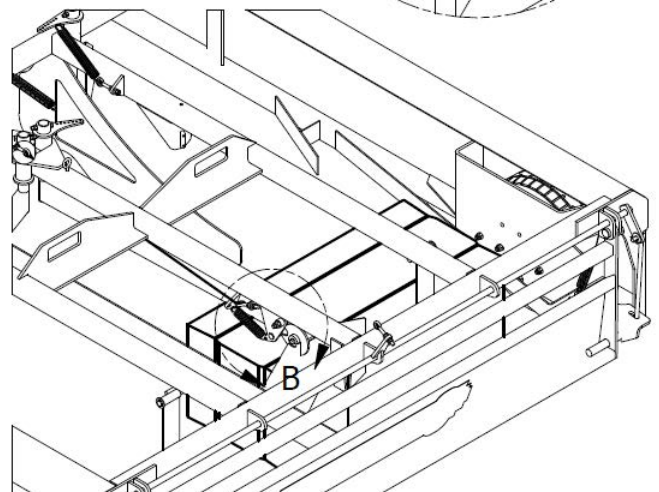
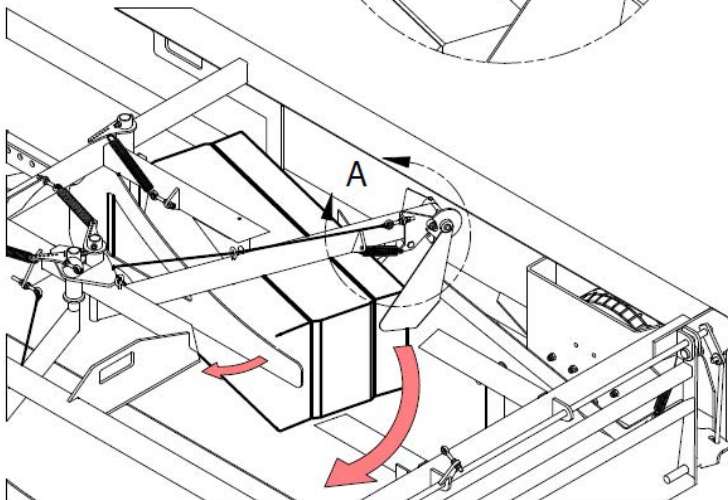
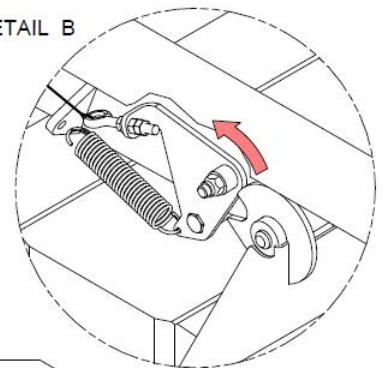


Illustrations below show how the swing arms rotate bales parallel to the endgate. Note the cables unlock the bale catches when they are activated allowing the catches to swing when the bale pack is released. When the bale pack clears the endgate the swing arms return to their home position and bale catches relock.

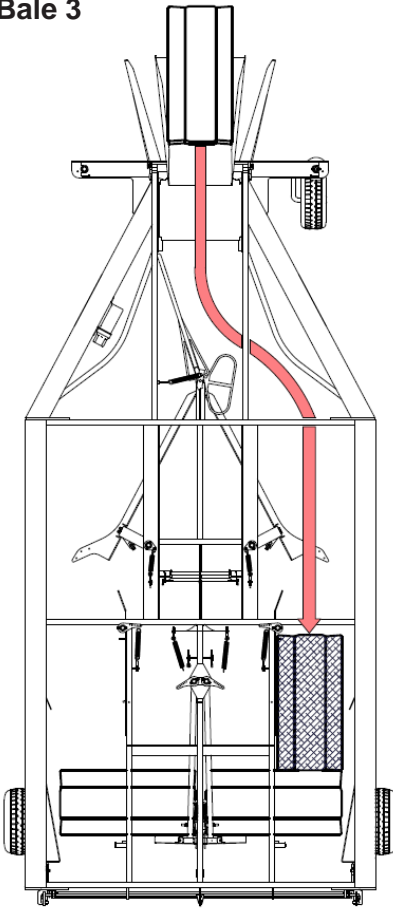
DETAIL A



DETAIL B

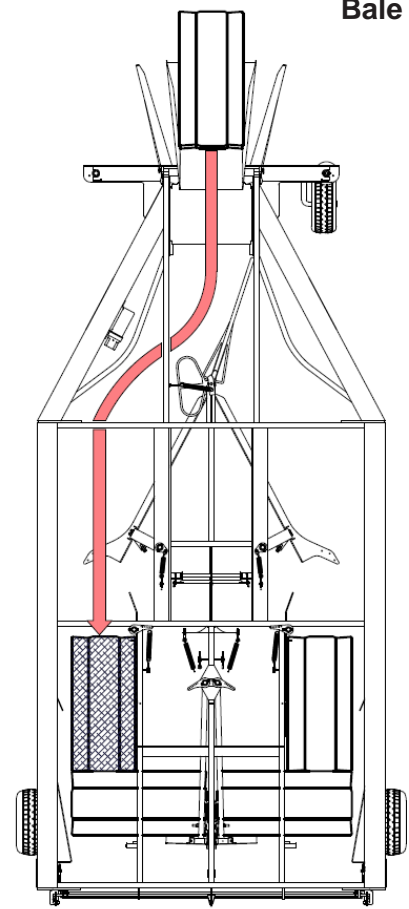


Bale 3

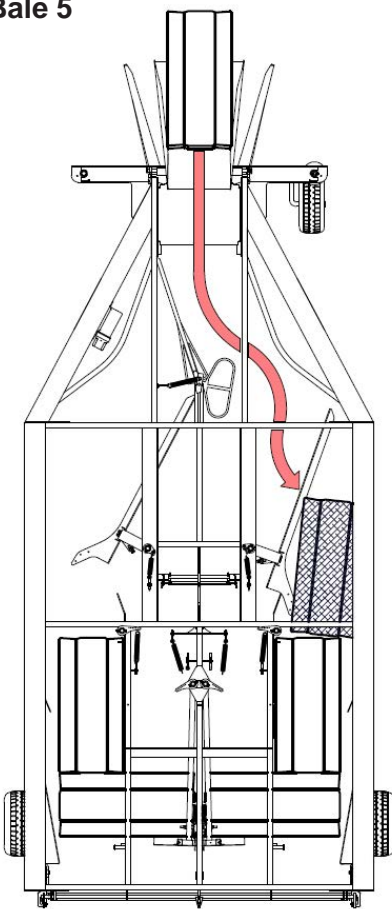


3. The third and fourth bales follow the same paths as bales 1 and 2 but do not get rotated. They stay in line with the frame sides and end with short ends against the first two bales.

Bale 4

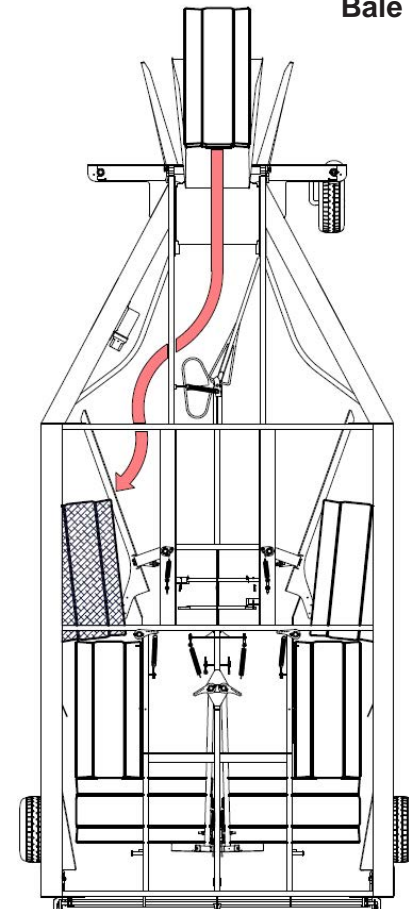


Bale 5

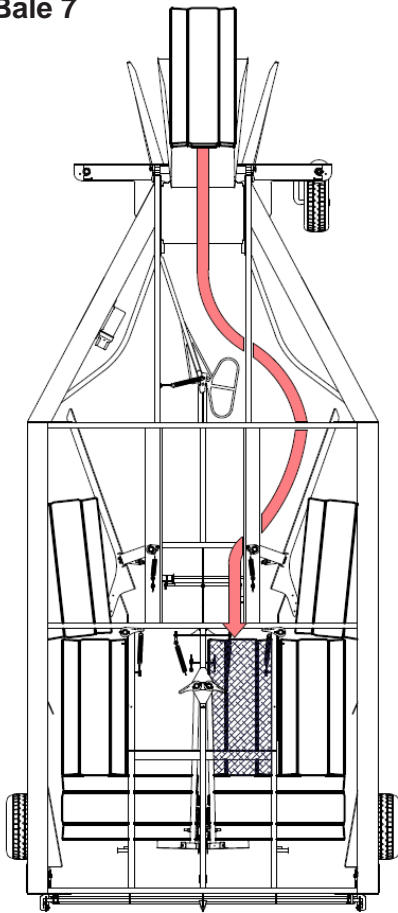


4. The fifth and sixth bales also follow the routes of bales 3 and 4. They additionally trigger the front bale guides to flip towards sides of frames, allowing bales 7 to 10 to enter the middle columns.

Bale 6

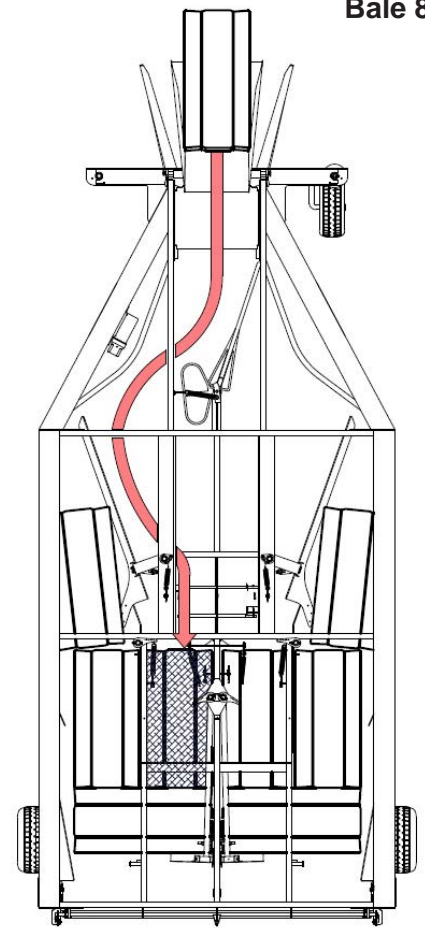


Bale 7

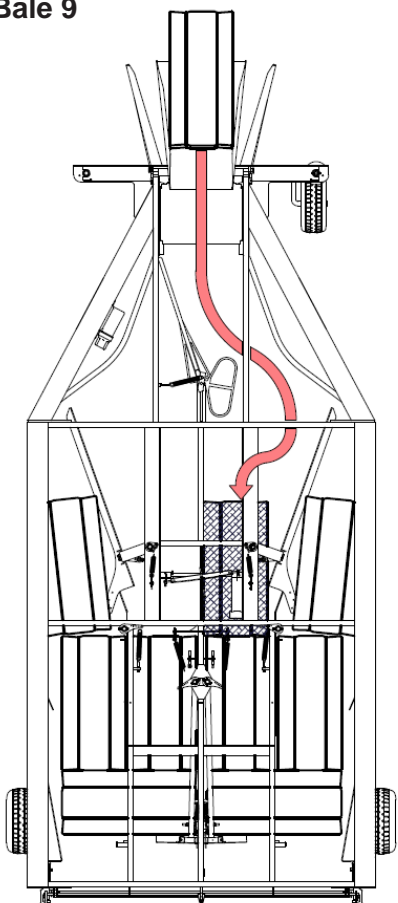


5. Bales seven and eight travel past the bale gate on alternating sides and are guided to middle columns, ending like bales 3 and 4.

