

DARF

HAY RAKES

OWNER'S AND PARTS MANUAL



Model 6707

**Manufactured by
NIKKEL IRON WORKS CORP.**
Shafter, California



*Read, Follow, and Understand this
manual that provides information
and procedures to safely operate
and maintain the hay rake.*



Revised November 2021

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Introduction

WARNING

To prevent personal injury or even death, be sure you read, understand, and follow all of the instructions in this manual and other related OEM equipment manuals! The rake, if not used and maintained properly, can be dangerous to users unfamiliar with its operation. Do not allow operating, maintaining, adjusting, or cleaning of this rake until the user has developed a thorough understanding of the safety precautions and functions of the unit.

This rake is designed for the specific purpose of raking hay and other forage crops. DO NOT modify or use this rake for any application other than that for which it was designed.

Rakes maintained or operated improperly or by untrained personnel can be dangerous; exposing the user and bystanders to severe injury or even death.

Engineered For Long Life

Thank you for purchasing a DARF 6707 Hay Rake. We hope it will provide you with many years of productive use. The rake is designed to be pulled by a properly sized tractor with a Roll-Over Protective Structure (ROPS) or a pickup truck (refer to the Specifications section in this manual for additional details). The intended purpose of this rake (unit) is to windrow forage for harvesting. Do not use this unit for any other purpose than its intended design. All product users must read, understand, and follow the information provided in this manual, and other related equipment manuals, before using the unit. This manual is considered an essential part of safe operation and should be stored in the "manual storage tube" attached to the frame for easy reference. Do not allow anyone to operate or maintain this unit that has not read and fully comprehend the processes and procedures contained within this manual. Failure to follow the recommended procedures may result in equipment damage, personal injury, or even death to the user or bystanders.

The intent of this manual is to provide general guidelines that cover the proper use of the unit. The information contained in this manual also helps to assist you in avoiding equipment damage which may lead to an accident or injury. This information is designed to help owners and operators obtain the safest and most efficient results from your investment in the 6707 Hay Rake. The life of any unit depends largely on proper, scheduled maintenance of the unit (refer to the Maintenance section for additional information). If for any reason you do not understand the instructions or safety requirements for operating this unit, please contact your authorized dealer.

There may be times when circumstances occur that are not covered in this manual. At those times it is best to use common sense. Make sure the procedure or process you choose is safe for the user, operator, or possible bystanders. If you are in doubt of anything which could lead to damage to the unit or personal injury, contact your authorized dealer.

Some photographs, diagrams, or illustrations in this manual may show guards or shields removed to aid in clarity and understanding of a particular procedure. All guards, shields, or safety devices must be in their proper position and working order before operation.

Left-hand and right-hand sides are viewed from the rear, as if you were sitting in the driver seat of the tractor.

We urge you to make safety your top priority when using and maintaining this unit. Read, understand, and follow the information in this manual before operating or maintaining your 6707 DARF Hay Rake.

Serial Number Location

The serial number is located under the right side of the overhead main frame.



Serial Number: _____

Model Information: _____

Date Purchased: _____

Dealer Contact Information

Name: _____

Factory Contact Information

NIKKEL IRON WORKS CORP.

17045 Central Valley Highway

Shafter, CA 93263

661.746.4904 or 800.342.9222 (Phone)

661.746.4905 (Fax)

sales@nikkelironworks.com

www.nikkelironworks.com

Disposal of Equipment at End of Useful Life

This unit has been designed for the specific purpose of raking hay and other forage crops. When this unit is no longer capable of doing its designed purpose, it should be dismantled and scrapped. Do not use any materials or components from this unit for any other purpose.

Safety

General

Safety of the operator and any bystanders is one of the key objectives in designing and developing a new piece of equipment. Designers and manufacturers integrate as many safety features as possible. However, every year, many accidents occur which could have been avoided by a few seconds of thought and a more careful approach to handling the situation.

Most work-related accidents are caused by failure to observe basic safety rules or precautions. An accident can often be avoided by recognizing potentially hazardous situations before an accident occurs. As you operate and maintain the unit you must be alert to potential hazards and have the necessary training, skills, and tools to perform any required tasks.

Improper operation or maintenance of this unit could cause a dangerous situation that results in injury or death.

Do not use this unit until you read and understand the information contained in this manual. Do not use the unit for anything other than its intended purpose.

 **WARNING**  Do not use the unit until you read and understand the information contained in this manual.

Safety precautions and warnings are provided in this manual and on the unit. If these warnings are not followed, bodily injury or death could occur to you or other persons.

Nikkel Iron Works cannot anticipate every possible circumstance that might involve a potential hazard. The warnings in this manual and on the product are, therefore, not all-inclusive. If a method of operation not specifically recommended by us is used, you must satisfy yourself that it is safe for you and others. You should also ensure that the unit will not be damaged or be made unsafe by the methods that you choose.

The information, specifications, and illustrations in this manual are based on the information that was available at the time this material was written and can change at any time.

Safety Alert Symbol



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.


This manual may contain content for DANGER, WARNING, CAUTION, IMPORTANT NOTICE, and SAFETY INSTRUCTION references which must be followed to prevent the possibility of improper service, damage to the equipment, personal injury, or death. The following key words call the readers attention to potential hazards.

Hazards are identified by the "Safety Alert Symbol" and followed by a signal word such as "DANGER", "WARNING", or "CAUTION".

 **DANGER** Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury. This signal word is limited to the most extreme situations.

 **WARNING** Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

 **CAUTION** Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

 **NOTICE** Indicates that equipment or property damage can result if instructions are not followed.

 **SAFETY INSTRUCTIONS** Safety instructions (or equivalent) signs indicate specific safety-related instructions or procedures.

Note: Contains additional information important to a procedure.

Safety Icons Nomenclature

This manual and the equipment have numerous safety symbols. These safety symbols indicate important information about personal injury hazards.







Personal Protection / Important Information

-  Read the manual
-  Maintenance procedure
-  Eye protection
-  Hand protection
-  Install transport lock
-  Use proper tools
-  Warning decal alert
-  Stop machine engine
-  Remove key
-  Roll Over Protection
-  Stop engine
-  Set parking brake
-  Think safety reminder

Hazard Avoidance

-  Safety alert symbol
-  Crushing hazard
-  Hose damage hazard
-  High pressure fluid hazard
-  Zero pressure
-  Defective or broken part
-  Maintain safe distance
-  Pinch point hazard
-  Explosive force hazard
-  Zero pressure
-  Roll over hazard
-  Roll over hazard

Prohibited Actions

-  Do not
-  No alcohol
-  No drugs
-  No riders
-  No children
-  Do not weld

Safety Sign And Decal Locations


⚠ WARNING  To prevent serious injury or death from not following posted safety instructions, make sure all decals are attached to the unit and are legible at all times.

Safety decals provide a vital role in helping to reduce injuries and/or possibly even death. To ensure the greatest level of safety, all decals must be in place and legible at all times. Remember, it is the user's responsibility to maintain these decals.


All decals must be in place and legible or all warranties are void. If safety signs or decals have been damaged, new ones must be applied. Contact your authorized dealer for replacements.

⚠ WARNING	
CRUSH HAZARD	
	<p>To prevent serious injury or death:</p> <ul style="list-style-type: none"> • Do not stand between implement and moving tractor. • Stop engine and set parking brake before installing hitch pin.

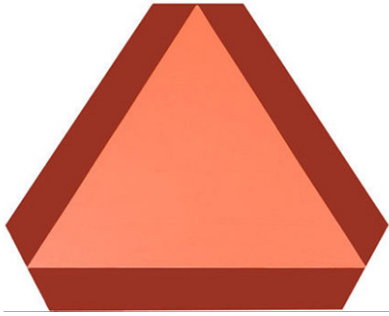
The crush hazard decal is located on the jack side of the tongue near the hitch.

⚠ WARNING	
Escaping hydraulic fluid under pressure, even a pinhole size leak, can penetrate body tissue, causing serious injury or possible death. If fluid is injected into your skin, it must be treated immediately by a doctor familiar with this type of injury.	
	<ul style="list-style-type: none"> • Check or tighten all connections BEFORE applying pressure. • Release all pressure before removing a hose, fitting, or valve by: <ol style="list-style-type: none"> a. Stopping the engine. b. Moving all hydraulic control levers into a float position. • DO NOT use your bare hand to check for potential leaks. Always use a board or cardboard when checking for a leak.

The high-pressure fluid decal is located on both raking frames near the lift cylinders, on the tongue near the hitch, and near the valve manifold cover.

⚠ WARNING	
	<p>To prevent serious injury or death:</p> <ul style="list-style-type: none"> • Install cylinder locks whenever implement is in a transport configuration. • Do not transport implement with cylinder locks removed.

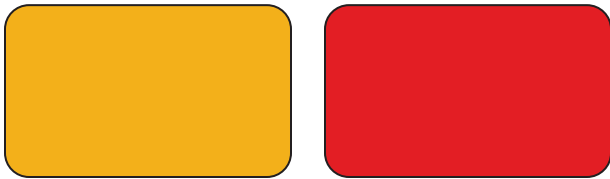
The cylinder lock decal is located on both raking frames ahead of the leg strut, near the swing cylinders.



SMV (slow moving vehicle) emblem located on the rear of the rake.



California Proposition 65 sticker located on various items.



Amber and red reflective decals are located on the ends of the raking frames.

General Safety Guidelines



Do not operate or maintain this unit under the influence of drugs or alcohol. Consult your doctor before using this wheel rake while taking prescription medications.



Do not read, eat, drink, talk, text, or use a cell phone while using this equipment. Never use alcohol or drugs when operating this piece of equipment.



Stay clear of moving parts such as rake wheels, cylinders, couplings, and universal joints. Review the safety instructions and precautions annually.

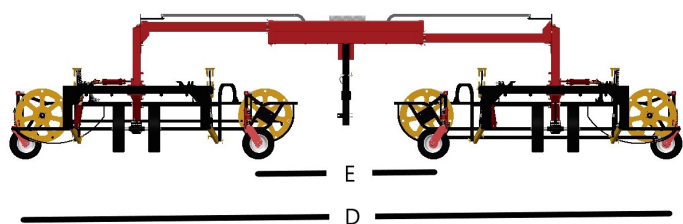
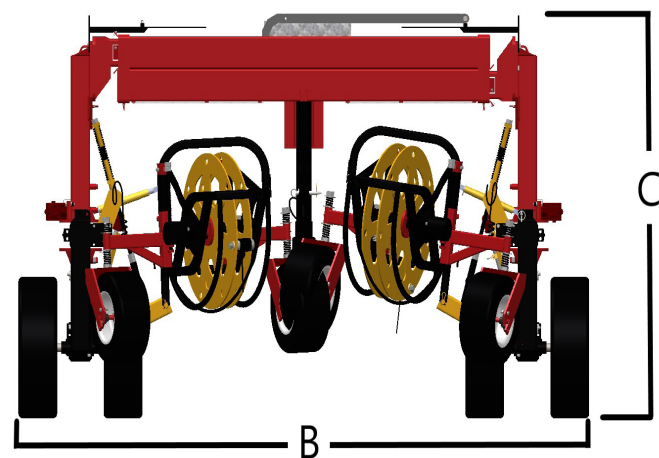
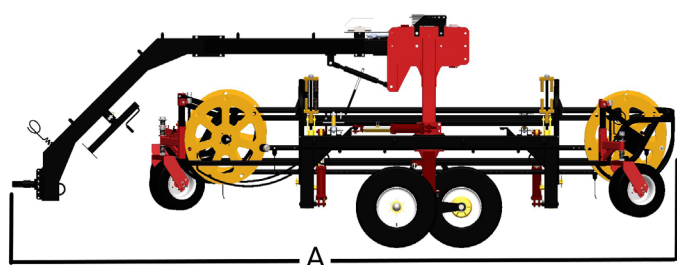
WARNING

It is the responsibility of the owner to know the lighting and marking requirements of the local highway authorities and to install and maintain the equipment to provide compliance with the regulations. Add extra lights when transporting at night or during periods of limited visibility.

