HARDEE

BY EVH MFG CO

OPERATOR'S AND MAINTENANCE MANUAL

WITH PARTS LISTING

Long Reach Cutter
Model: LR40142

DANGER
Read this manual and the manual for your tractor carefully to acquaint yourself with both machines before operating!

4895 RED BLUFF RD LORIS, SC 29569 (843) 756-2555

WWW.EVHMFG.COM EVHMFG@EVHMFG.COM

FOR SERIAL #s BEFORE 007250

MODEL NUMBER _____

SERIAL NUMBER _____

DATE OF PURCHASE _____

Table of Contents

To Our Customers

We at Hardee by EVH Manufacturing Company thank you for buying your new Long Reach Cutter.

We have tried hard to build a cutter to do the work you have in mind. Many hours of engineering, field-testing and improvement have gone into the design and fabrication of your cutter. We will strive to continue this quality of manufacturing in the future, always keeping the customer's needs clearly in mind.

The best performance of your cutter will depend on you. Proper lubrication, maintenance, hookup, adjustments and operation are essential for it to give you long and dependable service. However, as with any type of equipment, your cutter is designed to perform specific functions.

In this manual, you will find instructions on cutter features, maintenance and operation. If customer service or repair parts are required, contact your local Hardee dealer. Please specify model and serial number when ordering parts.

Owner's Responsibility

The manufacturer has no control over the ultimate use of the cutter and therefore assumes no responsibility or liability for damage or injury resulting from the use of this machine.

The upkeep of the hydraulic cutter is the responsibility of the user. This upkeep includes all shielding, guards, and safety decals (OSHA Regulation 1928.57). You can obtain replacement parts from any authorized Hardee dealer.

Read this Operator's Manual before operating the cutter. Failure to do so could result in injury to the operator or to others. Remember that most accidents occur due to neglect or carelessness. The operator is responsible for inspecting and making repairs as may be necessary. Cleaning after each use and storage under a shelter will extend the life of the cutter.

Purpose of This Manual

This manual provides information on safety, operation, adjustments, troubleshooting and maintenance of your new cutter. Please read and follow all the recommendations to help ensure that you get many years of service from your new Hardee cutter.

If you need additional copies of this manual, please contact your local Hardee dealer or download a copy from our website at www.evhmfg.com.

Safety-Alert Symbol

This symbol is the safety alert symbol. It appears throughout this manual to call your attention to instructions involving your personal safety and the safety of others. Failure to follow these instructions can result in injury or death.

Signal Words

Safety signal words are words that call attention to the safety sign and designate a degree or level of hazard seriousness. The signal words used throughout this manual are DANGER, WARNING and CAUTION. Please read and follow all safety messages that have these signal words shown for your protection.

DANGER

Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

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

Customer Assistance

The Hardee sales team would like you to be satisfied with your new Long Reach Cutter. If for some reason you have any questions about the information in this manual or have a problem with your cutter, please discuss the problem or question with the management of your local dealership. If further assistance is required, please contact:

EVH Manufacturing Company, LLC
Sales Department
4895 Red Bluff Road
Loris, SC 29569
843-756-2555

General Safety Rules

This section of your manual will address the safe operation of your new cutter. We at Hardee strive to produce a machine that is both a quality product and safe to operate. Please take the time to read, understand and follow the safety rules listed below and throughout this manual.

Your safety also depends on you becoming familiar with the basic operation of your new cutter. You can find complete instructions for this cutter in the Operation Instruction section of this manual. We believe that using your cutter safety, in a safe environment will give you great results!

DANGER

This machine is designed for use on a closed cab tractor only! If your tractor has an open cab, then it MUST be equipped with operator protective equipment in the form of shielding from thrown objects and Roll Over Protective Structure (ROPS) to operate this equipment safely.

DANGER

Rotary cutters have the inherent ability to throw debris considerable distances when the blades are allowed to strike foreign objects. The operator must use caution or serious injury may result. Be sure by-standers are at a safe distance at all times when the cutter is in use.

WARNING

Always keep your tractor level as you reach over ditches, etc. Be careful to keep ample distance between the rear tire and the top of the ditch bank to avoid a cave-in of the bank.

WARNING

Failure to keep the tractor level may result in loss of traction, tipping, rollover, property damage, personal injury or death.

DANGER

Never stand, or allow others to stand, under the boom or cutterhead at any time. Never park the unit without placing the cutterhead squarely and firmly on the ground. Serious injury or death by crushing may occur in case of hydraulic failure.

WARNING

Do not look under the cutterhead or attempt to remove objects or branches from under the cutterhead while the tractor is running. Serious injury, loss of limb or death may result.

DANGER

Do not reach under the cutterhead at any time. Cutting blades may cause serious injury, loss of limb or disfigurement.

WARNING

Never use the cutter for a crane or lifting device of any kind. It is not designed for this purpose. Serious damage to unit may occur. Serious bodily injury may be incurred from this misuse.

WARNING

Never use the cutter for a man-lift or personnel lift. It is not designed for this purpose. Serious damage to unit may occur. Serious bodily injury may be incurred from this misuse.

DANGER

Never operate the cutter within 10 feet of overhead power lines or utility lines. Do not trim trees with power lines running through them. Serious injury or death by electrocution may occur.

WARNING

Never allow the cutter to impact rock piles, piles of gravel, steel guardrails or concrete abutments. Contact with these objects could cause blade failure. Serious machine damage, property damage or bodily injury may occur. Check the area for these items before mowing.

DANGER

Never attempt to use the cutter to remove brush or trees larger than 4 inches in diameter. Failure to use caution when cutting trees, may lead to the tree falling on the cutter deck and tipping the tractor over.

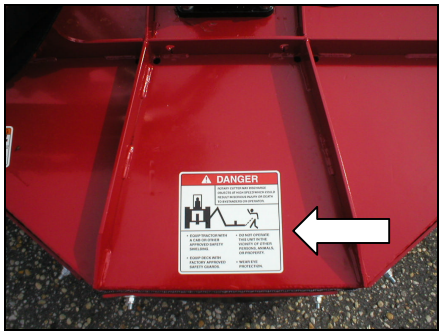
Safety Decals

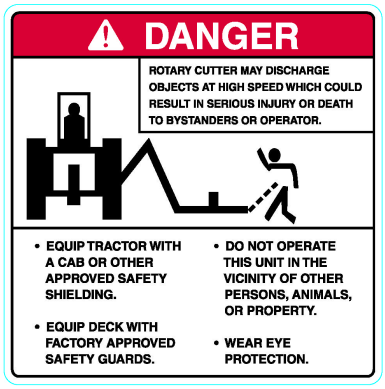
Your Hardee cutter ships with all safety decals in place. They are located in areas on the cutter that are potentially hazardous. Please locate, read and follow the information you find on these decals.

By law, you must replace any safety decals that are damaged or missing. You can order replacement decals from any local Hardee dealer. Just ask for part number 15845.

To apply the replacement decals:

- Clean the surface to place the new decal.
- Peel the decal away from the paper backing.
- Press firmly onto the clean surface.
- Squeeze out any air pockets using a straight edge.



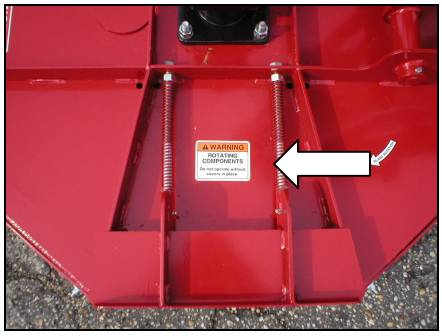


Danger – Thrown Object

Operating Safety and General Instruction

Danger – Rotating Driveline

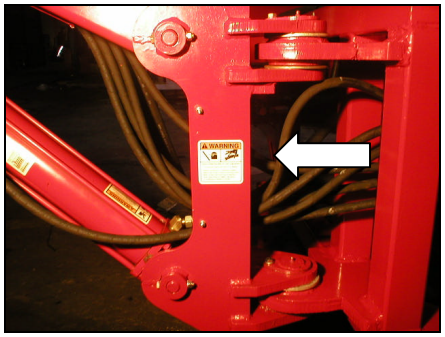
Safety Decals, continued

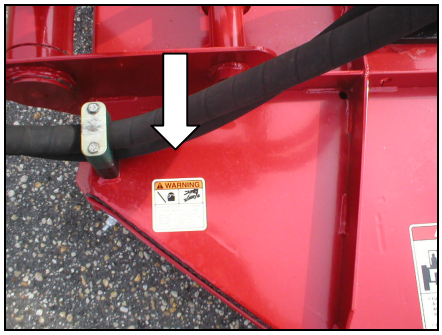


Warning – Rotating Components

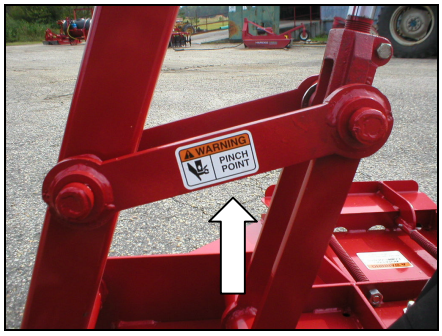
Danger – Crushing Hazard

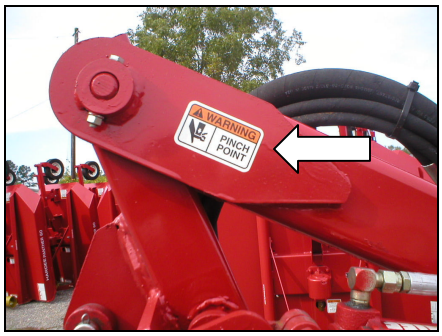
Warning – High Pressure Fluid Hazard



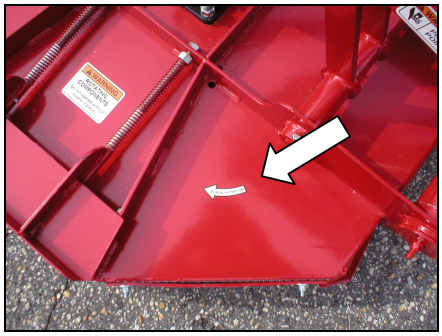


Safety Decals, continued

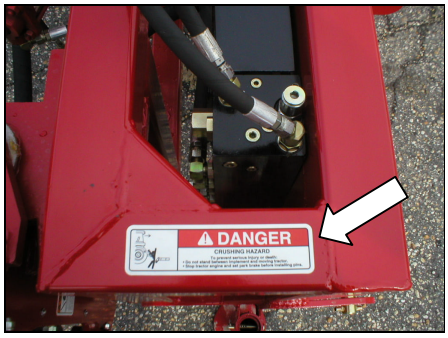


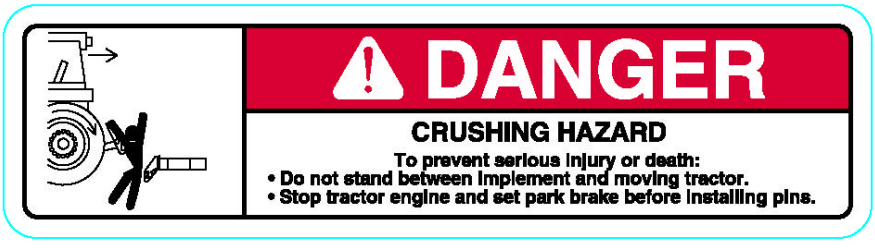


Warning – Pinch Point



Blade Rotation

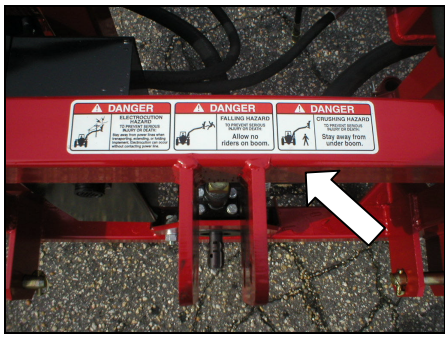




Danger – Crushing Hazard

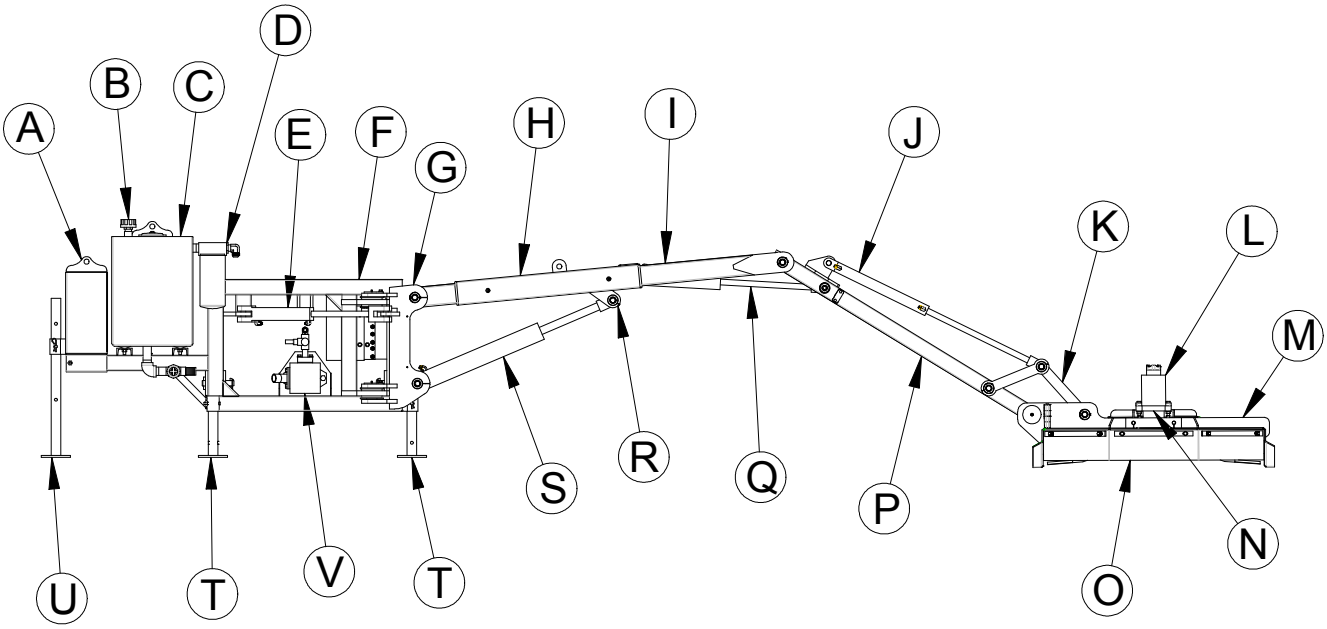
Safety Decals, continued

Danger – Keep Clear



Danger – Electrocution, Falling and Crushing Hazard

Component Identification and Terminology



A	Weight Box	L	Hydraulic Motor
B	Dipstick	M	Deck
C	Oil Tank	N	Motor Drive Housing
D	Return Filter	O	Rubber Shielding
E	Swing Cylinder	P	2nd Stage (Reach) Boom
F	Hitch Frame	Q	2nd Stage Cylinder
G	Swing Post	R	Lift Break-Away
H	Hose Guard	S	1st Stage Cylinder
I	1st Stage (Lift) Boom	T	Short Stand
J	Deck Cylinder	U	Long Stand
K	Deck Linkage	V	Hydraulic Pump

Tractor Requirements

The Long Reach Cutter you have purchased is designed for use with tractors of 60 horsepower or above equipped with a (540 RPM 1 3/8"- 6 spline) rear power take-off (PTO).