Bale 8



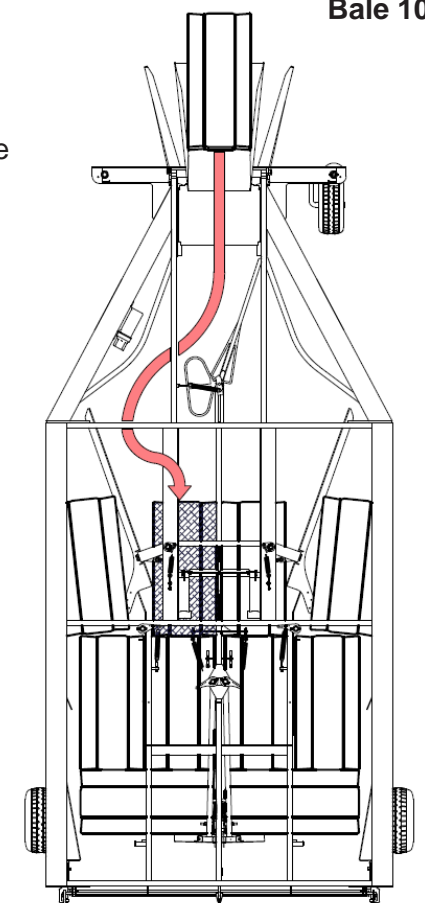
Bale 9



6. Bales nine and ten follow the paths of bales 7 and 8. They will end against the front ends of bales 7 and 8. As they enter the middle columns they will each trigger an endgate trip. The endgate will not raise and release bale pack until both endgate trips are fully activated.

NOTE: If endgate does not trip the cable will need to be adjusted.

Bale 10



AC1000 Bale Discharge

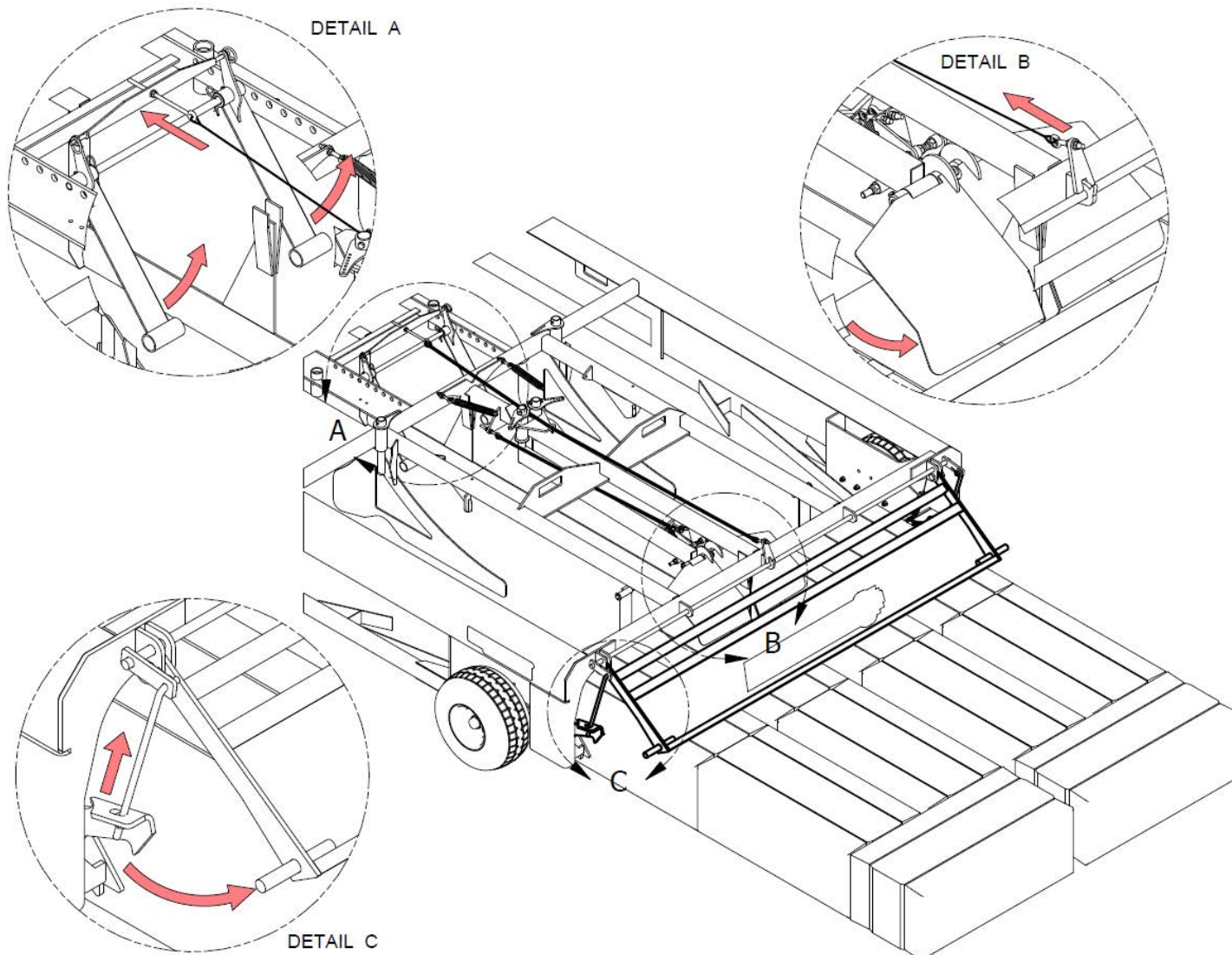
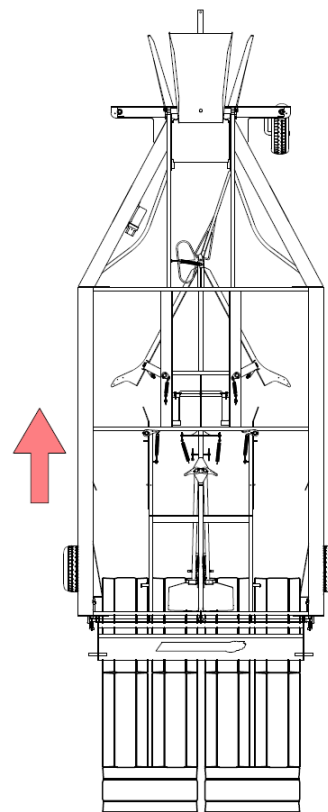
The last bale, 10, follows same procedure as bale 9 but trips bale trip lever which releases bales out rear gate as the Accumulator is pulled forwards.

The AC1000 varies from the 8 and 12 bale models because of the swing arms used to pivot bales 1 and 2. When discharging bale pack, the 10 bale Accumulator pushes both trip levers, shown in Detail A below, which tightens the cable running to the endgate.

As the endgate cable is tightened and pulled towards front, the endgate pivot raises the endgate latches, allowing the endgate to swing freely and open from the bale pack. See Detail C below.

The swing arms' bale catches, shown in Detail B below, are unlocked when activated and swing rearwards like the endgate when bale pack is released.

When the bale pack clears the swing arms they return to their home angled position and bale catches are locked in down position again. The endgate also swings shut and latches itself as they are no longer held open by trip cable.



Section 6 - Maintenance

This section gives full details of the procedures necessary to maintain the Tube-line Accumulator at peak efficiency. Complete all checks and services in this section at the hour interval shown.

NOTE: Failure to complete the required maintenance at the intervals shown can cause unnecessary downtime. The recommended lubrication intervals are for average condition. Perform lubrication more often when operating under adverse conditions.

In Season Maintenance

Careful inspection, and service of the Accumulator, prior to operation each day, will prevent needless breakdowns, and delays in the field.

Make the following checks and adjustments.

Be alert for loose hardware and tighten or replace as required.

Lubricate the Accumulator according the instructions in the “Lubrication” section of this manual. Under adverse conditions, shorten the lubrication intervals.

Preseason Service

Prior to beginning the harvest after offseason storage, take the following steps to be certain the Tube-line Accumulator is in good condition.

Lubricate the Accumulator according to the “Lubrication” section of this manual.

Tighten or replace any damaged or missing fasteners.

End of Season Service

Prior to storing the Accumulator, during the off season, follow these steps to ensure easier preparation, for the next season, and longer life.

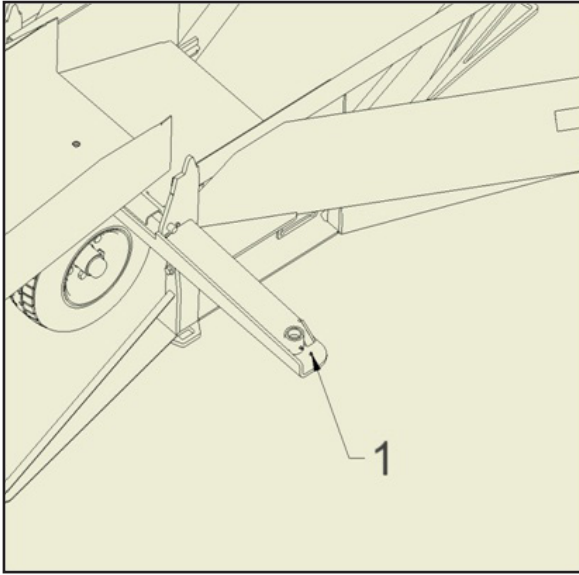
Pack all grease points with grease, see the following [Grease Points](#) section for grease points location.

Remove all crop material from the Tube-line Accumulator.

Grease Points

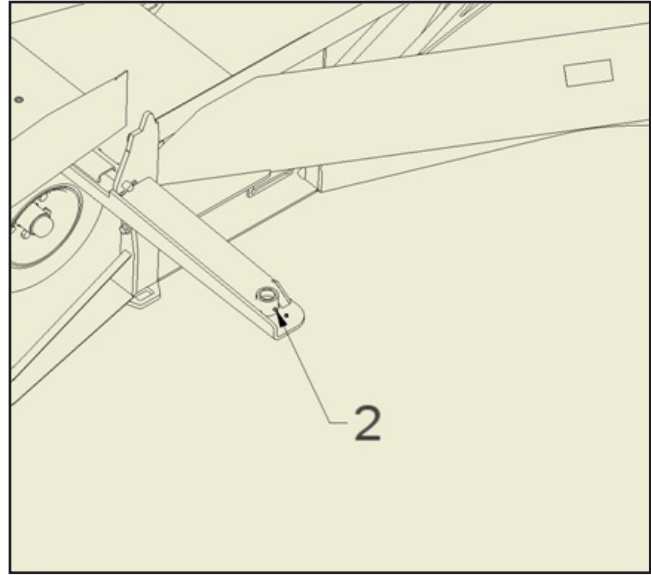
Caster greaser (1)

Apply 4 strokes at point (1) daily.



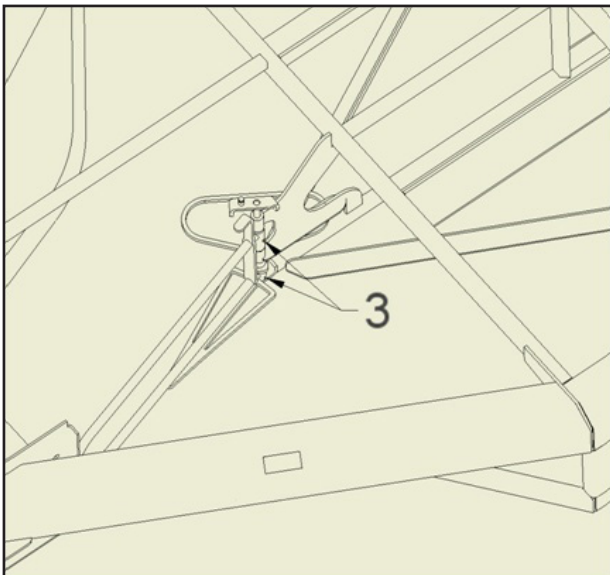
Caster spindle (2)

Apply 4 strokes of grease at point (2) daily.



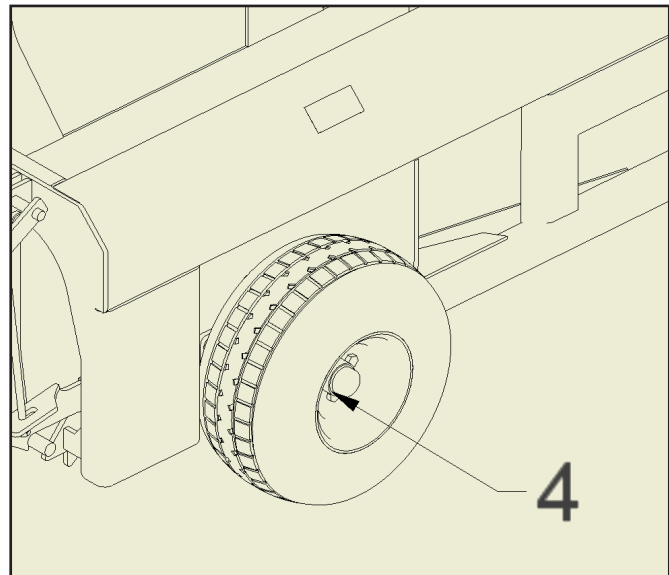
Gate pivot (3)

Apply 4 strokes of grease at point (3) daily.



