

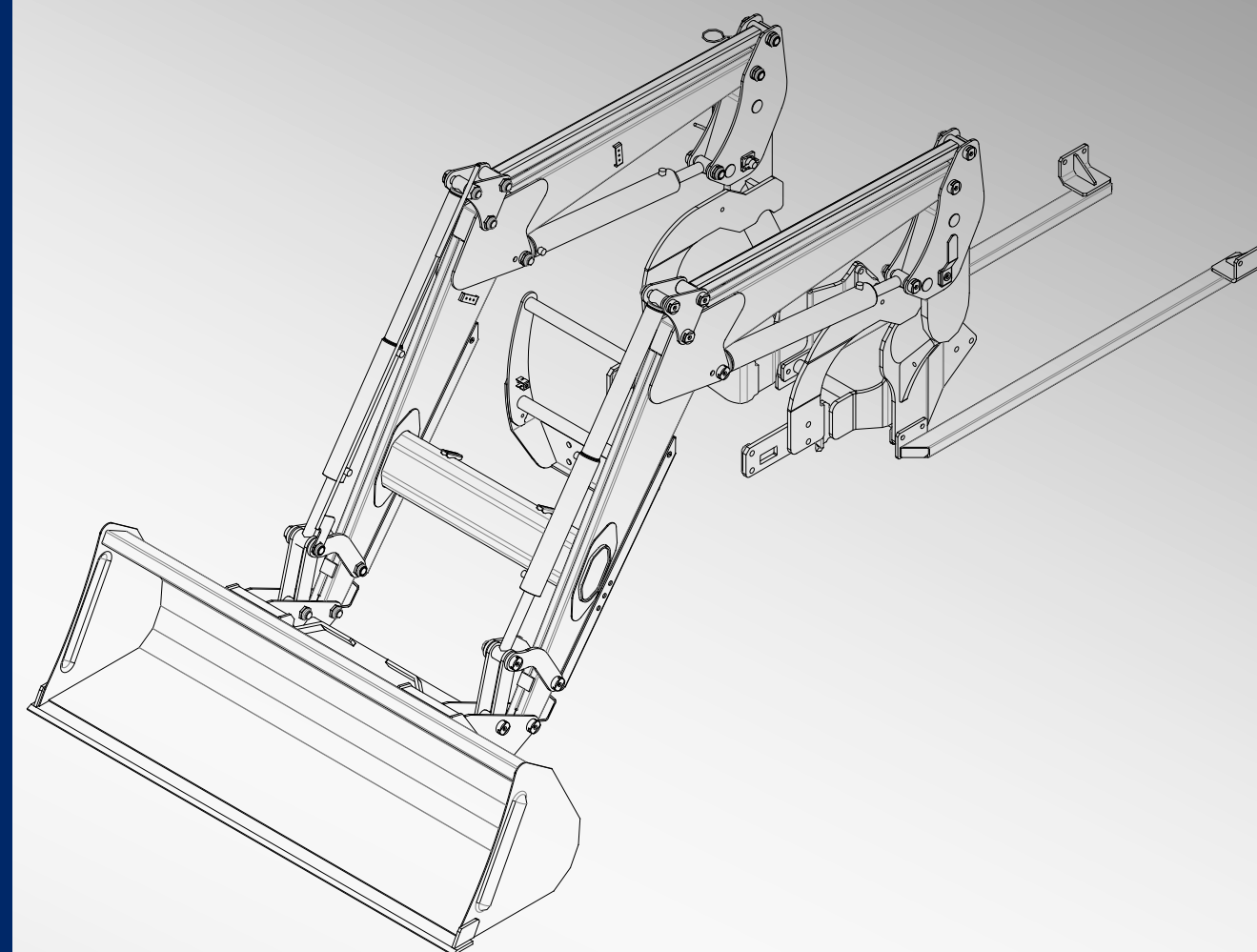
INNOVATIVE  
TECHNOLOGY  
PARTNER

# LS LOADER OPERATOR MANUAL

LL8100

SELF LEVELING TYPE

TRACTOR Model  
• XP8000 Series



**LS** Tractor

LS LOADER

OPERATOR MANUAL

LL8100

[www.lstractor.com](http://www.lstractor.com)

LS TRACTOR

**LS** Tractor

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P/NO FT639-MEN00

# **WARRANTY CONDITIONS**

## **Warranty Coverage :**

LS Mtron Tractor Division, herein referred to as LS Mtron, undertakes to replace or repair any part of a LS loader where damage has been proven to be caused by defects in material or workmanship.

This Warranty is valid for a period of 1 year from the date of the original retail sale. Parts replaced or repaired under the terms of this Warranty are guaranteed only until the original warranty expires. Warranty only applies to the original purchaser.

It is further understood and agreed that the defect should be immediately reported to the Selling Dealer. The Selling Dealer will generally perform Warranty repairs or replacements and the Purchaser shall deliver the LS Mtron Loader to the Dealer's place of business or repair.

The obligation of LS Mtron to the Purchaser under this Warranty is limited to the repair or replacement of defective parts by an authorized LS Mtron dealer. Repair or replacement in accordance with this Warranty shall constitute fulfillment of all liabilities of LS Mtron and the Selling Dealer in respect to LS Mtron Loaders.

There are no warranties beyond those which expressly appear herein. Any implied warranty of merchantability or fitness for a particular purpose is specifically exclude here from.

## **Warranty Provisions :**

LS Mtron's liability under this warranty is subject to the observance by the Purchaser of the following provisions:

- ▶ The purchaser shall at all times in the operation of any LS Mtron Product, use those brands and grades of lubricating oils, lubricants or fuel and spare parts officially approved by LS Mtron.
- ▶ The LS Mtron Loaders shall have been used in accordance with the procedures specified in the Operator's Manual. This Warranty does not extend to damage resulting from misapplication, abuse, misuse, failure to preform maintenance, negligence, fire, accidents or changes or faulty mounting carried out by the Purchaser. When making a Warranty exchange of parts, the Purchaser shall compensate LS Mtron for the time that the parts have been used if they have been exposed to extreme wear.
- ▶ Compensation is not paid for physical harm, deadlock, resulting damages or other losses.
- ▶ To obtain warranty service, the Purchaser must (1) report the product defect to an authorized LS Mtron dealer and request repair within the applicable warranty term and (2) present evidence of purchase.
- ▶ The Warranty shall be void if the LS Mtron Loader has been altered or repaired outside of a LS Mtron dealership or travel of dealer personnel to customer location for Warranty repair. The customer shall also pay any premium for overtime labor requested by the customer.
- ▶ Temporary repairs or additional costs due to the work being performed after normal working hours will not be compensated.
- ▶ The above warranty is in lieu of all other warranties on LS Mtron's behalf and neither party assumes any other liability in connection with LS Mtron's Products.

## **Right To Make Design and Product Changes :**

LS Mtron reserves the right to make changes in the design and other changes in its LS Mtron Products at any time without incurring any obligation with respect to any product previously ordered, sold or shipped.

## **PLEASE NOTE :**

Make sure all potential operators of the this equipment review this manual and all safety messages contained within



This safety symbol indicates important safety messages in this manual. When you see this symbol, carefully read the message that follows and be alert to the possibility of personal injury or death.

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# **SAFETY PRECAUTIONS**

Most tractor and/or loader equipment accidents can be avoided by following simple safety precautions. The safety information given in this manual does not replace safety codes, insurance requirements, federal, state, and local laws. Make sure your machine has the correct equipment required by your local laws and regulations. Understand that your safety and the safety of other persons are measured by how you service and operate this loader.

Know the position and operations of all controls before you try to operate. Make sure you check all controls in a safe area before starting.

Read this manual completely and thoroughly and make sure you understand all controls. All equipment has a limit. Make sure you are aware of the stability and load characteristics of this loader before you begin operation.



This safety alert symbol indicates important safety messages in this manual. When you see this symbol, carefully read the message that follows and be alert to the possibility of personal injury or death.



## **SAFETY PRECAUTIONS**



### **READ MANUALS AND DECALS**

- ▶ Read and understand both the tractor and the loader Operator Manuals and all decals before using the loader.
- ▶ Lack of knowledge can lead to accidents.
- ▶ It is the loader owner's responsibility to make sure anyone operating the loader reads and understands this manual first before operating the machine.
- ▶ Follow all safety, operating, and service instructions.
- ▶ Replace damaged or illegible safety labels. See following pages for required labels.

### **ROPS AND SEAT BELT**

- ▶ Equip your tractor with an approved rollover-protective structure (ROPS) or ROPS Cab and seat belt for your protection.
- ▶ ROPS (Roll-Over Protective Structures) and seat belt equipped tractors are recommended for operator use in all loader operations.
- ▶ Operator should wear safety hard hat, safety glasses, safety shoes, and other PPE. Avoid wearing loose clothing or jewelry that may catch in moving parts.
- ▶ Use seat belt as specified by tractor/ROPS manufacturer.

### **YOURSELF**

- ▶ Do not stand, walk, or work under a raised loader bucket or attachment unless it is securely blocked and held in position.
- ▶ Operate controls only when properly seated in the operator's seat.
- ▶ Only one person, the operator, should be on the machine when it is in operation.
- ▶ Accidental movement of valve handle/handles or leak in the hydraulic system could cause the loader to drop, or attachment to dump, causing severe injury.

### **OTHERS**

- ▶ Do not allow anyone in loader work area, under raised loader, or to reach through the loader boom when the bucket or attachment is raised.
- ▶ A frequent cause of personal injury or death is persons falling off and being run over. Inadvertent movement of the loader or attachment could result in serious injury or death.
- ▶ Do not permit others to ride on your tractor, loader, bucket, or any attachment.
- ▶ Do not lift or carry anyone on buckets, forks, probes, or any other portion of the loader or loader attachments.
- ▶ Do not allow children or unqualified persons to operate equipment.

# **SAFETY PRECAUTIONS**



## **SAFETY PRECAUTIONS**



### **PREPERATION**

- ▶ Move the wheels to the tractor manufacturer's widest recommended settings to increase stability.
- ▶ For better stability, always use a tractor equipped with a wide front axle, never use a tractor equipped with a tricycle type front axle.
- ▶ Add rear ballast or rear weight to the tractor to compensate for the load and increase stability.
- ▶ Add recommended rear tire liquid weight or rear wheel weights for increased stability.
- ▶ Do not modify, alter, or permit anyone else to modify or alter the loader, any of its components, or any loader function without first consulting a LS Mtron dealer.
- ▶ Assemble, remove, and reinstall the loader only as directed in this manual. Failure to do this could result in serious personal injury or death.
- ▶ The loader may shift during shipping and handling, making it unstable on the pallet. Support loader with an overhead hoist or other suitable means prior to removing bands or attaching straps securing loader to pallet. Failure to do so could result in accidental tip-over of the loader that could cause serious injury to you and/or bystanders.

### **BEFORE OPERATION**

- ▶ Before starting the engine of your tractor, make sure all operating controls are in park lock or neutral position.
- ▶ Be certain lights and safety markings, as provided by the tractor manufacturer, are clean and operating when transporting the tractor/loader on public roads. Be certain that the Slow Moving Vehicle (SMV) emblem is visible. Check with local law enforcement for specific requirements.

### **OPERATION**

- ▶ Add wheel ballast and/or rear weight to counterbalance tractor/loader for stability at maximum loader capacity.
- ▶ Additional counterweight requirements will vary with loader attachments and equipment application.
- ▶ Move and turn the tractor at low speeds.
- ▶ Carry loader boom at a low position during normal operation.
- ▶ Never travel at high speeds with bucket loaded.
- ▶ Use caution when operating the loader with a raised bucket or attachment.
- ▶ Avoid driving over loose fill, rocks, holes, or anything that may be dangerous for loader operation or movement.
- ▶ Allow for the loader length when making turns.
- ▶ Use caution when handling loose or unstable loads.
- ▶ Gradually stop the loader boom when lowering or lifting loads.
- ▶ When using remote hydraulic tractor valves on some tractors, the loader lift and dump cylinders will continue moving unless the valve handle/handles are manually returned to neutral, or until relief pressure is reached at the ends of piston strokes. Observe the bucket movement and maintain control with valve handle/handles.
- ▶ Travel speed should be such that complete control and machine stability is maintained at all times. Where possible, avoid operating near ditches, embankments, and holes. Reduce speed when turning, crossing slopes, and on rough, slick or muddy surfaces.
- ▶ A loader attachment should be transported in a low position at slow ground speeds. Make turns slowly and use the tractor brakes cautiously. A loaded attachment in the raised position alters the center of gravity location of the machine and increases the possibility of mishaps.
- ▶ Be careful during loading, transporting, and stacking to minimize rolling bales and tractor tip over.
- ▶ Do not use buckets, forks, or other attachments without bale retaining devices.
- ▶ Operate the tractor and loader such that complete control and machine stability is maintained at all times.
- ▶ When using a loader, be alert of bucket or attachment position at all times. Loader in raised position with bucket or attachment rolled back can dump material onto tractor causing damage or injury to tractor and/or operator.

# **SAFETY PRECAUTIONS**



## **SAFETY PRECAUTIONS**



### **LARGE HEAVY OBJECTS**

- ▶ Never use loader for handling large heavy objects, such as large round or rectangular bales, logs, and oil drums unless loader is equipped with attachment that is designed to handle such objects.
- ▶ Handling large heavy objects can be extremely dangerous due to danger of rolling the tractor over.
- ▶ Handling large heavy objects can be extremely dangerous due to danger of upending the tractor.
- ▶ Handling large heavy objects can be extremely dangerous due to danger of the object rolling or sliding down the loader boom onto the operator.
- ▶ If you must handle large heavy objects, protect yourself by using caution, moving slowly, and avoiding bumps and rough ground.
- ▶ If you must handle large heavy objects, protect yourself by never lifting load higher than necessary to clear the ground.
- ▶ If you must handle large heavy objects, protect yourself by adding rear ballast to the tractor to compensate for weight of load.
- ▶ If you must handle large heavy objects, protect yourself by never lifting large heavy objects that may roll or fall on the operator.
- ▶ Never lift any load from any point of the loader with a chain, rope or cable unless loader is equipped with a Factory approved attachment that was designed and built for this type of lifting. Always follow lifting instructions included with these attachments.
- ▶ Use only Factory bale probe or bale retaining device handler attachment when handling round bales.
- ▶ Do not handle large square bales without a retaining device handler attachment.
- ▶ Do not use buckets, forks, or other attachments without bale retaining devices.
- ▶ Do not use loader for handling large, heavy objects such as logs, tanks, etc.

