Kioti KL1231

Loader For LK3054XS Tractors

Operators' Manual

< And Parts Catalogue>

< Quick Attachment/Detachment Type >

Printed in KOREA. Nov. 2004.

Warranty Conditions

Warranty Coverage:

Daedong-USA, Inc., Kioti Tractor Division, herein referred to as Kioti, undertakes to replace or repair any part of a Kioti 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 Kioti Loader to the Dealer's place of business or repair.

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

Kioti'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 Kioti Product, use those brands and grades of lubricating oils, lubricants or fuel and spare parts officially approved by Kioti.
- The Kioti 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 Kioti 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 Kioti dealer and request repair within the applicable warranty term and (2) present evidence of purchase.
- The Warranty shall be void if the Kioti Loader has been altered or repaired outside of a Kioti 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 Kioti's behalf and neither party assumes any other liability in connection with Kioti's Products.
- Any dispute arising between Kioti and the Purchaser concerning the liability of Kioti under this warranty shall be subject to the laws of the State of North Carolina.

Right To Make Design and Product Changes:

Kioti reserves the right to make changes in the design and other changes in its Kioti 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 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

Understand that your safety and the safety of other persons is measured by how you service and operate this loader. Know the position and operations of all controls before you they to operate. **Make sure you check all controls in all 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.

The safety information given in this manual does not replace any safety codes, insurance needs, federal, state and local laws. Make sure your machine has the correct equipment required by your local laws and regulations.

	**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

Before starting the engine of your tractor, make sure all operation controls are in park lock or neutral position.

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

Equip your tractor with a ROPS cab or frame for your protection. See your tractor operator's manual for correct seat belt usage.

A frequent cause of personal injury or death is persons falling off and being run over. Do not permit others to ride on your tractor. Only one person, the operator, should be on the machine when it is in operation.

Before leaving the tractor, stop the engine, put all controls in neutral, engage the parking brake and remove the key from the ignition.

When using remote hydraulic tractor valves on some tractors, the loader lift and dump cylinders will continue moving unless the control levers 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 the control levers.

Stop the loader arms gradually when lowering or lifting loads.
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"

⚠ SAFETY PRECAUTIONS ⚠

Travel speed should be such that complete control and machine stability is maintained at all times. Where possible, avoid operation near ditches, embankments and holes. Reduce speed when turning, crossing slopes, and on rough, slick or muddy surfaces.

Never use your hand to check for suspected leaks under pressure. Use a piece of cardbord or wood for this purpose. Escaping hydraulic oil or diesel fuel leaking under pressure can have sufficient force to penetrate the skin and cause infection or other 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.

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

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

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.

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

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.

When using a loader, be alert of bucket position at all times. Loader in raised position with bucket rolled back can dump material on tractor causing damage or injury to tractor and / or operator.

Always park loader with bucket attached to loader.

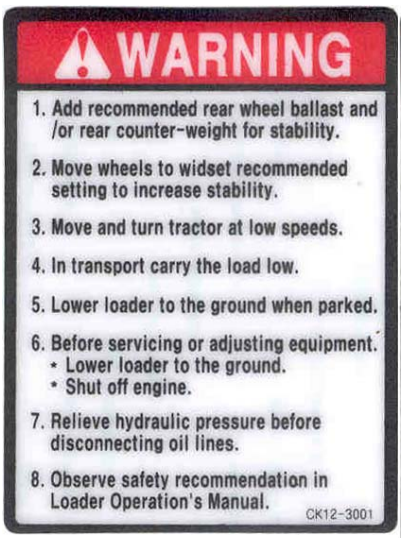
⚠ SAFETY DECALS ⚠

Safety Decal Locations

Important: Warning Decals CK12-3001, CK12-3002 located on the right hand Bearing Box and Warning Decal CK12-3003 located on the left hand Bearing Box are visible when getting on tractor.

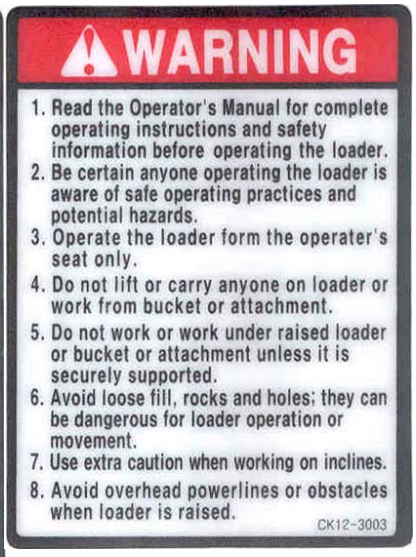
Care of Safety Decals.

1. Keep safety decals clean and free of obstructing material.
2. Clean safety decals with soap and water and dry with a soft cloth.
3. Replace damaged or missing safety decals with new decals from your Kioti Dealer.
4. 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.
5. Mount new safety decals by applying on a clean dry surface and pressing air bubbles to outside edges.



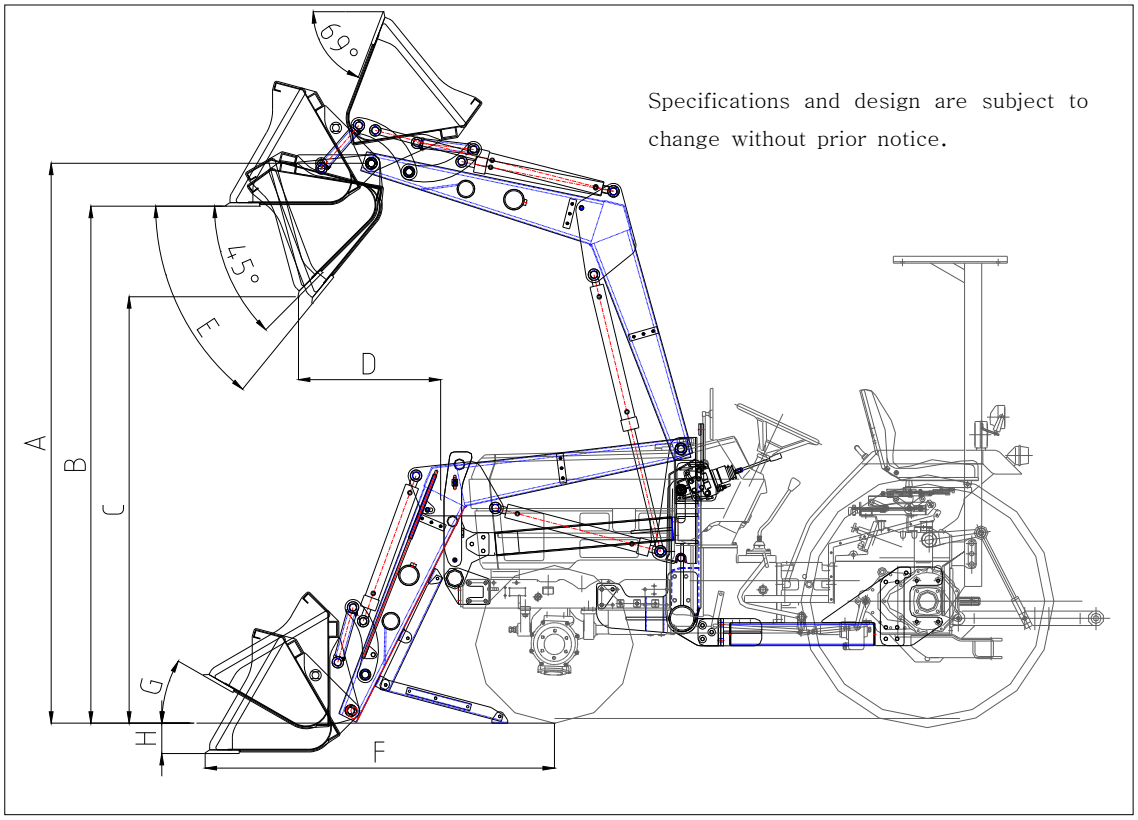
Warning CK12-3001

Warning CK12-3002



Warning CK12-3003

Loader Specifications



Loader Model: KL1231

Tractor Model: LK3054XS

A. Maximum Lift Height .....2,460mm ..... 97"
B. Clearance with Attachment Level .....2,270mm ..... 90"
C. Clearance with Attachment Dumped .....1,870mm ..... 73.5"
D. Reach at Maximum Height .....625mm ..... 24.5"
E. Maximum Dump Angle .....51°
F. Reach with Attachment on Ground .....1,520mm ..... 60"
G. Attachment Rollback Angle .....30°
H. Digging Depth Below Grade .....135mm..... 5.5"

Lift Capacity to full height@Pivot Pins .....600Kg..... 1320 lbs
Breakout Force .....880Kg..... 1935 lbs

Lift Cylinders .....ø30xø50mm..... ø1.18" x ø1.96"
Bucket Cylinder .....ø30xø50mm..... ø1.18" x ø1.96"

Bucket Width .....1,525mm..... 60"
Bucket Weight .....110Kg..... 245 lbs
Approx. Weight (without Bucket) .....395Kg..... 870 lbs
Bucket Capacity .....0.36m^3(0.266m^3)..... 12.7 cu.ft.(9.4 cu.ft)

INTRODUCTION

The purpose of this manual is to assist you in maintaining and operating your Kioti 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 is located on the left side of loader Mid_Mount. The serial number should be recorded on the Delivery and Registration form and also below for your reference.

Kioti KL1231 Loader Serial Number Information

Date Purchased_____

Loader Serial Number_____

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: 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.

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

TRACTOR PREPARATION

TRACTOR TIRES

Selection of tires(size, profile, tread type) should be restricted to tire recommendations as specified by Kioti.

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.

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 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.

LOADER OPERATION

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.

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.

LOADER OPERATION

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

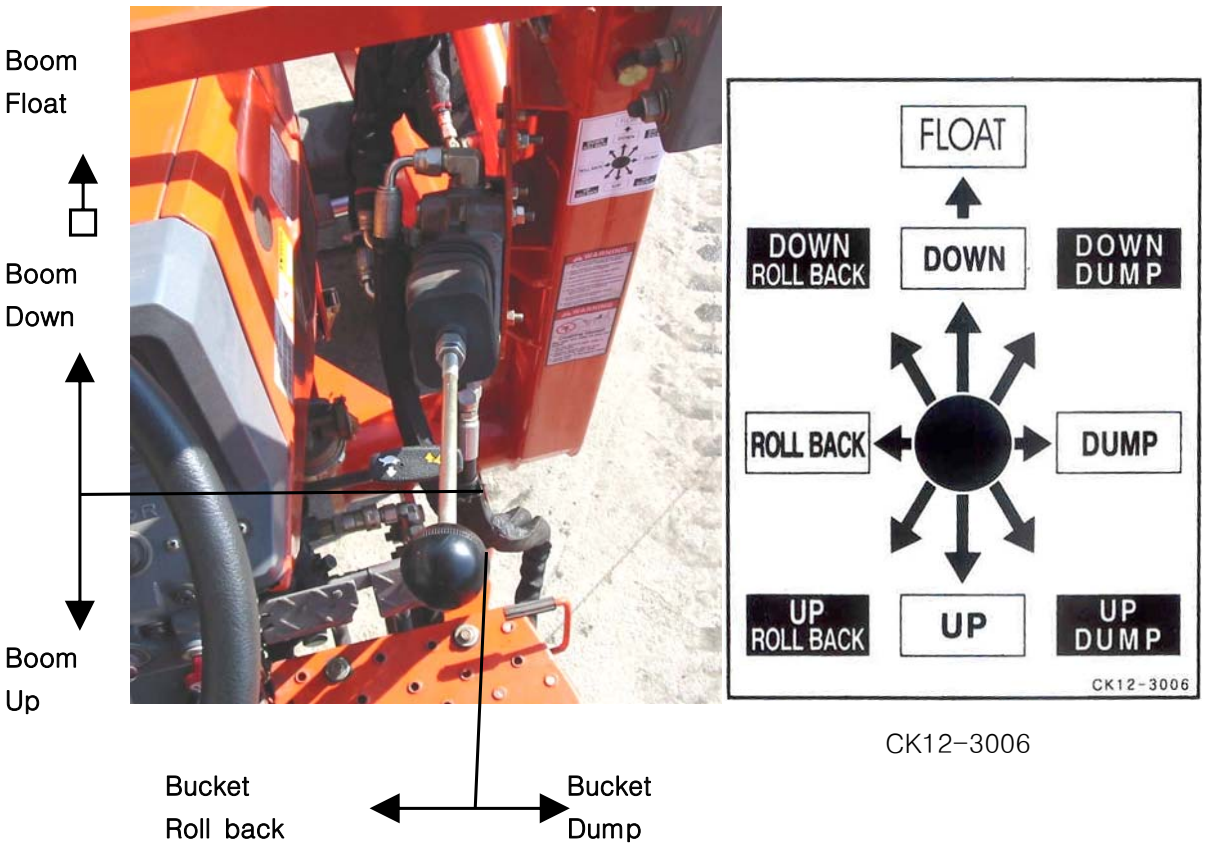
When "Backfilling" or "Backgrading", position the bucket so it is level on the ground. Do not dump material from bucket following each pass, as additional weight of material in bucket will assist in "Backgrading" and increases loader efficiency during "Backfilling".

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 OPERATION

Loader Hydraulic Controls



CK12-3006

The loader Hydraulic value features One-Lever control. Refer to the photograph and sticker for reference to loader control functions.

The loader hydraulic valve lift cylinder circuit is forward and rearward lever. And the loader bucket cylinder moves by left and right lever.

The control valve has a neutral position that prevents movement of boom or bucket. When the control valve is released from the work position, the spool will return to neutral.

Also, the control valve has Boom Floating device. The boom goes down slowly till the bucket contact to the ground by gravity. You may floating with the boom by push forward more to lock the control lever - It will be locking so return the lever when not use.

Important:

Contaminates in hydraulic oil can cause valve spools to stick. Be alert when operating loader and follow your Tractor Operator's Manual maintenance schedule.

LOADER REMOVAL

CAUTION: Never park loader without bucket attached to the loader.