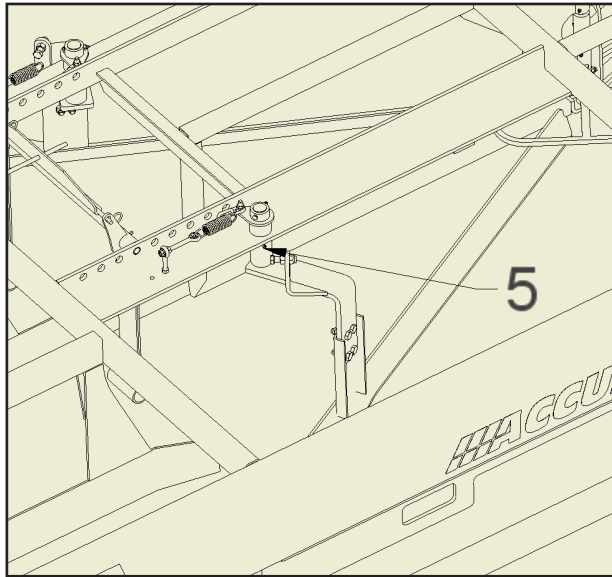
Hub (4)

Apply 1 stroke of grease at point (4) every 1000hrs.



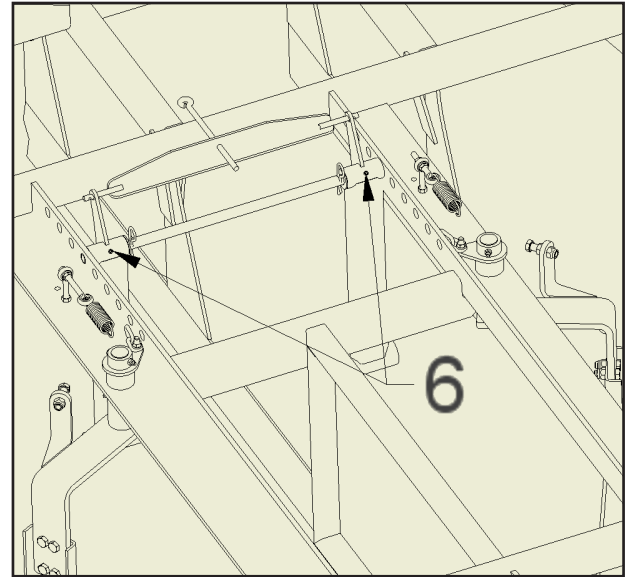
Front Arm Pivot (5)

Apply 4 strokes of grease at point (5) daily.



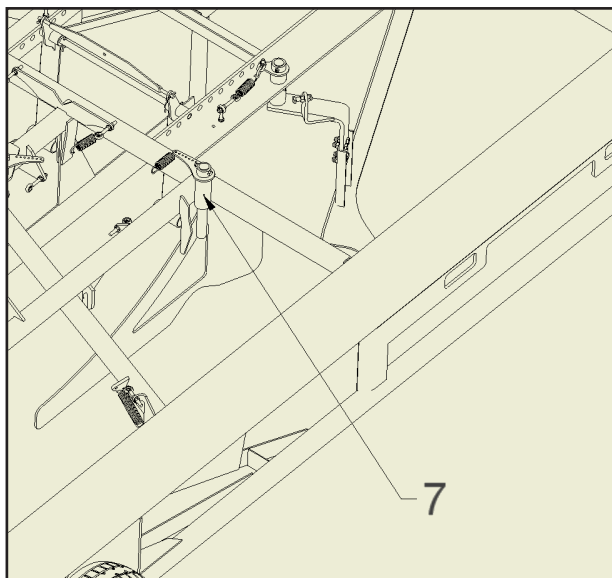
Bale Trip (6)

Apply 4 strokes of grease at point (6) daily.



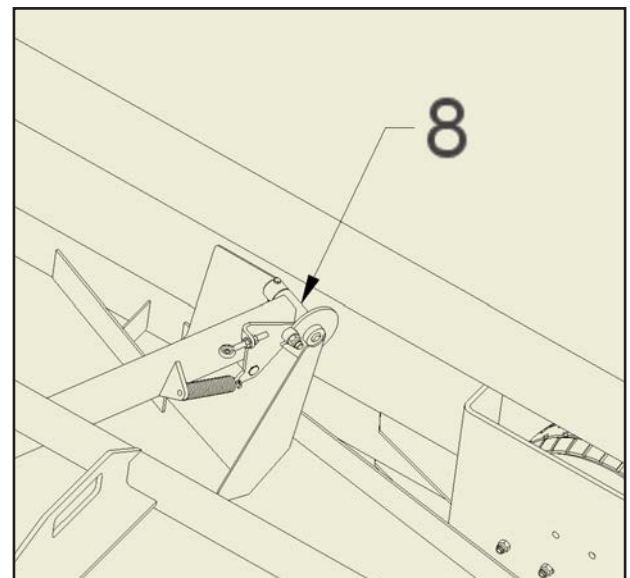
Bale Guide (7) - AC1000 (Accumul8+2)

Apply 4 strokes of grease to point (7) daily.



Bale Latch (8) - AC1000 (Accumul8+2)

Apply 4 strokes of grease to point (8) daily.



Troubleshooting

Problem: Finished pack periodically has 1 bale missing when ejected.

Cause 1: Center gate did not switch sides and two bales entered on some side before switching over to the other side causing the machine to lose it's timing.

Cause 2: Bales are too long, not allowing trip lever to clear bale on second last row.

Suggested Remedy 1: Check center pivot pin, to ensure it is free.

NOTE: It is very important to keep gate pivot greased well.

Suggested Remedy 2: Adjust trip lever pin towards front of machine, and or, readjust cable and rear hook thread rods.

Problem: Bale does not pass though side swing arms, causing the machine to jam up.

Cause 1: Spring tension on swing arms too tight.

Cause 2: Stop bolt on swing arm not set correctly.

Suggested Remedy 1: Loosen spring tension or remove side swing arm and clean up pivot pin.

Suggested Remedy 2: Adjust stop bolt so bale has enough clearance to pass through.

Problem: Pack does not eject when last bale enters.

Cause 1: Thread rods on trip levers not adjusted properly or thread rods on rear gate hooks not adjusted properly.

Suggested Remedy 1: Adjust thread rods.

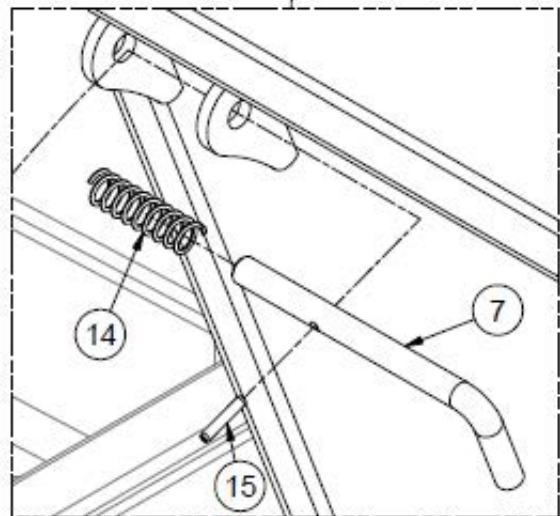
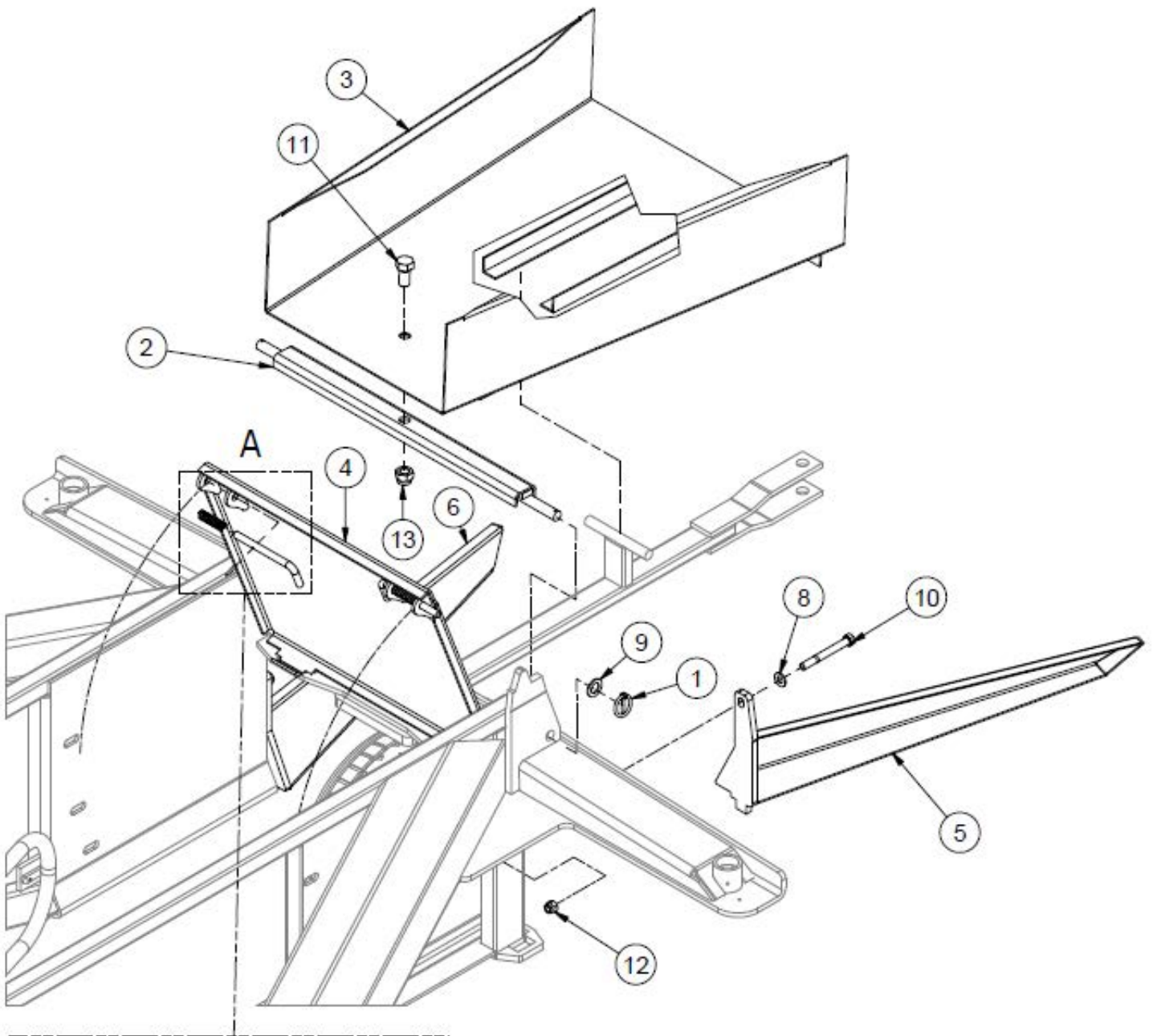
Problem: Finished pack is not neat, last bale is not moved in far enough to line up with other bales in the same row.

Cause 1: Trip lever pin not positioned properly for length of bale.

Suggested Remedy 1: Move trip lever pin one hole to the rear of the machine adjust thread rods and repeat if necessary.

