

Farm King

OPERATOR AND PARTS MANUAL

Easy Rake

Model 10, 12, 14 Easy Rake



082016

P4721

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Manufacturer’s Statement: For technical reasons, Buhler Industries Inc. reserves the right to modify machinery design and specifications provided herein without any preliminary notice. Information provided herein is of descriptive nature. Performance quality may depend on bale structure, applied techniques, weather conditions and other factors.

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WARRANTY REGISTRATION FORM

This form must be filled out by the dealer and signed by both the dealer and the customer at the time of delivery.

Customer Name:

Dealer Name:

Customer Address:

Dealer Address:

City:

Prov / State:

City:

Prov / State:

Postal / Zip Code:

Phone:

Postal / Zip Code:

Phone:

Equipment Name Model:

Serial Number:

Delivery Date:

I have thoroughly instructed the buyer on the above described equipment which review included the Operator's Manual content, equipment care, adjustments, safe operation and applicable warranty policy.

Dealer Inspection Report

- Bearing Seals
- Lubricate Machine
- Wheel Bolt Torque
- Fasteners Tight
- Tire Pressure
- Hydraulic Hoses

Safety

- All Lights And Reflectors Installed
- All Lights And Reflectors Cleaned And Working
- Safety Chain On Hitch
- All Decals Installed
- Guards And Shields Installed And Secure
- Review Operating And Safety Instructions
- General Adjustment And Set-up Procedures
- Transportation Requirements And Regulations

Date:

Dealer Rep. Signature:

The above equipment and Operator And Parts Manual have been received by me and I have been thoroughly instructed as to care, adjustments, safe operation and applicable warranty policy.

Date:

Customer / Owner's Signature:

Remove this Warranty Registration Form from the Operator And Parts Manual. Make two copies of the form. Send original Warranty Registration Form to Farm King. Give one copy to the customer and the dealer will keep one copy.

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INTRODUCTION

This Operator And Parts Manual was written to give the owner / operator instructions on the safe operation, maintenance and part identification of the Farm King equipment. **READ AND UNDERSTAND THIS OPERATOR AND PARTS MANUAL BEFORE OPERATING YOUR FARM KING EQUIPMENT.** If you have any questions, see your Farm King dealer. This manual may illustrate options and accessories not installed on your Farm King equipment.

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OWNER’S INFORMATION

Thank you for your decision to purchase a Farm King Easy Rake. To ensure maximum performance of your equipment, it is mandatory that you thoroughly study the Operator And Parts Manual and follow the recommendations. Proper operation and maintenance are essential to maximize equipment life and prevent personal injury.

Operate and maintain this equipment in a safe manner and in accordance with all applicable local, state, and federal codes, regulations and / or laws. Follow all on-product labeling and instructions.

Make sure that all personnel have read this Operator and Parts Manual and thoroughly understand safe and correct operating, installation and maintenance procedures.

Farm King is continually working to improve its products. Farm King reserves the right to make any improvements or changes as deemed practical and possible without incurring any responsibility or obligation to make any changes or additions to equipment sold previously.

Although great care has been taken to ensure the accuracy of this publication, Farm King makes no warranty or guarantee of any kind, written or expressed, implied or otherwise with regard to the information contained within this manual. Farm King assumes no responsibility for any errors that may appear in this manual and shall not be liable under any circumstances for incidental, consequential or punitive damages in connection with, or arising from the use of this manual.

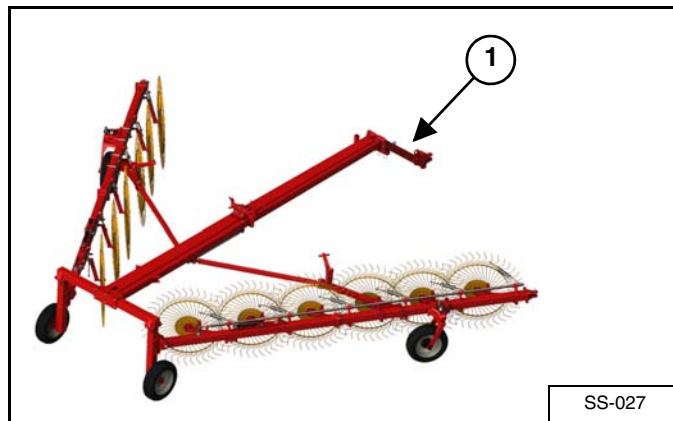
Keep this manual available for frequent reference. All new operators or owners must review the manual before using the equipment and annually thereafter. Contact your Farm King Dealer if you need assistance, information, or additional copies of the manual. Visit our website at www.farm-king.com for a complete list of dealers in your area.

The directions left, right, front and rear, as mentioned throughout this manual, are as viewed from the rear of the equipment.

Serial Number Location

Please enter the model and serial number in the space provided for easy reference.

Figure 1



Model Number: _____

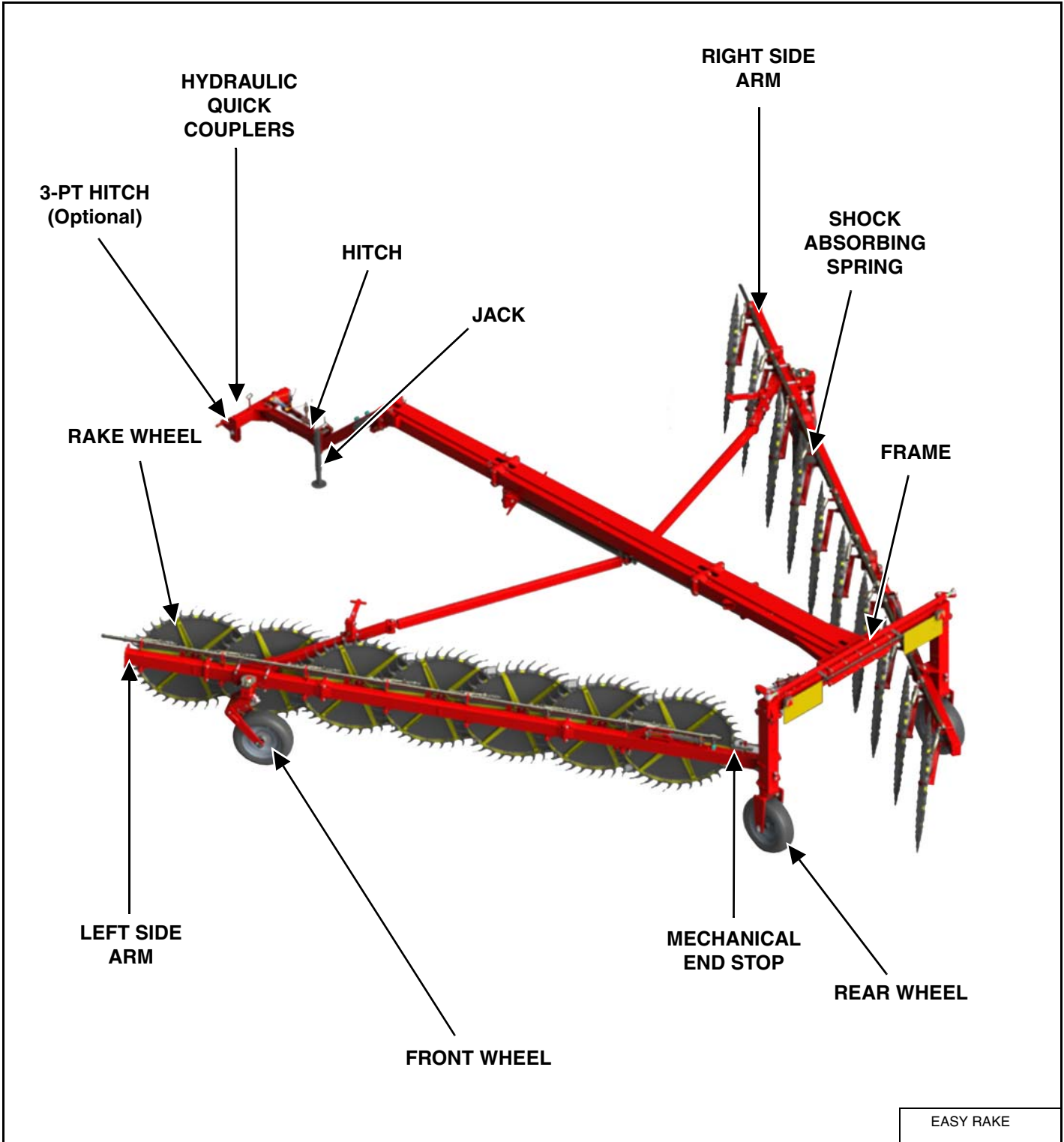
Serial Number: _____

The serial number plate (Item 1) **[Figure 1]** is located on the outside of the left frame forward of the jack.

Always use your serial number when requesting information or when ordering parts.

EQUIPMENT IDENTIFICATION

Component Location



SAFETY

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SAFETY INSTRUCTIONS

Safe Operation Is The Operator’s Responsibility

	<p>Safety Alert Symbol</p>
<p>This symbol with a warning statement means: “Warning, be alert! Your safety is involved!” Carefully read the message that follows.</p>	



CAUTION

The signal word **CAUTION** on the machine and in the manuals indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.



DANGER

The signal word **DANGER** on the machine and in the manuals indicates a hazardous situation which, if not avoided, will result in death or serious injury.



WARNING

The signal word **WARNING** on the machine and in the manuals indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



IMPORTANT

This notice identifies procedures which must be followed to avoid damage to the machine.

Safe Operation Needs A Qualified Operator



WARNING

Operators must have instructions before operating the machine. Untrained operators can cause injury or death.

For an operator to be qualified, he or she must not use drugs or alcoholic drinks which impair alertness or coordination while working. An operator who is taking prescription drugs must get medical advice to determine if he or she can safely operate a machine and the equipment.

A Qualified Operator Must Do The Following:

Understand the Written Instructions, Rules and Regulations

- The written instructions from Farm King include the Warranty Registration, Dealer Inspection Report, Operator And Parts Manual and machine signs (decals).
- Check the rules and regulations at your location. The rules may include an employer’s work safety requirements. Regulations may apply to local driving requirements or use of a Slow Moving Vehicle (SMV) emblem. Regulations may identify a hazard such as a utility line.

Have Training with Actual Operation

- Operator training must consist of a demonstration and verbal instruction. This training is given by the machine owner prior to operation.
- The new operator must start in an area without bystanders and use all the controls until he or she can operate the machine safely under all conditions of the work area. Always fasten seat belt before operating.

Know the Work Conditions

- Clear working area of all bystanders, especially small children and all obstacles that might be hooked or snagged, causing injury or damage.
- Know the location of any overhead or underground power lines. Call local utilities and have all underground power lines marked prior to operation.
- Wear tight fitting clothing. Always wear safety glasses when doing maintenance or service.

SAFETY INSTRUCTIONS (CONT'D)**Use Safety Rules**

- Read and follow instructions in this manual and the tractor's Operators Manual before operating.
- Under no circumstances should young children be allowed to work with this equipment.
- This equipment is dangerous to children and persons unfamiliar with its operation.
- If the elderly are assisting with work, their physical limitations need to be recognized and accommodated.
- Stay clear of overhead power lines. Electrocutation can occur without direct contact.
- Check for overhead and / or underground lines before operating equipment (if applicable).
- In addition to the design and configuration of equipment, hazard control and accident prevention are dependent upon the awareness, concern, prudence and proper training of personnel involved in the operation, transport, maintenance and storage of equipment.
- Check that the equipment is securely fastened to the tractor / towing vehicle.
- Make sure all the machine controls are in the NEUTRAL position before starting the machine.
- Operate the equipment only from the operator's position.
- Operate the equipment according to the Operator And Parts Manual.
- When learning to operate the equipment, do it at a slow rate in an area clear of bystanders, especially small children.
- DO NOT permit personnel to be in the work area when operating the equipment.
- The equipment must be used ONLY on approved tractors / transport vehicles.
- DO NOT modify the equipment in any way. Unauthorized modification may impair the function and / or safety and could affect the life of the equipment.
- DO NOT make any adjustments or repairs on the equipment while the machine is running.
- Keep shields and guards in place. Replace if damaged.

Transport Safety

- DO NOT exceed 20 mph (32 kph). Reduce speed on rough roads and surfaces.
- Comply with state and local laws governing highway safety and movement of machinery on public roads.
- The use of flashing amber lights is acceptable in most localities. However, some localities prohibit their use. Local laws should be checked for all highway lighting and marking requirements.
- Always install transport locks, pins or brackets before transporting.
- Always yield to oncoming traffic in all situations and move to the side of the road so any following traffic may pass.
- Always enter curves or drive up or down hills at a low speed and at a gradual steering angle.
- Never allow riders on either tractor or equipment.
- Keep tractor / towing vehicle in a lower gear at all times when traveling down steep grades.
- Maintain proper brake settings at all times (if equipped).
- Stay away from overhead power lines. Electrocutation can occur without direct contact.

Machine Requirements And Capabilities

- Stop the machine and engage the parking brake. Install blocks in front of and behind the rear tires of the machine. Install blocks underneath and support the equipment securely before working under raised equipment.
- Keep bystanders clear of moving parts and the work area. Keep children away.
- Use increased caution on slopes and near banks and ditches to prevent overturn.
- Make certain that the Slow Moving Vehicle (SMV) emblem is installed so that it is visible and legible. When transporting the equipment, use the flashing warning lights (if equipped) and follow all local regulations.
- Operate this equipment with a machine equipped with an approved Roll-Over Protective Structure (ROPS). Always wear seat belt when the ROPS is up. Serious injury or death could result from falling off the machine.
- Before leaving the operator’s position:
 1. Always park on a flat level surface.
 2. Place all controls in neutral.
 3. Engage the parking brake.
 4. Stop engine.
 5. Wait for all moving parts to stop.
- Carry passengers only in designated seating areas. Never allow riders on the machine or equipment. Falling off can result in serious injury or death.
- Start the equipment only when properly seated in the operator’s seat. Starting a machine in gear can result in serious injury or death.
- Operate the machine and equipment from the operator’s position only.
- The parking brake must be engaged before leaving the operator’s seat. Rollaway can occur because the transmission may not prevent machine movement.

FIRE PREVENTION



Maintenance

The machine and some equipment have components that are at high temperatures under normal operating conditions. The primary source of high temperatures is the engine and exhaust system. The electrical system, if damaged or incorrectly maintained, can be a source of arcs or sparks.

Flammable debris (leaves, straw, etc.) must be removed regularly. If flammable debris is allowed to accumulate, it can cause a fire hazard. Clean often to avoid this accumulation.

All fuels, most lubricants and some coolant mixtures are flammable. Flammable fluids that are leaking or spilled onto hot surfaces or onto electrical components can cause a fire.

Operation

The Farm King machine must be in good operating condition before use.

Check all of the items listed on the service schedule under the 8 hour column. (See “SERVICE SCHEDULE” on page 38.)

Do not use the machine where exhaust, arcs, sparks or hot components can contact flammable material, explosive dust or gases.

Starting

Use the procedure in the tractor’s operator’s manual for connecting the battery and for jump starting.

Electrical



Check all electrical wiring and connections for damage. Keep the battery terminals clean and tight. Repair or replace any damaged part or wires that are loose or frayed.

Hydraulic System

Check hydraulic tubes, hoses and fittings for damage and leakage. Never use open flame or bare skin to check for leaks. Hydraulic tubes and hoses must be properly routed and have adequate support and secure clamps. Tighten or replace any parts that show leakage.

Always clean fluid spills. Do not use gasoline or diesel fuel for cleaning parts. Use commercial nonflammable solvents.

Welding And Grinding

Always clean the machine and equipment, disconnect the battery, and disconnect the wiring from the machine controls before welding. Cover rubber hoses, battery and all other flammable parts. Keep a fire extinguisher near the machine when welding.

Have good ventilation when grinding or welding painted parts. Wear dust mask when grinding painted parts. Toxic dust or gas can be produced.

Dust generated from repairing nonmetallic parts such as hoods, fenders or covers can be flammable or explosive. Repair such components in a well ventilated area away from open flames or sparks.

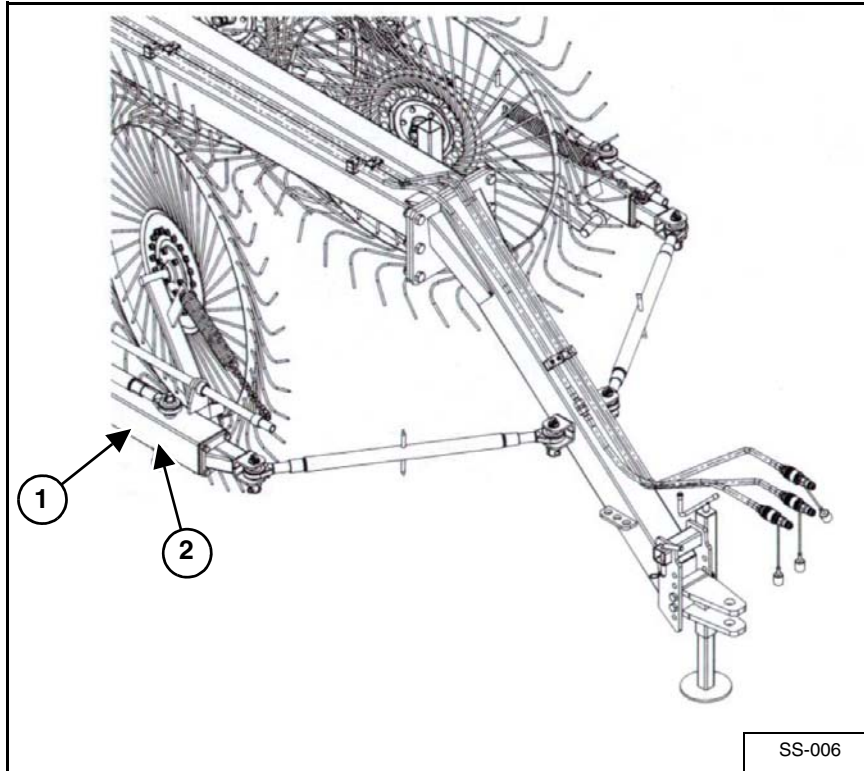
Fire Extinguishers



Know where fire extinguishers and first aid kits are located and how to use them. Inspect the fire extinguisher and service the fire extinguisher regularly. Obey the recommendations on the instructions plate.

SAFETY SIGNS (DECALS)

Follow the instructions on all the Signs (Decals) that are on the equipment. Replace any damaged signs (decals) and be sure they are in the correct locations. Equipment signs are available from your Farm King equipment dealer.



1



FLYING DEBRIS HAZARD

Objects in the field of operation may be caught and thrown by the teeth of the wheel.

2



ROTATING HAZARD

As the star wheel rotates, there is a risk the teeth will snag on the operator clothes or other objects on the bystander's body.

SAFETY SIGN-OFF FORM



Instructions are necessary before operating or servicing equipment. Read and understand the Operator And Parts Manual and safety signs (decals) on equipment. Follow warnings and instructions in the manuals when making repairs, adjustments or servicing. Check for correct function after adjustments, repairs or service. Untrained operators and failure to follow instructions can cause injury or death.

Farm King 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 Easy Rake must read and clearly understand ALL Safety, Operating and Maintenance information presented in this manual.

Annually review this information before the season start-up and make these periodic reviews of SAFETY and OPERATION a standard practice for all of your equipment. An untrained operator is unqualified to operate this machine.

The following sign-off sheet is provided for your record and to show that all personnel who will be working with the equipment have read and understand the information in this Operator And Parts Manual and have been instructed in the operation of the equipment.

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GENERAL INFORMATION

Pre - Operation Checklist

Before operating the Easy Rake for the first time and each time thereafter, check the following items:



MOVING PART HAZARD

To prevent serious injury or death from moving parts:

- Keep hands, feet, hair and clothing away from moving parts.
- Disconnect and lockout power source before adjusting or servicing.
- Do not stand or climb on machine when operating.



AVOID INJURY OR DEATH

Wear safety glasses to prevent eye injury when any of the following conditions exist:

- When fluids are under pressure.
 - Flying debris or loose material is present.
 - Engine is running.
 - Tools are being used.
-
1. Lubricate the equipment per the schedule outline in the Maintenance Section. (See “SERVICE SCHEDULE” on page 38.)
 2. Check the Easy Rake hitch for damaged, loose or missing parts. Repair as needed before operation.
 3. Check that tire pressure.
 4. Check that wheel bolt torque.
 5. Fully clean the equipment.
 6. Inspect all safety reflective decals, slow moving vehicle decals and lights where applicable.



Leaking fluids under pressure can enter the skin and cause serious injury or death. Immediate medical attention is required. Wear goggles. Use cardboard to check for leaks.

7. Check condition of all hydraulic components for leaks. Repair as required.

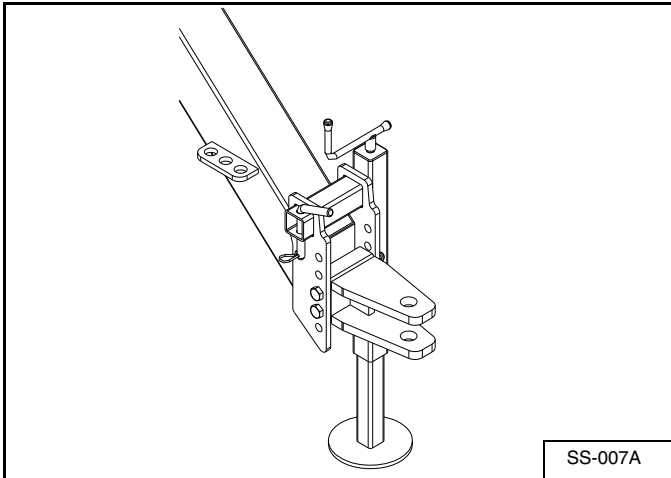
NOTE: Do not operate with hydraulic leaks.

8. Verify that the mobile chassis lock has been removed.
9. Verify that the Easy Rake is properly connected to the tractor with the safety chain.

Break - In Checklist

Check the following mechanical items after 1 hour of operation and again after 10 hours of operation:

1. Check condition of all hydraulic components for leaks. Tighten fittings to correct leaks or replace components. Do not operate with hydraulic leaks.

Figure 2

2. Check the Easy Rake hitch for damaged, loose or missing parts [Figure 2]. Repair as needed before operation.
3. Check for loose fasteners and hardware. Tighten as required.
4. Check that tire pressure.
5. Check that wheel bolt torque.

Tractor Requirements



AVOID SERIOUS INJURY OR DEATH

The tractor must be equipped with an approved Roll Over Protection Structure (ROPS) and safety belts to help prevent personal injury or death caused by tractor roll over.