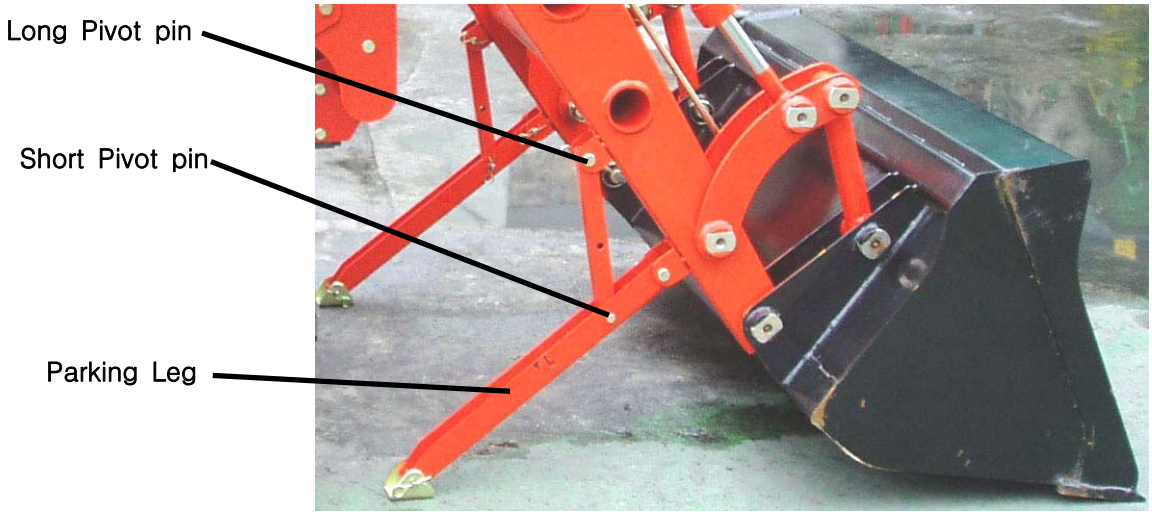
CAUTION: Never allow weight of tractor to be put on parking leg when removing loader.

STEP 1. Park the tractor and loader on hard level surface.

STEP 2. Raise the boon until the bucket is about 2 feet off the ground.

STEP 3. Set the parking legs with pivot pin and Keeper.

STEP 4. Lower the boom until the Parking legs make contact on the ground.
Tip the bucket until the bucket cutting edge touch the ground.



STEP 5. Remove the latch pin while move the control lever back and forth slightly to make the latch pin easy.

LOADER REMOVAL

STEP 6. Pull the control lever to raise the loader until the inner bearing box.

Adjust the bucket until the bottom surface of bucket touch the ground.

STEP 7. Move the tractor backword slowly and stop to avoid the hydraulic hoses being tighten.

STEP 8. Stop the engine and move the control lever back and forth, left and right several times to reduce the hydraulic pressure in the hoses.

STEP 9. 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.

STEP 1. Carefully drive the tractor into the loader to a position where the hydraulic hoses(Quick coupler) can be connected to the control valve block.

STEP 2. 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.

STEP 3. Start the engine and move the boom and bucket to adjust the height of inner bearing box.
Be sure to check the hook of inner bearing box is slightly higher than the pin welded on outer bearing box .

STEP 4. Move the tractor forward to put the inner bearing box into the outer bearing box. Stop the tractor
When the hook is right over the pin.
Lower the inner bearing box with moving the boom and bucket until it hooked securely each other.

STEP 5. 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.

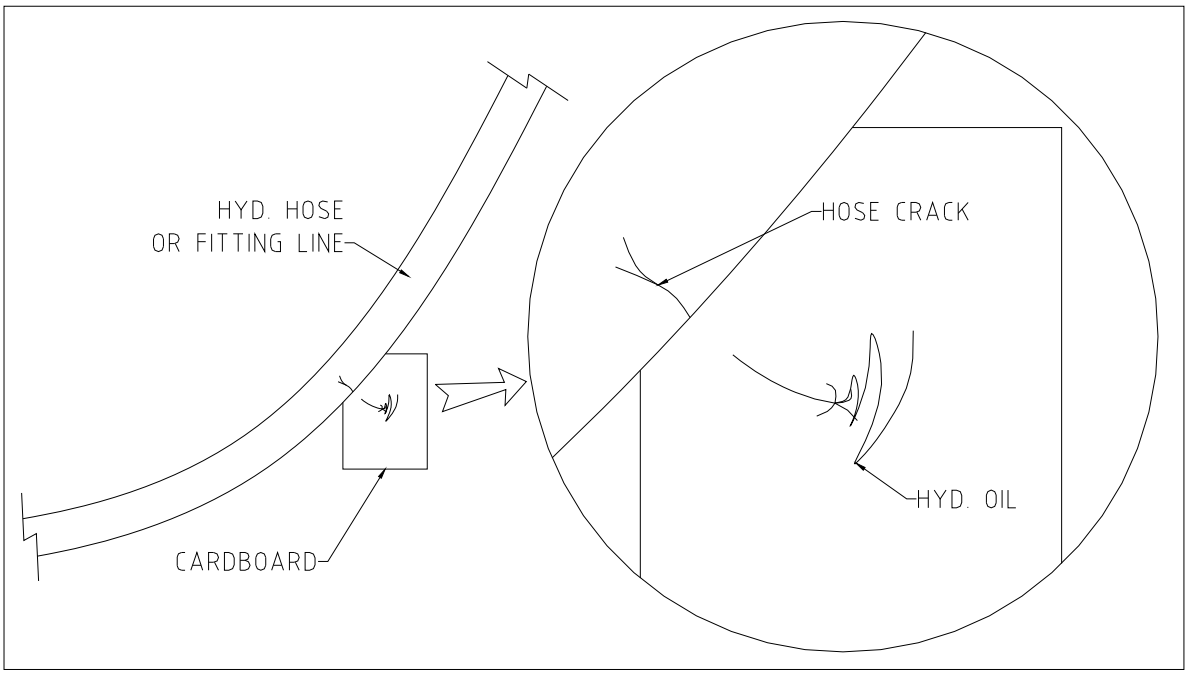
STEP 6. Remove pin and keeper holding the parking legs and return to storage position. Re-secure using pin and keeper.

LUBRICATION AND MAINTENANCE

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".

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.

LUBRICATION AND MAINTENANCE

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 linch pins	Check, replace if necessary	Daily/10 hours
Loader mount hardware	Check visually	Daily/10 hours
Loader mount hardware	Re-torque	Every 25 hours

< Lubrication and Maintenance Chart >

Note: It most good to checking hydraulic system oil level, lubricating the grease, and maintenance the loader as often as possible. but if not possible, you must check this as the chart.

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
Lift and Bucket Cylinders	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.

TROUBLE SHOOTING

PROBLEM	POSSIBLE CAUSE	CORRECTION
Lift and/or Bucket Cylinders operate in wrong direction relative to control valve lever position.	Hydraulic hoses connected incorrectly.	Correct hydraulic hose connections.
Slow or erratic lift	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"

TROUBLE SHOOTING

PROBLEM	POSSIBLE CAUSE	CORRECTION
Inadequate lifting capacity	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 leakge. Repair as needed.
	Control valve leaking internally	Replace control valve and recheck operation.
	Hydraulic pump defective.	Refer to "Hydraulic Pump Capacity Inadequate".
Aeration of Hydraulic Fluid(Generally indicated by foamy apperance of fluid).	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.
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.

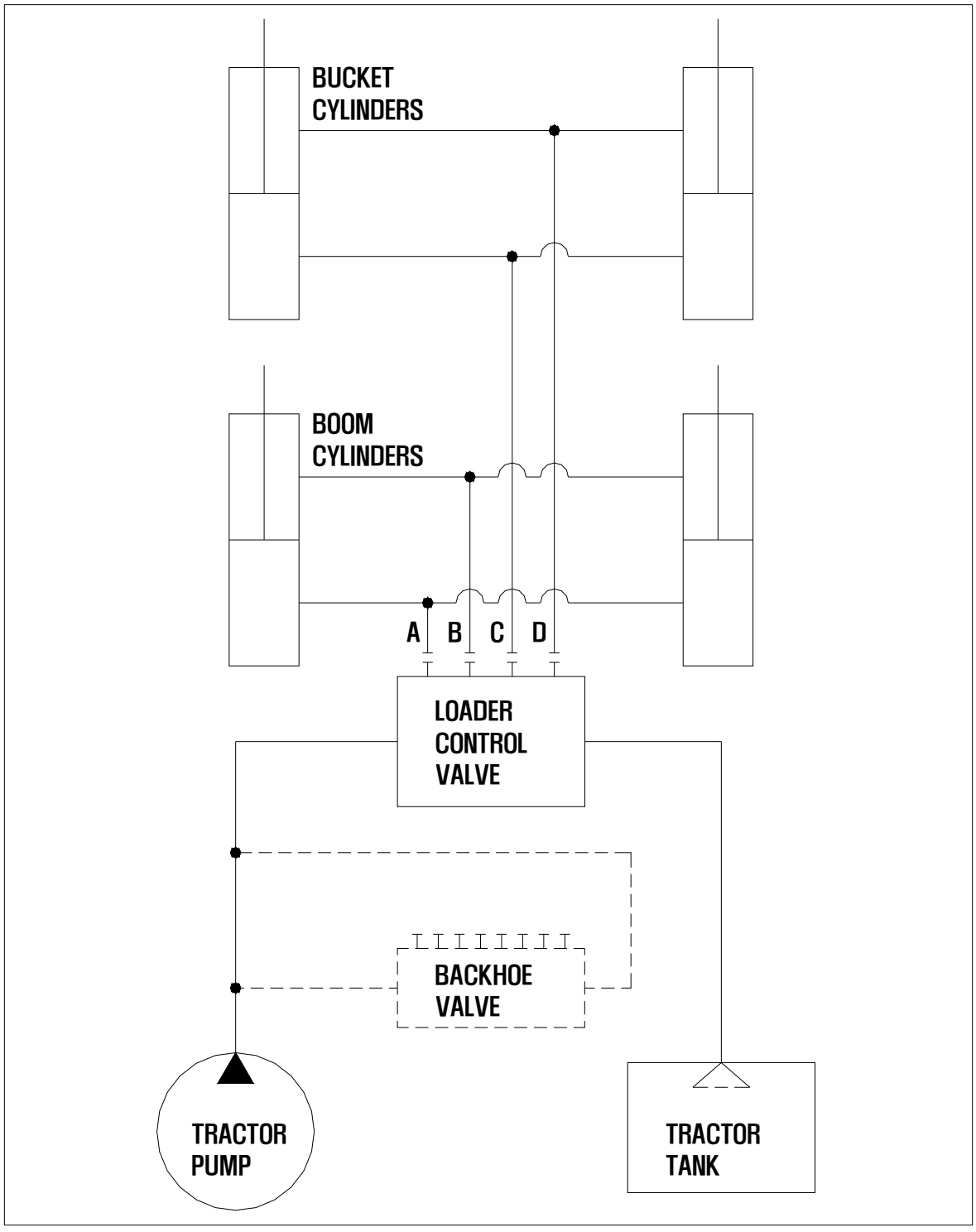
TROUBLE SHOOTING

PROBLEM	POSSIBLE CAUSE	CORRECTION
Loader drops with control valve spool in "centered" position (no external oil leakage evident.) Note: A gradual drop over an extended period of time is a normal condition.	Cylinder piston assembly leakage.	Check cylinders for leakage.
	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.
Hydraulic pump capacity inadequate.	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.

TROUBLE SHOOTING

PROBLEM	POSSIBLE CAUSE	CORRECTION
Lift cylinder rod bend when lift cylinders extended.	Excessive shock load on lift cylinders during transport.	Replace defective parts. Review and observe proper and safe operational practices.
Bucket cutting edge wear is uneven side to side	Bucket is not level to ground.	Check rear tire inflation and adjust to level bucket to ground.
Bucket cutting edge wear rate is excessive. (Wear rate is even across full width of bucket). Note: Extensive use of bucket on concrete or asphalt surfaces will accelerate wear rate of bucket cutting edge.	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.
	Bucket wear pads worn.	Replace wear pads.

HYDRAULIC SYSTEM SCHEMATIC



A : Lift cylinder extend
B : Lift cylinder retract
C : Bucket cylinder extend
D : Bucket cylinder retract

Note: Refer to the "LOADER INSTALLATION" and "PART ILLUSTRATION"

TORQUE TIGHTENING CHART

SAE Grade No.	2				5				8*			
Bolt head identification (see note 1)												
Bolt size	LB / FT		Nm		LB / FT		Nm		LB / FT		Nm	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
1/4	5	6	7	8	9	11	12	15	12	15	16	20
5/16	10	12	14	16	17	20.5	23	28	24	29	33	39
3/8	20	23	27	31	35	42	48	57	45	54	61	73
7/16	30	35	41	47	54	64	73	87	70	84	95	114
1/2	45	52	61	70	80	96	109	130	110	132	149	179
9/16	65	75	88	102	110	132	149	179	160	192	217	260
5/8	95	105	129	142	150	180	203	244	220	264	298	358
3/4	150	185	203	251	270	324	366	439	380	456	515	618
7/8	160	200	217	271	400	480	542	651	600	720	814	976
1	250	300	339	406	580	696	787	944	900	1080	1220	1464
11/8					800	880	1085	1193	1280	1440	1736	1953
11/4					1120	1240	1519	1681	1820	2000	2468	2712
13/8					1460	1680	1980	2278	2380	2720	3227	3688
11/2					1940	2200	2631	2983	3160	3560	4285	4827

Note 1: Bolt head identification marks as per grade. Manufacturing marks will vary.