Section 7 - Parts Breakdowns & Lists

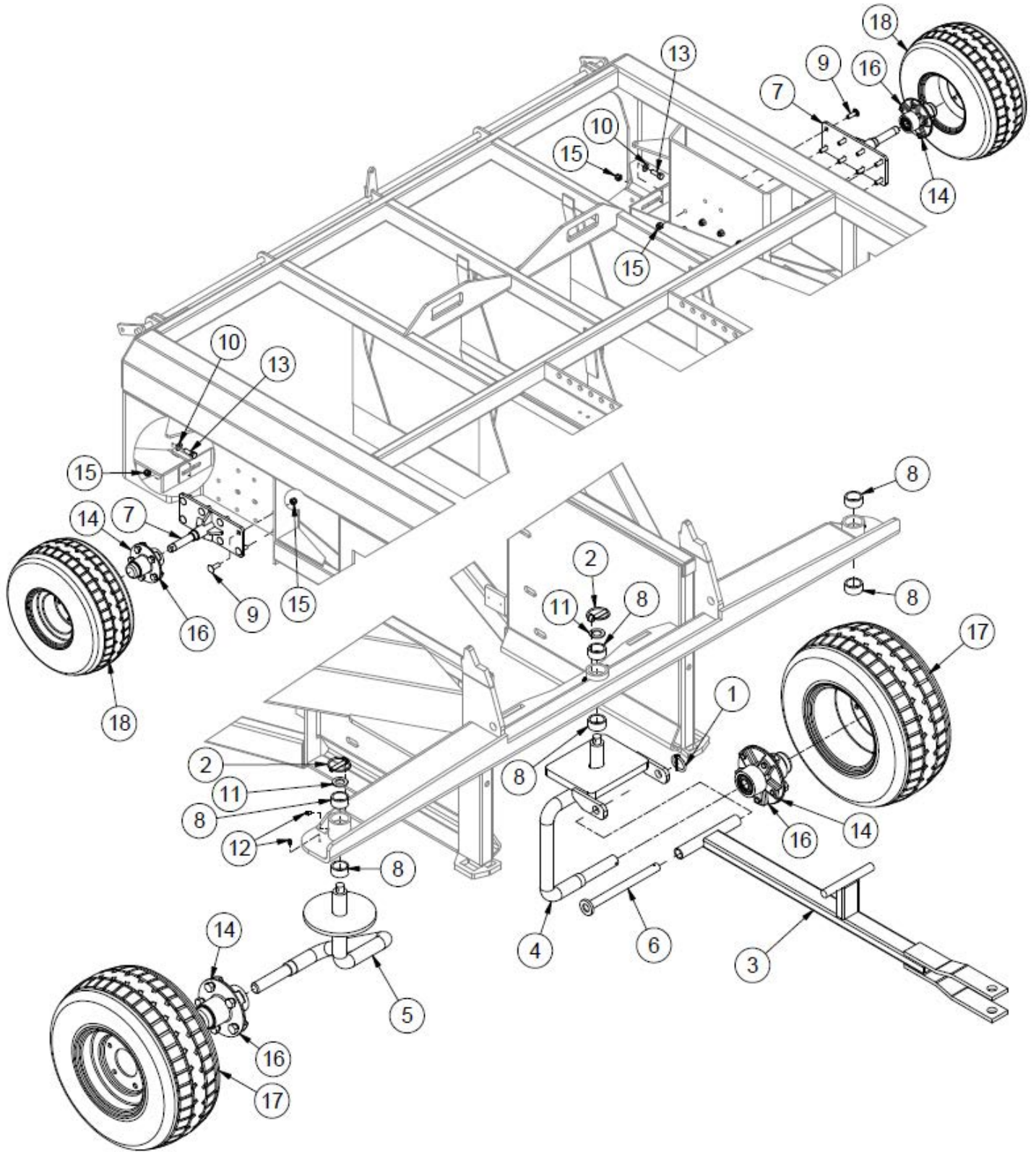
Bale Chute - All Models



Bale Chute - All Models

ITEM	QTY	PART NUMBER	DESCRIPTION
1	7	25680	Lynch Pin 3/16 X 1.5
2	1	37517	Bale Chute Pivot Channel
3	1	AC-A-07	Bale Chute
4	1	AC-A-08	Bale Slide
5	1	AC-A-17	Left Flare
6	1	AC-A-17_MIR	Right Flare
7	2	AC-A-125	Bale Chute Set Pin
8	2	FW 1/2	Flatwasher - 1/2" Zinc Plated USS
9	2	FW 3/4	Flatwasher - 3/4" Zinc Plated USS
10	2	HB 1/2-13X4.5 Z5	Hex Bolt 1/2-13x4 1/2 Grade 5 Zinc Plated Hex Cap Screw
11	1	HB 3/4-10X1.5 Z5	Hex Bolt 3/4-10x1 1/2 Grade 5 Zinc Plated Hex Cap Screw
12	2	LN 1/2 N	LN 1/2-13 Zinc Plated Nylon Insert Lock Nut
13	1	LN 3/4 N	LN 3/4-10 Zinc Plated Nylon Insert Lock Nut
14	2	PP-00677	Spring, .080 x .708 x 2.982"
15	2	RP 3/16 x 1	Pin - Roll Pin 3/16 x 1

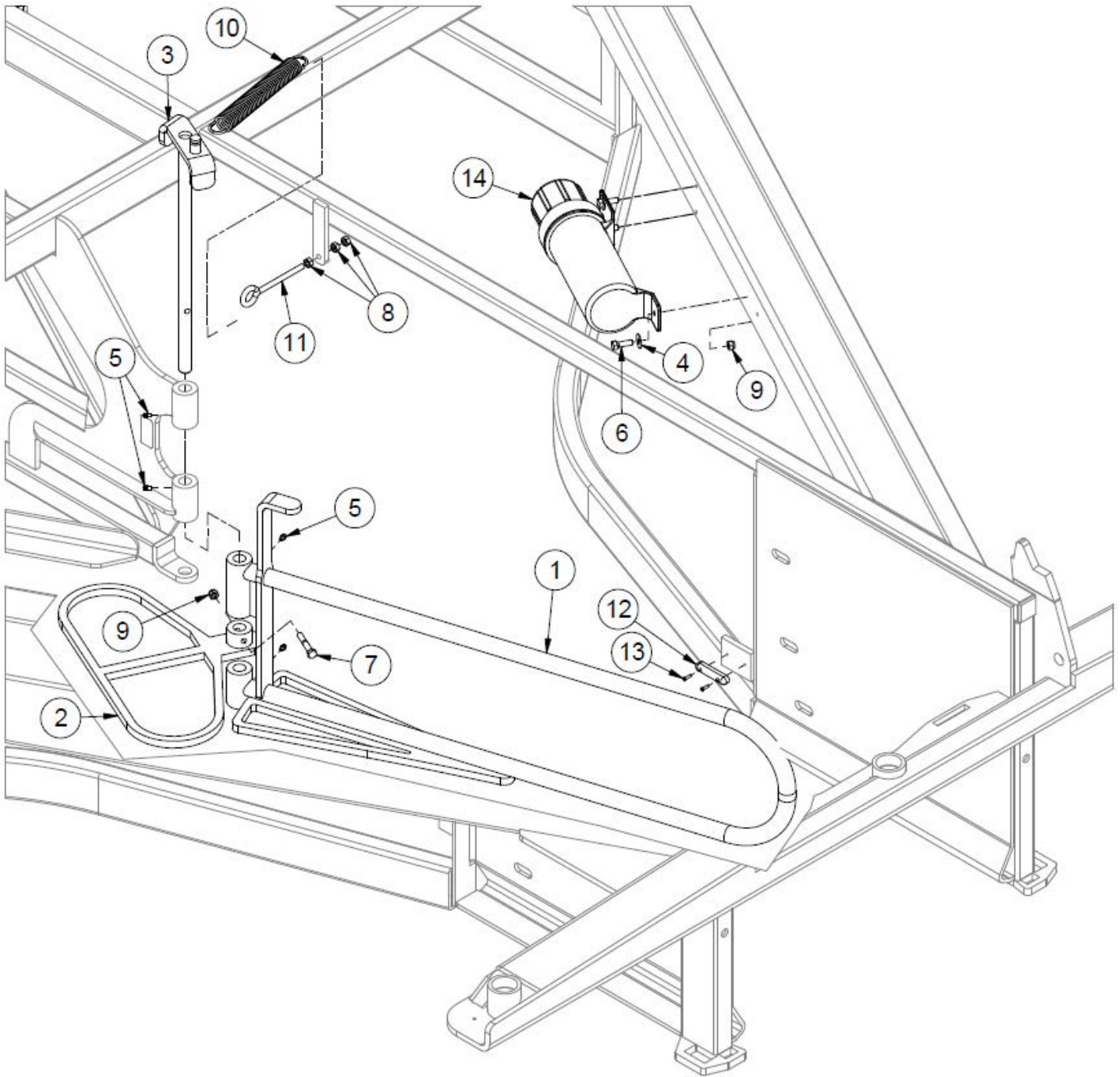
Wheels & Axles - All Models



Wheels & Axles - All Models

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	25680	Linch Pin 3/16 X 1.5
2	2	28940	Lynch Pin - 3/8 X 1-3/4"
3	1	AC-A-09	Hitch
4	1	AC-A-12	Center Dolly
5	1	AC-A-14	Dolly
6	1	AC-A-22	Hitch Pin
7	2	AC-A-24	Rear Wheel Axle
8	6	AC-A-126	Bushing
9	16	CB 1/2-13 X1.5 Z5	Carriage Bolt - 1/2-13 x 1 1/2" Grade 5 Zinc
10	2	FW 1/2	Flatwasher - 1/2" Zinc Plated USS
11	2	FW 3/4	Flatwasher - 3/4" Zinc Plated USS
12	7	GR 3/16D	3/16 Drive Straight Grease Fitting
13	2	HB 1/2-13X1.5 Z5	Hex Bolt 1/2-13x1 1/2 Grade 5 Zinc Plated Hex Cap Screw
14	4	HUB 1000-CCS	Bearing and Seal Kit HUB1000
15	18	LN 1/2 N	LN 1/2-13 Zinc Plated Nylon Insert Lock Nut
16	4	PP-00665	1000 lb Hub Assembly
17	2	PP-00825	Tire and rim, 16.5 x 6.5-8 Sport Trial
18	2	PP-00829	Tire and Rim, 18.5 x 8.50-8 Sport trail