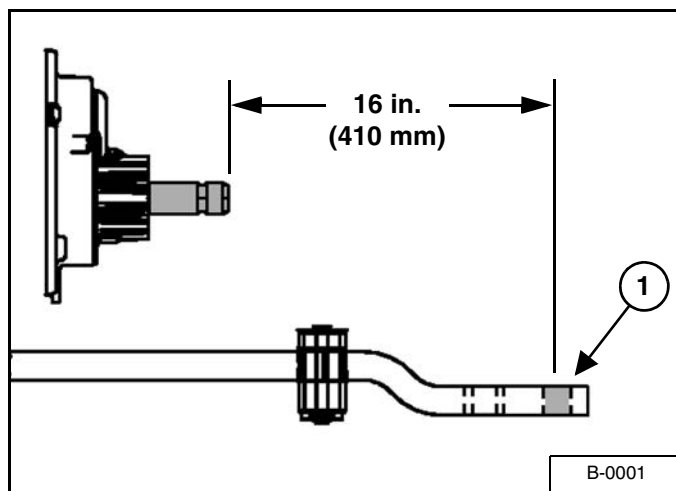
The Easy Rake will require a tractor with minimum 80 hp (60 kw) and one pair of remote outlets.



Towing Vehicle / Tractor must have adequate braking capacity to safely control GVW trailing load. Do not tow over 20 mph (32 km/h). Towing Vehicle / Tractor unit should weigh approximately 67% of GVW.

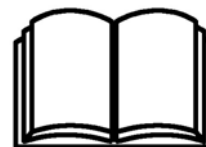
Drawbar Adjustment

Figure 3



Adjust the tractor's drawbar in / out, until the center of the hitch pin hole (Item 1) [Figure 3] is 16 inches (410 mm) from the end of the tractor's PTO shaft. See your tractor's owner's manual for correct adjustment procedures.

Entering And Leaving The Operator's Position



Follow the instructions in your tractor's operation manual for the correct procedure.

Entering The Operator's Position

Move to the operator's position, start the engine and release the parking brake.

Leaving The Operator's Position



AVOID INJURY OR DEATH

Before you leave the operator's position:

- Always park on a flat level surface.
- Place all controls in NEUTRAL.
- Engage the park brake.
- Stop the engine and remove the key.
- Wait for all moving parts to stop.

Park the tractor / equipment on a flat level surface.

Place all controls in neutral, engage the park brake, stop the engine and wait for all moving parts to stop. Leave the operator's position.

GENERAL ASSEMBLY INFORMATION

Component Unloading And Identification

NOTE: If any components are damaged, missing or replacement parts are required, contact your Farm King Dealer.

Assemble the Easy Rake as required following the assembly instructions shipped with the Easy Rake.



ELECTROCUTION HAZARD

To prevent serious injury or death from electrocution:

- Be aware of overhead power lines.
- Keep away from power lines when unloading and assembling the Easy Rake.
- Electrocution can occur without direct contact.



- DO NOT permit bystanders to be in the work area when unloading and assembling the Easy Rake components.
- DO NOT work under suspended parts.
- Keep away from moving parts.
- Always use lifting devices / vehicles, chains or straps of adequate size and strength when unloading and assembling the Easy Rake components.

Unload the crate(s) and components on a flat level area of adequate size to assemble the Easy Rake.



Unload crate(s) and Easy Rake components carefully to prevent damage to any of the components.

INITIAL SET-UP

Connecting The Easy Rake To The Tractor

Always inspect the tractor’s drawbar and Easy Rake hitch before connecting. See the tractor’s owner’s manual.

Verify that the tractor’s drawbar is adjusted correctly for use with the Easy Rake. (See “Drawbar Adjustment” on page 23.)

Enter the operator’s position. (See “Entering The Operator’s Position” on page 23.)

Move the tractor into position in front of the Easy Rake.



AVOID INJURY OR DEATH

Before moving the tractor, look in all directions and make sure no bystanders, especially small children are in the work area. Do not allow anyone between the tractor and the equipment when backing up to the equipment for connecting.

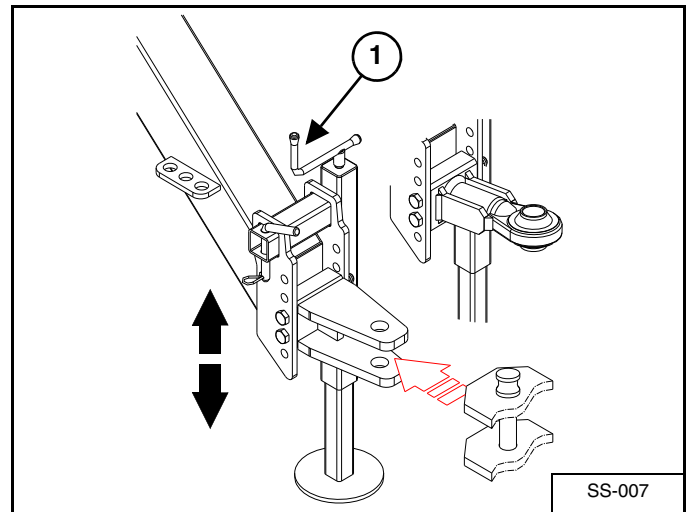
Move the tractor backwards, aligning the drawbar with the Easy Rake hitch.

NOTE: The jack may need to be lowered or raised for proper alignment of the drawbar and hitch.

If the Easy Rake hitch needs to be adjusted, stop the tractor when drawbar is just in front of the Easy Rake hitch.

Leave the operator’s position. (See “Leaving The Operator’s Position” on page 23.)

Figure 4



Turn the handle (Item 1) [Figure 4] clockwise to raise the hitch or counterclockwise to lower the hitch.

Lower or raise the Easy Rake hitch until aligned with the tractor’s drawbar.

Move to the operator’s seat, start the engine and release the parking brake.

Move the tractor backwards, aligning the drawbar hitch pin hole with the Easy Rake hitch pin hole(s).

Stop the tractor and leave operator’s position.

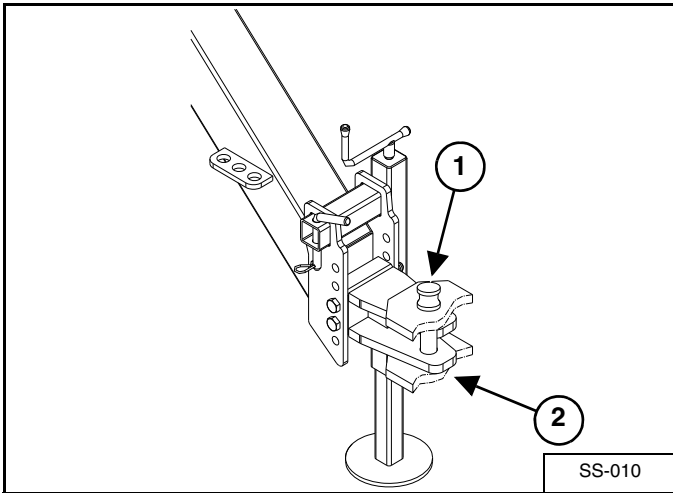


AVOID INJURY OR DEATH

Keep fingers and hands out of pinch points when connecting and disconnecting equipment.

NOTE: Always use a hitch pin of adequate size and strength and a retaining pin with a locking device.

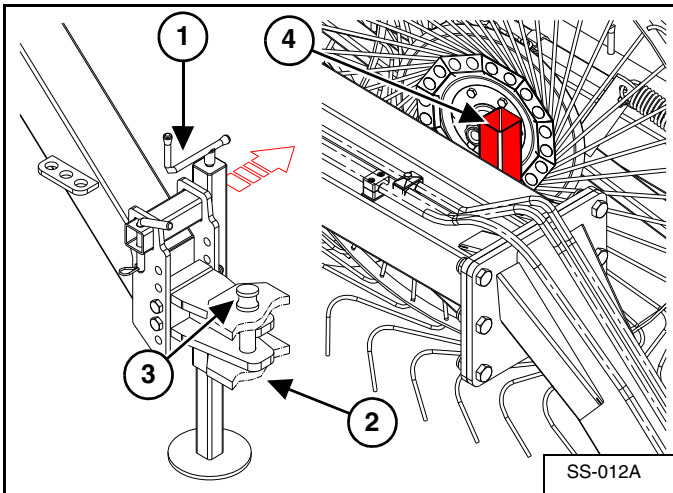
Figure 5



Install the hitch pin (Item 1) and retaining pin (Item 2) **[Figure 5]** to securely fasten the Easy Rake hitch to the tractor drawbar.

Attach the safety chain (if equipped).

Figure 6



Turn the handle (Item 1) **[Figure 6]** counterclockwise to lower the hitch, placing Easy Rake weight on the tractor's drawbar.

Remove retaining pin (Item 2) and pin (Item 3) **[Figure 6]**. Remove jack.

Place jack into the storage mount on the frame (Item 4) **[Figure 6]**. Reinstall pin and retaining pin securing the jack in the transport position.

Leveling The Easy Rake

! IMPORTANT

The Easy Rake frame must be adjusted down or up until the Easy Rake is parallel with the ground prior to operation.

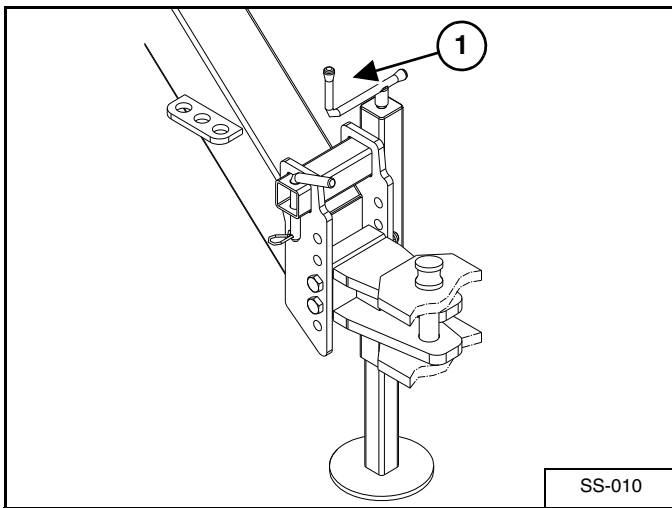
! WARNING

AVOID INJURY OR DEATH

Wear safety glasses to prevent eye injury when any of the following conditions exist:

- When fluids are under pressure.
- Flying debris or loose material is present.
- Engine is running.
- Tools are being used.

Figure 7

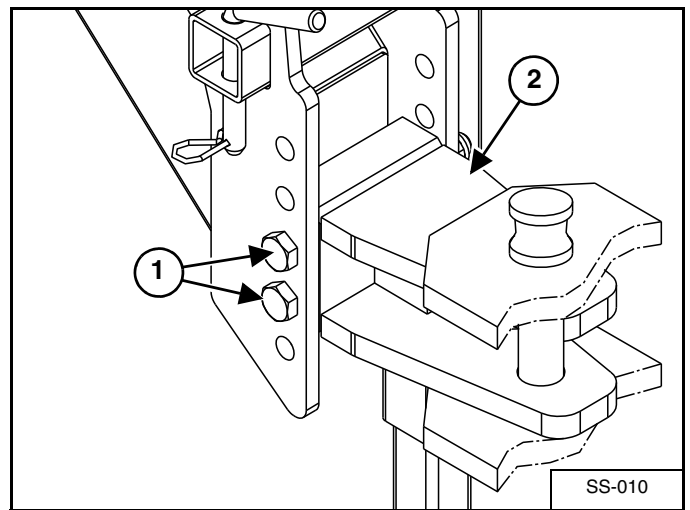


With the Easy Rake attached to the tractor, lower the jack from the transport position. Using the handle (Item 1) [Figure 7] on the jack, raise the jack until the weight of the Easy Rake is on the jack. This will allow the clevis mounting bolts to be loosened and moved for leveling (if required).

! IMPORTANT

Place one support stand under the two hitch beams, to evenly support the hitch beams. The two hitch beams pivot independent from each other. Hitch beam without jack will drop to the ground.

Figure 8



Remove the two clevis mounting bolts (Item 1) [Figure 8] and nuts.

Raise or lower the jack until the Easy Rake frame is parallel with the ground. Raise or lower the clevis (Item 2) [Figure 8] and align the closest clevis mounting holes with frame. Install the two bolts.

Tighten the two clevis mounting bolts to the correct torque and raise the jack into the storage position.

! IMPORTANT

The objective of adjusting the hitch height is to bring the Easy Rake hitch parallel to the ground.

Connecting Hydraulic Lines



HIGH PRESSURE FLUID HAZARD

To prevent serious injury or death from high pressure fluid:

- Relieve pressure on system before repairing or adjusting.
- Wear proper hand and eye protection when searching for leaks. Use wood or cardboard instead of hands.
- Keep all components in good repair.

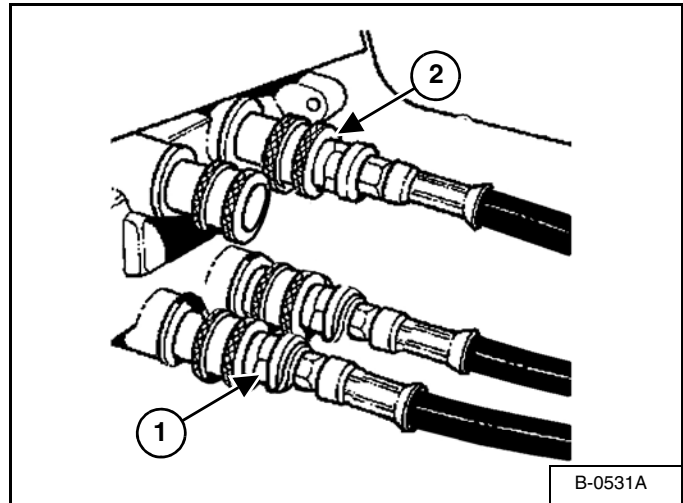


- Contain and dispose of any oil leakage in an environmentally safe manner.
- Thoroughly clean the quick couplers before making connections. Dirt can quickly damage the system.

NOTE: Make sure the quick couplers are fully engaged. If the quick couplers do not fully engage, check to see that the couplers are the same size and type.

To Connect:

Figure 9



Connect the three hydraulic lines to the tractor [Figure 9].

1. Extend / Retract lift cylinders.
2. Extend / Retract wing cylinders.

To Disconnect:



AVOID BURNS

Hydraulic fluid, tubes, fittings and quick couplers can get hot when running equipment. Be careful when connecting and disconnecting quick couplers.

Pull on the hydraulic lines to disconnect.

Kicker Rake Wheel Adjustment (If Equipped)



AVOID INJURY OR DEATH

Before you leave the operator's position:

- Always park on a flat level surface.
- Place all controls in NEUTRAL.
- Engage the park brake.
- Stop the engine and remove the key.
- Wait for all moving parts to stop.

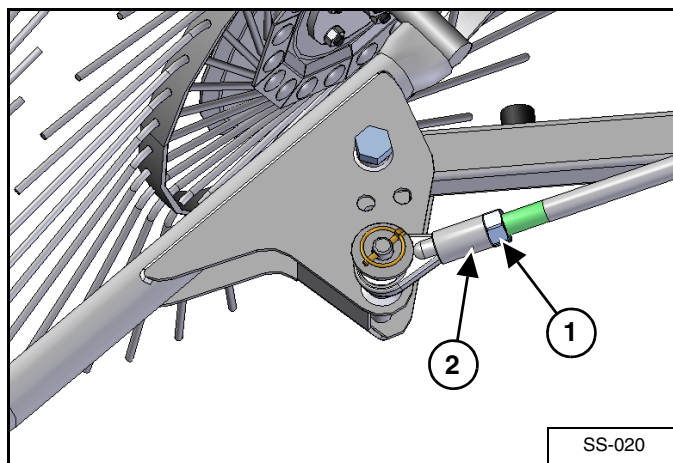


AVOID INJURY OR DEATH

Wear safety glasses to prevent eye injury when any of the following conditions exist:

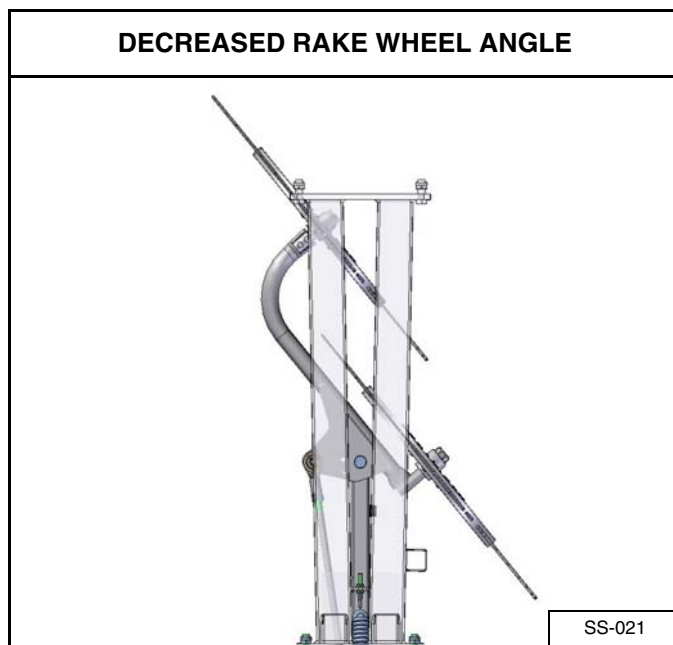
- When fluids are under pressure.
- Flying debris or loose material is present.
- Engine is running.
- Tools are being used.

Figure 10



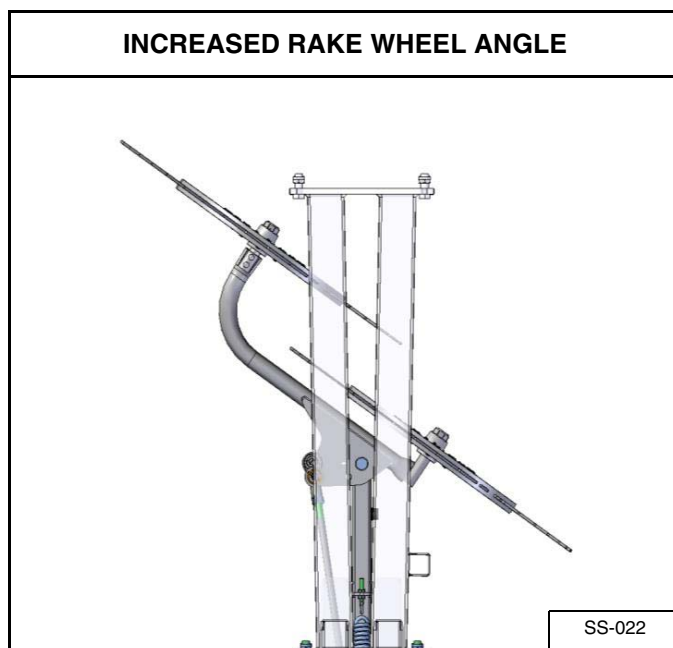
Loosen the jam nut (Item 1), loosen or tighten the bushing (Item 2) [Figure 10] to increase or decrease angle of the two kicker rake wheels.

Figure 11



Decreased Rake Wheel Angle [Figure 11] - Hay is discharged better from the rake wheels, but the ground isn't cleared as efficiently.

Figure 12



Increased Rake Wheel Angle [Figure 12] - Hay isn't discharged as efficiently from the rake wheels, but the ground is cleared better.

Operating Setup



Before operating the equipment:

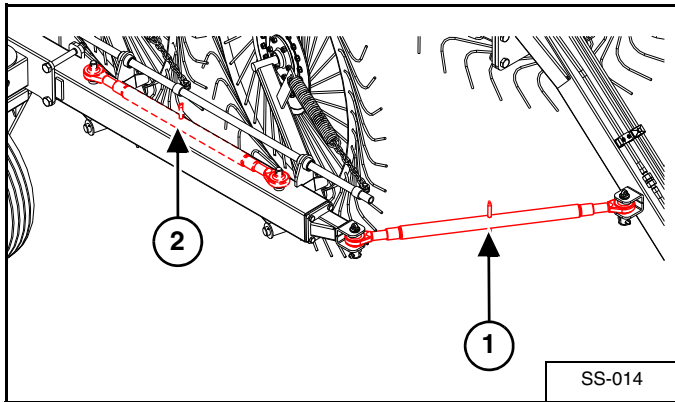
- Clear the work area of all bystanders, especially small children and animals.
- Clear the work area of all obstacles.
- Keep shields and all guards in place.
- Keep away from moving parts.

Move to the operator's position, start the engine and release the parking brake. (See "Entering The Operator's Position" on page 23.)

Move the tractor and Easy Rake to work area.

Leave the operator's position. (See "Leaving The Operator's Position" on page 23.)

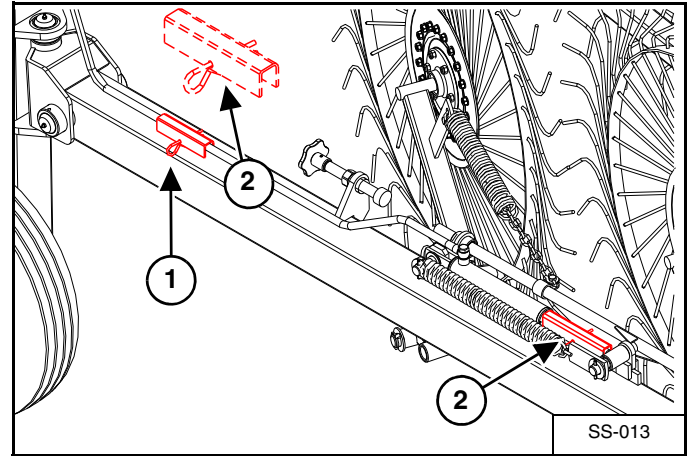
Figure 13



Remove pins and retaining pins from both ends of the tie rod and remove the tie rod (Item 1) [Figure 13] from the transport position.

Place tie rod on mobile chassis pins. Install retaining pins on both ends to secure the tie rod (Item 2) [Figure 13] in the operating position.

Figure 14



Remove the retaining pin (Item 1) and remove the cylinder stop (Item 2) [Figure 14] from the transport position.

Place cylinder stop (Item 2) [Figure 14] over the hydraulic cylinder rod and reinstall retaining pin, securing the cylinder stop in the operating position.

Repeat procedure for opposite side of the Easy Rake.

Swathing



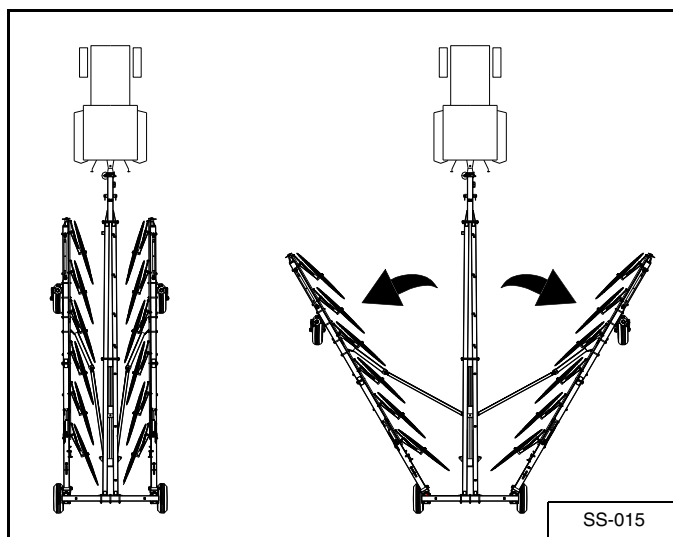
Before operating the equipment:

- Clear the work area of all bystanders, especially small children and animals.
- Clear the work area of all obstacles.
- Keep shields and all guards in place.
- Keep away from moving parts.