*Thick nuts must be used with Grade 8 bolt

METRIC FASTENER (ISO) TORQUE CHART

Note: Use these torques. unless special torques are specified. Values are UNC and UNF thread fasteners,plated or unplated as received from supplier. Fasteners can be dry or lubricated with normal engine oil. Values do not apply if graphite, moly-disulphite or other extreme pressure lubricant is used

ISO Class No.	8.8				10.9				12.9		
Bolt head identification(see note1)											
Bolt Size	Nm		LB / FT		Nm		LB / FT		Nm		LB / FT
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min Max
M4	3	4	2	3	4	5	3	4	Because of the low ductility of these fasteners, the torque range is to be determined individually for each application. As s general rule, the torque ranges specified for grade 10.9 fasteners can be used satisfactorily on 12.9 fasteners *M14 is not a preferred size.		
M5	6.5	8	5	6	9.5	11	7	8			
M6	10.5	12	8	9	15	17.5	11	13			
M8	26	31	19	23	37	43	27	32			
M10	52	61	38	45	73	87	54	64			
M12	90	107	66	79	125	150	93	112			
*M14	144	172	106	127	200	245	149	179			
M16	217	271	160	200	310	380	230	280			
M20	434	515	320	380	610	730	450	540			
M24	675	815	500	600	1050	1275	780	940			
M30	1250	1500	920	1100	2000	2400	1470	1770			
M36	2175	2600	1600	1950	1120	1240	1519	1681			

Note 1: Bolt head identification marks as per grade. Manufacturing mark will vary.

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.

Check your type of the loader and search the column of "Q'ty" correctly.

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.

Note: 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.

Interchangeability

Indicates the interchangeability of parts due to design change.

OLD Indicates that a new part can be used instead of an old part
NEW when you order this part, Please order new part.

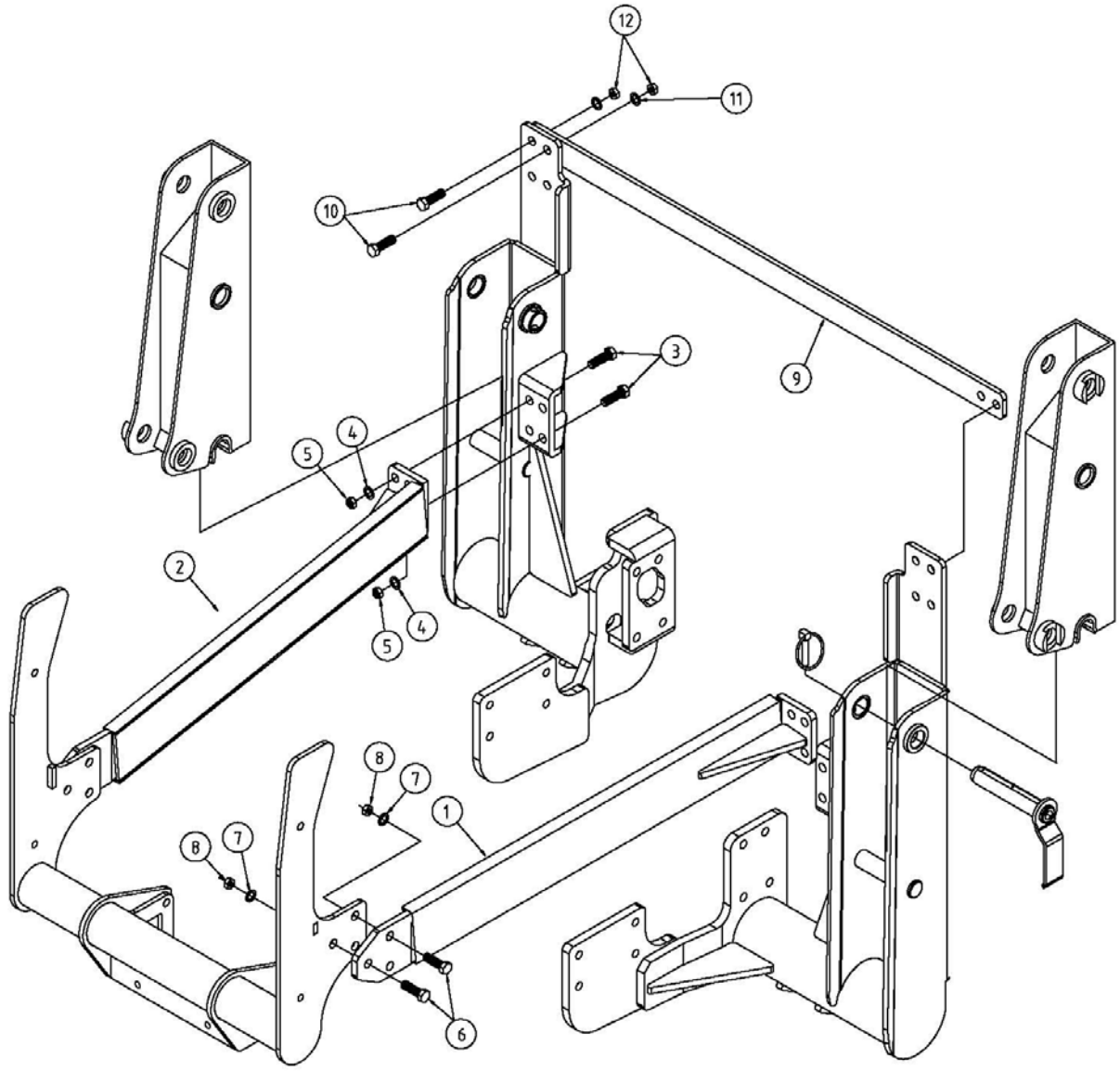
Indicates that either parts can be used.

FRONT GRILL ASSEMBLY

FRONT GRILL ASSEMBLY

REF	DESCRIPTION	SPECIFICATION	PART No.	Q'ty	Interchange Ability
	Front Grill Kit	No.1~No.7	LK01-0100-P	1	
1	Front Grill		LK01-0100	1	
2	Hinge Pin	Φ20	LK01-0201	2	
3	Fixing Pin	Φ12	LK01-0202	2	
4	Spring	Φ1.5-1kg	LK01-0203	2	
5	R Pin	Φ3	1008-2002	4	
6	Grip Ball	Φ40	5005-B012	2	
7	Flat Washer	Φ12	1004-0012	2	
	Bumper Kit	No.5, No.8~No.14	LK02-0100-P	1	
8	Bumper		LK02-0100	1	
9	Hex Head Bolt	M12-1.75P 50L(HT)	1001-126A	8	
10	Spring Washer	Φ12	1003-0012	8	
11	Hex Head Nut	M12-1.75P	1002-1262	8	
12	Hex Head Bolt	M10-1.25P 35L(HT)	1001-1037	4	
13	Spring Washer	Φ10	1003-0010	4	
14	Hex Head Nut	M10-1.25P	1002-1032	4	

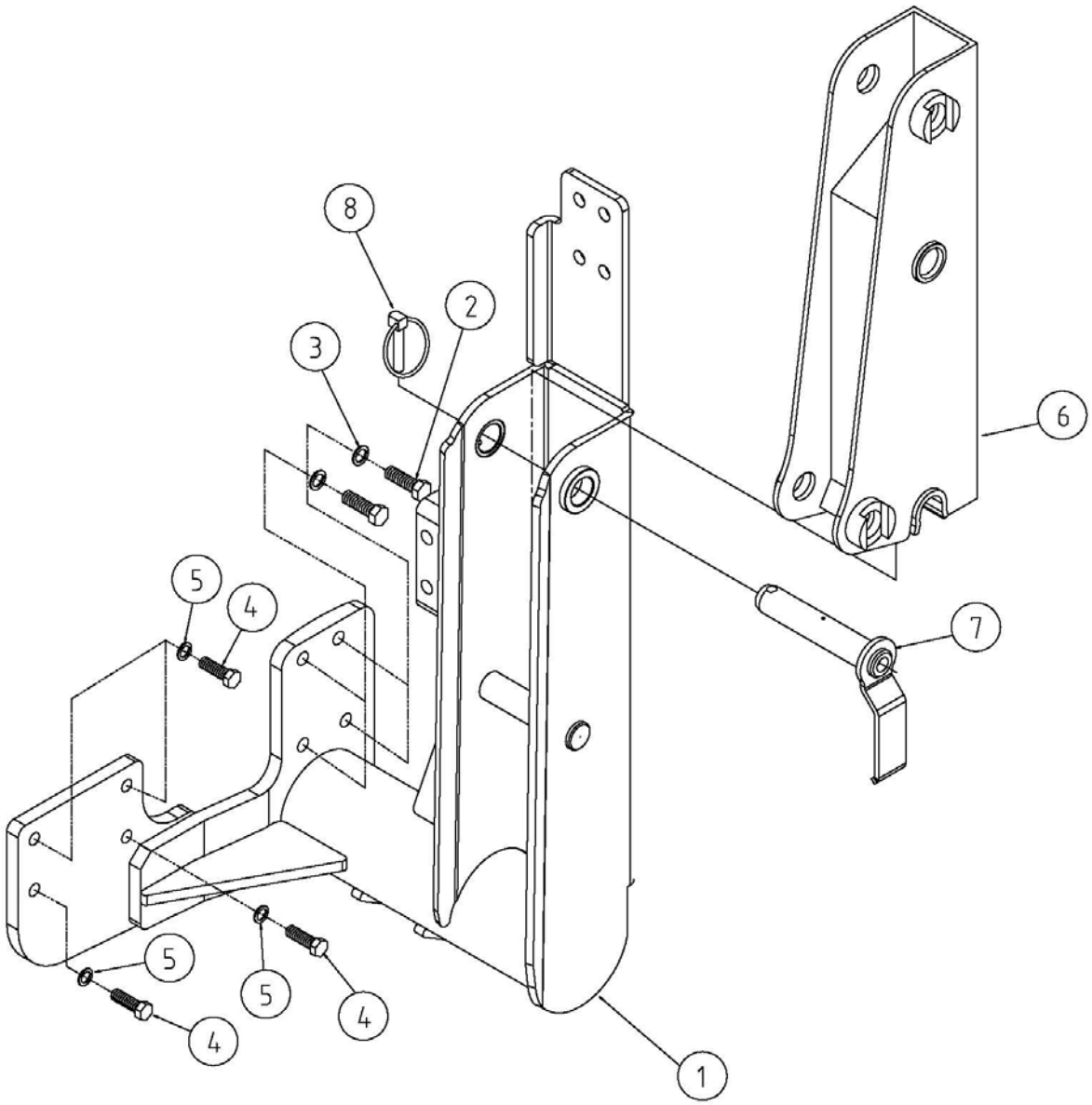
SIDE BRACKET ASSEMBLY UPDATED(03.13.2007)



SIDE BRACKET ASSEMBLY UPDATED(03.13.2007)

REF	DESCRIPTION	SPECIFICATION	PART No.	Q'ty	Interchange Ability
	Side Bracket Kit LH	No.1, No.3~No.8	LA03-0100L-P	1	
	Side Bracket Kit RH	No.2~No.8	LA03-0100R-P	1	
1	Side Bracket LH		LA03-0100L	1	
2	Side Bracket RH		LA03-0100R	1	
3	Hex Head Bolt	M14-2.0P 45L	1001-1479	8	
4	Spring Washer	Φ14	1003-0014	8	
5	Hex Head Nut	M14-2.0P	1002-1472	8	
6	Hex Head Bolt	M14-2.0P 40L	1001-1478	6	
7	Spring Washer	Φ14	1003-0014	6	
8	Hex Head Nut	M14-2.0P	1002-1472	6	
	Overcross Bar Kit	No.9~No.12	LK04-0302-P	1	
9	Overcross Bar	9T	LK04-0302	1	
10	Hex Head Bolt	M14-2.0P 45L	1001-1479	4	
11	Spring Washer	Φ14	1003-0014	4	
12	Hex Head Nut	M14-2.0P	1002-1472	4	

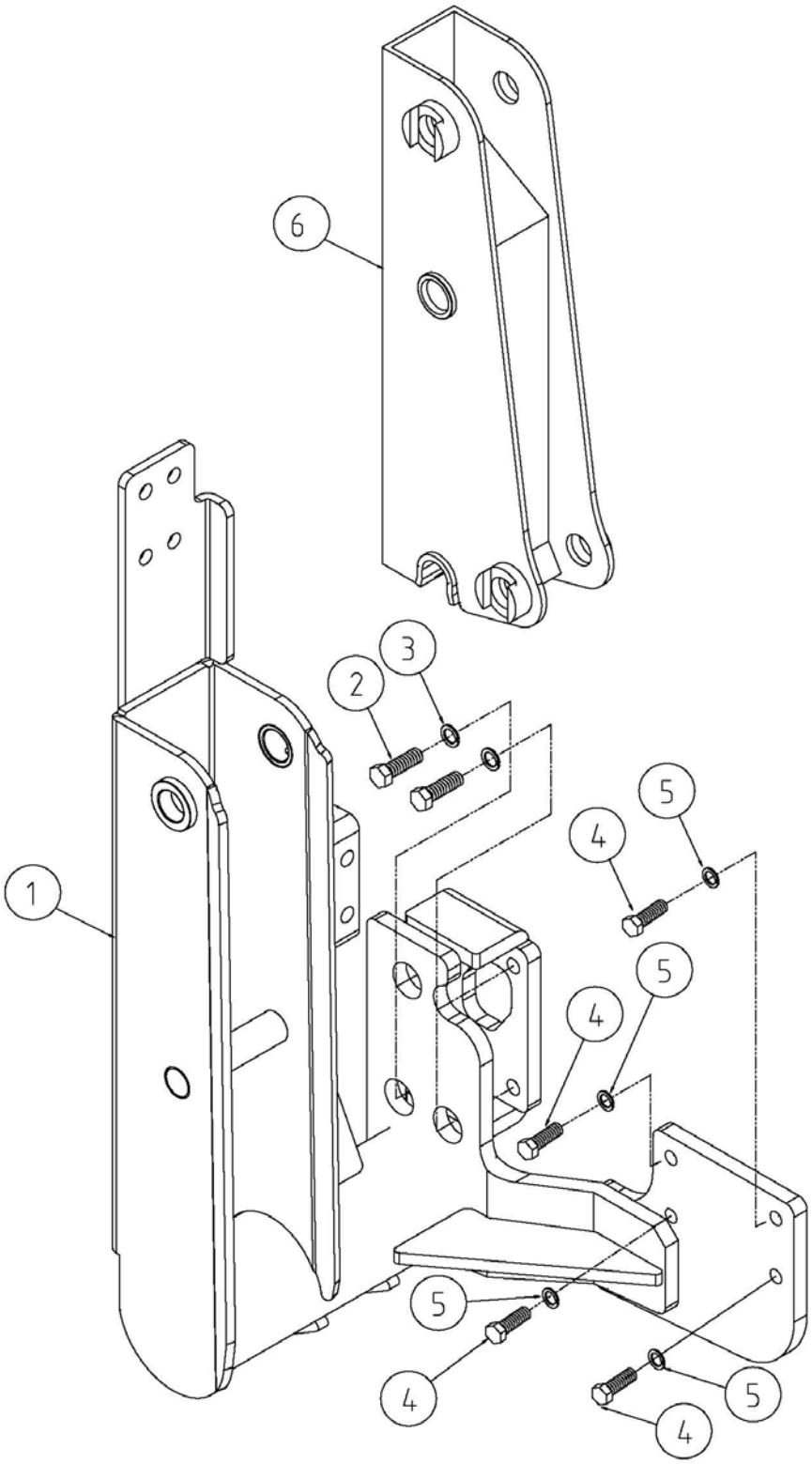
BEARING BOX LH ASSEMBLY UPDATED(08.20.2007)