Your tractor must also be equipped with a category 2 or category 2 quick hitch to use this cutter.

To insure stability of your tractor, the rear tires should be spaced at their widest setting. We recommend six feet or wider. You should also add ballast to maintain proper steering control and balance. In addition, unless your tractor is 4-wheel drive, you may also need to add front weights. Please refer to the operator's manual for your tractor to determine the correct setup.

Figure 1

DANGER

This machine is designed for use on a closed cab tractor only! If your tractor has an open cab, then it MUST be equipped with operator protective equipment in the form of shielding from thrown objects and Roll Over Protective Structure (ROPS) to operate this equipment safely.

Driveshaft Installation

The make of your tractor will determine the length of driveshaft you require to connect from the end of the pump shaft to the PTO connection of your tractor. This step may require cutting the standard driveshaft included with the Hardee cutter. We recommend contacting your local Hardee dealer for assistance.

Driveshaft Installation on Pump Shaft

Refer to Figure 1 for reference

- ✓ Verify that driveshaft is the proper length.
- ✓ Grease both pump shaft and driveshaft.
- ✓ Attach equipment end of driveshaft to pump. *Tractor end has a figure of a tractor stamped onto the guard.*
- ✓ Rotate driveshaft to line up holes for securing with the bolt and nut provided.
- ✓ Fix shaft guard to the cutter using anti-rotation chain.

Tractor Hook-Up Procedures

- ✓ Connect joystick to 12-volt system.
  - Red wire to hot.
  - Green wire to ground.
- ✓ Mount the joystick control box firmly on the right hand side of your tractor cab.
- ✓ Hook tractor 3-point hitch to cutter hitch frame. The LR40142 is designed to work with a standard category 2 or category 2 quick hitch.

WARNING

Before leaving the tractor seat, always engage the tractor brake and/or set the transmission of the tractor in parking gear. Stop engine and remove key. Always make sure that no one is between the tractor and the cutter when tractor is in motion.

- ✓ Attach driveline to tractor (PTO shaft). *(See below for instructions)*
  - Verify that the shaft is sufficiently lubed before attachment.
  - Verify that drive shaft is the proper length.
- ✓ Connect joystick to quick disconnect on wire cover weldment.
- ✓ Hydraulic Hose Hook-up.

DANGER

Never use hands or skin to check for hydraulic leaks, use cardboard or wood. High-pressure oil leaks can penetrate skin causing injury and gangrene. Always wear safety goggles when working around high-pressure lines.

- Hook the hydraulic hoses from the control valve into a set of tractor remotes equipped with detent.*(Refer to Cylinder Hydraulics drawing on page 37).*
  1. Pressure line to top port (marked P).
  2. Return line to bottom port (marked T).
- Check tractors oil level.
- Move tractor hydraulic remote lever to detent position, power on control box.
- If the hydraulics do not operate, detent in other direction or flip hoses.

✓ Raise all jack stands before moving cutter.

Driveshaft Installation on PTO

WARNING

Never attempt any checks, repairs or adjustments with the tractor engine running or the PTO engaged. Adjustment of rotating parts with tractor engine running may result in severe personal injury or death if the PTO accidentally engages.

✓ Lift tractor PTO guard.

✓ Pull U-joint guard back along driveshaft.

✓ Press driveshaft yoke plunger in and slip driveshaft U-joint yoke onto splined PTO shaft. Ensure that yoke plunger returns to locked position.

✓ Position U-joint guard over driveshaft U-joint.

✓ Lower tractor PTO guard.

✓ Fix shaft guard to tractor with anti-rotation chain.

Hydraulic System Setup

IMPORTANT

The hydraulic system setup information contained in the following pages should be used only as a guide. Consult your tractor manufacturer for more detailed information or for assurance that any continuous duty equipment will not overheat your hydraulic system.

The LR40142 is set-up at the factory as an open center hydraulic system. This means that it is for use with tractors that have an open center hydraulic system.

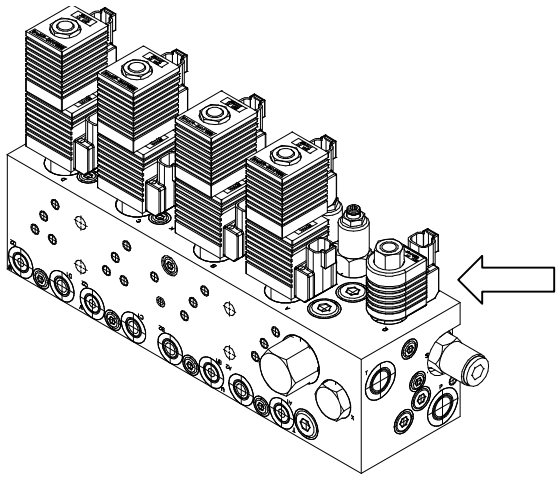
The LR40142 is designed to function with either open or a closed center hydraulic system. However, you must make some alterations for it to function efficiently and properly on closed center hydraulic systems.

Consult your tractor owner's manual and your tractor dealer to determine what type of hydraulic system your particular tractor has.

There is an optional closed center conversion plug available for closed center systems. The procedure for installing this plug is as follows:

✓ With the tractor engine off and parking lever set, disconnect the electrical plug to the main solenoid. *(See below)* Neatly tuck the male portion of this connection into the wire cover box, as it will no longer be used.

✓ Remove the main solenoid coil, then remove the solenoid cartridge (the stem that the solenoid coil was attached to) completely from the cylinder control valve.



Hydraulic System Setup, continued

- ✓ Screw the closed center conversion plug into the cylinder control valve where the solenoid cartridge was.
- ✓ Adjust the main relief valve (S). **In closed center configuration, the main relief valve (S) must be set to a higher pressure than the internal relief of your tractor**. If this is not done properly, your tractor will overheat. Consult your tractor dealer for the relief setting of your tractor. The procedure for adjusting the main relief valve (S) can be found on page 18 of this manual.
- ✓ The conversion is now complete and the LR40142 is set-up for **PRESSURE COMPENSATING CLOSED CENTER HYDRAULIC SYSTEMS ONLY**!

IMPORTANT

If the LR40142 is set-up for open center hydraulics (main solenoid installed), it will function with open center tractors. HOWEVER, if the LR40142 is set-up for closed center hydraulics (closed center conversion plug installed), it will **NOT FUNCTION WITH OPEN CENTER TRACTORS**.

IMPORTANT

Listen to the tractor hydraulic system the first time you run the LR40142 after performing the conversion. If you hear the hydraulic system whining and it sounds like oil is being forced over the relief valves, you may not have a closed center system or your main relief valve may not be set properly (refer to the main relief valve adjustment step above). If this is the case, **DO NOT OPERATE YOUR TRACTOR IN THIS CONDITION**. *Simply remove the conversion plug and reinstall the main solenoid.*

Whether your tractor has an open or closed center system, another important consideration is the proper adjustment of variable flow remotes. The LR40142 control valve requires 5 GPM to be supplied from your tractor remotes. **DO NOT** operate your variable flow remotes above 5 GPM. A higher setting will cause the excess flow to be cycled back to your tractor and could cause overheating.

If you have any questions, consult your local Hardee dealer.

Working Safely with Hydraulic Lines

Purge all air from hydraulic system before attempting to raise or lower the cutter boom and deck.

DANGER

Stand clear if lowering or raising deck, hydraulic deck can fall suddenly from system failure.

DANGER

Do not use hand or skin to check for hydraulic leaks, use cardboard or wood. High-pressure oil leaks can penetrate skin causing injury and gangrene. Consult a doctor immediately.

Operation Instructions

During Operation

WARNING

Ensure that all bystanders are clear of the cutter before starting tractor engine. Objects thrown by the cutter blades can cause severe personal injury or death.

Before any operation of cutter, be familiar with the locations and functions of the unit's controls. Being familiar with the cutter and its controls will increase efficiency and reduce the possibility of serious injury or damage to the unit.

The operator should work slowly and carefully until he feels comfortable with the cutter. Speed and skill will be attained much more easily if the necessary time is spent to familiarize yourself with the cutter and its operation.

Get into the habit of completing a walkaround inspection before use. This procedure is a simple method of inspecting your unit's condition by walking around and looking at each component of the unit, including the tractor. This procedure has been used by airline pilots for many years as a final inspection before flight and is also used by long distance ground transportation drivers on buses and trucks. During the walkaround, you will visually search your units tire condition, look for hydraulic leaks, fuel leaks, inspect hose condition and condition of hydraulic cylinders. Look for loose or worn components, see that all guards are in place, check blade condition, look for broken or inoperative lights and determine that it is or is not operable before use. We recommend that you follow this procedure before start up.

Daily Start-Up Checklist		
	Check	Section
☐	Check All Fluid Levels, Tractor & Cutter	Page 9
☐	Grease Points	Page 15
☐	PTO Shaft, Check Grease	Page 15
☐	Blade Tightness	Page 16

Operating Environment

Application Do's and Don'ts

There are obvious and hidden potential hazards in operating this mower. **REMEMBER!** This machine is often operated in rough terrain conditions that include gullies, holes, slopes and hidden obstructions. Serious injury or even death may occur unless care is taken to assure the safety of the operator and bystanders in the area.

Included here is a list of safety messages, which should be followed. Observing these messages and using common sense learned from experience help eliminate the hazards of operating this and other machinery.

DANGER

*Read this manual and the manual for the tractor carefully to acquaint yourself with both machines before operating. **REMEMBER**, power-driven equipment should be operated only by those trained and familiar with the operation and instructed to do so. Working with unfamiliar equipment or in unfamiliar conditions can lead to accidents.*

WARNING

Before leaving the tractor seat, always engage the tractor brake and/or set the transmission of the tractor in parking gear. Stop engine and remove key.

DANGER

Never allow riders on tractor or equipment. Falling off can cause serious injury or death.

WARNING

Worn or dull cutter blades can cause excessive cutter vibration resulting in damage to the gearbox and structural damage to the cutter. You should replace or sharpen blades in pairs. Excessive vibration can cause rotating parts to break and fly off the cutter, causing serious injury or death to the operator or bystanders.

DANGER

Do not modify or alter this machine or any of its components or any equipment function without consulting EVH Manufacturing Company.

Using Your Cutter

Getting Started
You will need to spend some time getting the "feel" of your new cutter. Spend time reviewing the following steps before using your cutter for the first time. The time that you take will greatly enhance your ability to get the desired results when you begin mowing.

- ✓ Locate the joystick mounted on the right side of the tractor and move it through the positions shown on the instruction decal.
- ✓ The next step is to attach the cutter to the tractor, see the hook-up procedures on page 8 for complete instructions. After you have the cutter attached, double check to ensure that no part of the tractor is in contact with the cutter.
- ✓ Next, follow the instructions for installing the driveshaft and hooking-up the hydraulic system lines on page 9 of this manual. Check to see that all PTO guards are in place correctly.
- ✓ Connect joystick cable to the quick-connect on the valve cover box. Make sure that all hoses and the joystick connection cable will not contact the PTO shaft.
- ✓ Check the blades for sharpness. Check the blade carrier castle nut and both blade bolts for tightness. Verify that the gate valve under the oil tank is "on".

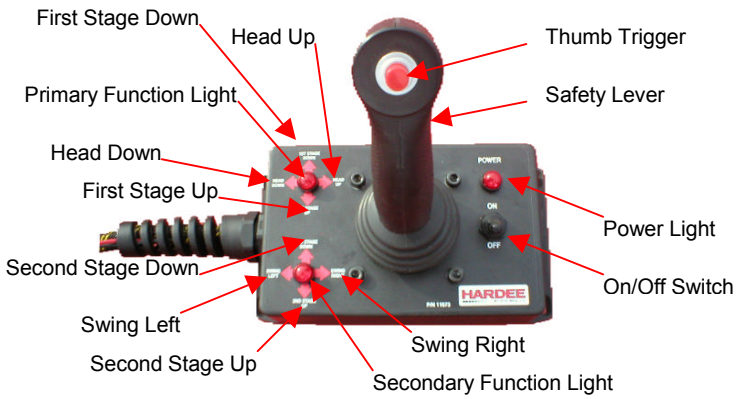
⚠ Danger

Before proceeding, make sure that no other persons are in close proximity to the cutter!

- ✓ With all controls in neutral, the tractor in park, the throttle in idle position and the joystick power switch off… Start the tractor engine.
- ✓ Slowly engage the tractor hydraulic system to detent position. Leaving the tractor PTO "off".
- ✓ Now with the cutter under power, practice using the joystick to control the movement of the cutterhead and boom arms.

Joystick Control

- Turn "Power On" switch located to the right of the joystick control handle, "on".
- Depress "Safety Lever" to control primary functions (head up, head down, first stage up, first stage down). "Primary Function Light" will indicate "on".
- Depress "Safety Lever" and "Thumb Trigger" to work secondary functions (swing left, swing right, second stage up, second stage down). The "Secondary Function Light" will indicate "on".



***Note**: If the hydraulics do not function, detent in the other direction or flip hoses.*

If you feel like you need to adjust the speed of the cutter, refer to the instructions on page 17.

After you feel comfortable with the basic cutter control, the next step is to start the blades.

- ✓ Slowly increase the tractor throttle to a high idle speed and slowly engage the PTO.

⚠ Danger

Do not change the blade rotation direction! Blades must rotate in the clockwise direction indicated by the rotation decal on the mowing deck. The direction can be determined from the seated position on the tractor with the cutterhead extended.

- ✓ After the cutter is running smoothly, increase the tractor to 540 PTO RPM and lift the cutterhead off the ground. Swing the cutterhead to the mowing position, which is three 'o clock on the right side of your tractor.
- ✓ Release the tractor from park and put the transmission in low range. You are now in mowing mode and are underway.

The terrain and the kind of material being cut will determine your ground speed. Remember that you will need to raise and lower the cutterhead to follow the ground contour you are cutting.

