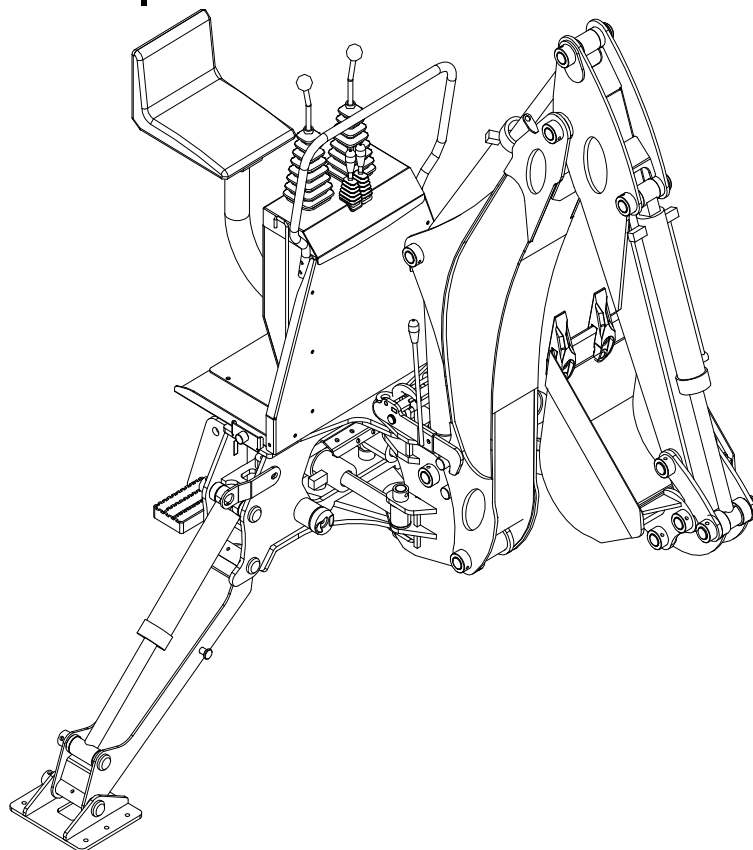


BT300 BACKHOE



TYM TRACTOR MODEL

T330, T330HST, T353, T353HST, T300, T350

*INCLUDES;
PARTS CATALOGUE*

WARRANTY CONDITIONS

Warranty Coverage :

TYM Tractor Division, herein referred to as *TYM*, undertakes to replace or repair any part of a *TYM* Backhoe 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 *TYM* Backhoe to the Dealer's place of business or repair.

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

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

Warranty Provisions :

TYM'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 *TYM* Product, use those brands and grades of lubricating oils, lubricants or fuel and spare parts officially approved by *TYM*.
- The *TYM* Backhoes 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 perform 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 *TYM* 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 *TYM* dealer and request repair within the applicable warranty term and (2) present evidence of purchase.
- The Warranty shall be void if the *TYM* Backhoe has been altered or repaired outside of a *TYM* 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 *TYM's* behalf and neither party assumes any other liability in connection with *TYM's* Products.

Right To Make Design and Product Changes :

TYM reserves the right to make changes in the design and other changes in its *TYM* 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.

Table of Contents

Safety Precautions	-----	4
Safety Decals	-----	6
Backhoe Specifications	-----	9
Introduction	-----	10
Tractor Preparation	-----	11
Backhoe Operation	-----	12
Backhoe Removal	-----	16
Backhoe Mounting	-----	17
Lubrication and Maintenance	-----	20
Trouble Shooting	-----	22
Hydraulic System Schematic	-----	26
Torque Tightening Chart	-----	27
Parts Illustrations	-----	28
General Information	-----	28
Subframe-T330 Assembly	-----	29
Subframe-T330HST Assembly	-----	30
Subframe-T353 Assembly	-----	31
Subframe-T353HST Assembly	-----	32
Subframe-T350 Assembly	-----	33
Bucket, Dipperstick Assembly	-----	34
Boom Assembly	-----	36
Swing Frame Assembly	-----	37
Mainframe Assembly	-----	38
Seat, Control Assembly	-----	40
Hose Fitting Assembly	-----	42
Bucket Cylinder Assembly	-----	44
Dipperstick Cylinder Assembly	-----	45
Boom Cylinder Assembly	-----	46
Swing Cylinder Assembly	-----	47
Stabilizer Cylinder Assembly-LH	-----	48
Stabilizer Cylinder Assembly-RH	-----	49
Control Valve Assembly-HANIL AV 80/6	---	50
Decals	-----	52

SAFETY

Understand that your safety and the safety of other persons is measured by how you service and operate this backhoe. 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.**

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 backhoe 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.

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 backhoe before you begin operation.

Stop the backhoe 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"

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 cardboard 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.

SAFETY

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 backhoe 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 backhoe 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 backhoe to drop, or attachment to dump, causing severe injury.

Make sure all parked backhoe on stands are on a hard level surface with all safety devices engaged to prevent backhoe from falling and being damaged or injuring someone.

When using a backhoe, be alert of bucket, boom and arm position at all times.

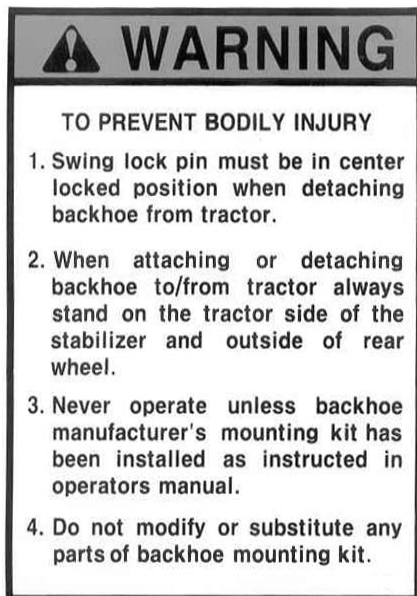
SAFETY DECALS

Safety Decal Locations

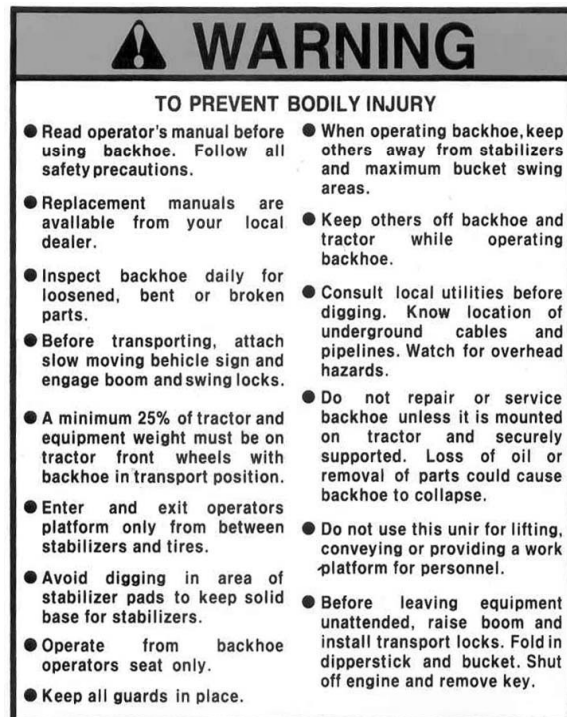
Important: Warning decals are visible when getting on backhoe. Refer to the left and right hands used in this manual, It's the position of the operator when seated in the operating position of Backhoe

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. 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.
4. Mount new safety decals by applying on a clean dry surface and pressing air bubbles to outside edges.



Warning BH35-0101



Warning BH35-0102



Warning BH35-0103

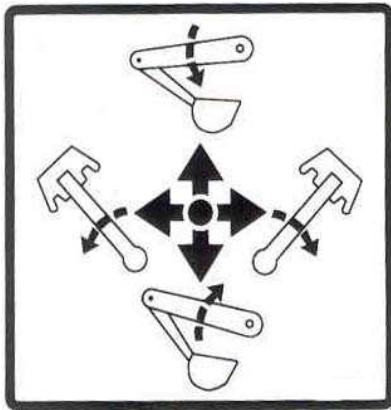


Warning BH35-0104

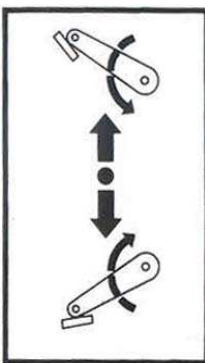
SAFETY DECALS



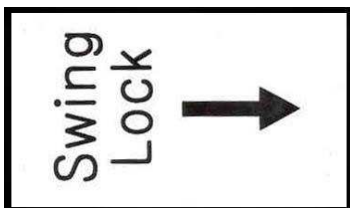
Warning BH35-0105



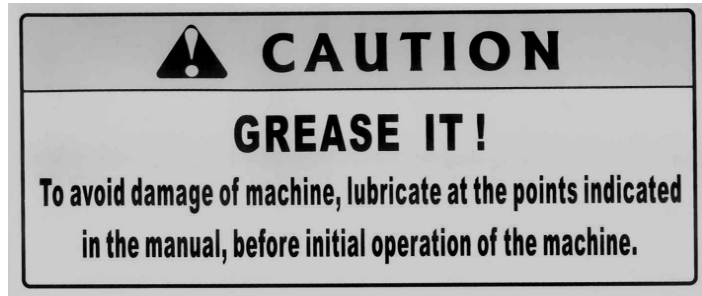
Warning BH35-0107



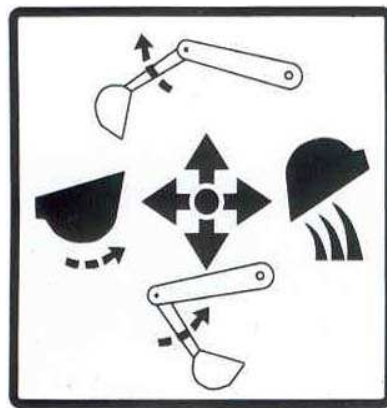
Warning BH35-0109



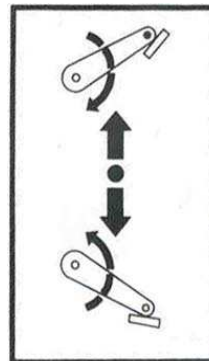
Warning BH35-0111



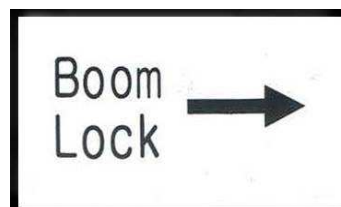
Caution BH35-0117



Warning BH35-0108



Warning BH35-0110



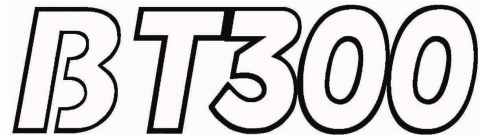
Warning BH35-0112

Location : Beside of the locking hole
at the boom mainframe

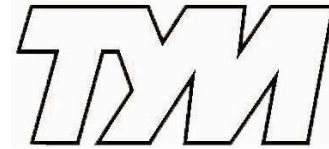
SAFETY DECALS



Name Plate TYM00-20051

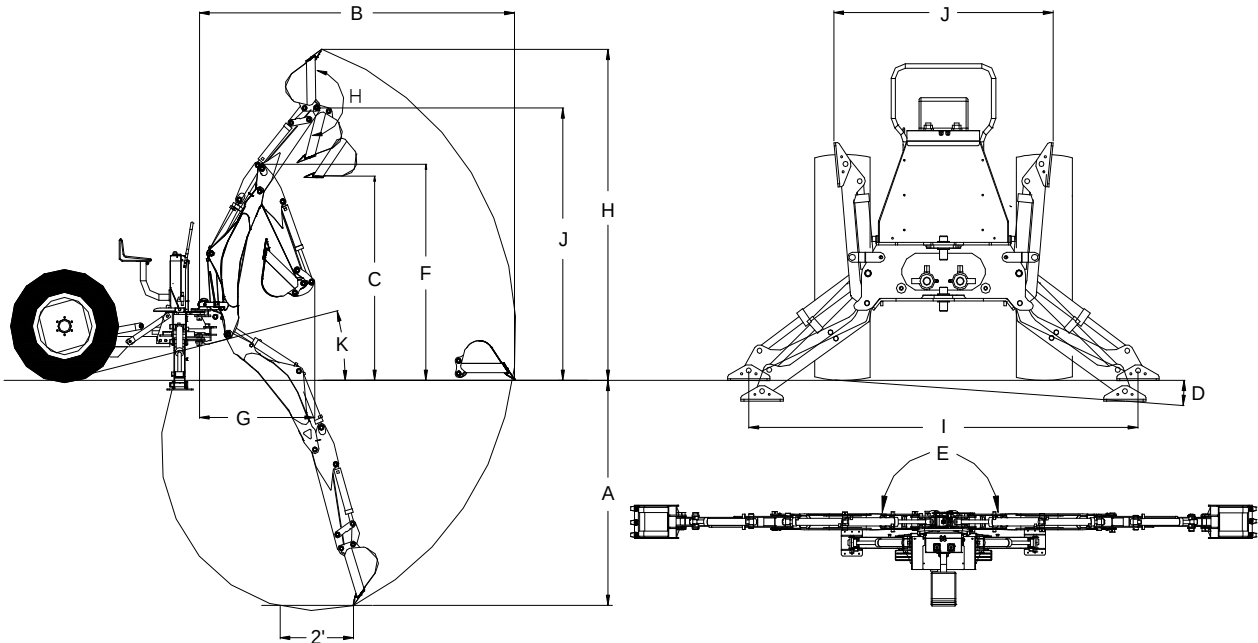


Backhoe Model 3101E-00371



Loader Series 3101E-00301

BACKHOE SPECIFICATIONS



Specifications and design are subject to change without prior

Backhoe Model : BT300

Tractor Model : T330, T330HST, T353, T353HST, T300, T350

A. Digging Depth (two foot flat bottom)	2,280 mm	89.7 "
B. Reach from center line of Swing Pivot	3,180 mm	125.1 "
C. Loading Height (bucket at 60°)	1,840 mm	72.4 "
D. Maximum Leveling Angle	10 °	10 °
E. Swing Arc	180 °	180 °
F. Transport Height (maximum)	2,120 mm	83.5 "
G. Transport Overhang	1,245 mm	49.0 "
H. Bucket Rotation	180 °	180 °
I. Stabilizer Spread (down position)	1,745 mm	68.7 "
J. Stabilizer Spread (up position)	1,180 mm	46.4 "
K. Angle of Departure	21 °	21 °
Shipping Weight – Backhoe(without bucket)	485 kg	1,069 lbs
Bucket Digging Force	1,215 kg	2,679 lbs
Dipperstick Digging Force	955 kg	2,105 lbs
Operating Pressure	170 bar	2,466 psi

Cylinders	Cylinder	Bore DIA		Retracted Length		Stroke		Rod DIA	
		mm	inch	mm	inch	mm	inch	mm	inch
	Boom	70	2.756	620	24.409	384	15.118	40	1.575
	Bucket	60	2.362	535	21.063	299	11.772	35	1.378
	Dipperstick	60	2.362	597	23.504	377	14.843	40	1.575
	Swing	60	2.362	398	15.669	223	8.780	35	1.378
	Stabilizer	60	2.362	446	17.559	262	10.315	35	1.378

Buckets	Bucket	Teeth Q'TY	Struck Capacity	Heaped Capacity	Shipping Weight
	9" Bucket	3	0.73 cu. ft.	0.87 cu. ft.	46 lbs.
	12" Bucket	3	1.01 cu. ft.	1.24 cu. ft.	56 lbs.
	16" Bucket	3	1.38 cu. ft.	1.76 cu. ft.	64 lbs.
	18" Bucket	4	1.56 cu. ft.	2.02 cu. ft.	70 lbs.
	24" Bucket	5	2.11 cu. ft.	2.82 cu. ft.	94 lbs.
	36" Bucket	6	2.78 cu. ft.	4.00 cu. ft.	114 lbs.