### **SLOPES**

- ▶ Stay off of slopes too steep for safe operation.
- ▶ Shift down before you start up or down a hill with a heavy load. Avoid "free wheeling".
- ▶ Use extreme caution when operating on a slope.
- ▶ Always operate up and down the slope, never across the slope.

### **ELECTRICAL**

- ▶ Avoid contact with overhead wires, power lines, and obstacles when loader bucket or attachment is raised.
- ▶ Electrocutation from power lines can occur with or without contact.
- ▶ Check for underground utilities before digging below grade level.
- ▶ Contact with overhead power lines can cause severe electrical burns or death from electrocution. Make sure there is enough clearance between raised equipment and overhead power lines.

### **HYDRAULIC**

- ▶ Do not tamper with the relief valve setting. This will void warranty and could cause damage to loader and/or tractor.
- ▶ Pouring hydraulic fluid under pressure can have sufficient force to penetrate the skin, causing serious personal injury. Do not use HANDS to search for suspected leaks. If injured by escaping fluid, obtain medical treatment immediately.
- ▶ Visually check for hydraulic leaks and broken, missing or malfunctioning parts. Never use your hand to check for suspected leaks under pressure. Use a piece of cardboard or wood for this purpose. Escaping hydraulic fluid or diesel fuel leaking under pressure can have sufficient force to penetrate the skin and cause serious infection or other personal injury. If injured by leaking fluid, seek medical attention immediately.
- ▶ To prevent personal injury, relieve all pressure before disconnecting fluid lines.
- ▶ Before applying hydraulic pressure, make sure all hydraulic connections are tight and components are in good condition.
- ▶ Be sure to purge all the air from the hydraulic system before attempting to raise or lower this machine.

# **SAFETY PRECAUTIONS**



## **SAFETY PRECAUTIONS**



- ▶ When using remote hydraulic tractor valves on some tractors, the loader lift and dump cylinders will continue moving unless the valve handle/handles are manually returned to neutral, or until relief pressure is reached at the ends of piston strokes. Observe the bucket or attachment movement and maintain control with valve handle/handles.
- ▶ Raised loader or boom can fall due to hydraulic system failure.
- ▶ To avoid serious injury or death: Block up or securely support loader and boom before working underneath.
- ▶ To avoid serious injury or death: Purge all air from hydraulic system before attempting to raise or lower loader or boom.
- ▶ To avoid serious injury or death: Stand clear if lowering or raising loader or boom.
- ▶ Do not use hand or skin to check for hydraulic leaks. Use cardboard or wood. Wear eye protection.
- ▶ High pressure oil leaks can penetrate skin causing serious injury and gangrene. Consult a physician immediately.
- ▶ Lower the loader or boom and release hydraulic pressure before loosening fittings.

### **AFTER OPERATION**

- ▶ Before leaving the tractor seat, lower attachment or loader boom to ground, stop engine, lock parking brakes, put all controls in neutral, relieve hydraulic pressure, and remove key before leaving operator's seat.
- ▶ Before disconnecting hydraulic lines, relieve all hydraulic pressure.
- ▶ Make sure all parked loaders on stands are on a hard level surface with all safety devices engaged to prevent loader from falling and being damaged or injuring someone.
- ▶ Always park loader with bucket attached to loader.
- ▶ When a front loader is mounted on the tractor, enter and exit the operator's seat only from left side of the tractor.
- ▶ Always park loader with a Factory attachment attached to the loader.
- ▶ Special care should be taken to park or store attachments with points or sharp edges in a safe manner.
- ▶ Make sure all parked loaders are on a hard level surface. Engage all safety devices to prevent loader from falling and being damaged or injuring someone. Do not repair loader if it is not mounted on the tractor. Loss of hydraulic fluid or removal of parts could cause loader to collapse resulting in injury.

### **REPAIR**

- ▶ Visually check for hydraulic leaks and broken, missing, or malfunctioning parts. Make necessary repairs before operation.
- ▶ To keep mounting kit hardware from loosening during loader operation, hardware must be torqued to specifications notes in operator manual.
- ▶ Always wear safety goggles when servicing or repairing the machine.
- ▶ When servicing or replacing pins in cylinder ends, bucket, etc, always use a brass drift and hammer. Failure to do so could result in injury from flying metal fragments.
- ▶ Never tow from any point of the loader with a chain, rope, or cable. Doing so could cause a roll over or serious damage to the loader.



# **SAFETY DECALS**

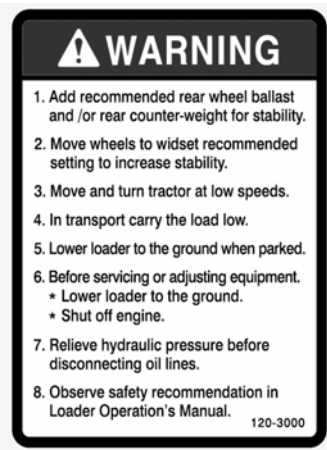
## Safety Decal Locations

### Important:

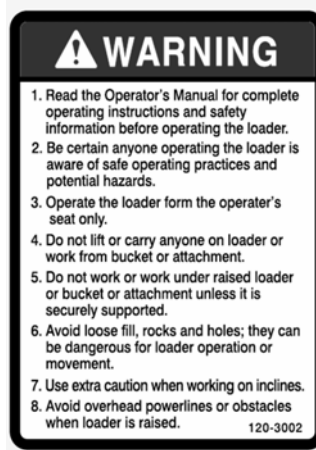
Warning decal 3102E-00028, located on the left hand Mid-mount and Warning Decal 3102E-00029, 3102E-00030 located on the loader right hand Mid-Mount are visible when getting on tractor.

### Care of Safety Decals.

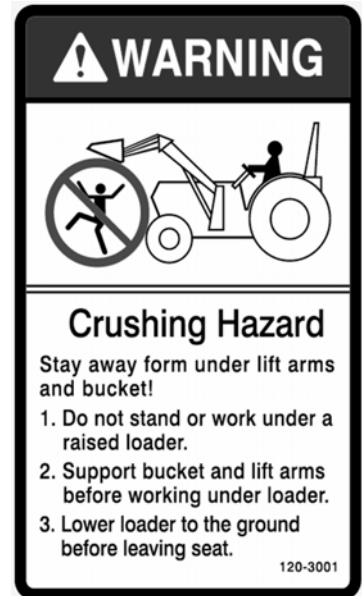
- ▶ Keep safety decals clean and free of obstructing material.
- ▶ Clean safety decals with soap and water and dry with a soft cloth.
- ▶ If a component with a safety decal(s) affixed is replaced with a new part, make sure new safety decal(s) are attached in the same location(s) as the replaced components.
- ▶ Mount new safety decals by applying on a clean dry surface and pressing air bubbles to outside edges.



Warning 3102E-00028



Warning 3102E-00030



Warning 3102E-00029



3102E-01008



3104E-00010

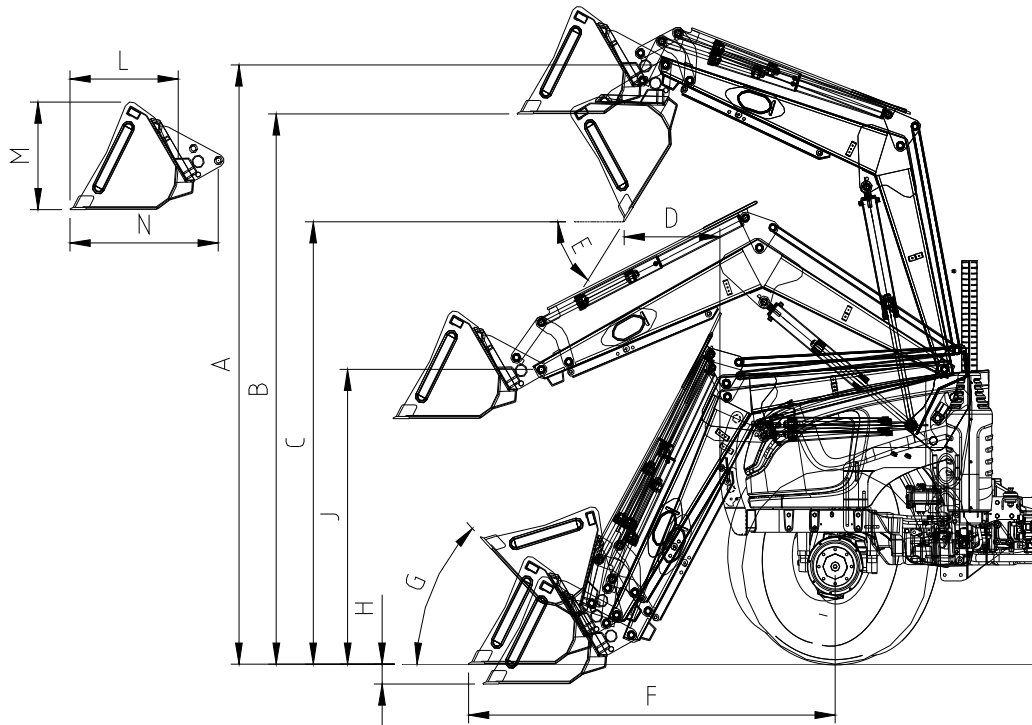


3101E-00465



3101E-00466

# LOADER SPECIFICATION



- \* Specifications shown are based on ASAE Standards.
- \* Specifications and design are subject to change without prior notice.

Loader Model : Taesung LL8100  
 Tractor Model : LS MTRON XP8000 Series  
 Bucket Leveling : Self level type

Loader Ratio		0.99 : 1	
A.	Maximum lift height to pivot pin	3,556 mm	140.0 "
B.	Maximum lift height under level bucket	3,265 mm	128.5 "
C.	Clearance with bucket dumped	2,626 mm	103.4 "
D.	Reach at maximum lift height	594 mm	23.4 "
E.	Maximum dump angle	57 °	57 °
F.	Reach with bucket on ground	2,262 mm	89.1 "
G.	Maximum rollback angle	46 °	46 °
H.	Digging depth	115 mm	4.5 "
J.	Overall height in carry position	1,750 mm	68.9 "
L.	Bucket depth	656 mm	25.8 "
M.	Bucket height	638 mm	25.1 "
N.	Bucket length	919 mm	36.2 "
Loader Total Weight		960 kg	2,112 lb
Weight of Boom Assembly		670 kgf	1,474 lb
Weight of Mounting Frame		290 kgf	638 lb
Approx. Weight(Loader w/o Bucket)		760 kg	1,676 lb
1.	Rated operating load	- kg	- lb
2.	Lift capacity to maximum height—at pivot pin	2,336 kg	5,139 lb
3.	Breakout force—at pivot pin	2,415 kgf	5,313 lb
4.	Bucket rollback force at ground line	2,185 kgf	4,807 lb
5.	Bucket width	2,108 mm	83.0 "
6.	Bucket capacity	0.71 m <sup>3</sup>	25.1 cu.ft
7.	Boom cylinder	Ø40xØ80x525ST mm	1.6x3.1x20.7ST "
8.	Bucket cylinder	Ø40xØ70x415ST mm	1.6x2.8x16.3ST "
9.	Boom raising time	5.2 sec	5.2 sec
10.	Boom lowering time	3.9 sec	3.9 sec
11.	Bucket rollback time	2.1 sec	2.1 sec
12.	Bucket dumping time	3.1 sec	3.1 sec
13.	Maximum pressure (Governing loader operation)	180 bar	2610.0 psi
14.	Rated flow	61 l/min.	16.1 gpm

\* The above specifications are applied to standard front tire 12.4-24, standard rear tire 16.9-34

# **INTRODUCTION**

The purpose of this manual is to assist you in maintaining and operating your loader. Read it carefully, it furnishes information and instructions that will help you achieve years of dependable performance. Some information may be general in nature due to unknown and varying conditions. However, through experience and these instructions, you should be able to develop operating procedures suitable to your particular situation.

"Right" and "Left" as used throughout this manual are determined by facing the direction the machine will travel when in use.

The photos, illustrations and data used in this manual are current at the time of printing, but due to possible in-line production changes, your machine may vary slightly in detail. The manufacturer reserves the right to redesign the machine as may be necessary without notification.

## **► Important:**

Illustrations used in this manual may not show all safety equipment that is recommended to ensure safe operation of tractor and loader. Refer to the Safety Precautions section of this manual for information concerning safety. consult your dealer for further information.

## **► Warranty Registration**

The Delivery and Warranty Registration forms must be filled out and signed to validate your warranty protection. The items on the form under "I hereby Acknowledge" should be read and understood. The terms and conditions of the warranty on this machine are specified in the front of this manual.

## **► Serial Number and Location**

The serial number is important information about the machine and it may be necessary to know it before obtaining the correct replacement part. The serial number plate is located on the LH(left hand) inside of front area of boom. The serial number should be recorded on the Delivery and Registration form and also below for your reference.

### **LS Mtron LL8100 Loader Serial Number Information**

LOADER SERIAL NUMBER \_\_\_\_\_

DATE PURCHASED \_\_\_\_\_

DEALER NAME \_\_\_\_\_

AND TELEPHONE NUMBER \_\_\_\_\_

# **TRACTOR PREPARATION**

## Rear Counterweight



### **CAUTION:**

Add recommended rear tire liquid weight, rear wheel or rear ballast for increased stability.



### **CAUTION:**

Do not exceed the manufacturer's rating for maximum gross vehicle weight. Refer to Operator's Manual or ROPS serial plate provided with tractor.

The use of adequate counterweight to counter balance for maximum loader capacity is required for safe loader operation.

Weight added to rear of the tractor provides better traction and easier, more efficient loader operation. The tractor can be counter weighted by filling rear tires with liquid calcium solution and/or by the installation of rear wheel weights.

Additional counterweight requirements will vary with loader attachments and equipment applications. Additional weight can be added by installation of Three Point Hitch mounted ballast.



### **CAUTION:**

The tractor/loader must only be operated with all safety equipment properly installed.

## ▶ **TRACTOR TIRES**

Selection of tires(size, profile, tread type) should be restricted to tire recommendations as specified by *LS Mtron*

### ▶ **Tire Inflation**

Front tires must be maintained at the maximum recommended inflation to maintain normal tire profile with the added weight of loader/material.

Rear tires must be maintained at equal pressure within the recommended tire inflation range. Unequal rear tire inflation can prevent loader attachment from contacting the ground across its full width.



### **CAUTION:**

Certain specific conditions may not permit safe use of loader at loader rating or may require more careful restricted operation at the rated load.

Refer to Tractor Operator's Manual for specific recommendations on counterweight tractor.