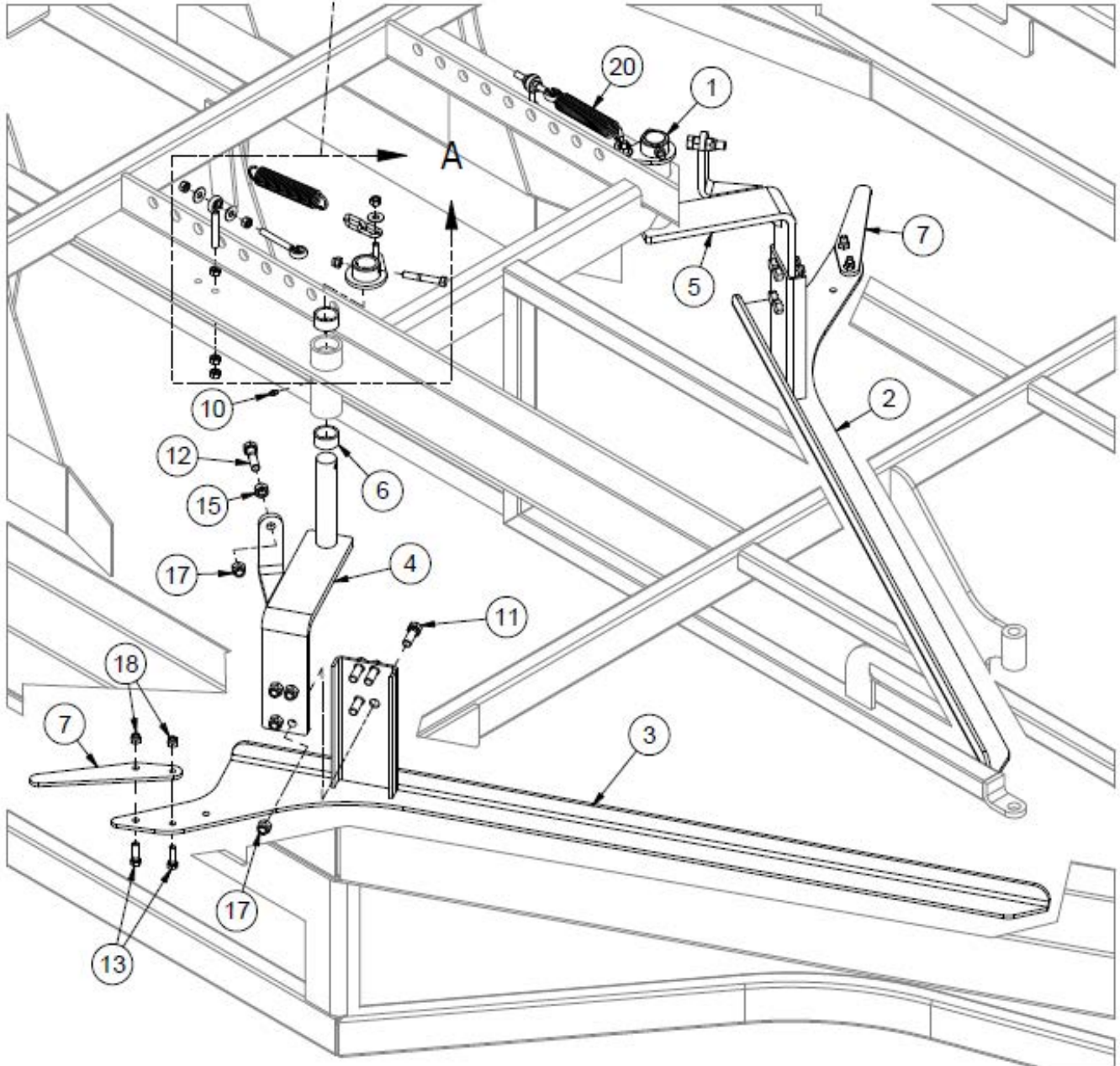
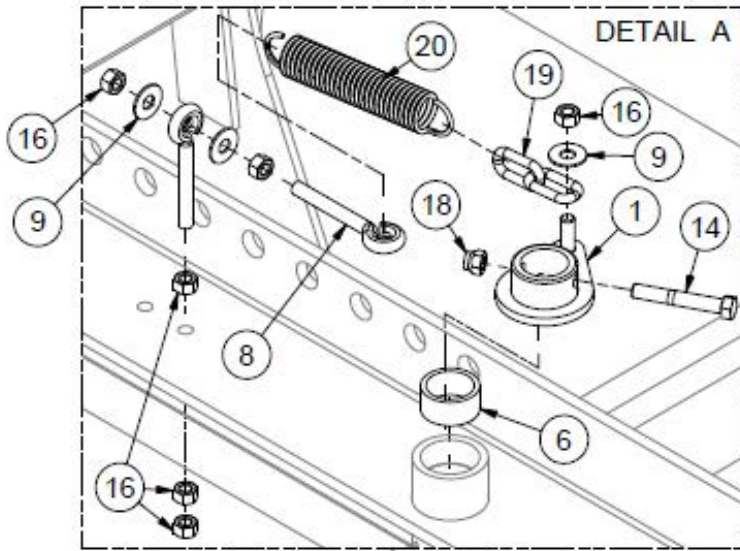
Bale Gate - All Models



Bale Gate - All Models

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	AC-A-02	Bale Gate
2	1	AC-A-03	Gate Trip
3	1	AC-A-05	Gate Pivot Pin
4	3	FW 5/16	Flatwasher - 5/16" Zinc Plated USS
5	4	GR 3/16D	3/16 Drive Straight Grease Fitting
6	3	HB 5/16-18X1 Z5	Hex Bolt 5/16-18x1 Grade 5 Zinc Plated Hex Cap Screw
7	1	HB 5/16-18X2 Z5	Hex Bolt 5/16-18x2 Grade 5 Zinc Plated Hex Cap Screw
8	3	HN 5/16	Hex Nut 5/16"-18 Grade 5 Zinc Plated Finished
9	3	LN 5/16 N	LN 5/16-18 Zinc Plated Nylon Insert Lock Nut
10	1	PP00679	Spring, .135 x .1 x 7.5"
11	1	PP-00682	5/16-18 UNC x 4.0"
12	2	PP-00685	Rubber Stop
13	4	PP-00686	Wood Screw,#6 x5/8" Roberts end
14	1	TL5X2-201-111	Operator's Manual Holder

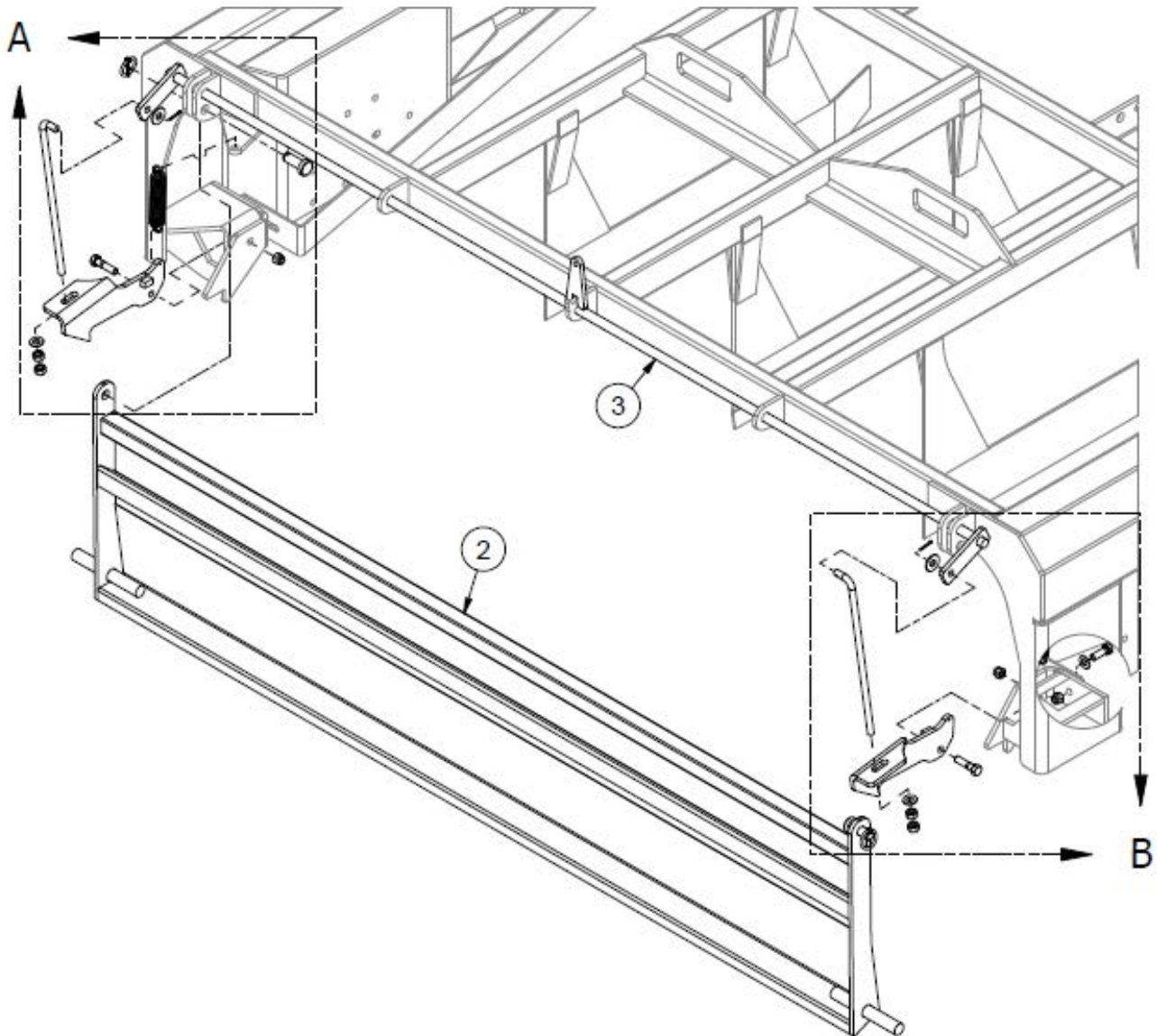
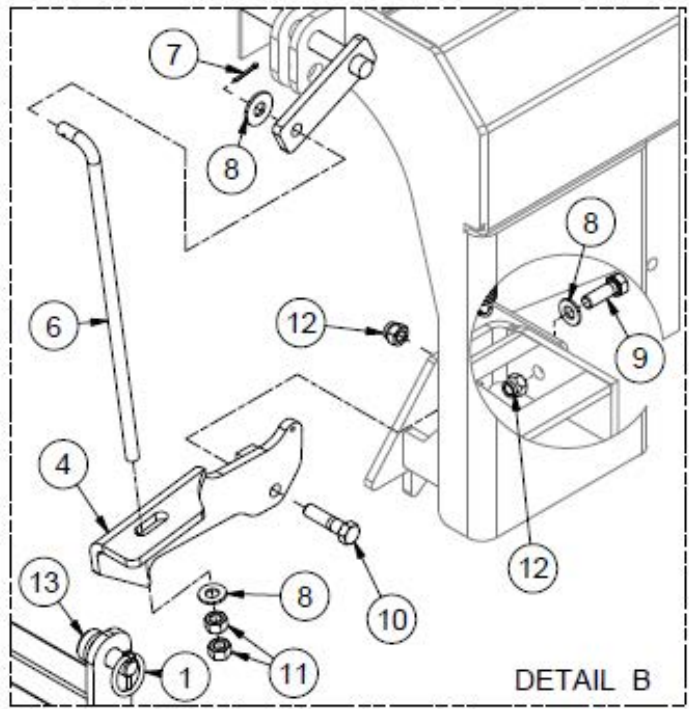
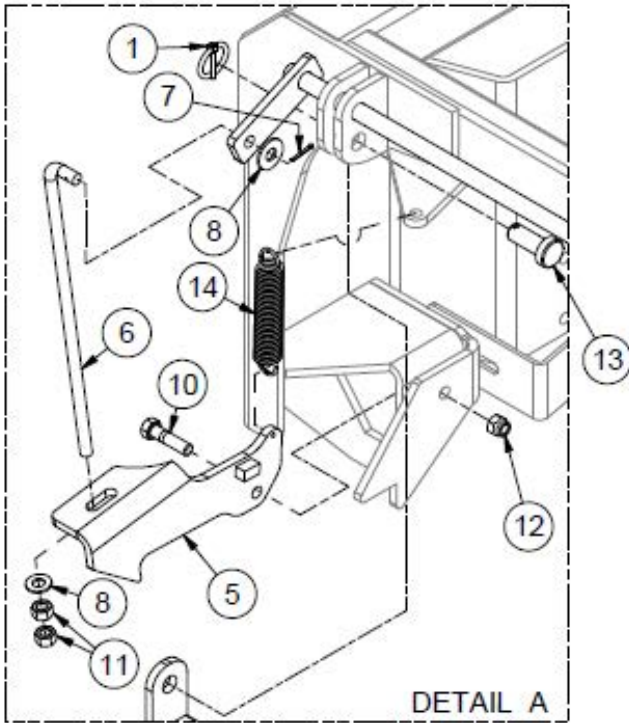
Front Bale Guides - All Models



Front Bale Guides - All Models

ITEM	QTY	PART NUMBER	DESCRIPTION
1	2	AC-A-01	Arm Spring
2	1	AC-A-04	Right Front Arm
3	1	AC-A-04_MIR	Left Front Arm
4	1	AC-A-13	Right Arm Mount
5	1	AC-A-13_MIR	Left Arm Mount
6	4	AC-A-126	Bushing
7	2	AC-A-175	Arm Tab
8	4	EB3/8-16X2.1/2	Eye Bolt - 3/8-16 X 2.1/2" Shank Zinc Plated Turned
9	6	FW 3/8	Flatwasher - 3/8" Zinc Plated USS
10	2	GR 3/16D	3/16 Drive Straight Grease Fitting
11	8	HB 1/2-13X1.5 Z5	Hex Bolt 1/2-13x1 1/2 Grade 5 Zinc Plated Hex Cap Screw
12	2	HB 1/2-13X2 Z5	Hex Bolt 1/2-13x2 Grade 5 Zinc Plated Hex Cap Screw
13	4	HB 3/8-16X1.25 Z5	Hex Bolt 3/8-16x1 1/4 Grade 5 Zinc Plated Hex Cap Screw
14	2	HB 3/8-16X2.5 Z5	Hex Bolt 3/8-16x2 1/2 Grade 5 Zinc Plated Hex Cap Screw
15	2	HN 1/2	Hex Nut 1/2"-13 Grade 5 Zinc Plated Finished
16	12	HN 3/8	Hex Nut 3/8"-16 Grade 5 Zinc Plated Finished
17	10	LN 1/2 N	LN 1/2-13 Zinc Plated Nylon Insert Lock Nut
18	6	LN 3/8 N	LN 3/8-16 Zinc Plated Nylon Insert Lock Nut
19	2	PP-00694	Chain, G3- .25 x 1.375
20	2	PP-00695	Spring, 0.130 x 1.11 x 5.5"