Move to the operator's position, start the engine and release the parking brake. (See "Entering The Operator's Position" on page 23.)

Move the tractor and Easy Rake to the starting point in the work area.

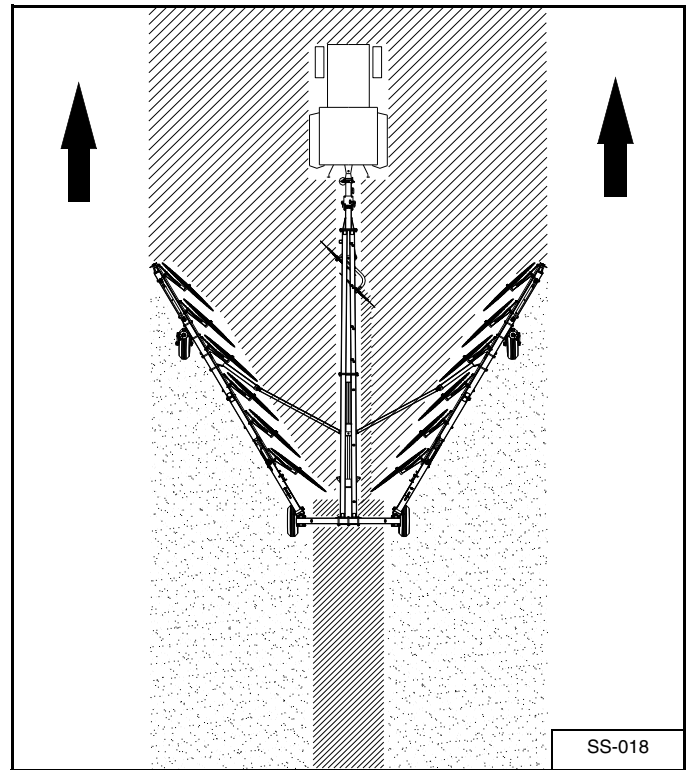
Figure 15



Stop the tractor, fully open and lower the mobile chassis' until the rake wheels contact the ground [Figure 15].

NOTE: Fully opened, the Easy Rake covers approximately 33 ft. (10 m) for some models.

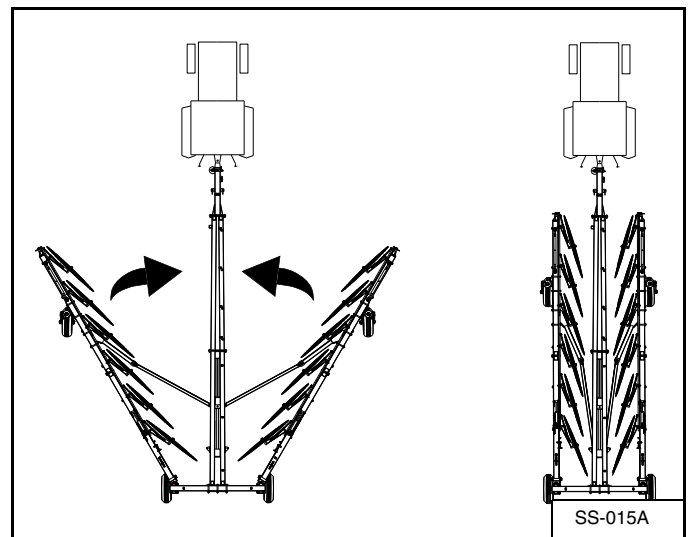
Figure 16



Drive tractor as straight forward as possible [Figure 16].

Changing Directions

Figure 17



Changing Direction - A short distance before the end of the work area, close and raise the mobile chassis', and the kicker wheels (if equipped) [Figure 17] before changing direction.

Adjusting Swathing Width



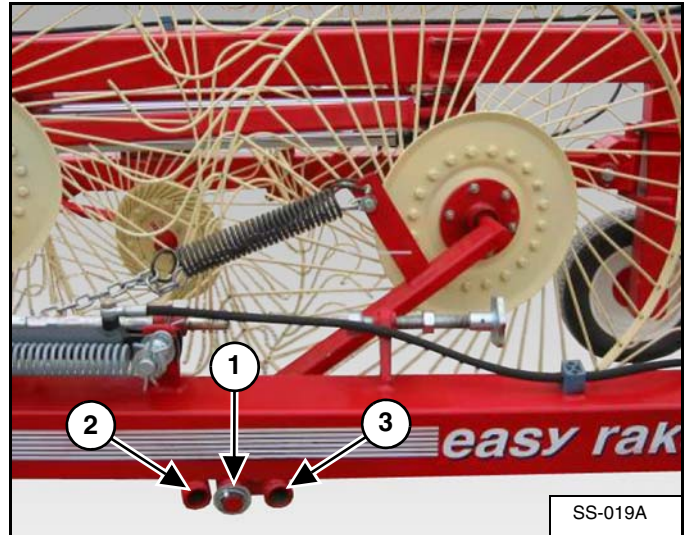
Before operating the equipment:

- Clear the work area of all bystanders, especially small children and animals.
- Clear the work area of all obstacles.
- Keep shields and all guards in place.
- Keep away from moving parts.

Move to the operator's position, start the engine and release the parking brake. (See "Entering The Operator's Position" on page 23.)

Move the tractor and Easy Rake to flat level surface of the work area.

Figure 18



Decreasing Windrow Width

Remove retaining pin and washer (Item 1), move the rake wheel assembly to rear mounting hole (Item 2) [Figure 18].

Increasing Windrow Width

Remove retaining pin and washer (Item 1), move the rake wheel assembly to front mounting hole (Item 3) [Figure 18].

TRANSPORTING

Requirements

Comply with federal, state, local and provincial laws regarding the transport of farm equipment on public roadways.



AVOID SERIOUS INJURY OR DEATH

Use of an unapproved hitch or tractor / tow vehicle can result in loss of control, leading to serious injury or death.

Tractor / tow vehicle and hitch must have the rated capacity to tow equipment.



AVOID SERIOUS INJURY OR DEATH

Excess weight will greatly increase tractor stopping distance and may cause the operator to lose control of the tractor or tow vehicle.



Towing Vehicle / Tractor must have adequate braking capacity to safely control GVW trailing load. Do not tow over 20 mph (32 km/h). Towing Vehicle / Tractor unit should weigh approximately 67% of GVW.

Verify that the tractor / tow vehicle is approved for transporting the equipment and that the equipment is securely attached to the tractor / tow vehicle.

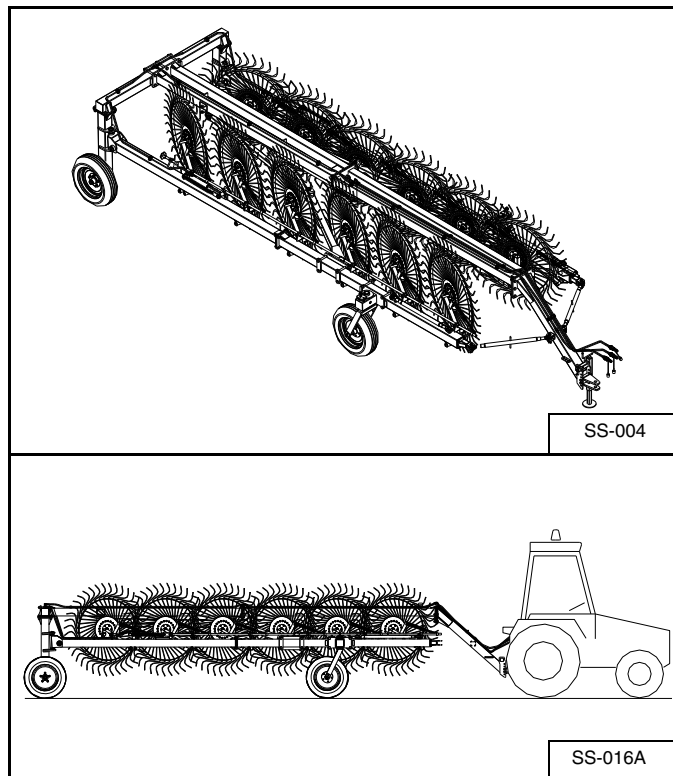
Verify safety chain is installed and properly connected before transporting equipment.

Verify that the SMV (Slow Moving Vehicle) emblem, all lights and reflectors are clean and visible.

Transport Position

NOTE: Tie rods, cylinder stops and front wheel transport guides must be installed prior to transporting the Easy Rake.

Figure 19



Fully raise mobile chassis' and fully close mobile chassis' [Figure 19].

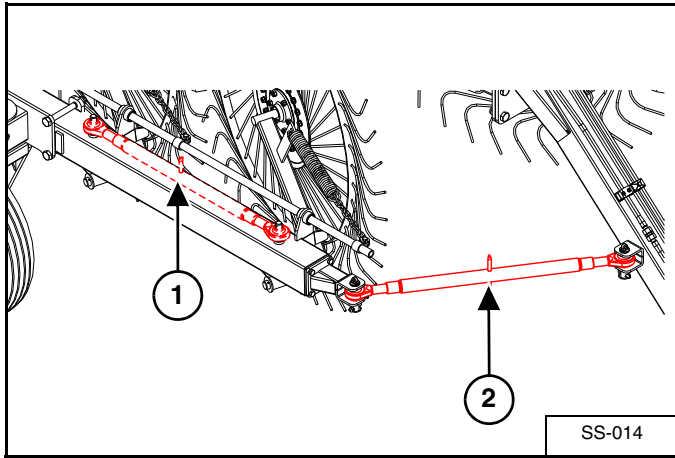
Secure in transport position. (See "Placing Into Transport Position" on page 34.)

Fully raise kicker wheel (if equipped). Lock in transport position.

Transporting Easy Rake [Figure 19].

Placing Into Transport Position

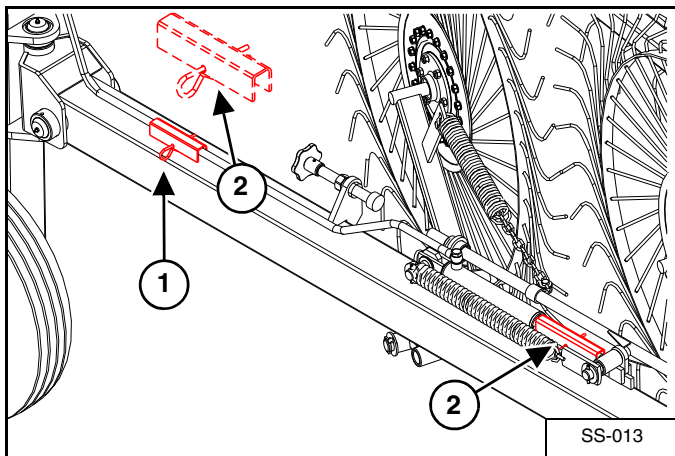
Figure 20



Remove the retaining pins from both ends of the tie rod and remove the tie rod (Item 1) [Figure 20] from the storage pins on the frame.

Align tie rod with mobile chassis bracket and center frame mounting pin. Install retaining pins on both ends to secure the tie rod (Item 2) [Figure 20] in the transport position.

Figure 21



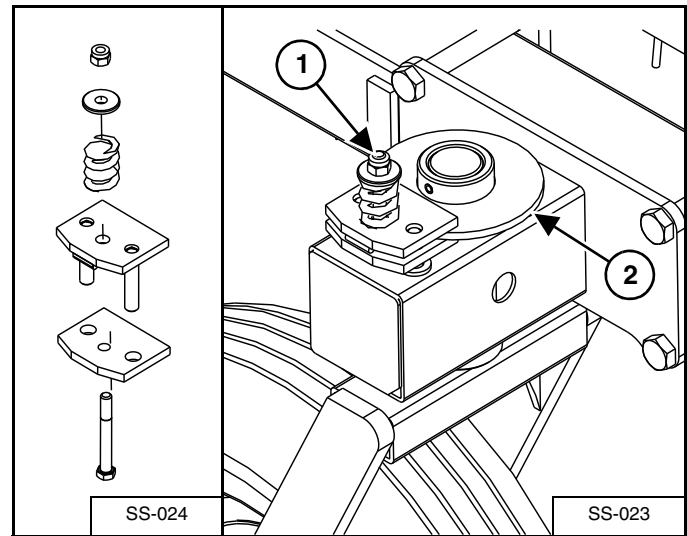
Remove the retaining pin (Item 1) [Figure 21] and remove the cylinder stop from the storage position.

Place cylinder stop (Item 2) [Figure 21] over the cylinder rod and reinstall retaining pin, securing the cylinder stop in the transport position.

! IMPORTANT

Applying pressure to the brake shoes against the brake disc limits front wheel movement when transporting the Easy Rake.

Figure 22



Tighten nut (Item 1) to compress the spring, applying down pressure on the upper brake shoe. Tighten nut until the desired brake pressure is applied to the brake disc (Item 2) [Figure 22].

Repeat procedure for opposite side of the Easy Rake.

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TROUBLESHOOTING

General Chart



Instructions are necessary before operating or servicing equipment. Read and understand the Operator And Parts Manual and safety signs (decals) on equipment. Follow warnings and instructions in the manuals when making repairs, adjustments or servicing. Check for correct function after adjustments, repairs or service. Untrained operators and failure to follow instructions can cause injury or death.

NOTE: If a problem is encountered that is difficult to solve, even after having read through this troubleshooting section, please call your local distributor or dealer. Before you call, please have this Operator And Parts Manual and the serial number of your machine at hand.

PROBLEM	CAUSE	CORRECTION
Hydraulic functions operating.	Hydraulic oil level low.	Check hydraulic oil level. Fill hydraulic oil as needed.
	Damaged hydraulic hose or loose connection.	Check all hoses and connections. Repair or replace as needed.
	Hydraulic pump damaged.	Check tractor's hydraulic system.
	Hydraulic oil filter plugged.	Clean or replace hydraulic oil filter.
Hydraulic functions operating intermittently.	Air in hydraulic system.	Remove air from hydraulic system.
Hydraulic cylinders not holding position.	Worn hydraulic seals in cylinders.	Replace seals.
Overheated hydraulic oil.	Hydraulic oil filter plugged.	Clean or replace hydraulic oil filter.
	Crushed hydraulic hose / line.	Repair or replace hydraulic hose / line.
	Oil level low.	Fill hydraulic oil as needed.
Losing hydraulic oil.	Damaged hydraulic hose or loose connection.	Check all hoses and connections. Repair or replace as needed.
	Worn hydraulic seals in cylinders.	Replace seals.

SERVICE SCHEDULE

Maintenance Intervals

Maintenance work must be done at regular intervals. Failure to do so will result in excessive wear and early failures. The service schedule is a guide for correct maintenance of the Easy Rake.



Instructions are necessary before operating or servicing equipment. Read and understand the Operator and Parts Manual and safety signs (decals) on equipment. Follow warnings and instructions in the manuals when making repairs, adjustments or servicing. Check for correct function after adjustments, repairs or service. Untrained operators and failure to follow instructions can cause injury or death.

#	DESCRIPTION	SERVICE PROCEDURES						
		Check	Clean	Lube	Change	Adjust	Drain	Locations
Daily Maintenance (or every 8 hours)								
1	Tire Pressure	•						
2	Wheel Bolts	•						
3	Hydraulic Hoses And Connections	•		•				
4	Hydraulic Cylinders	•		•				
Weekly (or every 50 hours)								
5	Hydraulic Hoses And Connections	•						
6	Hydraulic Cylinders	•						
7	Check All Hardware And Safety Devices.	•						
8	Easy Rake Condition	•	•					

LUBRICATION

Recommendations

Always use a good quality multi-purpose / lithium base grease when lubricating the equipment.



Do not over-grease. Greasing too often can lead to premature component failure.

- Always use a hand-held grease gun.
- Clean fitting before greasing, to avoid injecting dirt and grit.
- Replace and repair broken fittings immediately.
- If fittings will not take grease, remove and clean thoroughly. Replace fitting if necessary.

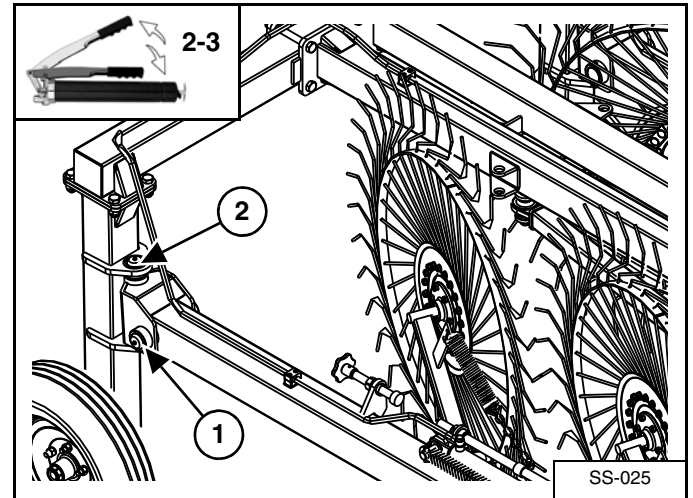
Locations



Fluid such as engine oil, hydraulic fluid, coolants, grease, etc. must be disposed of in an environmentally safe manner. Some regulations require that certain spills and leaks on the ground must be cleaned in a specific manner. See local, state and federal regulations for the correct disposal.

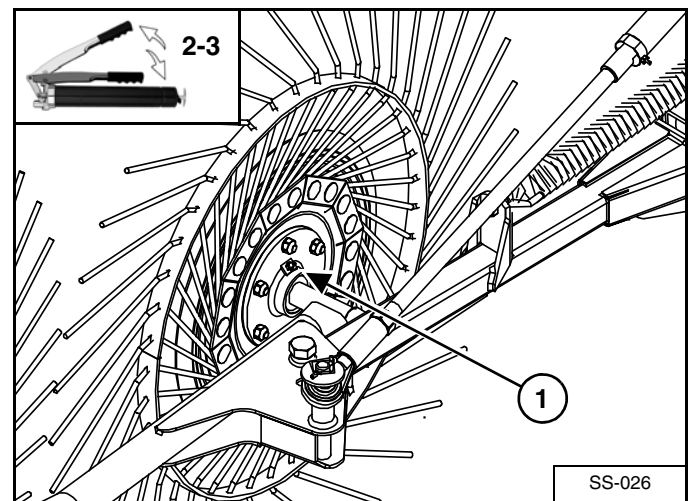
Lubricate the following grease locations EVERY 8 HOURS:

Figure 23



Apply two - three pumps of grease to all locations of the vertical pivot pins (Item 1) and horizontal pivot pins (Item 2) [Figure 23].

Figure 24



Apply two - three pumps of grease to all locations of the rake wheel hubs (Item 1) [Figure 24].

WHEEL / TEETH REPLACEMENT

Wheel Removal And Installation

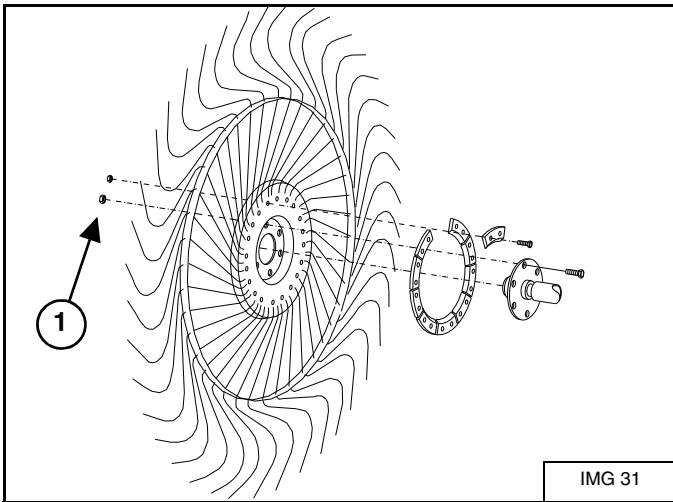


AVOID INJURY OR DEATH

Before you leave the operator's position:

- Always park on a flat level surface.
- Place all controls in NEUTRAL.
- Engage the park brake.
- Stop the engine and remove the key.
- Wait for all moving parts to stop.

Figure 25



Remove the six nuts (Item 1) [Figure 25] and remove the wheel from the hub.

Align and install new wheel. Install the six nuts and tighten to securely fasten the wheel to the hub.

Removing And Installing Teeth

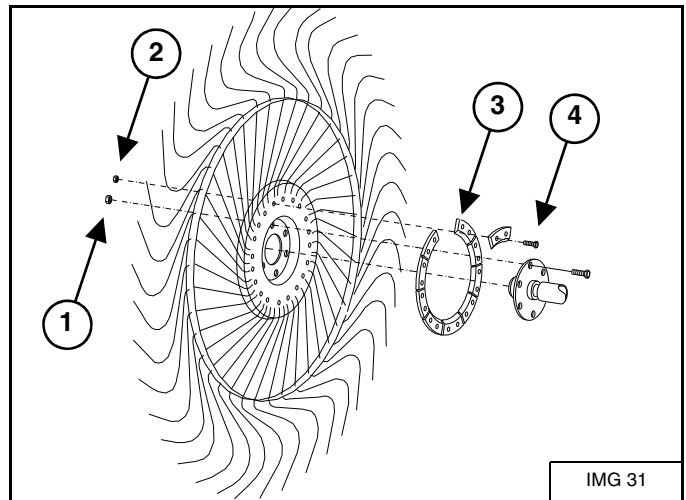


AVOID INJURY OR DEATH

Before you leave the operator's position:

- Always park on a flat level surface.
- Place all controls in NEUTRAL.
- Engage the park brake.
- Stop the engine and remove the key.
- Wait for all moving parts to stop.

Figure 26



Remove the six nuts (Item 1) [Figure 26] and remove the wheel from the hub.

Remove the two nuts (Item 2) and retaining plate (Item 3) [Figure 26].

Replace broken or worn teeth as needed.

Align and install retaining plate. Install the two bolts (Item 4) [Figure 26] and nuts.

Align and install wheel. Install the six nuts (Item 1) [Figure 26] and tighten to securely fasten the wheel to the hub.

SAFETY SIGN (DECAL) INSTALLATION

Procedure



When replacing safety signs (decals), the temperature must be above 10° C (50° F).

- Remove all portions of the damaged safety sign (decal).
- Thoroughly clean the area with glass cleaner. Remove all adhesive residue.
- Allow the area to dry completely before installing the new safety sign (decal).
- Position the safety sign (decal) in the correct location. Remove a small portion of the backing paper on the safety sign (decal).
- Press on the safety sign (decal) where the backing paper has been removed.
- Slowly remove the remaining backing paper, pressing on the safety sign (decal) as the backing paper is removed.
- Using the backing paper, pressing firmly, move the backing paper over the entire safety sign (decal) area.