Boom Breakaway
The LR40142 is designed with an automatic breakaway system to protect the cutter booms. This works when the cutterhead contacts a solid obstruction or the cutterhead is "grounded" while the tractor is in motion. The breakaway is activated through the hydraulic valve and will function mowing both forward and backward.

When the cutterhead strikes a solid object the booms will begin to break back, IMMEDIATELY stop your tractor and adjust the position of the booms to clear the object.

If you "ground" the cutterhead and the booms begin to break back. Simply lift the boom slightly to free the cutterhead. Then swing the boom back into normal cutting position. *See figure 2*

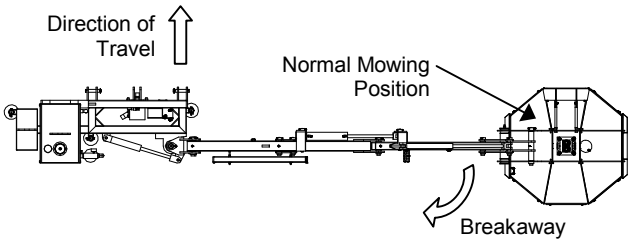


Figure 2

Mowing in Reverse
Your Hardee unit can cut as easily when the tractor is moving in reverse as forward. The breakaway protection works in the same way. The only difference being you must swing the booms to the rear 10 – 15 degrees. This will allow for more boom breakaway travel. This space is critical so as not to bottom-out the boom arm. *See figure 3*

Caution

You will do severe damage to your cutter if you allow the boom arm to reach the bottoming-out point!

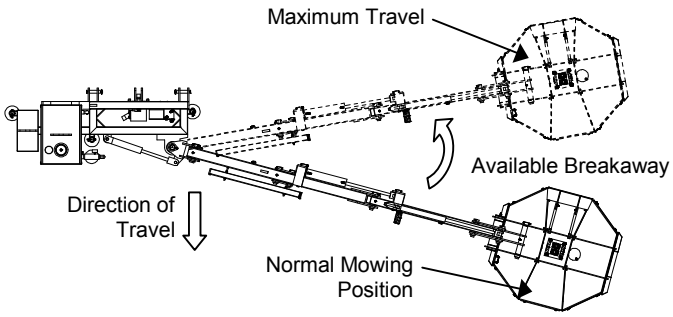


Figure 3

Caution

You must allow for the extra boom travel when mowing in reverse. See figure 3. If you have any questions about these instructions, please ask your local Hardee dealer immediately! Warranty claims for equipment used improperly will not be honored.

Side Dressing Trees
The design of your heavy-duty brush cutter will allow you to "side dress" trees if needed. To do this, raise the booms to the desired height and tilt the cutterhead to the vertical position. With the blades "on" move forward slowly, removing only approximately 12 inches of material per pass.

DANGER

Never operate the cutter within 10 feet of overhead power lines or utility lines. Do not trim trees with power lines running through them. Serious injury or death by electrocution may occur.

Cutting Larger Brush and Trees
A unique feature on the LR40142 is the cutterhead "Push Gate". The push gate is used when you need to remove trees as large as 4 inches in diameter. This is accomplished by first positioning the push gate at a right angle to the tree you want to cut. Then apply slow steady pressure with the boom arm to slide open the push gate, exposing the blade tips to the tree. The tree will be neatly clipped and the push gate will immediately spring back to the closed position.

We recommend removing small sections at a time, no more than two or three feet in length per pass. *See figure 4*

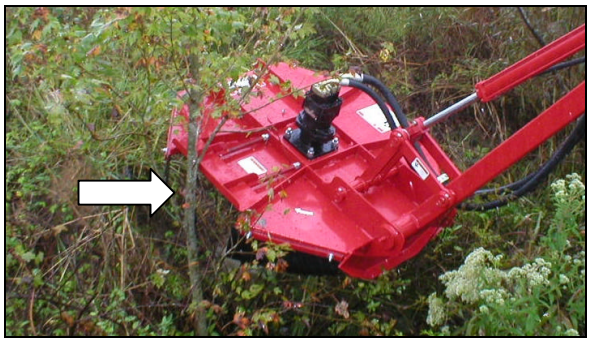


Figure 4

DANGER

Never attempt to use the cutter to remove brush or trees larger than 4 inches in diameter. Failure to use caution when cutting trees, may lead to the tree falling on the cutter deck and tipping the tractor over.

Unhook and Post Use Care

Before unhooking the tractor from your mower, always clean the unit thoroughly to remove any grass, mud or debris. This mower should always be stored on a hard level surface.

Unhooking the LR40142

- ✓ To unhook from your unit, first lower all jack stands to the storage position.
- ✓ Lower the tractor lift arms so that the mower will rest firmly and evenly on all jack stands.
- ✓ Lower the boom arms and cutter deck so that they too rest firmly and evenly on the ground.
- ✓ Be sure to relieve all hydraulic pressure on the boom arms and deck before unhooking.
- ✓ Disconnect hydraulic lines from tractor remotes.
- ✓ Disconnect driveshaft from tractor.
- ✓ Disconnect joystick cable at the junction plug on the black wire cover box.
- ✓ Unhook tractor hitch from 3-point frame on mower.

Post Use Care

- Never leave driveshaft hanging down and touching the ground.
- Never leave quick couplers on hydraulic remote lines hanging on the ground.
- Store joystick inside in a dry place.

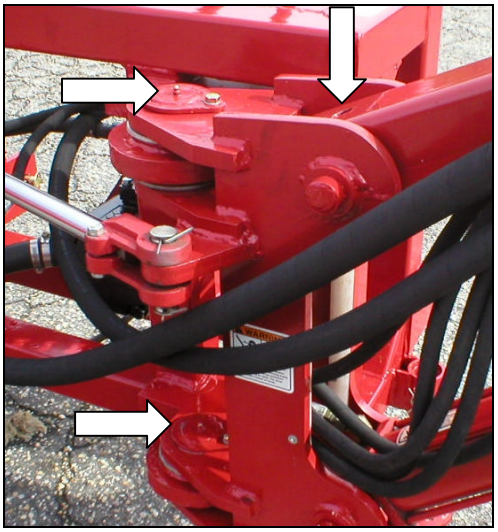
Maintenance and Service Schedule

This section is dedicated to the maintenance of the LR40142. As with any piece of equipment, the performance and life span depends on the proper operation and maintenance.

DANGER

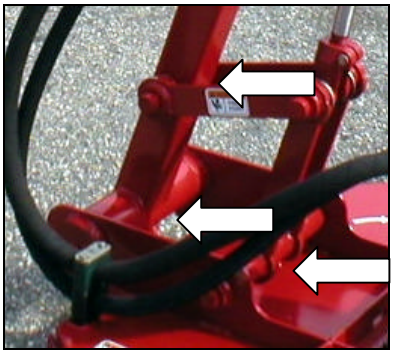
Never attempt any checks, repairs or adjustments with tractor engine running or the power take-off engaged. Adjustment of rotating parts while the tractor engine is running can result in serious personal injury or death if the PTO accidentally engages.

First Stage Boom
Inject with heavy multi-purpose grease. There are two grease fittings on the swing post.

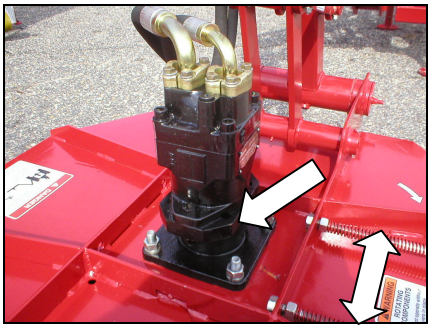


First Stage Boom to Second Stage Boom
Inject with heavy multi-purpose grease. *There is a grease point at every hinge point.*

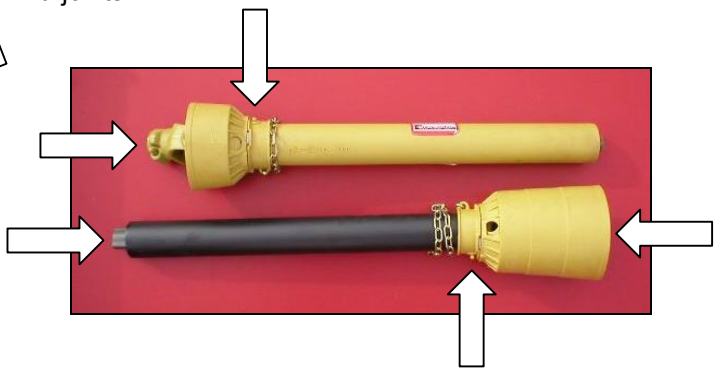
Deck and Second Stage Boom
Inject with heavy multi-purpose grease.



Hydraulic Motor Housing Assembly
Locate fitting on motor housing. Inject with 90W oil. On the push gate, inject with heavy multi-purpose grease.



Greasing PTO Driveshaft to Pump
Remove PTO shaft from cutter before greasing. Use heavy multi-purpose grease at all grease fitting and on shaft. Remember to grease the shield as well as the u-joints.



Inspection and Replacement of Blades

The cutting blades on the Hardee cutter are designed and made to exact specifications and should be replace with only original Hardee parts. Always replace blades in pairs to retain balance on the blade holder. Never weld the blades, as this will change the temper of the steel. Never modify the blades. Check for cross sectional thickness (1/2") and deterioration of blades. Replace as necessary.

When the replacement of cutter blade is required, a few rules should be followed:

- Replace blades in pairs.
- Inspect bolt holes.
- If bolt holes are elongated, replace blade holder. *See instructions below.*
- Cutting heavy brush causes excess stress on the blade bolts, because of this they will require inspection that is more frequent.
- When replacing blades always replace bolts and nuts. Never reuse blade bolts and nuts.

Inspection and Replacement of Blade Holder

Inspection

✓ First, completely extend boom. Rotate cutter deck all the way up; drop boom until deck rests on ground. Switch off tractor, secure parking brake and remove key.

✓ When inspecting, pay particular attention to any small hairline cracks between spindle bolt hole and blade bolt holes. This indicates metal fatigue from severe abuse and holder must be replaced.

✓ Blade and spindle bolts and nuts should be checked daily.

Replacement

✓ Remove cotter pin and castle nut.

✓ With an assistant, carefully remove the blade holder.

✓ Then position the new blade holder in place.

✓ Replace the castle nut and cotter pin. *See parts breakdown drawing on page 36 for reference.*

Checking the Cutter Head Relief Valve

The LR40142 is equipped with a cutter-head relief valve that comes pre-set from the factory. This valve is bolted to the top of the pump (Item 35 on page 31). Before checking the pressure on the valve, make certain that a clean filter is installed and that the reservoir contains the correct amount of hydraulic oil.

The procedure to check the pressure on the cutter-head relief is as follows:

✓ Start the tractor and with the tractor in park, place the cutter-head on the ground. Engage the tractor PTO to power the cutter-head and increase engine speed until 540 PTO RPM is reached. Allow the mower to run at this speed for 3 to 5 minutes.

✓ Disengage the PTO and stop tractor engine.

✓ Remove the pump pressure line. Install a 3000 or 5000 psi pressure in its port. Place the gauge where you can easily see it from a safe distance. Cap the outlet with a 12-F-JIC hydraulic cap. Place the loose pressure line in a clean container to catch any spillage.

⚠ Caution

Be sure all fittings are tight before proceeding!

✓ Start the tractor engine and increase engine speed to 1200 **ENGINE** RPM. Engage tractor PTO and immediately observe the pressure reading and disengage tractor PTO. (If pressure reads 2500 psi or less, you may proceed.)

✓ Increase tractor engine speed to 540 PTO. Engage tractor PTO and immediately observe the pressure reading and disengage tractor PTO.

The correct pressure setting is 2500 psi. If the reading is less than 2000 or more the 2500, contact your local Hardee dealer for assistance.

⚠ Caution

Never let the unit operate in the capped position for over 5 seconds. A reading can be obtained accurately in this amount of time.

✓ Now you can remove the cap and gauge, and re-install the pressure line.

Checking the Cutter Head Relief Valve, continued

CAUTION

Never vary from the 2500-psi cutterhead pressure. Failure to comply with this specification will cause severe hydraulic heat, loss of power and damage to components.

DANGER

Exceeding 2500 psi will cause premature hose failure (rupture), and possible bodily injury or property damage.

Adjusting Cylinder Speed

The LR40142 is equipped with several features that allow operator control over the travel speed of individual cylinders, or the entire system. Before adjusting any hydraulic settings, make certain that the tractor hydraulic reservoir is filled to the proper level and all hydraulic lines on the LR40142 are purged free of air.

To Adjust the Speed of all Hydraulic Cylinders in Unison

If the tractor is equipped with variable flow hydraulic remotes, it is not necessary to make any adjustments to the LR40142. Simply leave the unit set at the factory pre-sets, and adjust the variable flow remotes on the tractor to throttle back or increase the amount of fluid that is being sent to the LR40142. This will increase or decrease the speed of all hydraulic cylinders. **DO NOT** operate your variable flow remotes above 5 GPM. A higher setting will cause the excess flow to be cycled back to your tractor and could cause overheating.

To Adjust the Speed of Individual Hydraulic Cylinders

The cylinder control valve on the LR40142 comes equipped with a provision that will allow easy adjustment of the individual cylinder speeds. Work ports A1, B1, C2, and D2 are drilled and tapped to accept 1/16" NPT orifice plugs. *See figure 5*

Installing or changing the orifice in the work port where the cylinder is attached can change cylinder speeds. The smaller the orifice, the slower the cylinder speed.

NOTE: To install an orifice, the hydraulic hose and the 6-M-JIC X 6-M-ORB hydraulic fitting it attaches to must be disconnected from the valve.

WARNING

Hydraulic cylinder lines are under high pressure. Make sure that the booms and deck rest firmly on the ground, all hydraulic pressure is relieved, and tractor engine is off before removing hydraulic lines.

With hose and fitting removed from the work port, the orifice can be screwed in directly to the inner threaded hole in the work port. Be sure to keep the port and fittings free of dirt and metal shavings.

CAUTION

The control valve is made of aluminum and can be damaged by overtightening the orifice plug or fitting.