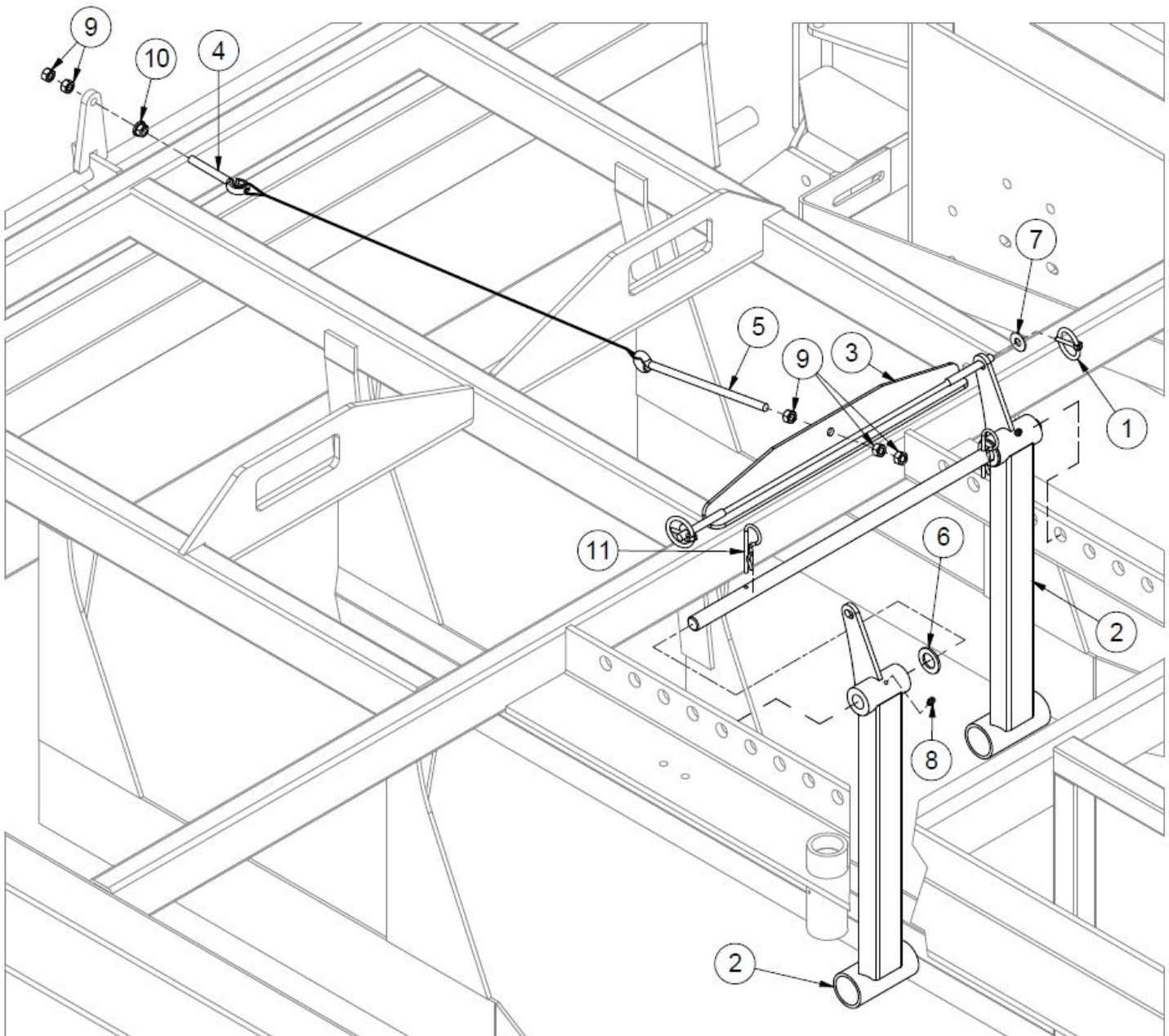
Endgate - All Models



Endgate - All Models

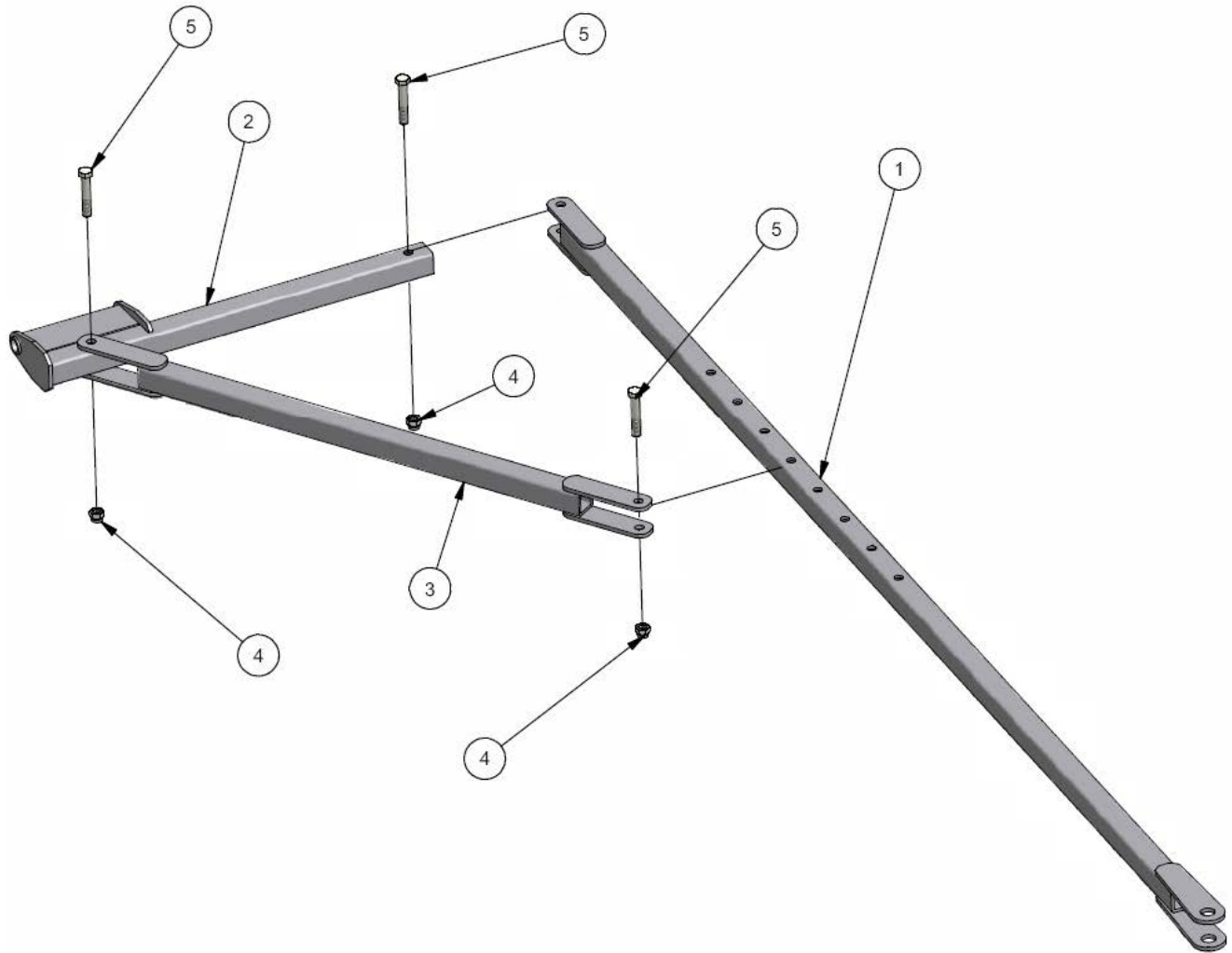
ITEM	QTY	PART NUMBER	DESCRIPTION
1	2	25680	Lynch Pin 3/16 X 1.5
2	1	AC-A-10	Endgate
3	1	AC-A-11	Trip Pivot Assembly
4	1	AC-A-16	Right Endgate Latch
5	1	AC-A-16_MIR	Left Endgate Latch
6	2	AC-A-121	Latch Trip Rod
7	2	CP 18X1	Pin, Cotter - 1/8" X 1.0"
8	6	FW 1/2	Flatwasher - 1/2" Zinc Plated USS
9	2	HB 1/2-13X1.5 Z5	Hex Bolt 1/2-13x1 1/2 Grade 5 Zinc Plated Hex Cap Screw
10	2	HB 1/2-13X2 Z5	Hex Bolt 1/2-13x2 Grade 5 Zinc Plated Hex Cap Screw
11	4	HN 1/2	Hex Nut 1/2"-13 Grade 5 Zinc Plated Finished
12	4	LN 1/2 N	LN 1/2-13 Zinc Plated Nylon Insert Lock Nut
13	2	PP-00676	Endgate Pin
14	2	PP-00695	Spring 2-TE 89B

Endgate Trip - All Models



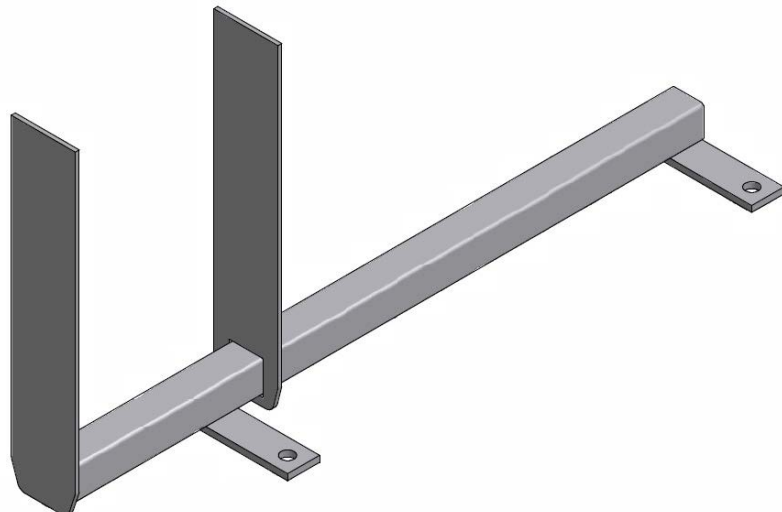
ITEM	QTY	PART NUMBER	DESCRIPTION
1	2	25680	Lynch Pin 3/16 X 1.5
2	2	AC-A-06	Bale Trip
3	1	AC-A-28	Trip Channel
4	1	EB3/8-16X2.1/2	Eye Bolt - 3/8-16 X 2.1/2" Shank Zinc Plated Turned
5	1	EB3/8-16X8.0	Eye Bolt - 3/8-16 X 8" Galvanized Machine Threaded
6	2	FW 3/4	Flatwasher - 3/4" Zinc Plated USS
7	2	FW 3/8	Flatwasher - 3/8" Zinc Plated USS
8	4	GR 3/16D	3/16 Drive Straight Grease Fitting
9	5	HN 3/8	Hex Nut 3/8"-16 Grade 5 Zinc Plated Finished
10	1	HNC3/8	Serrated Hex Nut
11	2	HP 5/32 X 3.0	Pin Hitch - .156 X 3.0 (Pin Hair #9) 9 Ga. 3.1/16" OAL Zinc Plated