NOTE: Small air pockets can be pierced with a pin and smoothed out using the piece of the backing paper.

STORAGE AND RETURN TO SERVICE**Storage**

Sometimes it may be necessary to store your Farm King Easy Rake for an extended period of time. Below is a list of items to perform before storage.



DO NOT permit children to play on or around the stored machine.

- Thoroughly clean the equipment.
- Lubricate the equipment.
- Inspect the hitch and all welds on the equipment for wear and damage.
- Check for loose hardware, missing guards, or damaged parts.
- Check for damaged or missing safety signs (decals). Replace if necessary.
- Replace worn or damaged parts.
- Touch up all paint nicks and scratches to prevent rusting.
- Store the Easy Rake in a clean, dry, sheltered area.
- Place the equipment flat on the ground.

Return To Service

After the Farm King Easy Rake has been in storage, it is necessary to follow a list of items to return the equipment to service.

- Be sure all shields and guards are in place.
- Lubricate the equipment.
- Clean and inspect pusher chain for excessive wear or stiffness. Check for proper adjustment and alignment.
- Inspect and repack wheel bearings with a SAE multi purpose type grease.
- Check that tires are properly inflated.
- Connect to a tractor and operate equipment, verify all functions operate correctly.
- Check for leaks. Repair as needed.
- Review the Operator's Manual.

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Farm King



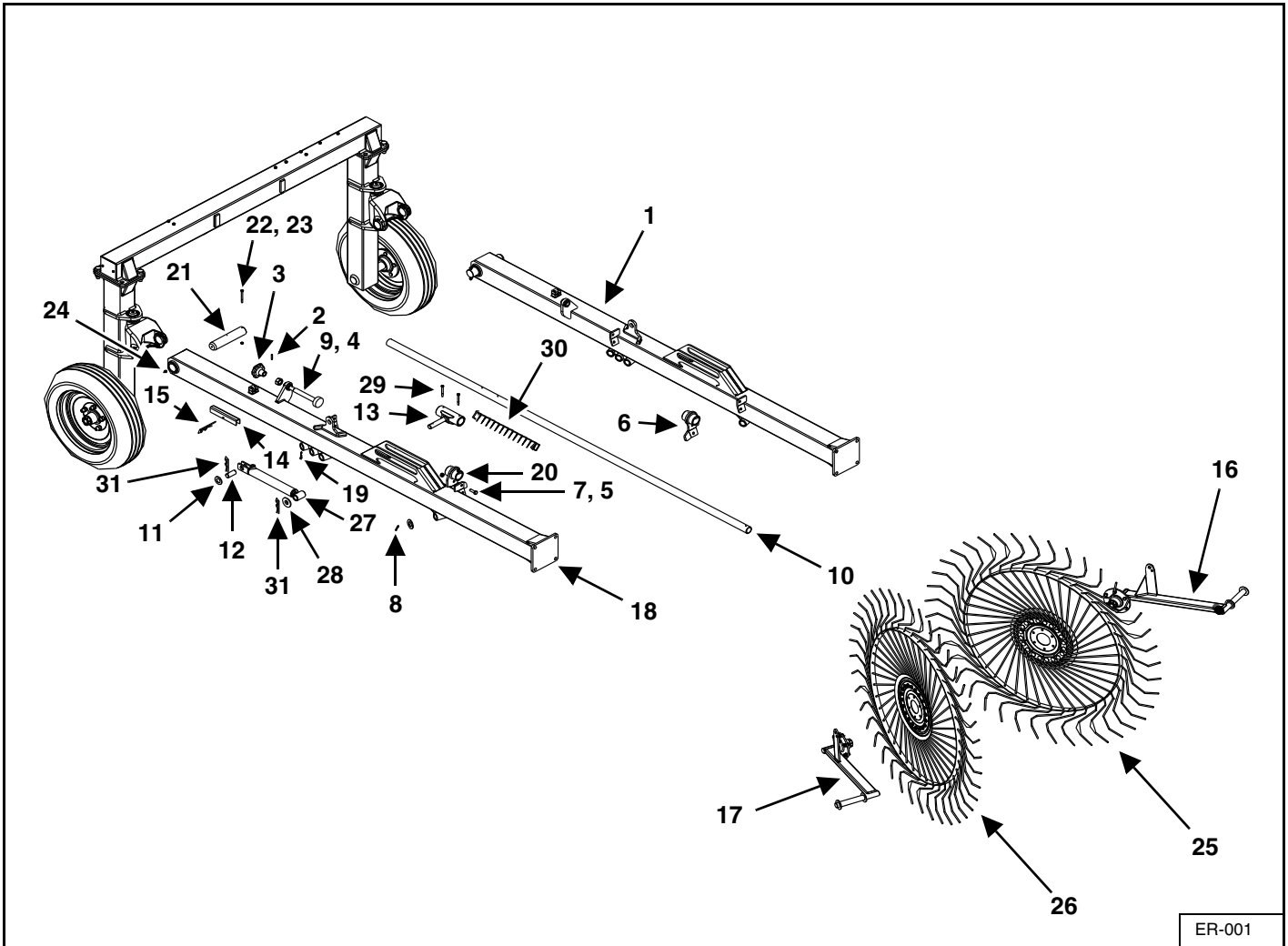
GENERAL INFORMATION

The parts identification section lists descriptions, part numbers and quantities for the Easy Rake. Contact your Farm King dealer for additional Easy Rake parts information.



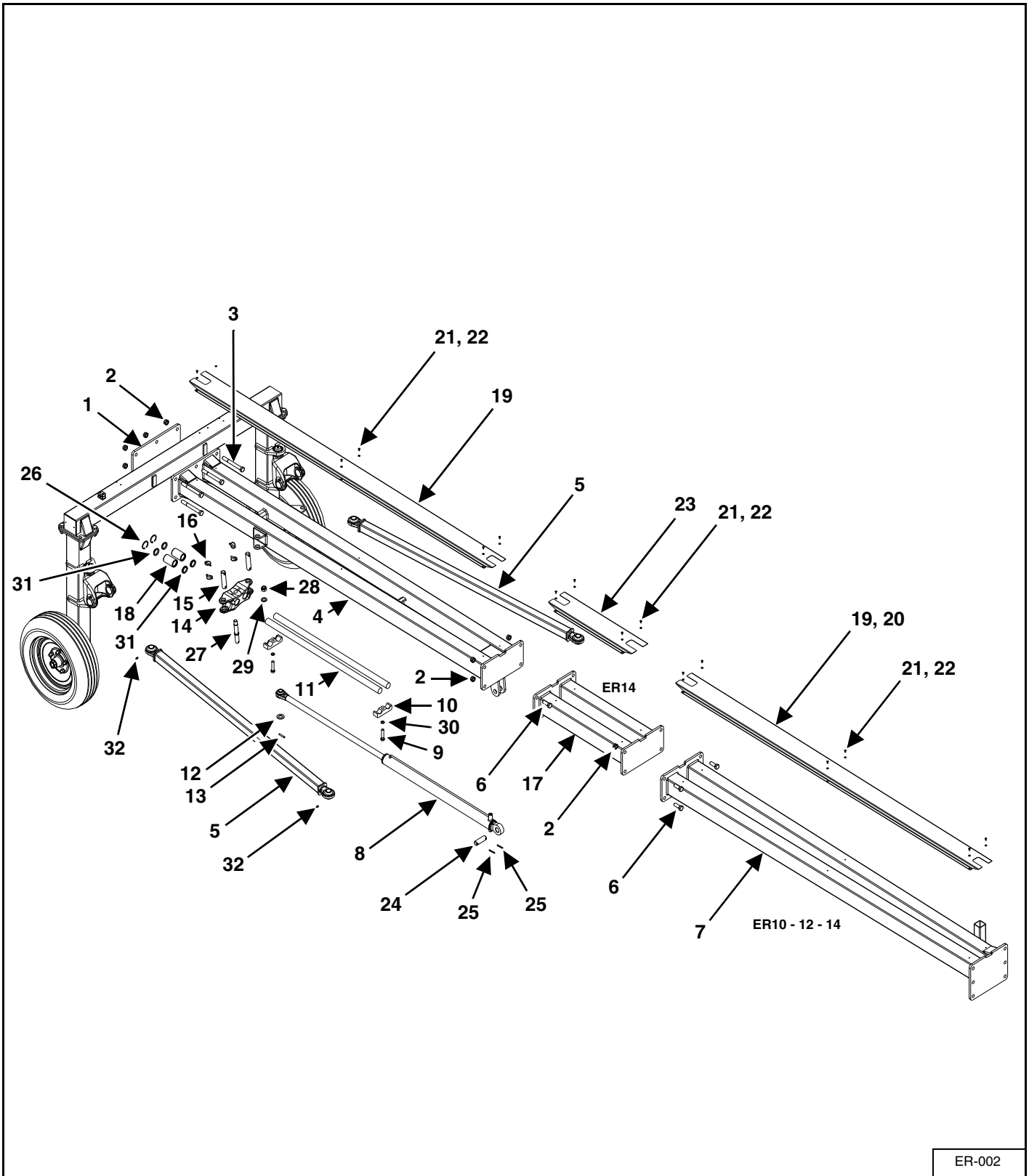
BASE FRAME

Cross Assembly



ITEM	PART NUMBER	DESCRIPTION	QTY
1	R-18032856	LEFT REAR FRAME, E.R. 10-12-14	
2	R-3080102	SPRING PIN, 6 x 36	
3	R-18031179	REGULATION KNOB	
4	R-3020337	NUT, 24 MA	
5	R-3020202	SELF LOCKING NUT 12MA	
6	R-18032836	BAR PASSAGE MOV. STARS SX	
7	R-3011216	SCREW TW M12X35	
8	R-3080113	SPRING PIN 6 x 50	
9	R-18031066	SPACER SCREW, 24 MA	
10	R-18032839	RAKING WHEEL ADJUSTMENT BAR, ER 10-12-14	
11	R-3030164	WASHER, M27	
12	R-18033082	PIN, D.25 LG.59	
13	R-18032843	SUPPORT BAR	
14	R-1012184	LOCK CYLINDER	
15	R-3040202	SPLIT PIN, R 5 x 100	
16	R-18032019	COMPLETE LEFT ARM, E.R. 10-12-14	
17	R-18032020	COMPLETE RIGHT ARM E.R. 10-12-14	
18	R-18032855	RIGHT REAR FRAME E.R. 10-12-14	
19	R-3080201	PIN, Ø5	
20	R-18032835	BAR PASSAGE, MOV. STARS DX Ø46	
21	R-18032556	PIVOT PIN, D.50 LG.236	
22	R-3011695	SCREW, M8 x 80 TE	
23	R-3020209	SELF LOCKING NUT, 8MA	
24	R-3090101	GREASE ZERK, 8MB	
25	R-17010812	LEFT VICON RAKE WHEEL 6,9 E.R. 10-12-14	
26	R-17010803	RIGHT VICON RAKE WHEEL 6,9 E.R. 10-12-14	
27	R-12770149	CYLINDER, 40 / 20 / 250	
28	R-18032137	BUSH STARS MOVING CYLINDER	
29	R-3011612	SCREW, M8 x 70 TE	
30	R-11010907	SPRING	
31	R-3040202	SPLIT PIN, R 5 x 100	

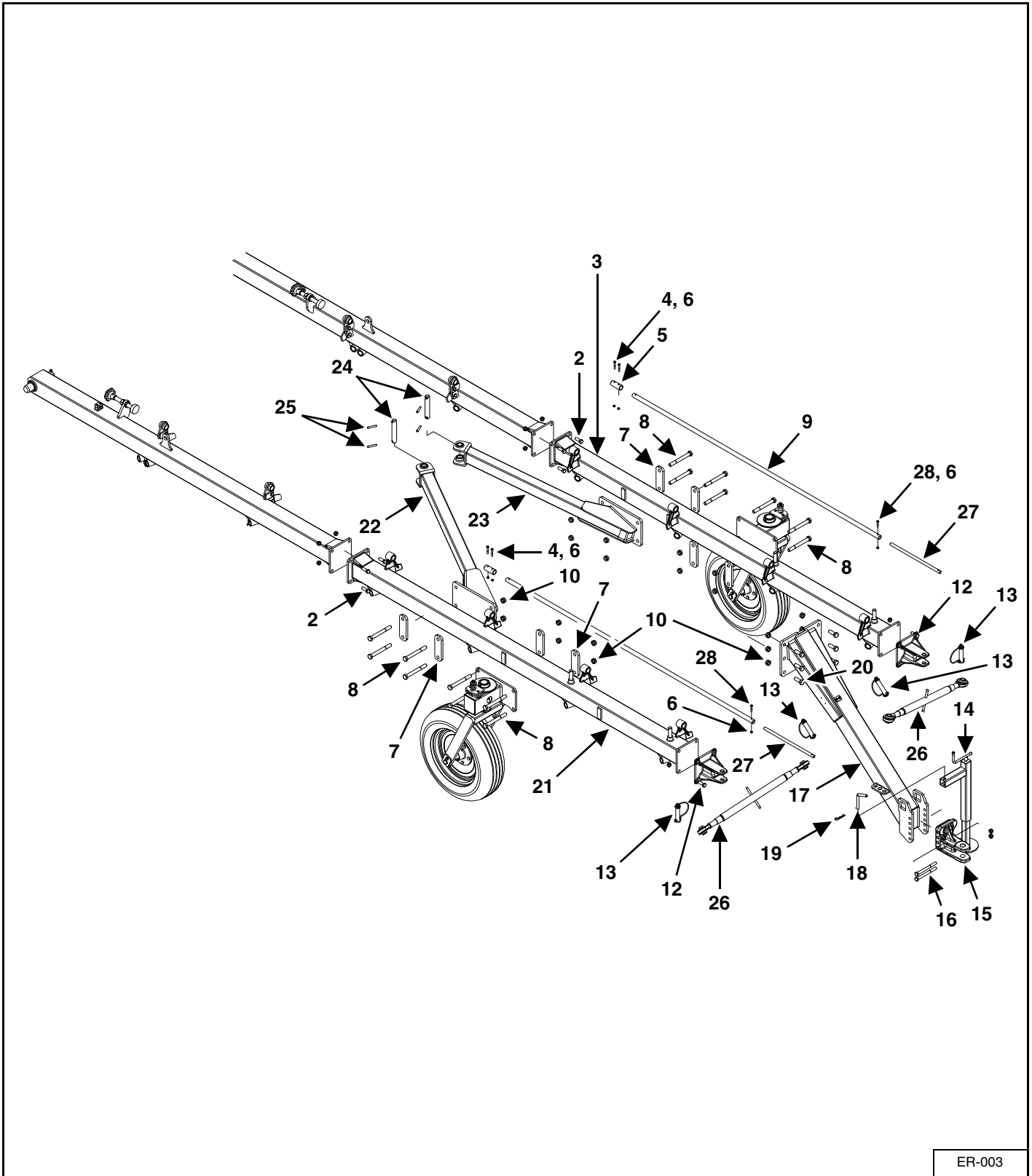
Cross Drawbar Assembly



ER-002

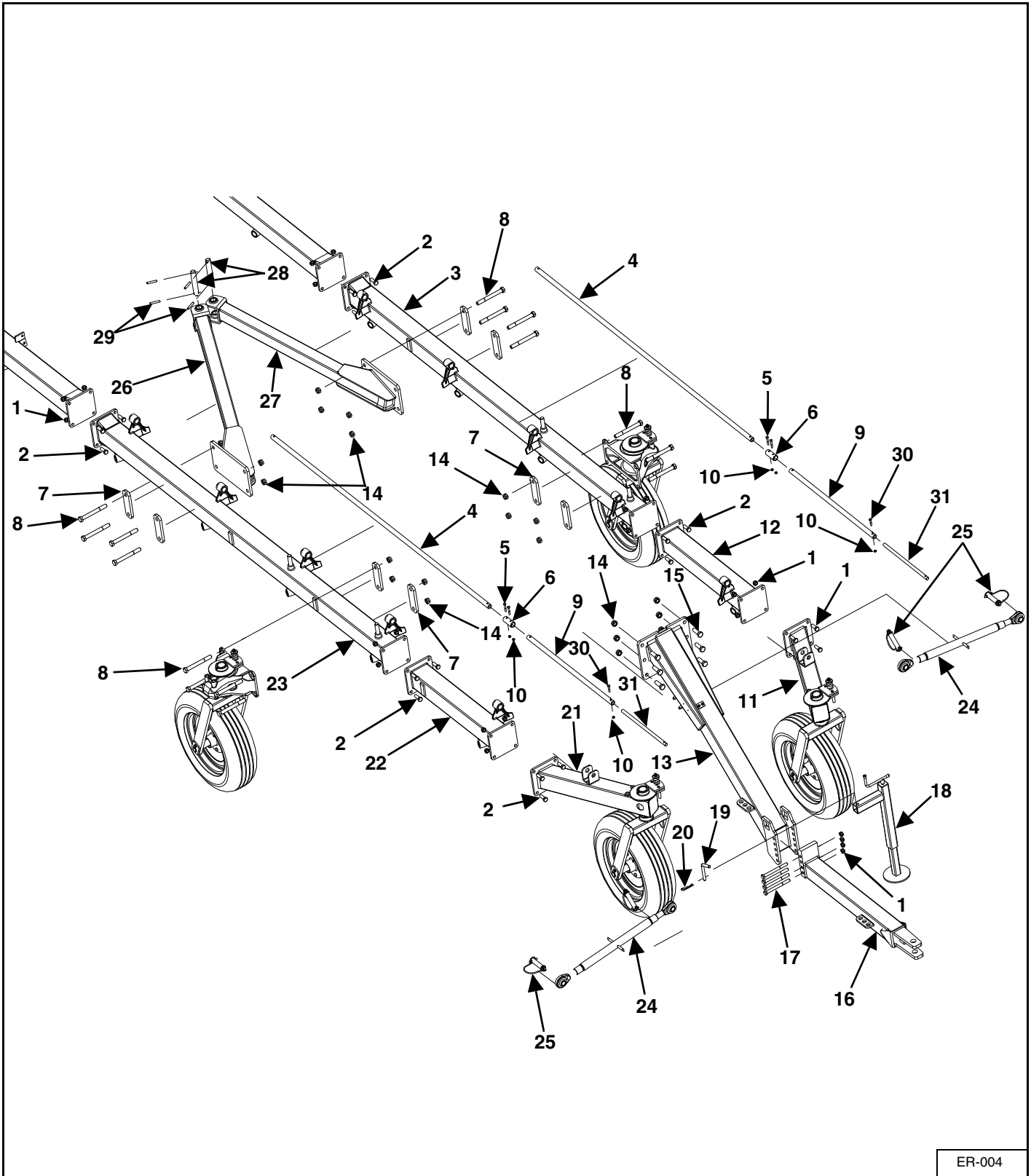
ITEM	PART NUMBER	DESCRIPTION	QTY
1	R-18032022	FASTENING PLATE	
2	R-3020216	SELF LOCKING NUT, 20MA	
3	R-3011648	SCREW, 20 x 180 TE	
4	R-18032023	PULL BAR E.R. 10 - 12 - 14	
5	R-18032024	CONNECTING BAR	
6	R-3011694	SCREW, M20 x 55 TE	
7	R-18032025	CENTRAL DRAWBAR, 8 / E.R. 10 AUT.	
7A	R-18032026	CENTRAL DRAWBAR, E.R. 10 / E.R. 12 AUT.	
7B	R-18032027	CENTRAL DRAWBAR, E.R. 12-14 / E.R. 14 AUT.	
8	R-18032739	HYDRAULIC CYLINDER	
9	R-3011270	SCREW, M16 x 70 TE	
10	R-18032028	SUPPORT	
11	R-12880417	SKID SHAFT	
12	R-3030164	WASHER 27	
13	R-3080105	SPRING PIN, 8 x 50	
14	R-18032713	SKID W / BOLTED PIN	
15	R-18033047	PIN 30 x 135	
16	R-12880614	PIN 8	
17	R-18032074	EXTENSION FRAME E.R. 14	
18	R-18032730	BUSHING	
19	R-18031757	HYDRAULIC HOSE CARTER E.R. 8 - 10 - 12 - 14	
20	R-18031758	HYDRAULIC HOSE CARTER E.R. 10	
20A	R-18031759	HYDRAULIC HOSE CARTER E.R. 8	
21	R-3011290	SCREW, M6 x 10 TE	
22	R-3030158	WASHER, M6	
23	R-18031760	HYDRAULIC HOSE CARTER E.R. 12	
24	R-18033046	PIN, Ø30 L.98	
25	R-3080113	SPRING PIN, 6 x 50	
26	R-3120111	SEEGER RING I 52	
27	R-18032708	PIN FOR SKID	
28	R-3020222	SELF LOCKING NUT, M 22	
29	R-3030176	WASHER, M 22	
30	R-3030198	GROWER NORD LOCK D. 16	
31	R-10010714	SCRAPER, WRM 157188	
32	R-3090101	GREASE ZERK, M8 x 1	

Frame Assembly (8, 10 & 12 Wheel Rake)



ITEM	PART NUMBER	DESCRIPTION	QTY
1	R-3020204	SELF LOCKING NUT, 16MA	
2	R-3011645	SCREW, M16 x 45 TE	
3		LEFT FRONT FRAME, E.R. 8 Ø42	
3A	R-18032846	LEFT FRONT FRAME, E.R. 10 Ø42	
3B	R-18032849	LEFT FRONT FRAME, E.R. 12-14 Ø42	
4	R-3011210	SCREW, M8 x 50 TE	
5	R-18032840	BUSHING, D.52 LG.80	
6	R-3020209	SELF LOCKING NUT 8MA	
7	R-18032033	ELBOW ARM ATTACHMENT BRACKETS	
8	R-3011648	SCREW, M20 x 180 TE	
9		R. WHEEL ADJ.BAR E.R. 8 LG.1370 Ø42	
9A	R-18032847	R. WHEEL ADJ.BAR E.R. 10 LG.1370 Ø42	
9B	R-18032850	R. WHEEL ADJ. BAR E.R. 12 - 14 LG.2240 Ø42	
10	R-3020216	SELF LOCKING NUT 20MA	
11		TRANSPORT BAR SUPPORT E.R. 8	
11A	R-18032038	TRANSPORT BAR SUPPORT E.R. 10 - 12	
12	R-3011255	SCREW, M12 x 25 TE FOR E.R. 8	
12A	R-3011645	SCREW, M16 x 45 TE FOR E.R. 10 - 12	
13	R-12310306	CLIP PIN	
14	R-18032039	JACK	
15	R-18032040	PULL LINKAGE ATTACHMENT	
16	R-3010308	SCREW, M16 x 170 TE	
17	R-18032064	FRONT DRAWBAR	
18	R-18033195	PIN, 15 x 200	
19	R-3040202	SPLIT PIN, R 5 x 100	
20	R-3011694	SCREW, M20 x 55 TE	
21		RIGHT FRONT FRAME E.R. 8 Ø46	
21A	R-18032845	RIGHT FRONT FRAME E.R. 10 Ø46	
21B	R-18032848	RIGHT FRONT FRAME E.R. 12-14 Ø46	
22	R-18052402	ELBOW WITH RIGHT HOOK	
23	R-18052403	ELBOW WITH LEFT HOOK	
24	R-18033048	PIN, 30 x 175	
25	R-3080107	SPRING PIN 10 x 60	
26	R-12310702	TRANSPORT BAR	
27	R-18032844	REINFORCEMENT Ø33	
28	R-3011616	SCREW T.E. M 8 x 60	