Specifications may vary depending on tractor model, tire size and bucket used.

INTRODUCTION

The purpose of this manual is to assist you in maintaining and operating your backhoe. 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.

Backhoe Components

Terms for backhoe components have some variations throughout the industry.

Important:

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

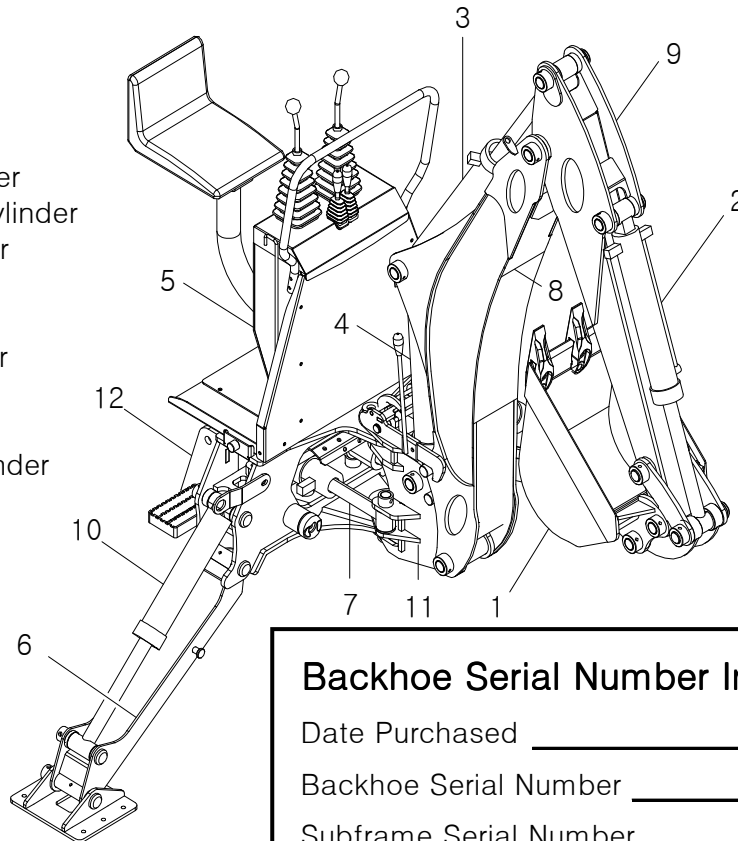
Warranty Registration

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 front of valve cover. The serial number should be recorded on the Delivery and Registration form and also below for your reference.

- 1 Bucket
- 2 Bucket Cylinder
- 3 Dipperstick Cylinder
- 4 Boom Cylinder
- 5 Console
- 6 Stabilizer
- 7 Swing Cylinder
- 8 Boom
- 9 Dipperstick
- 10 Stabilizer Cylinder
- 11 Swing Frame
- 12 Main Frame



Backhoe Serial Number Information

Date Purchased _____

Backhoe Serial Number _____

Subframe Serial Number _____

Dealer Name and Telephone Number _____

TRACTOR PREPARATION



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.



CAUTION:

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

ROPS System

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



CAUTION:

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

Tire Inflation

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

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

Tractor Hydraulic System

Tractor operation in a backhoe 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.

BACKHOE OPERATION



CAUTION:

The tractor/backhoe should only be operated with all safety equipment properly installed. Keep assistants or bystanders a safe distance from the equipment operating area.

Precautionary Notes

- Check below items before operating for your safety.
- Read and understand this manual to avoid accidents.
- Check the hydraulic fitting lines to be correct and set tightly.
- Maintain and repair (if it is needed) the parts or assemblies, check bolts and pins to be sure they are positioned tightly.
- Check tractor with the tractor operator's manual that it can prepared for operating.
- Warm up and operate the tractor and backhoe carefully. Purge any air in the hydraulic lines and cylinders by fully cycling all cylinders several times.
- Check hydraulic level in the tank. It should be full (Refer to the Tractor Operator's Manual).
- Do not operate the hydraulics when not seated in the backhoe operator's seat.
- Keep all assistants out of area of operation.
- Do not operate rapidly.
- Do not allow riders other than the operator to be on the tractor while operating.

Important:

Use tractor engine speed that your experience permits. At first set PTO RPM of the tractor to slow.

Do not use the boom, dipperstick, swing and stabilizers to lift, push or pull objects. Use only to maneuver and operate the bucket.

Important:

Practice quickly turning off the engine or stopping the backhoe immediately in case of an emergency situation.

Important:

Do not operate while the rear tractor wheels are off the ground by stabilizer. It is dangerous to operate the backhoe while rear wheels are off the ground.

Position vehicle so that the backhoe is as near to the pile as possible and in such a direction as to minimize the amount of tractor turning required to dump.

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 backhoe 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 backhoe 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 backhoe 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 backhoe or injury to personnel.

BACKHOE OPERATION

Initial Backhoe Operation

Before operating the backhoe, fully raise and lower the boom, arm, swing and stabilizers two or three times. Then raise the bucket 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 backhoe is not in use to guard against rust and contamination which may cause damage to the cylinder rods or hydraulic system.

Also, lock the swing and boom while tractor is moving and storing for an extended period of time.

Cold Weather Operation

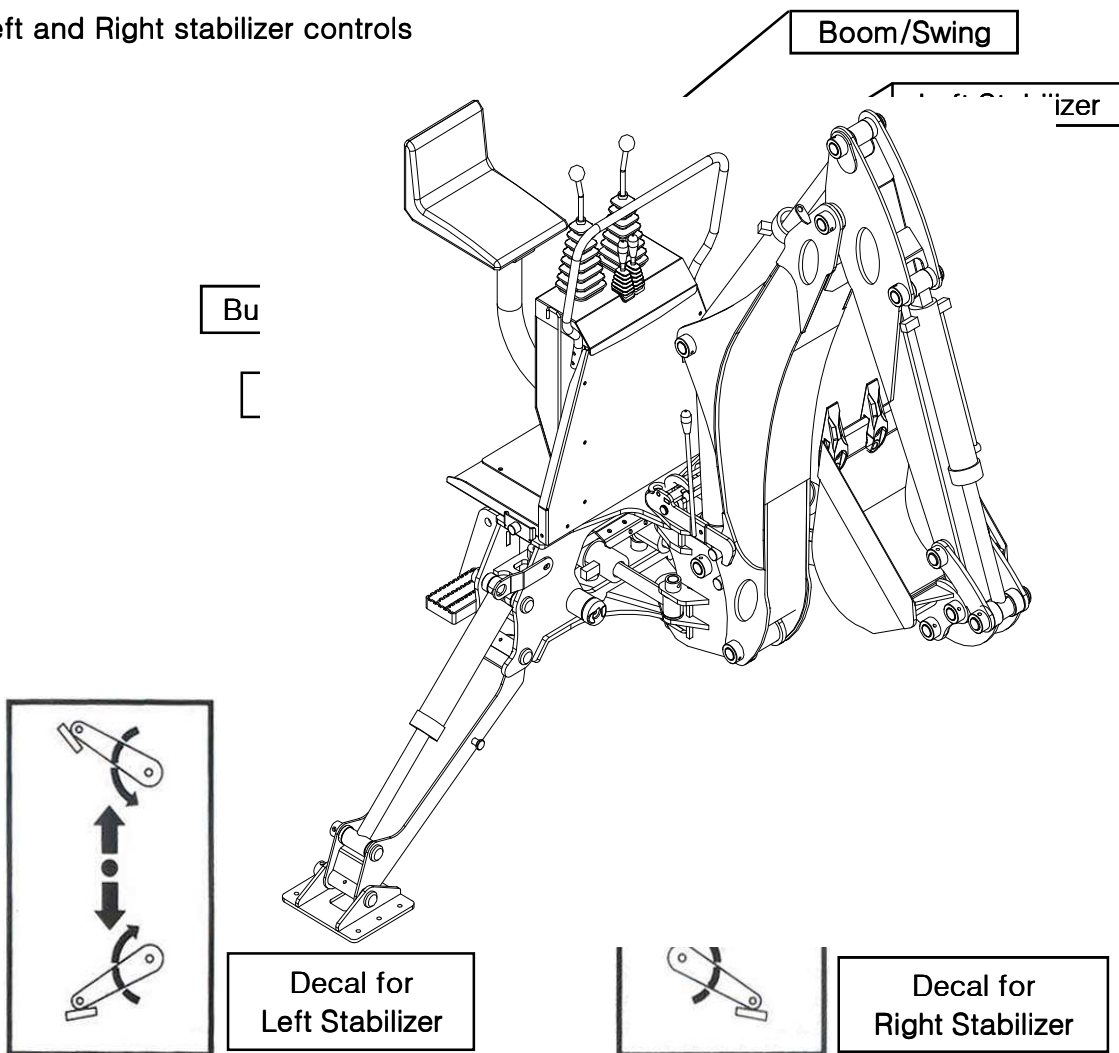
For smooth operation in cold weather, let the tractor warm up. Slowly cycle all of the cylinders several times to warm the oil in the hydraulic system. The backhoe may operate erratically until the hydraulic oil has warmed to operating temperatures.



CAUTION:

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

Left and Right stabilizer controls



Push the left hand inner control lever, left stabilizer lowers. And pull up the lever, left stabilizer raises.

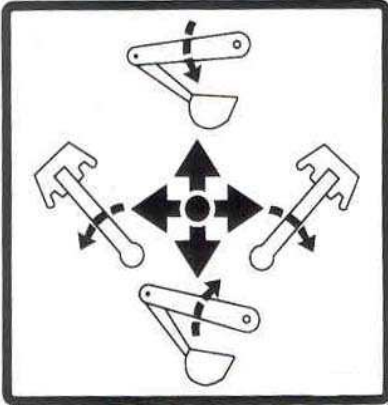
BACKHOE OPERATION

Push the right hand inner control lever, right stabilizer lowers. And pull up the lever, right stabilizer raises.

Do not dig near the stabilizers to avoid possible accident.

Do not lift the tractor rear wheels by stabilizers. Also, be sure the stabilizers are seated on hard ground to support. The backhoe/tractor.

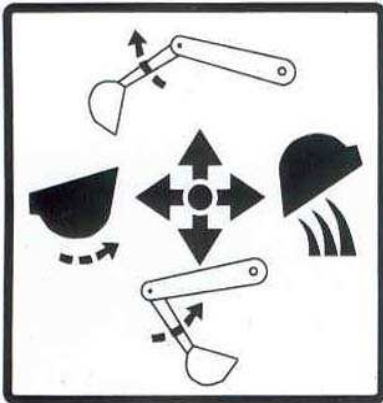
Boom and swing controls



Push the left hand outer control lever, boom moves down, and pull back the lever, boom moves up. Also, pushing the lever fully forward into the detent position, allows the boom to float. In the float position, the boom can drift up or down without pressure.

Move the left hand outer control lever to the left, boom swings to the left. Move lever right, backhoe boom swing moves to the right.

Bucket and crowd controls

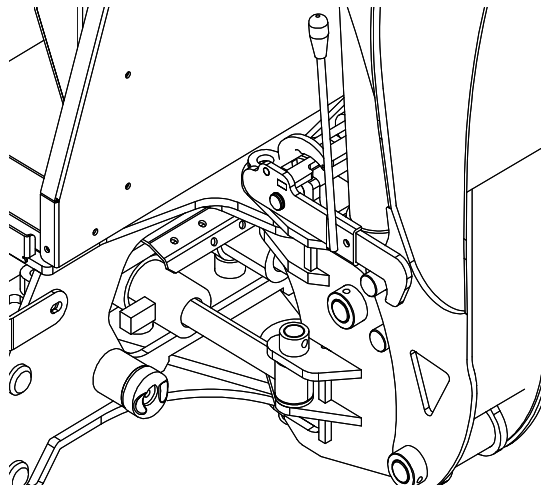


Push the right hand outer control lever, arm(dipperstick) moves away from operator, and pull back the lever, arm(dipperstick) moves toward the operator.