BEARING BOX LH ASSEMBLY UPDATED(08.20.2007)

REF	DESCRIPTION	SPECIFICATION	PART No.	Q'ty	Interchange Ability
	Bearing Box Kit		LA04-0200-P	1	← OLD
	Bearing Box Kit	No1 ~ No5.	LA04-0200-PA	1	← NEW(03.13.2007~)
1	Bearing Box Bracket LH		LA04-0200	1	← OLD
	Bearing Box Bracket LH		LA04-0200-A	1	← NEW(03.13.2007~)
2	Hex Head Bolt	M14-1.5P 35L(HT)	1001-1457	4	
3	Spring Washer	Φ14	1003-0014	4	
4	Hex Head Bolt	M12-1.25P 40L(HT)	1001-1238	2	← OLD
	Hex Head Bolt	M12-1.25P 60L(HT)	1001-123C	3	← OLD
	Hex Head Bolt	M12-1.25P 40L(HT)	10191-M1203-40	3	← NEW(03.13.2007~)
5	Spring Washer	Φ12	1003-0012	4	Decreased 5->4 (03.13.2007~)
6	Bearing Box LH		LA04-0100L	1	
7	Latch Pin	Φ30	LA11-0200-A	2	
8	Linch Pin	Φ10	1008-1001	2	

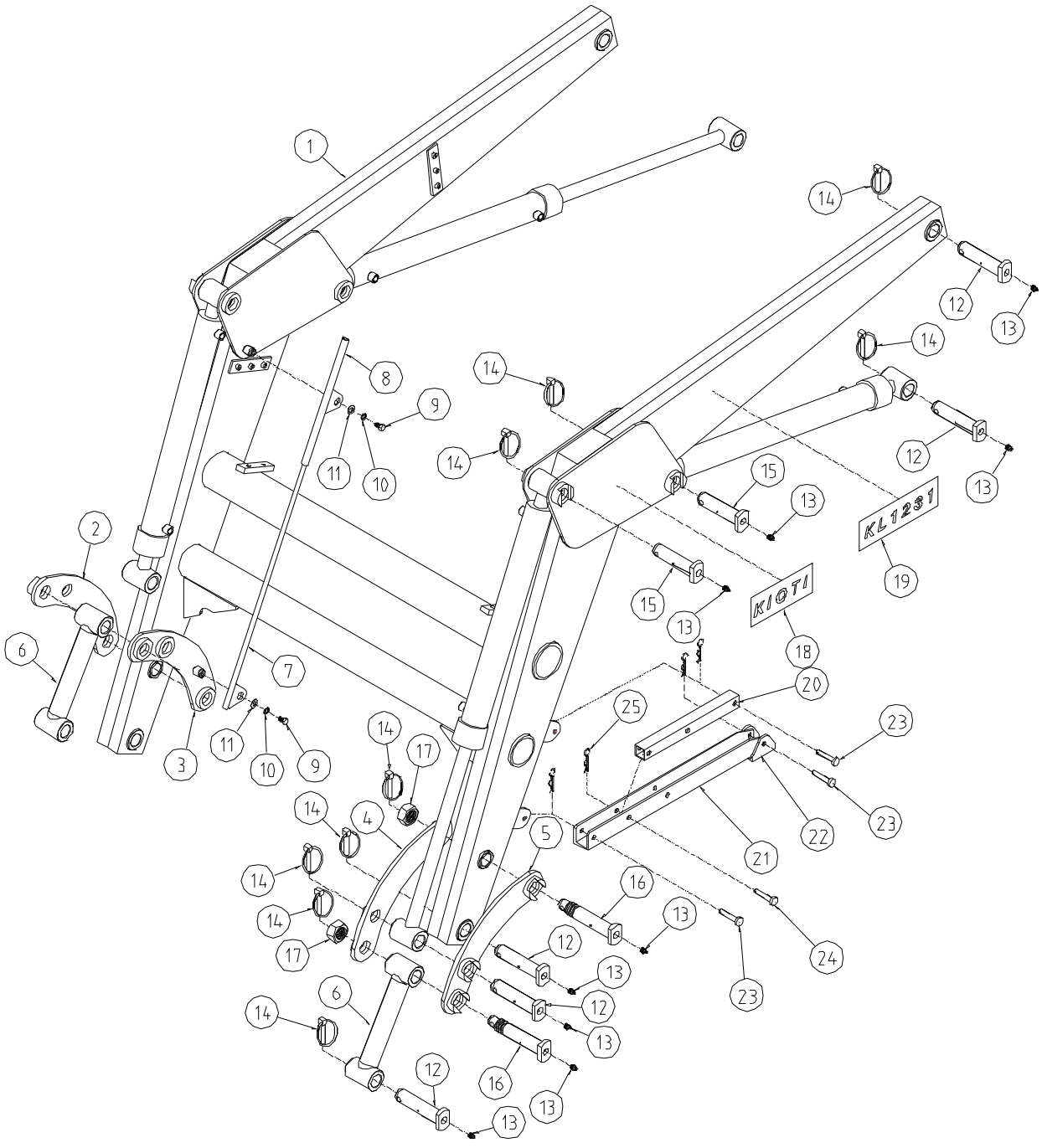
BEARING BOX RH ASSEMBLY UPDATED(08.20.2007)



BEARING BOX RH ASSEMBLY UPDATED(08.20.2007)

REF	DESCRIPTION	SPECIFICATION	PART No.	Q'ty	Interchange Ability
	Bearing Box RH Kit		LA04-0100-P	1	← OLD
	Bearing Box RH Kit	No1 ~ No5.	LA04-0100-PA	1	← NEW(03.13.2007~)
1	Bearing Box Bracket RH		LA04-0100	1	← OLD
	Bearing Box Bracket RH		LA04-0100-A	1	← NEW(03.13.2007~)
2	Hex Head Bolt	M14-1.5P 35L(HT)	1001-1457	4	
3	Spring Washer	Φ14	1003-0014	4	
4	Hex Head Bolt	M12-1.25P 60L(HT)	1001-123C	2	← OLD
	Hex Head Bolt	M12-1.25P 40L(HT)	1001-1238	1	← OLD
	Hex Head Bolt	M10-1.25P 60L(HT)	1001-103C	1	← OLD
	Hex Head Bolt	M12-1.25P 40L(HT)	10191-M1203-40	3	← NEW(03.13.2007~)
5	Spring Washer	Φ12	1003-0012	4	
6	Bearing Box RH		LA04-0100R	1	

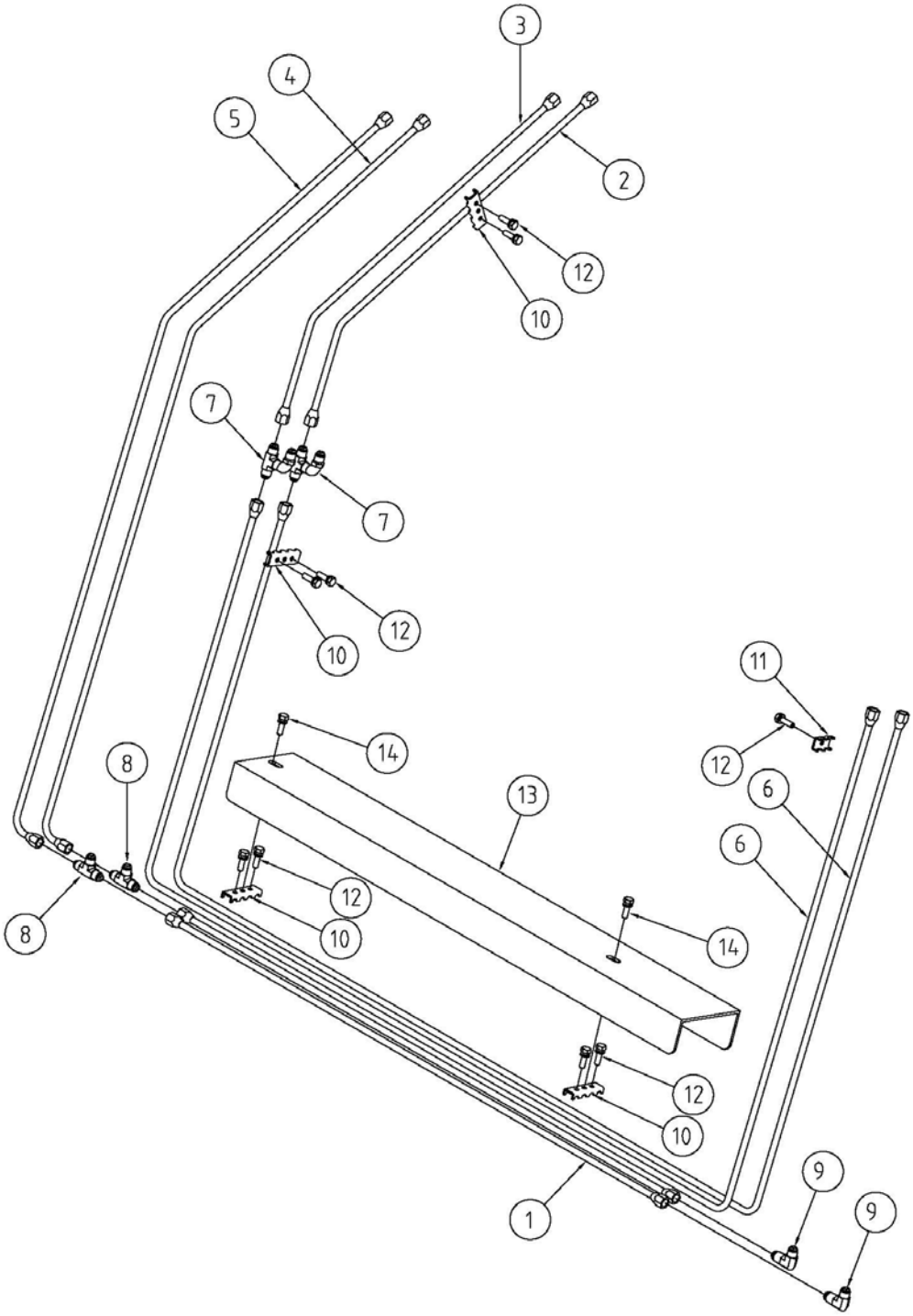
BOOM ASSEMBLY UPDATED(03.13.2007)



BOOM ASSEMBLY UPDATED(03.13.2007)

REF	DESCRIPTION	SPECIFICATION	PART No.	Q'ty	Interchange Ability
1	Boom Ass'y		LA05-0100	1	◀
	Boom Ass'y		LA05-0100-01	1	03.13.2007~
	Boom Linkage Ass'y	No.2~No.5	LK06-0100-P	1	
2	Boom Linkage RH Outer Ass'y		LK06-0120	1	
3	Boom Linkage RH Inner Ass'y		LK06-0220	1	
4	Boom Linkage LH Inner Ass'y		LK06-0210	1	
5	Boom Linkage LH Outer Ass'y		LK06-0110	1	
6	Bucket Linkage Ass'y		LK07-0100	2	
	Indicator Rod Kit	No.7, No.9~No.11	LK09-0200-P	1	
7	Indicator Rod		LK09-0200	1	
	Indicator Pipe Kit	No.8~No.11	LK09-0100-P	1	
8	Indicator Pipe		LK09-0100	1	
9	Hex Head Bolt	M10-1.25P 15L	1000-1033	2	
10	Spring Washer	Φ10	1003-1010	2	
11	Flat Washer	Φ10	1004-0010	2	
	Pin Kit	No.12~No.17	LK11-0100-P	1	
12	Pivot Pin (Hole)	Φ30-130L	LK11-0102	10	
13	Grease Nipple	PT 1/8"	4001-0001	18	
14	Linch Pin	Φ10	1008-1001	14	
15	Pivot Pin (Hole)	Φ30-116L	LA11-0101	4	
16	Pivot Pin (Nut)	Φ30-160L	LK11-0103	4	OLD(41210001 ~50420100) ◀
	Pivot Pin (Nut)	Φ30	LTL26-71212_01	4	NEW
17	Hex Head Nut	M27-1.5P	1002-2751	4	OLD(41210001 ~50420100) ◀
	Hex Head Nut , Lock	M30-2.0P	LTL26-71301	4	NEW
18	Sticker(KIOTI)		LK50-5001	2	
19	Sticker(KL1231)		LK50-5002	2	
	Parking Leg Kit	No.20 ~ No.25	LA05-0100-P	2	
20	Leg Fixer	30X30X3.2T	LA05-0101	2	
21	Parking Leg	4.5T	LA05-0102	2	
22	Parking Foot	4.5T	CK09-0105	2	
23	Long Pivot Pin	Φ10	CK09-0106	6	
24	Short Pivot Pin	Φ10	CK09-0108	2	
25	R-Pin	Φ3	1008-2002	8	

TUBELINES FITTING ASSEMBLY UPDATED(03.13.2007)