Specifications

6707 Model Dimensions

Item	Dimension
A	Rake Length — 20'6"
B	Transport Width — 12' 4"
C	Rake Height — 7' 3"
D	Maximum Raking Width — 31'
E	Maximum Windrow Width — 7'
—	Rake Weight: — 7,280 lbs
—	Tongue Weight: — 350 lbs



6707 Model Identification Chart

This Owner's Manual contains ALL 6707 Model information including:

Model Number	Description
6707BG	Standard overhead frame with full hydraulics and ball hitch
6707CG	Standard overhead frame with full hydraulics and clevis hitch

6707 Tractor Requirements

The table below has the minimum tractor requirements to operate the 6707:

Item	Requirement
Tractor Horsepower:	60 H.P Minimum
Tractor Hydraulics:	Open-Center or Closed Center
	1 Detent valve for continuous Flow
	1 Hydraulic remote
	Flow Control (Working range of rake is 10-15 gpm) not to exceed 25 gpm
	Working pressure not to exceed 2,750 psi
Ball Hitch Size:	2-5/16"

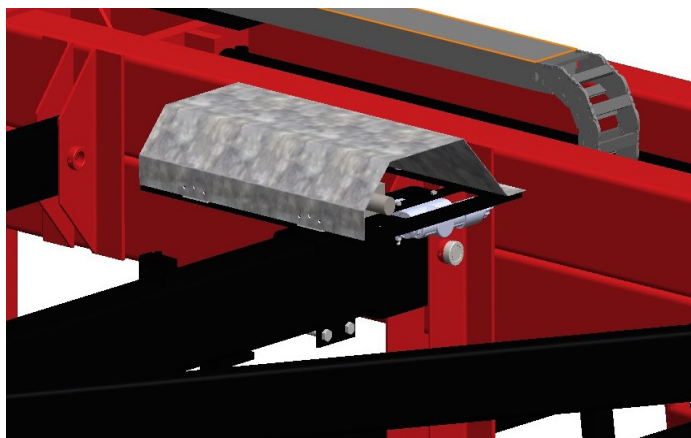
6707 Model Specification Chart

	6707BG	6707CG
Seventeen-Wheel, Standard Raking Width 24'	•	•
Standard Overhead Frame	•	•
Seven-Function Electro/Hydraulic Manifold	•	•
Super Duty Walking Beam Axle with 2" Spindles	•	•
8" Wide Wheels	•	•
Heavy Duty Hub	•	•
Taper Bearings in Rake Tine Bars	•	•
Rubber Mounted Tines	•	•
Standard 2-5/16" Adjustable Ball Hitch	•	
Standard Clevis Hitch		•
Requires One Hydraulic Circuit and 12 Volt Access	•	•

Nomenclature

Hydraulic Manifold and Control Box Locations

The hydraulic manifold for the DARF 6707 Rake is configured for a Closed Center Hydraulic system. Reconfiguration of the manifold is required for OPEN CENTER HYDRAULIC systems.

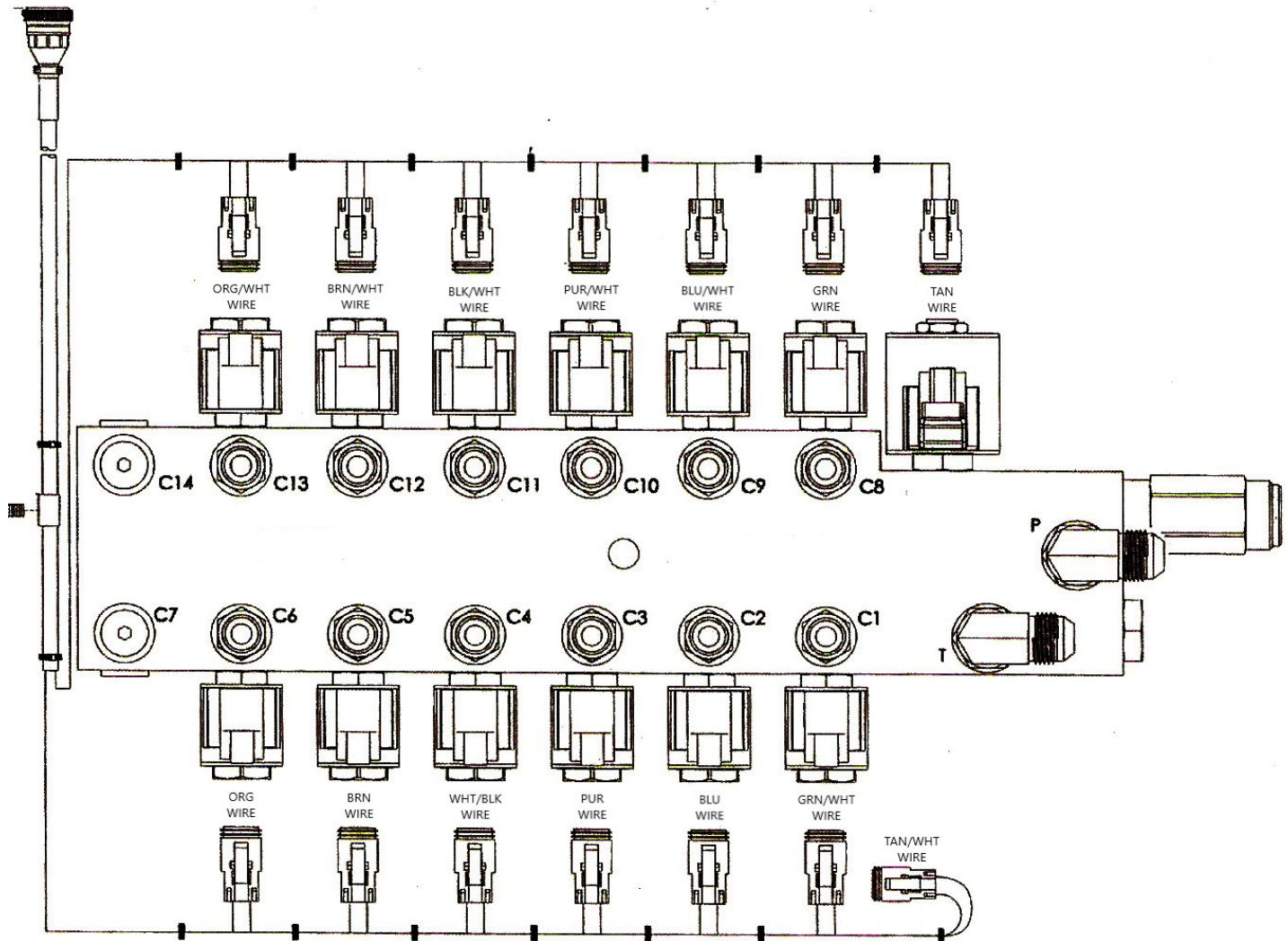


Hydraulic Manifold



Control Box Monitor

7-Function Manifold Identification

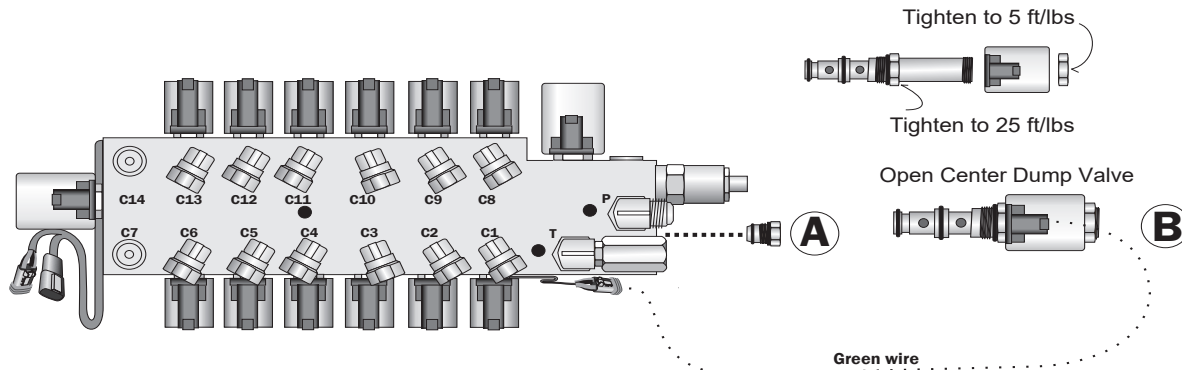


Valve Port	Cylinder	Function	Connection
C-1	Right Angle	Close	Rod End
C-8	Right Angle	Open	Piston
C-2	Right Overhead	Open	Piston
C-9	Right Overhead	Close	Rod End
C-3	Right Lift	Open	Piston
C-10	Right Lift	Close	Rod End
C-4	Left Angle	Close	Rod End
C-11	Left Angle	Open	Piston
C-5	Left Overhead	Open	Piston
C-12	Left Overhead	Close	Rod End
C-6	Left Lift	Open	Piston
C-13	Left Lift	Closed	Rod End
C-7	N/A	N/A	N/A
C-14	N/A	N/A	N/A

Assembly and Start-Up

Closed Center to Open Center Conversion

As mentioned before, the hydraulic manifold comes from the factory set up for closed center hydraulics. Follow these steps to switch from closed to open.



1. Remove cavity plug A.
2. Install Open Center Dump Valve B.
 - a. Tighten valve body to 25 ft.lbs.
 - b. Tighten solenoid nut to 25 ft.lbs.
3. Install cavity plug A where the Open Center Dump valve was removed.
4. Attach green wire on dump valve to green plug on manifold wiring harness.

Note: Cavity plug (A) and the Open Center Dump Valve and Solenoid (B) exchange places when creating an open center valve body.

7. Operate the control valve on the tractor to determine which position supplies oil to the pressure hose.

Note: A detent in the valve may allow the valve to remain in this position, or you may have to hold the valve handle open.

8. Return the valve to neutral and install the return hose in the return coupler.

Note: Full Hydraulic Models such as 6707BG and 6707CG are connected to the tractor using two hoses.

SAFETY INSTRUCTIONS

The correct start-up is the responsibility of the dealer and/or the owner! Please follow directions.

5. Install correct quick disconnect couplings on the hydraulic hoses route them down the tongue.
6. Locate the hydraulic hose from port "P" on the manifold valve and attach it to one of the remote valve couplings.

Note: Do not insert the return line at this time.



Assembly

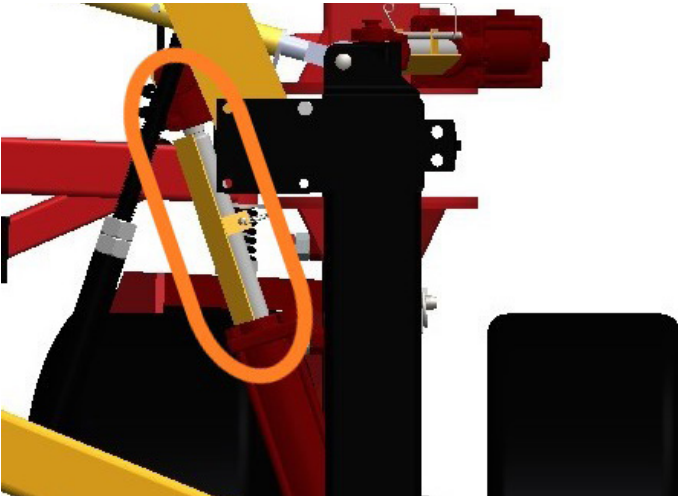
1. Remove the two safety chains before starting the tractor. The chains are located under the main frame and on the side of the leg strut.