Move the right hand outer control lever to the left, bucket curls in. Move lever right, bucket extends out from operator.

These two levers (Boom and swing control lever, Bucket and crowd control lever) provide four simultaneous operations. Both experience and practice are needed to eliminate excess motion and increase operating efficiency.

BACKHOE OPERATION



Swing Lock and Boom Lock

When transporting or dismounting backhoe, you must lock the backhoe's swing and boom. Position boom straight back and drop pin through holes in swing frame and boom. When not in use, store pin in hole provided on swing frame and boom.

Observe the following safety warnings when working with your new backhoe/tractor.



CAUTION:

When using a backhoe, be aware of bucket and boom location at all times. When raising a arm(dipperstick) with bucket rolled forward, material can spill onto non target area causing injury to assistant or damage other objects.



CAUTION:

Do not dig near stabilizers. Ground under stabilizers could collapse. Make all movements slow and gradual when practicing operation.



CAUTION:

Operate from backhoe operators seat only. Pay attention, be ready to stop, immediately in case of an emergency.



CAUTION:

To help prevent roll-over, adjust the rear wheels to their widest setting to maximize stability. Refer to your Tractor Operator's Manual for recommendations.

BACKHOE REMOVAL



CAUTION:

Move the backhoe to flat, firm and wide place to remove the equipment.



CAUTION:

Do not allow to be removed without bucket and stabilizers. Also, Dump the remaining material from the bucket to empty.



WARNING:

Use other lifting equipment to remove when the backhoe has damage.

STEP 1.

Move the tractor to backhoe storage place.

STEP 2.

Use the inner two levers to lower the stabilizers until they contact to the ground. Use the boom and dipperstick control lever to raise the boom & dipperstick completely.

STEP 3.

Center the boom and then lock the swing with lock pin.

STEP 4.

Using the control levers, position the dipperstick vertically, curl the bucket until its bottom is level with the ground, and lower the boom until bottom of the bucket rests on the

STEP 5.

Remove pins that secure the backhoe. Subframe in the mounting brackets on the tractor.

STEP 6.

Using both the stabilizer and boom controls, set the backhoe subframe horizontally to relieve the weight of the backhoe from the mounting brackets of the tractor.

STEP 7.

Move the tractor forward slowly until the backhoe subframe disengages of the mounting brackets.

STEP 8.

Lower the backhoe mainframe to the ground by raising stabilizers and boom. Use the wood plate or block if necessary.

STEP 9.

Turn off the tractor engine. Relieve hydraulic pressure by actuating all the control levers in each direction, then disconnect the backhoe hose couplers from the tractor hydraulic couplers.



CAUTION:

Remove the backhoe on firm level ground. Also, Do not allow the other person in the area.



CAUTION:

Be careful to avoid injury during removal of the backhoe.



CAUTION:

The hydraulic oil is dangerous for skin or eyes. Wash the skin and seek medical service if it is necessary.

BACKHOE MOUNTING



CAUTION:

Backhoe should be mounted on the proper subframe assembly.



CAUTION:

Never store backhoe without bucket attached to the backhoe.

STEP 1.

Attach the loader midmount and mounting bracket to the tractor by fit the bolts and nuts.

STEP 2.

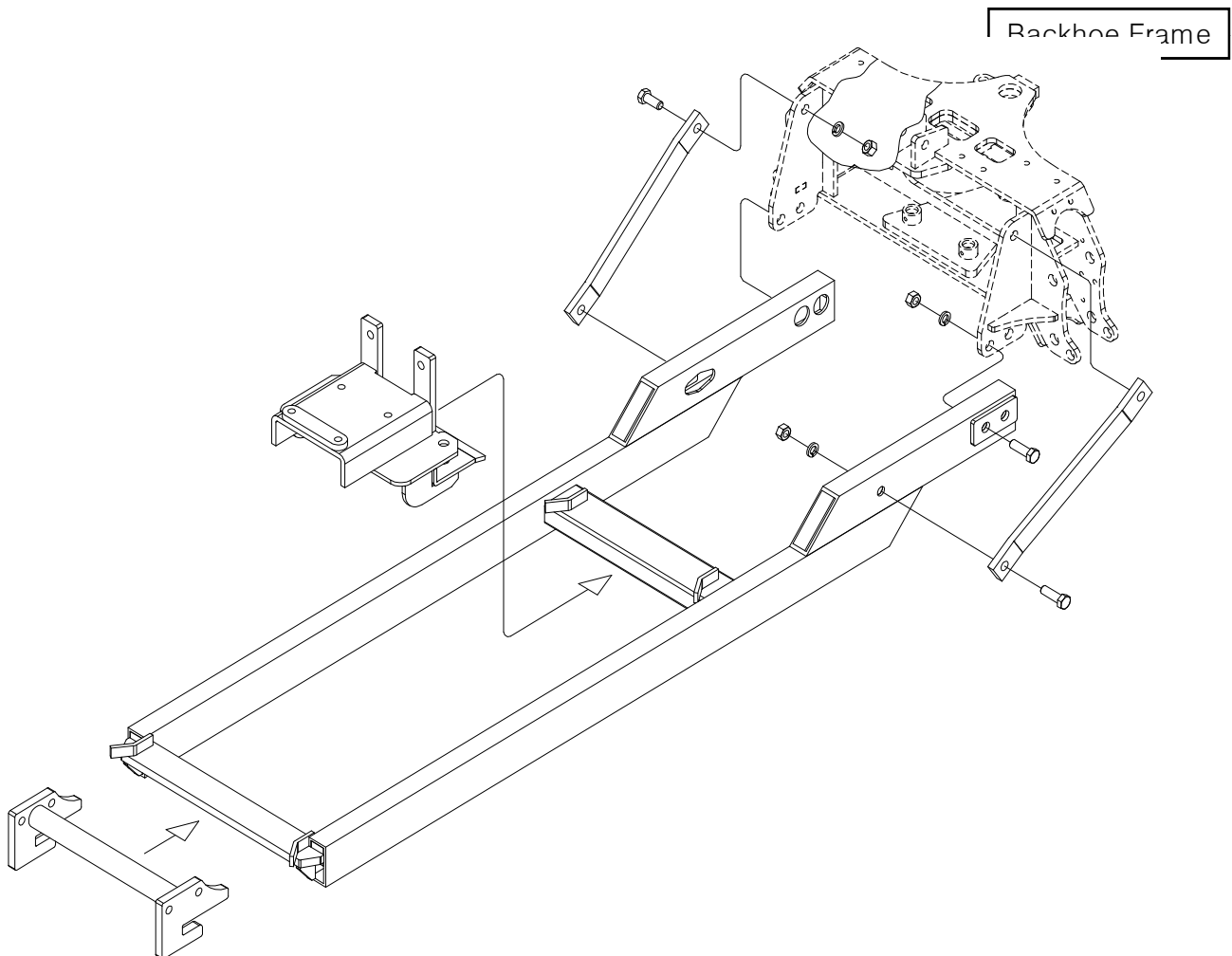
Back tractor slowly toward the backhoe parallel to subframe assembly, until the couplers on the backhoe hoses are able to connect with the hose kit hydraulic couplers or tractor auxiliary couplers located rear of the tractor. Then, put the couplers to connected.

STEP 3.

Store the subframe and subframe crosser horizontally with the loader midmount and mounting bracket by the backhoe control lever. Also, matching these on same level

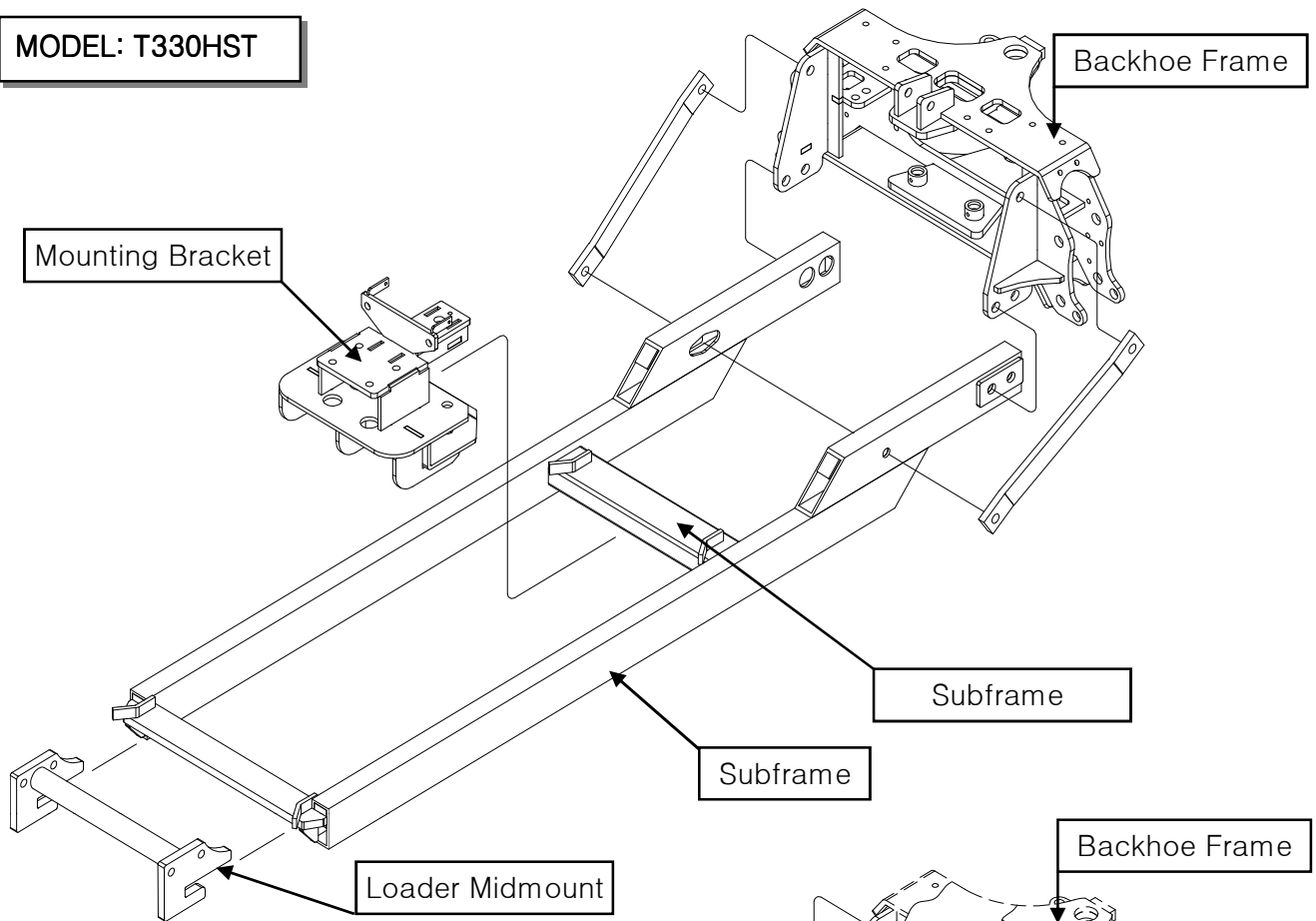
STEP 4.

Set the parking brake of the tractor, Make sure the PTO switch is in the off position