Offset Hitch - All Models

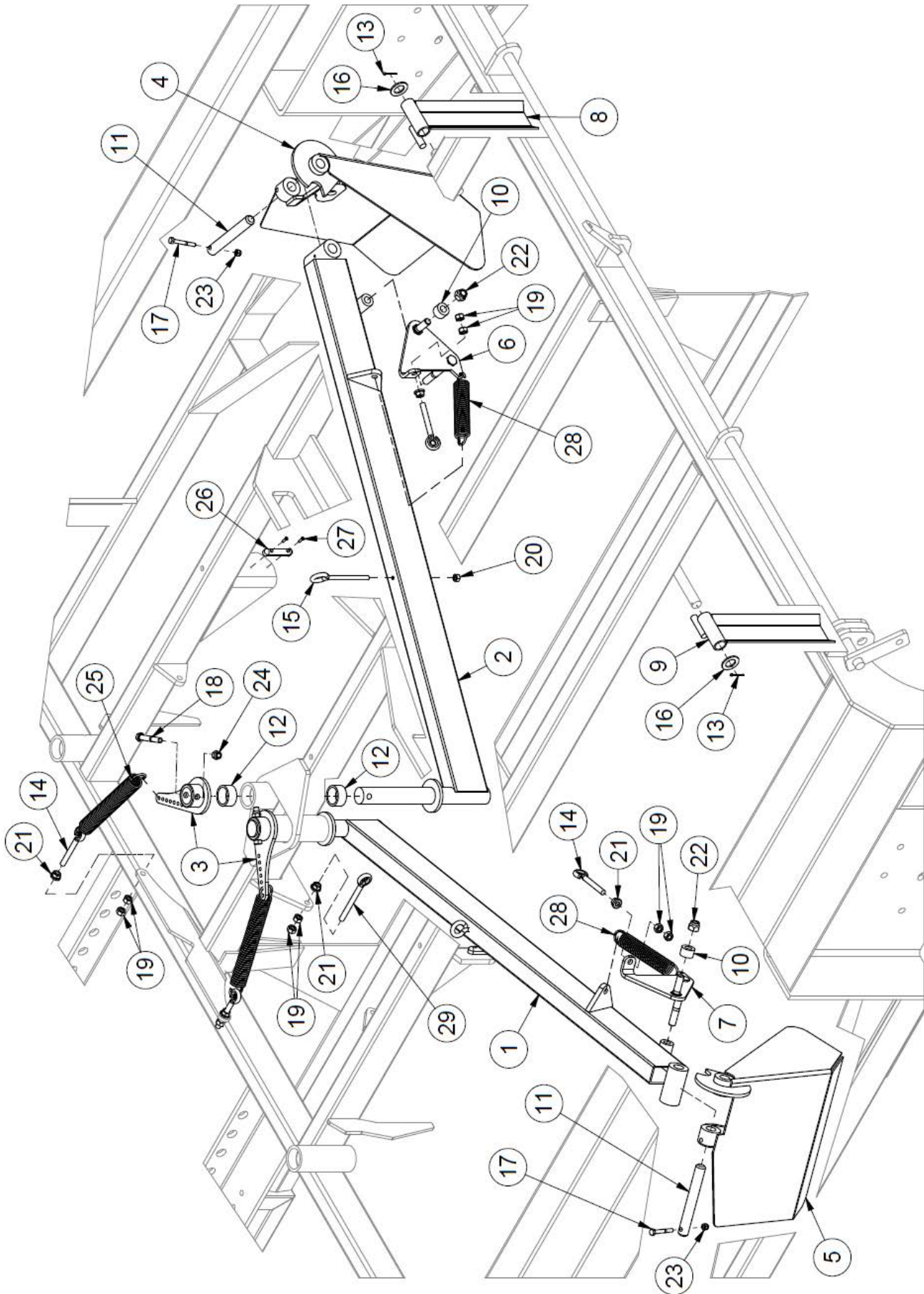


ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	AC-A-19	Hitch Tube
2	1	AC-A-20	Hitch Offset
3	1	AC-A-21	Hitch Tube Brace
4	3	LN1/2-13NCZ2	1/2"-13 Grade 2 Zinc Finish NE Steel Nylon Insert Lock Nut
5	3	HB 1/2-13X2.3/4 Z5	Hex Bolt - 1/2"-13 X 2.3/4" Grade 5 Zinc Plated Hex Cap Screw NC

AC-A-23 Baler Hitch - All Models



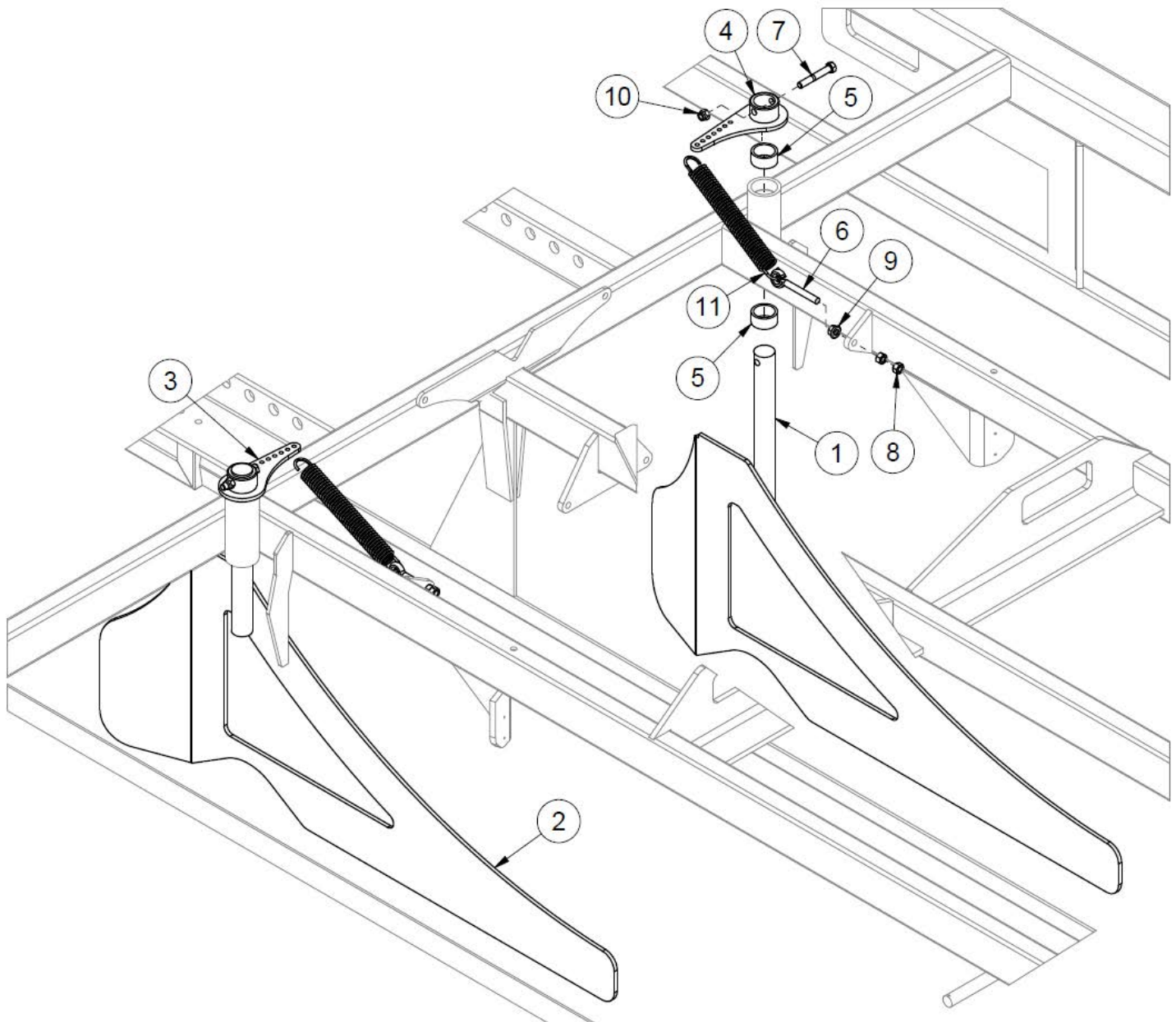
Swing Arms - AC1000



Swing Arms - AC1000

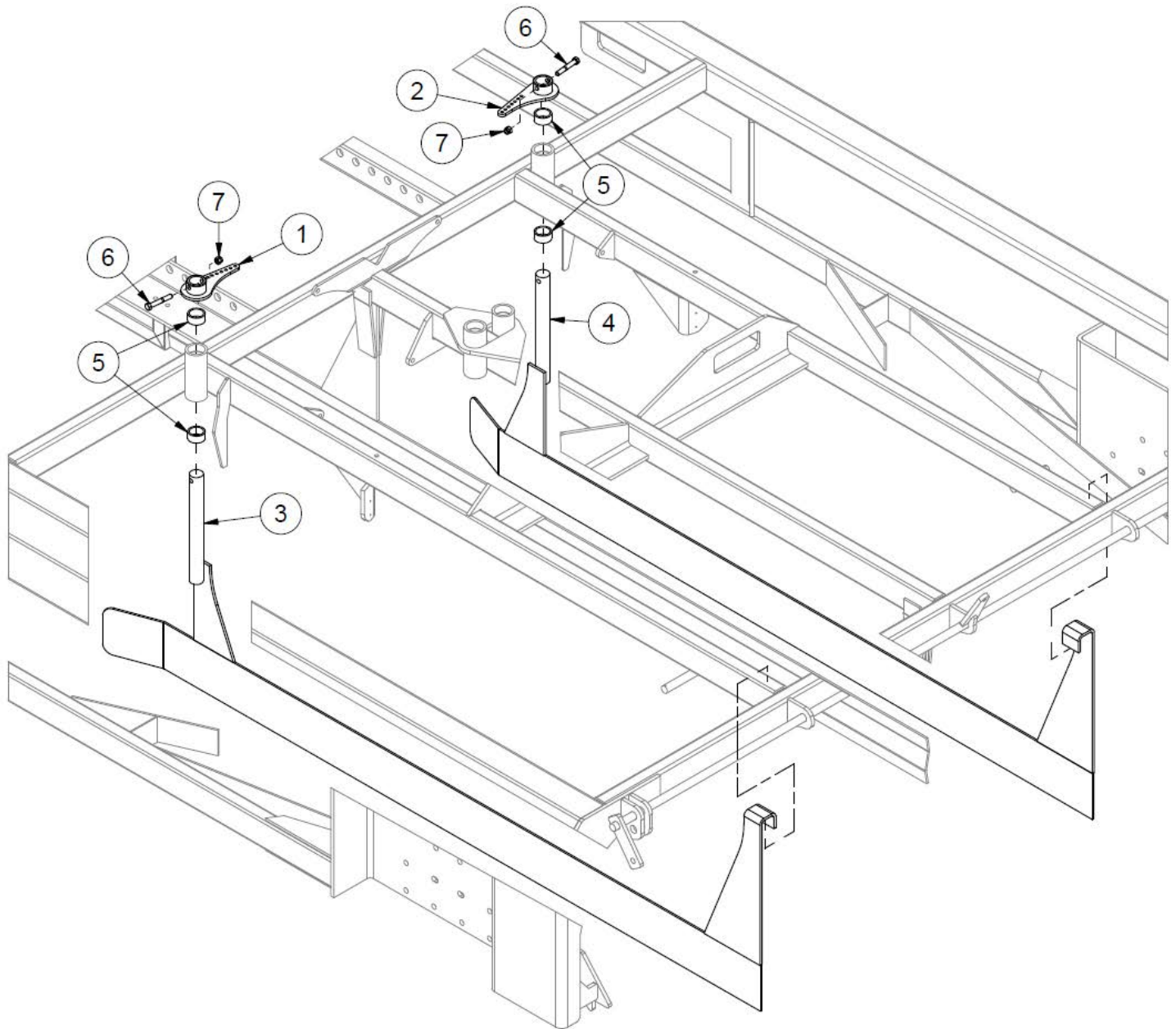
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	AC-A-15	10 Bale Swing Arm LH
2	1	AC-A-15R	10 Bale Swing Arm RH
3	1	AC-A-26	Spring Handle
4	1	AC-A-29	RH Bale Catch
5	1	AC-A-29L	LH Bale Catch
6	1	AC-A-30	Spring Latch Weldment RH
7	1	AC-A-30 MIR	Spring Latch Weldment LH
8	1	AC-A-31	RH Tumbler Arm
9	1	AC-A-31-1	LH Tumbler Arm
10	2	AC-A-048	Bearing
11	2	AC-A-049	Catch Pin
12	4	AC-A-126P	Plastic Bushing
13	2	CP 18X1	Pin, Cotter - 1/8" X 1.0"
14	4	EB3/8-16X2.1/2	Eye Bolt - 3/8-16 X 2.1/2" Shank Zinc Plated Turned
29	2	EB3/8X4.0	Eye Bolt - 3/8-16 X 4" Galvanized Drop Forged w/o Shoulder
15	2	EB5/16-18X4.0	Eye Bolt - 5/16-18 X 4" Shank Zinc Plated Turned
16	2	FW 3/4	Flatwasher - 3/4" Zinc Plated USS
17	2	HB 1/4-20X2 Z5	Hex Bolt 1/4-20x2 Grade 5 Zinc Plated Hex Cap Screw
18	2	HB 3/8-16X2.5 Z5	Hex Bolt 3/8-16x2 1/2 Grade 5 Zinc Plated Hex Cap Screw
19	12	HN 3/8	Hex Nut 3/8"-16 Grade 5 Zinc Plated Finished
20	2	HN 5/16	Hex Nut 5/16"-18 Grade 5 Zinc Plated Finished
21	6	HNC3/8	Serrated Hex Nut
22	4	LN 1/2 N	LN 1/2-13 Zinc Plated Nylon Insert Lock Nut
23	2	LN 1/4 N	LN 1/4-20 Zinc Plated Nylon Insert Lock Nut
24	2	LN 3/8 N	LN 3/8-16 Zinc Plated Nylon Insert Lock Nut
25	2	PP00679	Spring 2-TE 86B
26	2	PP-00685	Rubber Stop
27	4	PP-00686	Wood Screw,#6 x5/8" Roberts end
28	2	PP-00695	Spring 2-TE 89B