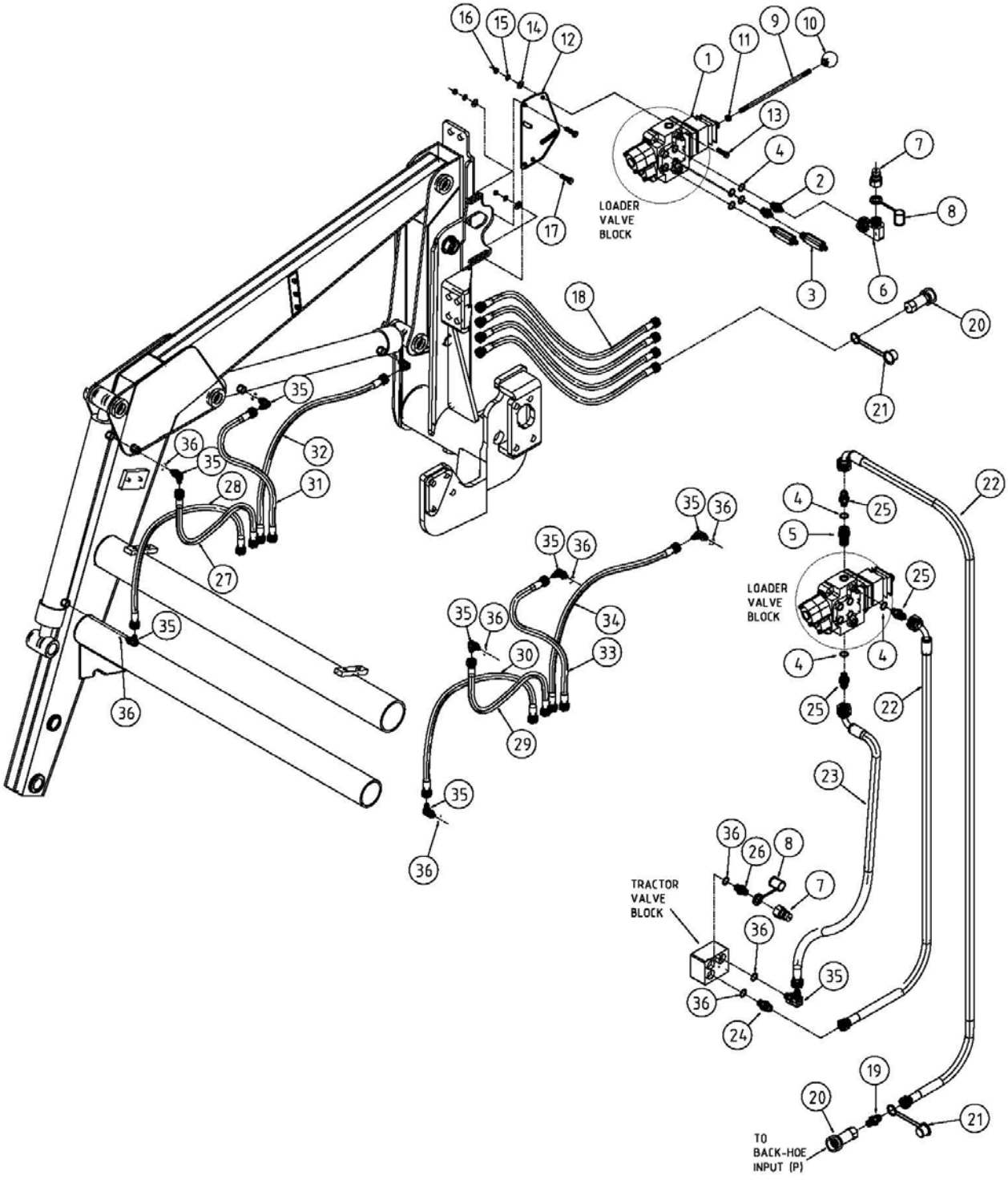


TUBELINES FITTING ASSEMBLY UPDATED(03.13.2007)

REF	DESCRIPTION	SPECIFICATION	PART No.	Q'ty	Interchange Ability
	Tubeline Fitting Kit	No.1~No.9	LA12-0100-PB	1	(03.13.2007~)
1	Tubeline(Cross)	Φ12-1.5T	LA12-0105-B	2	(03.13.2007~)
2	Tubeline(Boom Up)	Φ12-1.5T	LA12-0104-B	1	(03.13.2007~)
3	Tubeline(Boom Down)	Φ12-1.5T	LA12-0103-B	1	(03.13.2007~)
4	Tubeline(Bucket Rollback)	Φ12-1.5T	LA12-0102-B	1	(03.13.2007~)
5	Tubeline(Bucket Dump)	Φ12-1.5T	LA12-0101-B	1	(03.13.2007~)
6	Tubeline(Cross)	Φ12-1.5T	LA12-0106-B	2	(03.13.2007~)
7	Nipple	h type 3/4-16UNF	802H1-F94F9-40	2	(03.13.2007~)
8	Nipple	T type 3/4-16UNF	802T2-F94F9-40	2	(03.13.2007~)
9	Nipple	3/4-16UNFx3/4-16UNF 90°	802L2-F94F9-40	2	(03.13.2007~)
	Tubeline Clamp Kit	No.10~No.12	LA12-0200-PA	1	(03.13.2007~)
10	Clamp		LTL26-81801	4	(03.13.2007~)
11	Clamp		LTL26-81802	1	(03.13.2007~)
12	Hex Head Bolt	M8-1.25P 35L	1012S-M0803-35	9	(03.13.2007~)
	Tubeline Cover Kit	No.13~No.14	LA12-0402-PA	1	(03.13.2007~)
13	Cover, Pipe(Cross)		LA12-0402-A	1	(03.13.2007~)
14	Hex Head Bolt	M8-1.25P 35L	1012S-M0803-35	2	(03.13.2007~)

HOSE FITTING ASSEMBLY UPDATED(03.13.2007)

(When using KL1231 with KB2376)



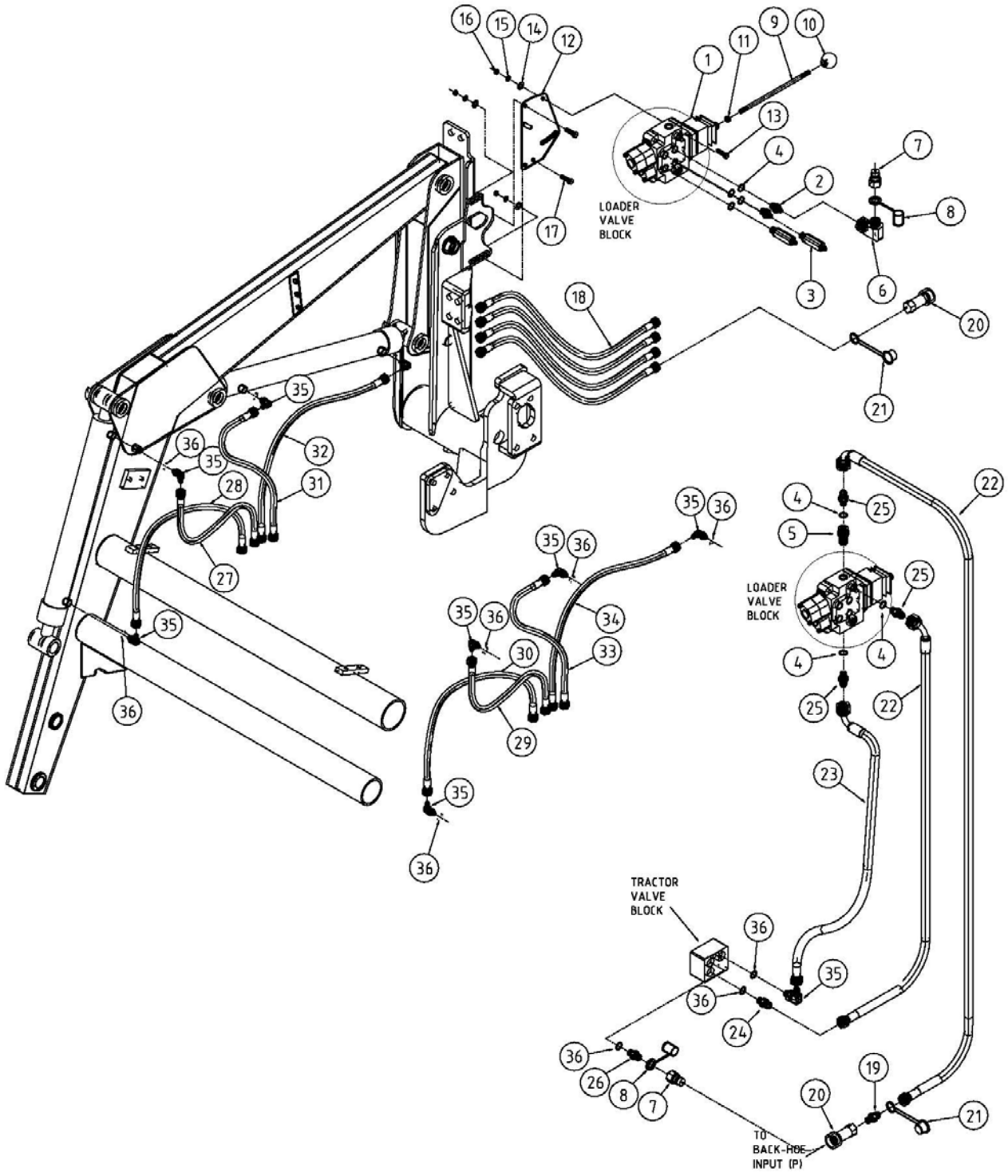
HOSE FITTING ASSEMBLY UPDATED(03.13.2007)

(When using KL1231 with KB2376)

REF	DESCRIPTION	SPECIFICATION	PART No.	Q'ty	I.C
	Control Valve Kit	No.1~No.17	LA14-0100-P	1	
1	Control Valve	DN2, Dinoil	6002-MDN2	1	
2	Adapter(Copper), short	PF3/8x3/4-16UNF	6004-0511	2	
3	Adapter(Copper), Long	PF3/8x3/4-16UNF	6004-0512	2	
4	Copper Ring	3/8"	6006-0020	7	
5	Power Beyond Port Ass'y	PF(1/2)-PF(3/8)	6002-MDN2-1	1	
6	Elbow,Swivel 90°	PT3/8X3/4-16UNF	6004-0113	4	
7	Quick Coupler	3/8" male	0001-1002	5	
8	Dust Cap	3/8, Red	8044R-03300	2	
8	Dust Cap	3/8, Blue	8044B-03300	1	
8	Dust Cap	3/8, White	8044W-03300	1	
8	Dust Cap	3/8, Yellow	8044Y-03300	1	
9	Lever		LK14-0101	1	
10	Grip Ball	Φ40	5005-B012	1	
11	Hex Head Nut	M10-1.5P	1002-1051	1	
12	Plate(Valve)	4.5T	LA14-0102	1	(40705001~)
13	Hex Head Bolt	M8-1.25P 45L	1000-0839	3	
14	Flat Washer	Φ8	1004-0008	6	
15	Spring Waher	Φ8	1003-1008	6	
16	Hex Head Nut	M8-1.25P	1002-0831	6	
17	Hex Head Bolt	M8-1.25P 25L	1000-0835	3	
	Valve Hose Kit	No.18~No.21	LK13-0110-P	1	◀ OLD(~50819050)
			LK13-0110-PA	1	◀ NEW(08.30.2006)
18	Hose (Valve Fitting)	4(1/4)x4(1/4)x770L	LK13-0110	4	◀ OLD(~50819050)
		2(3/4-16UNF)x1(PT3/8)x800L	LK13-0110-A	4	◀ NEW(08.30.2006)
19	Adapter	PT3/8x3/4-16UNF	802N2-T46F9-40	1	
20	Quick Coupler	3/8" Female	0001-1001	5	
21	Dust Plug	3/8, Red	8043R-03300	2	
21	Dust Plug	3/8, Blue	8043B-03300	1	
21	Dust Plug	3/8, White	8043W-03300	1	
21	Dust Plug	3/8, Yellow	8043Y-03300	1	
22	Hose(Valve OUT,POWER BEYOND)	904(3/8)x4(3/8)x800L	LK13-0160	2	
23	HOSE (Valve Input)	904(3/8)x4(3/8)x550L	LK13-0170	1	
24	Adapter	PF3/8 O-Ringx3/4-16UNF	6004-0105	1	
25	Adapter(Copper)	PF3/8 Copperx3/4-16UNF	6004-0511	3	
26	Adapter	PT3/8xPF3/8 O-Ring	6004-0214	1	
	Cylinder Hose Kit	NO.27~NO.36	LK13-0120-P	1	◀ OLD(~50819050)
			LK13-0120-PA	1	◀ NEW(08.30.2006)
27	Hose(Bucket)	4(1/4)x4(1/4)x520L	LK13-0120	4	◀ OLD(~50819050)
		4(3/8)x454(3/8)x450L	LK13-0120-A	1	◀ NEW(08.30.2006)
28	Hose(Bucket)	4(3/8)x454(3/8)x700L	LK13-0210	1	(08.30.2006~)
29	Hose(Bucket)	4(3/8)x4(3/8)x450L	LK13-0220	1	(08.30.2006~)
30	Hose(Bucket)	4(3/8)x4(3/8)x700L	LK13-0230	1	(08.30.2006~)
31	Hose(Boom up)	4(1/4)x4(1/4)x575L	LK13-0130	2	◀ OLD(~50819050)
		4(3/8)x4(3/8)x400L	LK13-0130-A	1	◀ NEW(08.30.2006)
32	Hose(Boom Down)	4(1/4)x4(1/4)x1100L	LK13-0140	2	◀ OLD(~50819050)
		4(3/8)x4(3/8)x950L	LK13-0140-A	1	◀ NEW(08.30.2006)
33	Hose(Boom up)	4(3/8)x1(3/4-16UNF)x400L	LK13-0240	1	(08.30.2006~)
34	Hose(Boom Down)	4(3/8)x1(3/4-16UNF)x950L	LK13-0250	1	(08.30.2006~)
35	Elbow	PF3/8 O-Ringx3/4-16UNF 90°	6007-1823	9	Increased 3→8(08.30.2006)
36	O-Ring	P14	5004-0038	11	Increased 3→11(08.30.2006)