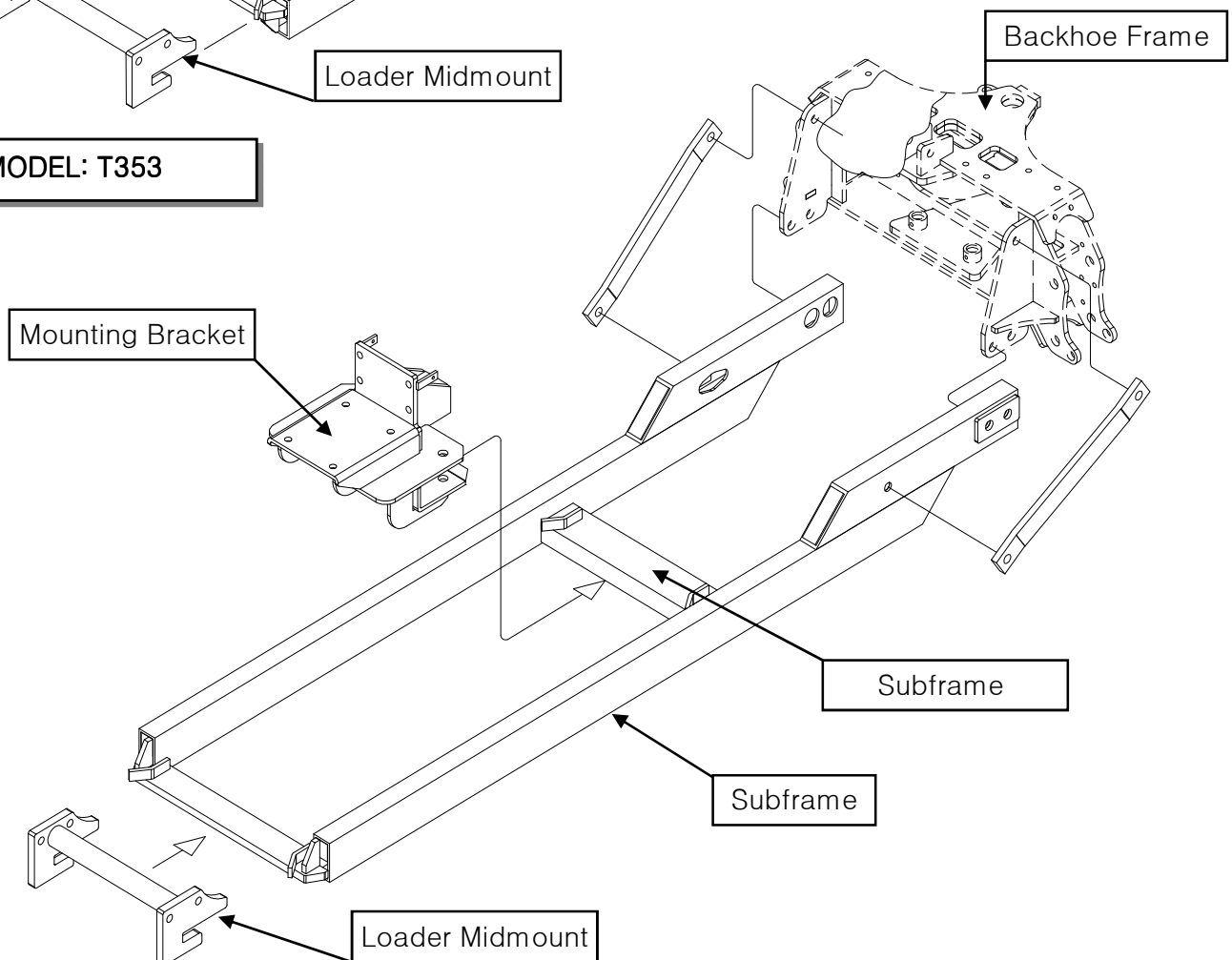


BACKHOE MOUNTING

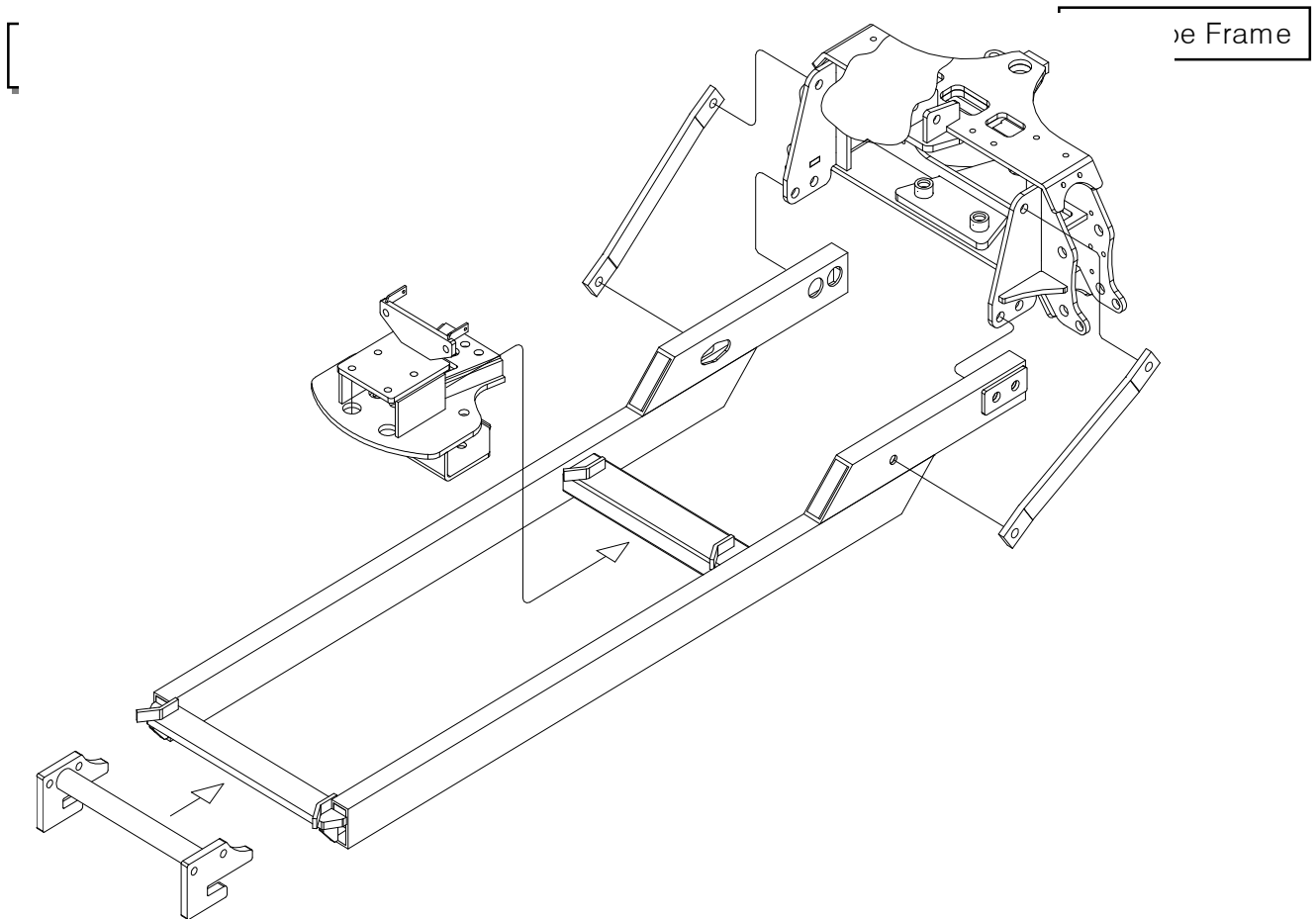
MODEL: T330HST



MODEL: T353



BACKHOE MOUNTING



CAUTION:

This is the Backhoe's Operator's manual for Safety Precautions and Tractor Preparations.

STEP 5.

Move the tractor to put the subframe front side into the loader midmount slowly. Set the subframe crosser parallel to the mounting bracket by using the backhoe control levers to lower the stabilizers and boom to raise the subframe.

STEP 6.

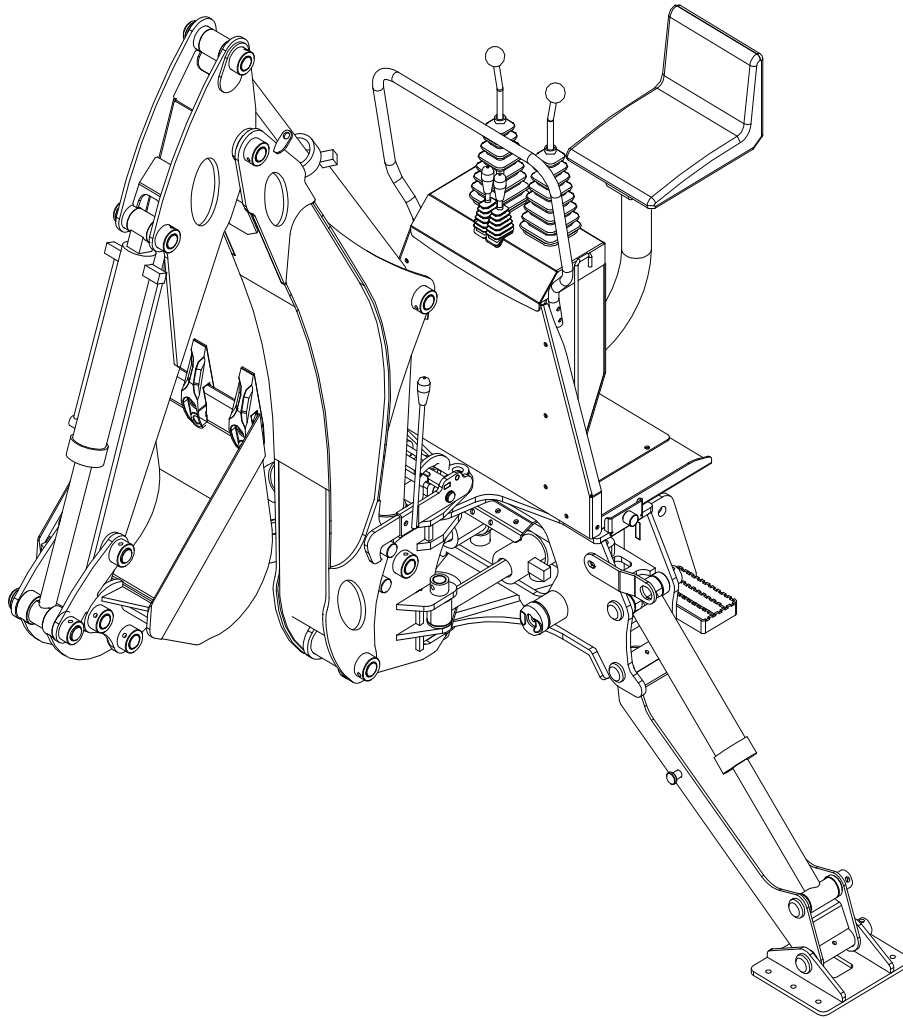
Release the parking brake of tractor, move the tractor rearward very carefully until the subframe is fully engaged in both mounting devices on the tractor.

STEP 7.

Install the Mounting Bracket Pins into the holes. Raise the boom and stabilizers from the ground.

LUBRICATION AND MAINTENANCE

Bucket, Dipper



Dipperstick

Swing Cylinder

Bucket (Dipper)

ITEM	SERVICE	SERVICE INTERVAL
Hydraulic System Oil Level	Replace	As specified in Tractor Operator's Manual
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
Backhoe Pivot Points	Lubricate	Daily/10 hours
Backhoe Hydraulic Lines, Hoses, Connections	Check for leaks, wear	Daily/10 hours
Boom, Dipperstick, Swing 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
Friction of All pins	Check, replace if necessary	Daily/10 hours
Backhoe mount hardware	Check visually	Daily/10 hours
Bolts and Nut release	Re-torque	Every 25 hours

LUBRICATION AND MAINTERNANCE



CAUTION:

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

Important:

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



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 backhoe if the fittings are leaking or if the hoses are damaged. A sudden line burst could cause the boom, dipperstick or bucket to drop suddenly, causing damage to the tractor or backhoe or injury to personnel.



CAUTION:

Operate the backhoe from the operator seat only.



CAUTION:

Do not stand or walk under a raised backhoe. Accidental movement of control lever or leak in hydraulic system could cause boom or dipperstick 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 backhoe should be on the ground and bucket fully retracted(all cylinders in retracted position).

Grease all backhoe 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 backhoe/material. Unequal rear tire inflation can result in bucket not being level to the ground.

TROUBLE SHOOTUNG

This Trouble Shooting Chart is provided for reference to possible backhoe 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
Swing, Boom, Dipperstick 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.
	Backhoe control valve or tractor main relief valve stuck open.	Check system pressure. Repair or replace relief valve. Refer to the Tractor Operator's Manual
	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.
Cylinders operate in wrong direction relative to control valve lever position.	Hydraulic hoses connected incorrectly.	Correct hydraulic hose connections.
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.

TROUBLE SHOOTUNG

PROBLEM	POSSIBLE CAUSE	CORRECTION
Slow or erratic move of Cylinders (Noisy operation of cylinders)	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 backhoe operation.
	Excessive weight in bucket. Material weight exceeds maximum specified backhoe capacity.	Reduce material load. (Digging 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.
	Boom, Dipperstick or Bucket 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.
	Hydraulic Oil viscosity too heavy or Incorrect oil	Check oil number and viscosity, Refill correct hydraulic oil.
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.
	Bucket, Boom and Dipperstick 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".

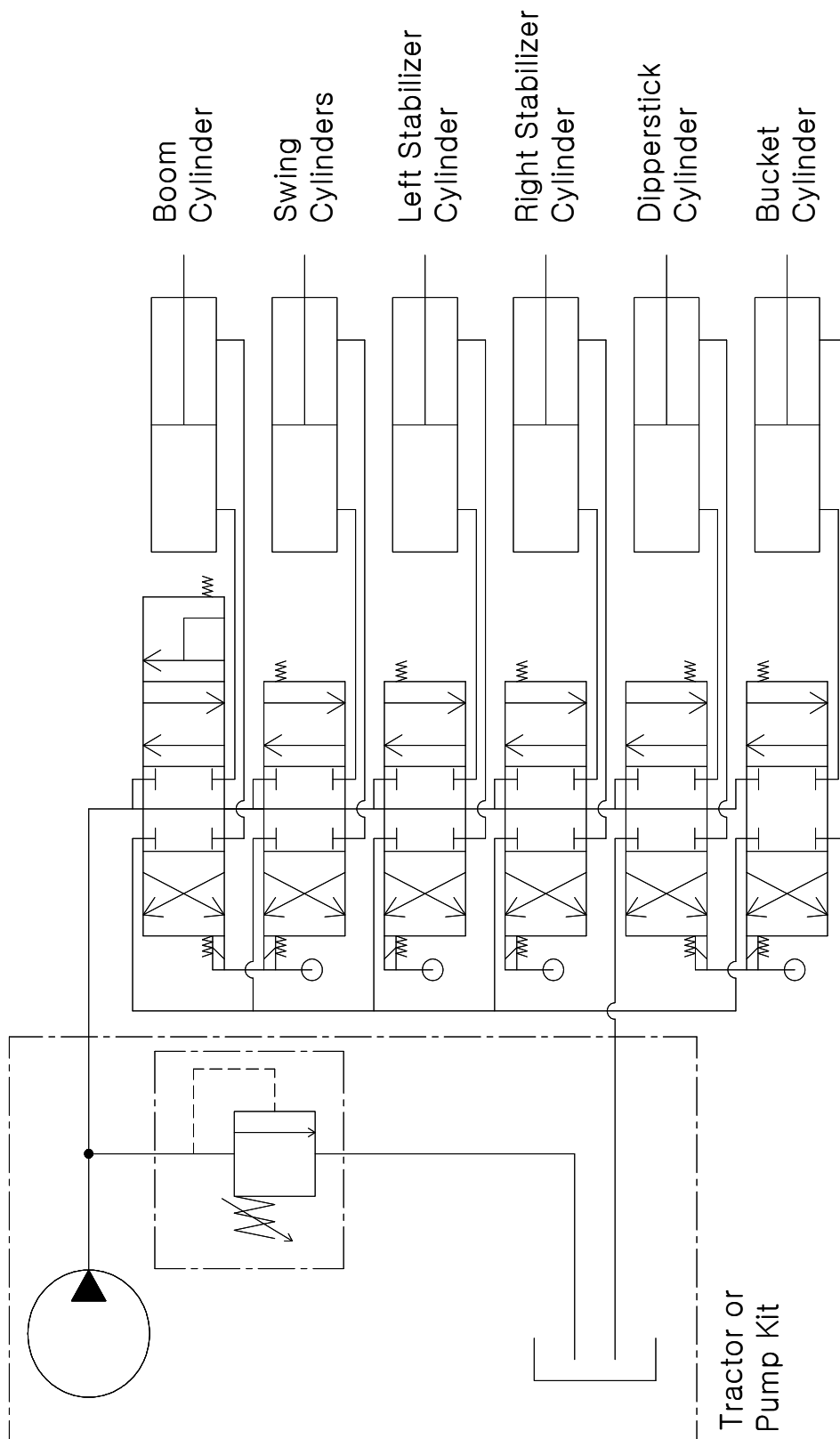
TROUBLE SHOOTUNG

PROBLEM	POSSIBLE CAUSE	CORRECTION
System relief valve squeals.	Hydraulic Oil viscosity too heavy or Incorrect oil	Check oil number and viscosity, Refill correct hydraulic oil.
	Excessive load in bucket. Weight exceeds specified backhoe 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.
Backhoe 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.