Rear Bale Guides - AC1000



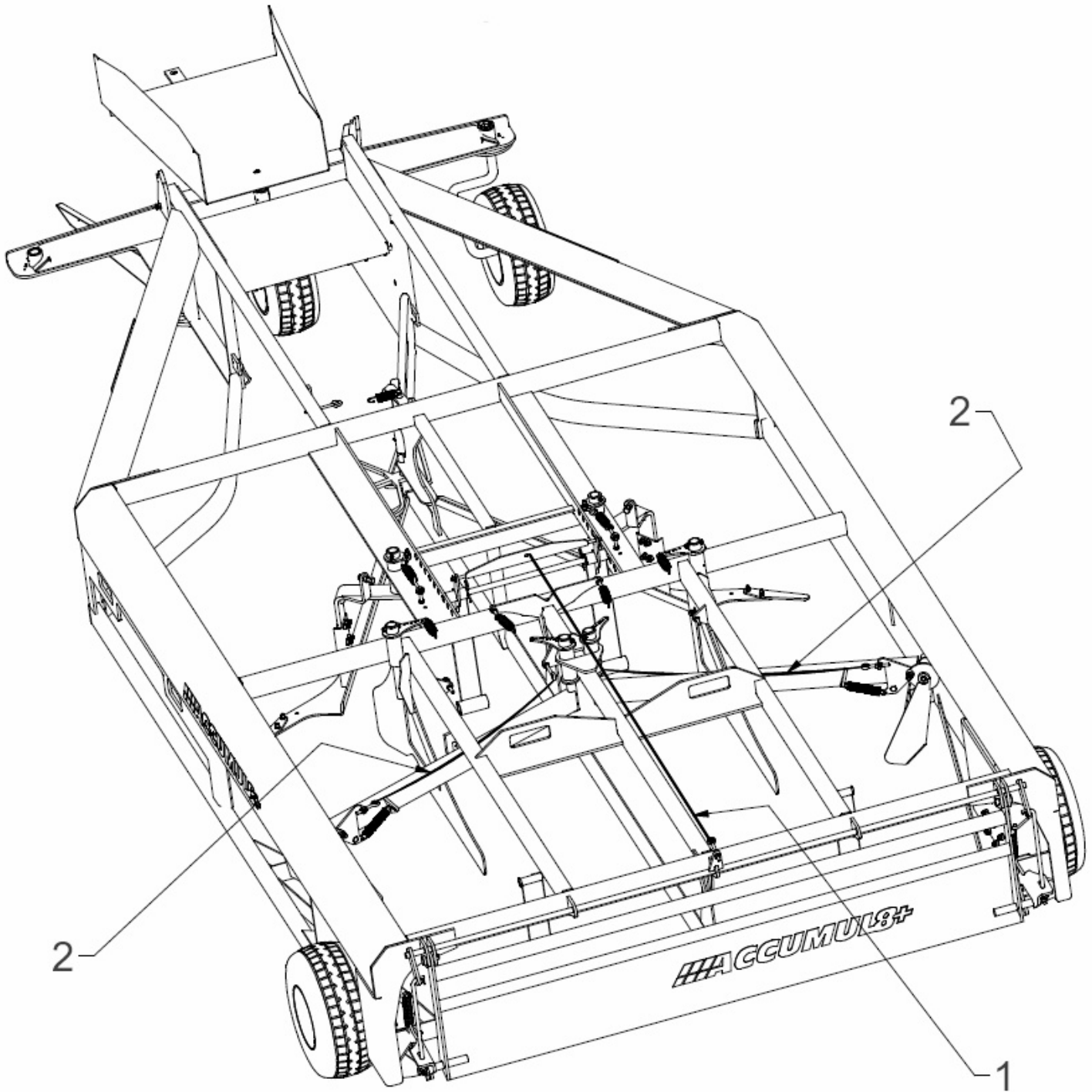
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	AC-A-25	Side Guide RH
2	1	AC-A-25 MIR	Side Guide LH
3	1	AC-A-26	Spring Handle
4	1	AC-A-27	Right Spring Handle
5	4	AC-A-126P	Plastic Bushing
6	2	EB3/8-16X2.1/2	Eye Bolt - 3/8-16 X 2.1/2" Shank Zinc Plated Turned
7	2	HB 3/8-16X2.5 Z5	Hex Bolt 3/8-16x2 1/2 Grade 5 Zinc Plated Hex Cap Screw
8	4	HN 3/8	Hex Nut 3/8"-16 Grade 5 Zinc Plated Finished
9	2	HNC3/8	Serrated Hex Nut
10	2	LN 3/8 N	LN 3/8-16 Zinc Plated Nylon Insert Lock Nut
11	2	PP00679	Spring 2-TE 86B

Rear Bale Guides - AC1200



ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	AC-A-26	Left Spring Handle
2	1	AC-A-27	Right Spring Handle
3	1	AC-A-32	Left Bale Guide
4	1	AC-A-32 MIR	Right Bale Guide
5	4	AC-A-126P	Plastic Bushing
6	2	HB 3/8-16X2.5 Z5	Hex Bolt 3/8-16x2 1/2 Grade 5 Zinc Plated Hex Cap Screw
7	2	LN 3/8 N	LN 3/8-16 Zinc Plated Nylon Insert Lock Nut

Cable System - All Models














ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	AC-08000-54	AC800: Cable 54"
1	1	AC-08000-785	AC1000 & AC1200: Cable 78.5"
2	2	AC-08000-395	AC1000: Cable 39.5"

NOTE: Cables are made of 1/8" aircraft cable.

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Torque Value Chart - Imperial

UNIFIED INCH BOLT AND CAP SCREW TORQUE VALUES

SAE Grade and Head Markings	1 or 2 ^b	5	5.1	5.2	8	8.2
	NO MARK 					
SAE Grade and Nut Markings	2	5		8		
	NO MARK 					

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Size	Grade 1				Grade 2 ^b				Grade 5, 5.1, or 5.2				Grade 8 or 8.2			
	Lubricated ^a		Dry ^a		Lubricated ^a		Dry ^a		Lubricated ^a		Dry ^a		Lubricated ^a		Dry ^a	
	N-m	lb-ft	N-m	lb-ft	N-m	lb-ft	N-m	lb-ft	N-m	lb-ft	N-m	lb-ft	N-m	lb-ft	N-m	lb-ft
1/4	3.7	2.8	4.7	3.5	6	4.5	7.5	5.5	9.5	7	12	9	13.5	10	17	12.5
5/16	7.7	5.5	10	7	12	9	15	11	20	15	25	18	28	21	35	26
3/8	14	10	17	13	22	16	27	20	35	26	44	33	50	38	63	46
7/16	22	16	28	20	35	26	44	32	55	41	70	52	80	58	100	75
1/2	33	25	42	31	53	39	67	50	85	63	110	80	120	90	150	115
9/16	48	36	60	45	75	56	95	70	125	90	155	115	175	130	225	160
5/8	67	50	85	62	105	78	135	100	170	125	215	160	240	175	300	225
3/4	120	87	150	110	190	140	240	175	300	225	375	280	425	310	550	400
7/8	190	140	240	175	190	140	240	175	490	360	625	450	700	500	875	650
1	290	210	360	270	290	210	360	270	725	540	925	675	1050	750	1300	975
1-1/8	400	300	510	375	400	300	510	375	900	675	1150	850	1450	1075	1850	1350
1-1/4	570	425	725	530	570	425	725	530	1300	950	1650	1200	2050	1500	2600	1950
1-3/8	750	550	950	700	750	550	950	700	1700	1250	2150	1550	2700	2000	3400	2550
1-1/2	1000	725	1250	925	990	725	1250	930	2250	1650	2850	2100	3600	2650	4550	3350

DO NOT use these values if a different torque value or tightening procedure is given for a specific application. Torque values listed are for general use only. Check tightness of fasteners periodically.

Shear bolts are designed to fail under predetermined loads. Always replace shear bolts with identical grade.

^a "Lubricated" means coated with a lubricant such as engine oil, or fasteners with phosphate and oil coatings. "Dry" means plain or zinc plated without any lubrication.

^b Grade 2 applies for hex cap screws (not hex bolts) up to 152 mm (6-in.) long. Grade 1 applies for hex cap screws over 152 mm (6-in.) long, and for all other types of bolts and screws of any length.

Fasteners should be replaced with the same or higher grade. If higher grade fasteners are used, these should only be tightened to the strength of the original.

Make sure fasteners threads are clean and that you properly start thread engagement. This will prevent them from failing when tightening.

Tighten plastic insert or crimped steel-type lock nuts to approximately 50 percent of the dry torque shown in the chart, applied to the nut, not to the bolt head. Tighten toothed or serrated-type lock nuts to the full torque value.

DX.TOR01 -19-20JUL04

Torque Value Chart - Metric

METRIC BOLT AND CAP SCREW TORQUE VALUES

Property Class and Head Markings	4.8		8.8		9.8		10.9		12.9	
Property Class and Nut Markings	5		10		10		10		12	

Size	Class 4.8				Class 8.8 or 9.8				Class 10.9				Class 12.9			
	Lubricated ^a		Dry ^a		Lubricated ^a		Dry ^a		Lubricated ^a		Dry ^a		Lubricated ^a		Dry ^a	
	N-m	lb-ft	N-m	lb-ft	N-m	lb-ft	N-m	lb-ft	N-m	lb-ft	N-m	lb-ft	N-m	lb-ft	N-m	lb-ft
M6	4.8	3.5	6	4.5	9	6.5	11	8.5	13	9.5	17	12	15	11.5	19	14.5
M8	12	8.5	15	11	22	16	28	20	32	24	40	30	37	28	47	35
M10	23	17	29	21	43	32	55	40	63	47	80	60	75	55	95	70
M12	40	29	50	37	75	55	95	70	110	80	140	105	130	95	165	120
M14	63	47	80	60	120	88	150	110	175	130	225	165	205	150	260	190
M16	100	73	125	92	190	140	240	175	275	200	350	255	320	240	400	300
M18	135	100	175	125	260	195	330	250	375	275	475	350	440	325	560	410
M20	190	140	240	180	375	275	475	350	530	400	675	500	625	460	800	580
M22	260	190	330	250	510	375	650	475	725	540	925	675	850	625	1075	800
M24	330	250	425	310	650	475	825	600	925	675	1150	850	1075	800	1350	1000
M27	490	360	625	450	950	700	1200	875	1350	1000	1700	1250	1600	1150	2000	1500
M30	675	490	850	625	1300	950	1650	1200	1850	1350	2300	1700	2150	1600	2700	2000
M33	900	675	1150	850	1750	1300	2200	1650	2500	1850	3150	2350	2900	2150	3700	2750
M36	1150	850	1450	1075	2250	1650	2850	2100	3200	2350	4050	3000	3750	2750	4750	3500

DO NOT use these values if a different torque value or tightening procedure is given for a specific application. Torque values listed are for general use only. Check tightness of fasteners periodically.

Shear bolts are designed to fail under predetermined loads. Always replace shear bolts with identical property class.

Fasteners should be replaced with the same or higher property class. If higher property class fasteners are used, these should only be tightened to the strength of the original.

^a "Lubricated" means coated with a lubricant such as engine oil, or fasteners with phosphate and oil coatings. "Dry" means plain or zinc plated without any lubrication.

Make sure fasteners threads are clean and that you properly start thread engagement. This will prevent them from failing when tightening.

Tighten plastic insert or crimped steel-type lock nuts to approximately 50 percent of the dry torque shown in the chart, applied to the nut, not to the bolt head. Tighten toothed or serrated-type lock nuts to the full torque value.

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