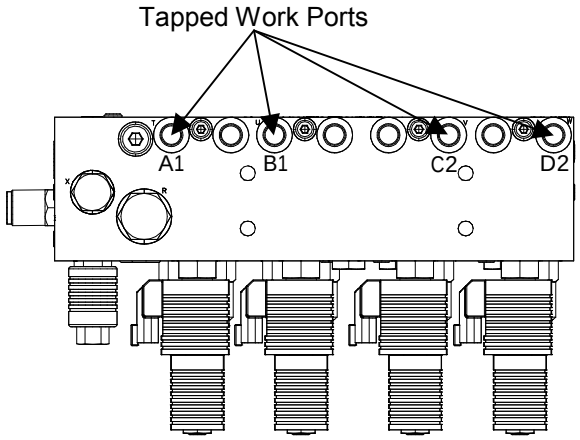


Figure 5

Adjusting the Cylinder Control Valve

The LR40142 comes from the factory with the cylinder control valve pre-set at the proper pressures. The cylinder control valve has a total of seven relief valves. There is a main relief (S), and six individual cylinder counterbalance valves (E, F, G, H, I and J). *The chart on page 19 lists the proper settings for these valves.*

The procedure for checking the pressures on the cylinder control valve is as follows:

Main Relief Valve (S)

- ✓ Rest the deck of the LR40142 on the ground to relieve all pressures on the hydraulic lines.
- ✓ With the tractor engine off and parking brake set, remove the hydraulic test port plug. Install a 3000 or 5000 psi pressure gauge with a 4-M-ORB fitting into the hydraulic test port and place the gauge where you can easily see it from a safe distance.
- ✓ Start the tractor and bring the engine up to operating speed (540 PTO RPM). Engage the tractor hydraulic remote, raise the cutter deck off the ground, and swing the boom so that it is straight behind the tractor.
- ✓ Activate the joystick in the "HEAD UP" position until the deck cylinder fully retracts. Continue to hold the joystick in this position and have someone read the pressure on the gauge.

⚠ WARNING

While reading the gauge, be careful not to stand in an area where inadvertent movement of the booms could trap or crush you. If you fail to heed this warning, **SERIOUS INJURY OR DEATH COULD OCCUR**.

The correct pressure setting for the main relief (S) is 2000 psi. *See Figure 6 for location.*

To increase or decrease pressure, remove the relief valve cover using a 5/16" allen-wrench, then turn the 3/16" allen-head adjusting stem.

NOTE: The Allen-head valve adjusting stem increases pressure when turned clockwise and decreases pressure when turned counterclockwise. Pressure increases or decreases rapidly with only a slight movement. Move adjusting stem in increments of ¼ turn or less.

⚠ CAUTION

NEVER attempt to adjust the valve when in the "on" (loaded) position. Always make adjustments in the "off" (neutral) position with the tractor engine turned off.

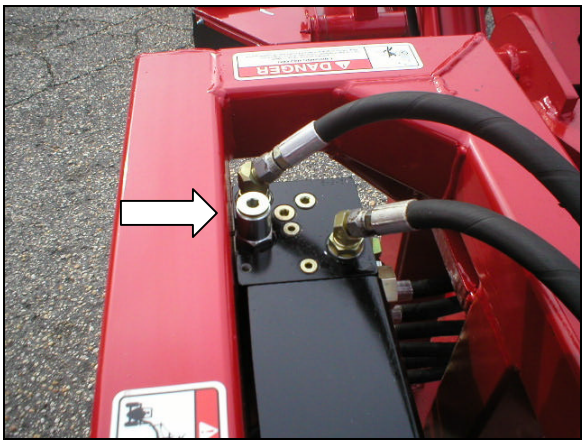


Figure 6

When 2000 psi is obtained, replace the relief valve cover. Then re-test the pressure to be sure 2000 psi is retained.

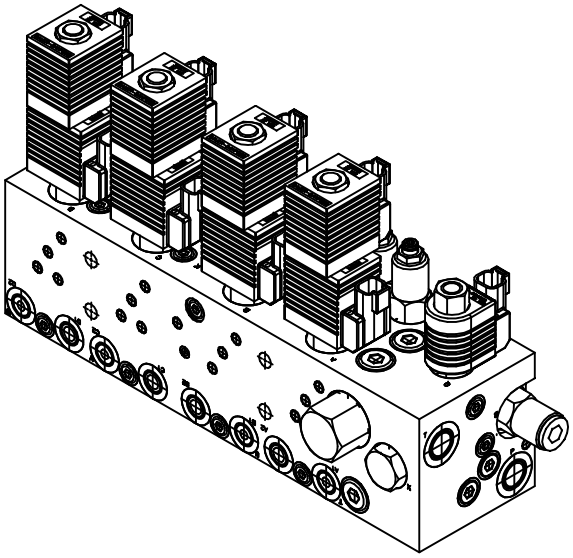
- ✓ When the adjustment is complete, rest the cutter deck back on the ground to relieve pressure in the hydraulic lines. Remove the pressure gauge and re-install the hydraulic test port plug.

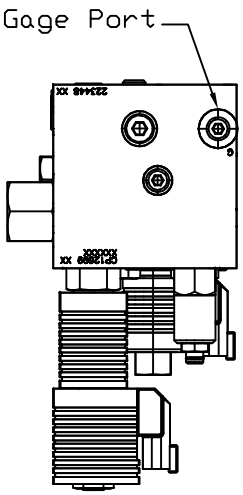
Individual Cylinder Counterbalance Valves (E, H, I and J)

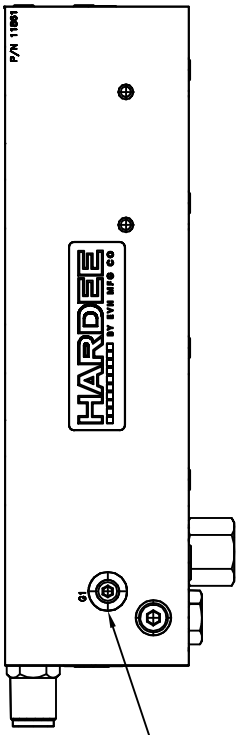
Each cylinder has counterbalance valves that provide both work port relief and load control. These valves are 100% inspected and pre-set from the factory to ensure the proper settings. Do not alter the settings on these valves.

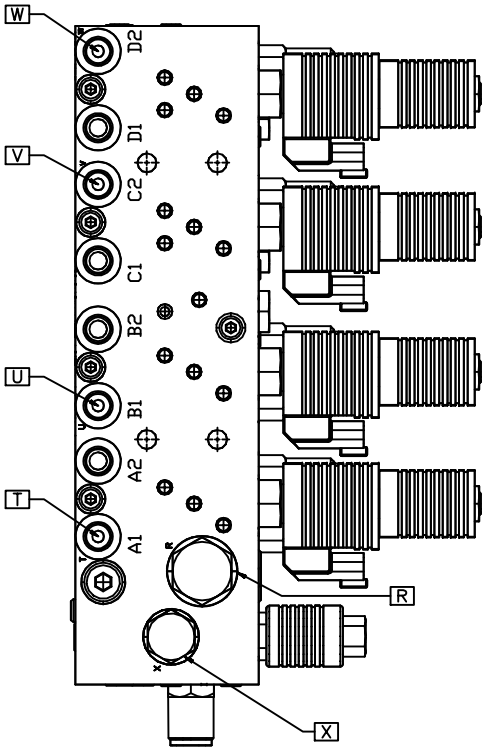
If you need assistance, contact your local Hardee dealer.

LR40142 Control Valve Port Listing				
Item	**Description**	**Setting**	**Torque**	**Coil Nut**
A	Solenoid Valve		15 ft lbs.	2.5 ft lbs.
B	Solenoid Valve		15 ft lbs.	2.5 ft lbs.
C	Solenoid Valve		15 ft lbs.	2.5 ft lbs.
D	Solenoid Valve		15 ft lbs.	2.5 ft lbs.
E	Counterbalance	1200 PSI	33 ft lbs.	
F	Counterbalance	1100 PSI	33 ft lbs.	
G	Counterbalance	1650 PSI	33 ft lbs.	
H	Counterbalance	600 PSI	33 ft lbs.	
I	Counterbalance	3500 PSI	33 ft lbs.	
J	Counterbalance	2000 PSI	33 ft lbs.	
K	Check Valve		33 ft lbs.	
L	Check Valve		33 ft lbs.	
M	Check Valve		33 ft lbs.	
N	Piston Ref. 621459		33 ft lbs.	
O	Piston Ref. 621459		33 ft lbs.	
P	Piston Ref. 621459		33 ft lbs.	
Q	Solenoid Valve		15 ft lbs.	2.5 ft lbs.
R	Priority Flow Control	5.0 GPM	33 ft lbs.	
S	Relief Valve	2000 PSI		
T	1/16-27 NPTF Orifice	1200 PSI		
U	1/16-27 NPTF Orifice			
V	1/16-27 NPTF Orifice			
W	1/16-27 NPTF Orifice			
X	Check Valve		44 ft lbs.	




Gage Port


HARDEE
Gage Port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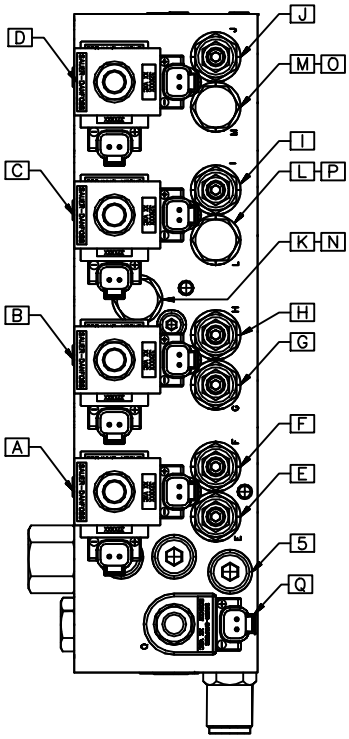
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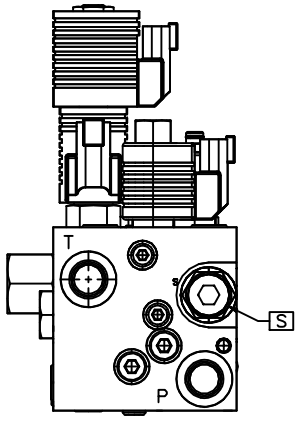
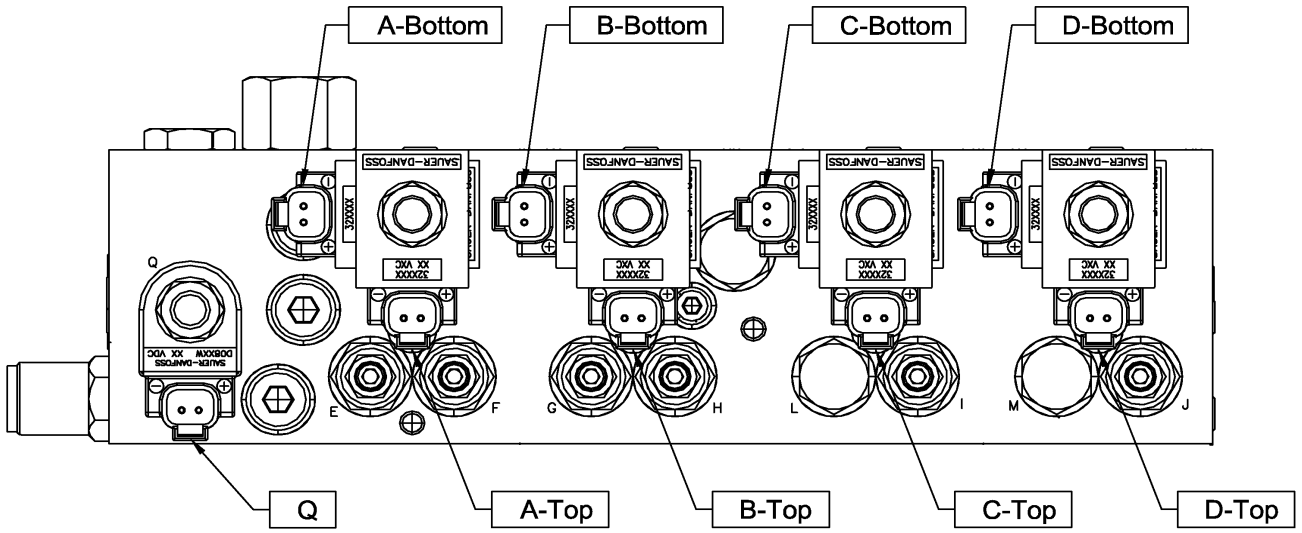

T
S
P

LR40142 Valve / Joystick Wiring Schematic									
Function	**Cylinder Port**	**Valve Port**	**Coil**	**Wire Color (+)**	**Pin No.**	**Wire Color (-)**	**Pin No.**	**Thumb Switch**	**Handle Position**
Swing (Boom) Right	Cap	A1	A - Top	Orange	19	White	11	Closed	Right (E)
Swing (Boom) Left	Rod	A2	A - Bottom	Orange / Black	8	White	11	Closed	Left (W)
1st Stage Up	Cap	B1	B - Top	Red	9	White	11	Open	Down (S)
1st Stage Down	Rod	B2	B - Bottom	Red / Black	17	White	11	Open	Up (N)
2nd Stage Down	Cap	C1	C - Top	Green	16	White	11	Closed	Up (N)
2nd Stage Up	Rod	C2	C - Bottom	Green / Black	13	White	11	Closed	Down (S)
Head Down	Cap	D1	D - Top	Blue	18	White	11	Open	Left (W)
Head Up	Rod	D2	D - Bottom	Blue / Black	12	White	11	Open	Right (E)
Unload	N/A	N/A	Q	Black	2	White	11	Any	Any



Routine Maintenance Checklist

Interval	Item	Check	Lube	Change	Comments
Daily Or 10 Hours	Pump Drive Shaft		•		
	Pivot Points		•		
	Hydraulic Fittings	•			
	Blades	•			Change If Damaged
	Blade Bolts (Blade To Disk)	•			
	Blade Holder Nut	•			
	Spindle Bolts (Spindle To Deck)	•			
	Main Frame And Deck Bolts	•			
	Rubber Shielding	•			Change If Damaged
Weekly Or 50 Hours	In Tank Hydraulic Filter And Hydraulic Return Filter			•	Change After 1st 50 Hours, Then Every 500 Hours
Monthly Or 150 Hours	Tank Breather	•			
	Hydraulic Fluid Level	•			
Seasonal Or 500 Hours	In Tank And Return Hydraulic Filters			•	