HOSE FITTING ASSEMBLY UPDATED(03.13.2007)

(When using only KL1231)

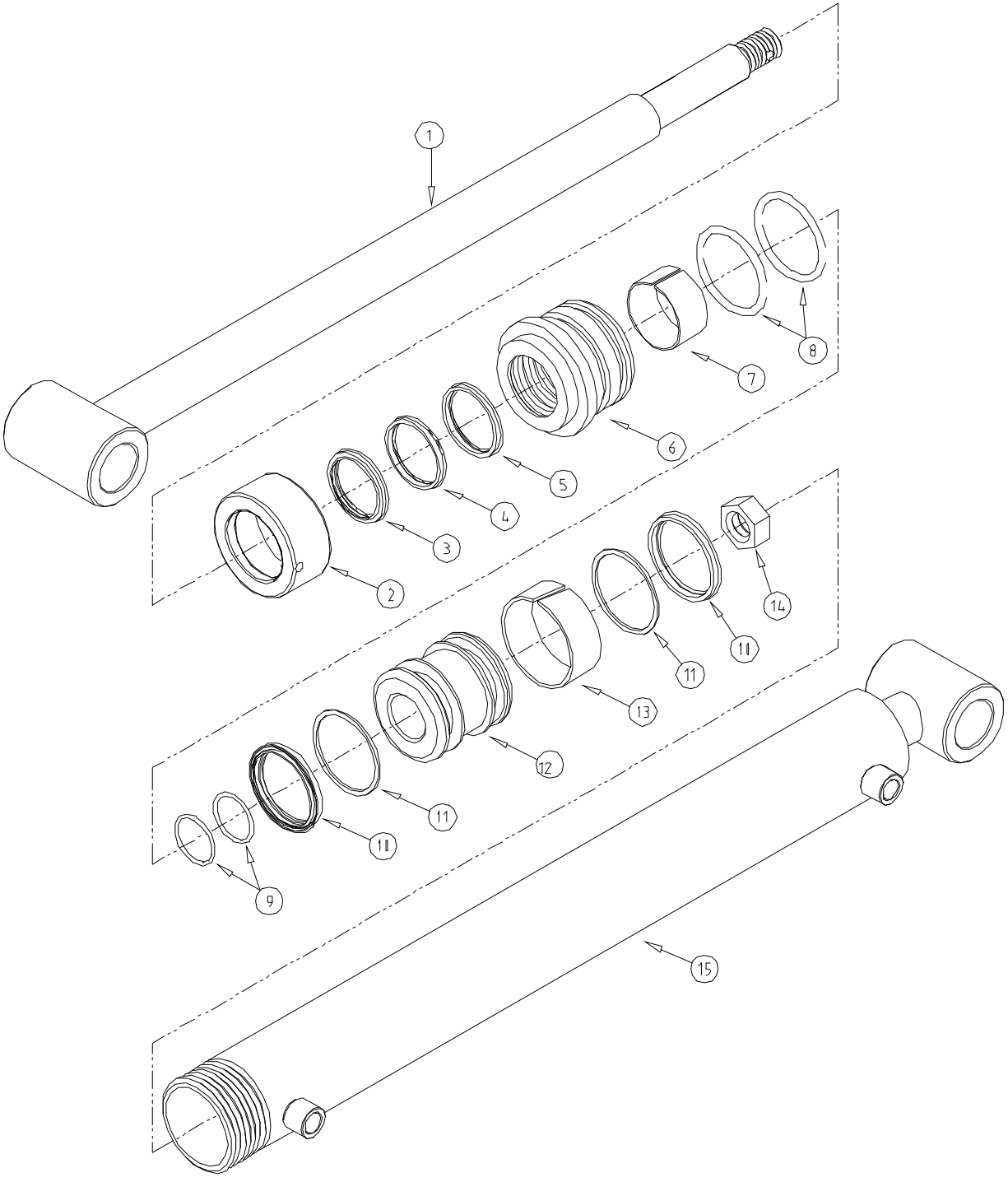


HOSE FITTING ASSEMBLY UPDATED(03.13.2007)

(When using only KL1231)

REF	DESCRIPTION	SPECIFICATION	PART No.	Q'ty	I.C
	Control Valve Kit	No.1~No.17	LA14-0100-P	1	
1	Control Valve	DN2, Dinoil	6002-MDN2	1	
2	Adapter(Copper), short	PF3/8x3/4-16UNF	6004-0511	2	
3	Adapter(Copper), Long	PF3/8x3/4-16UNF	6004-0512	2	
4	Copper Ring	3/8"	6006-0020	7	
5	Power Beyond Port Ass'y	PF(1/2)-PF(3/8)	6002-MDN2-1	1	
6	Elbow,Swivel 90°	PT3/8X3/4-16UNF	6004-0113	4	
7	Quick Coupler	3/8" male	0001-1002	5	
8	Dust Cap	3/8, Red	8044R-03300	2	
8	Dust Cap	3/8, Blue	8044B-03300	1	
8	Dust Cap	3/8, White	8044W-03300	1	
8	Dust Cap	3/8, Yellow	8044Y-03300	1	
9	Lever		LK14-0101	1	
10	Grip Ball	Φ40	5005-B012	1	
11	Hex Head Nut	M10-1.5P	1002-1051	1	
12	Plate(Valve)	4.5T	LA14-0102	1	(40705001~)
13	Hex Head Bolt	M8-1.25P 45L	1000-0839	3	
14	Flat Washer	Φ8	1004-0008	6	
15	Spring Waher	Φ8	1003-1008	6	
16	Hex Head Nut	M8-1.25P	1002-0831	6	
17	Hex Head Bolt	M8-1.25P 25L	1000-0835	3	
	Valve Hose Kit	No.18~No.21	LK13-0110-P	1	◀ OLD(~50819050)
			LK13-0110-PA	1	◀ NEW(08.30.2006)
18	Hose (Valve Fitting)	4(1/4)x4(1/4)x770L	LK13-0110	4	◀ OLD(~50819050)
		1(3/4-16UNF)x1(PT3/8)x800L	LK13-0110-A	4	◀ NEW(08.30.2006)
19	Adapter	PT3/8x3/4-16UNF	802N2-T46F9-40	1	
20	Quick Coupler	3/8" Female	0001-1001	5	
21	Dust Plug	3/8, Red	8043R-03300	2	
21	Dust Plug	3/8, Blue	8043B-03300	1	
21	Dust Plug	3/8, White	8043W-03300	1	
21	Dust Plug	3/8, Yellow	8043Y-03300	1	
22	Hose(Valve OUT,POWER BEYOND)	904(3/8)x4(3/8)x800L	LK13-0160	2	
23	HOSE (Valve Input)	904(3/8)x4(3/8)x550L	LK13-0170	1	
24	Adapter	PF3/8 O-Ringx3/4-16UNF	6004-0105	1	
25	Adapter(Copper)	PF3/8 Copperx3/4-16UNF	6004-0511	3	
26	Adapter	PT3/8xPF3/8 O-Ring	6004-0214	1	
	Cylinder Hose Kit	NO.27~NO.36	LK13-0120-P	1	◀ OLD(~50819050)
			LK13-0120-PA	1	◀ NEW(08.30.2006)
27	Hose(Bucket)	4(1/4)x4(1/4)x520L	LK13-0120	4	◀ OLD(~50819050)
		4(3/8)x454(3/8)x450L	LK13-0120-A	1	◀ NEW(08.30.2006)
28	Hose(Bucket)	4(3/8)x454(3/8)x700L	LK13-0210	1	(08.30.2006~)
29	Hose(Bucket)	4(3/8)x4(3/8)x450L	LK13-0220	1	(08.30.2006~)
30	Hose(Bucket)	4(3/8)x4(3/8)x700L	LK13-0230	1	(08.30.2006~)
31	Hose(Boom up)	4(1/4)x4(1/4)x575L	LK13-0130	2	◀ OLD(~50819050)
		4(3/8)x4(3/8)x400L	LK13-0130-A	1	◀ NEW(08.30.2006)
32	Hose(Boom Down)	4(1/4)x4(1/4)x1100L	LK13-0140	2	◀ OLD(~50819050)
		4(3/8)x4(3/8)x950L	LK13-0140-A	1	◀ NEW(08.30.2006)
33	Hose(Boom up)	4(3/8)x1(3/4-16UNF)x400L	LK13-0240	1	(08.30.2006~)
34	Hose(Boom Down)	4(3/8)x1(3/4-16UNF)x950L	LK13-0250	1	(08.30.2006~)
35	Elbow	PF3/8 O-Ringx3/4-16UNF 90°	6007-1823	9	Increased 3→8(08.30.2006)
36	O-Ring	P14	5004-0038	11	Increased 3→11(08.30.2006)

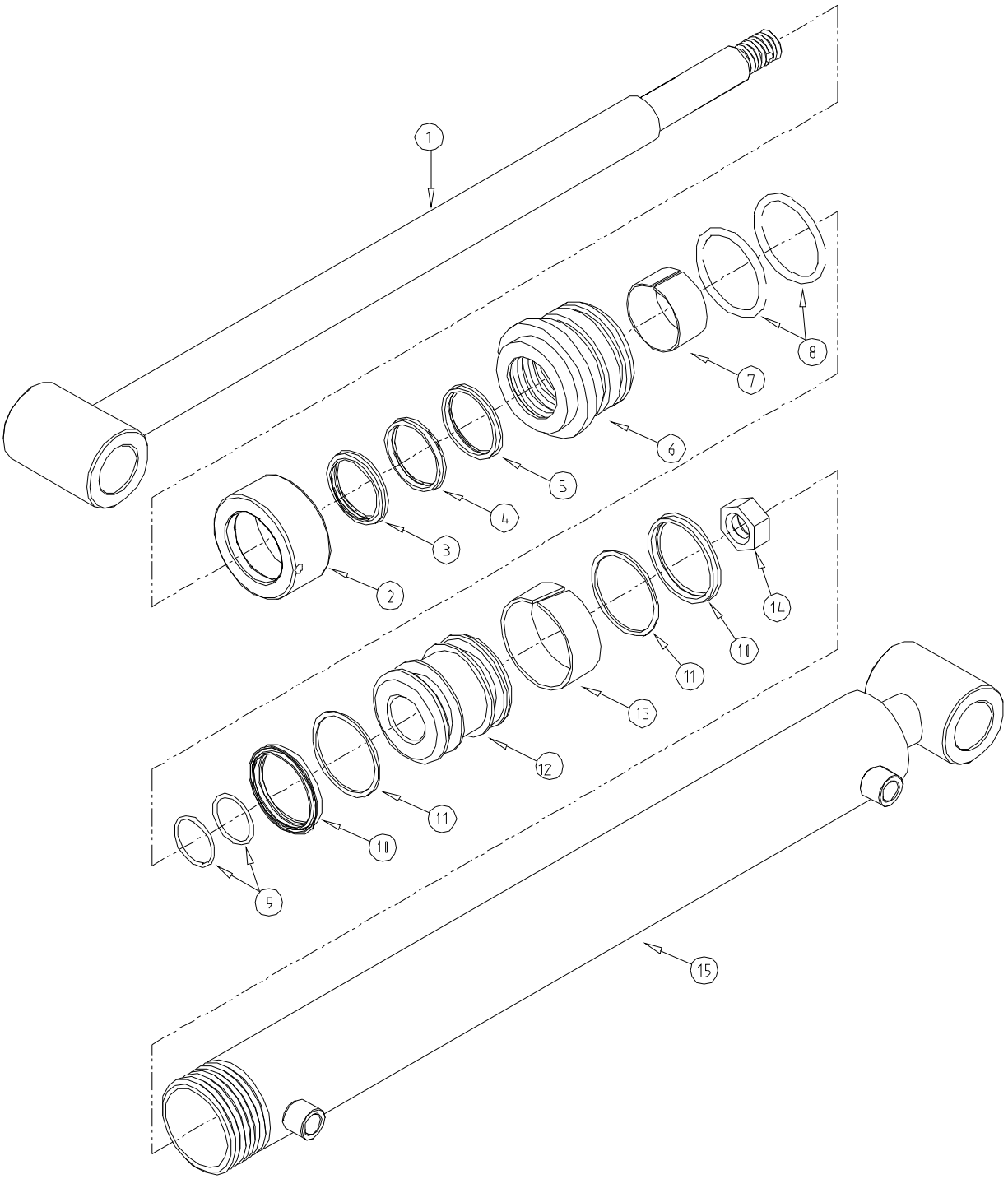
BUCKET CYLINDER ASSEMBLY



BUCKET CYLINDER ASSEMBLY

REF	DESCRIPTION	SPECIFICATION	PART No.	Q'ty	Interchange Ability
	Bucket Cylinder Ass'y	680-1080(ST400)	LK08-0100-A	2	
1	Rod Ass'y	⌀30	LK08-0101	2	
2	Cover		LK08-0102	2	
	Head Kit	No.3~No.8	LK08-0101-P	2	
3	Dust Seal	30*38*5/6.5	5001-3005	2	
4	Retainer (Rubber)	40*30*6	5002-2606	2	
5	Retainer (Urethane)	40*30*6	5002-3606	2	
6	Head		LK08-0103	2	
7	Dry Bearing	30*34*30	2011-3030	2	
8	O-Ring	1BG45	5004-1G45	4	
	Piston Kit	No.9~No.13	LK08-0102-P	2	
9	O-Ring	1BG23	5004-1G23	4	
10	Retainer (Urethane)	50*40*6	5002-3806	4	
11	Backup Ring	50*40*3	5000-1803	4	
12	Piston		LK08-0104	2	
13	Packing Bush	45*50*15	2011-1715	2	
14	Nut	3/4-16UNF	1502-23E5	2	
15	Tube Ass'y LH	⌀50	LK08-0105-A	2	