### ▶ **ROPS System**

The tractor must be equipped with an approved ROPS System to ensure adequate operator's protection.

### ▶ **Tractor Hydraulic System**

Tractor operation in a loader application significantly increase demands on the tractor Hydraulic System. Check the tractor Hydraulic system fluid level daily. Refer to your tractor Operator's Manual maintenance section for instructions regarding tractor hydraulic system maintenance.

Adhere to recommendation in your Tractor Operator's Manual concerning hydraulic fluid and filter specifications, and change intervals.

### ▶ **Wheel Tread Settings**

Tractor front wheel tread setting must be restricted to wheel tread spacing recommended in the tractor Operator's Manual.

### ▶ **Front Counterweight**

Use of front counterweight is not recommended when tractor is being used in a loader application. Front counterweight adds unnecessary front axle load in loader applications.

# **LOADER OPERATION**



## **CAUTION:**

The tractor/loader should only be operated with all safety equipment properly installed.

### **► Precautionary Notes**

Do not lower the edge of the bucket too low for loading. Keep the bottom of the bucket level with the ground when loading.

**► Important:** Do not use the bucket for pushing down material with bucket cylinders partially extended. Damage to the cylinders may result.

**► Important:** Do not operate bucket cylinders without bucket, it may damage to the bucket cylinders.

**► Important:** Do not tip bucket cutting edge down (fully extended bucket cylinders) during backfilling/backgrading operations.

**► Important:** Operation with front tractor wheels off the ground is not recommended.

Position vehicle to be loaded as near the pile as possible and in such a direction as to minimize the amount of tractor turning required to dump.

Do not lower the loader with the tractor engine shut off.

Keep the unit clean and perform regular service. Observe safety messages whenever cleaning, servicing, or lubricating.

We urge you to follow this advice:

1. Read and understand this manual as well as the Tractor Operator's Manual.
2. Remember and observe the Safety Precautions brought to your attention in this manual, the tractor manual and on the machinery itself.
3. Use good common sense in the everyday operation of this unit.  
Safety recommendations can never be all-inclusive and you are responsible for watching out for and avoiding unsafe conditions.
4. Never exceed the limits of a piece of machinery. If its ability to do a job or to do so safely is in question, don't try it.

5. Don't hurry the learning process or take the unit for granted. Ease into it and become familiar with your new loader and tractor.



## **CAUTION:**

When lowering a heavy load, ease it downward slowly. Never drop a loaded attachment and "catch it hydraulically". Stopping a load after it has gained downward momentum places undue strain on the unit and may cause unnecessary damage to the loader or tractor or even worse, personal injury.



## **CAUTION:**

Before disconnecting hydraulic lines, relieve all hydraulic pressure. Escaping hydraulic oil under pressure can have sufficient force to penetrate the skin causing serious personal injury. If injured by escaping hydraulic oil seek medical attention immediately.



## **CAUTION:**

Do not operate the loader if the fittings are leaking or if the hoses are damaged. A sudden line burst would cause the mainframe to drop suddenly, causing damage to the tractor or loader or injury to personnel.

### **► Initial Loader Operation**

Before operating the loader, fully raise and lower the boom two or three times. Then raise the bucket approximately four(4) feet above the ground and cycle the bucket cylinders three times. Lower the bucket to the ground. Check the tractor hydraulic oil and the correct oil level.



## **CAUTION:**

Before leaving the machine, stop the engine, remove the key, place all controls in neutral, and either set the parking brake or place tractor in park as equipped.

Always keep cylinders in a retracted position when the loader is not in use to guard against rust and contamination which may cause damage to the cylinder rods or hydraulic system.

### **► Cold Weather Operation**

For smooth operation in cold weather, let the tractor warm up. Slowly cycle the lift and bucket cylinders several times to warm the oil in the hydraulic system. The loader may operate erratically until the hydraulic oil has warmed to operating temperatures.

# **LOADER OPERATION**



## **CAUTION:**

Operate controls only when seated in the operator's seat.

### **► Loading Bucket**

For the most efficient loading, slowly drive the tractor straight into the material to be loaded and increase speed only after contact has been made. Roll the attachment back a small amount and slowly lift to break away the material. As the load increase, continue rolling the attachment back so as to get the maximum load. Remove the top levels first when loading from large piles of material. When bucket is full, raise loader so the bucket is clear of material and slowly back out of the pile.

### **► Dumping Bucket**

When in the dump area slowly drive the tractor forward and raise the loader at the same time. Raise the loader to the height needed to dump the bucket. Make sure to keep a level bucket position to prevent spilling from the bucket. Dump the bucket, and keep all movements smooth.

### **► Transporting a Loaded Bucket**

Transport material with the bucket as low as possible to prevent spilling and keep maximum stability. The loader must be in a position that will not block the operators' vision. a loaded bucket must not be transported in the upright position or at excessive speed.

Observe the following safety warning when transporting a loaded bucket.



## **CAUTION:**

When using a loader, be aware of bucket location at all times. When raising a loader with bucket rolled back, material can dump onto tractor causing damage to tractor or injury to operator.



## **WARNING:**

Contact with overhead power lines can cause severe electrical burns or death from electrocution. Make sure there is clearance between raised equipment and over head power lines.



## **CAUTION:**

Stop the loader arms gradually when lowering or lifting.



## **WARNING:**

A loaded Bucket should be transported in a low position at low ground speeds. Make turns slowly and use the tractor brakes cautiously. A full bucket in the raised position alters the center of gravity location of the machine and increases the possibility of accidents.



## **CAUTION:**

Do not stand, walk or work under a raised loader unless it is securely blocked or held in position. Accidental movement of a control lever or leak in th hydraulic system could cause the loader to drop, or attachment to dump, resulting in serious injury or death.

### **► Scraping**

When scraping, the Boom lever must be used to keep the bucket on the ground horizontally. The bucket must be kept level to the ground during scraping operations.

### **► Backfilling/Backgrading**

When "Backfilling" or "Backgrading", position the bucket so it is level on the ground. Do not dump material from bucket following each pass, as additional weight of material in bucket will assist in "Backgrading" and increases loader efficiency during "Backfilling".

### **► Controlled Rate of Loader Functions**

By "feathering" the control lever, reduced operational speeds can be controlled. This action controls the position of the valve spool in the valve body and regulates flow of oil to/from cylinders. It is important utilize this operational practice when lowering loader boom when the bucket is loaded with material.

# **LOADER REMOVAL**



**CAUTION:**

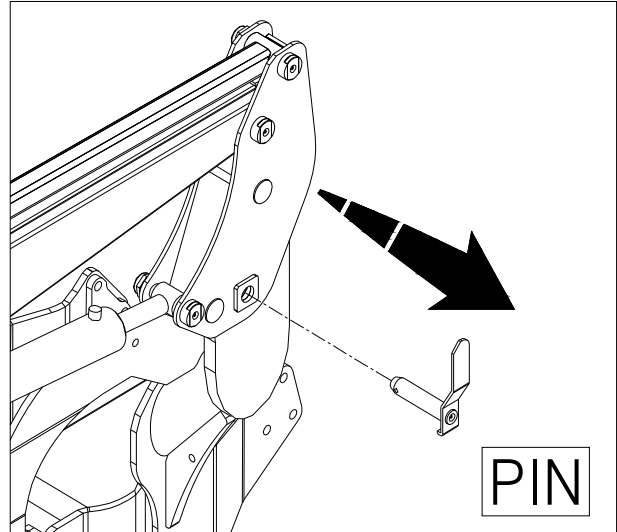
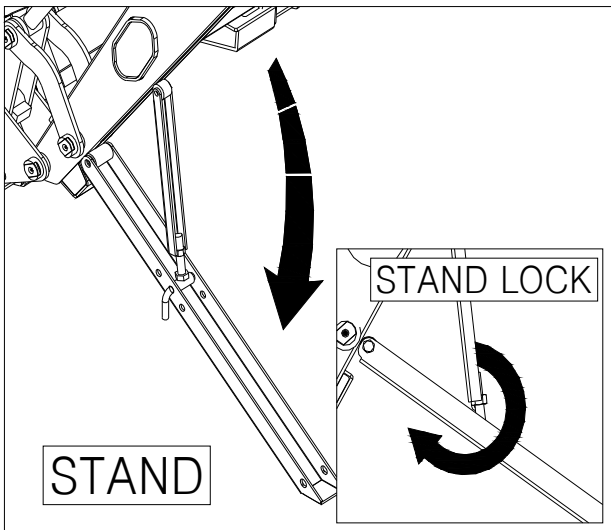
Never park loader without bucket attached to the loader.



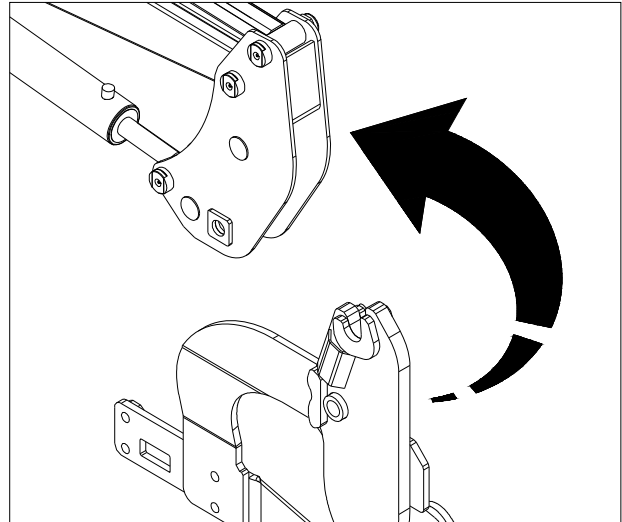
**CAUTION:**

Never allow weight of tractor to be put on parking leg when removing loader.

- ▶ Park the tractor and loader on hard level surface.
- ▶ Raise the boom until the bucket is about 2 feet off the ground.
- ▶ Set the parking legs with pin-hand and Keeper.
- ▶ Lower the boom until the Parking legs make contact on the ground. Tip the bucket until the bucket cutting edge touch the ground.



- ▶ Remove the latch pin while move the control lever back and forth slightly to make the latch pin easy.



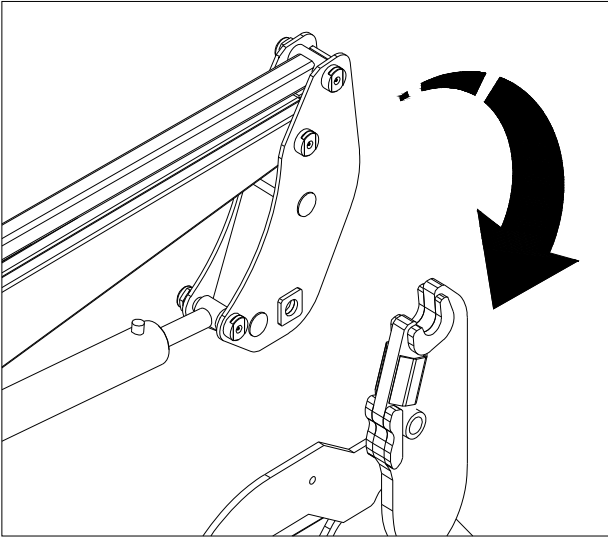
- ▶ Pull the control lever to raise the loader until the post. Adjust the bucket until the bottom surface of bucket touch the ground.
- ▶ Move the tractor backward slowly and stop to avoid the hydraulic hoses being tighten.
- ▶ Stop the engine and move the control lever back and forth, left and right several times to reduce the hydraulic pressure in the hoses.
- ▶ Disconnect the quick couplers on the hydraulic hoses.

# **LOADER MOUNTING**



## **CAUTION:**

Never allow weight of tractor to be put on parking leg when mounting loader.

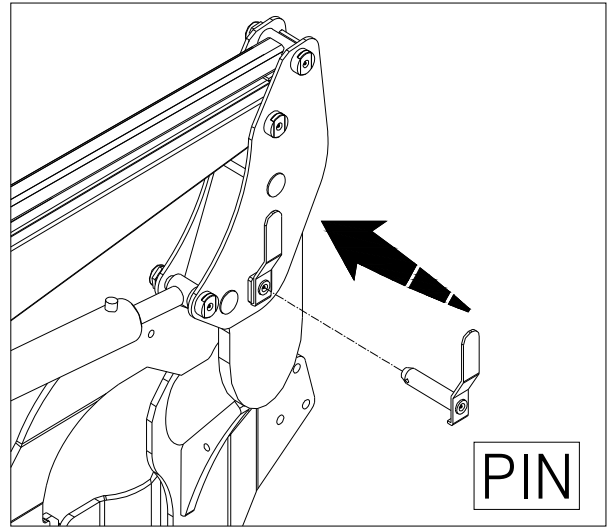


▶ Carefully drive the tractor into the loader to a position where the hydraulic hoses(Quick coupler) can be connected to the control valve block.

▶ Stop the engine and move the control lever back and forth, Left and right several times to reduce the pressure in the hydraulic hoses. Connect the hydraulic couplers match the color code rings.

▶ Start the engine and move the boom and bucket to adjust the height of post.

Be sure to check the pin welded of post is slightly higher than the hook on mounting frame.



▶ Move the tractor forward to put the post into the mounting frame. Stop the tractor

When the hook is right over the pin. Lower the mounting frame with moving the boom and bucket until it hooked securely each other.

▶ Align the latch pin holes with moving the bucket and boom. Insert the latch pins. Rubber hammer can be used to put the pin in if needed.

▶ Remove pin and keeper holding the parking legs and return to storage position. Make secure by using pin and keeper.



# **LUBRICATION AND MAINTERNANCE**



## **CAUTION:**

Do not perform and service or maintenance Operations with loader raised off the ground. For additional access to tractor components remove loader.

### **► Important:**

Lower the loader to the ground and relieve pressure in loader hydraulic lines prior to performing any service or maintenance operations on the tractor or loader.



## **CAUTION:**

Escaping fluid under pressure can have sufficient force to penetrate the skin, causing serious injury. Before disconnecting lines, be sure to relieve all pressure. Before applying pressure to the system, be sure all connections are tight and that lines, pipes and hoses are not damaged. Fluid escaping from a very small hole can be almost invisible. Use a piece of cardboard or wood rather than your hands to search for suspected leaks. If injured by escaping fluid, seek medical attention immediately. Serious infection or reaction can develop if correct medical treatment is not administered immediately.

Refer to "Lubrication and Maintenance Chart" for quick reference to Maintenance Operations.