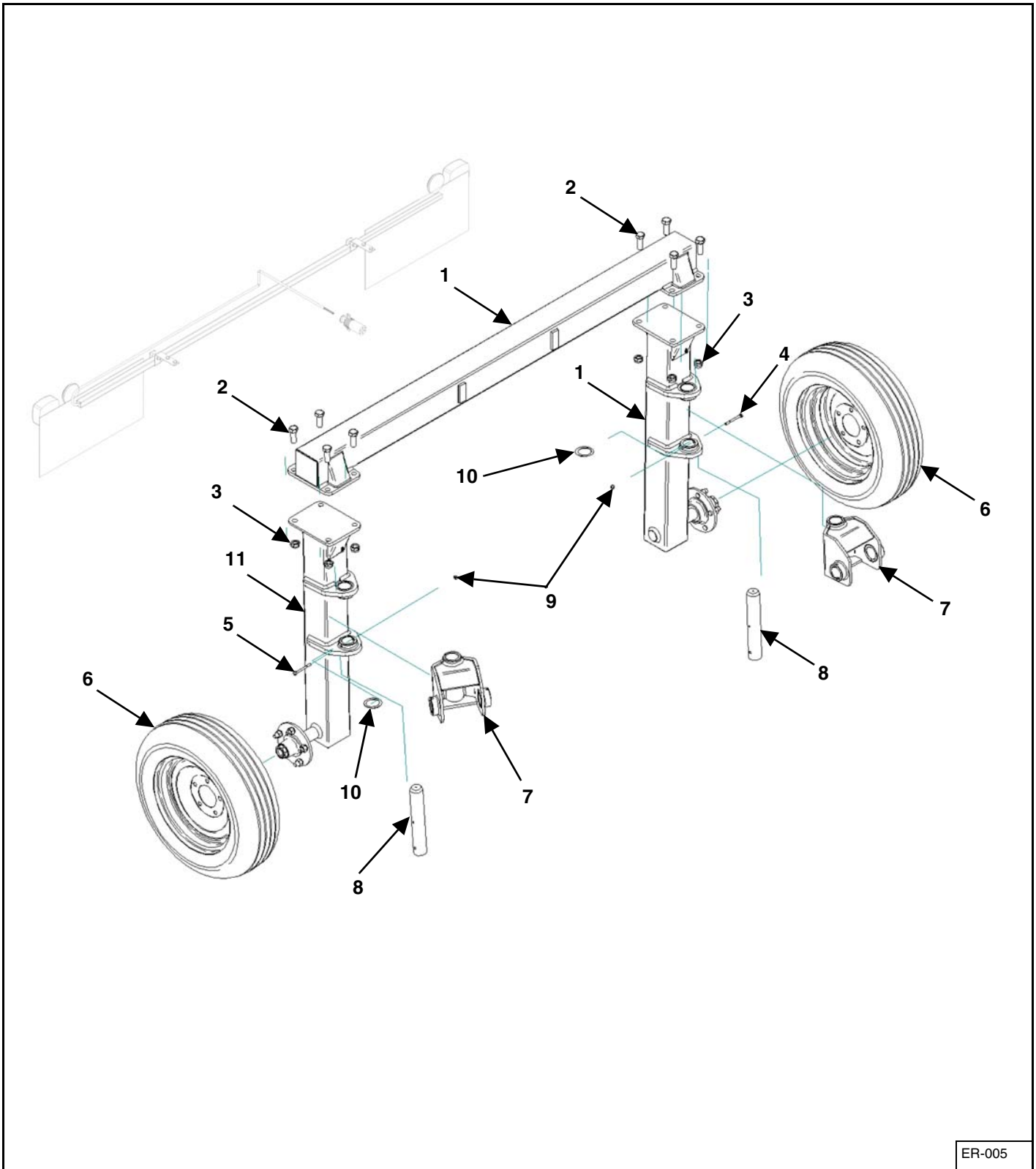
Frame Assembly (14 Wheel Rake)



ER-004

ITEM	PART NUMBER	DESCRIPTION	QTY
1	R-3020204	SELF LOCKING NUT 16MA	
2	R-3011645	SCREW TE M16X45	
3		LEFT FRONT FRAME ER 12-14 Ø46	
4	R-18032850	RAKING WHEEL ADJUSTMENT BAR ER 12-14 LG.2240 Ø42	
5	R-3011210	SCREW TE M8X50	
6	R-18032840	BUSH D.52 LG.80	
7	R-18032033	ELBOW ARM ATTACHMENT BRACKETS	
8	R-3011648	SCREW TE M20X180	
9	R-18032854	R.WHEEL ADJ. BAR ER 14 L.870 Ø42	
10	R-3020209	SELF LOCKING NUT 8MA	
11	R-18032076	LEFT GROUND WHEEL SUPPORT	
12	R-18032852	LEFT EXTENSION FRAME ER 14 Ø46	
13	R-18032064	FRONT DRAWBAR	
14	R-3020216	SELF LOCKING NUT 20MA	
15	R-3011694	SCREW TE M20X55	
16	R-18032078	PULL BAR LINKAGE	
17	R-3010308	SCREW TE M16X170	
18	R-18032039	JACK	
19	R-12120104	PIN 15X200	
20	R-3040202	SPLIT PIN R 5X100	
21	R-18032079	RIGHT GROUND WHEEL SUPPORT	
22	R-18032851	EXTENSION FRAME ER 14 Ø46	
23	R-18032848	RIGHT FRONT FRAME ER 12-14 Ø46	
24	R-12310702	BRAS	
25	R-12310306	PIN D.25 L.100	
26	R-18052402	ELBOW WITH RIGHT HOOK	
27	R-18052403	ELBOW WITH LEFT HOOK	
28	R-12060866	PIN 30X175	
29	R-3080107	SPRING PIN 10X60	
30	R-3011616	SCREW T.E. M 8X60	
31	R-18032844	REINFORCEMENT BAR Ø33	

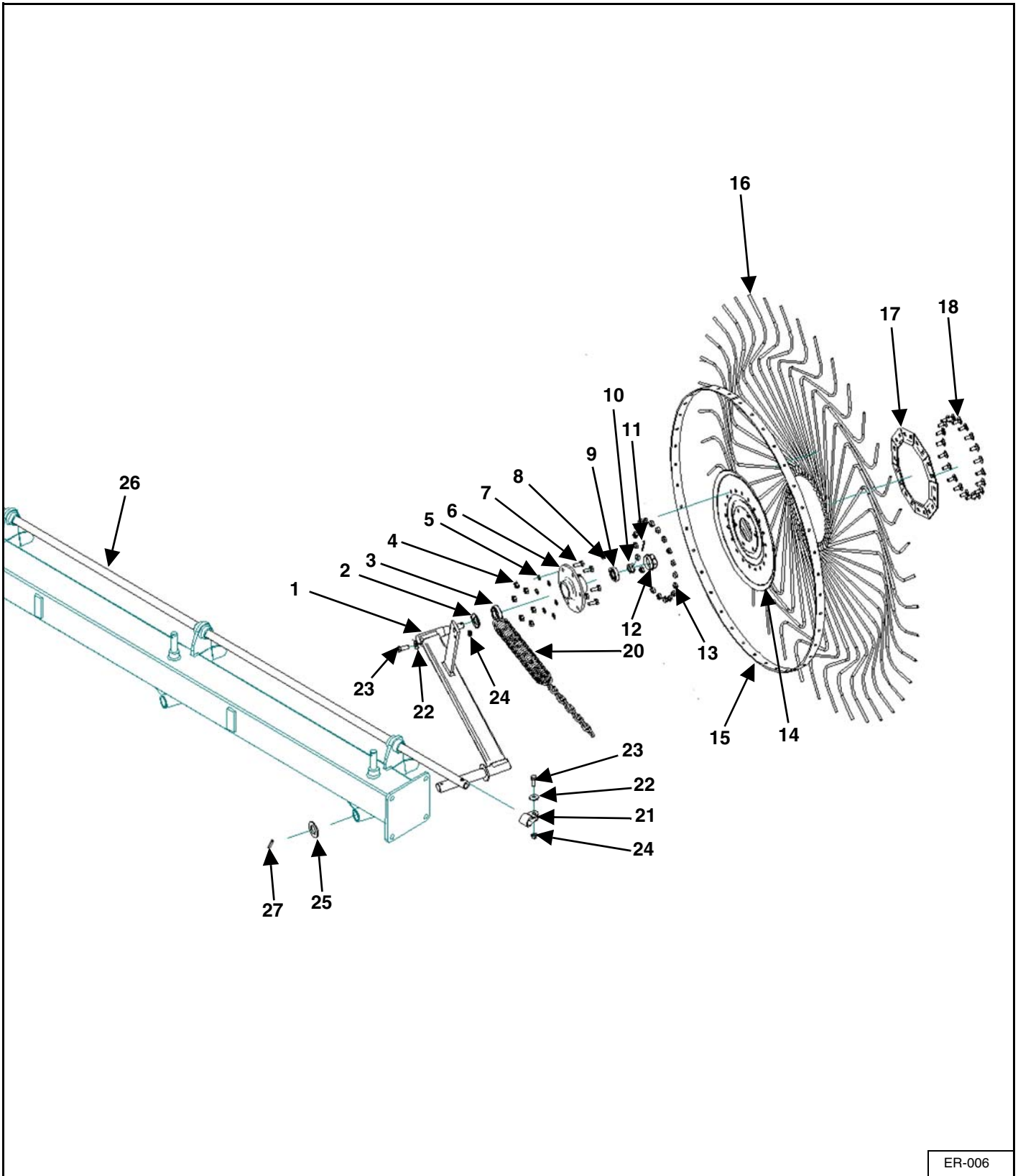
Cross Drawbar Assembly



ER-005

ITEM	PART NUMBER	DESCRIPTION	QTY
1	R-18032065	CROSS DRAWBAR	
2	R-3011694	SCREW TE M20X55	
3	R-3020216	SELF LOCKING NUT 20MA	
4	R-18032048	LEFT WHEEL LEG SUPPORT	
5	R-3011695	SCREW TE M8X80	
6	R-12170108	COMPLETE WHEEL 205/70 R15	
7	R-18032056	JOINT	
8	R-18032621	PIN D.50 LG.295	
9	R-3020209	SELF LOCKING NUT 8MA	
10	R-12280007	SPACER AS 5070	
11	R-18032049	RIGHT WHEEL LEG SUPPORT	
12	R-18032695	LIGHT KIT ER10	

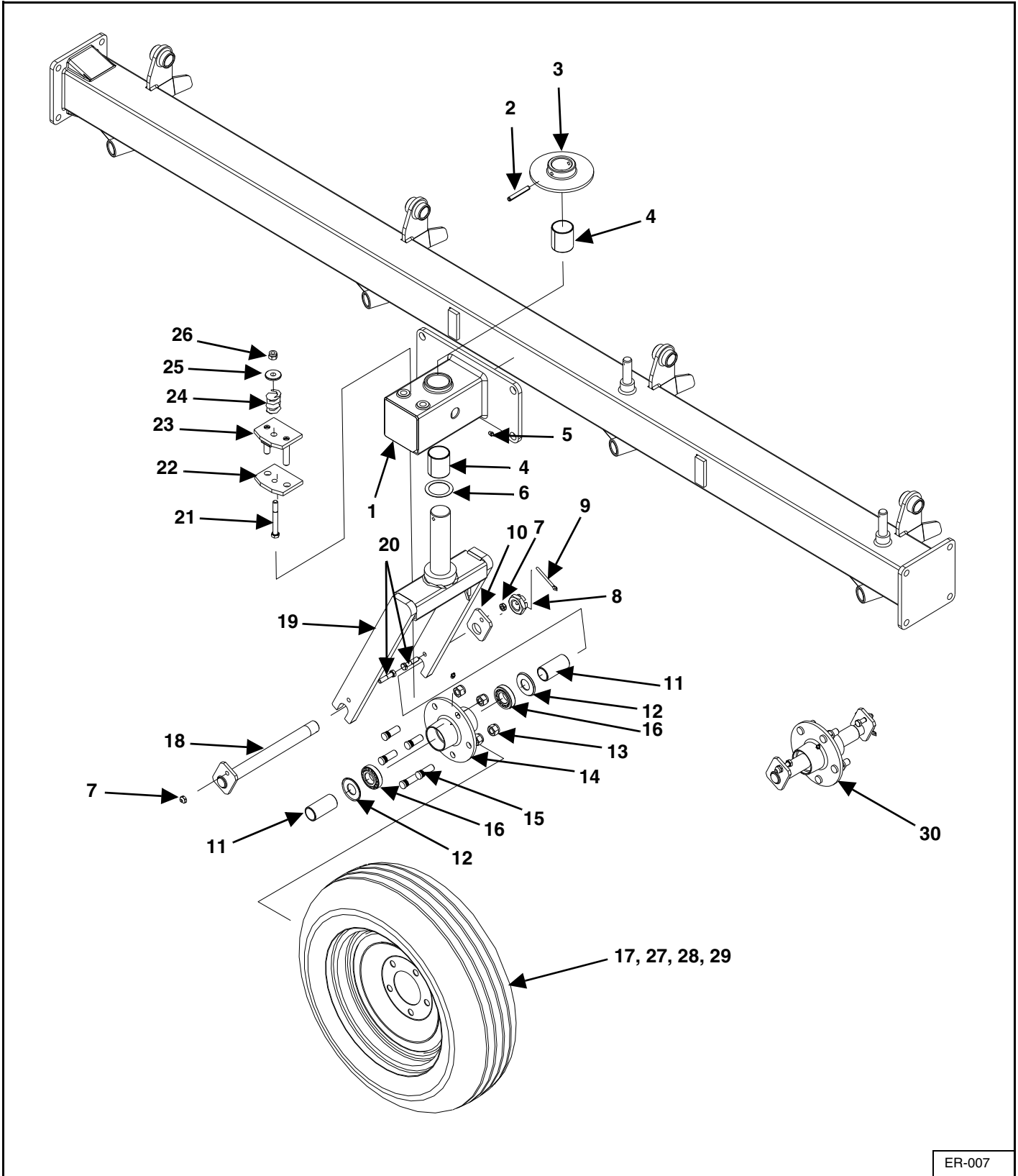
Complete Arm Assembly (Right and Left)



ER-006

ITEM	PART NUMBER	DESCRIPTION	QTY
1	18032020	COMPLETE RIGHT ARM	
	18032019	COMPLETE LEFT ARM	
2	12860001	DUST COVER 25X52	
3	12240119	BEARING 30205	
4	3020328	NUT 10MA	
5	3030227	LOCK WASHER M10	
6	12150103	HUB	
7	3010261	SCREW TE 10X25	
8	3090101	GREASE ZERK 8MB	
9	12240118	BEARING 30204	
10	3020210	SELF LOCKING NUT 18MB	
11	3040114	SPRING 4X35	
12	12360001	DUST COVER CUP	
13	3020224	SELF LOCKING NUT 10MA CONELOX	
14	12160101	RAKING WHEEL FLANGE	
15	18031113	EXTERNAL RAKING WHEEL RING	
16	18030415	VICON TOOTH 6,9	
17	18030416	TEETH FASTENER PLATE	
18	3010105	SCREW T.T.Q.S.T. M10X25	
19	11010542	ARM SPRING	
20	12070422	CHAIN	
21	18032842	CHAIN CLAMP	
22	3030169	FLAT WASHER 10X30	
23	3011616	SCREW TE M10X60	
24	3020201	SELF LOCKING NUT 10MA	
25	3030165	WASHER M30	
26	18032841	RAKING WHEEL ADJUSTMENT ER 8 LG.500 Ø42	
	18032847	RAKING WHEEL ADJUSTMENT ER 10 LG.1370 Ø42	
	18032850	RAKING WHEEL ADJUSTMENT ER 12-14 LG.2240 Ø42	
27	3080113	SPRING PIN 6X50	

Wheel Support Assembly

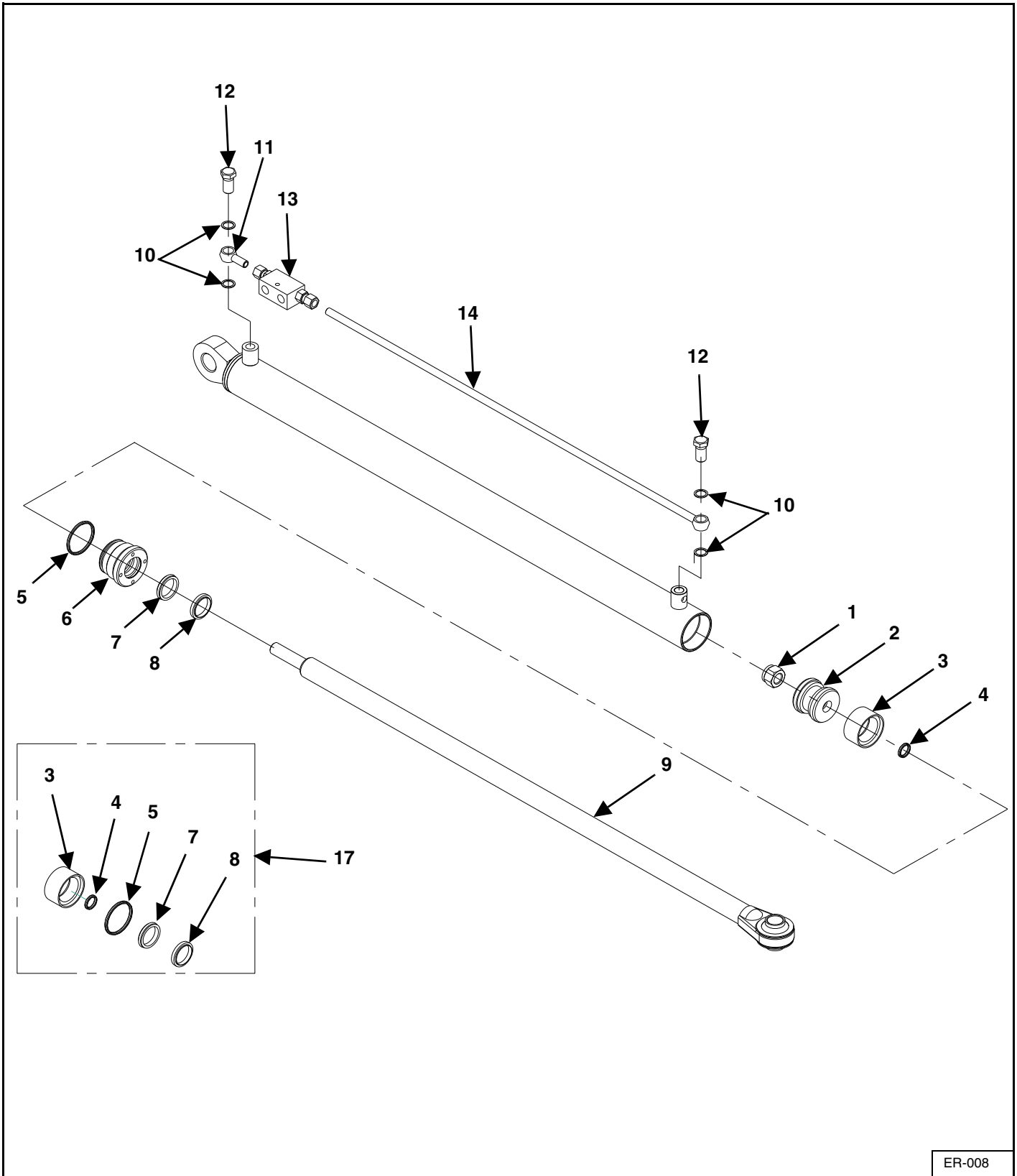


ER-007

ITEM	PART NUMBER	DESCRIPTION	QTY
1	18032020	COMPLETE RIGHT ARM	
	18032019	COMPLETE LEFT ARM	
2	12860001	DUST COVER 25X52	
3	12240119	BEARING 30205	
4	3020328	NUT 10MA	
5	3030227	LOCK WASHER M10	
6	12150103	HUB	
7	3010261	SCREW TE 10X25	
8	3090101	GREASE ZERK 8MB	
9	12240118	BEARING 30204	
10	3020210	SELF LOCKING NUT 18MB	
11	3040114	SPRING 4X35	
12	12360001	DUST COVER CUP	
13	3020224	SELF LOCKING NUT 10MA CONELOX	
14	12160101	RAKING WHEEL FLANGE	
15	18031113	EXTERNAL RAKING WHEEL RING	
16	18030415	VICON TOOTH 6,9	
17	18030416	TEETH FASTENER PLATE	
18	3010105	SCREW T.T.Q.S.T. M10X25	
19	11010542	ARM SPRING	
20	12070422	CHAIN	
21	18032842	CHAIN CLAMP	
22	3030169	FLAT WASHER 10X30	
23	3011616	SCREW TE M10X60	
24	3020201	SELF LOCKING NUT 10MA	
25	3030165	WASHER M30	
26	18032841	RAKING WHEEL ADJUSTMENT ER 8 LG.500 Ø42	
	18032847	RAKING WHEEL ADJUSTMENT ER 10 LG.1370 Ø42	
	18032850	RAKING WHEEL ADJUSTMENT ER 12-14 LG.2240 Ø42	
27	3080113	SPRING PIN 6X50	

* - Complete hub contains items 11 (2 ea.), 12 (2 ea.), 13 (5 ea.), 14 (1 ea.), 15 (5 ea.), 16 (2 ea.).