Troubleshooting Guide

Hydraulic System, Blade System, Pump, Motor, Fluid Lines

Problem	Possible Cause	Solution / Correction
Cylinder Will Not Operate	No Power To Joystick	Repair / Replace Connections
	Fuse Blown Inside Joystick	Replace Fuse
	Joystick Not Connected To A 12-Volt System	Connect To 12-Volt Power Supply
	Joystick Not Connected To Valve	Examine Quick Connection To Valve
	Valve Master Solenoid Not Functioning	Repair Electrical Connections To Solenoid Or Replace Solenoid
	Tractor Remotes Not Engaged	Engage Remote
	Tractor Remotes Engaged In Reverse	Engage Remotes Opposite Way Or Switch Hydraulic Lines In Tractor Remotes
Head Drifts Back When In Operation	Improper Relief Valve Setting	Adjust Relief Valves To Specifications (Refer To Page 19)
	Cylinder Leakage	Repair / Replace Cylinders
Boom Drifts Down	Improper Relief Valve Setting	Adjust Relief Valves To Specifications (Refer To Page 19)
	Cylinder Leakage	Repair / Replace Cylinders
Leaking Motor	Motor Seal Blown	Repair / Replace Seal And Check Filter For Blockage (Repair / Replace Filter)
Blades Loose Speed In Cutting	Improper Relief Valve Setting	Adjust Relief Valves To Specifications (Refer To Page 19)
		Repair / Replace Relief Valve
Pump Whines	Worn Or Damaged Pump	Repair / Replace Pump
	Improper Oil In System	Replace Oil
		Requires Hardee Oil Part NO 23333 Or Comparable Oil With Proper Viscosity
	Pressure Setting On Relief Valve Too Low	Adjust Relief Valve (Refer To Page 19)
Motor Whines	Worn Or Damaged Motor	Repair / Replace Motor
	Improper Oil In System	Replace Oil
		Requires Hardee Oil Part NO 23333 Or Comparable Oil With Proper Viscosity
	Pressure Setting On Relief Valve Too Low	Adjust Relief Valve (Refer To Page 19)
Motor Seal Continually Blows Out	Internal Popit Valve Damaged	Replace Popit Valves
Unit Vibrates Severely	Broken Blade	Replace Blades, Blade Bolts And Nuts (Refer To Page 16)
	Blade Holder Loose	Repair / Replace Blade Holder (Refer To Page 16)
	Loose Output Shaft	Repair / Replace Shaft's Bearings In Cutter Head Housing
Cutter Head Grinds And Roars When Operating	Worn Bearings Or Improper Lubrication In Cutter Hydraulic Motor Housing	Repair / Replace Components (Bearing, Seals And Housing) As Required

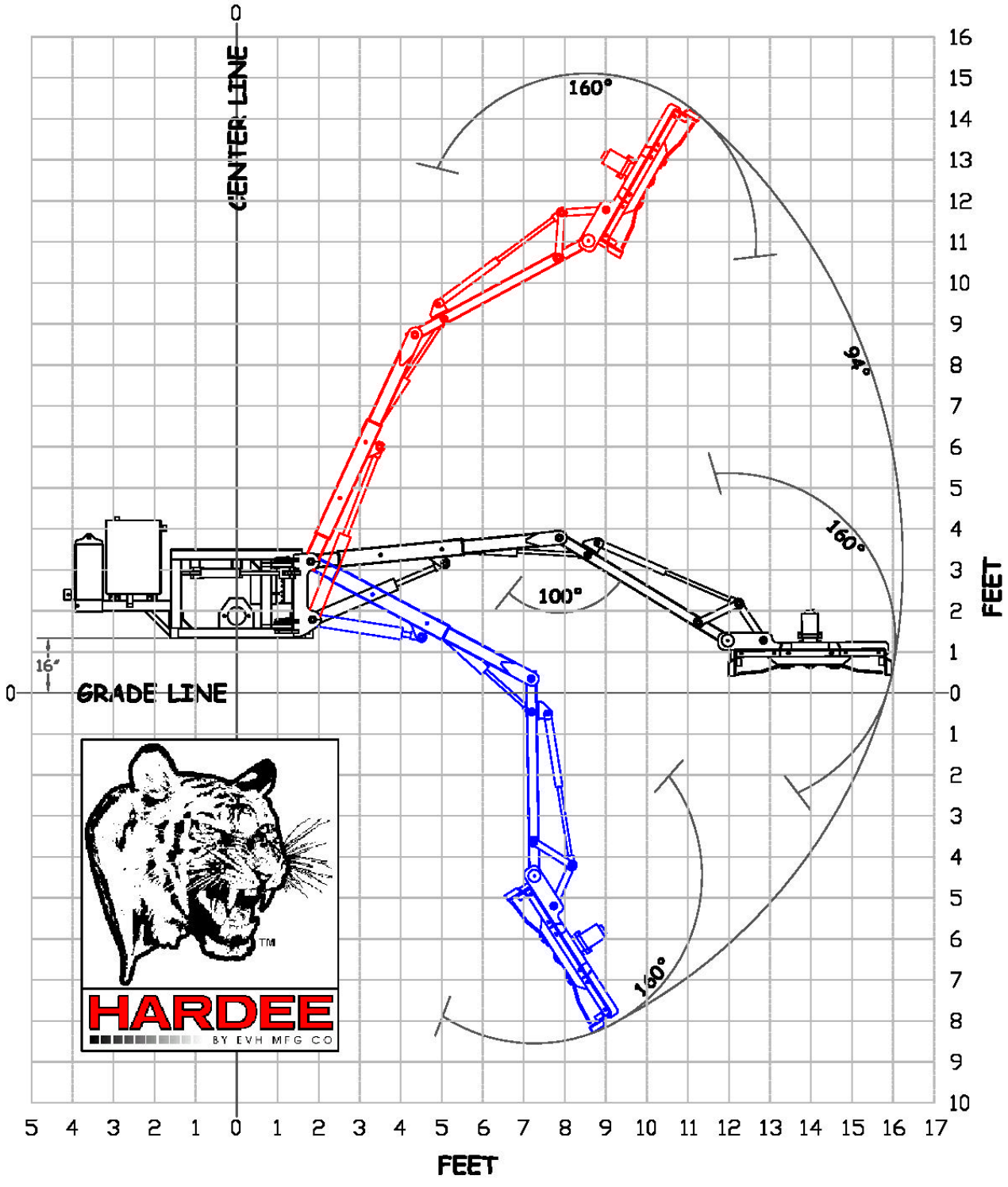
Troubleshooting Guide, continued

Hydraulic System, Blade System, Pump, Motor, Fluid Lines

Problem	Possible Cause	Solution / Correction
Individual Cylinders Leak Down	Blown Or Worn Cylinder Packing	Repair / Replace Cylinder
Relief Valve Will Not Adjust To Specifications	Defective Or Worn Valve Seat	Repair / Replace Relief Valve And Adjust To Specifications
	Hydraulic Valve Cracked Internally	Repair / Replace Valve
	Improper Oil	Repair / Replace Oil (Use Hardee Oil Part No. 23333)
No Power To Control Box	No Power To Joystick	
	Improper Connection To Joystick	Repair / Replace Connections
	In-Line Fuse Blown	Replace Fuse
	Joystick Not Connected To A 12-Volt System	Connect To 12-Volt Power Supply
Filter Gauge Is In The Red At All Times	Filter Restricted	Repair / Replace Filter
	Bad Gauge	Repair / Replace Gauge
	Hydraulic Oil Too Heavy For Region Or Climate	Replace Oil
PTO Shaft Won't Telescope	PTO Shaft Not Lubed Properly	Lube Driveshaft (Per Daily Routine Check Sheet On Page 15)
	Bent Shaft	Replace PTO Shaft
Excessive Slack In Boom Hinges	Pins Worn	Repair / Replace Pins
	Bushing Worn	Repair / Replace Bushing
Beams Squeak When Operating	No Lubrication Or Improper Lubrication	Lube Hinge Points (Per Instructions On Page 15)
	Defective Lube Fittings	Repair / Replace Fittings
Boom Operates Erratically	Speed Is Too Fast	Adjust Flow Rate In Tractor Remote
	Speed Is Still Too Fast	Adjust Individual Cylinder Speeds (Per Instructions On Page 17)
	Air In Lines	Purge Hydraulic Lines
Blades Won't Start-Up	Oil Flow Restricted	Open Gate Valve
		Repair / Replace Hydraulic Lines
		Replace In-Tank Filter

Summary of Specifications

Model	LR40142
Approximate Weight (lbs.)	1,950 - Ready To Mow
Blade Tip Speed (ft/min)	14,720
Blades	½" X 3", Free Swinging
Cutting Capacity / Suggested Usage	Grass, Heavy Brush Up To 4" In Diameter
Cutting Width	42"
Deck Height	7 ¾"
Deck Thickness	10 Gauge
Driveline	Category 3
Driveline Protection	Hydraulic Relief Valve
Hitch	Combination Category 2 And Category 2 Quick Hitch
Motor	Hydraulic Vane Motor
Overall Length	243 ¾"
Overall Width	46"
Transport Width	67" – Unit Fits Within Tractor Tires Set On 6 Foot Spacing
PTO Operating Speed	540 Rpm
Pump	Hydraulic Vane Pump
Round Blade Holder	Standard
Rubber Shielding	Standard – Front & Rear
Skids	Standard – Weld On
Tractor HP Required	60 And Up
Reach At Grade (From Center Line)	192"
Cutting Height Above Grade	180"
Cutting Height Below Grade	102"
Topping Height Above Grade	132"
Topping Height Below Grade	60"
Swing Travel	110°
1st Stage Boom Articulation	94°
2nd Stage Boom Articulation	100°
Cutter Deck Articulation	160°
Cutter Deck Articulation With 1st Stage Boom	254°
Hydraulic Oil System Capacity	35 Gallons
Controls	Cab Mounted Joystick

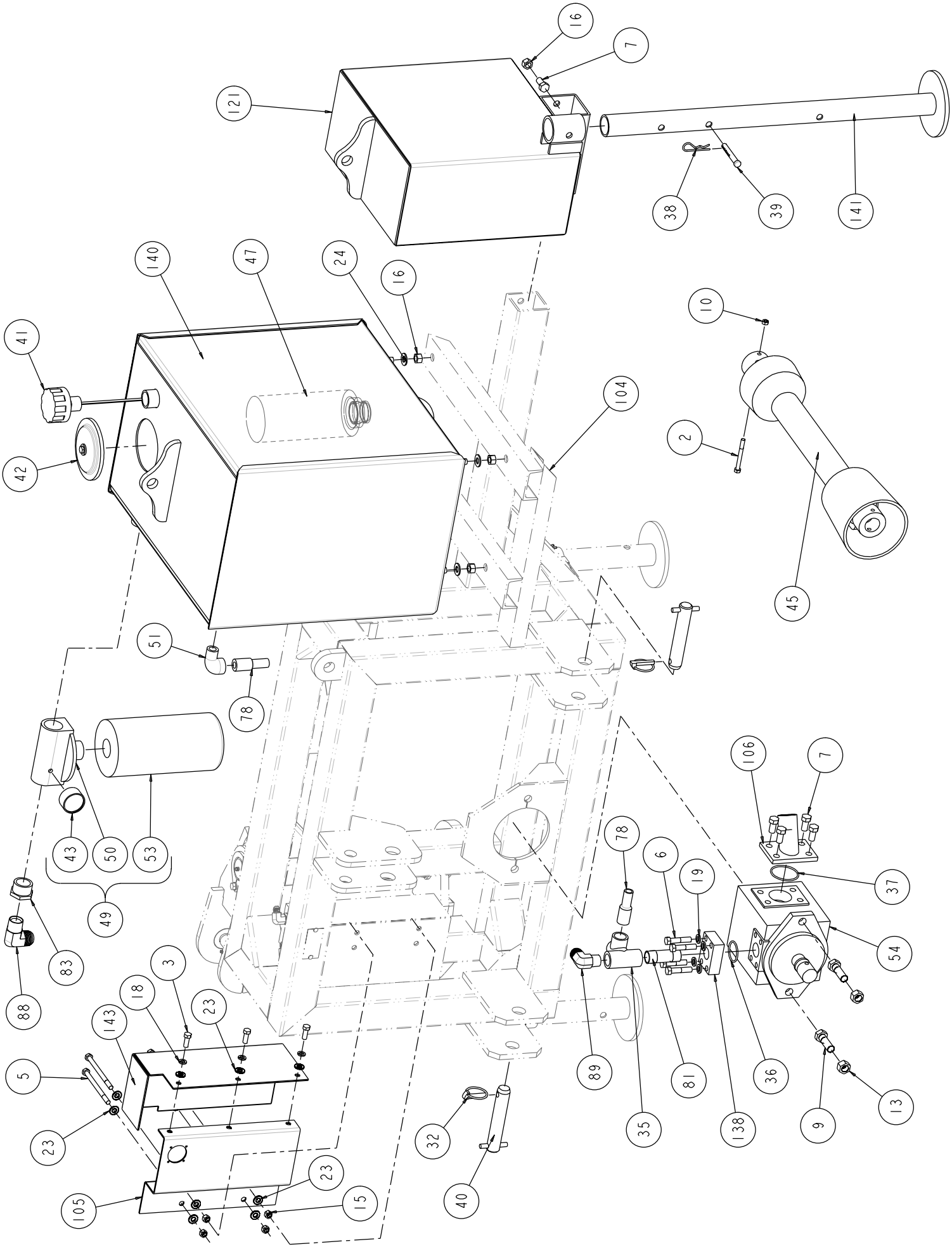

CENTER LINE
GRADE LINE
16"
160°
94°
160°
100°
160°
FEET
FEET
HARDEE
BY EVH MFG CO

Parts Listing For Long Reach Cutter LR40142			
Item	**Part Number**	**Qty.**	**Description**
1	10020	10	Hex Bolt 5/16" X 2 1/2" Gr.5 Plated
2	10021	1	Hex Bolt 5/16" X 3" Gr.5 Plated
3	10031	5	Hex Bolt 3/8 X 1 Gr.5 Plated
4	10032	10	Hex Bolt 3/8 X 1-1/2 Gr.5 Plated
5	10039	4	Hex Bolt 3/8 X 5 Gr.5 Plated
6	10052	4	Hex Bolt 7/16 X 2 Gr.5 Plated
7	10071	5	Hex Bolt 1/2 X 1 Gr.5 Plated
8	10074	2	Hex Bolt 1/2 X 2-1/2 Gr.5 Plated
9	10092	2	Hex Bolt 5/8 X 2 Gr.5 Plated
10	10154	12	Lock Nut 5/16" Plated
11	10162	4	3/8" Hex Nut (Gr.5 Plated)
12	10165	2	Hex Nut 5/8" Plated
13	10166	8	Lock Nut 5/8 Plated
14	10173	1	Castle Flange Nut
15	10175	16	3/8" Locknut (Gr.5 Plated)
16	10176	7	1/2" Locknut (Gr.5 Plated)
17	10181	1	Lockwasher 5/16" Plated
18	10182	5	Lockwasher 3/8 Plated
19	10183	4	Lockwasher 7/16 Plated
20	10184	2	Lockwasher 1/2 Plated
21	10185	4	Lockwasher 5/8" Plated
22	10196	2	7/16" Locknut (Gr. 5 Plated)
23	10202	35	3/8" Flatwasher (Plated)
24	10204	4	1/2 Flatwasher (Plated)
25	10207	7	Flatwasher 1 Plated
26	10216	4	2" USS Flatwasher
27	10252	1	Cotter Pin 3/16" X 2" Plated
28	10311	2	Blade Bolt Nut
29	10312	2	Blade Bolt Lockwasher
30	10313	2	1 1/4" Blade Bolt
31	10322	8	1/4" Grease Fitting
32	10346	2	3 Pt. Snap Pin (Lynch Pin)
33	10368	1	1-1/4" Gate Valve
34	10372	1	1/4" Drain Valve
35	10375	1	Relief Valve
36	10386	1	O-Ring
37	10387	1	O-Ring