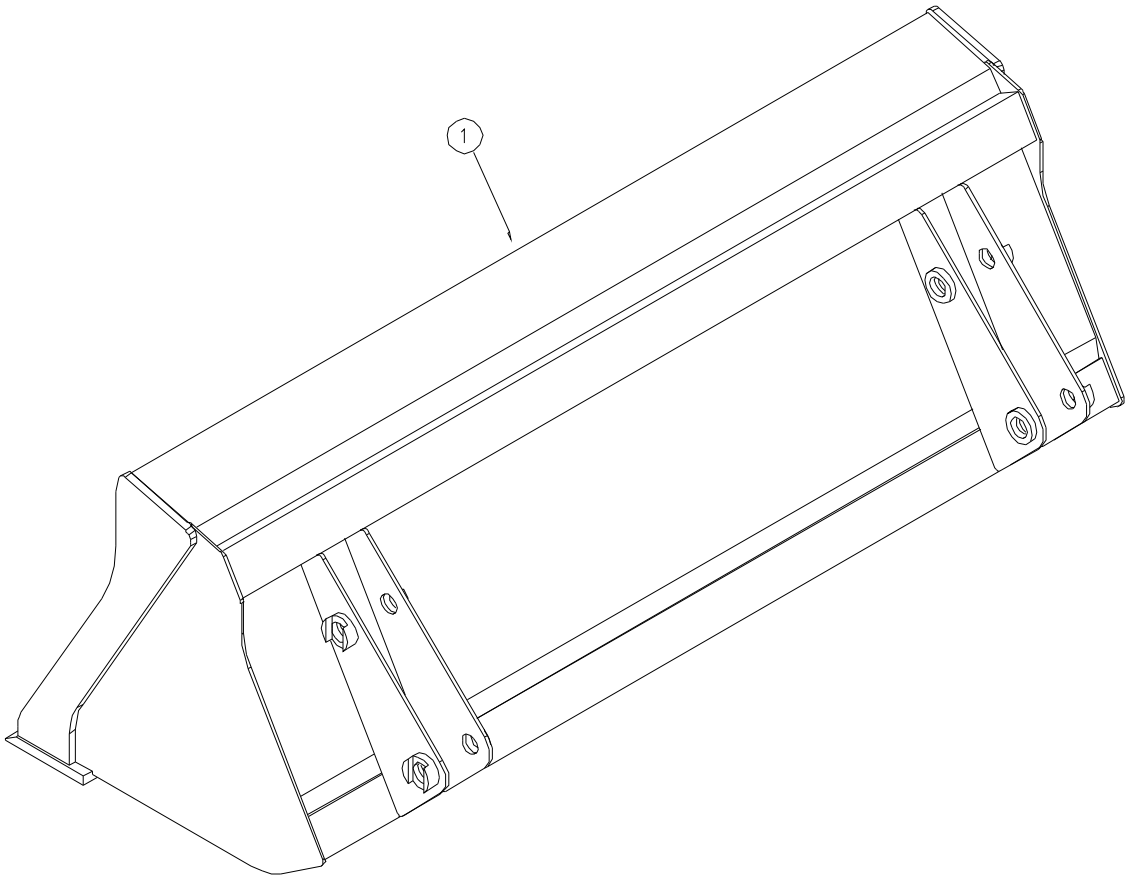
BOOM CYLINDER ASSEMBLY



BOOM CYLINDER ASSEMBLY

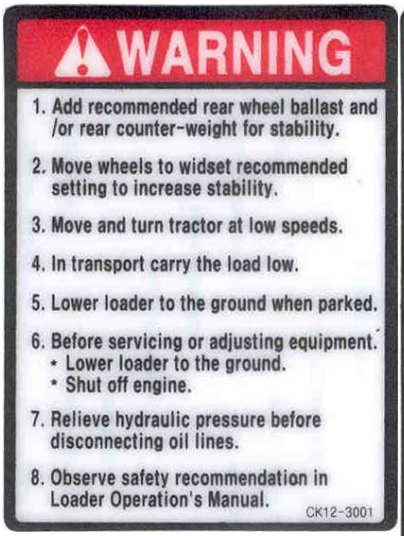
REF	DESCRIPTION	SPECIFICATION	PART No.	Q'ty	Interchange Ability
	Boom Cylinder Ass'y	750-1250(ST500)	LK08-0200-A	2	
1	Rod Ass'y	⌀30	LK08-0201	2	
2	Cover		LK08-0202	2	
	Head Kit	No.3~No.8	LK08-0101-P	2	
3	Dust Seal	30*38*5/6.5	5001-3005	2	
4	Retainer (Rubber)	40*30*6	5002-2606	2	
5	Retainer (Urethane)	40*30*6	5002-3606	2	
6	Head		LK08-0103	2	
7	Dry Bearing	30*34*30	2011-3030	2	
8	O-Ring	1BG45	5004-1G45	4	
	Piston Kit	No.9~No.13	LK08-0102-P	2	
9	O-Ring	1BG23	5004-1G23	4	
10	Retainer (Urethane)	50*40*6	5002-3806	4	
11	Backup Ring	50*40*3	5000-1803	4	
12	Piston		LK08-0104	2	
13	Packing Bush	45*50*15	2011-1715	2	
14	Nut	3/4-16UNF	1502-23E5	2	
15	Tube Ass'y LH	⌀50	LK08-0203-A	2	

BUCKET ASSEMBLY



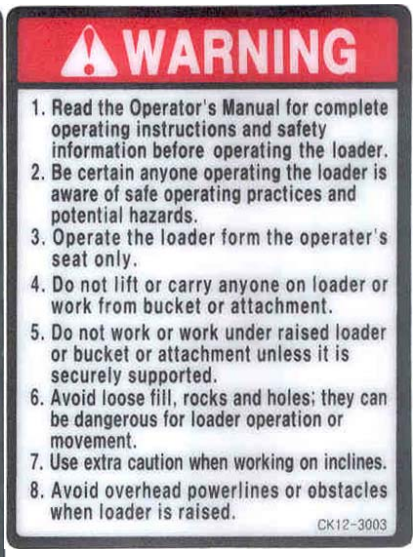
REF	DESCRIPTION	SPECIFICATION	PART No.	Q'ty	Interchange Ability
1	Bucket Ass'y	60"	LK10-0100	1	

DECALS



Warning CK12-3001

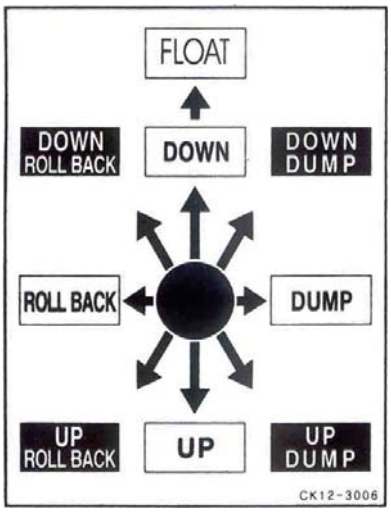
Warning CK12-3002



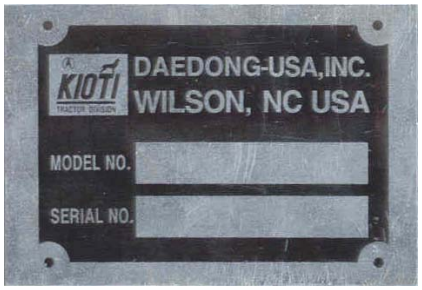
Warning CK12-3003

LK50-5001

LK50-5002



CK12-3006



CK12-5001

DECALS

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

Decal location on the Boom

Left Bearing Box

Right Bearing Box

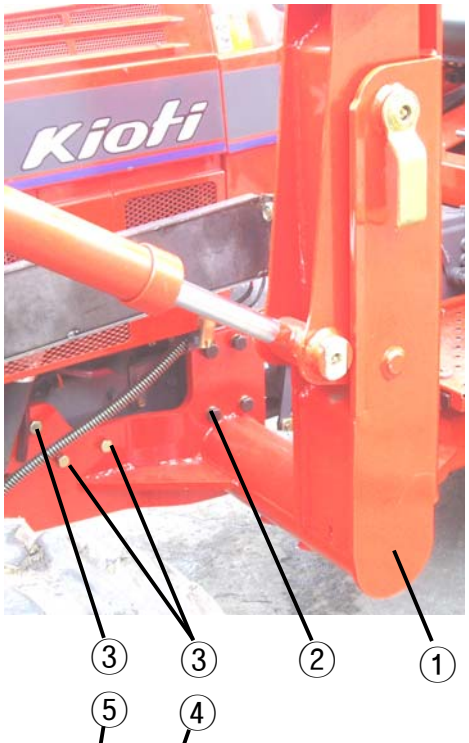
Note : Refer to category "Safety decals"

LOADER INSTALLATION

CAUTION: See your Loader Operator's manual for Safety Precautions and Tractor Preparations.

STEP 1. Position tractor on hard level surface. There should as large enough as install the loader. and It is very helpful to you which the lift or any kind of machine to lift the Loader Boom and brackets.

STEP 2. Release loader, bucket and mount kit box from pallet.

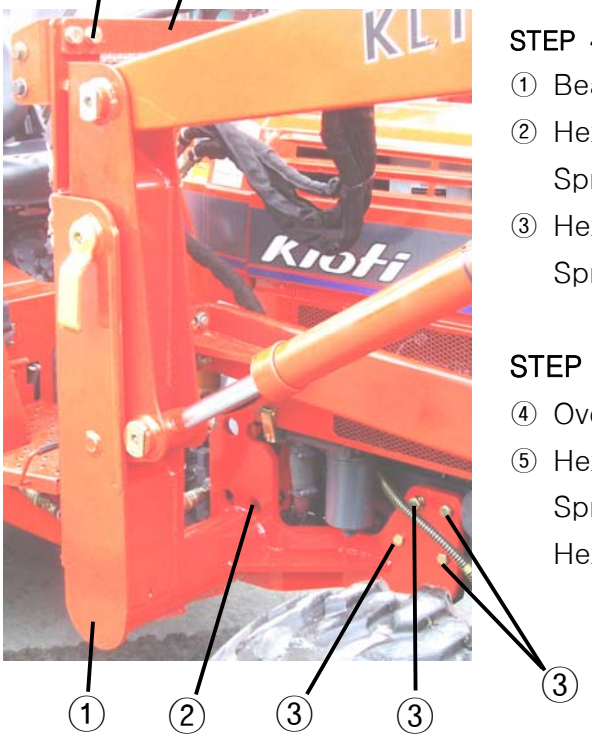


STEP 3. Install Bearing Box Bracket LH

① Bearing Box Bracket LH - 1EA

② Hex Head Bolt M14X1.5PX35L - 4EA
Spring Washer Φ14 - 4EA

③ Hex Head Bolt M12X1.25PX30L - 4EA
Spring Washer Φ12 - 4EA



STEP 4. Install Bearing Box Bracket RH.

① Bearing Box Bracket RH - 1EA

② Hex Head Bolt M14X1.5PX35L - 4EA
Spring Washer Φ14 - 4EA

③ Hex Head Bolt M12X1.25PX30L - 4EA
Spring Washer Φ12 - 4EA

STEP 5. Install Over Cross Bar.

④ Over Cross Bar - 1EA

⑤ Hex Head Bolt M14X2.0PX45L - 4EA
Spring Washer Φ14 - 4EA
Hex Head Net M14X2.0P - 4EA

LOADER INSTALLATION

STEP6. Install Front Grill

① Front Grill Ass'y - 1Set

② Hex Head Bolt M10X1.25PX35L - 4EA
Spring Washer Φ10 - 4EA
Hex Head Nut M10X1.25P - 4EA

③ Hex Head Bolt M12X1.75PX50L - 8EA
Spring Washer Φ12 - 8EA
Hex Head Nut M12X1.75P - 8EA

STEP7. Install Side Bracket LH and RH

① Side Bracket LH - 1EA

② Side Bracket RH - 1EA

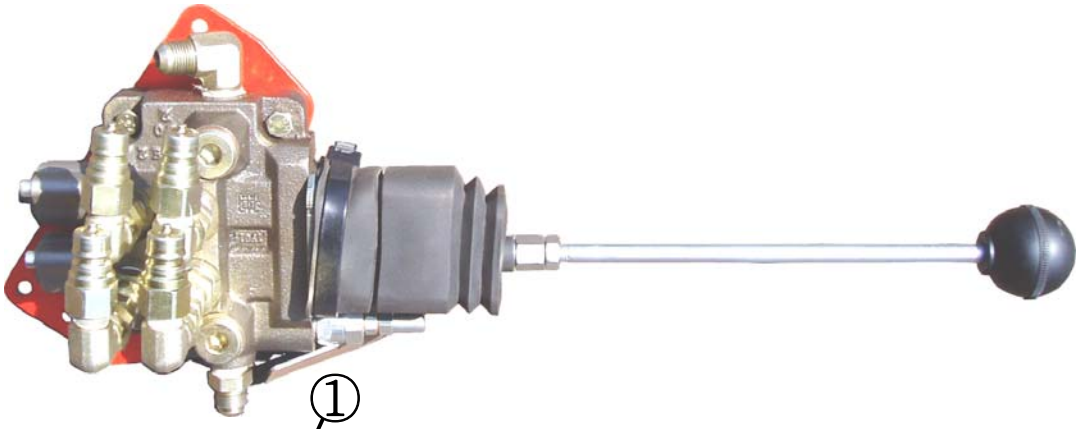
③ Hex Head Bolt M14X2.0PX40L - 6EA
Spring Washer Φ14 - 6EA
Hex Head Nut M14X2.0P - 6EA

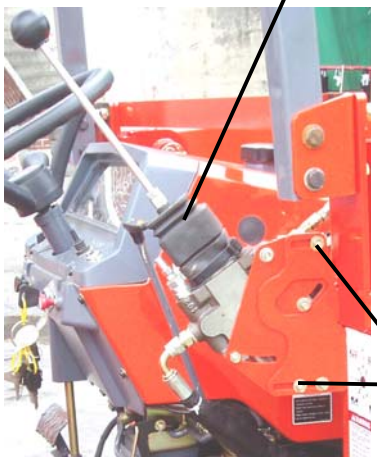
④ Hex Head Bolt M14X2.0PX45L - 8EA
Spring Washer Φ14 - 8EA
Hex Head Nut M14X2.0P - 8EA

LOADER INSTALLATION

STEP8. Install Boom Ass'y

Hang the groove on the pin located on Bearing Box Bracket.