## **CAUTION:**

Do not operate the loader if the fittings are leaking or if the hoses are damaged. A sudden line burst could cause the mainframe to drop suddenly, causing damage to the tractor or loader or injury to personnel.



## **CAUTION:**

Operate the loader from the tractor seat only.



## **CAUTION:**

Do not stand or walk under a raised loader. Accidental movement of control lever or leak in hydraulic system could cause mainframe to drop, causing severe injury.

Check the tractor hydraulic system as outlined in the Tractor Operator's Manual.

### **Note:**

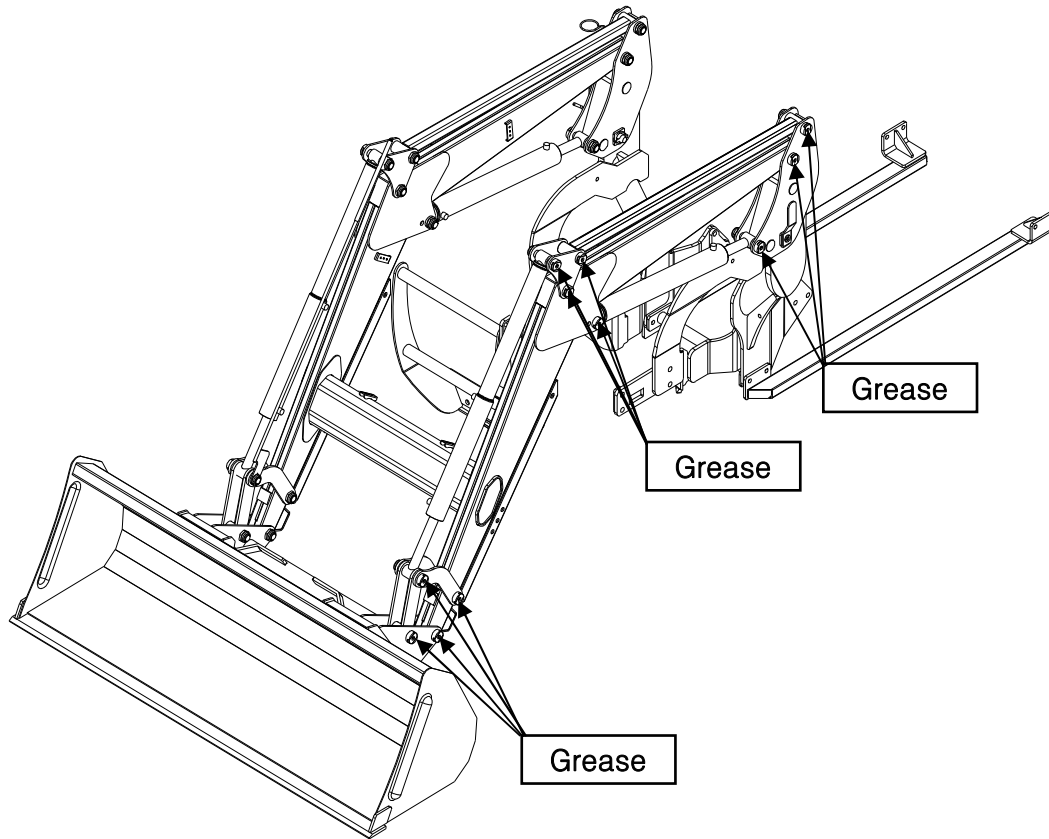
When checking hydraulic system oil level, the loader should be on the ground and bucket fully retracted(all cylinders in retracted position).

Grease all loader pivot points daily(10 hours). Refer to Tractor Operator's Manual for lubricant recommendations.

Inspect hydraulic hoses, connections, control valve and cylinders for evidence of leakage.

Tractor tires should be maintained at maximum recommended inflation to maintain normal tire profile with added weight of loader/material. Unequal rear tire inflation can result in bucket not being level to the ground.

# **LUBRICATION AND MAINTENANCE**



ITEM	SERVICE	SERVICE INTERVAL
Hydraulic System Oil Level	Check	Daily/10 hours
Hydraulic System Oil/Filter	Replace	As specified in Tractor Operator's Manual
Tire Inflation	Check	Weekly/50 hours
Loader Pivot Points	Lubricate	Daily/10 hours
Loader Hydraulic Lines, Hoses, Connections	Check for leaks, wear	Daily/10 hours
Lift and Bucket cylinder rod packings	Check for seepage, service as needed	Daily/10 hours
Pivot pin bolts and dust covers	Check, replace if missing	Daily/10 hours
Mid-Mount latch and lynch pins	Check, replace if necessary	Daily/10 hours
Loader mount hardware	Check visually	Daily/10 hours
Loader mount hardware	Re-torque	Every 25 hours

# **TROUBLE SHOOTING**

This Trouble Shooting Chart is provided for reference to possible loader operational problems.

Determine the problem that best describes the operational problem being experienced and eliminate the possible causes as listed by following the correction procedures.

PROBLEM	POSSIBLE CAUSE	CORRECTION
<b>Lift and Bucket Cylinders</b>	Low hydraulic fluid level.	Check and replenish hydraulic fluid.
	Hydraulic hoses connected improperly.	Check and correct hydraulic hose connections.
	Hydraulic hoses to/from control valve blocked	Check for damage(kinked) hoses, etc.
	Loader control valve or tractor main relief valve stuck open.	Check system pressure. Repair or replace relief valve.
	Low system pressure supplied from hydraulic pump.	Check system pressure.
		Repair or replace pump.
	Control valve linkage broken.	Inspect. Repair as required.
	Quick disconnect coupler(s) are not fully connected or "Flow Check"	Check coupler connections.
		Replace coupler(s) if necessary.
	Hydraulic hose or tubeline blockage.	Check for evidence of damage to hoses or tubelines that would block flow of oil between cylinders and control valve.
Cylinder piston assembly defective(not sealing)	Check cylinders for internal leakage as described in service section under cylinder leakage tests.	
control valve blockage.	Inspect for blockage. Disassemble valve if necessary.	
<b>Lift and/or Bucket Cylinders operate in wrong direction relative to control valve lever position.</b>	Hydraulic hoses connected incorrectly.	Correct hydraulic hose connections.
<b>Aeration of Hydraulic Fluid(Generally indicated by foamy appearance of fluid).</b>	Low hydraulic fluid level.	Check and refill hydraulic system to proper level.
	Air leaking into suction side of hydraulic pump.	Check for loose or defective connections between reservoir and hydraulic pump.
	Hydraulic fluid foaming due to improper hydraulic oil usage.	Refer to Tractor Operator's Manual and replace hydraulic oil using recommended hydraulic oil.

# **TROUBLE SHOOTING**

PROBLEM	POSSIBLE CAUSE	CORRECTION
<b>Slow or erratic lift</b>	Low hydraulic fluid level.	Check and replenish hydraulic fluid.
	Cold hydraulic fluid.	Allow hydraulic system to warm up to operating temperature.
	Engine R.P.M. too slow(hydraulic pump R.P.M. too slow).	Increase engine speed to obtain satisfactory loader operation.
	Excessive weight in bucket. Material weight exceeds maximum specified loader capacity.	Reduce material load.
	Control valve linkage binding/defective.	Check control valve linkage and repair if worn/defective.
	Aeration of hydraulic fluid	Refer to "Aeration of Hydraulic Fluid".
	Quick disconnect coupler restriction or coupler "Flow checks"	Check coupler connections. Repair or replace.
	Hydraulic hose or tubeline restriction(hoses/tubline) kinked or pinched.	Check hoses and tubelines for evidence of restriction.
	Lift cylinder piston assembly leakage.	Check cylinders for leakage. Repair as needed.
	Relief valve erratic or set below specifications.	Check and reset relief valve. Setting as needed.
	Control valve leaking internally.(hypassing fluid within valve).	Replace control valve and recheck operation.
Inadequate hydraulic pump capacity.	Refer to "Hydraulic Pump Capacity Inadequate"	
<b>Inadequate lifting capacity</b>	Engine R.P.M. too slow.	Increase engine R.P.M.
	Excessive load – material weight exceeds specified loader capacity.	Reduce Load.
	Relief valve setting below specifications.	Check and reset relief valve setting as needed.
	Lift cylinder piston assembly leakage.	Check cylinders for leakage. Repair as needed.
	Control valve leaking internally	Replace control valve and recheck operation.
	Hydraulic pump defective.	Refer to "Hydraulic Pump Capacity Inadequate".

# **TROUBLE SHOOTING**

PROBLEM	POSSIBLE CAUSE	CORRECTION
System relief valve squeals.	Cold Hydraulic Fluid.	A low hydraulic fluid to warm up to operating temperature.
	Excessive load in bucket. Weight exceeds specified loader capacity.	Reduce load.
	Relief valve setting below specifications.	Check and reset valve setting as needed.
	Hydraulic hose, tubeline or quick disconnect coupler restriction.	Check for evidence of restriction in hydraulic oil flow. Repair or replace defective components.
Loader drops with control valve spool in "centered" position (no external oil leakage evident.)	Cylinder piston assembly leakage.	Check cylinders for leakage.
Note: A gradual drop over an extended period of time is a normal condition.	Control valve internal leakage.	Replace control valve and recheck.
Control valve spool(s) will not return to centered position.	Control lever linkage binding.	Determine origin of binding and repair.
	Control valve spool centering is broken.	Replace centering spring.
	Control valve spool binding in valve body spool bore.	Disassemble valve for inspection and repair.
External hydraulic fluid leakage.	Loose hydraulic connection.	Tighten loose connections.
	Defective hydraulic hose, tubeline, adapter fitting or adapter fitting o-ring.	Check for origin of oil leak and replace defective part.
	Control valve o-rings defective.	Replace defective o-rings.
	Control valve spool or body damaged or worn.	Replace control valve.
	Cylinder rod packing set leakage.	Check cylinders for leakage. Repair as needed.

# **TROUBLE SHOOTING**

PROBLEM	POSSIBLE CAUSE	CORRECTION
<b>Hydraulic pump capacity inadequate.</b>	Cold hydraulic fluid.	Allow hydraulic fluid to warm up to operating temperature.
	Engine R.P.M. too slow.	Increase engine R.P.M.
	Low hydraulic fluid supply.	Refer to Tractor Operator's Manual for service recommendations.
	Hydraulic hose restriction.	Check for evidence of restriction in hydraulic hoses.
	Hydraulic pump defective.	Refer to Tractor Operator's Manual for recommended service procedures. Replace hydraulic pump if determined to be defective.
<b>Lift cylinder rod bend when lift cylinders extended.</b>	Excessive shock load on lift cylinders during transport.	Replace defective parts. Review and observe proper and safe operational practices.
<b>Bucket cutting edge wear is uneven side to side</b>	Bucket is not level to ground.	Check rear tire inflation and adjust to level bucket to ground.
<b>Bucket cutting edge wear rate is excessive. (Wear rate is even across full width of bucket).</b>	Incorrect operational practices. Excessive down pressure placed on bucket when being used on hard abrasive surfaces.	Refer to operation-scraping section for correct operating procedures. Utilize float position.
<b>Note: Extensive use of bucket on concrete or asphalt surfaces will accelerate wear rate of bucket cutting edge.</b>	Bucket wear pads worn.	Replace wear pads.



# TORQUE TIGHTENING CHART

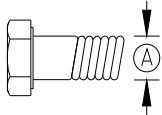
## MINIMUM HARDWARE TIGHTENING TORQUES IN FOOT POUNDS (NEWTON-METERS) FOR NORMAL ASSEMBLY APPLICATIONS

Always tighten hardware to these values unless a different torque value or tightening procedure is listed for a specific application.

Fasteners must always be replaced with the same grade as specified in the manual parts list.

Always use the proper tool for tightening hardware : SAE or SAE hardware and Metric for metric hardware. Make sure fastener threads are clean and you start thread engagement properly.

### INCH HARDWARE



SAE SERIES  
TORQUE  
CHART



SAE Bolt Head  
Identification  
SAE Grade 2  
(No Dashes)



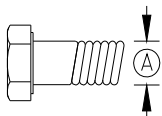
SAE Grade 5  
(3 Radial Dashes)



SAE Grade 8  
(6 radial Dashes)

Diameter (Inches)	Wrench Size	MARKING ON HEAD					
		SAE 2		SAE 5		SAE 8	
		lbs-ft	N-m	lbs-ft	N-m	lbs-ft	N-m
1/4"	7/16"	6	8	10	13	14	18
5/16"	1/2"	12	17	19	26	27	37
3/8"	9/16"	23	31	35	47	49	67
7/16"	5/8"	36	48	55	75	78	106
1/2"	3/4"	55	75	85	115	120	163
9/16"	13/16"	78	106	121	164	171	232
5/8"	15/16"	110	149	170	230	240	325
3/4"	1-1/8"	192	261	297	403	420	569
7/8"	1-5/16"	306	416	474	642	669	907
1"	1-1/2"	467	634	722	979	1020	1383

### METRIC HARDWARE



METRIC SERIES  
TORQUE  
CHART



Metric Bolt Head  
Identification  
Metric  
Grade 8.8



Metric Bolt Head  
Identification  
Metric  
Grade 10.9

Diameter & Thread Pitch (Millimeters)	Wrench Size	COARSE THREAD				FINE THREAD				Diameter & Thread Pitch (Millimeters)
		MARKING ON HEAD				MARKING ON HEAD				
		Metric 8.8		Metric 10.9		Metric 8.8		Metric 10.9		
		N-m	lbs-ft	N-m	lbs-ft	N-m	lbs-ft	N-m	lbs-ft	
6 x 1.0	10mm	8	6	11	8	8	6	11	8	6 x 1.0
8 x 1.25	13mm	20	15	27	20	21	16	29	22	8 x 1.0
10 x 1.5	16mm	39	29	54	40	41	30	57	42	10 x 1.25
12 x 1.75	18mm	68	50	94	70	75	55	103	76	12 x 1.25
14 x 2.0	21mm	109	80	151	111	116	87	163	120	14 x 1.5
16 x 2.0	24mm	169	125	234	173	181	133	250	184	16 x 1.5
18 x 2.5	27mm	234	172	323	239	263	194	363	268	18 x 1.5
20 x 2.5	30mm	330	244	457	337	367	270	507	374	20 x 1.5
22 x 2.5	34mm	451	332	623	460	495	365	684	505	22 x 1.5
24 x 3.0	36mm	571	421	790	583	623	459	861	635	24 x 2.0
30 x 3.0	46mm	1175	867	1626	1199	1258	928	1740	1283	30 x 2.0



# **PART ILLUSTRATIONS**

## GENERAL INFORMATION

### Illustrations

The individual parts in their normal relationship to each other. Reference numbers are used in the illustrations. These numbers correspond to those in the "Number" column and are followed by the quantity required and description.