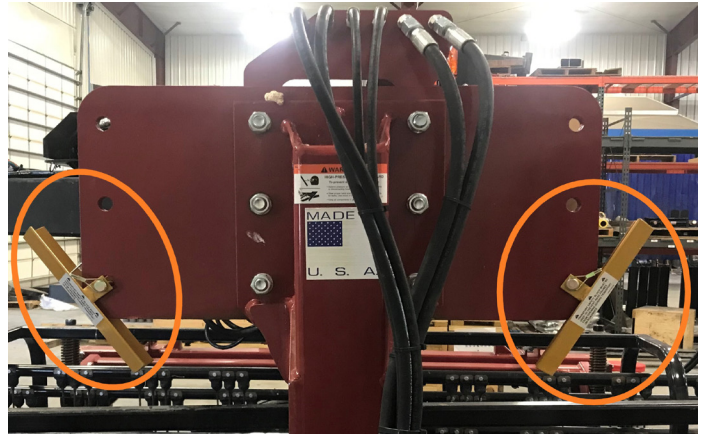
2. Remove the two cylinder stops, one on each side of the leg strut.



3. Remove the two cylinder stops, one on each basket lift cylinder.



4. Store both cylinder stops on the extension tube place as shown in the image below.

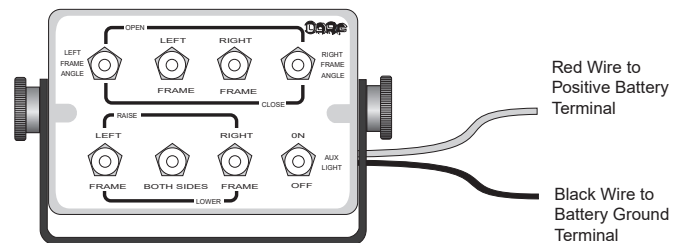


5. Locate the Control Box Monitor in a secure location with easy access for the operator.



6. Attach the RED wire to the positive lead and attach the BLACK wire to the negative lead.

NOTICE The control box only operates with a 12-Volt DC Negative Ground electrical system. Any other Voltage will damage the unit.



Highway Transport

Safety

REMEMBER! Your best insurance against accidents is being a careful and responsible operator. If there is any portion of this manual or the unit's operation you do not understand, contact your local authorized dealer for clarification.

Prior to Transporting the Unit

CAUTION The following safety instructions are provided to help prevent potential injury. Not following these instructions may lead to injury.

- Comply with all state and local laws governing highway safety and movement of farm machinery on public roads.
- Visually inspect the unit for any missing or loose parts.
- Always visually check for loose or missing mounting hardware before each operation. Correct any problems before operating the unit.
- Plan your route in advance to avoid heavy traffic!

Obstacles and Other Hazards

WARNING Failure to follow these safety instructions could result in serious injury and possibly even death if they are not understood and followed.

- Avoid overhead power lines, electrical cables, or other electrified objects. Contact with electrical power could cause serious injury or death.
- Watch for overhead obstructions as well as objects to either side of the unit while transporting.

Lighting and Other Hazard Devices



Light kits are available from your dealer.

WARNING It is the responsibility of the owner to know the lighting and marking requirements of the local highway authorities and to install and maintain the unit to provide compliance with the regulations. Add extra lights, if required, when transporting at night or during periods of limited visibility.

SAFETY INSTRUCTIONS The following safety instructions are provided to help prevent injury or limit equipment damage.

Note: If the unit is going to be transported on a public highway always follow all local and state regulations regarding auxiliary lighting when towing. Lights and signs should be clearly visible by oncoming traffic when the unit is towed.

- When transporting the unit on the road or highway under 20 mph, make sure the (SMV) identification emblem is clearly visible. If appropriate, use flashing amber lights.
- 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.
- Use all appropriate accessory lighting, flags, or other necessary warning devices to protect the operators of other vehicles during daytime or nighttime transport.

Note: Safety lights and devices are available from your dealer.

Transporting the Unit on Roadways

WARNING

Failure to follow these safety instructions

could result in serious injury and possibly even death if they are not understood and followed.

- Securely attach the unit to the tractor with a high strength, appropriately sized hitch pin with a mechanical retainer.
- Do not drive under the influence of drugs or alcohol.
- Always drive at a safe speed relative to local conditions. Keep your speed to a minimum.
- Ensure your speed is slow enough for a safe and secure emergency stop.

CAUTION

The following safety instructions are

provided to help prevent potential injury. Not following these instructions may lead to injury.

- Keep the brake pedals latched together at all times. Never use independent braking when towing the unit, as loss of control or upset of the unit may result.
- Always keep the tractor or towing vehicle in gear to provide engine braking when going downhill, do not coast.
- Be a safe and courteous driver. Always yield to oncoming traffic in all situations, including narrow bridges, intersections, etc.
- Be observant of bridge loading ratings. Do not cross bridges rated lower than the gross weight at which you are operating.

Safety Chains

WARNING

Safety chains must be attached by crossing

the chains under the tongue and secure them to the drawbar cage, hitch, or tractor frame.

Note: *It is the owner's responsibility to provide safety chains. If the unit is going to be transported on a public highway safety chains are required. Always follow all local and state regulations regarding safety chains.*

Operation

Before operating the unit, also review and follow all safety recommendations in the towing and Maintenance sections before operating the unit.

Note: The term “tractor” refers to any standard industry approved and acceptable type of vehicle used to pull the unit.

General Safety

WARNING Failure to follow these safety instructions could result in serious injury and possibly even death if they are not understood and followed.



It is the unit's owner's responsibility to make sure any person using this unit, especially if it is loaned or rented, has been thoroughly trained on its proper and safe use.

- Before operating this unit, the user should carefully review and understand the material in this manual and be familiar with these operating instructions and the operation of the tractor.
- Do not allow an unqualified person or anyone under the influence of medication or intoxicating substances to operate the tractor.



Never allow children to operate the unit.



Operate the unit only from the operator's seat. Whenever leaving the

tractor's operator seat for any reason:

1. Shut off the engine and remove the ignition key.
2. Set the parking brakes.
3. Relieve hydraulic fluid pressure.
4. If parking the unit, make sure the jack stand is lowered and retaining pin is installed.



The weight of the tractor, plus the unit, if it rolls onto a person, could cause serious crushing injury or death.



The tractor should be equipped with a Roll Over Protective Structure (ROPS) and a seat belt. A crushing hazard could occur if the driver is ejected from the seat while the tractor is in motion. Fasten the seat belt whenever the tractor is moving.



Do not allow anyone to stand between the tongue or hitch and the tractor when backing up to the unit.

SAFETY INSTRUCTIONS

The following safety instructions are provided to help prevent injury or limit equipment damage.

- Be certain only physically-able persons will operate the unit.
- If the elderly are assisting with the work, their physical limitations need to be recognized and accommodated.

Inspect Unit Before Each Use

SAFETY INSTRUCTIONS

The following safety instructions are provided to help prevent injury or limit equipment damage.

- Inspect your unit for any loose bolts, worn parts, hydraulic leaks, frayed hoses, cracked welds, etc. Make necessary repairs before starting.
- Keep wheel lug nuts or bolts tightened to correct torque.
- Be sure all the hydraulic lines do not conflict with moving parts and lubricate all fittings/joints as needed or required.
- Make sure the unit's tires are properly inflated.
- Be sure no tools lying on or near the unit.
- Make sure all shields and guards are in place and securely fastened.
- Make sure the wings are locked into position whenever they are opened from the transport position.

Inspect Work Area Before Each Use

CAUTION

The following safety instructions are provided to help prevent potential injury. Not following these instructions may lead to injury.

- Watch for holes, rocks, or other hidden hazards. Always inspect the area prior to operation.
- Do not use the unit until you are sure the area is clear, especially of children and animals.
- Always look around to make sure it is safe to start the engine of the tractor. This is particularly important in areas of higher noise levels and quiet cabs, as you may not hear people shouting.

Safety During Operation

WARNING

Failure to follow these safety instructions could result in serious injury and possibly even death if they are not understood and followed.

- Never allow anyone to stand alongside the unit with the tractor's engine running.
- Do not operate the unit with someone standing alongside it.
- Rake teeth can cause injury. Use special caution when lowering and raising the rake arms because the floating rake wheels can drop down unexpectedly.
- No passengers are allowed at any time on or in the tractor or the unit unless it is required for operation.
- To avoid the risk of overturning, reduce speed prior to turns and avoid sudden uphill turns on steep slopes.
- Keep hands and feet clear of moving parts.
- Do not try to clean, remove debris, lubricate, or adjust the unit while it is operating.

CAUTION

The following safety instructions are provided to help prevent potential injury. Not following these instructions may lead to injury.

- Always operate the unit in a configuration that provides maximum visibility at all times.
- Make allowances for the increased length and weight of the unit when making turns, stopping, or other related operations.
- Depending on the surrounding conditions, always pull the unit at a reasonable speed to maintain control.
- Shift the tractor to a lower gear before going down steep downgrades, thus using the engine as a retarding force.
- Keep the tractor in gear at all times, and slow down for corners and rough terrain.
- Use extra caution when working on inclines.
- Operate up and down (not across) intermediate slopes and avoid sudden starts and stops.
- Do not operate near the edge of drop-offs or banks.
- Do not operate on steep slopes or inclines as the unit may overturn.

NOTICE

These recommendations indicate that equipment or property damage can result if instructions are not followed.

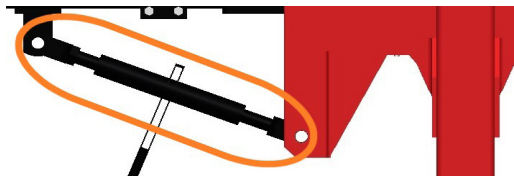
- *Do not back up with the rake wheels lowered to the raking position as damage will result.*
- *Avoid areas with loose-fill, rocks, or holes; these can be dangerous for equipment operation or movement.*

Operation

1. Connect the rake to the tractor.
2. Adjust hitch height to ensure the leg struts are vertical and rake is level front to rear.



3. For fine leveling of the rake front to rear adjust the overhead turnbuckle.



4. Connect the Control Box cable connections from rake to towing vehicle. Make sure the cable is routed around, and will not be damaged, by any moving parts or pinch points.



5. It is highly recommended that both Angle Swing Cylinders be removed from the rod end of the raking frame.
6. Carefully remove the 1 inch pin and clip. Swing the cylinders out of way to avoid contact with any object.

WARNING Stay Clear Until the hydraulic system is completely purged of trapped air there is a chance the raking frame could swing open without warning.

SAFETY INSTRUCTIONS Never loosen a fitting to bleed off trapped air from the system, this is very dangerous.

7. Install correct quick disconnect couplings on the hydraulic hoses route them down the tongue.
8. Locate the hydraulic hose from port "P" on the manifold valve and attach it to one of the remote valve couplings.

Note: Do not insert the return line at this time.



9. Operate the control valve on the tractor to determine which position supplies oil to the pressure hose.

Note: A detent in the valve may allow the valve to remain in this position, or you may have to hold the valve handle open.

10. Return the valve to neutral and install the return hose in the return coupler.

Note: Full Hydraulic Models such as 6707BG and 6707CG are connected to the tractor using two hoses.

NOTICE

Always open main frame while the unit is moving!

11. With the tractor moving, operate the tractor valve control handle to supply oil to the pressure hose.
12. Operate the "OPEN FRAME" toggle switch on the control box for either left or right side. Open fully. **DO NOT OPEN FRAME WHILE STATIONARY**

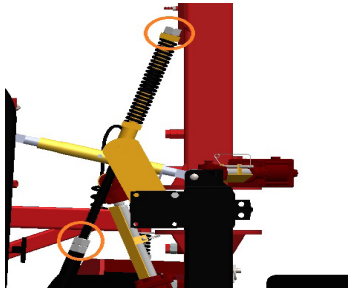


13. Operate the remaining toggle switches; frame angle open and close, and raise/lower rake frame.
14. On occasion, it is necessary to extend and retract the overhead frame two to three times in order for the hydraulic hoses to "set" and so they will fold as intended.

Note: If the hydraulics are erratic during start-up, AIR is likely the cause. Be sure to thoroughly purge the system completely.