Parts Listing For Long Reach Cutter LR40142			
Item	**Part Number**	**Qty.**	**Description**
38	10390	3	Clip Pin (1/8 X 2)
39	10393	3	Universal Clevis Pin
40	10466	2	Cat. 2 Lower Hitch Pin
41	10501	1	Breather / Dipstick
42	10502	1	Reservoir Cover
43	10510	1	Pressure Gauge
44	10586	2	3/8" X 86" Pressure Hose W/ 6-F-JIC X 8-M-NPT Swivel Ends
45	10601	1	Driveshaft
46	10844	2	3/16" Drive-In Grease Fitting
47	11672	1	Strainer, 100 Mesh, 50 GPM
48	11673	1	Joystick
49	11675	1	Return Filter Assembly
50	11688	1	Head For Hydraulic Filter
51	11703	2	3/4" Street Elbow
52	11714	6	6-M-JIC X 6-M-ORB Straight
53	11767	1	Filter Element
54	11775	1	Hydraulic Pump
55	11846	1	Hydraulic Motor Housing Assembly
56	11847	1	Hydraulic Vane Motor
57	11848	1	O-Ring
58	11853	2	Spring
59	11861	1	Cylinder Control Valve
60	11862	2	3/8" X 25" Pressure Hose W/ 6-F-JIC Swivel Both Ends
61	11863	1	3/8" X 26" Pressure Hose W/ 6-F-JIC Swivel Both Ends
62	11864	1	3/8" X 46" Pressure Hose W/ 6-F-JIC Swivel Both Ends
63	11865	1	3/8" X 93" Pressure Hose W/ 6-F-JIC Swivel Both Ends
64	11866	1	3/8" X 100" Pressure Hose W/ 6-F-JIC Swivel Both Ends
65	11867	1	3/8" X 112" Pressure Hose W/ 6-F-JIC Swivel Both Ends
66	11868	1	3/8" X 135" Pressure Hose W/ 6-F-JIC Swivel Both Ends
67	11869	1	3/4" X 96" Pressure Hose W/ 12-F-JIC Swivel Both Ends
68	11870	1	1" X 109" Pressure Hose W/ 16-F-JIC Swivel Both Ends
69	11872	6	6-M-NPT X 6-M-JIC 90 Deg. Elbow
70	11874	1	8-M-NPT X 6-M-JIC 45 Deg. Elbow
71	11876	1	Wiring Harness (Pigtail)
72	11877	2	Pressure Flange Set W/Bolts. L.W. & Seal (#16)
73	11878	1	3/4" X 106" Pressure Hose W/12-M-JIC & #16 Flange 90 Deg. Ends
74	11879	1	1" X 106" Pressure Hose W/16-M-JIC & #16 Flange 90 Deg. Ends

Parts Listing For Long Reach Cutter LR40142			
Item	**Part Number**	**Qty.**	**Description**
75	11882	4	3/16" X 1.072" Pop Rivet
76	13532	2	3/4" Hose Clamp
77	13535	4	1-1/2" Hose Clamp
78	13557	2	3/4"-M-NPT X 3/4" Metal Hose Barb
79	13563	1	1-1/4"-M-NPT X 1-1/2" Metal Hose Barb
80	13591	1	1/4" NPT Plug
81	13675	2	3/4" NPT X 3" Metal Nipple
82	13697	1	1-1/4" NPT Female Threaded Elbow
83	13758	1	20-M-NPT X 16-F-NPT Reducer
84	13778	1	1-1/4" X 3-1/2" Long NPT Nipple
85	13905	1	6-M-JIC X 8-M-NPT Elbow
86	13909	2	6-M-JIC X 6-M-ORB 90 Deg. Elbow
87	13914	2	6-M-JIC X 8-M-ORB 90 Deg. Elbow
88	13974	1	16-M-JIC X 16-M-NPT 90 Deg. Elbow
89	13976	1	12-M-JIC X 12-M-NPT 90 Deg. Elbow
90	15237	2	Blade
91	15251	4	1" Hose Clamp Half
92	15252	4	3/4" Hose Clamp Half
93	15253	4	Hose Clamp Stack Bolts
94	15254	2	Hose Clamp Safety Plate
95	15255	2	Hose Clamp Cover Plate
96	15256	4	Hex Bolt (1/4" X 2-3/8" Gr. 5 Plated)
97	15833	1	3 1/2" Cylinder (32 1/4" To 54 1/4")
98	15834	1	2" Cylinder (30 1/4" To 50 1/4")
99	15835	1	2 1/2" Cylinder (24 1/4" To 38 1/4")
100	15836	1	2 1/2" Cylinder (20 1/4" To 30 1/4")
101	15838	10	1" X 1-1/2" Bearing
102	15839	2	2" X 1-3/4" Bearing
103	22810	1	LR40142 Blade Holder Assembly
104	22811	1	Hitch Frame Weldment
105	22830	1	Wire Cover Weldment
106	22833	1	LR40142 Fluid Connector Weldment
107	22835	1	Swing Arm Weldment
108	22840	1	3/4" X 34" Relief Hose For LR40142
109	22841	1	1 1/2" X 24" Suction Hose For LR40142
110	22842	2	Hose Wear Guard For LR40142
111	22845	1	First Stage Boom Weldment