### Directional Reference

"Right hand" and "left hand" sides are determined by standing at the rear of the unit and facing in the direction of forward travel.

### Part Order

Orders must give the complete description, correct part number, the total amount required, the product model, all the necessary serial numbers, the method of shipment and the shipping address.

### Instructions

#### ▶ GROUP NAME

: Detail classification name for parts.

#### ▶ SECTION NAME

: Classification name for parts.

#### ▶ COMPONENTS




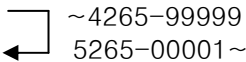
: The components of an assembly are identified by a bracket.

#### ▶ NO.

: Reference numbers are assigned to parts in the figure.

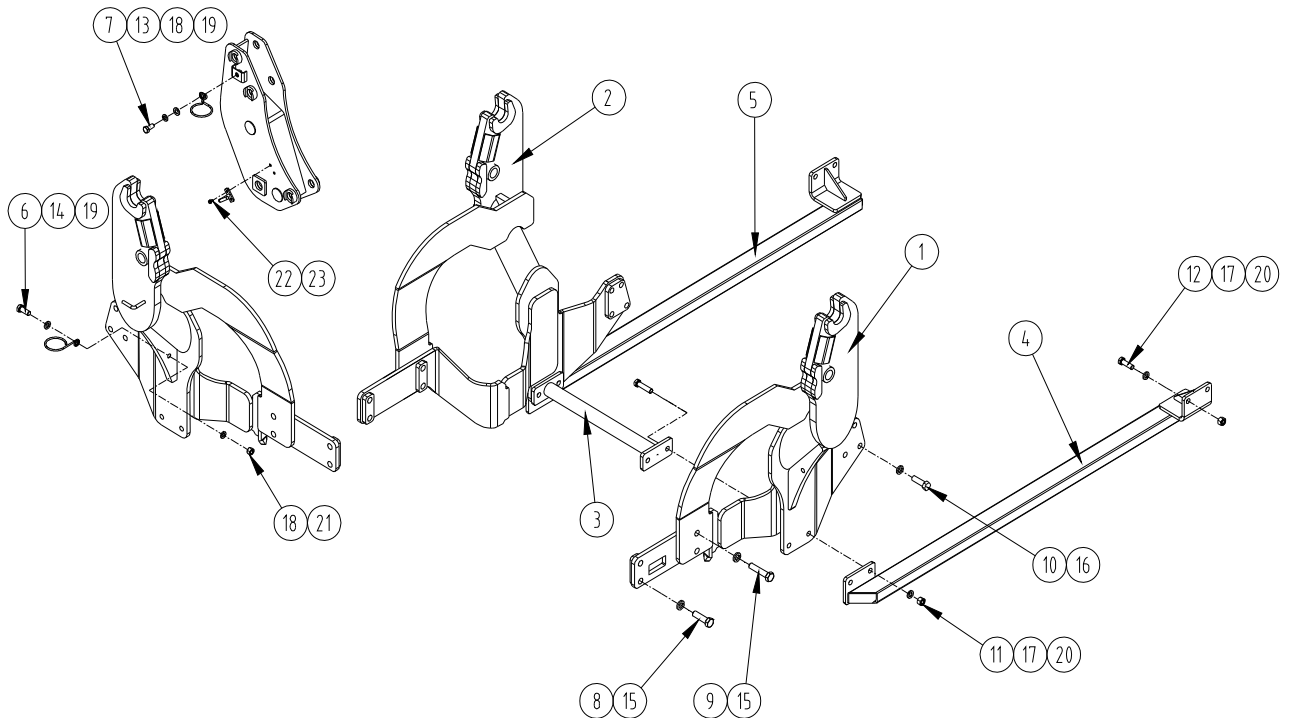
## INTERCHANGEABILITY

: Indicates the interchangeability of parts due to design change

	Indicates that a new part can be used instead of an old part when you order this part, please order new part.
	indicates that either parts can be used.
	indicates that either parts can not be used.
	indicates that a part has a serial number break. When you order this part, please order a part according to the serial number of the Loader.

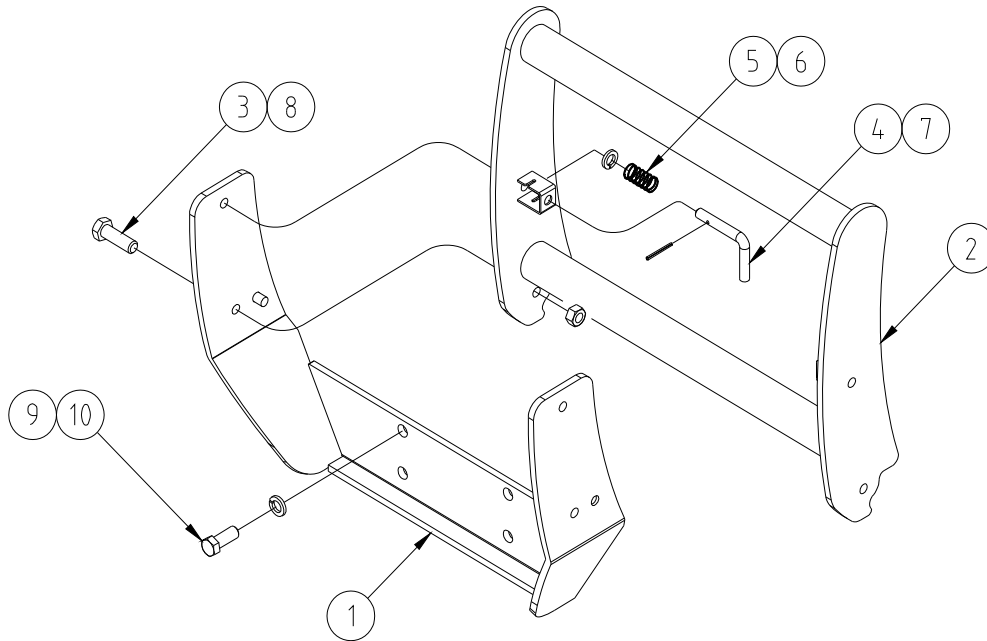
★ Due to our policy of continuously improving products, The information contained herein is subject to change without notice

# MOUNTING FRAME ASSEMBLY



REF.NO	LS PART.NO	PART.NO	DESCRIPTION	QTY	I.C	SERIAL OR DATE
1	40350947	FT639-11100	MOUNTING FRAME-LH	1		
	40356514	FT639-11100-01	MOUNTING FRAME-LH	1	←	2016.11.07~
2	40350948	FT639-11200	MOUNTING FRAME-RH	1		
	40356515	FT639-11200-01	MOUNTING FRAME-RH	1	←	2016.11.07~
3	40350949	FT614-11300-01	CROSS BAR	1		
4	40340715	FT614-11400-01	REAR FRAME-LH	1		
5	40340716	FT614-11500-01	REAR FRAME-RH	1		
6	40323525	COM01-11301	HOSE GUIDE	1		
7	40335743	COM01-11303	HOSE GUIDE-1	1		
8	40230894	10191-M2007-70	HEX.BOLT-HT, M20-2.5P 70L	4		
9	40343504	10191-M2007-90	HEX.BOLT-HT, M20-2.5P 90L	4		
10	40230605	10191-M1804-60	HEX.BOLT-HT, M18-1.5P 60L	6		
	40230605	10191-M1804-60	HEX.BOLT-HT, M18-1.5P 60L	8	←	2016.11.07~
11	40305378	10191-M1606-65	HEX.BOLT-HT, M16-2.0P 65L	4		
12	40228626	10191-M1606-50	HEX.BOLT-HT, M16-2.0P 50L	4		
13	40320316	10191-M1406-30	HEX.BOLT-HT, M14-2.0P 30L	1		
14	40264168	10191-M1406-50	HEX.BOLT-HT, M14-2.0P 50L	1		
15	40228645	10316-M2000	WASHER-SPRING, M20	8		
16	40230613	10316-M1800	WASHER-SPRING, M18	6		
	40230613	10316-M1800	WASHER-SPRING, M18	8	←	2016.11.07~
17	40228644	10316-M1600	WASHER-SPRING, M16	8		
18	40228643	10316-M1400	WASHER-SPRING, M14	2		
19	40228649	10321-M1400	WASHER-PLAIN, M14	2		
20	40228638	10261-M1606	HEX.NUT-HT, M16-2.0P	8		
21	40228637	10261-M1406	HEX.NUT-HT, M14-2.0P	1		
22	40356519	FTF71-22020	HOSE GUIDE ROUND BAR	1		2016.11.07~
23	40356513	1012S-M0803-15	BOLT-SEM'S, M8-1.25P 15L	2		2016.11.07~

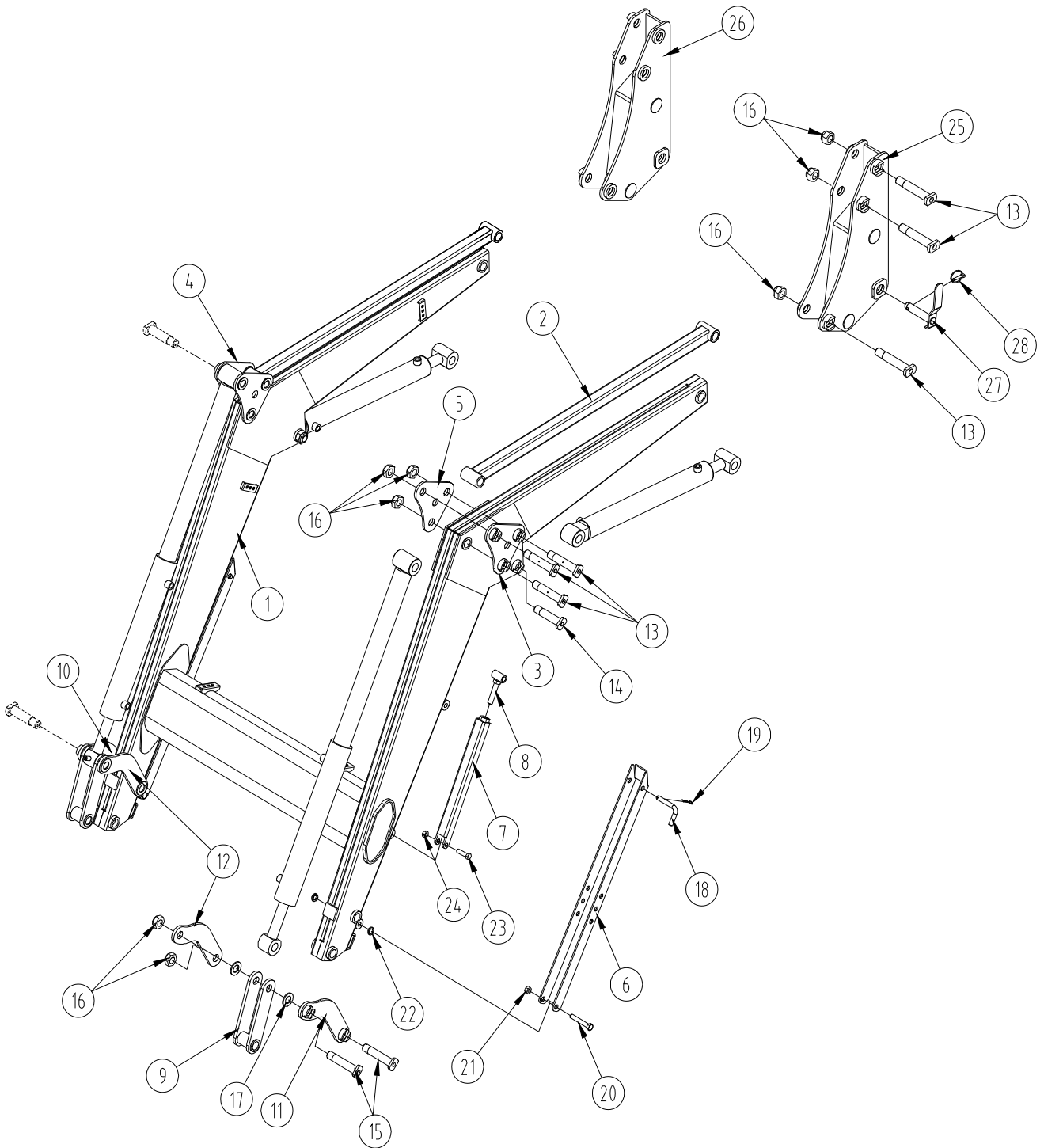
# GRILL ASSEMBLY (OLD)(~160816221)



REF.NO	LS PART.NO	PART.NO	DESCRIPTION	QTY	I.C	SERIAL OR DATE
-	40253298	FT613-G1000-02	GRILL ASS'Y No.1~10	1		
1	40230750	FT613-11700	GRILL GUARD BOTTOM	1		
2	40253297	FT613-11600-02	GRILL GUARD TOP	1		
3	40228615	10191-M1205-35	HEX.BOLT-HT, M12-1.75P 35L	2		
4	40253710	14031-04040	SPRING-PIN, Ø4	2		
5	40228648	10321-M1200	WASHER-PLAIN, M12	2		
6	40228830	LK01-0203	SPRING	2		
7	40253709	14116-12086-01	LOCK PIN, Ø12	2		
8	40228635	1021N-M1205	NUT-SELFLOCK, M12-1.75P	2		
9	40230606	10191-M2007-45	HEX.BOLT-HT, M20-2.5P 45L	4		
10	40228645	10316-M2000	WASHER-SPRING, M20	4		