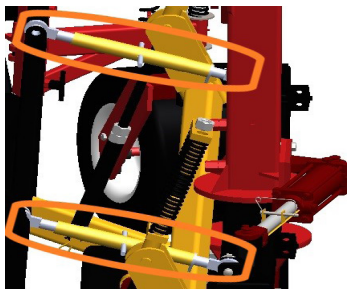
15. Check the tractor hydraulic fluid after the engine is off. Four to five gallons may be required to replenish the system.
16. If Angle Swing Cylinders were removed to purge the system of air, reinstall them now.

17. On level ground, open raking baskets to the raking position and fully lower raking baskets.
18. Raise all four gauge wheels to be even with or slightly above the bottom of the rake teeth.
19. Adjust the ground height rods (two on each side) to ensure the rake teeth do not contact the ground. Contact with the ground can cause tooth damage.



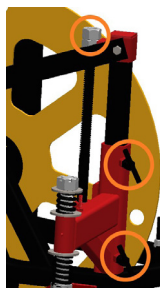
20. A tooth height of 0.50" above the ground is ideal. Once the ground height rods are adjusted properly, tighten jam nuts as shown in the image.
21. Adjust the angle of the basket frame using the two turnbuckles on each side until the basket frame is parallel with the ground and is tilted back at an angle of 7°.

Note: Adjust each basket incrementally, alternating between front and rear turnbuckles to avoid twisting the frame.



22. Adjust the four gauge wheels to slightly contact the ground without affecting the rake teeth height.

Note: Tighten the handles first followed by the jam nut.



23. Raise the raking baskets.

24. Test the basket rotation speed. With tractor flow set to **10 gpm**, engage the basket motors and turn the dial to maximum. Increase the tractor hydraulic flow slowly, checking often, until the basket motors achieve 90 rpm. This should require no more than 12 gpm, but typically will be achieved at a significantly lower flow.

Note: Verify that the tine bars are rotating in the correct direction.

25. Adjust the raking width and raking windrow size by opening and closing the main frame and by swinging the raking frames to desired angles.
26. Raking speed is subject to field conditions and crop.

Pre-Operation Checklist

Checklist	
✓	Inspection Item
	Level rake using hitch adjustments
	Adjust raking wheel spring tension to assure clean raking without excessive ground contact.
	Check hydraulic oil level.
	Bleed all air in hoses.
	Re-tighten all bolts after the first day of operation.
	Keeping the rake cleaned and painted will help to prolong the value of this product.
	Failure to check rake teeth height routinely may cause excessive wear or missed pick-up of forage.
	When opening the overhead main frame, the rake must be moving forward so as not to damage the transport tires.
	When not attached to the tractor, chock the wheels and ensure that the jack is securely planted. Park this rake in a level area whenever possible and with a cover.
	When stopped or parked, do not leave the raking teeth in contact with the ground fully supporting the weight of the raking frame. This will result in permanent damage to the rake teeth.
	Grease the Zerk fittings on the leg struts as needed.
	Inspect for hydraulic leaks frequently.

Maintenance

Proper and timely servicing and adjustments are key to the long life of this unit. With careful inspection and routine maintenance, costly downtime and repairs can be avoided.

If the unit is altered or modified from the original design, or if genuine replacement parts or teeth are not used and properly installed, NIKKEL IRON WORKS, CORP. does not assume any responsibility or liability for injury or warranty.

General Safety



Failure to follow these safety

instructions could result in serious injury and possibly even death if they are not understood and followed.



It the tractor must be connected to the unit during a maintenance

procedure:

1. **Shut off the engine and remove the ignition key.**
2. **Set the parking brakes.**
3. **Relieve hydraulic fluid pressure.**
4. **If parking the unit, make sure the jack stand is lowered and retaining pin is installed.**

- **Make sure there is adequate ventilation.**

If the tractor must be running to work on the hydraulic system, make sure there is plenty of ventilation. Never operate the tractor inside a closed building as the exhaust fumes may cause asphyxiation.

- **Always use lifting equipment that is adequately rated to do the job.**

Some parts and assemblies are quite heavy. Before attempting to detach any part or assembly, arrange to support it using a hoist, by blocking it up, or by use of an adequate arrangement to keep it from falling, tipping, swinging, or moving in any manner which may hurt somebody or damage the equipment.



Wear personal protective equipment such as gloves and safety glasses when mechanically servicing the unit or working with the hydraulic system.

- **Always use safety support blocks when the unit is raised off the ground.**

- **Make sure the transfer locks in place and engaged when working on the unit.**
- **When the wheels are in contact with the ground, chock them to prevent unexpected movement.**
- **Never use a jack to fully support the weight of the unit.**
- **Securely support the unit when raised off the ground.**

Always secure equipment with solid supports before working on or under it. Never work under equipment supported by hydraulics, they can drop equipment if controls are actuated or hydraulic lines burst or pressure is lost while disconnecting lines. Either situation can drop machinery instantly even when power to hydraulics is off.

- **Do not attempt to disconnect a hydraulic cylinder or hose while the system is under pressure.**

SAFETY INSTRUCTIONS

The following safety instructions are provided to help prevent injury or limit equipment damage.

- **Use proper tools or equipment for the job at hand.**
- **After maintenance, be sure all tools, parts, and service equipment are removed.**

Tire Safety



Tire mounting or repair should be done using a professional service provider. Never attempt to mount a tire unless you have the proper equipment and experience to safely do the job.



Failure to follow proper procedures when mounting a tire on a wheel can produce an explosive force which will result in serious injury or even death. Always use a tire cage when inflating unmounted tires.

Whenever inflating a tire, use a clip-on air hose and stand at a safe distance as the tire inflates. Only trained personnel should be allowed to inflate tires.

⚠ WARNING

To prevent possible loss of control when moving the unit, always order and install tires and wheels with appropriate capacity to meet or exceed the anticipated weight to be placed on the equipment.

NOTICE

Be sure you have proper tire pressure and the lug nuts are properly tightened. Check wheel bearings on a regular basis and grease semiannually.

Periodic Maintenance

NOTICE

These recommendations indicate that equipment or property damage can result if instructions are not followed.

- Check mounting hardware on the unit following every 100 hours of operation. Correct any problems and follow the maintenance safety procedures.
- Always use the proper tools or equipment for the job. Never replace hex bolts with less than Grade 5 bolts, unless specified by Nikkel Iron Works.

Hydraulic System Safety

⚠ WARNING

Only adequately trained and qualified persons should work on hydraulic systems. The possibility exists that someone could be severely injured or killed by being crushed under the unit.



High-Pressure Fluid

Keep all hydraulic lines, fittings, and couplers tightly secured and free of leaks.

Do not make any temporary repairs to the hydraulic lines, fittings, or hoses using tape, clamps, or cement. The hydraulic system operates under extremely high pressure and temporary repairs may fail suddenly and create a hazardous/dangerous situation.

DO NOT use your bare hand to check for potential leaks. Always use a board or cardboard when checking for a leak.

Escaping hydraulic fluid under pressure, even a pinhole size leak, can penetrate body tissue, causing serious injury and possible death. If fluid is injected into your skin, it must be treated immediately by a doctor familiar with this type of injury. Any fluid injected into the skin or eyes must be treated within a few hours or gangrene could result.

- Release all hydraulic pressure before disconnecting lines or performing work on the hydraulic system.
- Hydraulic system components and oil can be very hot and cause burns. Before working on any system, wait until the oil has cooled.

⚠ CAUTION

The following safety instructions are provided to help prevent potential injury. Not following these instructions may lead to injury.

- Use extreme caution when making pressure adjustments.
- Check hydraulic hoses and fittings frequently for leaks or wear.
- Remove any buildup of debris that may damage hoses and fittings.
- Visually inspect and maintain the unit daily. Loose, broken, and missing components may cause the unit to not perform properly and may result in bodily injury or death.

Maintenance Chart

Item	Interval
Check hydraulic hoses and connections for leaks	Before operating
Make sure tine bar bolts are tight	Before operating
Check tire pressure	Before transporting or operating
Make sure ground wheel hubs are tight	Before transporting
Make sure safety lights work	Before transporting
Grease ball hitch	Monthly
Lubricate male slides (plastics)	Monthly
Grease ground wheel hubs	Monthly
Check tires for uneven wear - adjust toe-in 1/8"	Monthly
Grease tine bar bearings	Two times per year
Check all electrical connections	Seasonally
Grease leg strut fittings	Seasonally
Rotate HD walking beam bearing (#1002A) 90 degrees	Seasonally
Review safety instructions	Annually
Straighten stripper bars	As needed
Straighten tine teeth	As needed
Clean or replace safety decals	As needed

Storage (After Operation)

After Operation Safety

CAUTION The following safety instructions are provided to help prevent potential injury. Not following these instructions may lead to injury.



Before leaving the tractor's operator seat to unhook the unit:

1. Shut off the engine and remove the ignition key.
2. Set the parking brake.
3. Relieve all hydraulic fluid pressure.
4. Lower the jack stand and insert the retaining pin.

- Store the unit in an area away from human activity.
- Do not permit children to play on or around the stored unit.
- Do not store the unit where it will be exposed to livestock. Damage to the unit or injury to livestock may result.

SAFETY INSTRUCTIONS The following safety instructions are provided to help prevent injury or limit equipment damage.

- Clear the rake wheels and frame of hay or other materials to prevent a build-up of dry, flammable material.
- Make sure the unit is parked on a hard, level surface, and engage all safety devices.
- Use wheel chocks to prevent the unit from rolling.

Troubleshooting

Troubleshooting Chart

Problem	Possible Cause	Solution
Rake will not open or close	Open center tractor	Change valve to open center
	Low hydraulic fluid	Check and add if low
	Hoses incorrectly located	Review hose charts and correct
	Air in hydraulic system	Operate cylinders until air is removed
	Bad coupling / leak	Check for leaks and replace
	Hydraulic oil volume too high	Relieve pressure and adjust to 10-12 GPM
Unable to level rake	Overhead main frame not adjusted	Correct with ratchet jack
	Raking frame(s) not square / level	Square and level raking frame to overhead frame
Not raking properly	Raking frames not adjusted	Adjust each raking frame properly
Rake skipping product	Transport tires too firm	Adjust tire pressure
Hay wraps rear wheels	Raking angle too severe	Adjust for less angle
	Heavy crop	Raise raking frame slightly
Uneven rake teeth wear	Raking frames not adjusted	Adjust each raking frame properly