TROUBLE SHOOTUNG

PROBLEM	POSSIBLE CAUSE	CORRECTION
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.
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.

HYDRAULIC SYSTEM SCHEMATIC



TORQUE TIGHTENING CHART

SAE FASTENER TORQUE CHART

Note : Use these torques, unless special torques are specified. Values are for 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-disulphide or other extreme pressure lubricant is used.

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
1-1/8					800	880	1085	1193	1280	1440	1736	1953
1-1/4					1120	1240	1519	1681	1820	2000	2468	2712
1-3/8					1460	1680	1980	2278	2380	2720	3227	3688
1-1/2					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 for course 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-disulphide 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 a 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		920	1100	2000	2400	1470	1770				
M36	2175		1600		3500	4200	2580	3090				

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.

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.

Parts 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

1. GROUP NAME

: Detail classification name for parts.

2. SECTION NAME

: Classification name for parts.

3. COMPONENTS

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

4. 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.
 ~4265-99999 5265-00001~	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.

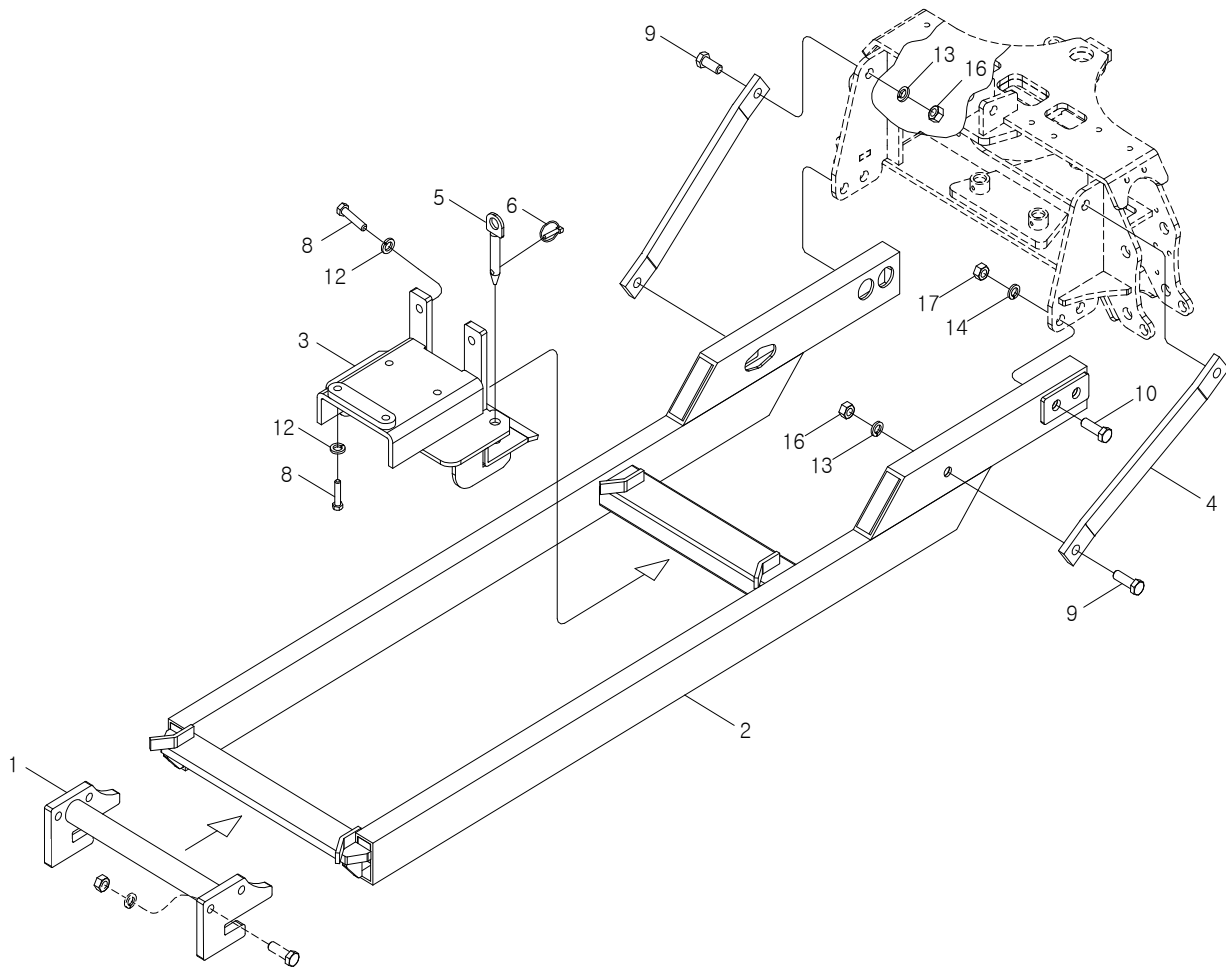
★ Due to our policy of continuously improving products, The information contained herein is subject to change without notice.



Note : The Hydraulic Control valve installed in this Backhoe is stipulated on the Name Plate.

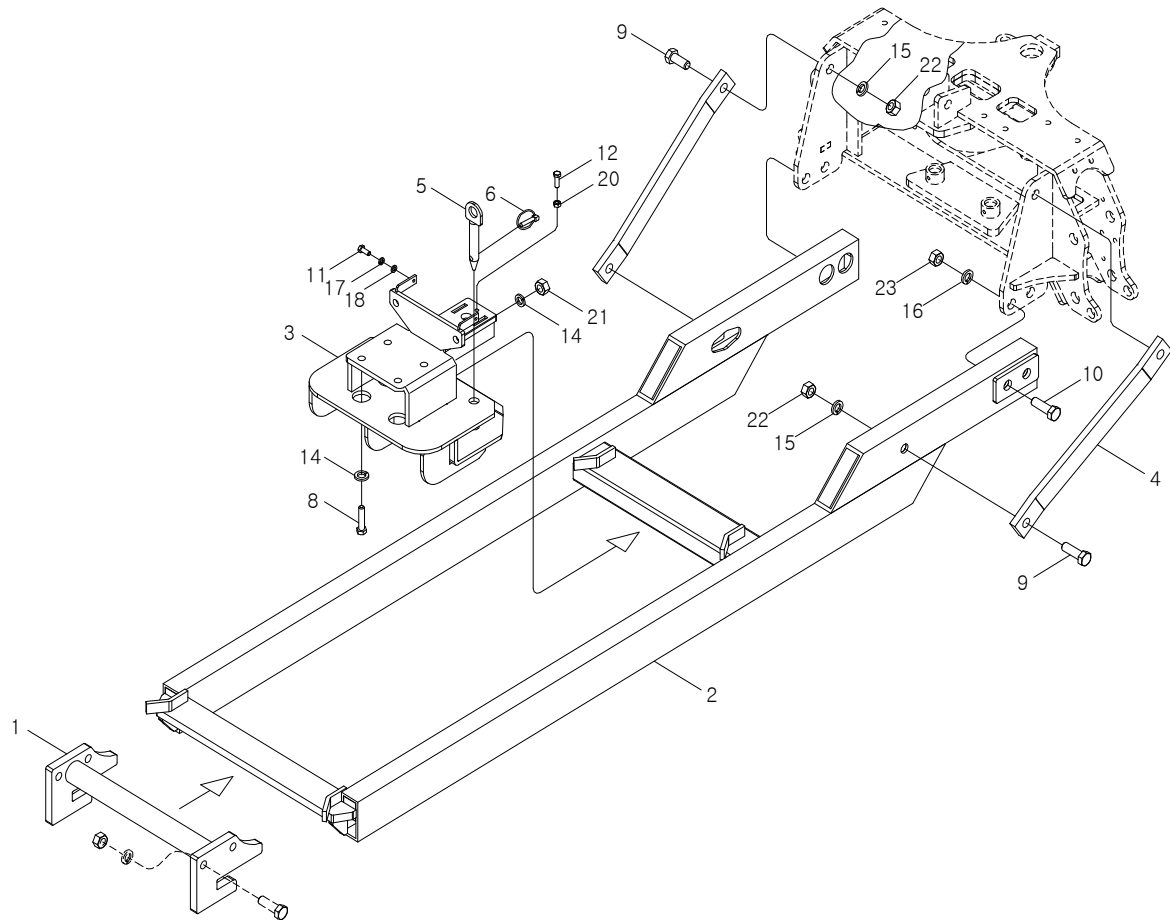
H : HANIL AV 80/6

SUBFRAME-T330 ASSEMBLY



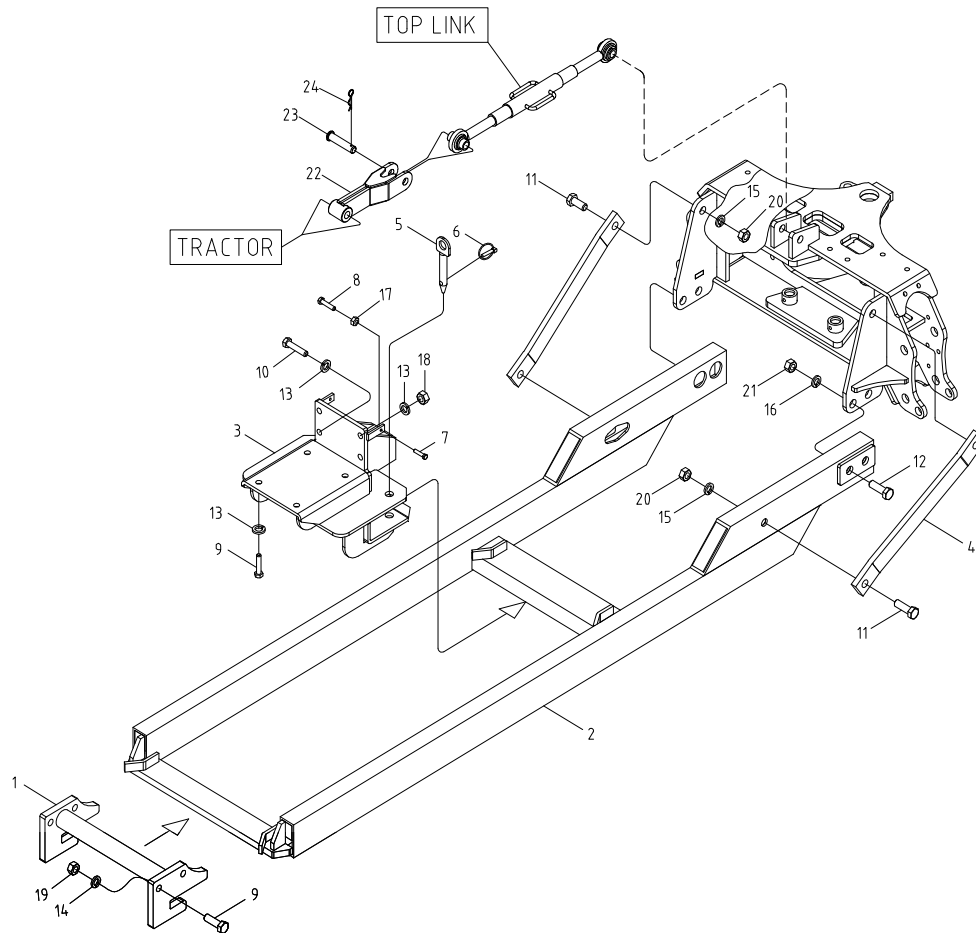
REF.NO	PART.NO	DESCRIPTION	QTY	I.C	REMARK
0	LYS06-20000-01	SUBFRAME-T330 ASSEMBLY, NO. 1~17	1		
1	LYS06-23000	CROSS BAR W.A	1		
2	LYS06-30000-01	RAIL W.A	1		
3	LYS06-22000	BRACKET_MID W.A	1		
4	DK05-0101-02	BRACE	2		
5	DK04-0100	PIN	2		
6	1008-1001	RING PIN	2		
8	10191-M1406-40	HEX. BOLT-HT, M14-2.0P 40L	6		
9	10191-M2007-60	HEX. BOLT-HT, M20-2.5P 60L	4		
10	10191-M2207-60	HEX. BOLT-HT, M22-2.5P 60L	4		
12	10316-M1400	WASHER-SPRING, M14	6		
13	10316-M2000	WASHER-SPRING, M20	4		
14	10316-M2200	WASHER-SPRING, M22	4		
16	10261-M2007	HEX. NUT-HT, M20-2.5P	4		
17	10261-M2207	HEX. NUT-HT, M22-2.5P	4		