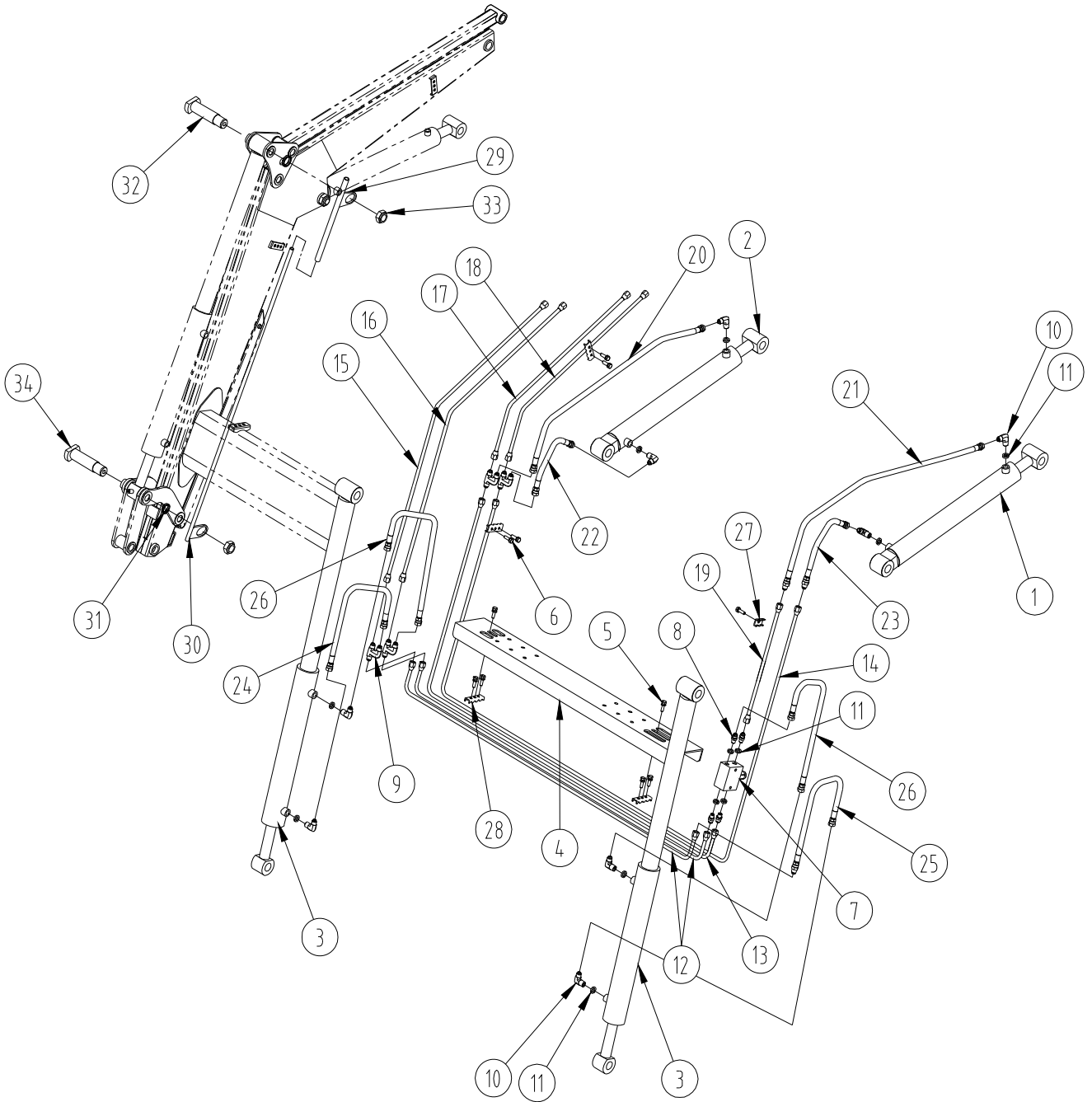


# **BOOM ASSEMBLY**





# **HYDRAULIC PIPING**

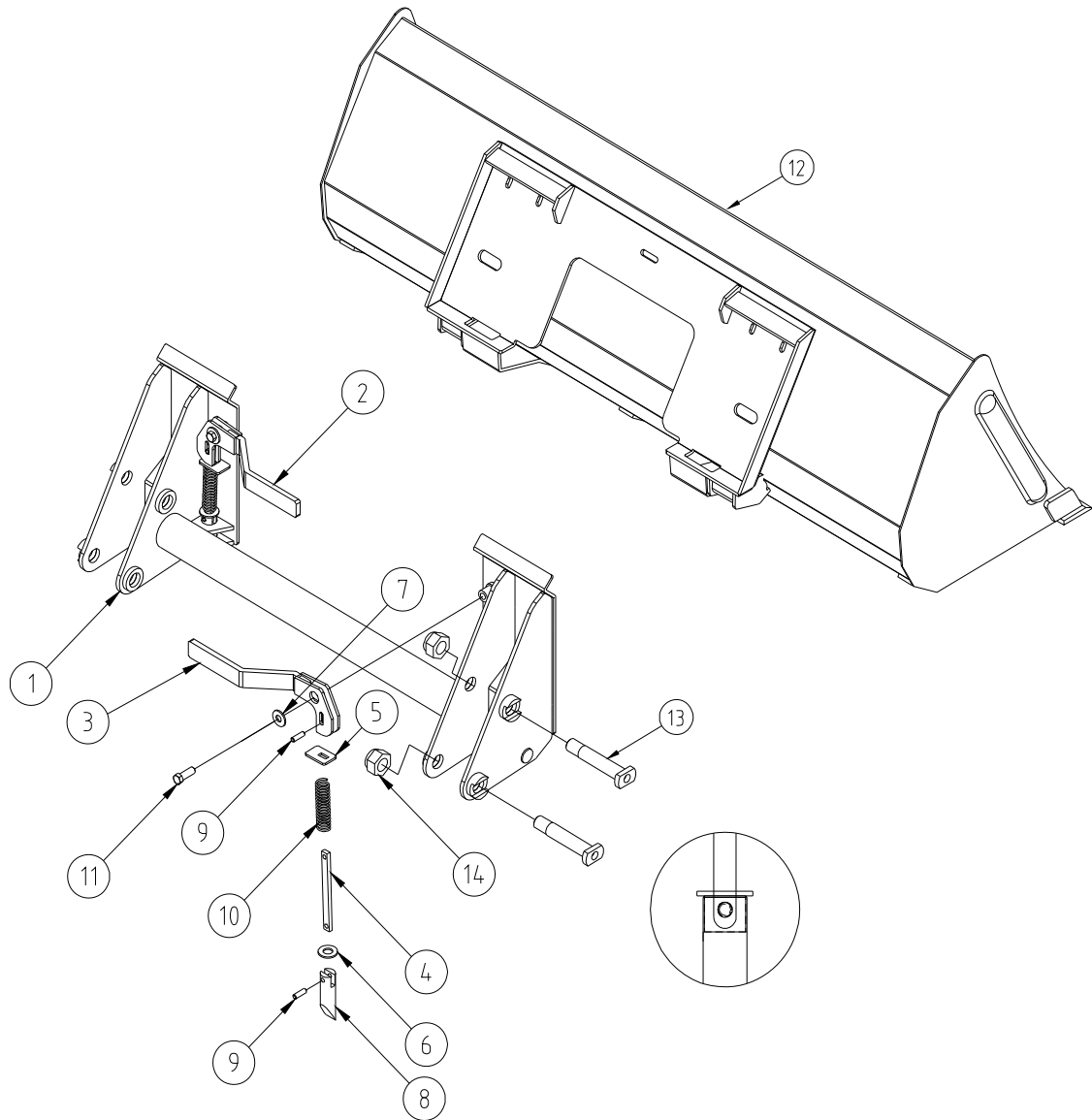


# HYDRAULIC PIPING

REF.NO	LS PART.NO	PART.NO	DESCRIPTION	QTY	I.C	SERIAL OR DATE
1	40350916	22F303	BOOM CYLINDER ASS'Y Ø40 x Ø80 x 920L (525ST)	1		
2	40350930	22F304	BOOM CYLINDER ASS'Y Ø40 x Ø80 x 920L (525ST)	1		
3	40350933	22F301	BUCKET CYLINDER ASS'Y Ø40 x Ø70 x 1270L (415ST)	2		
4	40253804	LTF70-11801-02	PIPING COVER	1		
5	40228612	1012S-M0803-35	BOLT-SEM'S, M8-1.25P 35L	2		
6	40340462	1012S-M0803-30	BOLT-SEM'S, M8-1.25P 30L	9		
7	40228705	801T1-50000	VAVLE, RELIFE	1		
8	40228717	802N2-P46F9-42	NIPPLE, PF3/8, O-FING x 3/4-16UNF HOSE	4		
9	40230663	802H1-F94F9-40	NIPPLE, H-TYPE 3/4-16UNF, HOSE	4		
10	40228714	802L2-P46F9-42	NIPPLE, PF3/8, O-RING x 3/4-16UNF, HOSE 90°	8		
11	40228756	81301-BP014	O-RING. 1BP14	12		
12	40350902	FTF71-HP110	PIPE ASS'Y	2		
13	40350903	FTF71-HP310	PIPE ASS'Y	1		
14	40350904	FTF71-HP410	PIPE ASS'Y	1		
15	40350905	FTF71-HP120	PIPE ASS'Y	1		
16	40350906	FTF71-HP220	PIPE ASS'Y	1		
17	40350907	FTF71-HP320	PIPE ASS'Y	1		
18	40350908	FTF71-HP420	PIPE ASS'Y	1		
19	40350909	FTF71-HP330	PIPE ASS'Y	1		
20	40230682	80620-01037	HOSE ASS'Y, 4(3/4-16UNF)-4(3/4-16UNF) 1050L (3/8)	1		
21	40230686	80620-03013	HOSE ASS'Y, 4(3/4-16UNF)-2(3/4-16UNF) 1050L (3/8)	1		
22	40350910	80620-01043	HOSE ASS'Y, 4(3/4-16UNF)-4(3/4-16UNF) 400L (3/8)	1		
23	40228738	80620-03006	HOSE ASS'Y, 4(3/4-16UNF)-2(3/4-16UNF) 400L (3/8)	1		
24	40228737	80620-01046	HOSE ASS'Y 4(3/4-16UNF)-4(3/4-16UNF) 1000L (3/8)	1		
25	40228739	80620-03007	HOSE ASS'Y, 4(3/4-16UNF)-2(3/4-16UNF) 1000L (3/8)	1		
26	40350911	80620-01079	HOSE ASS'Y, 4(3/4-16UNF)-4(3/4-16UNF) 650L (3/8)	2		
27	40340734	FTF40-62102	CLAMP	1		
28	40340733	FTF40-62101	CLAMP	4		
29	40295929	FT408-70200	BAR,GAUGE-SHORT	1		
30	40350912	FTF71-70100	BAR,GAUGE-LONG	1		
31	40295932	FTE39-70103-W	BAR,GUAGE-BUSH	2		
32	40295930	14124-30155-N	PIN ASS'Y, Ø30-155L	1		
33	40230610	1021M-M3006	NUT-SELFLOCK, M30-2.0P	2		
34	40295931	14124-30160-N	PIN ASS'Y, Ø30-160L	1		