Warranty

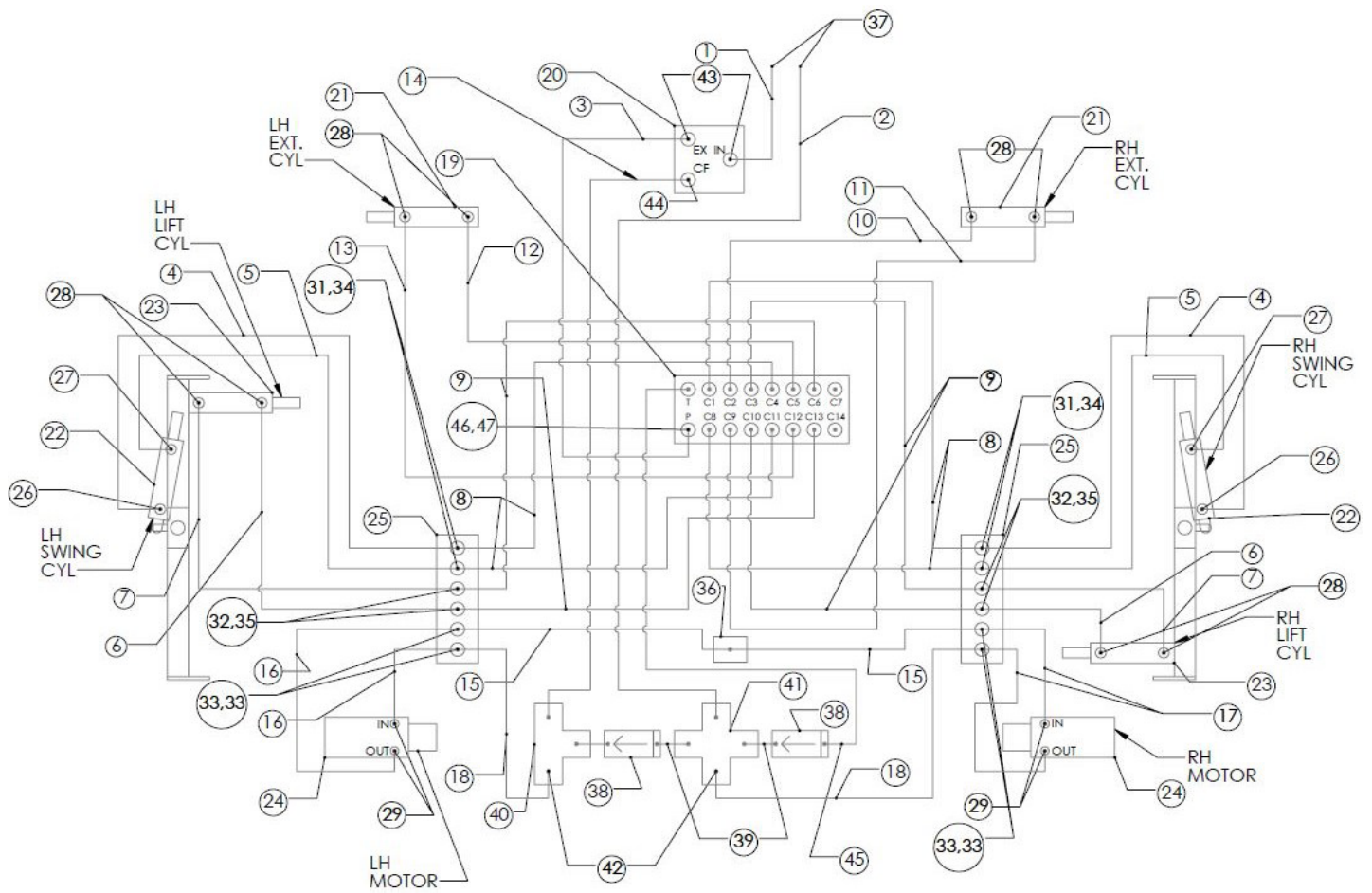
Warranty Information

Rake must be registered within 30 days of purchase.

Nikkel Iron Works has manufactured DARF hay rakes for over 30 years and has an excellent reputation for quality and workmanship. Please contact your dealer if you feel a component has not lasted to your expectation. These concerns will be handled on a case-by-case basis. Contact your dealer for replacement parts.

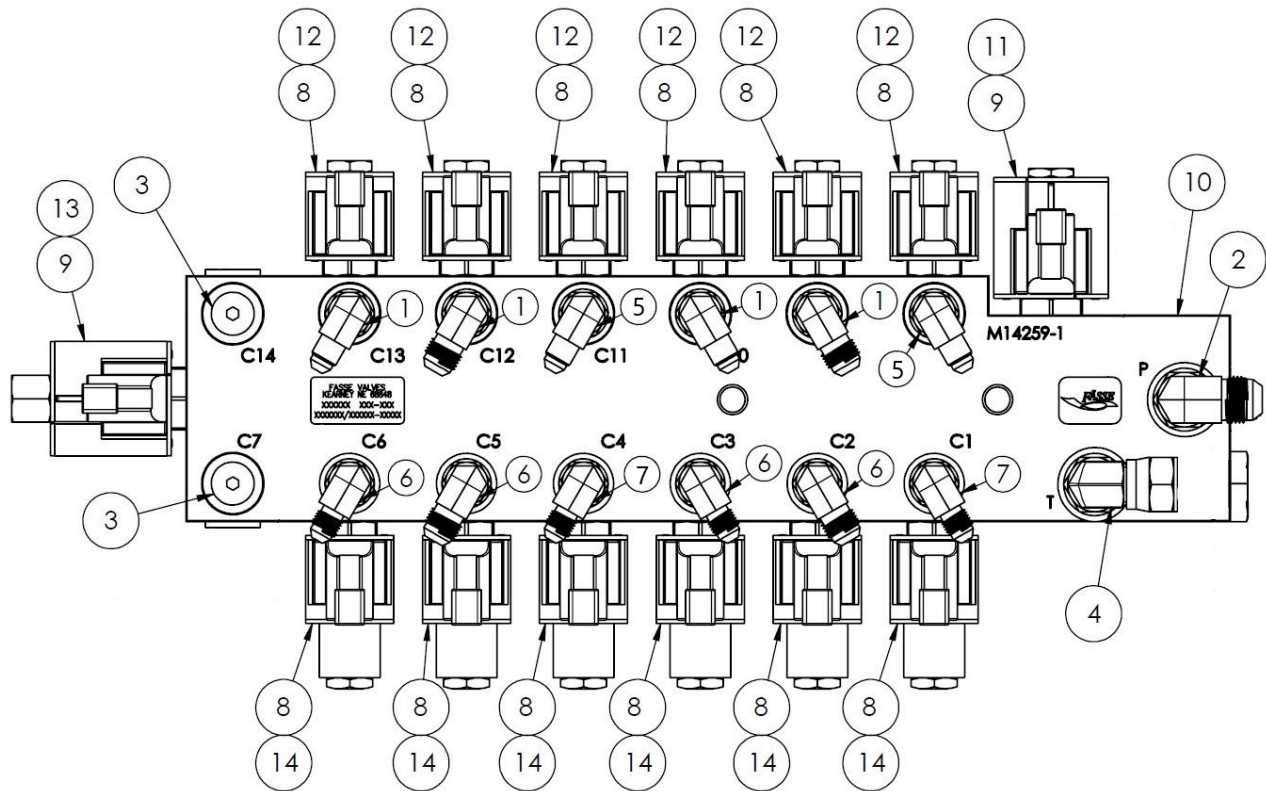
Parts

6707BG and 6707CG Hydraulic Layout



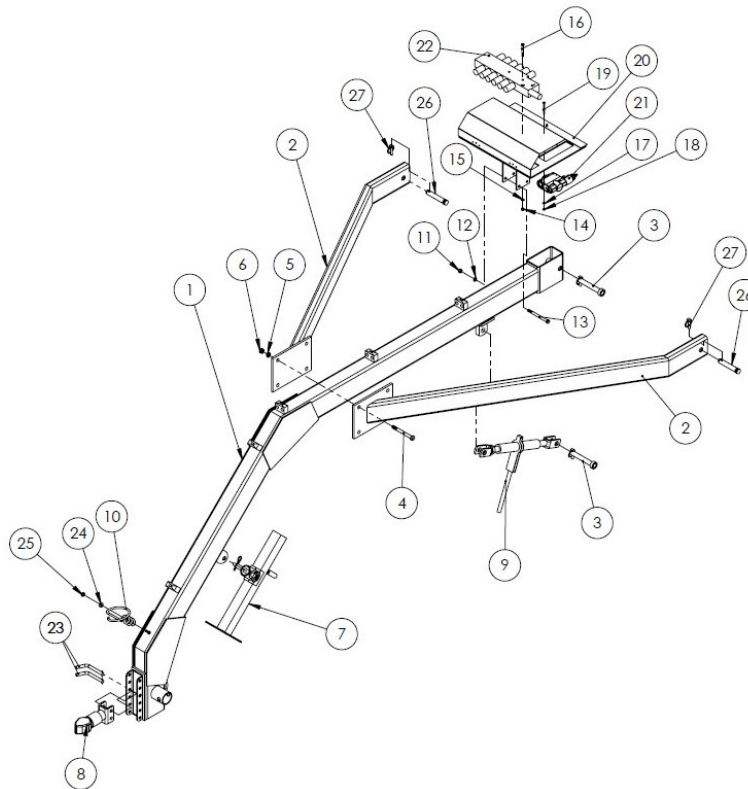
ITEM	PN	DESCRIPTION	QTY	6707BG	6707CG
1	08X3264X08J	1/2" HOSE ASSEMBLY X 204" JIC & MNPT	1	•	•
2	08X3456X08J	1/2" HOSE ASSEMBLY X 216" JIC & MNPT	1	•	•
3	08X0416X08J	1/2" HOSE ASSEMBLY X 26" JIC	1	•	•
4	04X0640X06J	1/4" HOSE ASSEMBLY X 40" JIC 1/4" & 3/8" FITTINGS	2	•	•
5	04X0800X04J	1/4" HOSE ASSEMBLY X 50" JIC	2	•	•
6	06X1392X06J	3/8" HOSE ASSEMBLY X 87" JIC	2	•	•
7	06X1536X06J	3/8" HOSE ASSEMBLY X 96" JIC	2	•	•
8	04X3456X04J	1/4" HOSE ASSEMBLY X 216" JIC	4	•	•
9	06X3456X06J	3/8" HOSE ASSEMBLY X 216" JIC	4	•	•
10	06X1344X06J	3/8" HOSE ASSEMBLY X 84" JIC	1	•	•
11	06X1392X06J	3/8" HOSE ASSEMBLY X 87" JIC	1	•	•
12	06X1440X06J	3/8" HOSE ASSEMBLY X 90" JIC	1	•	•
13	06X1536X06J	3/8" HOSE ASSEMBLY X 96" JIC	1	•	•
14	08X0208X08J	1/2" HOSE ASSEMBLY X 13"	1	•	•
15	08X2576X08J	1/2" HOSE ASSEMBLY X 161" JIC	2	•	•
16	08X2192X08J	1/2" HOSE ASSEMBLY X 137" JIC	2	•	•
17	08X2240X08J	1/2" HOSE ASSEMBLY X 140" JIC	2	•	•
18	08X3456X08J	1/2" HOSE ASSEMBLY X 216" JIC	2	•	•
19	302-593J	FASSI MANI ASSY W. JIC FIT NO HARNESS, NO MONITOR	1	•	•
20	EFC12-25-12	FLOW CONTROL BRAND ELECTRIC	1	•	•
21	NCY2572B	CYLINDER, 2 1/2" X 72"	2	•	•
22	N301060	3 X 8 ASAE HYD. CYLINDER	2	•	•
23	N201028	2 X 8 ASAE HYDRAULIC CYLINDER	2	•	•
24	H530470W3130	MOTOR, HYDRAULIC, HD BEARINGS	2	•	•
25	67787	E-CHAIN GUIDE/ATTACHMENT BOTH SIDES	2	•	•
26	HMBMJ86R31	08MB-06MJ RESTRICTOR .031 ORIFACE	2	•	•
27	HMBMJ0804	04MJ-08MORB STRAIGHT	2	•	•
28	HMBMJ900606	6MORB-6MJIC 90 EL.	8	•	•
29	HMBMJ451008	10MORB-8JIC 45 ANGLE	4	•	•
30	HMJMJH450808	1/2" JIC TO 1/2" JIC B.HEAD 45	4	•	•
31	HMJMJH450404	04MJ-04MJ 45 DEG. BULKHEAD	4	•	•
32	HMJMJH450606	06MJ-06MJ 45 DEG BULKHEAD	4	•	•
33	HHN08	1/2" BULKHEAD NUT	4	•	•
34	HHN04	1/4" BULKHEAD NUT	4	•	•
35	HHN06	3/8" BULKHEAD NUT	4	•	•
36	HMJMJ0808	1/2" JIC TO 1/2" JIC	1	•	•
37	H-AG4F4	DIXON MALE TIP	2	•	•
38	HCS#8-1-7	CHECK VALVE, 08 O-RING	2	•	•
39	HMBFJX88	MALE ORB TO FJIC 1/2 TO 1/2	2	•	•
40	HMJMBMJ888	TEE, MJIC, MORB, MJIC, 1/2	1	•	•
41	HMJMJMJ8888	CROSS, MALE JIC, 1/2	1	•	•
42	HMJFJ900808	MJIC, FJIC 90 EL, 1/2	2	•	•
43	HMBMJ901208	MORB, MJIC, 90 EL, 3/4 TO 1/2	2	•	•
44	HMBMJ1208	MORB, MJIC 3/4 TO 1/2	1	•	•
45	HMBMB9088	08 MORB - 08 MORB 90 ELBOW	1	•	•
46	HMBMJ900808	1/2MALEBOSS TO 1/2MALEJIC 90EL	1	•	•
47	HMJFJ450808	MJIC, FJIC 45 EL, 1/2	1	•	•