Parts Listing For Long Reach Cutter LR40142			
Item	**Part Number**	**Qty.**	**Description**
112	22855	1	Second Stage Boom Weldment
113	22865	1	H-Bracket Weldment
114	22870	1	Deck Weldment For LR40142
115	22878	1	Deck Clevis Weldment
116	22880	1	Linkage Weldment (With Holes)
117	22881	1	Linkage Weldment (Without Holes)
118	22884	5	Pin Weldment
119	22887	1	Pin (8-3/8")
120	22888	2	Pin Weldment (2" Dia.)
121	22892	1	Weight Box Weldment
122	22895	1	Pin (9-1/4")
123	22896	2	Pin Weldment (7-3/8")
124	22898	1	Access Cover
125	22900	1	LR40142 Rubber Shielding Kit
126	22901	1	LR40142 Rubber Shielding
127	22902	5	Rubber Shield Flat For LR40142
128	22903	2	LR40142 Rubber Shielding (Cutout)
129	22905	1	Hose Guard Weldment
130	22908	1	Inner Hose Guard
131	22909	1	LR40142 Rubber Shielding Kit (Front)
132	22910	1	Push Gate Weldment
133	22914	2	Gate Bolt
134	22917	1	Pin Weldment (14-3/4")
135	23038	2	Stand Weldment
136	23130	1	Pivot Sleeve
137	23131	1	End Cap Weldment
138	23136	1	Pressure Flange
139	23323	1	Blade Holder Weldment
140	23335	1	Oil Tank Weldment
141	23340	1	Stand Weldment
142	23345	1	Head Mounting Bracket Weldment
143	22831	1	Wire Cover Base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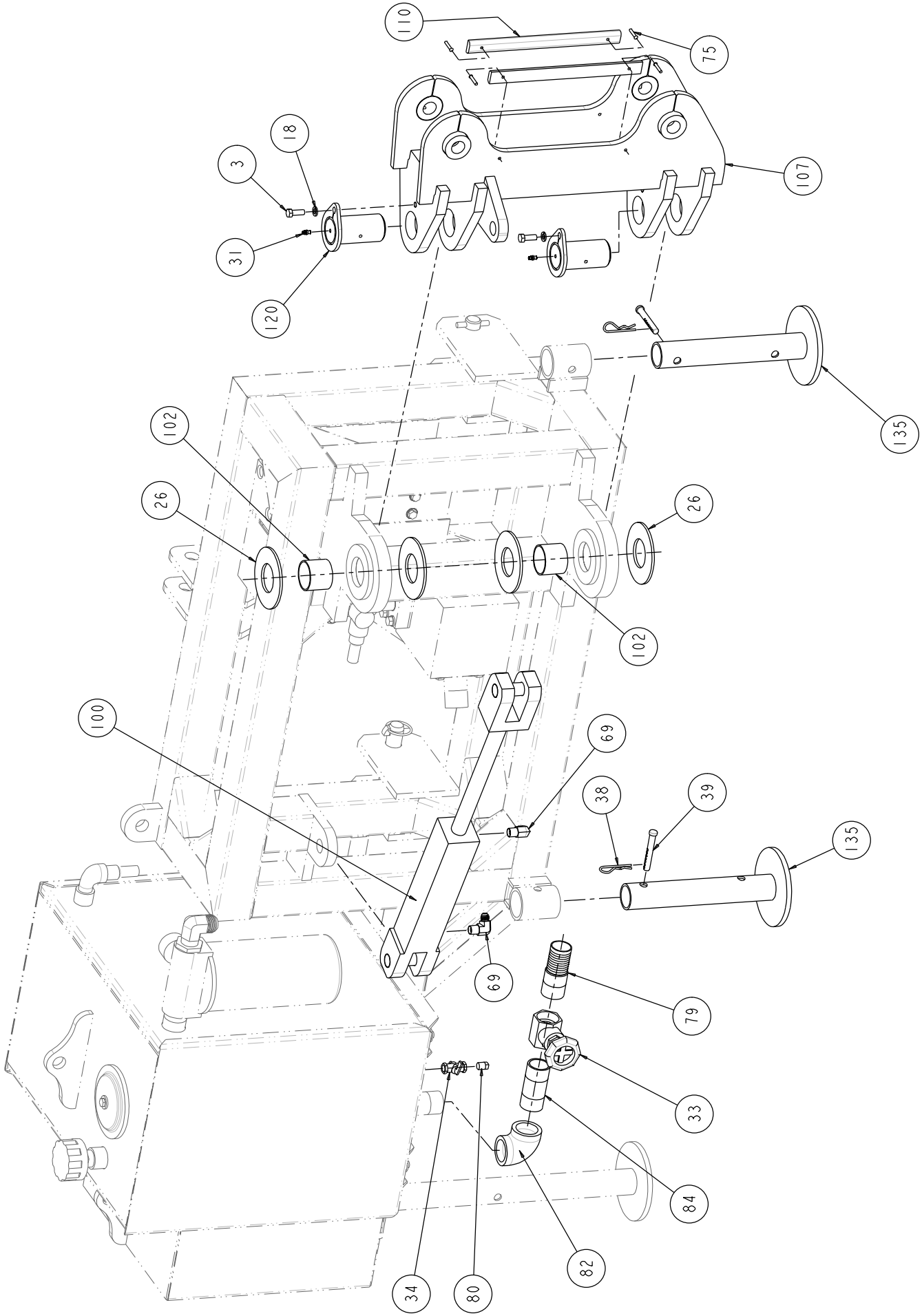
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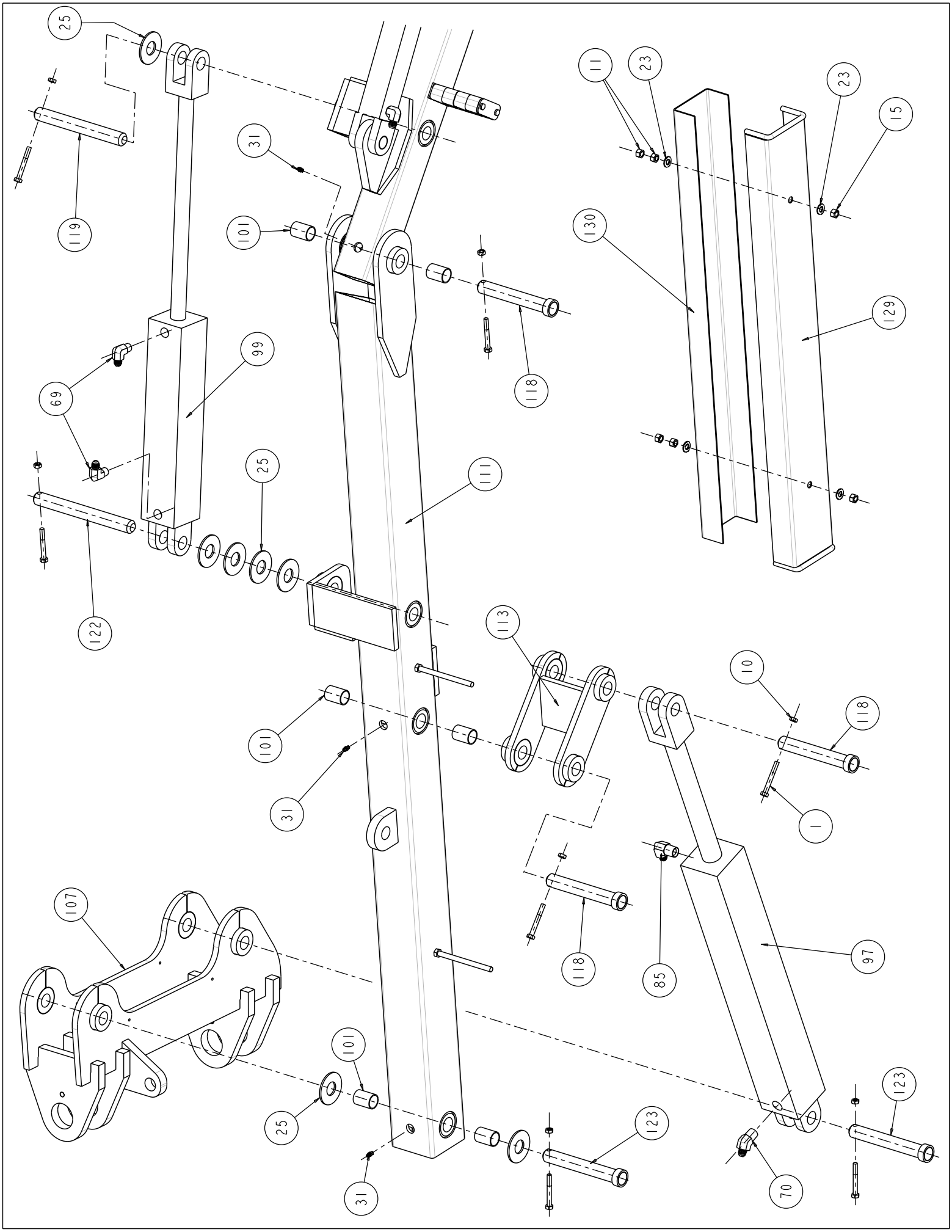
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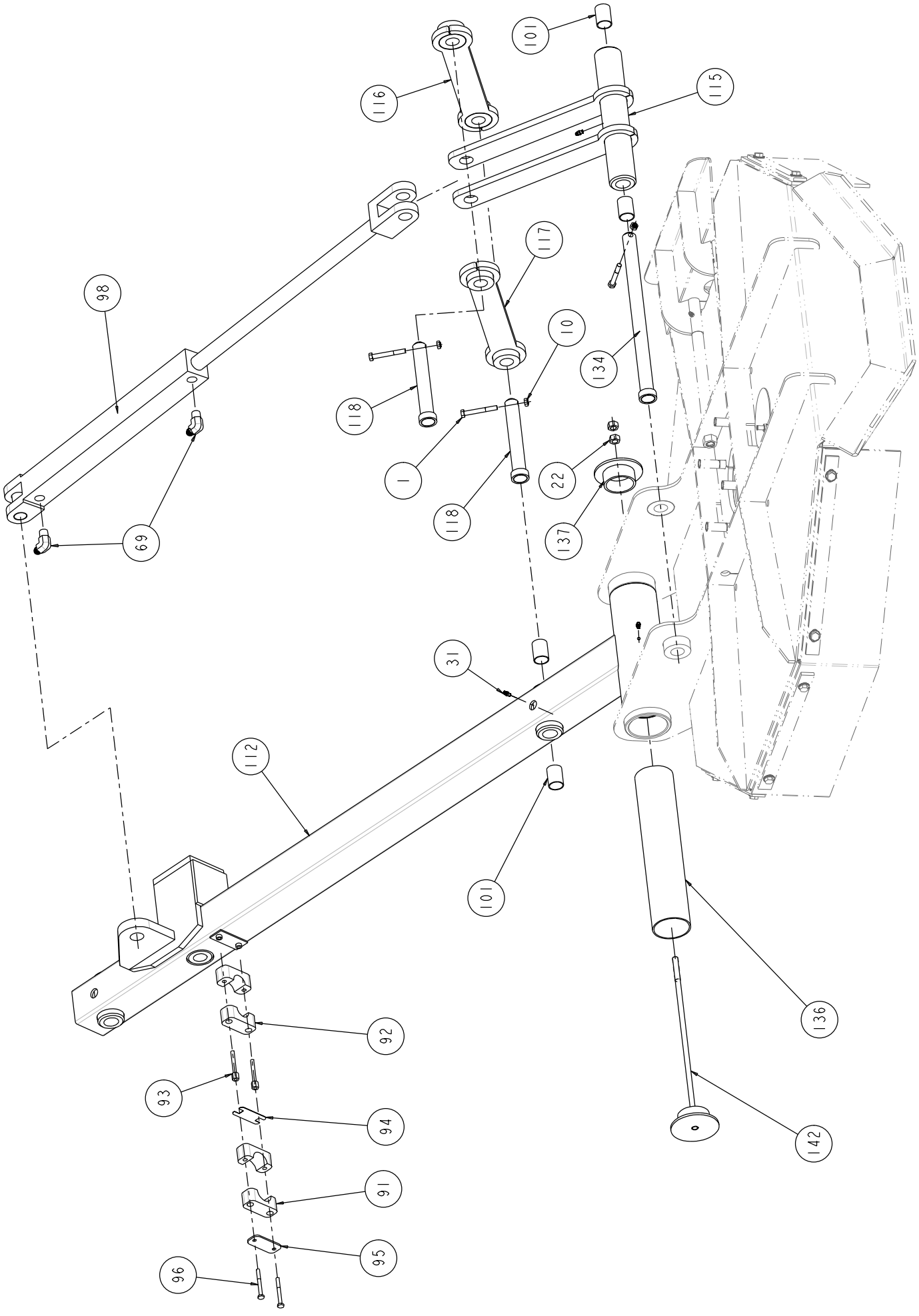
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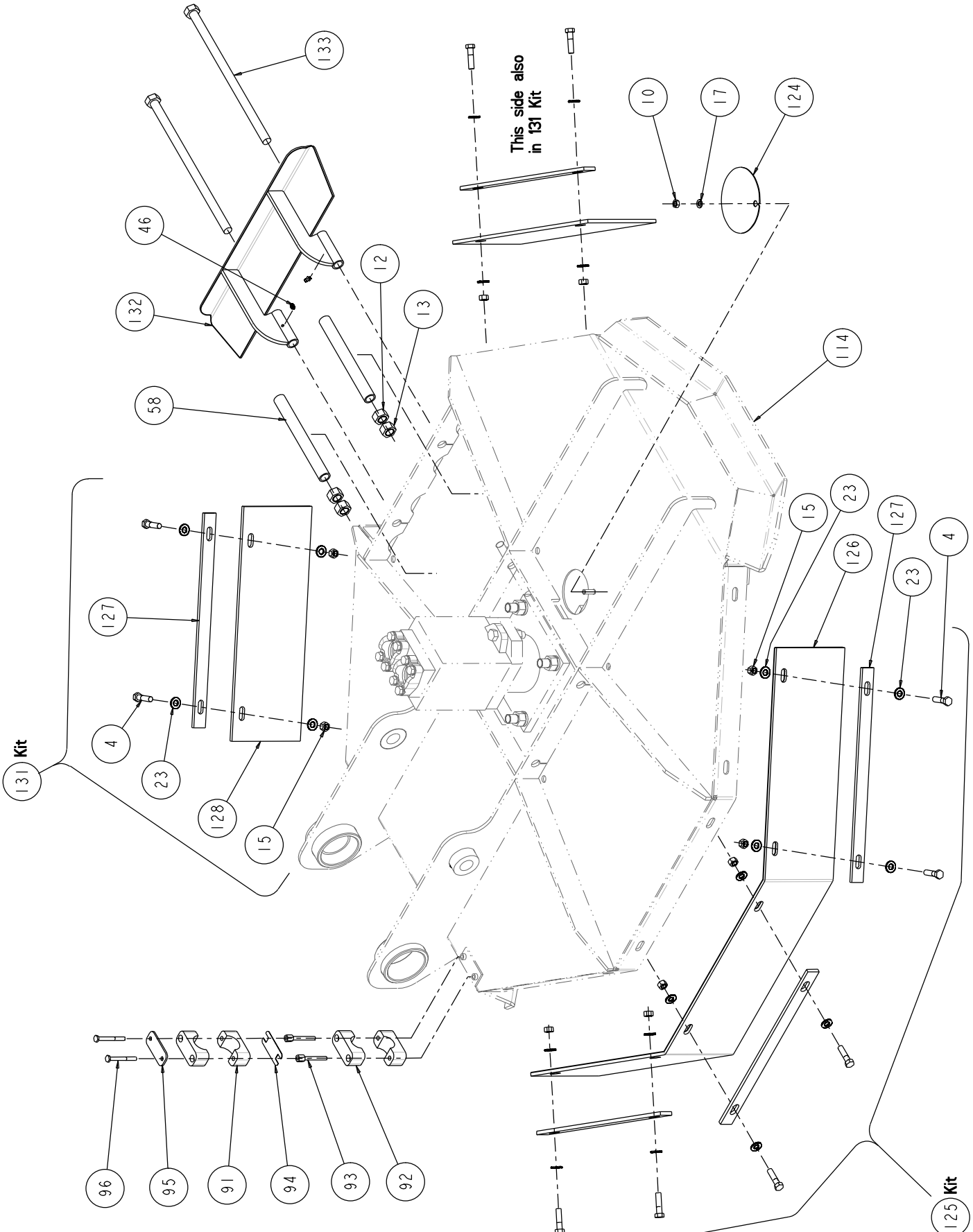
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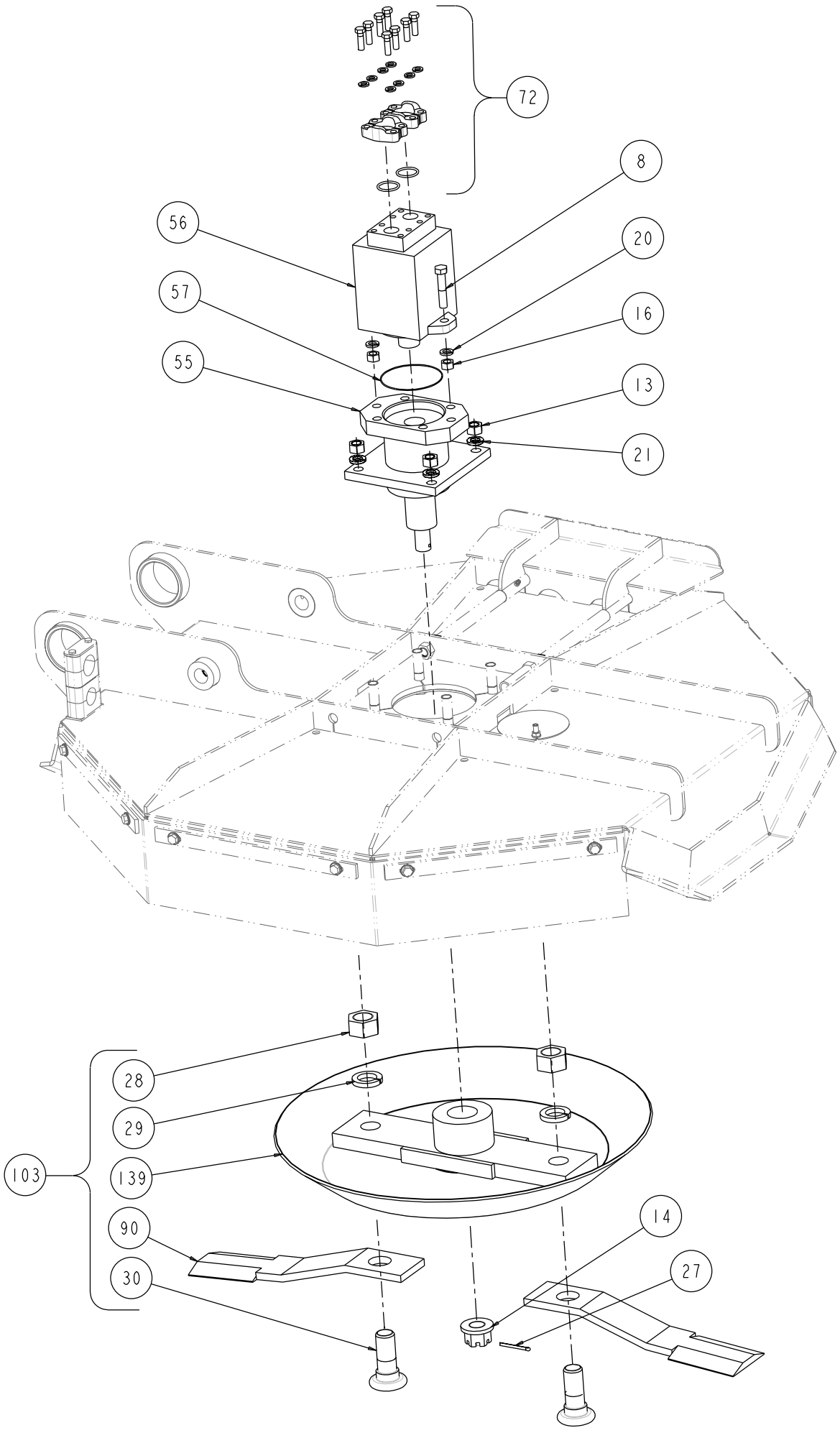
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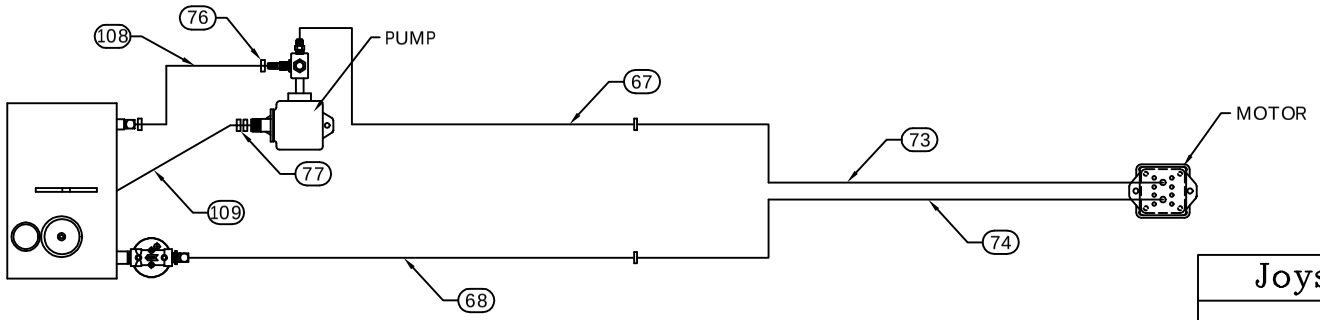
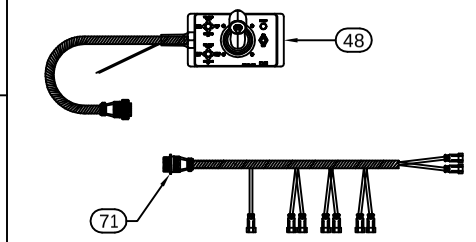
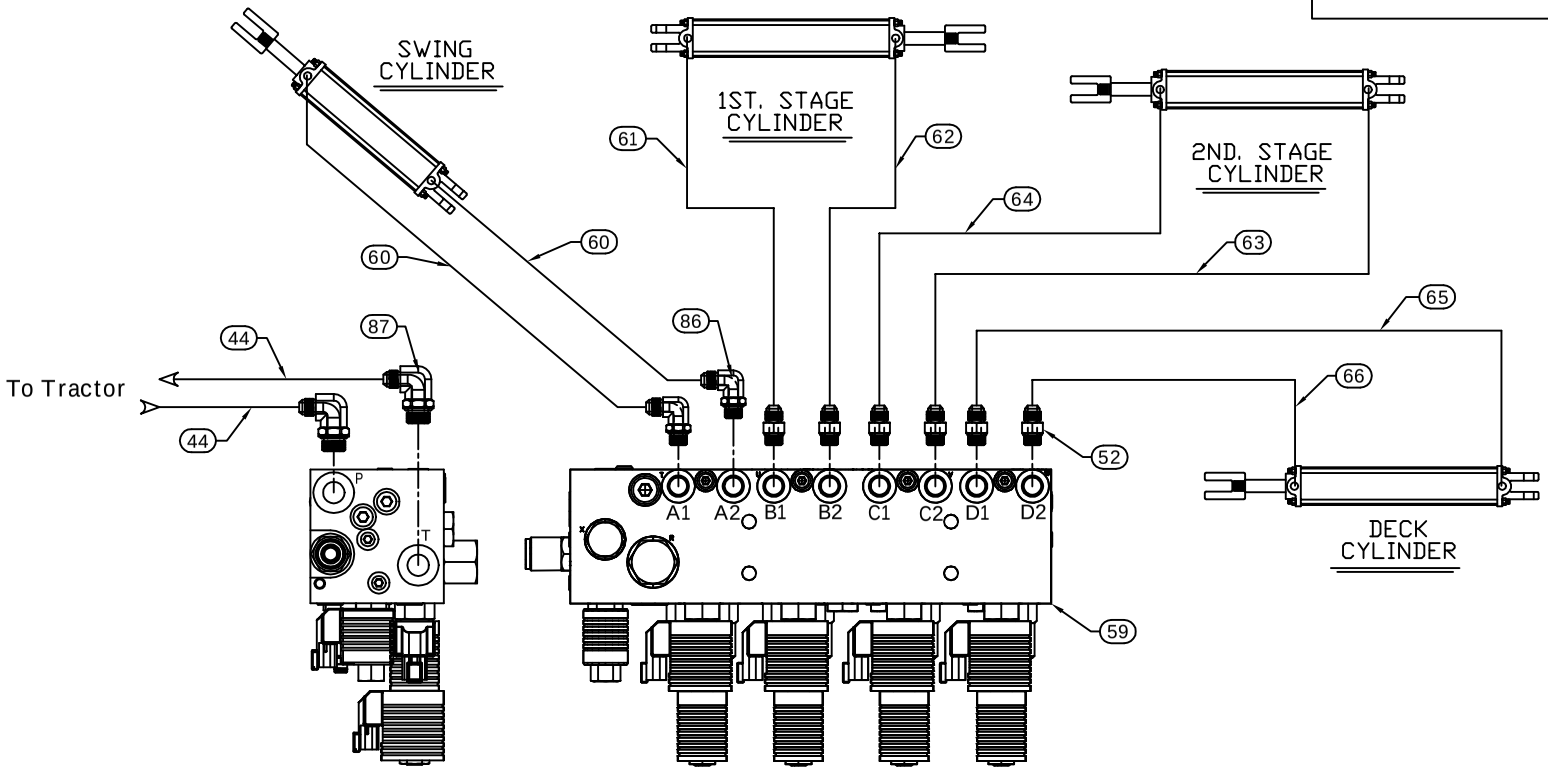
BLADE HYDRAULICS