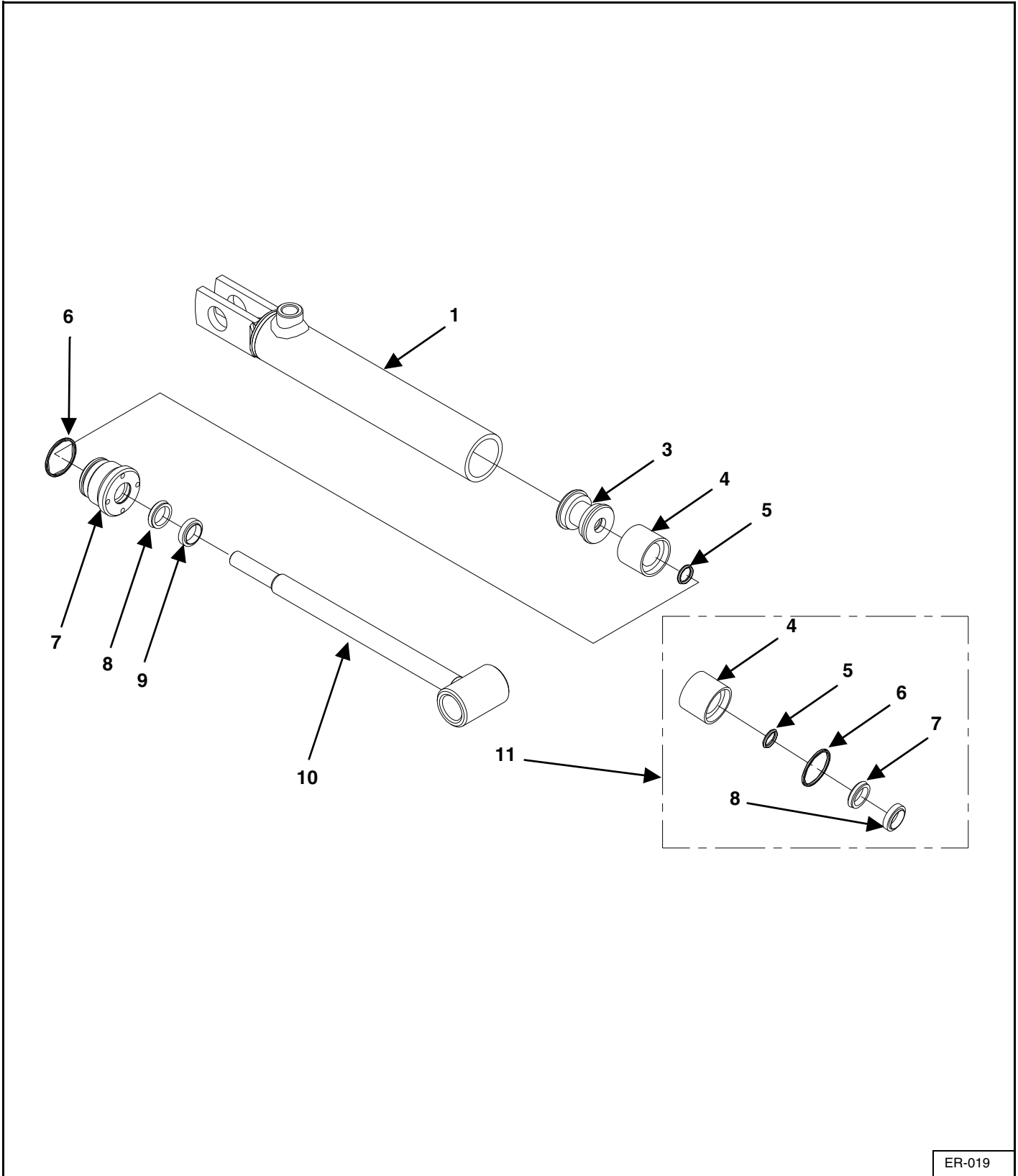
Hydraulic Cylinder Assembly 19010513



ER-008

ITEM	PART NUMBER	DESCRIPTION	QTY
1	12770232	CYLINDER	
2	3020217	SELF LOCKING NUT 20MB	
3	12770216	PISTON 0706020	
4		SELA DBM 236173	
5		O-RING 8-125	
6		O-RING 8-156	
7	12420105	GUIDE	
8		RETAINING	
9		SCRAPER RING WRM 118149	
10	12440102	SHAFT D.35	
11	3030403	COPPER WASHER 3/8	
12	4010951	FITTING 3/8	
13	3011605	DRILLED SCREW 3/8	
14		FITTING 3/8	
15	4021205	BLOCK VALVE	
16	4010945	FITTING 3/8	
17	10010699	SEAL KIR FOR CYLINDER C. 12770131	

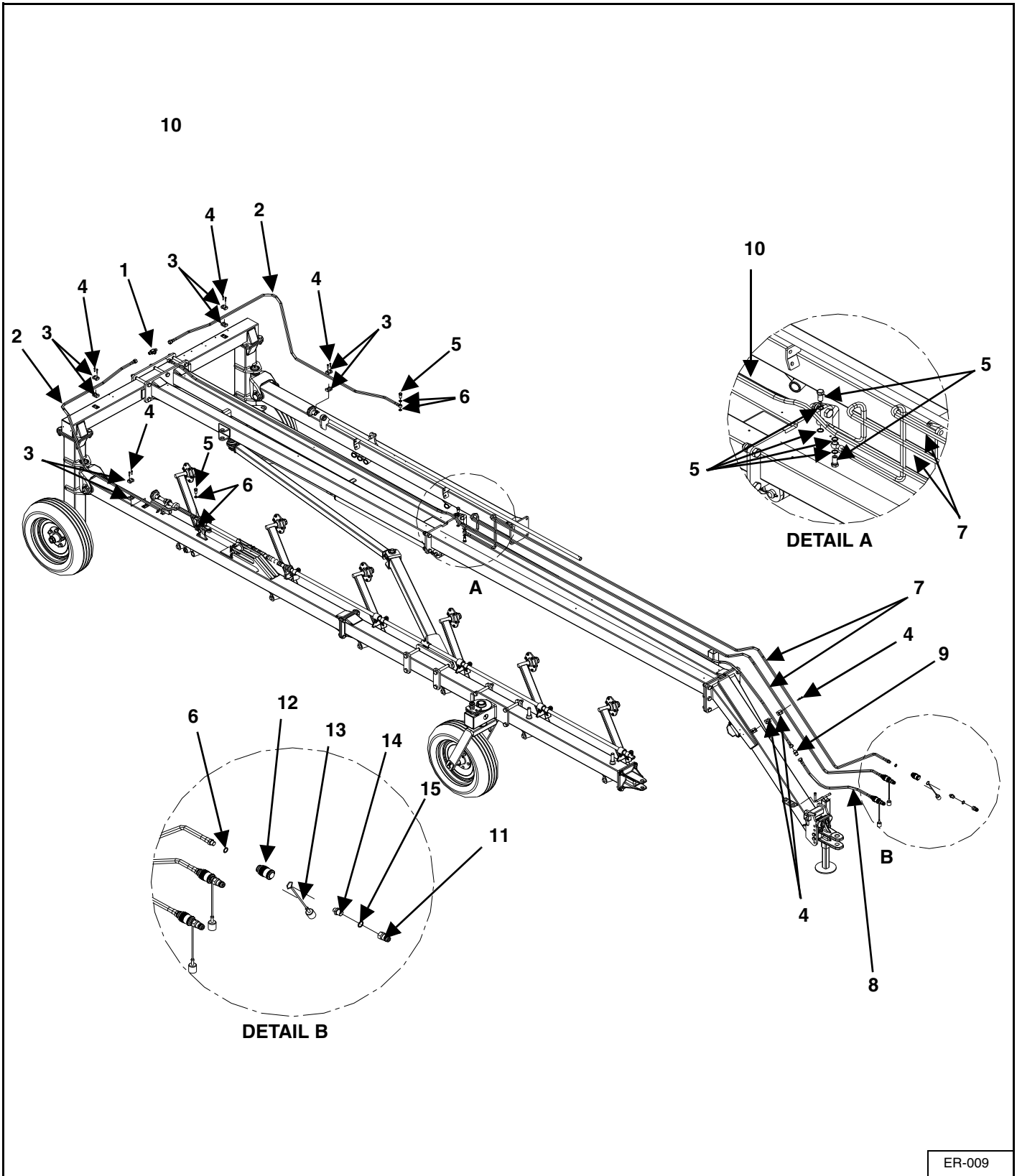
Hydraulic Cylinder Assembly 19010514



ER-019

ITEM	PART NUMBER	DESCRIPTION	QTY
1	12770149	CYLINDER 40/20/250	
2			
3	12770240	PISTON 0704015 F.	
4		GASKET DBM 157118	
5		O-RING 616	
6		O-RING 219	
7	12420101	GUIDE	
8		RETAINER	
9		SCRAPER RING WRM 118149	
10	12440204	SHAFT	
11	10010636	SEAL KIT FOR CYLINDER 12770149	

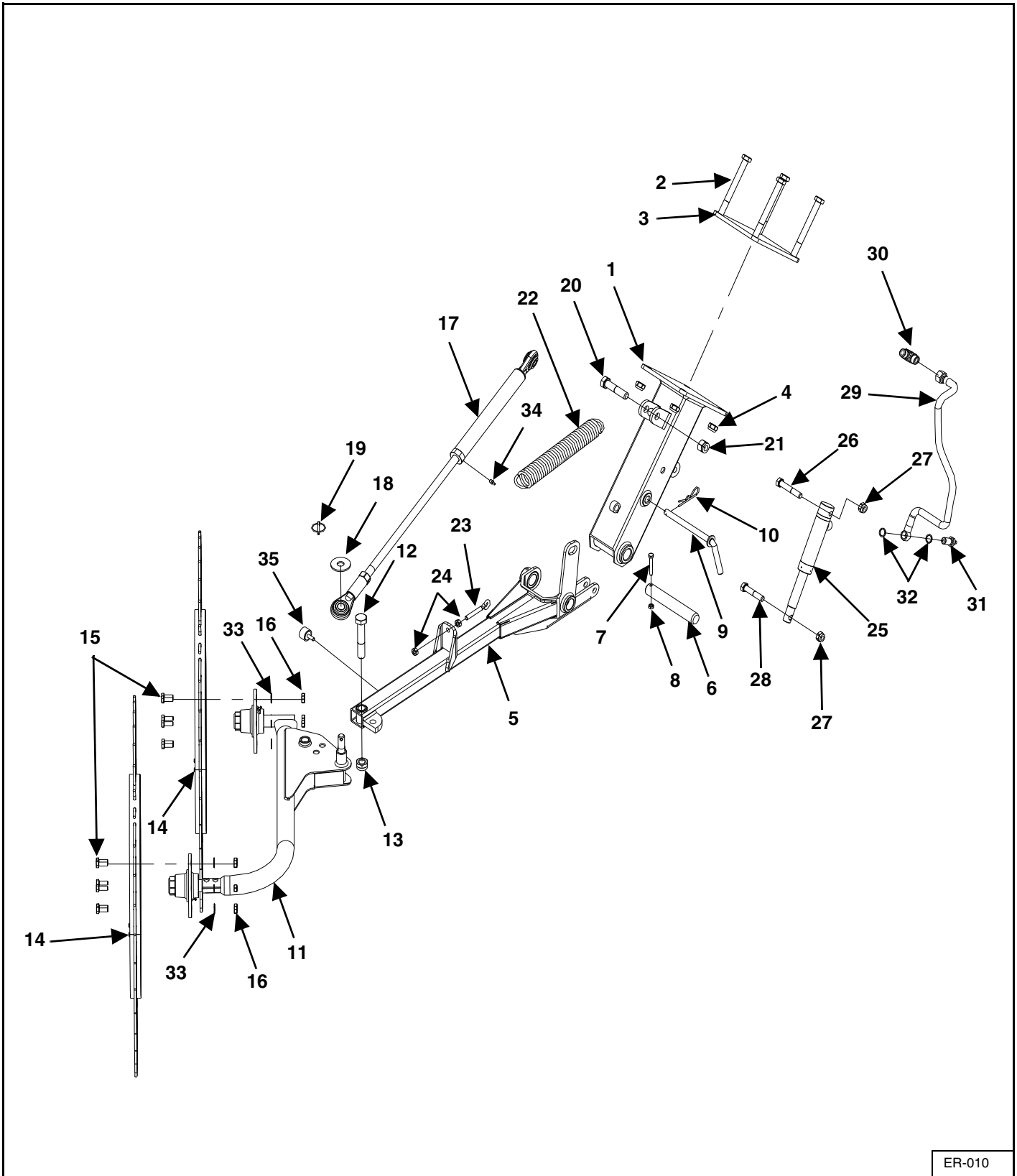
Hydraulic System



ER-009

ITEM	PART NUMBER	DESCRIPTION	QTY
1	4010915	"T" UNION 1/2"	
2	12760212	HYDRAULIC HOSE LG.2500 ER 8-10-12-14	
3	12980005	COLLAR C3	
4	3010637	SCREW M6X28 UNI 5931	
5	3011605	DRILLED SCREW 3/8"	
6	3030403	COPPER WASHER 17X23X1,5	
7	12760205	HYDRAULIC HOSE LG. 4300 ER 8	
	12760207	HYDRAULIC HOSE LG. 5100 ER 10	
	12760222	HYDRAULIC HOSE LG. 6100 ER 12	
	12760226	HYDRAULIC HOSE LG. 7600 ER 14	
8	12760211	HYDRAULIC HOSE LG. 1600 ER 8-10-12	
	12760217	HYDRAULIC HOSE LG. 2510 ER 14	
9	4010205	NIPPLE 1/2"	
10	12760206	HYDRAULIC HOSE LG. 5400 ER 8	
	12760208	HYDRAULIC HOSE LG. 6300 ER 10	
	12760210	HYDRAULIC HOSE LG. 7200 ER 12	
	12760216	HYDRAULIC HOSE LG. 7800 ER 14	
11	4011804	PUSH PULL 1/2	
12	4021203	VALVE 3/8	
13		PROTECTION PLUG	
14	4010204	NIPPLE 3/8	
15	3030402	COPPER WASHER 1/2	

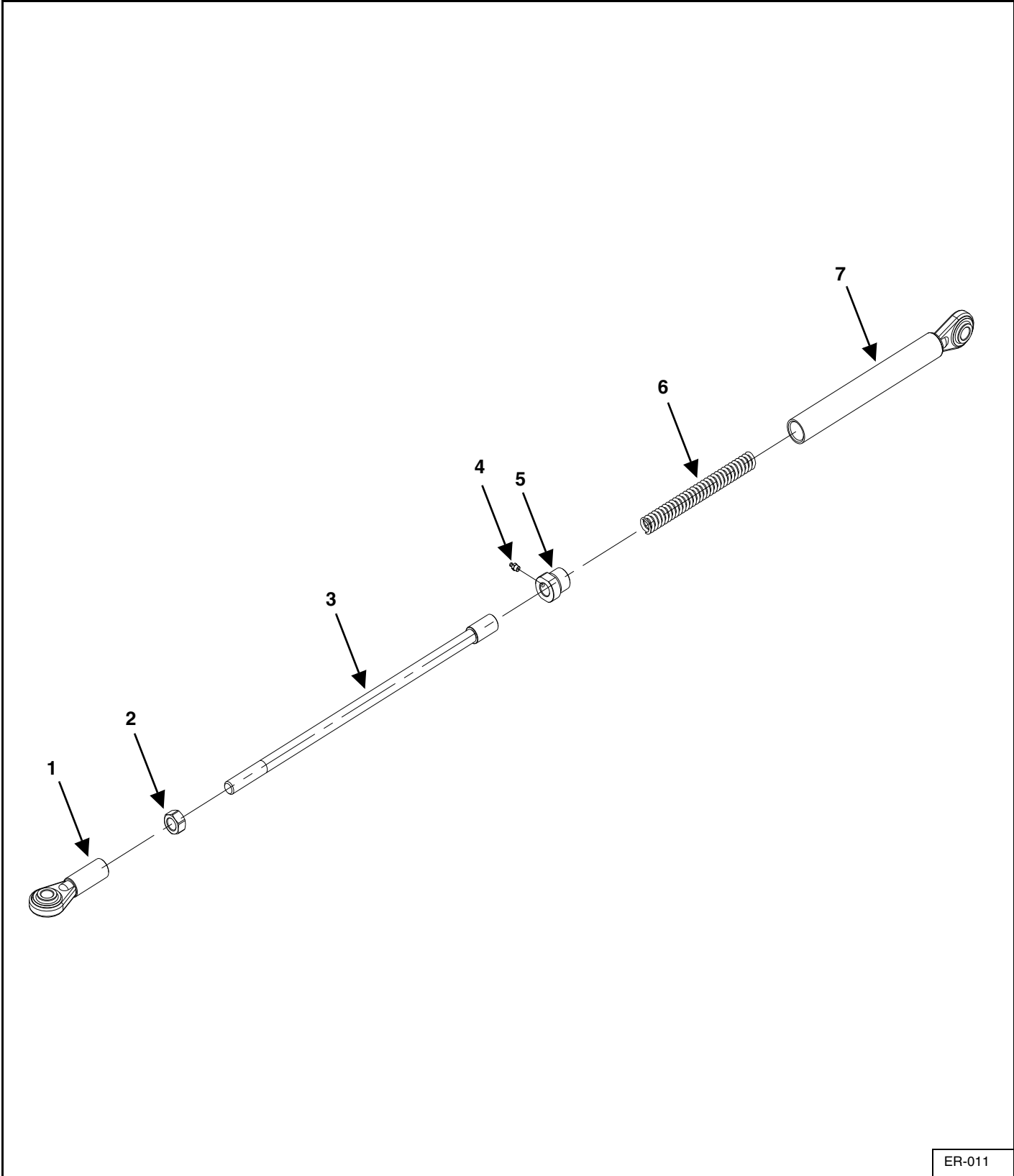
Star Kicker Assembly (Optional)



ER-010

ITEM	PART NUMBER	DESCRIPTION	QTY
1	18032047	FRAME	
2	18033362	FASTENING PLATE	
3	3010309	SCREW TE M16X160	
4	3020204	SELF LOCKING NUT 16MA	
5	18032052	FRAME	
6	18033361	PIN D. 30 LG. 190	
7	3010781	SCREW TE M8X55	
8	3020329	NUT 8MA	
9	18033268	PIN 16X223	
10	3040202	SPLIT PIN R 5X100	
11	18032053	FRAME STARS	
12	3010311	SCREW TE M20X110	
13	3020216	SELF LOCKING NUT 20MA	
14	17010816	COMPLETE STARS KICKER	
15	3011211	SCREW TE M10X25	
16	3020201	SELF LOCKING NUT 10MA	
17	18032067	ROD	
18	3030193	WASHER M18X56	
19	3080201	PIN 5	
20	3010310	SCREW TE M18X80	
21	3020214	SELF LOCKING NUT 18MA	
22	11010534	SPRING LG.270	
23	3220201	TENSIONER	
24	3020328	NUT 10MA	
25	18032613	HYDRAULIC CYLINDER	
26	3011278	SCREW TE M14X80	
27	3020203	SELF LOCKING NUT 14MA	
28	3011631	SCREW TE M14X70	
29	12760160	HYDRAULIC HOSE LG.550	
30	4010915	"T" UNION 1/2"	
31	4021503	SCREW 3/8"	
32	3030403	COPPER WASHER 3/8	
33	3030227	LOCK WASHER M10	
34	3090101	GREASER M8X1	
35	9060103	SHOCK ABSORBER	

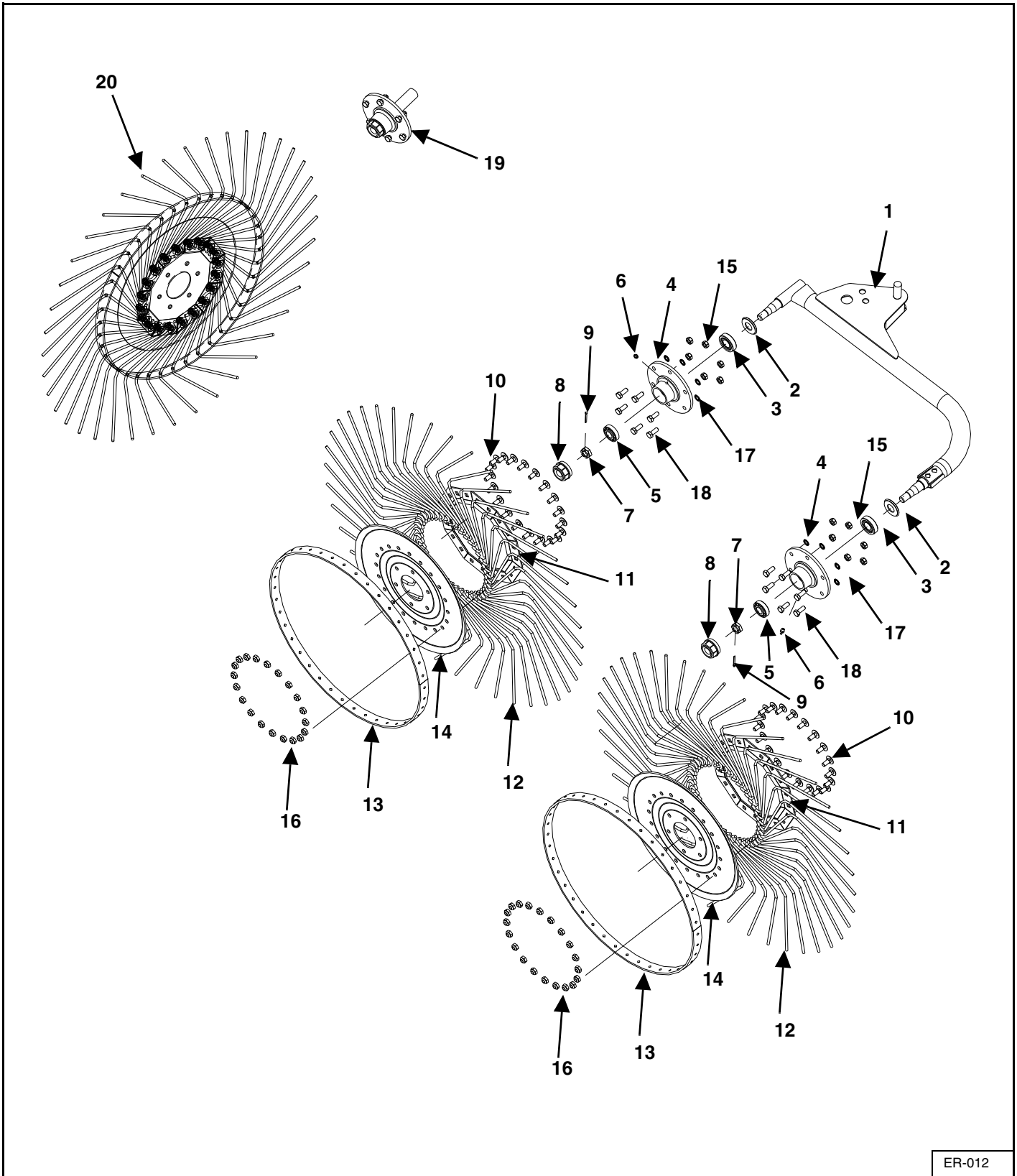
Shaft Attachment Assembly



ER-011

ITEM	PART NUMBER	DESCRIPTION	QTY
1	18032068	SHAFT ATTACHMENT	
2	3020336	NUT M20	
3	18032069	SHAFT	
4	3090101	GREASE ZERK 8MB	
5	18032070	SHAFT HEAD	
6	18033267	SPRING	
7	18032072	CYLINDER	

Wheel Rake Assembly (Optional)