Hyd. Manifold



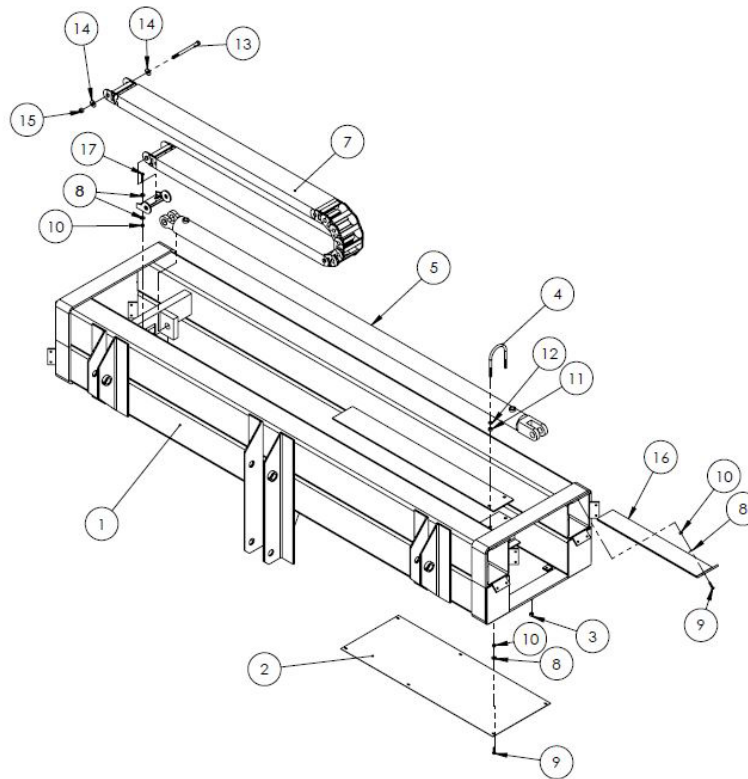
ITEM	PN	DESCRIPTION	QTY	6707BG	6707CG
1	210-015	ELBOW MALE ORB3/8 XMALE JIC3/8	4	•	•
2	210-017	ELBOW MALE ORB1/2 XMALE JIC1/2	1	•	•
3	210-127	#6MB PLUG FOR FASSE VALVE	2	•	•
4	HMBMB9088	08 MORB - 08 MORB 90 ELBOW	1	•	•
5	210-217	ELBOW MALE ORB3/8 XMALE JIC1/4	2	•	•
6	210-228	ELBOW MALE ORB3/8 XMALE JIC3/8	4	•	•
7	210-514	ELBOW MALE ORB 3/8 XMALE JIC1/4	2	•	•
8	253-590	COIL-4304012 FASSE VALVE 4006	12	•	•
9	253-593	COIL-4304112 FASSE VALVE 4006	2	•	•
10	270-011	MANIFOLD-BARE FASSE VALVE BLK	1	•	•
11	273-008	CART SV10-40 FASSE VALVE	1	•	•
12	273-016	CART SV08-24-0-N-00	6	•	•
13	273-017	CART SV10-21	1	•	•
14	273-500	CART SV08-28 FASSE VALVE	6	•	•

Tongue



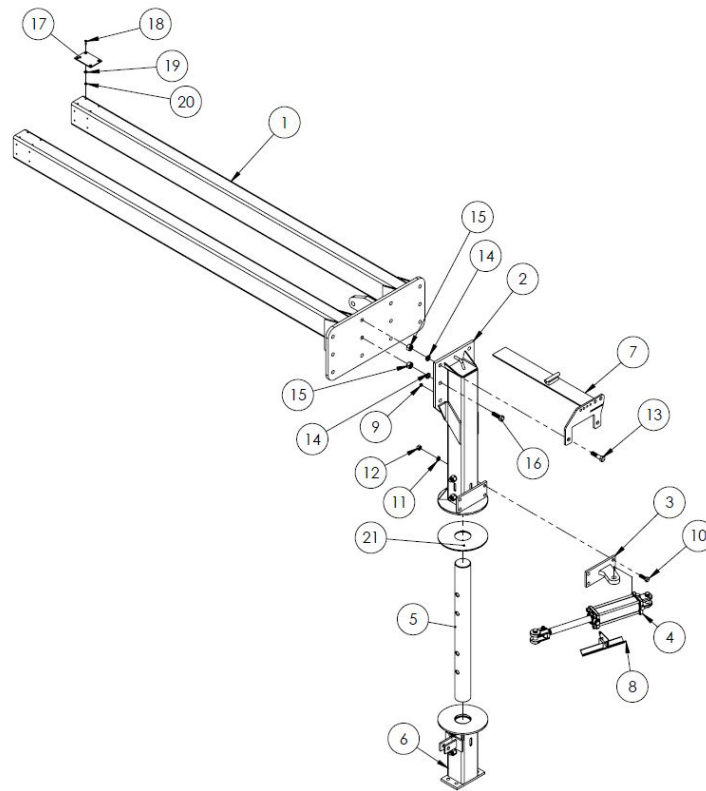
ITEM	PN	DESCRIPTION	QTY	6707BG	6707CG
1	6794	CENTER TONGUE TUBE	1	•	•
2	6796	TOP TONGUE TUBE	2	•	•
3	6786	CENTER TONGUE PIN, BASKET RAKE	2	•	•
4	CSNC10X96	5/8X6 GR.5 NC CAP SCREW	4	•	•
5	LW10SP	5/8" SPLIT LOCK WASHER PLTD	4	•	•
6	NUT10NC	5/8 N.C. STD NUT PLTD	4	•	•
7	BE-700M	JACK, TONGUE, RAKE, SIDE WIND	1	•	•
8	CTA-290	COUPLER, 2 5/16", ADJUST, CAST 12.5K	1	•	
8	CL44	CLEVIS, ADJUSTABLE, 3 HOLE	1		•
9	RJ22590	RATCHET JACK W/PINS	1	•	•
10	91798A	HYDRAULIC HOSE HOLDER	1	•	•
11	NUT08NC	1/2" STD N.C. PLTD NUT	2	•	•
12	LW08SP	1/2" SPLIT LOCK WASHER PLTD	2	•	•
13	CSNC08X96	1/2x6 GR.5 NC CAP SCREW	2	•	•
14	NUT06NC	3/8 N.C. STD NUT PLTD	2	•	•
15	LW06SP	3/8" SPLIT LOCK WASHER PLTD	2	•	•
16	CSNC06X48	3/8x3 GR.5 NC CAP SCREW	2	•	•
17	LW04SP	1/4" SPLIT LOCK WASHER PLTD	2	•	•
18	NUT04NC	1/4 N.C. STD NUT PLTD	2	•	•
19	CSNC04X48	1/4x3 GR.5 NC CAP SCREW, PLT	2	•	•
20	6797	6707 HYDRAULIC MANIFOLD MOUNT	1	•	•
21	EFC12-25-12	FLOW CONTROL BRAND ELECTRIC	1	•	•
22	302-593J	FASSI MANI ASSY W. JIC FIT NO HARNESS, NO MONITOR	1	•	•
23	BP722	PIN, BENT, 5/8" X 4" USABLE	2	•	•
24	FLTWA06	3/8 USS FLAT WASHER PLTD	1	•	•
25	NUT06FLCLK	3/8-16 N.C. LOCK NUT Z/Y/W GRADE F	1	•	•
26	P774	TOP LINK PIN 1 X 4-3/8 USABLE	2	•	•
27	P791	7/16 LYNCH PIN	2	•	•

Main Frame



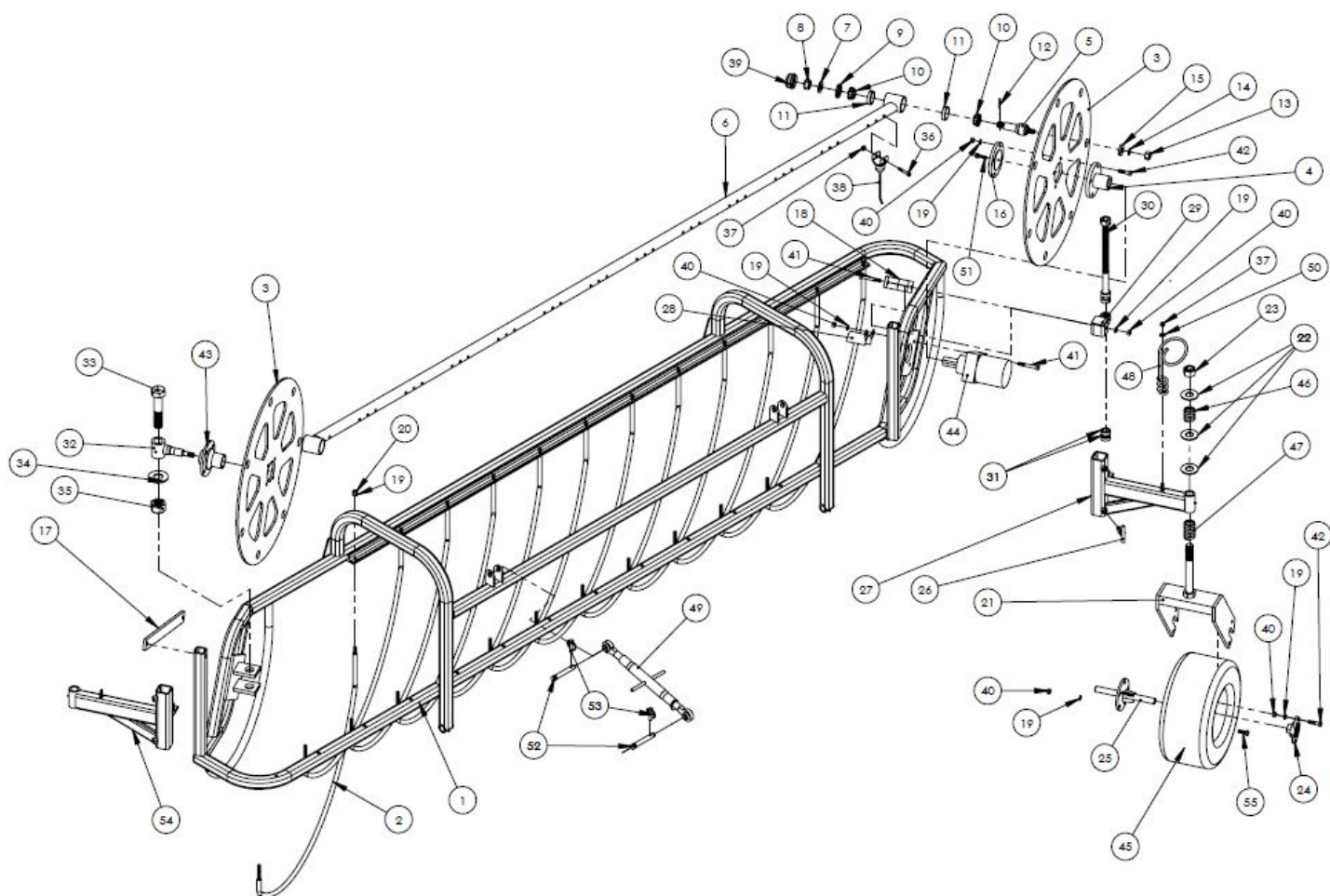
ITEM	PN	DESCRIPTION	QTY	6707BG	6707CG
1	6770	MAIN FRAME, OVERHEAD 6707 RAKE	1	•	•
2	93288L	COVER PLATE, LONG, WIDE, GALV.	2	•	•
3	NUT06NCLK	3/8 N.C. LOCK BUT ALL STEEL GRADE C	2	•	•
4	UBOLTRD06X3ID	U-BOLT 3/8NC X 3"ID	2	•	•
5	NCY2572B	CYLINDER, 2 1/2" X 72"	2	•	•
6	2610-3PZ	SWIVEL BRACKET PIVOT, E-CHAIN	2	•	•
7	2700-10-100-0	E-CHAIN	2	•	•
8	FLTWA04	1/4 USS FLAT WASHER PLTD	52	•	•
9	CSNC04X16	1/4x1 GR.5 NC CAP SCREW	44	•	•
10	NUT04NCNYL	1/4 N.C. NYLON LOCK NUT	48	•	•
11	NUT06NC	3/8 N.C. STD NUT PLTD	4	•	•
12	LW06SP	3/8" SPLIT LOCK WASHER PLTD	4	•	•
13	CSNC07X88	7/16x5-1/2 GR.5 NC CAP SCREW	2	•	•
14	FLTWA07	7/16 USS FLAT WASHER PLTD	4	•	•
15	NUT07NCLK	GRD C ALL STEEL LOCK NUT 7/16"	2	•	•
16	92283A	FORMED UHMW BEARING PLATE 1/4	16	•	•
16	92284A	FORMED UHMW BEARING PLATE 3/16	16	•	•
17	CSNC04X24	1/4x1-1/2 GR.5 NC CAP SCREW	4	•	•