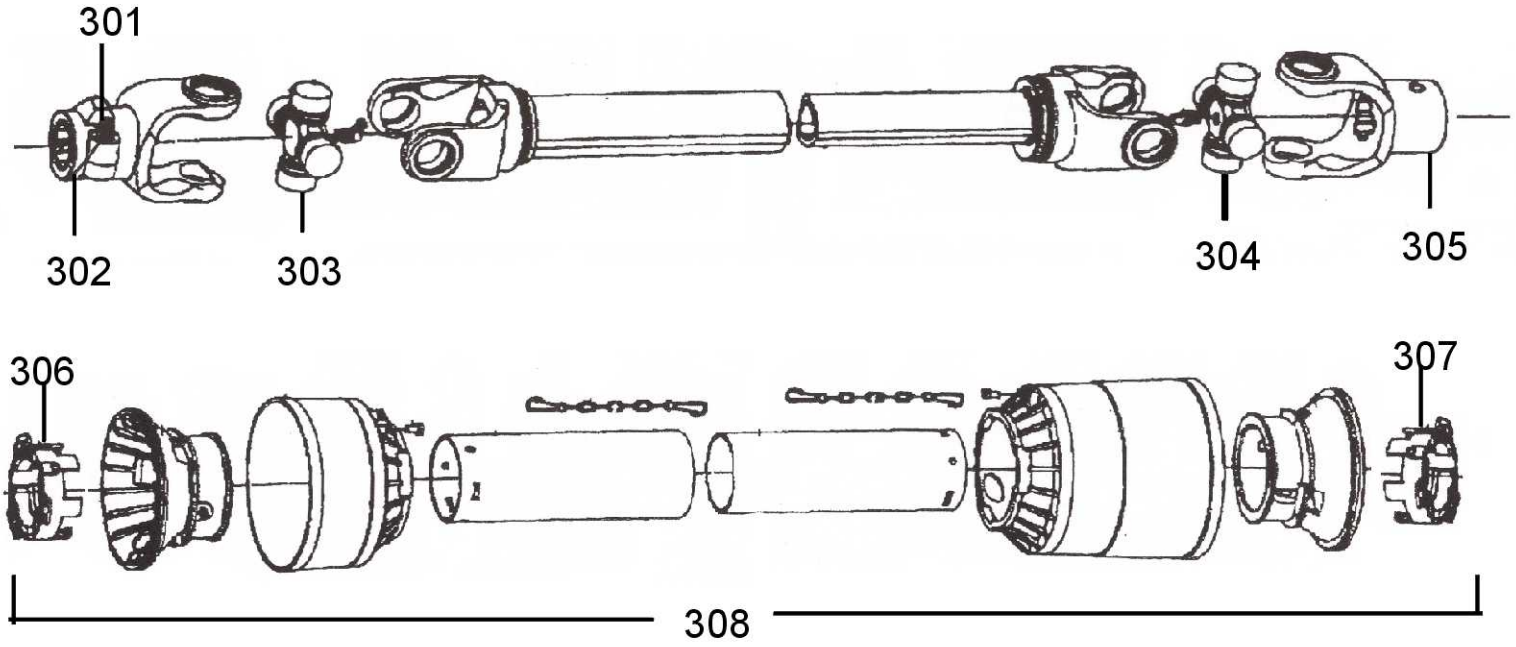
Joystick / Pigtail



CYLINDER HYDRAULICS



10601 Driveshaft



Key #	Part No.	Description	Key #	Part No.	Description
301	15579	Push pin complete	305	11443	Yoke, Imp end
302	11441	Yoke, Tractor end	306	15804	Shield bearing
303	11200	Cross kit	307	15805	Shield bearing
304	11200	Cross kit	308	11448	Shield kit complete

Logo Decals

If the original decals applied to your cutter at the factory become worn or damaged, you can order replacements by referencing the examples below.

You can order new decals from any local Hardee dealer.

To apply the replacement decals:

- Clean the surface to place the new decal.
- Peel the decal away from the paper backing.
- Press firmly onto the clean surface.
- Squeeze out any air pockets using a straight edge.

HARDEE BY EVH MFG CO

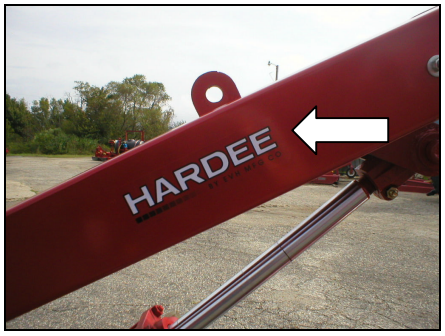
11010 – Logo Decal, 4” x 13 1/2”

LR40142

15846 – Model Number Decal

WWW.EVHMFG.COM

11850 – Web Site Decal



HARDEE BY EVH MFG CO

11032 – Logo Decal, 2 1/4” x 8 1/8”

Bolt Torque

Checking Bolt Torque

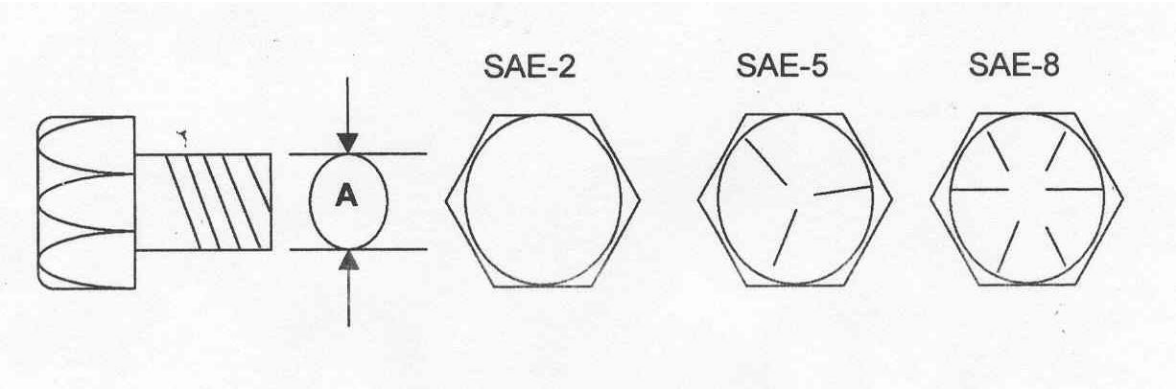
The tables shown below gives correct torque values for various bolts and capscrews. Tighten all bolts to the torque specified in the chart unless otherwise noted. Check tightness of bolts periodically, using bolt torque chart as a guide. Replace hardware with the same strength bolt. Torque figures indicated are valid for non-greased or non-oiled threads and heads unless otherwise specified.

Therefore, do not grease or oil bolts or capscrews unless otherwise specified in this manual. When using locking elements, increase torque values by 5%.

Torque value for bolts and capscrews are identified by their head markings.

Torque Specifications

Diameter "A"	Bolt Torque					
	SAE-2		SAE-5		SAE-8	
	LB-FT	N.m	LB-FT	N.m	LB-FT	N.m
1/4"	6	8	9	12	12	17
5/16"	10	13	19	25	27	36
3/8"	20	27	33	45	45	63
7/16"	30	41	53	72	75	100
1/2"	45	61	80	110	115	155
9/16"	70	95	115	155	165	220
5/8"	95	128	160	215	220	305
3/4"	165	225	290	390	400	540
7/8"	170	230	420	570	650	880
1"	225	345	630	850	970	1320



LIMITED WARRANTY

This is to certify that EVH Manufacturing Company, LLC warrants this new implement to be free of defects in material and workmanship under normal use and service for a period of 12 months from the original date of delivery to the original purchaser. Our obligation under this warranty shall be limited to repair or replacement of any part or parts of this implement which in our judgment shows evidence of such defect and provided further that said part or parts shall be removed and returned by the owner at the owner's expense to EVH Manufacturing Company, Loris, SC, through an authorized dealer, transportation prepaid, free and clear of liens or encumbrances.

This warranty shall not include normal wear items.

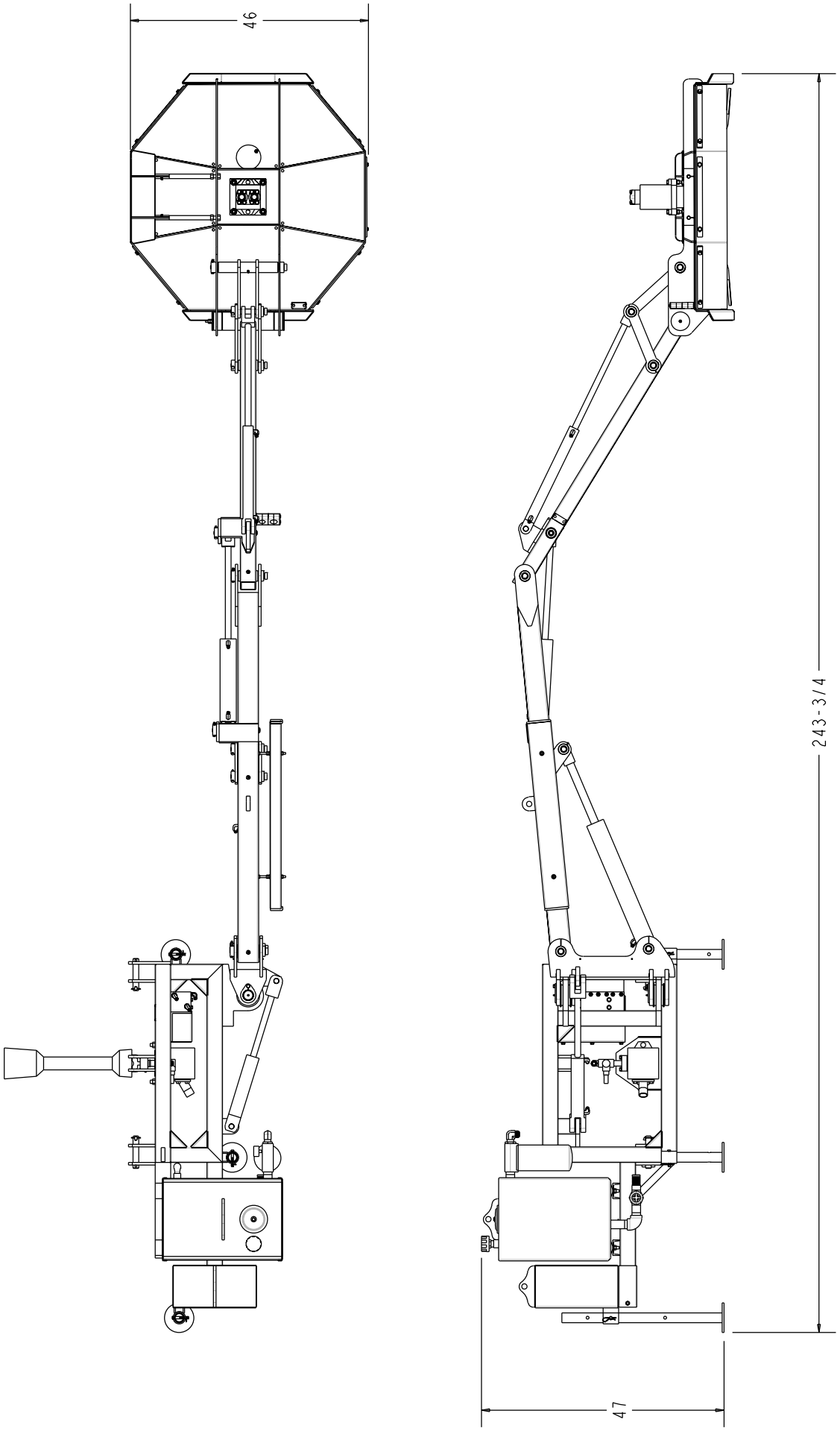
Changes or alterations to the implement made without the written authorization of the manufacturer will render this warranty void.

This warranty does not obligate this company to bear any labor costs in replacement of defective parts.

EVH Manufacturing Company, LLC reserves the right to make changes or improvements in its equipment at any time, with the express understanding that such changes or improvements do not impose any obligation of the company to install such changes or improvements on implements previously manufactured.

This warranty is void unless registration card is returned to us within thirty (30) days of purchase date.

EVH Manufacturing Company, LLC
4895 Red Bluff Road
Loris, SC 29569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HARDEE

BY EVH MFG CO

EVH MANUFACTURING COMPANY, LLC
4895 RED BLUFF ROAD LORIS, SC 29569
PHONE: 843-756-2555
WWW.EVHMFG.COM EVHMFG@EVHMFG.COM