SUBFRAME-T330HST ASSEMBLY



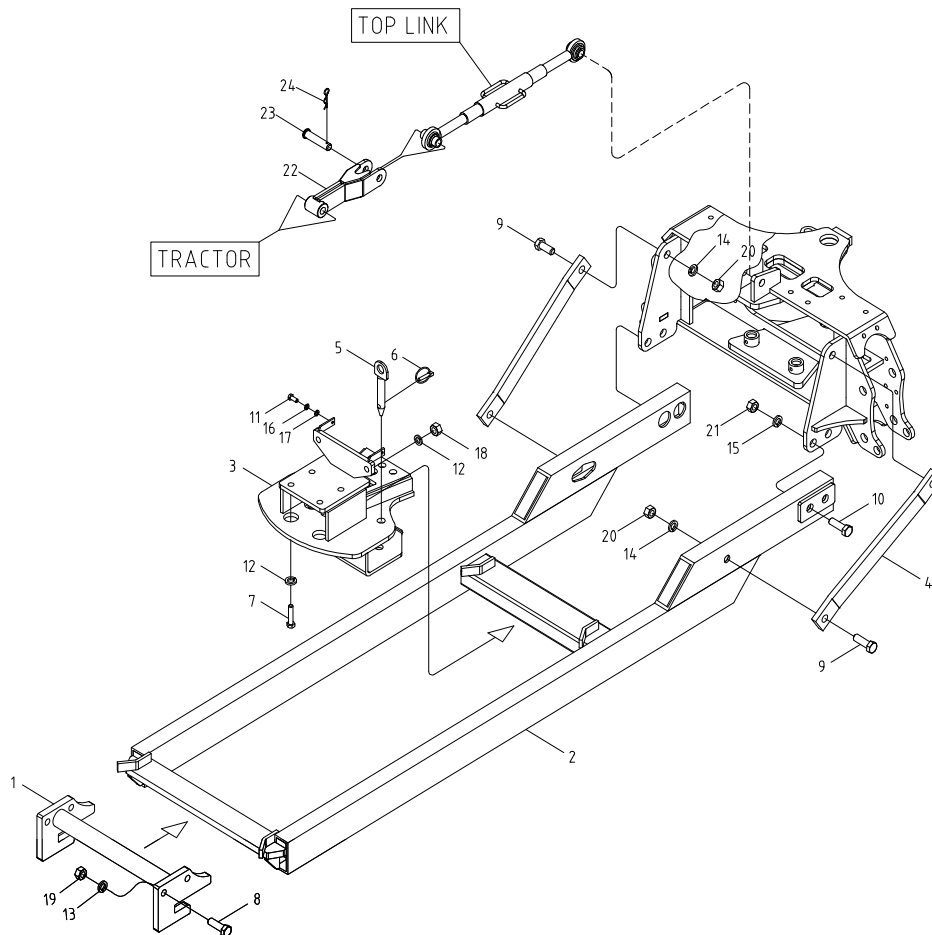
REF.NO	PART.NO	DESCRIPTION	QTY	I.C	REMARK
0	LYS07-20000-01	SUBFRAME-T330HST ASSEMBLY, NO. 1~23	1		
1	LYS06-23000	CROSS BAR W.A	1		
2	LYS07-30000-01	RAIL W.A	1		
3	LYS07-22000	BRACKET_MID W.A	1		
4	DK05-0101-02	BRACE	2		
5	DK04-0100	PIN	2		
6	1008-1001	RING PIN	2		
8	10191-M1406-35	HEX. BOLT-HT, M14-2.0P 35L	4		
9	10191-M2007-60	HEX. BOLT-HT, M20-2.5P 60L	4		
10	10191-M2207-60	HEX. BOLT-HT, M22-2.5P 60L	4		
11	10191-M0803-20	HEX. BOLT-HT, M8-1.25P 20L	2		
12	10191-M1004-30	HEX. BOLT-HT, M10-1.5P 30L	1		
14	10316-M1400	WASHER-SPRING, M14	6		
15	10316-M2000	WASHER-SPRING, M20	4		
16	10316-M2200	WASHER-SPRING, M22	4		
17	10316-M0800	WASHER-SPRING, M8	2		
18	10321-M0800	WASHER-PLAIN, M8	2		
20	10261-M1004	HEX. NUT-HT, M10-1.5P	1		
21	10261-M1406	HEX. NUT-HT, M14-2.0P	2		
22	10261-M2007	HEX. NUT-HT, M20-2.5P	4		
23	10261-M2207	HEX. NUT-HT, M22-2.5P	4		

SUBFRAME-T353 ASSEMBLY



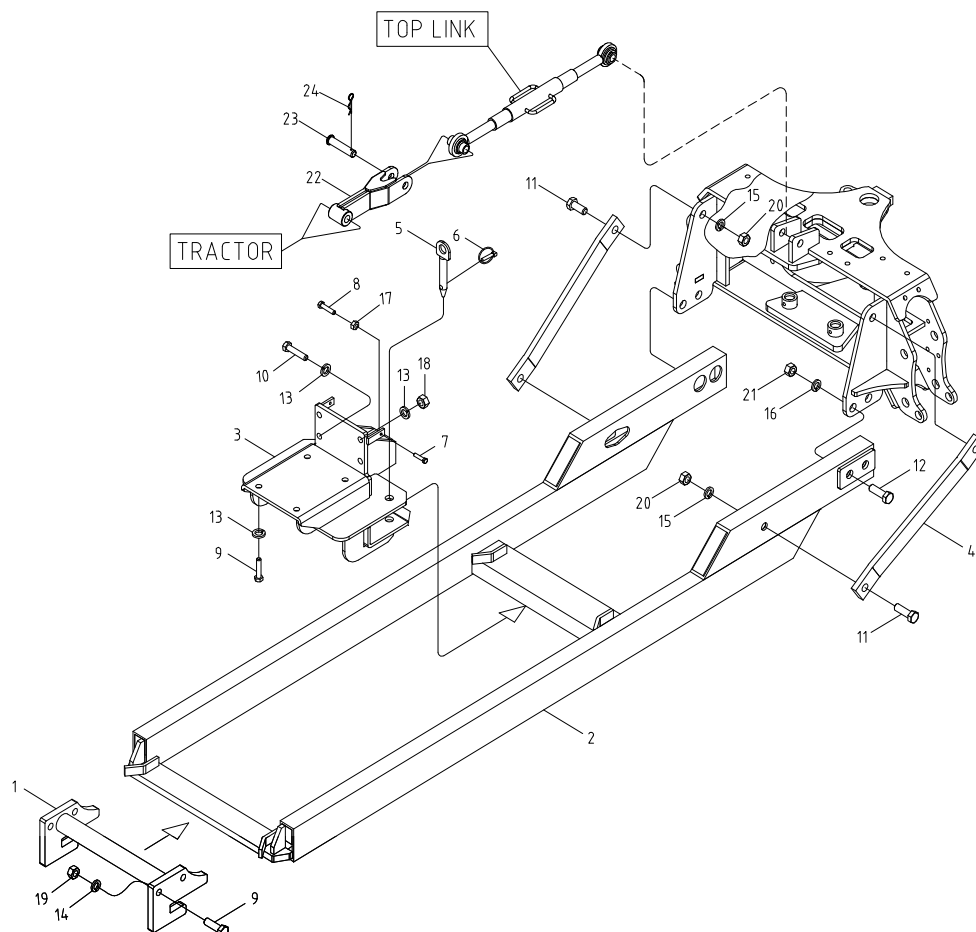
REF.NO	PART.NO	DESCRIPTION	QTY	I.C	REMARK
0	FT411-S0000	SUBFRAME-T353 ASSEMBLY, NO. 1~17	1		
1	FT411-S1100	CROSS BAR W.A	1		
2	FT411-S2100	RAIL W.A	1		
3	FT411-S3100	BRACKET_MID W.A	1		
4	FTS01-40101	BRACE	2		
5	14132-20120	PIN	2		
6	14021-10000	RING PIN	2		
7	10191-M0803-20	HEX. BOLT-HT, M8-1.25P 20L	2		
8	10191-M1004-35	HEX. BOLT-HT, M10-1.5P 35L	1		
9	10191-M1406-40	HEX. BOLT-HT, M14-2.0P 40L	6		
10	10191-M1606-50	HEX. BOLT-HT, M16-2.0P 50L	4		
11	10191-M2007-60	HEX. BOLT-HT, M20-2.5P 60L	4		
12	10191-M2207-60	HEX. BOLT-HT, M22-2.5P 60L	4		
13	10316-M1400	WASHER-SPRING, M14	8		
14	10316-M1600	WASHER-SPRING, M16	4		
15	10316-M2000	WASHER-SPRING, M20	4		
16	10316-M2200	WASHER-SPRING, M22	4		
17	10261-M1004	HEX. NUT-HT, M10-1.5P	1		
18	10261-M1406	HEX. NUT-HT, M14-2.0P	2		
19	10261-M1606	HEX. NUT-HT, M16-2.0P	4		
20	10261-M2007	HEX. NUT-HT, M20-2.5P	4		
21	10261-M2207	HEX. NUT-HT, M22-2.5P	4		
22	FT410-S4100	TOP LINK EXTENSION W.A	1		08.05.05~
23	14142-19085	TOP LINK PIN, Φ19-75.5L	1		08.05.05~
24	14011-0300	R-PIN, Φ3	1		08.05.05~

SUBFRAME-T353HST ASSEMBLY



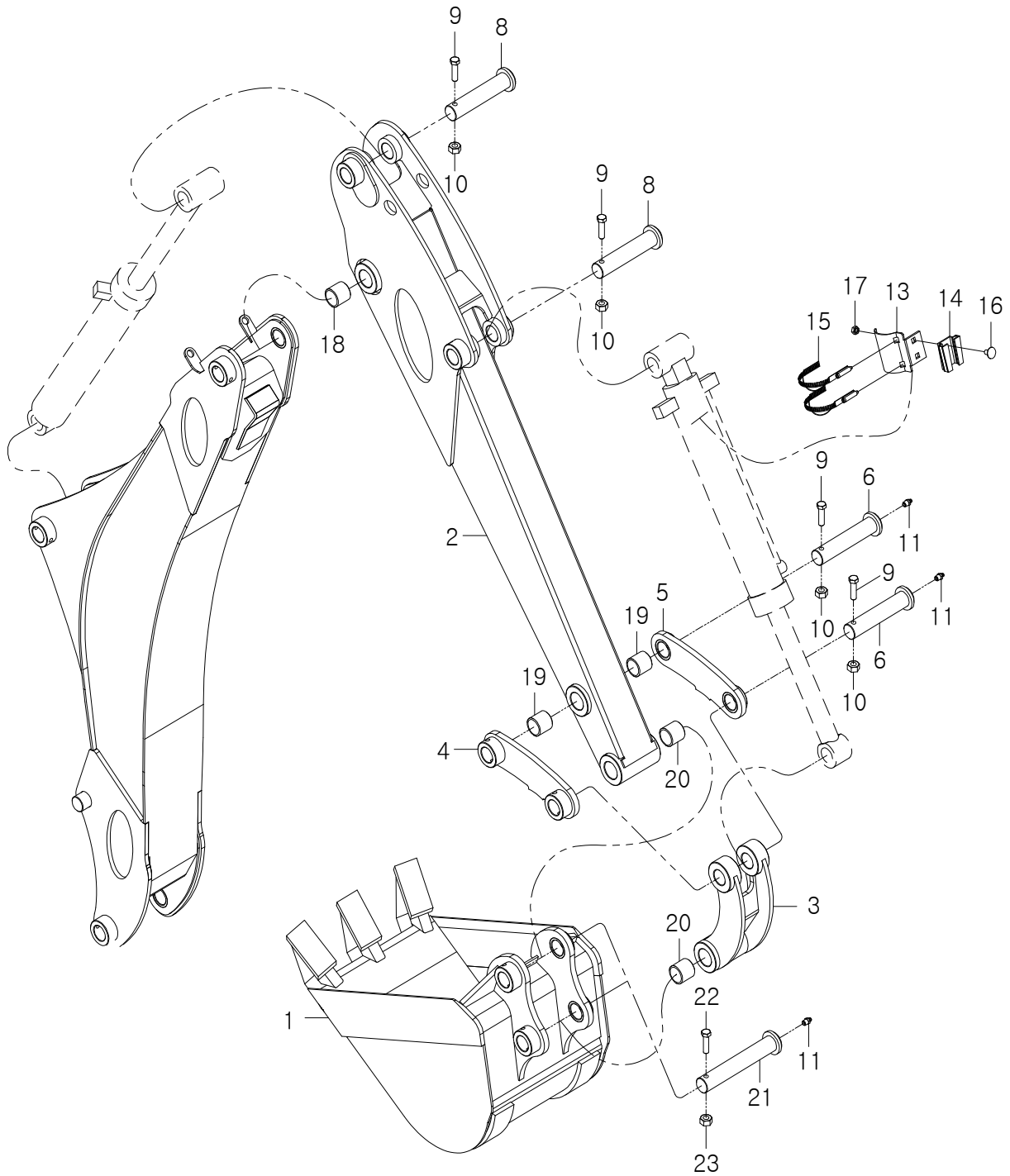
REF.NO	PART.NO	DESCRIPTION	QTY	I.C	REMARK
0	FT411-S0000	SUBFRAME-T353HST ASSEMBLY, NO. 1~21	1		
1	LYS06-23000	CROSS BAR W.A	1		
2	FT411-S2100	RAIL W.A	1		
3	LYS07-22000	BRACKET_MID W.A	1		
4	FTS01-40101	BRACE	2		
5	14132-20120	PIN	2		
6	14021-10000	RING PIN	2		
7	10191-M1406-35	HEX. BOLT-HT, M14-2.0P 35L	4		
8	10191-M1606-50	HEX. BOLT-HT, M16-2.0P 50L	4		
9	10191-M2007-60	HEX. BOLT-HT, M20-2.5P 60L	4		
10	10191-M2207-60	HEX. BOLT-HT, M22-2.5P 60L	4		
11	10191-M0803-20	HEX. BOLT-HT, M8-1.25P 20L	2		
12	10316-M1400	WASHER-SPRING, M14	6		
13	10316-M1600	WASHER-SPRING, M16	4		
14	10316-M2000	WASHER-SPRING, M20	4		
15	10316-M2200	WASHER-SPRING, M22	4		
16	10316-M0800	WASHER-SPRING, M8	2		
17	10321-M0800	WASHER-PLAIN, M8	2		
18	10261-M1406	HEX. NUT-HT, M14-2.0P	2		
19	10261-M1606	HEX. NUT-HT, M16-2.0P	4		
20	10261-M2007	HEX. NUT-HT, M20-2.5P	4		
21	10261-M2207	HEX. NUT-HT, M22-2.5P	4		
22	FT410-S4100	TOP LINK EXTENSION W.A	1		08.05.05~
23	14142-19085	TOP LINK PIN, Φ19-75.5L	1		08.05.05~
24	14011-0300	R-PIN, Φ3	1		08.05.05~