Leg & Extension



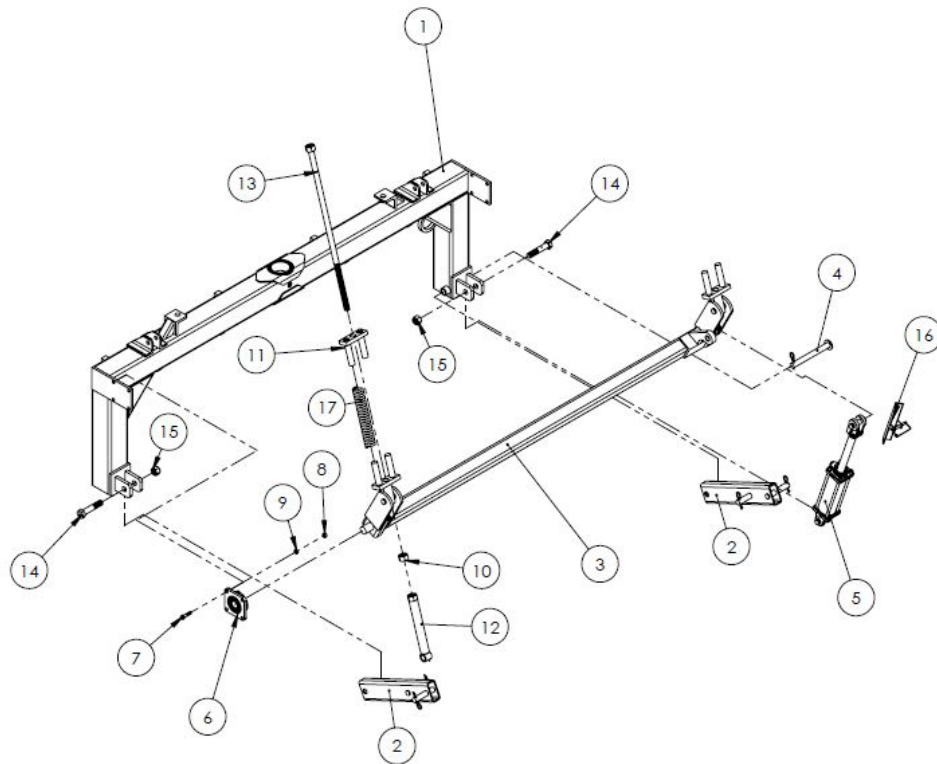
ITEM	PN	DESCRIPTION	QTY	6707BG	6707CG
1	6771	EXTENSION TUBE	1	•	•
2	6778	LEG STRUT, OVERHEAD	1	•	•
3	6773	LEG STRUT HYD.CYL BKT. BASKET RAKE	1	•	•
4	N301060	3 X 8 ASAE HYD. CYLINDER	1	•	•
5	6780	LEG STRUT, SPINE	1	•	•
6	6779	LEG STRUT, LOWER	1	•	•
7	67787	E-CHAIN GUIDE/ATTACHMENT BOTH SIDES	1	•	•
8	9189	HYD. CYL STOP FD SERIES ONLY FRAME SWING	1	•	•
9	NUT06NCLK	3/8 N.C.LOCK BUT ALL STEEL GRADE C	1	•	•
10	CSNC10X32	5/8x2 GR.5 NC CAP SCREW	4	•	•
11	LW10SP	5/8" SPLIT LOCK WASHER PLTD	4	•	•
12	NUT10NC	5/8 N.C. STD NUT PLTD	4	•	•
13	CSNC12X48	3/4X3 GR.5 NC CAP SCREW	2	•	•
14	LW12SP	3/4" SPLIT LOCK WASHER PLTD	6	•	•
15	NUT12NC	3/4 N.C. STD NUT PLTD	6	•	•
16	CSNC12X40	3/4X2-1/2 GR.5 NC CAP SCREW	4	•	•
17	93100	BEARING PLATE 3/16X6	8	•	•
17	93101	BEARING PLATE 1/4X6	8	•	•
18	PHMS04X16	1/4X1 FLAT HEAD PHILLIPS HD	32	•	•
19	FLTWA04	1/4 USS FLAT WASHER PLTD	32	•	•
20	NUT04NCNYL	1/4 N.C. NYLON LOCK NUT	32	•	•
21	6781-02	UHMW BEARING	2	•	•

Basket Frame



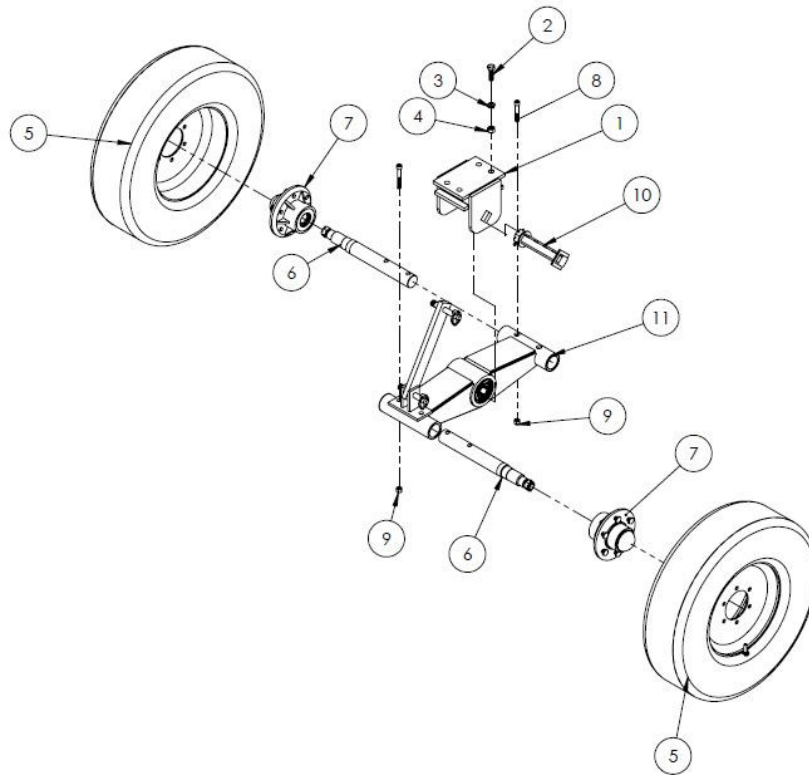
ITEM	PN	DESCRIPTION	QTY	6707BG	6707CG
1	6760L	BASKET FRAME, LEFT	1	•	•
1	6760R	BASKET FRAME, RIGHT	1	•	•
2	6769	STRIPPER ROD - UNIVERSAL	12	•	•
3	67DWL	DRIVE WHEEL	2	•	•
4	67HPS	HUB, DRIVE END WELDMENT	1	•	•
5	67019	DARF BEARING CRANK SPINDLE	14	•	•
6	6790	TINE BAR, WELDMENT	7	•	•
7	95043	2"o.d. X 1i.d.x 9 SPINDLE WASH	14	•	•
8	NUT16NFSLT	1"SLOTTED SAE NUT AXLE/SPINDLE 1-14 slotted plain nut	14	•	•
9	95022	SEAL FOR 95019 SPINDLE SE175-243-31TB /471504	14	•	•
10	9220	TAPER BEARING CONE, 15123	28	•	•
11	9221	CUP-15245	28	•	•
12	COT32P	COTTER PIN, 2"	14	•	•
13	NUT12NC	3/4 N.C. STD NUT PLTD	14	•	•
14	95046	95046	14	•	•
15	95045	RETAINER FOR 95019 SPIN. GOLD	14	•	•
16	67BSP	BACK SIDE PLATE, DRIVE END	1	•	•
17	6754	FRONT GAUGE WHEEL BRACE	1	•	•
18	6755	REAR GAUGE WHEEL BRACE	1	•	•
19	LW08SP	1/2" SPLIT LOCK WASHER PLTD	54	•	•
20	NUT08NCLK	1/2" LOCK NUT N.C. STD PLTD	24	•	•
21	6748	SUPPORT, CASTER FORK, BASKET	2	•	•
22	FLTWA20	1-1/4 USS FLAT WASHER PLTD	6	•	•
23	NUT20NCLK	1-1/4 NC LOCKNUT (NO NYLON)	2	•	•
24	110037	TWO BOLT BEARING RE-LUBABLE FHFT205-16G or SAFL205-16G	4	•	•
25	6749	SPINDLE, CASTER FORK, BASKET 6707 RAKE	2	•	•
26	6753	GAUGE WHEEL LOCKING TEE BOLT	4	•	•
27	6750B	COUNTERCLOCKWISE ADJ ARM, CASTER FORK 6707 BASKET RAKE (REAR LEFT & FRONT RIGHT)	1	•	•
28	6759	ANTIWRAPPING SHIELD,DRIVE MOTOR 6707 BASKET RAKE	2	•	•
29	6784	GAUGE WHEEL ADJ. CAP	2	•	•
30	6752	GAUGE WHEEL ADJ SCREW 6707 BASKET RAKE	2	•	•
31	SCOLLAR16	1" SHAFT COLLAR	4	•	•
32	6785	IDLER SPINDLE ASSEMBLY, BASKET RAKE	1	•	•
33	CSNC24X112	1-1/2X7 GR5 HEX CAP SCREW	1	•	•
34	FLTWA24	1-1/2" USS FLAT WASHER PLTD	1	•	•
35	NUT24NCNYL	1-1/2" NYLON LOCK NUT	1	•	•
36	CSNC06X40	3/8X2-1/2 GR.8 NC CAP SCREW ZINC	259	•	•
37	NUT06FLCLK	3/8-16 N.C.LOCK NUT Z/Y/W GRADE F	260	•	•
38	61021	TINE, UNIVERSAL, LH/RH	259	•	•
39	9041	GREASE CAP NIW EMBOSS	14	•	•
40	NUT08NC	1/2" STD N.C. PLTD NUT	30	•	•
41	CSNC08X56	1/2X3-1/2 GR.5 NC CAP SCREW	8	•	•
42	CSNC08X32	1/2X2 GR.5 NC CAP SCREW	12	•	•
43	67633	HUB ASSEMBLY, 633 AG	1	•	•
44	H530470W3130	MOTOR, HYDRAULIC, HD BEARINGS	1	•	•
45	6710X6	TIRE AND WHEEL ASSEMBLY 4 PLY RIB, 10X6 5/4.5 WHT	2	•	•
46	S20438	SPRING, COMPRESSION BRUSH RAKE, 2"	2	•	•
47	S20438	SPRING, COMPRESSION BRUSH RAKE, 3"	2	•	•
48	91798A	HYDRAULIC HOSE HOLDER	1	•	•
49	TL205	TOP LINK 13.25"BODY, .75" HOLE	2	•	•
50	FLTWA06	3/8 USS FLAT WASHER PLTD	1	•	•
51	FSNC06X24-8	3/8x1-1/2 GR.8 NC FLANGE SCREW	1	•	•
52	P772	CAT.1 TOP LINK 3-5/8 USABLE USE WITH P791 LYNCH PIN	4	•	•
53	P791	7/16 LYNCH PIN	4	•	•
54	6750A	CLOCKWISE ADJ ARM, CASTER FORK 6707 BASKET RAKE (FRONT LEFT & REAR RIGHT)	1	•	•
55	CSNC08X24	1/2X1-1/2 GR.5 NC CAP SCREW	10	•	•