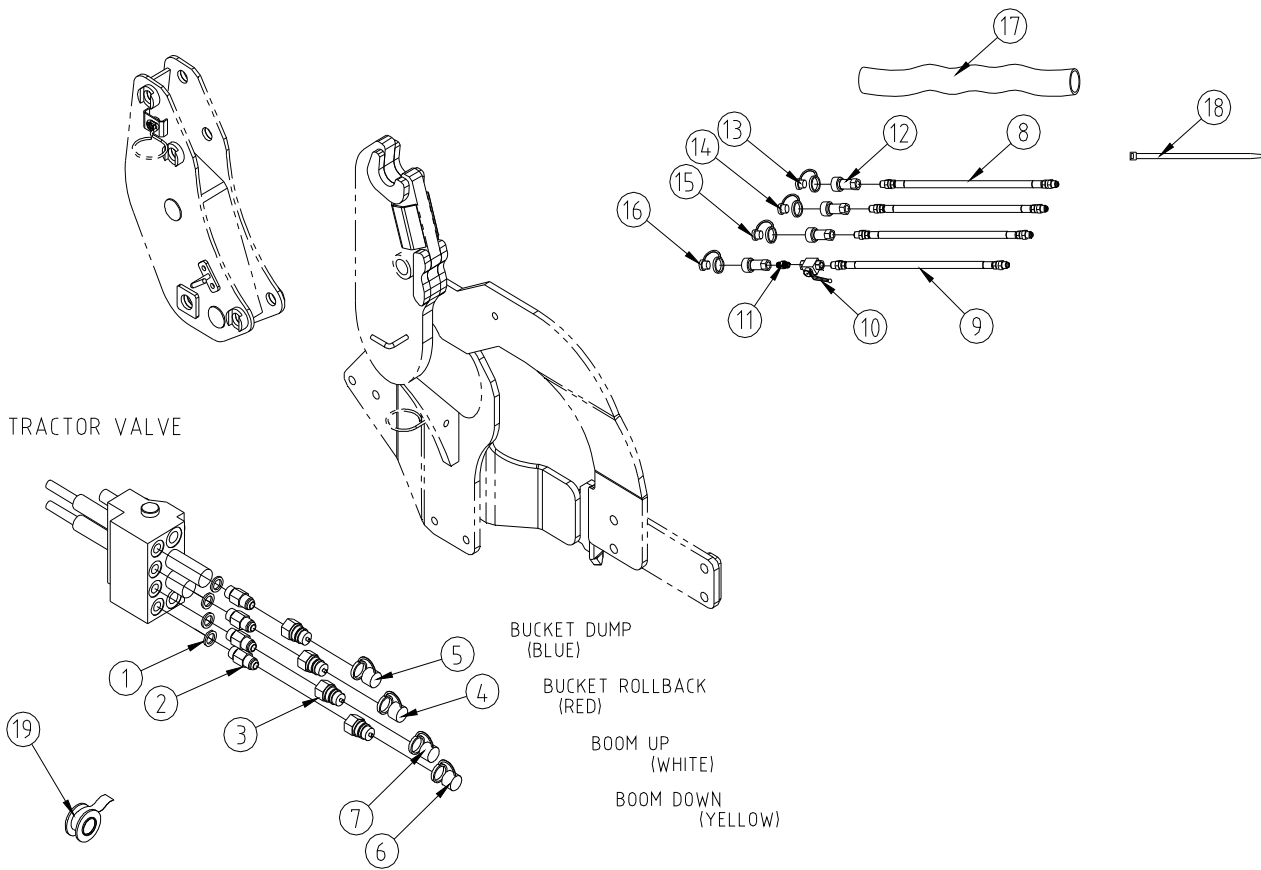


# **BUCKET ASSEMBLY**



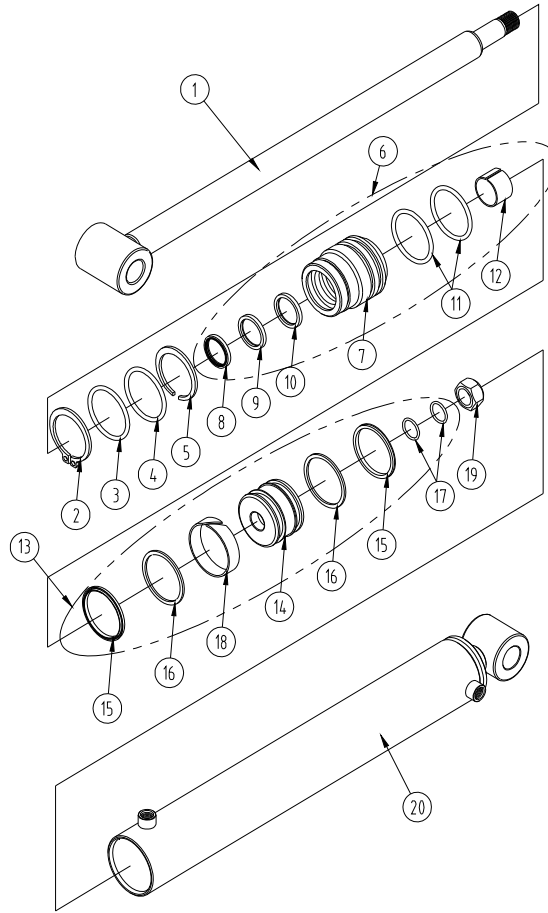
REF.NO	LS PART.NO	PART.NO	DESCRIPTION	QTY	I.C	SERIAL OR DATE
-	40350489	FTBQ3-1000B	QUICK ATTA. ASS'Y, NO 1~12	1		
1	40350490	FTQB3-10600	QUICK ATTA. W.A	1		
2	40286958	LTS21-46200-03	HANDLE-LH	1		
3	40286959	LTS21-46300-03	HANDLE-RH	1		
4	40340739	LTS21-46401-01	PIN LINK	2		
5	40230850	LTS21-46402	PLATE GUIDE	2		
6	40230851	LTS21-46403	WASHER #1	2		
7	40230852	LTS21-46404	WASHER #2	2		
8	40350491	14132-30112	PIN, Ø31.5 x 112L	2		
9	40350492	LTS21-46406	SPRING PIN, Ø9.4 x 32L	4		
10	40230854	LTS21-46407	SPRING, I.D20 x 130L	2		
11	40294064	10191-M1406-25	HEX.BOLT-HT, M14-2.0P 25L	2		
12	40350493	FTBB8-8300C	BUCKET W.A.(83")	1		
13	40295930	14124-30155-N	PIN ASS'Y, Ø30-155L	4		
14	40230610	1021M-M3006	NUT-SELFLOCK, M30-2.0P	4		

# HYDRAULIC CONNECTING



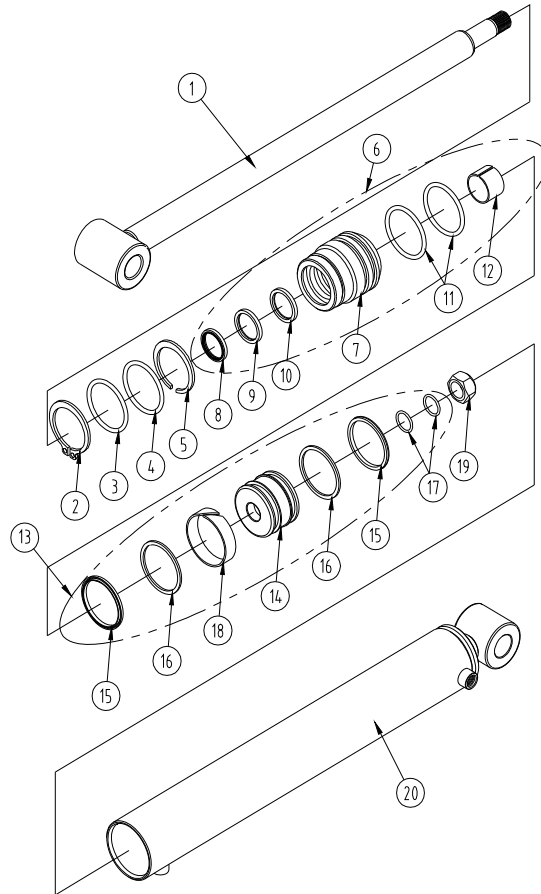
REF.NO	LS PART.NO	PART.NO	DESCRIPTION	QTY	I.C	SERIAL OR DATE
1	40228654	103E1-C0380	BOND SEAL	4		
2	40230960	802N0-T46P4-61	NIPPLE, PF3/8, COPPER x 3/4-16UNF, HOSE	4		
3	40228720	80410-T3360	QUICK COUPLER, PT3/8" MALE	4		
4	40228728	8044R-03300	DUST PLUG, 3/8" RED FEMALE	1		
5	40228726	8044B-03300	DUST PLUG, 3/8" BLUE FEMALE	1		
6	40228730	8044Y-03300	DUST PLUG, 3/8" YELLOW FEMALE	1		
7	40228729	8044W-03300	DUST PLUG, 3/8" WHITE FEMALE	1		
8	40350913	80620-04118	HOSE ASS'Y, 2(3/4-16UNF)-1(PT3/8") 2300L (3/8)	3		
9	40350914	80620-04116	HOSE ASS'Y, 2(3/4-16UNF)-1(PT3/8") 2200L (3/8)	1		
10	40350473	801W2-02000	BOALL VALVE	1		
11	40350474	802N0-T45T4-60	NIPPLE, PT3/8 x PT3/8	1		
12	40228721	80420-T3360	QUICK COUPLER, PT3/8" FEMALE	4		
13	40228724	8043R-03300	DUST CAP, 3/8" RED FEMALE	1		
14	40244644	8043B-03300	DUST CAP, 3/8" BLUE FEMALE	1		
15	40228725	8043Y-03300	DUST CAP, 3/8" YELLOW FEMALE	1		
16	40230676	8043W-03300	DUST CAP, 3/8" WHITE FEMALE	1		
17	40350915	50135-2000K	WEBBING, 100-2000L	1		
18	40228697	50120-M270K	CABLE TIE, 270mm BLACK	2		
19	40228758	99400-00001	TEFRON TAPE	1		

# **BOOM CYLINDER(LH)**



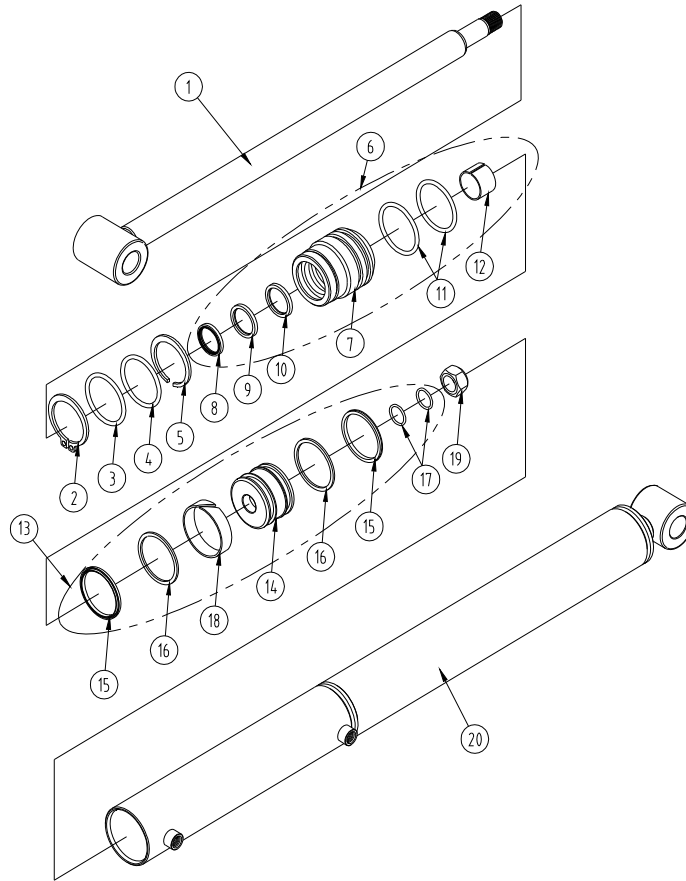
REF.NO	LS PART.NO	PART.NO	DESCRIPTION	QTY	I.C	SERIAL OR DATE
-	40350916	22F303	BOOM CYLINDER ASS'Y Ø40 x Ø80 x 920L (525ST)	1		
1	40350917	22F303-R	ROD ASS'Y	1		
2	40350918	9X61-0075	SNAP-RING, STW-75	1		
3	40350919	9X28-0085	WASHER, Ø75 x Ø85 x 2T	1		
4	40350920	OR1B-G075	1BG75	1		
5	40350921	9X48-0082	STOP-RING, Ø82 x 2.5T	1		
6	40350922	IA80-4057	COVER INNER ASS'Y No.7~12	1		
7	40350923	IC80-4057	COVER INNER Ø80 x Ø40 x 57.2L	1		
8	40230710	DSSD-R040	DUST SEAL, SDR 40 x 48 x 5/6.5	1		
9	40230872	UPSK-Y040	PACKING U, SKY 40 x 50 x 6	1		
10	40230869	UPIS-I040	PACKING U, ISI 40 x 50 x 6	1		
11	40350920	OR1B-G075	O-RING, 1BG75	2		
12	40350924	DU04-0025	DU-BUSH, 4025	1		
13	40350925	PA80-2755	Piston Ass'y No.14~18	1		
14	40350925	PI80-2755	PISTON. Ø80 x Ø27 x 55L	1		
15	40350927	UPOS-I080	PACKING U, OSI 80 x 70 x 6	2		
16	40305764	TRBR-0080	BACKUP RING, 80 x 70 x 3	2		
17	40228870	OR1B-G027	O-RING,1BG27	2		
18	40350928	WEWR-0080	WEARING, WR Ø80 x Ø75 x 20L	1		
19	40350482	NTP0-U100	NUT, 1x14UN	1		
20	40350929	22F303-T	TUBE ASS'Y	1		

# **BOOM CYLINDER(RH)**



REF.NO	LS PART.NO	PART.NO	DESCRIPTION	QTY	I.C	SERIAL OR DATE
-	40350930	22F304	BOOM CYLINDER ASS'Y Ø40 x Ø80 x 920L (525ST)	1		
1	40350931	22F304-R	ROD ASS'Y	1		
2	40350918	9X61-0075	SNAP-RING, STW-75	1		
3	40350919	9X28-0085	WASHER, Ø75 x Ø85 x 2T	1		
4	40350920	OR1B-G075	1BG75	1		
5	40350921	9X48-0082	STOP-RING, Ø82 x 2.5T	1		
6	40350922	IA80-4057	COVER INNER ASS'Y No.7~12	1		
7	40350923	IC80-4057	COVER INNER Ø80 x Ø40 x 57.2L	1		
8	40230710	DSSD-R040	DUST SEAL, SDR 40 x 48 x 5/6.5	1		
9	40230872	UPSK-Y040	PACKING U, SKY 40 x 50 x 6	1		
10	40230869	UPIS-I040	PACKING U, ISI 40 x 50 x 6	1		
11	40350920	OR1B-G075	O-RING, 1BG75	2		
12	40350924	DU04-0025	DU-BUSH, 4025	1		
13	40350925	PA80-2755	Piston Ass'y No.14~18	1		
14	40350925	PI80-2755	PISTON. Ø80 x Ø27 x 55L	1		
15	40350927	UPOS-I080	PACKING U, OSI 80 x 70 x 6	2		
16	40305764	TRBR-0080	BACKUP RING, 80 x 70 x 3	2		
17	40228870	OR1B-G027	O-RING,1BG27	2		
18	40350928	WEWR-0080	WEARING, WR Ø80 x Ø75 x 20L	1		
19	40350482	NTP0-U100	NUT, 1x14UN	1		
20	40350932	22F304-T	TUBE ASS'Y	1		

# **BUCKET CYLINDER**



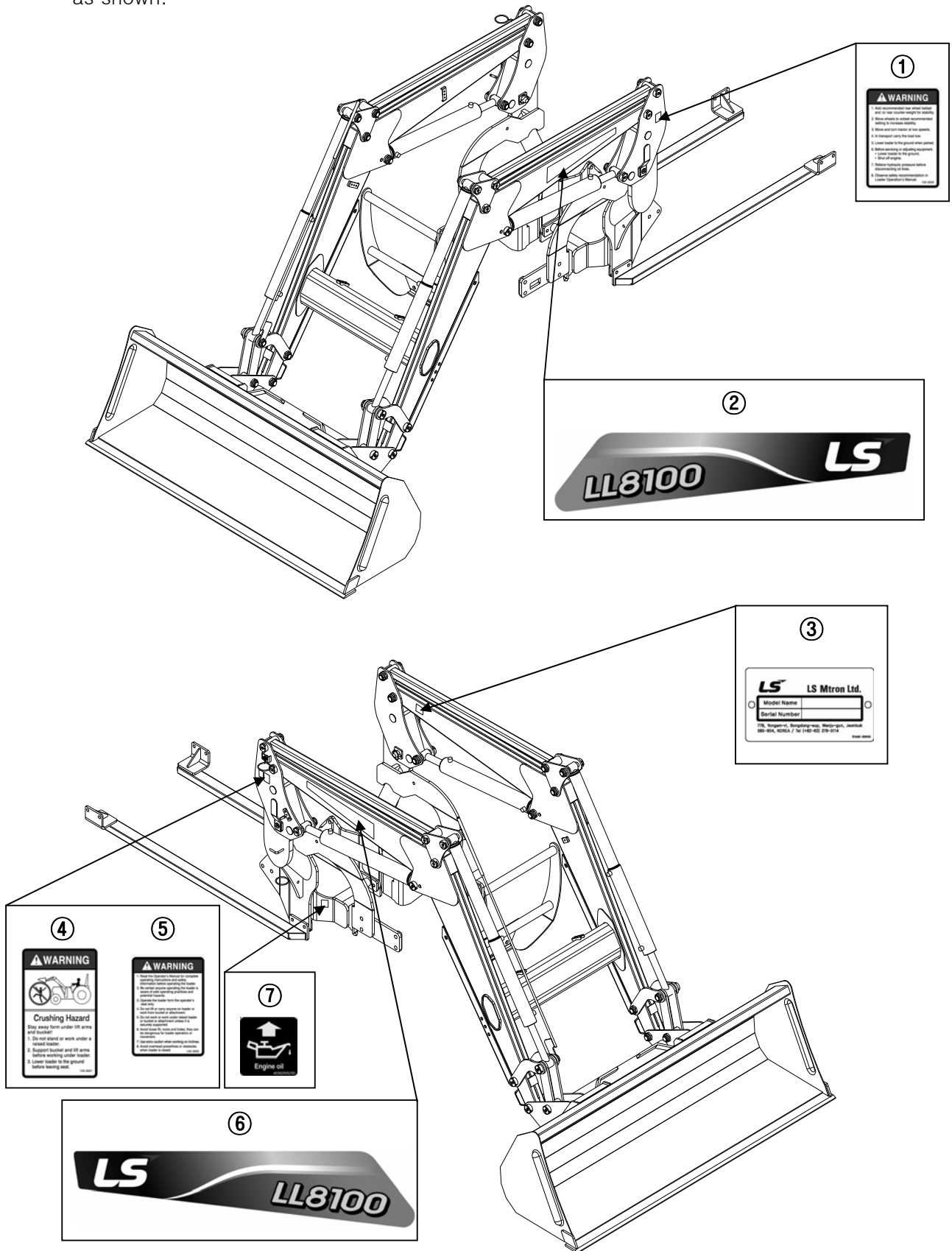
REF.NO	LS PART.NO	PART.NO	DESCRIPTION	QTY	I.C	SERIAL OR DATE
-	40350933	22F301	BUCKET CYLINDER ASS'Y Ø40 x Ø70 x 1270L (415ST)	1		
1	40350934	22F301-R	ROD ASS'Y	1		
2	40350935	9X61-0065	SNAP-RING, STW-65	1		
3	40350936	9X28-0075	WASHER, Ø65 x Ø75 x 2T	1		
4	40230861	OR1B-G065	1BG65	1		
5	40350937	9X48-0072	STOP-RING, Ø72 x 2.5T	1		
6	40350938	IA70-4057	COVER INNER ASS'Y No.7~12	1		
7	40350939	IC70-4057	COVER INNER Ø70 x Ø40 x 57.2L	1		
8	40230710	DSSD-R040	DUST SEAL, SDR 40 x 48 x 5/6.5	1		
9	40230872	UPSK-Y040	PACKING U, SKY 40 x 50 x 6	1		
10	40230869	UPIS-I040	PACKING U, ISI 40 x 50 x 6	1		
11	40230861	OR1B-G065	O-RING, 1BG65	2		
12	40350924	DU04-0025	DU-BUSH, 4025	1		
13	40230863	PA70-2746	Piston Ass'y No.14~18	1		
14	40230865	PI70-2746	PISTON. Ø70 x Ø27 x 46L	1		
15	40230871	UPOS-I070	PACKING U, OSI 70 x 60 x 6	2		
16	40230868	TRBR-0070	BACKUP RING, 70 x 60 x 3	2		
17	40228870	OR1B-G027	O-RING,1BG27	2		
18	40230874	WEWR-0070	WEARING, WR Ø70 x Ø65 x 15L	1		
19	40350482	NTP0-U100	NUT, 1x14UN	1		
20	40350946	22F301-T	TUBE ASS'Y	1		