STEP9. Install control Valve Ass'y

① Control Valve Ass'y - 1Sets

② Hex Head Bolt M8X1.25PX25L - 3EA
Flat Washer Φ8 - 3EA
Spring Washer Φ8 - 3EA
Hex Head Nut M8X1.25P - 3EA

LOADER INSTALLATION

STEP10. Install the control Valve IN/OUT Fitting.

① O-Ring P14 - 2EA
② Elbow PF3/8 O-Ringx3/4-16UNF 90° - 1EA
③ Hose 904(3/8)x4(3/8)x550L - 1EA
④ Adapter PF3/8 O-Ringx3/4-16UNF - 1EA
⑤ Hose 904(3/8)x4(3/8)x800L - 1EA

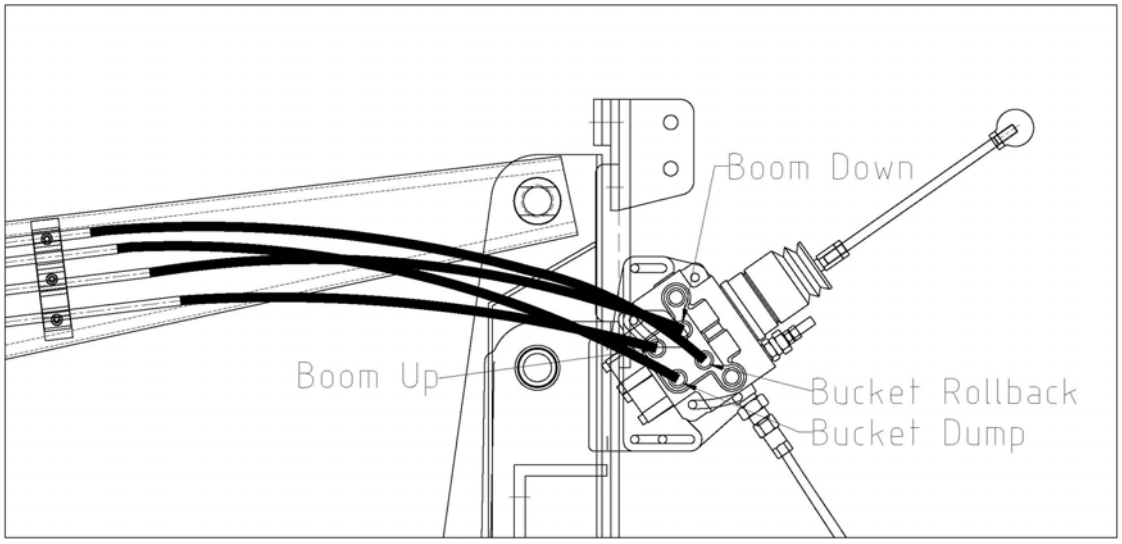
The picture is shown the connection when the loader and backhoe use together.

When using only loader,
Ref "HOSE FITTING ASSEMBLY"

LOADER INSTALLATION

STEP11. Turn down the Direction Valve Block as shown.
It should allow to use loader and backhoe.

STEP12. Connect the Quick Coupler.



LOADER INSTALLATION

STEP13. Install Latch Pin.

① Latch Pin W/Ring Pin - 2Sets

STEP14. Install the Bucket Ass'y

② Bucket Ass'y - 1Sets

③ Pivot Pin - 4EA

④ Ring Pin - 4EA

STEP15. Grease every fitting.

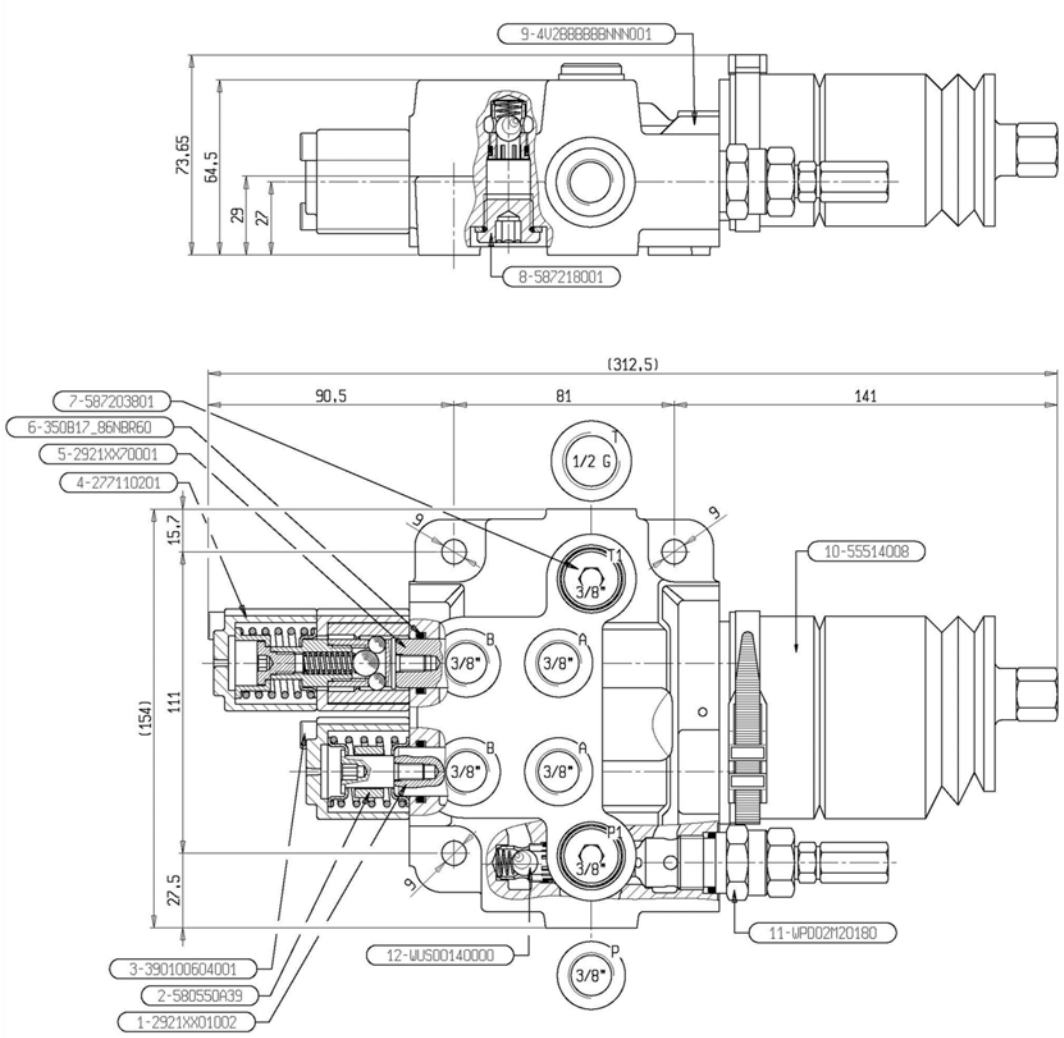
See page 21 for the grease chart.

STEP16. Hydr. oil level check.

- Lower the boom on the ground and retreat the bucket.
- Add the hydraulic oil up to the "Full" mark on the oil gauge.
- Specification of oil: Reger to the tractor manual.

STEP17. In order to check the leakage of hydraulic oil. please operate the Loader 5times or more with carefully

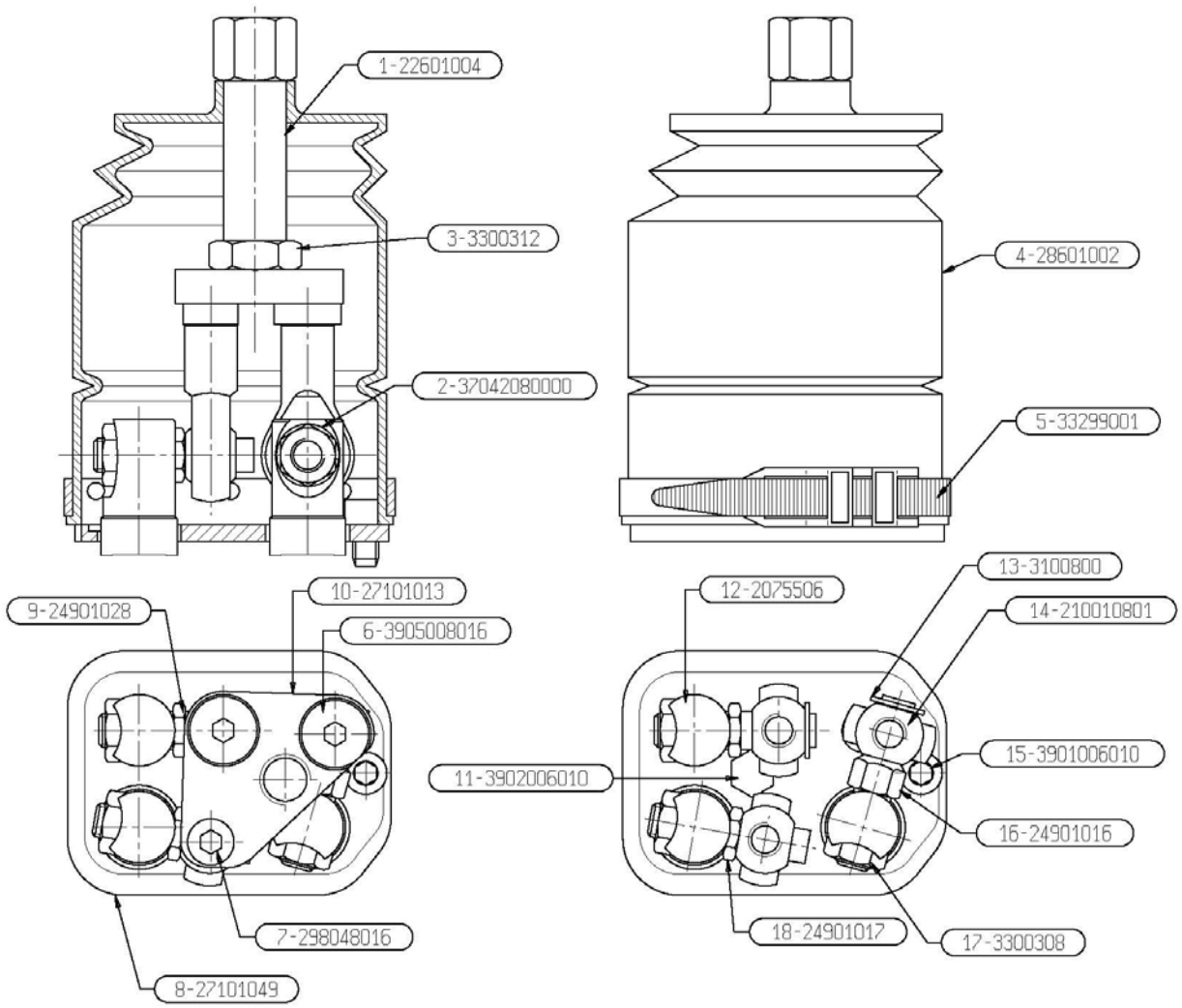
CONTROL VALVE ASSEMBLY (DINOIL DN2)



Pos	Descrizione	Codice	Ta	Um	Q.ta
12	CARTUCCIA VNR	WUS00140000	P	PZ	1
11	CARTUCCIA VMP	WPD02M20180	P	PZ	1
10	AZIONAMENTO CON MANIPOLATORE	55514008	P	PZ	1
9	CORPO MONOBLOCCO	4V2BBBBBBNNN001	P	PZ	1
8	KIT TAPPI	587218001	AS	PZ	1
7	KIT TAPPI	587203801	AS	PZ	2
6	O-RING 617	350B17_86NBR60	NR	PZ	4
5	SPOLA	2921XX70001	P	N	1
4	PORTAPOSIZIONATORE	277110201	P	PZ	2
3	VITE TCEI M6x40 UNI5931 ZINCATA	390100604001	P	PZ	2
2	POSIZIONATORE	580550A39	P	PZ	5
1	SPOLA	2921XX01002	P	PZ	1

Mod	Descrizione di modifica	Disegnato	Data dis.	Verificato	Approvato	Data appr.
0	EMISSIONE	MN	05/05/2005	UZ	UZ	11/05/2005

CONTROL VALVE ASSEMBLY (DINOIL DN2)



Pos	Descrizione	Codice	Ta	Um	Q.ta
18	FULCRO	24901017	P	PZ	1
17	DADO M8 BASSO UNI5589 ZINCATO	3300308	P	PZ	3
16	FULCRO	24901016	P	PZ	1
15	VITE TCEI M6x10 UNI5931 ZINCATA	3901006010	P	PZ	1
14	SNODO D=8 M 8 FILETTO FEMMINA	210010801	P	PZ	3
13	ANELLO SEEGER	3100800	P	PZ	2
12	APPENDICE AD OCCHIO	2075506	P	PZ	1
11	VITE	3902006010	P	PZ	1
10	PIASTRA	27101013	P	PZ	1
9	FULCRO	24901028	P	PZ	1
8	PIASTRA	27101049	P	PZ	1
7	VITE TSEI M8x16 UNI 5933 MODIFICATA	298048016	P	PZ	1
6	VITE TSEI M8x16 UNI 5933 ZINCATA	3905008016	P	PZ	3
5	FASCETTE	33299001	P	PZ	1
4	SOFFIETTO	28601002	P	PZ	1
3	DADO M12 BASSO UNI 5589 ZINCATO	3300312	P	PZ	1
2	RONDELLA GROWER D8 UNI 1751 TIPO A	37042080000	P	PZ	3
1	COLONNINA	22601004	P	PZ	1

Mod	Descrizione di modifica	Disegnato	Data dis.	Verificato	Approvato	Data appr.
0	EMISSIONE	FC	20/12/2004	UZ	UZ	22/12/2004