Swing Arm



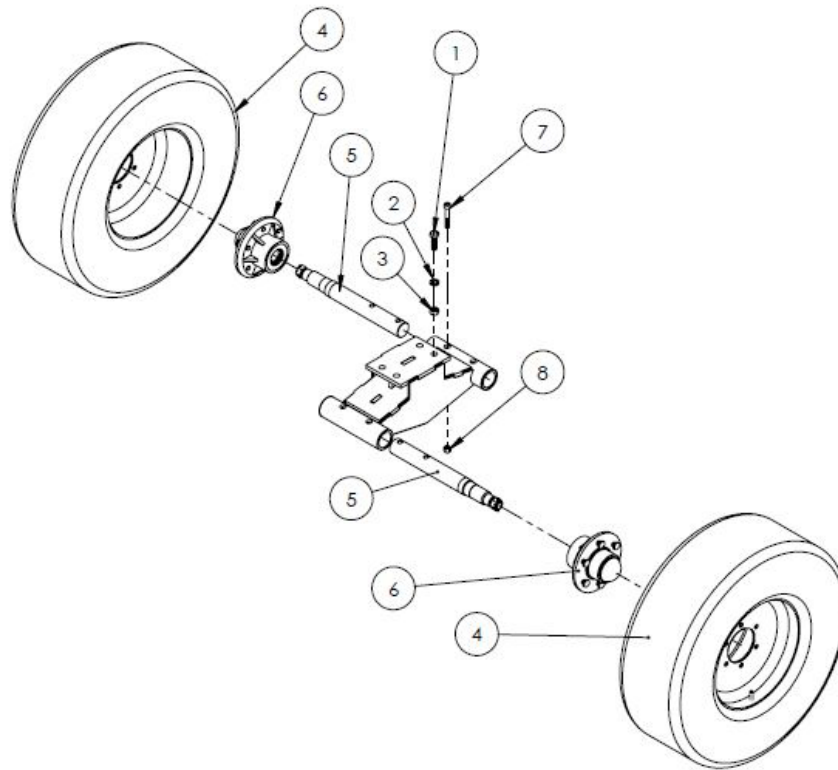
ITEM	PN	DESCRIPTION	QTY	6707BG	6707CG
1	6740	SWING ARM	1	•	•
2	6743	SUPPORT ARM, BASKET	2	•	•
3	6742	PIVOT ARM, BASKET	1	•	•
4	6741	PIN, HYDRAULIC CYLINDER	1	•	•
5	N301060	3 X 8 ASAE HYD. CYLINDER	1	•	•
6	92287	FOUR BOLT BEARING 1-1/2	2	•	•
7	CSNC08X32	1/2X2 GR.5 NC CAP SCREW	8	•	•
8	NUT08NC	1/2" STD N.C. PLTD NUT	8	•	•
9	LW08SP	1/2" SPLIT LOCK WASHER PLTD	8	•	•
10	NUT16ACME	1" ACME NUT	2	•	•
11	6747	HOUSING, SPRING, BASKET 6707 RAKE	2	•	•
12	6746	ADJ. SCREW HOUSING	2	•	•
13	6744	ADJUST SCREW. BASKET	2	•	•
14	6756	BASKET SUPPORT ARM PIN	2	•	•
15	NUT16NCNYL	1" NC NYLON INSERT LOCKNUT	2	•	•
16	9189	HYD. CYL STOP FD SERIES ONLY FRAME SWING	1	•	•
17	S21517	SPRING, RATE BASKET RAKE	4	•	•

Ground Wheel - Standard



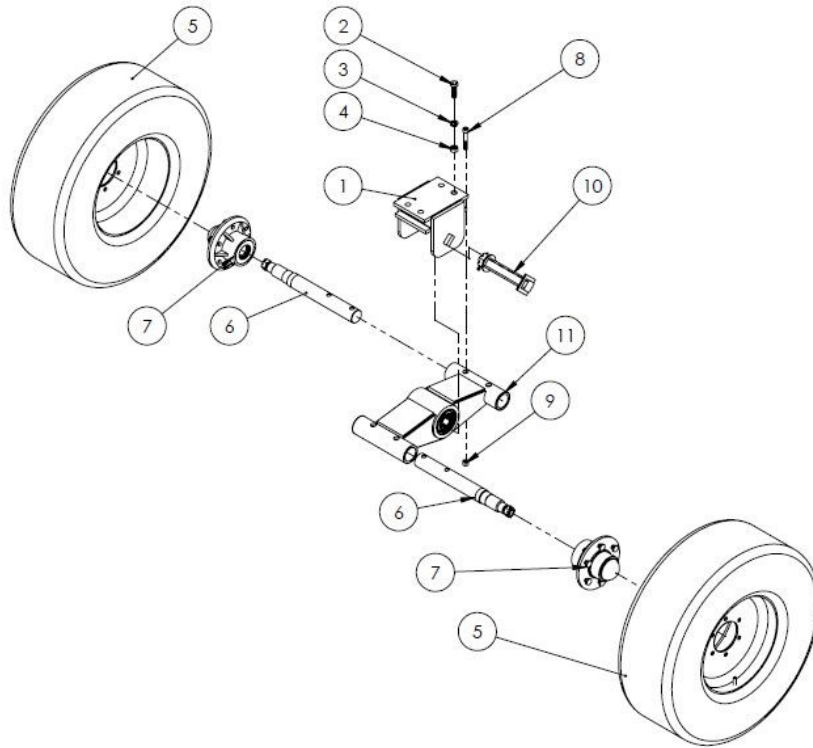
ITEM	PN	DESCRIPTION	QTY	6707BG	6707CG
1	1079	WALKING BEAM CRADLE/SUPER DUTY	1	•	•
2	CSNC10X32	5/8x2 GR.5 NC CAP SCREW	4	•	•
3	LW10SP	5/8" SPLIT LOCK WASHER PLTD	4	•	•
4	NUT10NC	5/8 N.C. STD NUT PLTD	4	•	•
5	FC715-M	STALK BUSTER TIRES - MOUNTED, USE WITH 6" WHEELS	2	•	•
6	90801	2 X 18.0" SPINDLE FOR #4910HUB W/NUT,LESS WASHER	2	•	•
7	9080300	4910#HUB GROUP W/BRG.S.SEAL,CAP WHEEL BOLTS	2	•	•
8	SOCKHD08X48	1/2x3 SOCKET HEAD CAP SCREW	2	•	•
9	NUT08NCLK	1/2" LOCK NUT N.C. STD PLTD	4	•	•
10	1082	SD WALKING BEAM PIN (KIT)	1	•	•
11	1078R67	WELDMENT, WLKNG BEAM, SUPER DUTY LESS SPINDLES, RIGID W/STAY BAR	1	•	•
12	SOCKHD08X56	1/2X3-1/2 SOCKET HEAD CAP SCREW	2	•	•

Ground Wheel - High Clearance Rigid Beam






ITEM	PN	DESCRIPTION	QTY	6707BG	6707CG
1	CSNC10X32	5/8x2 GR.5 NC CAP SCREW	4	•	•
2	LW10SP	5/8" SPLIT LOCK WASHER PLTD	4	•	•
3	NUT10NC	5/8 N.C. STD NUT PLTD	4	•	•
4	SG11LX15-M	STUBBLEGUARD TIRES - MOUNTED	2	•	•
5	90801	2 X 18.0" SPINDLE FOR #4910HUB W/NUT,LESS WASHER	2	•	•
6	9080300	4910#HUB GROUP W/BRGS.SEAL,CAP WHEEL BOLTS	2	•	•
7	SOCKHD08X48	1/2x3 SOCKET HEAD CAP SCREW	4	•	•
8	NUT08NCLK	1/2" LOCK NUT N.C. STD PLTD	4	•	•
9	1090	S.D. R.B. ASSY LESS HUBS & SPDLS	1	•	•

Ground Wheel - High Clearance Walking Beam



ITEM	PN	DESCRIPTION	QTY	6707BG	6707CG
1	1079	WALKING BEAM CRADLE/SUPER DUTY	1	•	•
2	CSNC10X32	5/8x2 GR.5 NC CAP SCREW	4	•	•
3	LW10SP	5/8" SPLIT LOCK WASHER PLTD	4	•	•
4	NUT10NC	5/8 N.C. STD NUT PLTD	4	•	•
5	SG11LX15-M	STUBBLEGUARD TIRES - MOUNTED	2	•	•
6	90801	2 X 18.0" SPINDLE FOR #4910HUB W/NUT, LESS WASHER	2	•	•
7	9080300	4910#HUB GROUP W/BRG.S.SEAL,CAP WHEEL BOLTS	2	•	•
8	SOCKHD08X48	1/2x3 SOCKET HEAD CAP SCREW	4	•	•
9	NUT08NCLK	1/2" LOCK NUT N.C. STD PLTD	4	•	•
10	1082	SD WALKING BEAM PIN (KIT)	1	•	•
11	1091	WELDMENT, WALKING BEAM, SUPER DUTY, LESS SPINDLES, SHORT BASE	1	•	•

Torque Chart

Tightening Torque							
Bolt Diameter	Wrench Size						
		SAE Grade 2		SAE Grade 5		SAE Grade 8	
		lb-ft	N-m	lb-ft	N-m	lb-ft	N-m
1/4"	7/16"	5	7	8	11	12	16
5/16"	1/2"	11	15	17	23	25	34
3/8"	9/16"	20	27	31	42	44	60
7/16"	5/8"	32	43	49	66	70	95
1/2"	3/4"	49	66	75	102	107	145
9/16"	13/16"	70	95	109	148	154	209
5/8"	15/16"	97	132	150	203	212	287
3/4"	1-1/8"	173	235	266	361	376	510
7/8"	1-5/16"	166	225	429	582	606	822
1"	1-1/2"	250	339	644	873	909	1232
1-1/8"	1-11/16"	354	480	794	1077	1287	1745
1-1/4"	1-7/8"	500	678	1120	1519	1875	2542
1-3/8"	2-1/16"	655	888	1469	1992	2382	3230
1-1/2"	2-1/4"	870	1180	1950	2644	3161	4286

Decals



1



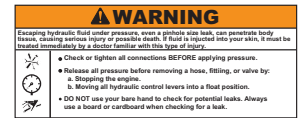
2



3



4



5



9



6



7



8



10



11



12



13



14

ITEM	PN	DESCRIPTION	QTY	6707BG	6707CG
1	6707DEC	6707 DECAL 20" X 6"	2	•	•
2	DECALPMITUSA	PROUDLY MADE IN THE USA DECAL	2	•	•
3	DECAL65	CA PROPOSITION 65 WARNING DECAL	1	•	•
4	DECALCRUSH	CRUSH DECAL	1	•	•
5	DECALFLUID	HIGH PRESSURE DECAL	6	•	•
6	6707TONDEC	6707 TONGUE DECAL	2	•	•
7	FEMADEC	FEMA DECAL	1	•	•
8	1017WROUND	11" ROUND DARF DECAL (WIDE FRAME)	1	•	•
9	DECALTRANS	TRANSPORT BLOCK DECAL	2	•	•
10	B489A	AMBER REFLECTOR DECAL	2	•	•
11	B489R	RED REFLECTOR DECAL	4	•	•
12	DECALRULER	WIDTH INDICATOR DECAL	2	•	•
13	DECALWIND-L	LEFT WINDROW DECAL	1	•	•
14	DECALWIND-R	RIGHT WINDROW DECAL	1	•	•

NOTES

NOTES

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