# DECALS



## CAUTION :

Read and refer to the Tractor Operation Manual or Decals on the Tractor, and Loader Decals on as shown.



Refer to category "Safety decals"



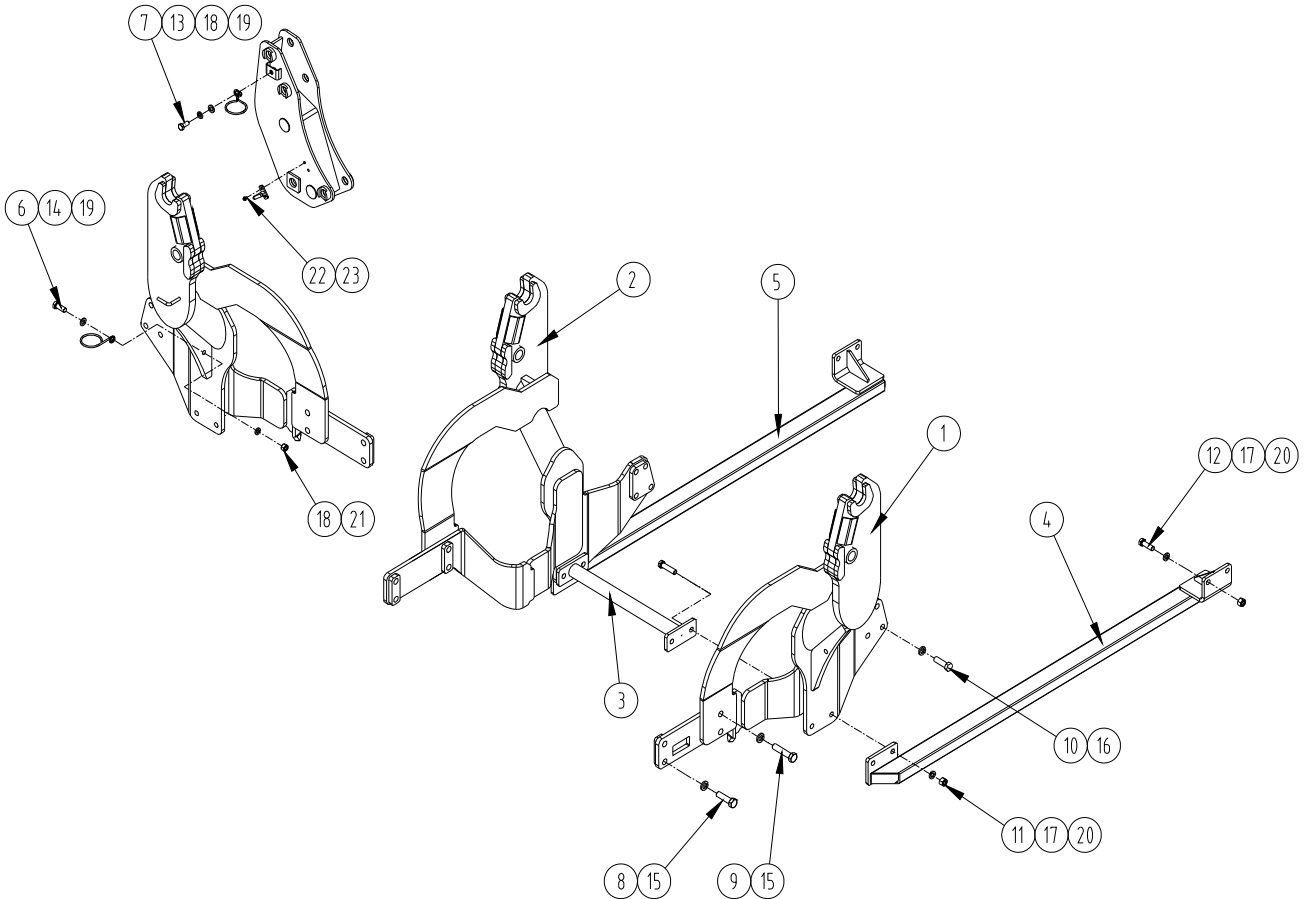
# **LOADER INSTALLATION**

◆ Position the loader on a hard level surface. The more level the surface the easier the loader is to install.

► **IMPORTANT:** Do not tighten any hardware until all components are attached onto the tractor.



**CAUTION:** Lift and support all loader components safely.



► Using a hoist, install Mounting Frame LH/RH.

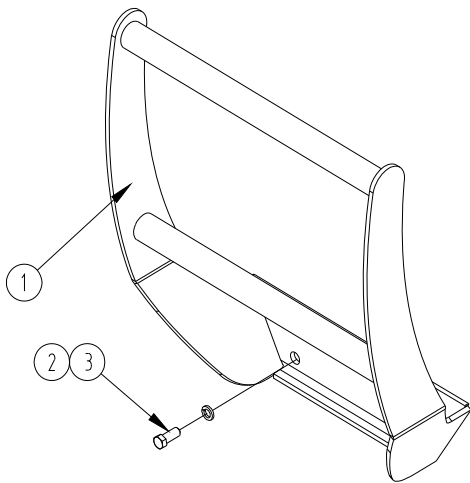
- (1) Mounting Frame LH-1EA
- (2) Mounting Frame RH-1EA
- (8) Hex. Bolt M20-2.5P 70L-4EA
- (9) Hex. Bolt M20-2.5P 90L-4EA
- (15) Washer Spring M20-8EA
- (10) Hex. Bolt M18-1.5P 60L-8EA
- (16) Washer Spring M18-8EA

► Install Under Cross Bar And Rear Frame LH/RH

- (3) Cross Bar-1EA
- (4) Rear Frame-LH-1EA
- (5) Rear Frame-RH-1EA
- (11) Hex. Bolt M16-2.0P 65L-4EA
- (12) Hex. Bolt M16-2.0P 50L-4EA
- (17) Washer Spring M16-8EA
- (20) Hex Nut M16-2.0P-8EA

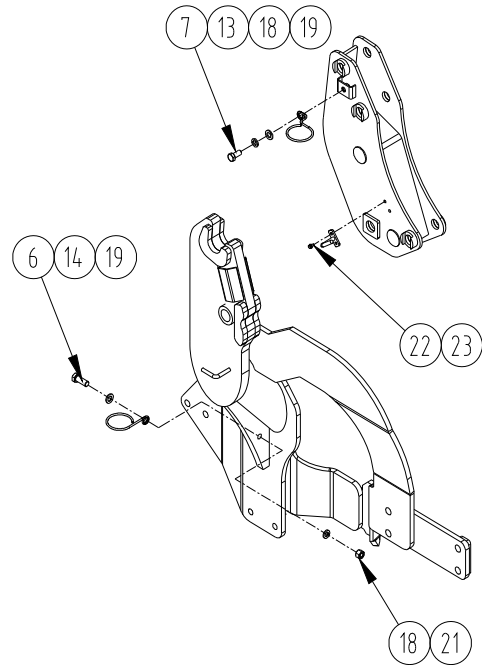


# **LOADER INSTALLATION**



► Install Grille Guard

- (1) Grille – 1EA
- (2) Hex. Bolt M20–2.5P 45L – 4EA
- (3) Washer Plain M20 – 4EA



► Hose Guide

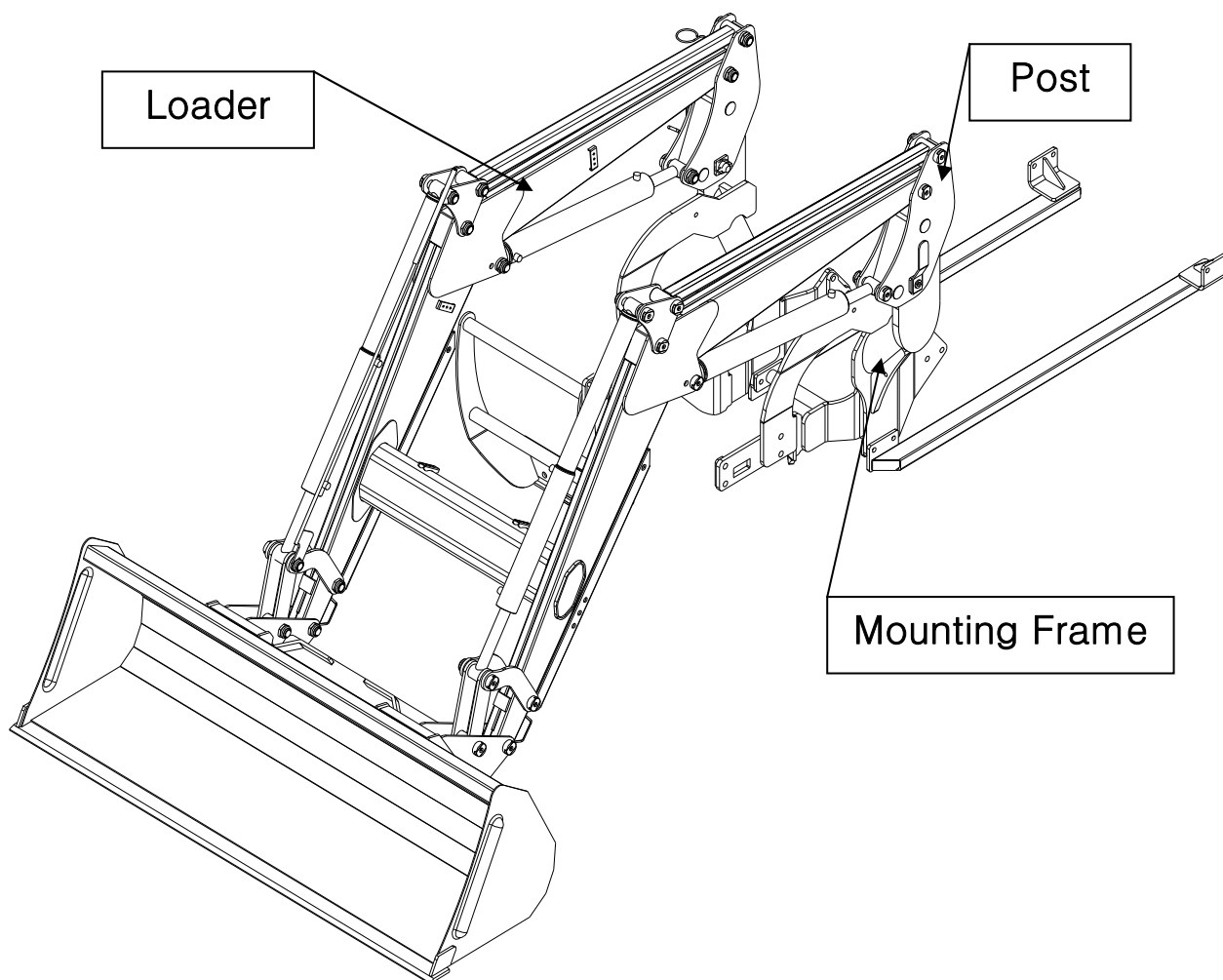
- (6) Hose Guide – 1EA
- (7) Hose Guide-1 – 1EA
- (13) Hex. Bolt M14–2.0P 30L – 1EA
- (14) Hex. Bolt M14–2.0P 50L – 1EA
- (18) Washer Spring M14 – 2EA
- (19) Washer Plain M14 – 2EA
- (21) Hex Nut M14–2.0P – 1EA
- (22) Hose Guide Round Bar – 1EA
- (23) Bolt-Sem's, M8–1.25P 15L – 2EA

Verify that all mounting kit hardware has been torqued as specified before installing loader.

- Identify hardware size and grade.
- Refer to Torque Chart, page 24 and find correct torque for your hardware size and grade.
- Torque hardware to this specification unless otherwise specified.

► **IMPORTANT NOTE:** To keep mounting kit hardware from loosening during loader operation, hardware must be torque to specifications.

# **LOADER INSTALLATION**



- ▶ Install Boom Ass'y.  
Hang the groove on the pin located on Mounting Frame.