SUBFRAME-T350 ASSEMBLY



REF.NO	PART.NO	DESCRIPTION	QTY	I.C	REMARK
0	FTS60-00000-01	SUBFRAME-T353 ASSEMBLY, NO. 1~17	1		
1	FTS60-10100	CROSS BAR W.A	1		
2	FTS60-10200-01	RAIL W.A	1		
3	FTS60-10300	BRACKET_MID W.A	1		
4	DK05-0101-02	BRACE	2		
5	14132-20120	PIN	2		
6	14021-10000	RING PIN	2		
7	10191-M0803-20	HEX. BOLT-HT, M8-1.25P 20L	2		
8	10191-M1004-35	HEX. BOLT-HT, M10-1.5P 35L	1		
9	10191-M1406-40	HEX. BOLT-HT, M14-2.0P 40L	6		
10	10191-M1606-50	HEX. BOLT-HT, M16-2.0P 50L	4		
11	10191-M2007-60	HEX. BOLT-HT, M20-2.5P 60L	4		
12	10191-M2207-60	HEX. BOLT-HT, M22-2.5P 60L	4		
13	10316-M1400	WASHER-SPRING, M14	8		
14	10316-M1600	WASHER-SPRING, M16	4		
15	10316-M2000	WASHER-SPRING, M20	4		
16	10316-M2200	WASHER-SPRING, M22	4		
17	10261-M1004	HEX. NUT-HT, M10-1.5P	1		
18	10261-M1406	HEX. NUT-HT, M14-2.0P	2		
19	10261-M1606	HEX. NUT-HT, M16-2.0P	4		
20	10261-M2007	HEX. NUT-HT, M20-2.5P	4		
21	10261-M2207	HEX. NUT-HT, M22-2.5P	4		
22	FT410-S4100	TOP LINK EXTENSION W.A	1		
23	14142-19085	TOP LINK PIN, Φ19-75.5L	1		
24	14011-0300	R-PIN, Φ3	1		

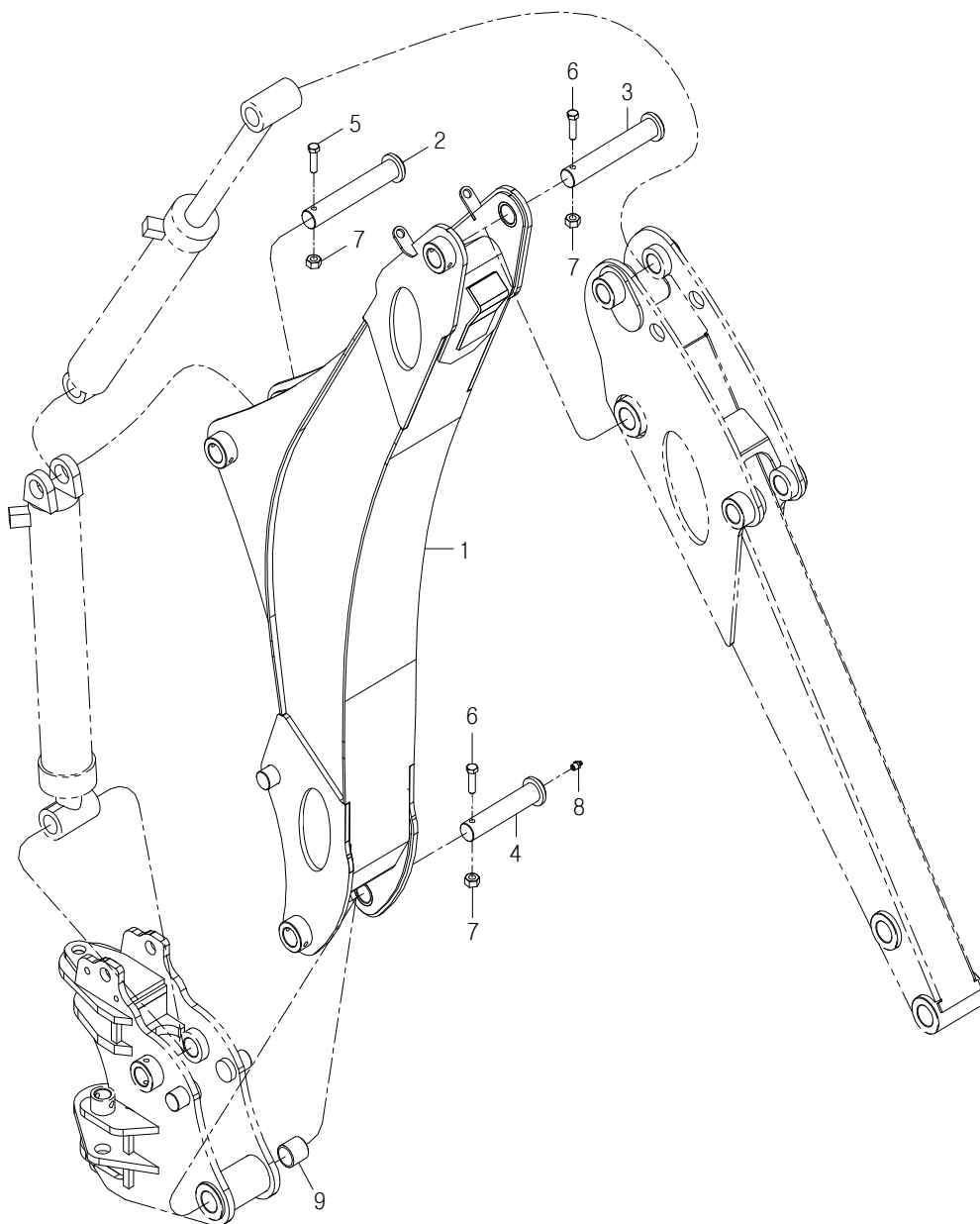
BUCKET, DIPPERSTICK ASSEMBLY



BUCKET, DIPPERSTICK ASSEMBLY

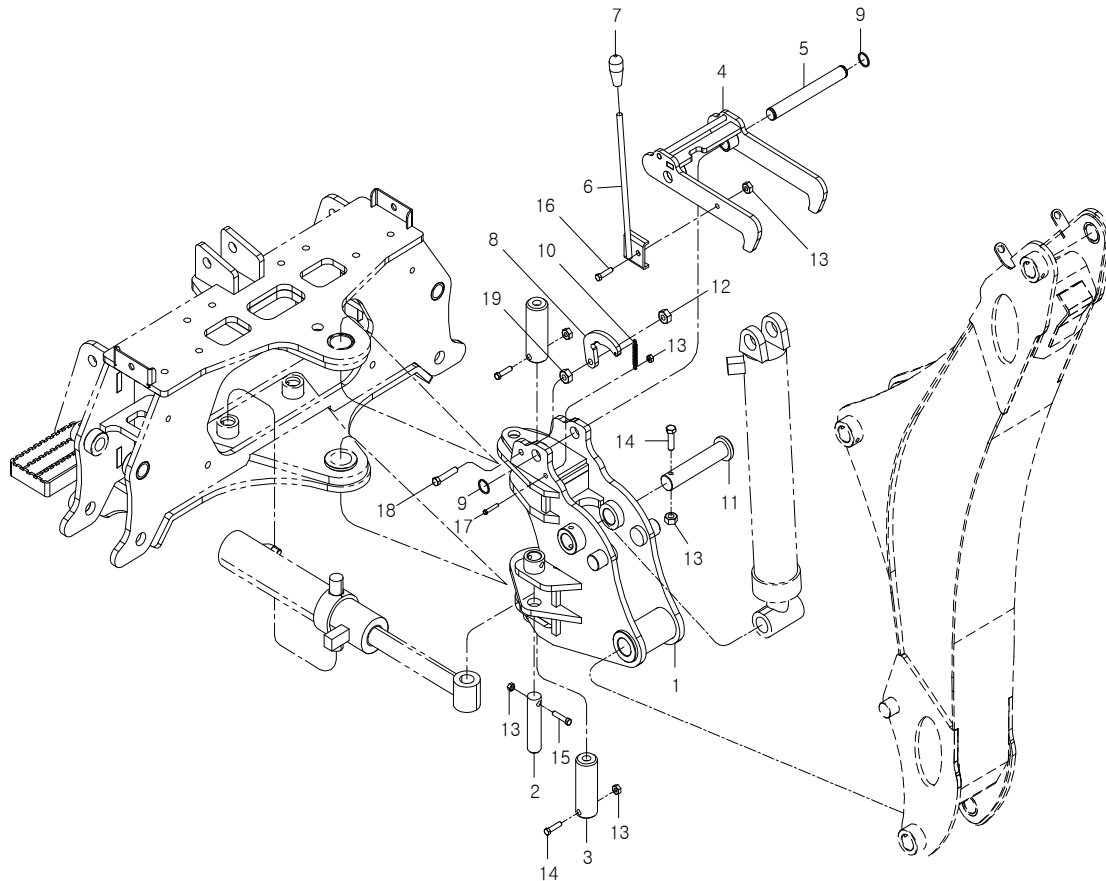
REF.NO	PART.NO	DESCRIPTION	QTY	I.C	REMARK
1	BT664-23100-01	BUCKET ASS'Y, 9	1		
	BT664-23200-01	BUCKET ASS'Y, 12	1		
	BT664-23300-01	BUCKET ASS'Y, 16	1		
	BT664-23400-01	BUCKET ASS'Y, 18	1		
	BT664-23500-01	BUCKET ASS'Y, 24	1		
	BT664-23500-02	BUCKET ASS'Y, 24	1	↩	08.03.18~
	BT664-23600-01	BUCKET ASS'Y, 36	1		
	BT664-23600-02	BUCKET ASS'Y, 36	1	↩	08.03.18~
2	BT300-22100	DIPPERSTICK ASS'Y	1	↩	
2	BT300-22100-07	DIPPERSTICK ASS'Y	1	↩	07.08.06~
3	BT664-25100	LINK ASS'Y	1		
4	BT664-24200-02	LINK-RH	1		
5	BT664-24100-02	LINK-LH	1		
6	BT664-71600-01	PIN, Φ30-195.5L	2		
7					
8	BT664-71800-01	PIN, Φ30-156L	1	↩	
8	BT664-71400-02	PIN, Φ30-156L	2	↩	07.08.21~
9	10121-M0803-60	HEX. BOLT, M8-1.25P 60L	4		
10	1021N-M0803	HEX. NUT, LOCK, M8-1.25P	4		
11	4001-0001	GREASE NIPPLE, PT1/8	4		
13	BH11-0116	SOCKET BRACKET	1		
14	BH11-0115	SOCKET	1		
15	8001-B010	BAND, 10	2		
16	10121-M0803-50	BOLT, M8-1.25P 50L	2		
17	10211-M0803	NUT, M8-1.25P	2		
18	83040-4440D	BUSHING, 404440	2		
19	83030-3440D	BUSHING, 303440	2		
20	2010-3025	BUSHING, 252830	4		
21	BT664-72000	PIN, Φ25-195.5L	2		
22	10121-M1004-60	HEX. BOLT, M10-1.5P 60L	2		
23	1021N-M1004	HEX. NUT, LOCK, M10-1.5P	2		