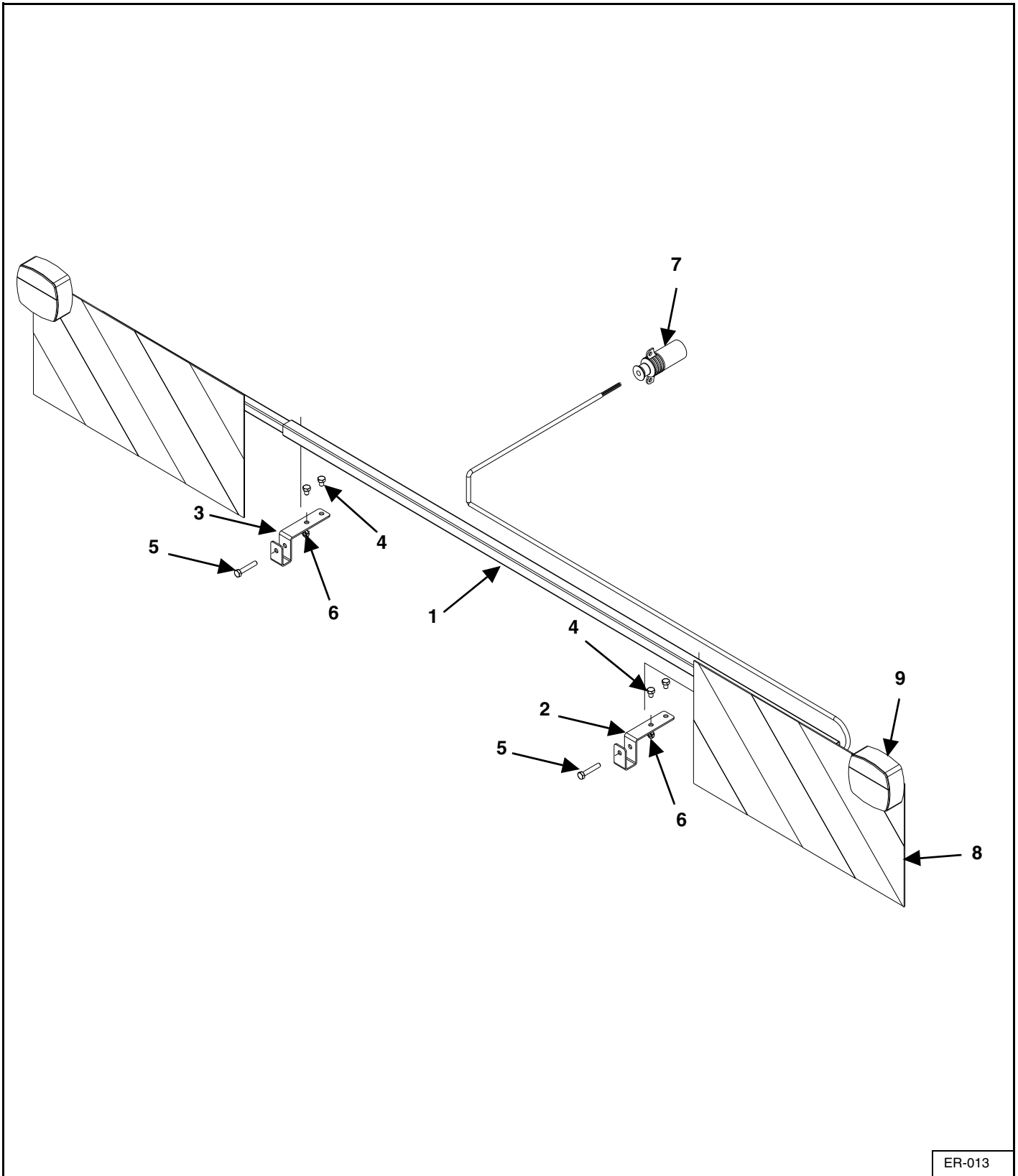
ER-012

ITEM	PART NUMBER	DESCRIPTION	QTY
1	18032053	FRAME	
2	12860001	DUST COVER	
3	12240119	BEARING 30205	
4	12150103	HUB	
5	12240118	BEARING 30204	
6	3090101	GREASE ZERK 8MB	
7	3020210	SELF LOCKING NUT 18MB	
8	12360001	DUST COVER CUP	
9	3040114	SPRING 4X35	
10	3010105	SCREW T.T.Q.S.T. M10X25	
11	18030416	TEETH FASTENER PLATE	
12	18032054	TOOTH MOD. KEB	
13	18032055	EXTERNAL RAKING WHEEL RING	
14	12160101	RACKING WHEEL FLANGE	
15	3020328	NUT 10MA	
16	3020224	SELF LOCKING NUT 10MA CONELOX	
17	3030227	LOCK WASHER 10	
18	3011211	SCREW TE M10X25	
19*	12150101	COMPLETE HUB	
20**	17010816	COMPLETE RAKE WHEEL	

* - Complete hub contains items 2 (1 ea.), 3 (1 ea.), 4 (1 ea.), 5 (1 ea.), 6 (1 ea.), 7 (1 ea.), 8 (1 ea.), 9 (1 ea.), 15 (6 ea.), 17 (6 ea.), 18 (6 ea.).

** - Complete rake wheel contains items 10 (20 ea.), 11 (1 ea.), 13 (1 ea.), 16 (20 ea.).

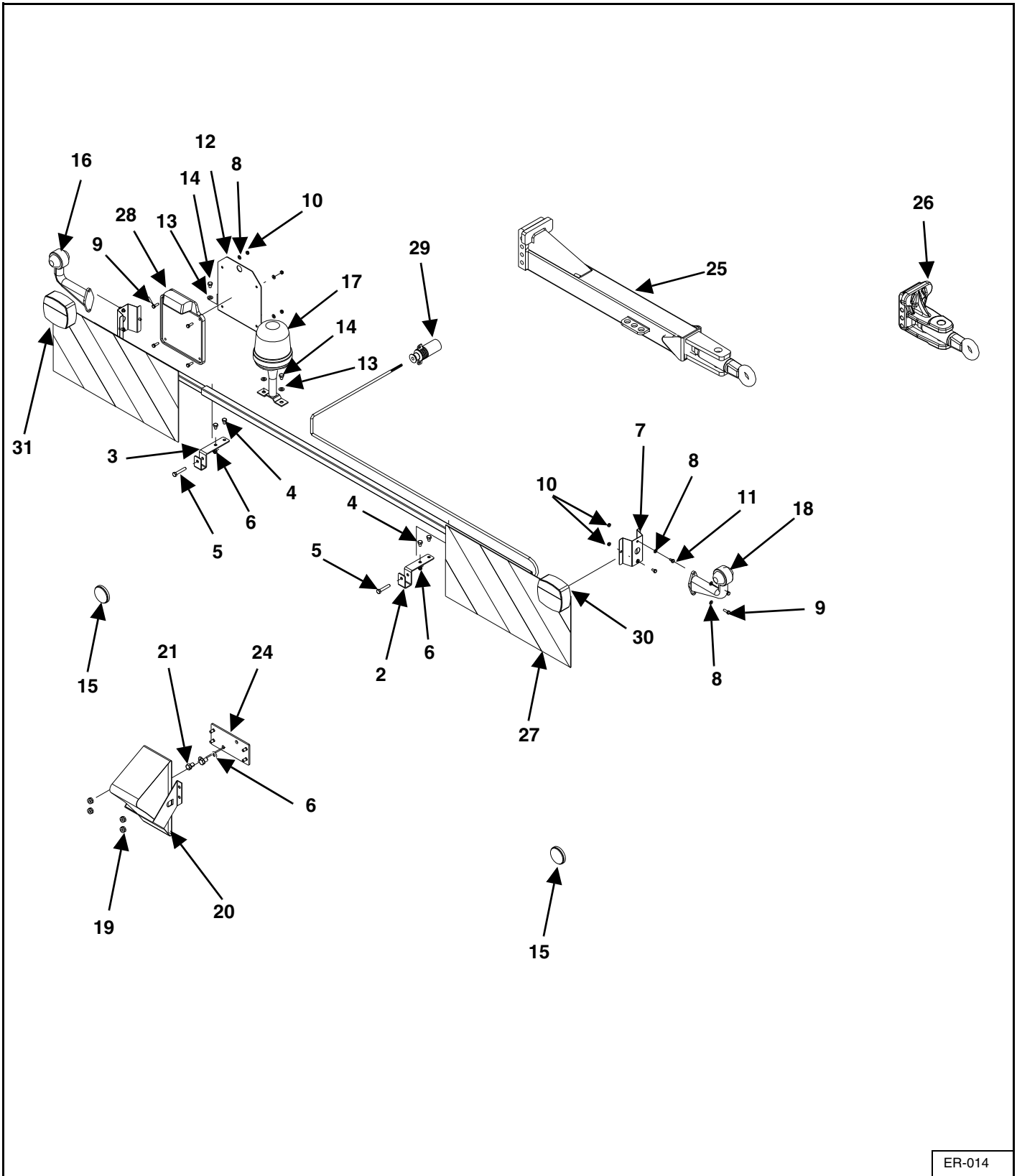
Light Kit Assembly



ER-013

ITEM	PART NUMBER	DESCRIPTION	QTY
1	18032627	COMPLETE LIGHT KIT	
2	18031791	RIGHT BRACKET	
3	18031790	LEFT BRACKET	
4	3011223	SCREW T.E. M8X10	
5	3011258	CREW T.E. M8X45	
6	3020209	SELF LOCKING NUT M8	
7	7010832	SEVEN PIN CONNECTOR 12 V	
8	18031013	REFLECTOR	
9	7270019	LIGHT	

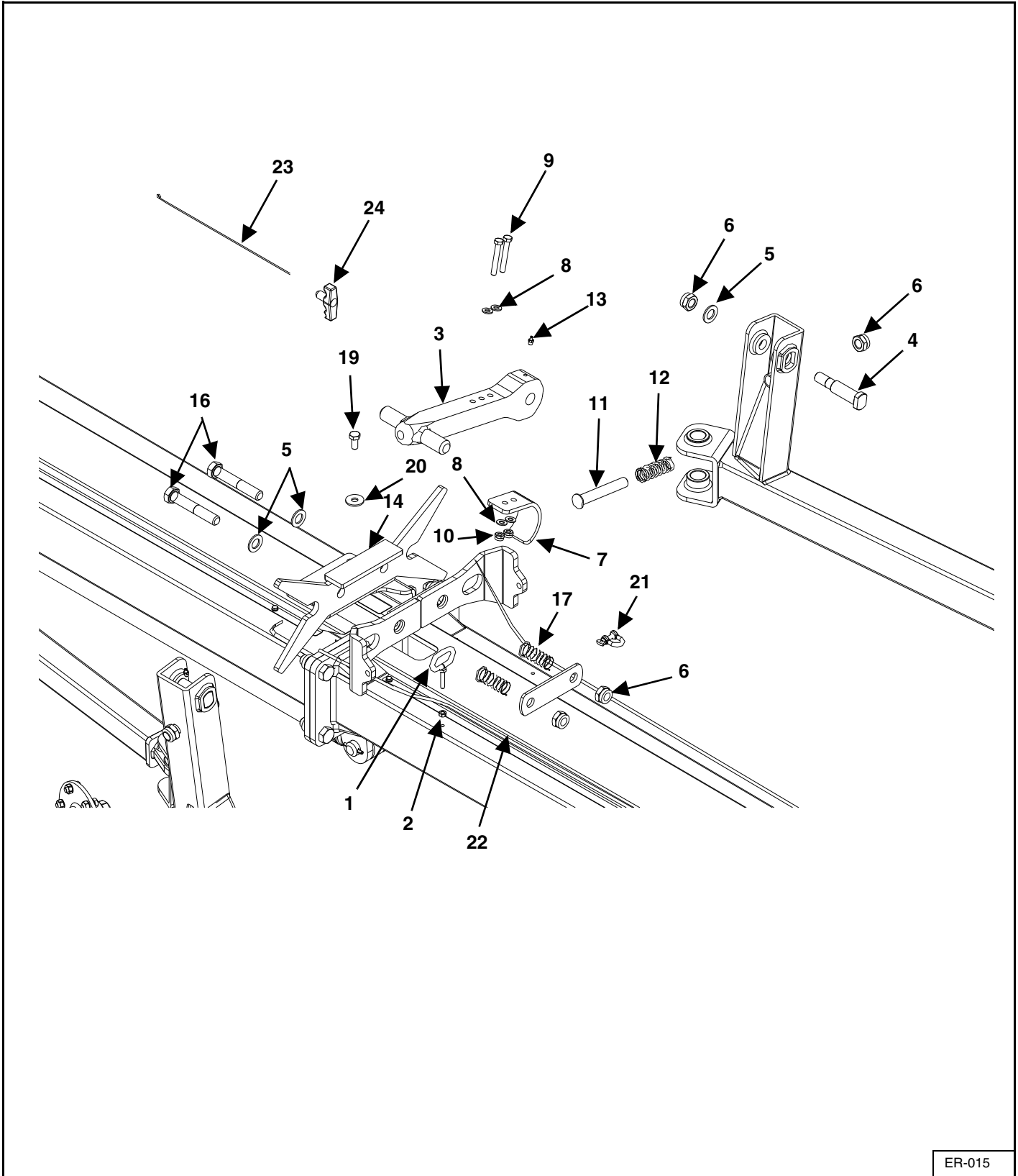
Light System Assembly



ER-014

ITEM	PART NUMBER	DESCRIPTION	QTY
1	18032695	KIT LIGHT COMPLETE	
2	18031791	RIGHT SUPPORT BRACKET	
3	18031790	LEFT SUPPORT BRACKET	
4	3011223	SCREW TE M8X10	
5	3011258	SCREW TE M8X45	
6	3020209	NUT M8	
7	18031787	SUPPORT LIGHTS	
8	3030158	WASHER M6	
9	3011680	SCREW M6X18	
10	3020213	NUT M8	
11	3011290	SCREW M6X10	
12	18031788	STEEL PLATE	
13	3030156	WASHER M8	
14	3011223	SCREW M8X10	
15	7270018	REFLECTOR LIGHT	
16	7270015	LEFT TAIL LIGHT	
17	7270013	FLASHING	
18	7270014	RIGHT TAIL LIGHT	
19	3020209	NUT M8	
20	12780103	PARKING	
21	3011287	SCREW M10X16	
22			
23	3030159	WASHER M10	
24	18031789	SUPPORT	
25	18031786	HOOK (ER14)	
26	18031785	HOOK (ER-ERS)	
27	18031013	REFLECTOR PANEL	
28	18031792	PLATE	
29	7010832	PIN 12V	
30	7270016	RIGHT TAIL LIGHT	
31	7270017	LEFT TAIL LIGHT	

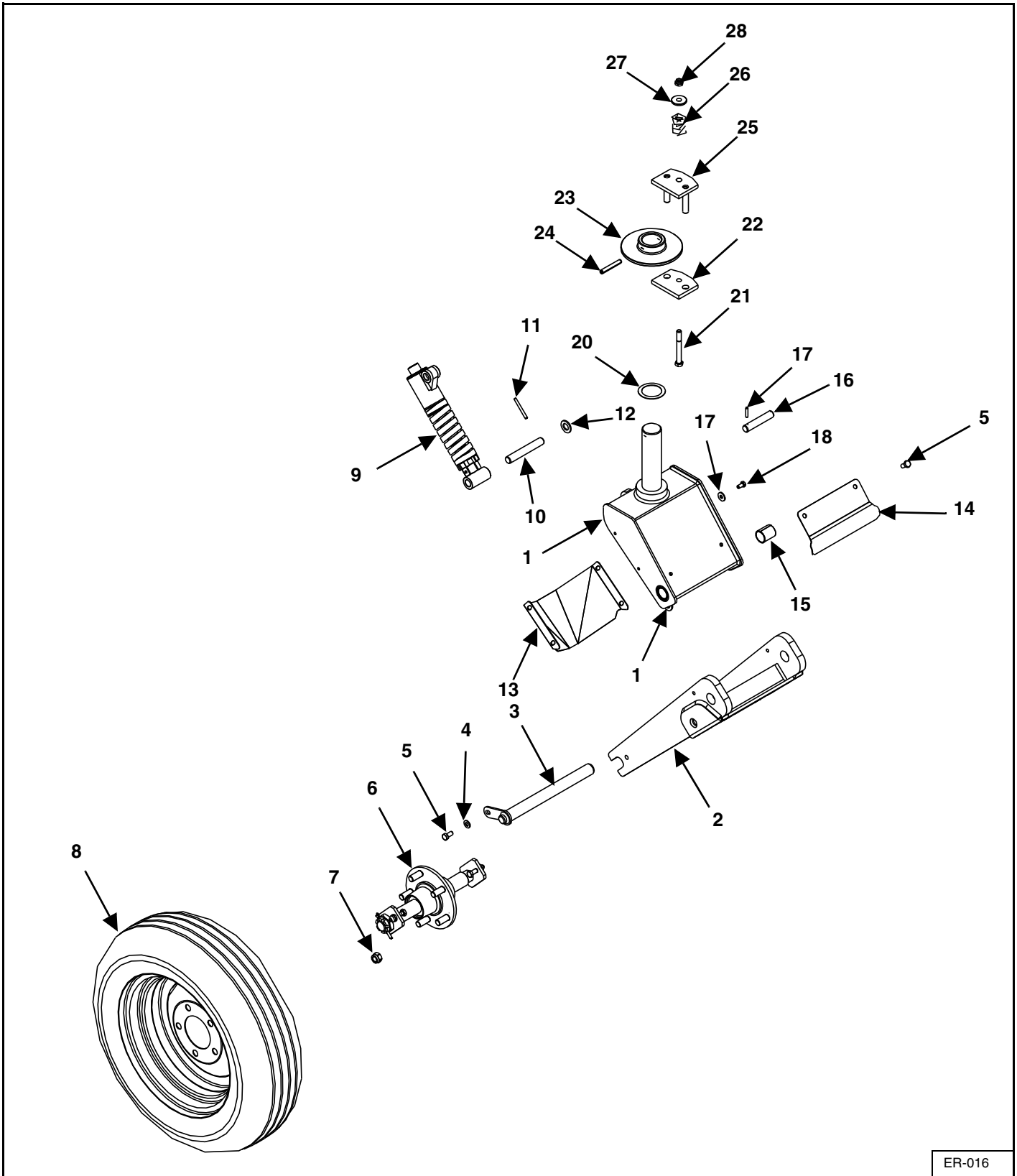
Closing Kit Assembly



ER-015

ITEM	PART NUMBER	DESCRIPTION	QTY
1	18032909	SKIP ROPE CLOSURE	
2	3020329	NUT M8	
3	18013319	COUPLING PIN	
4	18033081	PIN	
5	3030168	WASHER M20	
6	3020216	NUT M20	
7	18033233	SPRING COMPRESSOR	
8	3030159	WASHER M10	
9	3010756	SCREW M10X70	
10	3020201	NUT M10	
11	18033080	SCREW T.B. M20X130	
12	11010610	SPRING	
13	3090101	GREASE ZERK 8MB	
14	18013318	SUPPORT PLATE	
15	18034090	PLATE COUPLING	
16	3010311	SCREW M20X110	
17	11010639	SPRING	
18	18032293	DEPTH	
19	3011255	SCREW M12X25	
20	3030179	WASHER M12	
21	3160101	CRICKET Ø8	
22	9130017	ROPE	
23	9130017	ROPE	
24	9060108	HANDLE	

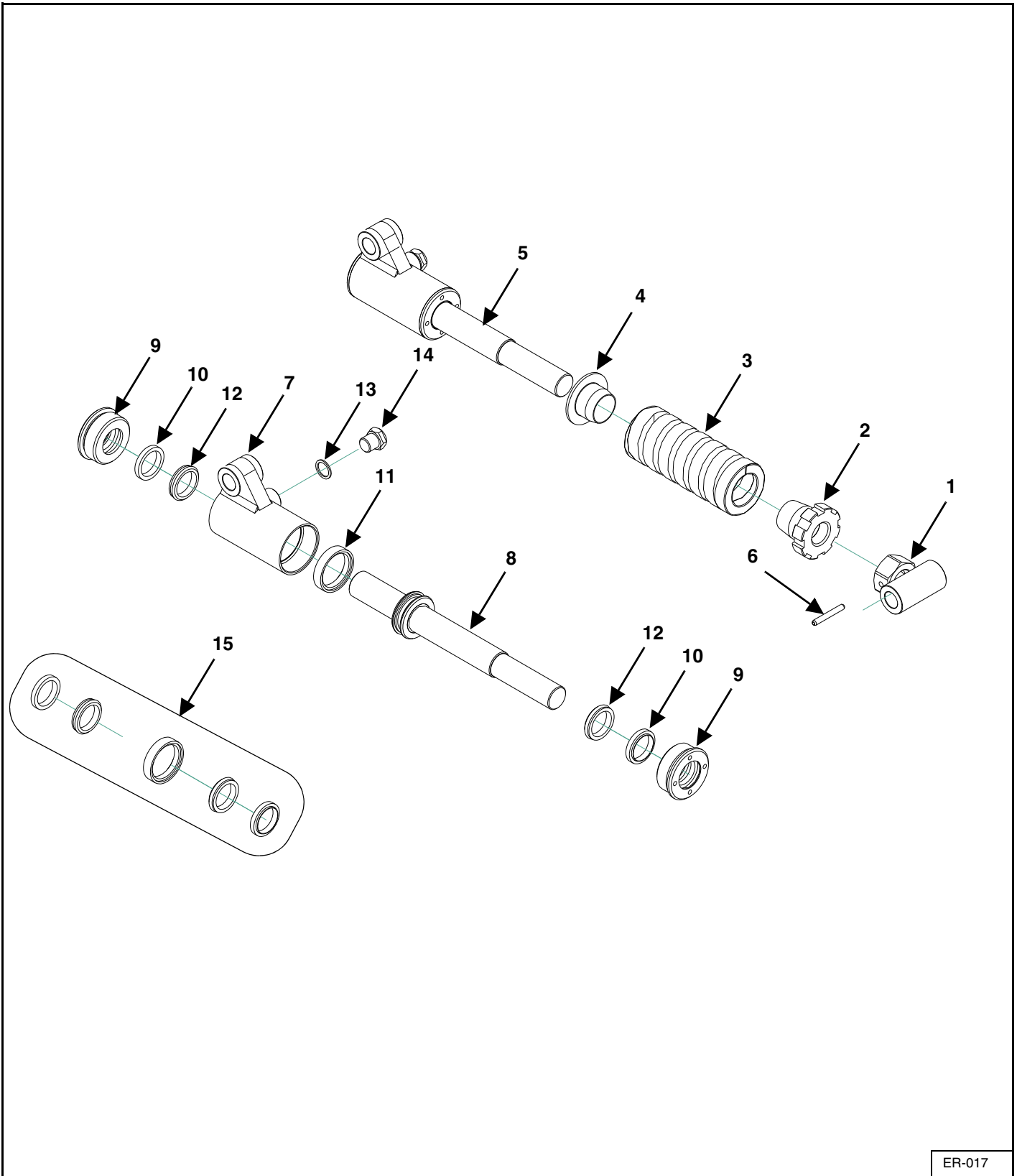
Wheel Assembly (Optional)



ER-016

ITEM	PART NUMBER	DESCRIPTION	QTY
1	18032970	SUPPORT FORK	
2	18032938	FORK	
3	18032973	PIN	
4	3030159	WASHER M10	
5	3011256	SCREW TE M10X20	
6	2050113	HUB	
7	3020204	LOCKING NUT M16	
8	12170108	WHEEL	
9	18032919	CYLINDER	
10	12061000	PIN	
11	3080104	ELASTIC PIN 6X60	
12	3030163	WASHER M18	
13	1011965	CARTER	
14	1013304	CARTER	
15	12240181	BUSH GLYCODUR 303440	
16	12060944	PIN	
17	3080109	ELASTIC PIN 6X30	
18	3011221	SCREW TE M8X16	
19	3030157	LARGE WASHER	
20	12280007		
21	3011214	SCREW TE M12X100	
22	18031128	LOWER BRAKE PAD	
23	2050107	BRAKING DISC	
24	3080117	ELASTIC PIN 10X70	
25	18031126	UPPER BRAKE PAD	
26	11010602	SPRING	
27	12880413	WASHER	
28	3020202	LOCKING NUT M12	

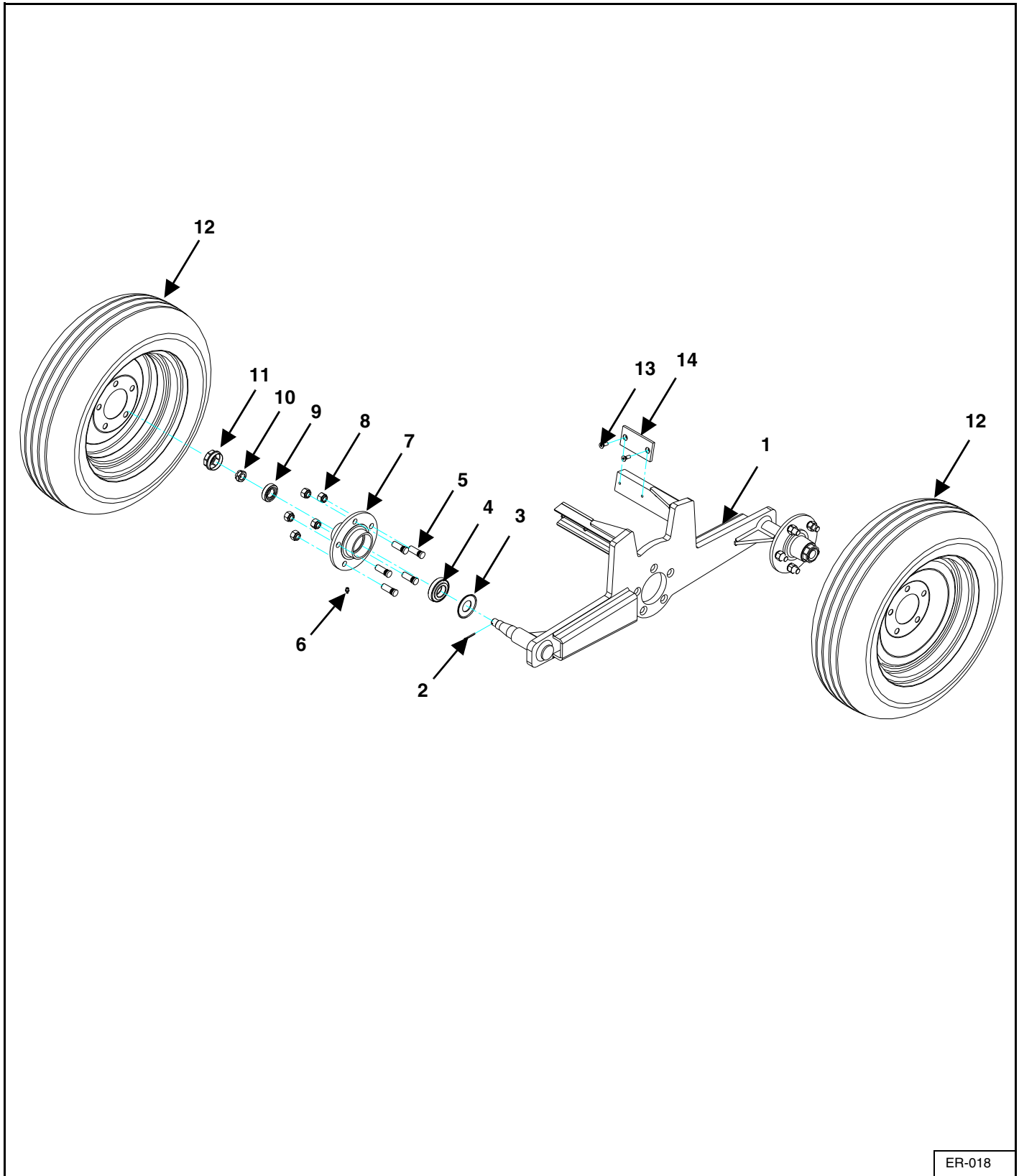
Wheel Cylinder Assembly (Optional)



ER-017

ITEM	PART NUMBER	DESCRIPTION	QTY
1	18032930	ATTACK	
2	12070455	BUSH	
3	11010638	SPRING EXTRA STRONG	
4	12070470	SHAFT	
5	12910327	CYLINDER COMPLETE	
6	3080120	ELASTIC PIN 6X45	
7	18032971	CYLINDER	
8	18032972	SHAFT	
9	12770239	GUIDE	
10	10010620	SCRAPER RING	
11	10010618	BALMASTER	
12	10010643	RETAINER	
13	3030403	COPPER WASHER 3/8"	
14	4010811	PLUG	
15		KIT SEALS	

Tandem Axle Assembly



ER-018

ITEM	PART NUMBER	DESCRIPTION	QTY
1	18033271	AXLE RIGHT	
	18033272	AXLE LEFT	
2	3040114	SPRING PIN 4X35	
3	18033272	DUST COVER 35X72	
4	12240143	BEARING 30207	
5	3011609	STUD BOLT M16	
6	3090101	GREASE ZERK 8MB	
7	12150108	HUB	
8	3020218	STUD BOLT 16MB	
9	12240119	BEARING 30205	
10	3020241	SELF LOCKING NUT 20MB	
11	12360003	DUST COVER CAP	
12	12170108	WHEEL	

Farm King



SPECIFICATIONS

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 O-ring Face Seal Connection90
 Flare Fitting90
 Port Seal (O-ring Boss) Fitting90
 Tubelines And Hoses90

Farm King



SPECIFICATIONS

Dimensions

DESCRIPTION	EASY RAKE 10	EASY RAKE 12	EASY RAKE 14
Transport Width	8 ft. (224 cm)	8 ft. (224 cm)	8 ft. (224 cm)
Transport Length	29 ft. (880 cm)	31 ft. (940 cm)	30 ft. (908 cm)
Working Width	21 ft. (630 cm)	24 ft. (740 cm)	27 ft. (830 cm)

Performance

DESCRIPTION	EASY RAKE 10	EASY RAKE 12	EASY RAKE 14
Weight	3250 lb. (1474 kg)	3450 lb. (1565 kg)	4320 lb. (1960 kg)
No. of Tires	4	4	6
Tine Size	0.3 in. (7.5 mm)	0.3 in. (7.5 mm)	0.3 in. (7.5 mm)
Rake Wheel	60 in. (152 cm)	60 in. (152 cm)	60 in. (152 cm)
No. of Rake Wheels	10	12	14
Windrow Width	36 in. / 43 in. / 51 in. (90 cm / 110 cm / 30 cm)		
Tractor HP	40 hp (30 kW)	40 hp (30 kW)	40 hp (30 kW)

HARDWARE TORQUE VALUES

Metric Chart

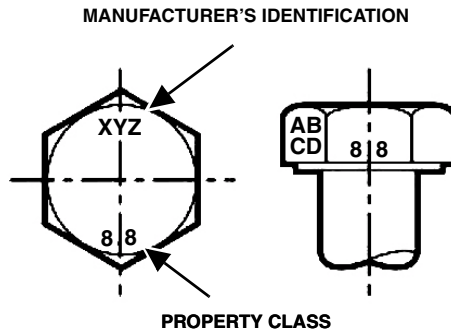
NOTE: Do not use the values listed in the charts if a different torque value or tightening procedure is specified in this manual for a specific application. Torque values listed are for general use only.

Use the following charts to determine the correct torque when checking, adjusting or replacing hardware. **Torque values are listed in newton-meters (inch* or foot pounds) for normal assembly applications.**

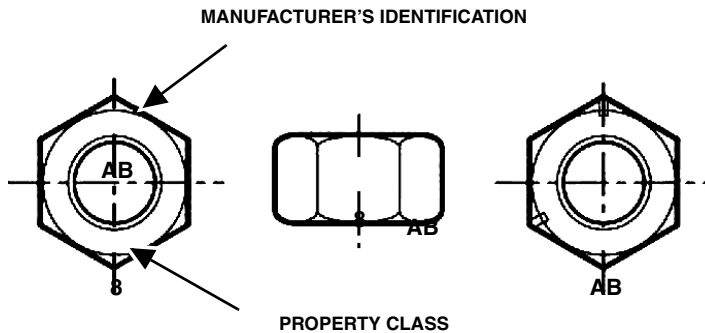
Nominal Size	Class 5.8		Class 8.8		Class 10.9		Lock nuts
	Unplated	Plated W / ZnCr	Unplated	Plated W / ZnCr	Unplated	Plated W / ZnCr	CL.8 w/ CL. 8.8 Bolt
M4	1.7 (15*)	2.2 (19*)	2.6 (23*)	3.4 (30*)	3.7 (33*)	4.8 (42*)	1.8 (16*)
M6	5.8 (51*)	7.6 (67*)	8.9 (79*)	12 (102*)	13 (115*)	17 (150*)	6.3 (56*)
M8	14 (124*)	18 (159*)	22 (195*)	28 (248*)	31 (274*)	40 (354*)	15 (133*)
M10	28 (21)	36 (27)	43 (32)	56 (41)	61 (45)	79 (58)	30 (22)
M12	49 (36)	63 (46)	75 (55)	97 (72)	107 (79)	138 (102)	53 (39)
M16	121 (89)	158 (117)	186 (137)	240 (177)	266 (196)	344 (254)	131 (97)
M20	237 (175)	307 (226)	375 (277)	485 (358)	519 (383)	671 (495)	265 (195)
M24	411 (303)	531 (392)	648 (478)	839 (619)	897 (662)	1160 (855)	458 (338)

NOTE: Torque values shown with * are inch pounds.

Identification of Hex Cap Screws and Carriage Bolts - Classes 5 and up



Identification of Hex Nuts and Lock Nuts - Classes 5 and up



HARDWARE TORQUE VALUES (CONT'D)

Imperial Chart

NOTE: Do not use the values listed in the charts if a different torque value or tightening procedure is specified in this manual for a specific application. Torque values listed are for general use only.

Use the following charts to determine the correct torque when checking, adjusting or replacing hardware. **Torque values are listed in newton-meters (inch* or foot pounds) for normal assembly applications.**

Nominal Size	SAE Grade 5		SAE Grade 8		LOCK NUTS			
	Unplated or Plated Silver	Plated W / ZnCr Gold	Unplated or Plated Silver	Plated W / ZnCr Gold	Unplated or Plated Silver	Plated W / ZnCr Gold	Grade W / Gr. 5 Bolt	Grade W / Gr. 8 Bolt
1/4	6.2 (55*)	8.1 (72*)	9.7 (86*)	12.6 (112*)	13.6 (121*)	17.7 (157*)	6.9 (61*)	9.8 (86*)
5/16	13 (115*)	17 (149*)	20 (178*)	26 (229*)	28 (250*)	37 (324*)	14 (125*)	20 (176*)
3/8	23 (17)	30 (22)	35 (26)	46 (34)	50 (37)	65 (48)	26 (19)	35 (26)
7/16	37 (27)	47 (35)	57 (42)	73 (54)	80 (59)	104 (77)	41 (30)	57 (42)
1/2	57 (42)	73 (54)	87 (64)	113 (83)	123 (91)	159 (117)	61 (45)	88 (64)
9/16	81 (60)	104 (77)	125 (92)	163 (120)	176 (130)	229 (169)	88 (65)	125 (92)
5/8	112 (83)	145 (107)	174 (128)	224 (165)	244 (180)	316 (233)	122 (90)	172 (127)
3/4	198 (146)	256 (189)	306 (226)	397 (293)	432 (319)	560 (413)	217 (160)	306 (226)
7/8	193 (142)	248 (183)	495 (365)	641 (473)	698 (515)	904 (667)	350 (258)	494 (364)
1	289 (213)	373 (275)	742 (547)	960 (708)	1048 (773)	1356 (1000)	523 (386)	739 (545)

NOTE: Torque values shown with * are inch pounds.

Identification of Hex Cap Screws and Carriage Bolts



SAE GRADE
2 BOLTS



SAE GRADE
5 BOLTS



SAE GRADE
8 BOLTS



SAE GRADE
2 NUTS

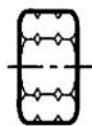


SAE GRADE
5 NUTS



SAE GRADE
8 NUTS

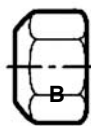
Identification of Hex Nuts and Lock Nuts



Grade A - No Notches

Grade B - One Circumferential Notch

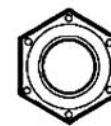
Grade C - Two Circumferential Notches



Grade A - No Mark

Grade B - Letter B

Grade C - Letter C



Grade A - No Marks

Grade B - Three Marks

Grade C - Six Marks

(Marks not always located at corners)

HYDRAULIC CONNECTION SPECIFICATIONS

O-Ring Fitting (Straight Thread)

Lubricate the O-ring before installing the fitting. Loosen the jam nut and install the fitting. Tighten the jam nut until the washer is tight against the surface.

O-ring Face Seal Connection

Figure 27

O-ring Face Seal Tightening Torque		
Tubeline O.D.	Thread Size	N•m (ft-lb)
1/4"	9/16" - 18	13 (18)
3/8"	11/16" - 16	22 (30)
1/2"	13/16" - 16	40 (54)
5/8"	1" - 14	60 (81)
3/4"	1-3/16" - 12	84 (114)
7/8"	1-3/16" - 12	98 (133)
1"	1-7/16" - 12	118 (160)
1-1/4"	1-11/16" - 12	154 (209)
1-1/2"	2" - 12	163 (221)

When the fitting is tightened, you can feel when the fitting is tight to eliminate leakage caused by under or over torqued fittings. Use petroleum jelly to hold the O-ring in position until the fittings are assembled.

Flare Fitting

Figure 28

Flare Fitting Tightening Torque		
Tubeline O.D.	Thread Size	N•m (ft-lb)
1/4"	7/16" - 20	13 (18)
5/16"	1/2" - 20	17 (23)
3/8"	9/16" - 18	22 (30)
1/2"	3/4" - 16	40 (54)
5/8"	7/8" - 14	60 (81)
3/4"	1-1/16" - 12	84 (114)
7/8"	1-3/16" - 12	98 (133)
1"	1-5/16" - 12	118 (160)
1-1/4"	1-5/8" - 12	154 (209)
1-1/2"	1-7/8" - 12	163 (221)
2"	2-1/2" - 12	252 (342)

Tighten until the nut makes contact with the seat. Use the chart [Figure 28] to find the correct tightness needed.

NOTE: If the fitting leaks, disconnect and inspect the seat area for damage.

Port Seal (O-ring Boss) Fitting

Figure 29

Port Seal And O-ring Boss Tightening Torque		
Tubeline O.D.	Thread Size	N•m (ft-lb)
1/4"	7/16" - 20	13 (18)
3/8"	9/16" - 18	22 (30)
1/2"	3/4" - 16	40 (54)
5/8"	7/8" - 14	60 (81)
3/4"	1-1/16" - 12	84 (114)
7/8"	1-3/16" - 12	98 (133)
1"	1-5/16" - 12	118 (160)
1-1/8"	1-7/16" - 12	154 (209)
1-1/4"	1-5/8" - 12	163 (221)

NOTE: Port seal and nut, washer and O-ring (O-ring Boss) fittings use the same tightening torque valve chart.

If a torque wrench cannot be used, use the following method.

Tighten the nut until it just makes metal to metal contact, you can feel the resistance.

Tighten the nut with a wrench no more than one hex flat maximum.

Do not over tighten the port seal fitting.

NOTE: If a torque wrench cannot be used, use the hex flat tightening method as an approximate guideline.

NOTE: Port seal fittings are not recommended in all applications. Use O-ring boss fittings in these applications.

Tubelines And Hoses

Replace any tubelines that are bent or flattened. They will restrict flow, which will slow hydraulic action and cause heat.

Replace hoses which show signs of wear, damage or weather cracked rubber.

Always use two wrenches when loosening and tightening hose or tubeline fittings.

WARRANTY

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Farm King



WARRANTY

Farm King

Limited Warranty

BASE LIMITED WARRANTY

Farm King provides this warranty only to original retail purchasers of its products. Farm King warrants to such purchasers that all Farm King manufactured parts and components used and serviced as provided for in the Operator's Manual shall be free from defects in materials and workmanship for a period following delivery to the original retail purchaser of one (1) year. This limited warranty applies only to those parts and components manufactured by Farm King. Parts and components manufactured by others are subject to their manufacturer's warranties, if any.

Farm King will fulfill this limited warranty by, at its option, repairing or replacing any covered part that is defective or is the result of improper workmanship, provided that the part is returned to Farm King within thirty (30) days of the date that such defect or improper workmanship is, or should have been, discovered. Parts must be returned through the selling representative and the buyer must prepay transportation charges.

Farm King will not be responsible for repairs or replacements that are necessitated, in whole or part, by the use of parts not manufactured by or obtained from Farm King. Under no circumstances are component parts warranted against normal wear and tear. There is no warranty on product pump seals, product pump bearings, rubber product hoses, pressure gauges, or other components that require replacement as part of normal maintenance.

REPAIR PARTS LIMITED WARRANTY

Farm King warrants genuine Farm King replacement parts purchased after the expiration of the Farm King Limited Warranty, and used and serviced as provided for in the Operator's Manual, to be free from defects in materials or workmanship for a period of thirty (30) days from the invoice date for the parts. Farm King will fulfill this limited warranty by, at its option, repairing or replacing any covered part that is defective or is the result of improper workmanship, provided that the part is returned to Farm King within thirty (30) days of the date that such defect or improper workmanship is, or should have been, discovered. Such parts must be shipped to the Farm King factory at the purchaser's expense.

WHAT IS NOT COVERED

Under no circumstances does this limited warranty cover any components or parts that have been subject to the following: negligence; alteration or modification not approved by Farm King; misuse; improper storage; lack of reasonable and proper maintenance, service, or repair; normal wear; damage from failure to follow operating instructions; accident; and/or repairs that have been made with parts other than those manufactured, supplied, and / or authorized by Farm King.

AUTHORIZED DEALER AND LABOR COSTS

Repairs eligible for labor under this limited warranty must be made by Farm King or an authorized Farm King dealer. Farm King retains the exclusive discretion to determine whether it will pay labor costs for warranty repairs or replacements, and the amount of such costs that it will pay and the time in which the repairs will be made. If Farm King determines that it will pay labor costs for warranty work, it will do so by issuing a credit to the dealer's or distributor's account. Farm King will not approve or pay invoices sent for repairs that Farm King has not previously approved. Warranty service does not extend the original term of this limited warranty.

Farm King

Limited Warranty

WARRANTY REQUIREMENTS

To be covered by warranty, each new product must be registered with Farm King within thirty (30) days of delivery to original retail purchaser. If the customer decides to purchase replacement components before the warranty disposition of such components is determined, Farm King will bill the customer for such components and then credit the replacement invoice for those components later determined to be covered by this limited warranty. Any such replacement components that are determined not be covered by this limited warranty will be subject to the terms of the invoice and shall be paid for by the purchaser.

EXCLUSIVE EFFECT OF WARRANTY AND LIMITATION OF LIABILITY

TO THE EXTENT PERMITTED BY LAW, FARM KING DISCLAIMS ANY WARRANTIES, REPRESENTATIONS, OR PROMISES, EXPRESS OR IMPLIED, AS TO THE QUALITY, PERFORMANCE, OR FREEDOM FROM DEFECT OF THE COMPONENTS AND PARTS COVERED BY THIS WARRANTY AND NOT SPECIFICALLY PROVIDED FOR HEREIN.

TO THE EXTENT PERMITTED BY LAW, FARM KING DISCLAIMS ANY IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ON ITS PRODUCTS COVERED HEREIN, AND DISCLAIMS ANY RELIANCE BY THE PURCHASER ON FARM KING'S SKILL OR JUDGMENT TO SELECT OR FURNISH GOODS FOR ANY PARTICULAR PURPOSE. THE PURCHASER'S ONLY AND EXCLUSIVE REMEDIES IN CONNECTION WITH THE BREACH OR PERFORMANCE OF ANY WARRANTY ON FARM KING'S PRODUCTS ARE THOSE SET FORTH HEREIN. IN NO EVENT SHALL FARM KING BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES (INCLUDING, BY WAY OF EXAMPLE ONLY AND NOT LIMITATION, LOSS OF CROPS, LOSS OF PROFITS OR REVENUE, OTHER COMMERCIAL LOSSES, INCONVENIENCE, OR COST OF REPLACEMENT OF RENTAL EQUIPMENT). IN NO EVENT SHALL FARM KING'S CONTRACT OR WARRANTY LIABILITY EXCEED THE PURCHASE PRICE OF THE PRODUCT. (Note that some states do not allow limitations on how long an implied warranty lasts or the exclusion or limitation of incidental or consequential damages, so the above limitations and exclusion may not apply to you.) This warranty gives you specific legal rights and you may also have other rights, which vary from state to state.

Farm King neither assumes nor authorizes any person or entity, including its selling representatives, to assume any other obligations or liability in connections with the sale of covered equipment, or to make any other warranties, representations, or promises, express or implied, as to the quality, performance, or freedom from defect of the components and parts covered herein. No one is authorized to alter, modify, or enlarge this limited warranty, or its exclusions, limitations and reservations.

Corrections of defects and improper workmanship in the manner, and for the applicable time periods, provided for herein shall constitute fulfillment of all responsibilities of Farm King to the purchaser, and Farm King shall not be liable in negligence, contract, or on any other basis with respect to the subject equipment.

This limited warranty is subject to any existing conditions of supply which may directly affect Farm King's ability to obtain materials or manufacturer replacement parts.

Buhler Industries Inc. reserves the right to make improvements in design or changes in specifications to its products at anytime, without incurring any obligation to owners of units previously sold.

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