BOOM ASSEMBLY



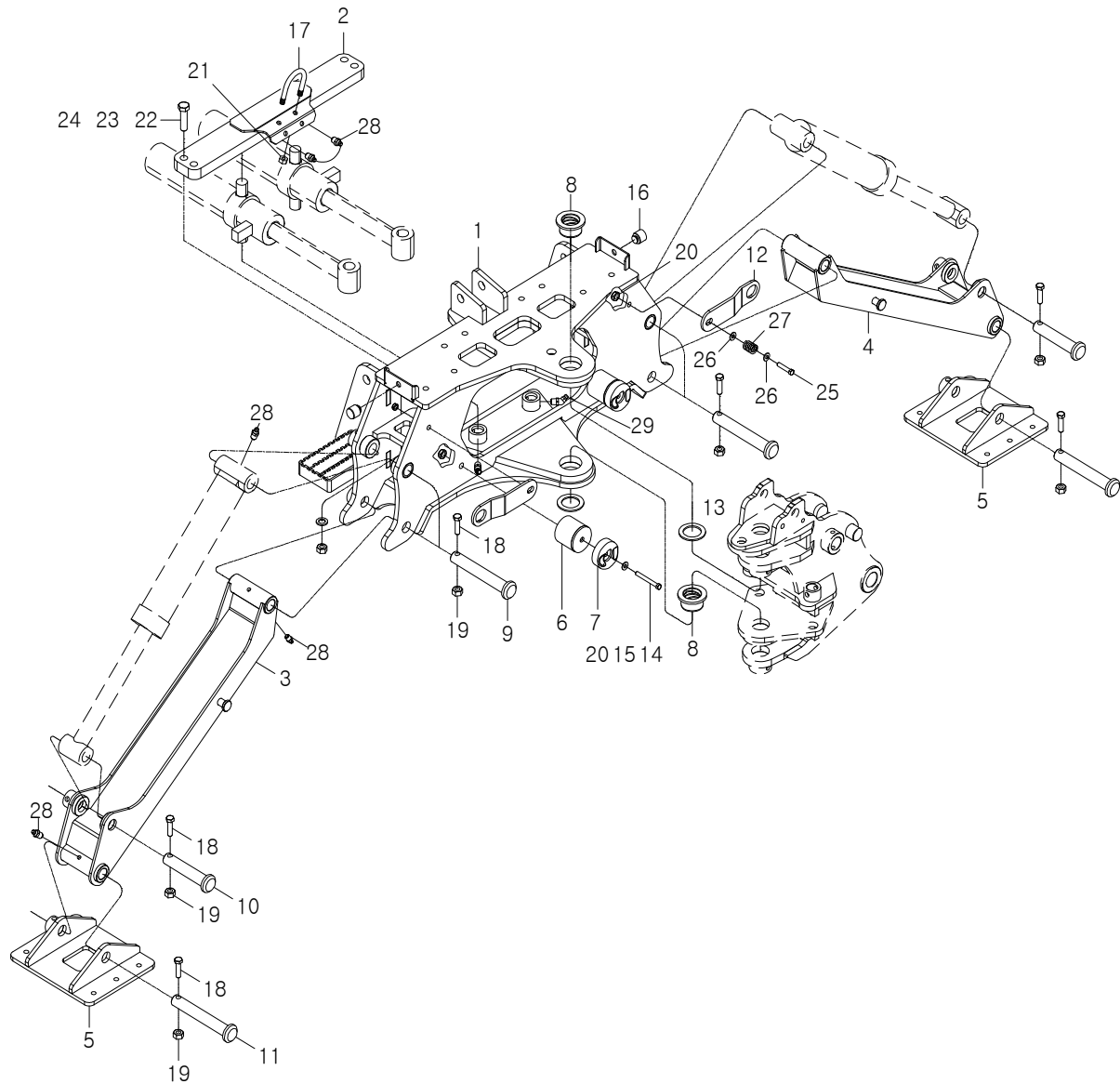
REF.NO	PART.NO	DESCRIPTION	QTY	I.C	REMARK
1	BT300-21100	BOOM ASS'Y	1		
2	BT664-71700	PIN, $\Phi 30-176.5L$	1		
3	BT664-71900-01	PIN, $\Phi 40-185.5L$	1		
4	BT664-71500-01	PIN, $\Phi 40-185.5L$	1		
5	10121-M0803-60	HEX. BOLT, M8-1.25P 60L	1		
6	10121-M0803-70	HEX. BOLT, M8-1.25P 70L	2		
7	1021N-M0803	HEX. NUT LOCK, M8-1.25P	3		
8	4001-0001	GREASE NIPPLE, PT1/8	1		
9	83040-4440D	BUSHING, 404440	2		

SWING FRAME ASSEMBLY



REF.NO	PART.NO	DESCRIPTION	QTY	I.C	REMARK
1	BT664-31000-01	SWING FRAME ASS'Y	1		
1	BT664-31000-03	SWING FRAME ASS'Y	1		07.08.08~
2	BT664-74100	SWING CYLINDER PIN, Φ25-118L	2		
3	BT664-72100	PIN, Φ40-117L	2		
3	BT664-72100-02	PIN, Φ40-117L	2		07.08.16~
4	BT664-72200-01	LOCK	1		
4	BT664-72200-02	LOCK	1		08.05.19~
5	BT664-72400	PIN, Φ22-190L	1		
6	BT664-72300	HANDLE SET	1		
7	BC04-5100	PLASTIC BALL	1		
8	BT664-72500	LOCK	1		
9	6002-0122	SNAP RING, C22	2		
10	BN06-0108	SPRING	1		
11	BT664-71400-01	PIN, Φ30-156L	1		
11	BT664-71400-02	PIN, Φ30-167L	1		07.08.06~
12	1021N-M1004	HEX. NUT LOCK, M10-1.5P	1		
13	1021N-M0803	HEX. NUT LOCK, M8-1.25P	6		
14	10121-M0803-60	HEX. BOLT, M8-1.25P 60L	3		
15	10121-M0803-50	HEX. BOLT, M8-1.25P 50L	2		
16	10121-M0803-25	HEX. BOLT, M8-1.25P 25L	1		
17	10121-M0803-35	HEX. BOLT, M8-1.25P 35L	1		
18	10121-M1004-35	HEX. BOLT, M10-1.5P 35L	1		
19	10211-M1004	HEX. NUT, M10-1.5P	1		

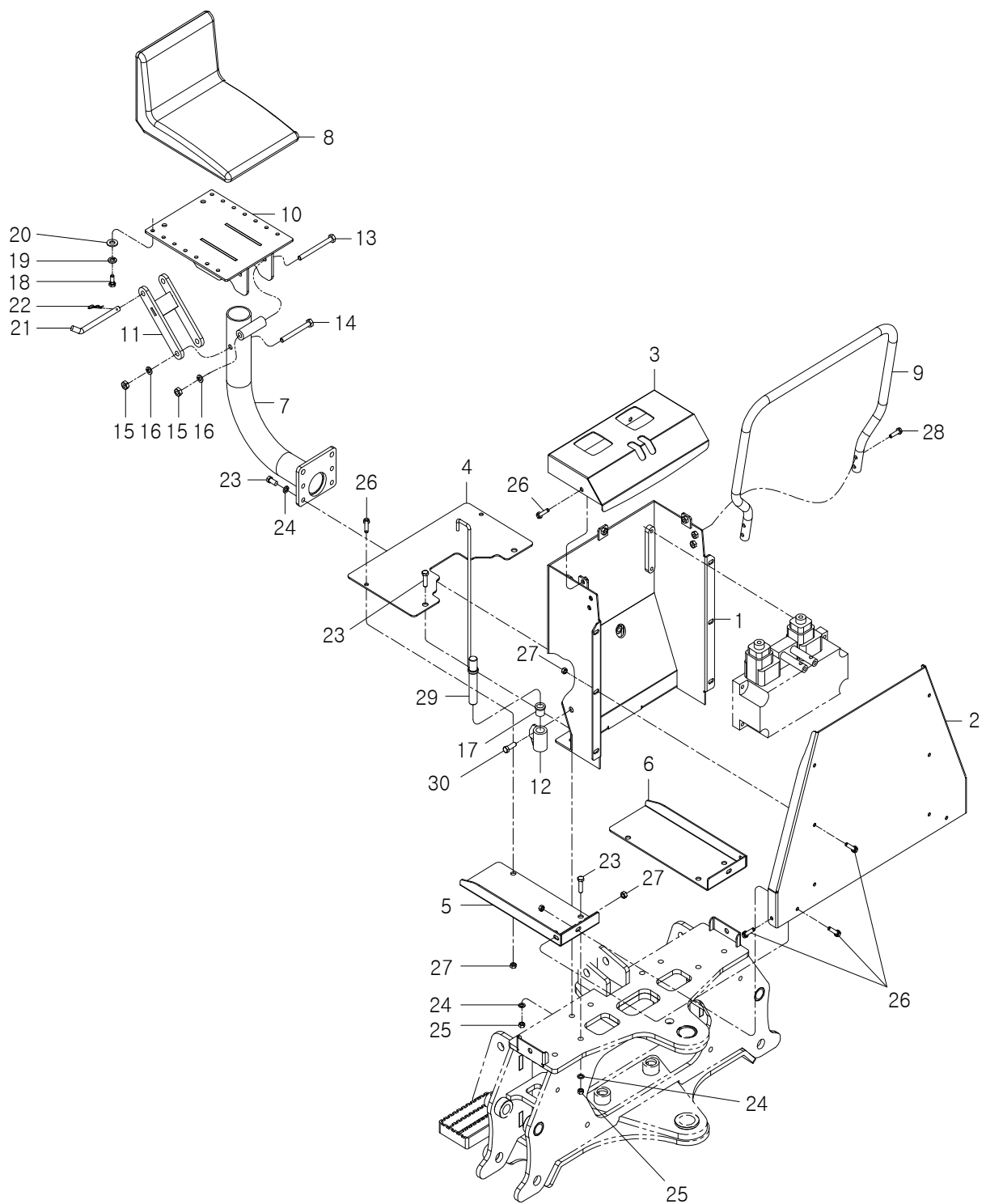
MAINFRAME ASSEMBLY



MAINFRAME ASSEMBLY

REF.NO	PART.NO	DESCRIPTION	QTY	I.C	REMARK
1	BT664-11000-01	MAIN FRAME ASS'Y	1	↩	
1	BT664-11000-05	MAIN FRAME ASS'Y	1	↩	08.10.07~
2	BT651-52100	CROSS BAR	1	↩	
2	BT651-52100-01	CROSS BAR	1	↩	07.07.03~
3	BT664-62100-02	STABILIZER ASS'Y-RH	1		
4	BT664-61100-02	STABILIZER ASS'Y-LH	1		
5	BT664-61200	FOOT PLATE	2		
6	BT651-31600	BRACKET-CUSHION	2		
7	1002-B004	CUSHION	2		
8	BT651-75110	BUSHING, 405030	2	↩	
8	BT651-75110-03	BUSHING, 405030	2	↩	08.10.07~
9	BT664-71100	PIN, φ25-171L	4		
10	BT664-71200	PIN, φ25-139L	2		
11	BT664-71300	PIN, φ25-175L	2		
12	BT664-72800-02	STABILIZER LOCK	2		
13	BT664-73120	WASHER	2		
14	10121-M1004-90	HEX. BOLT, M10-1.5P 90L	2		
15	10316-M1000	WASHER-SPRING, M10	2		
16	1002-B005	RUBBER STOP	2		
17	BH09-0117	U-BOLT, φ40,5/16-18	1		
18	10121-M0803-50	HEX. BOLT, M8-1.25P 50L	8		
19	1021N-M0803	HEX. NUT, M8-1.25P	8		
20	1021N-M1004	HEX. NUT LOCK, M10-1.5P	4		
21	1202-0361	HEX. NUT, 5/16	4		
22	10121-M1606-60	HEX. BOLT-HT, M16-2.0P 60L	4		
23	10316-M1600	WASHER-SPRING, M16	4		
24	1021N-M1606	HEX. NUT LOCK, M16-2.0P	4		
25	10121-M1004-50	HEX. BOLT, M10-1.5P 50L	2		
26	10321-M1000	WASHER-PLAIN, M10	4		
27	BH07-0113	SPRING	2	↩	Old No.
27	14211-10034	SPRING	2	↩	
28	802G0-11900	NIPPLE GREASE, PT1/8	8		
29	802G1-11900	NIPPLE GREASE, PT1/8 45°	2		

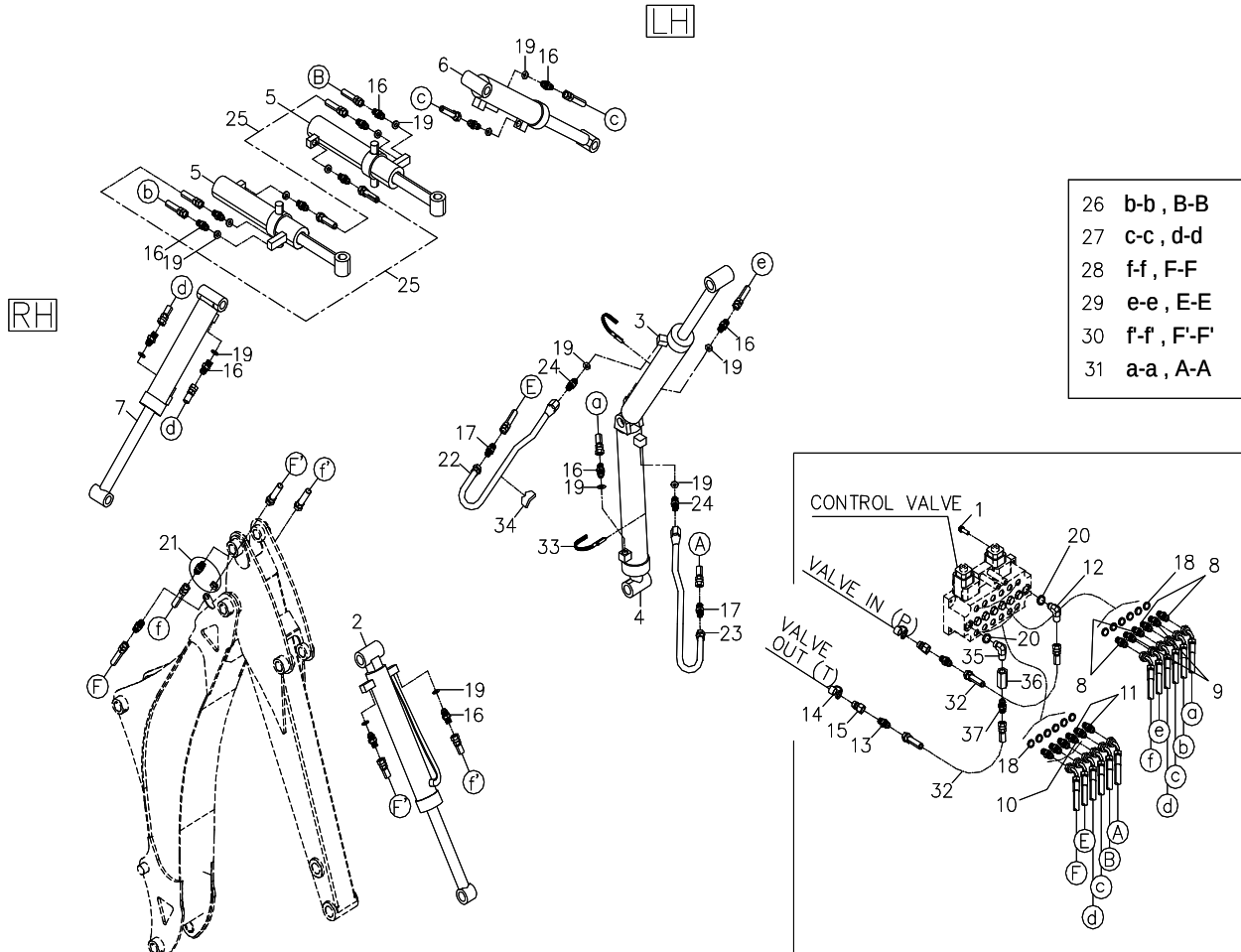
SEAT, CONTROL ASSEMBLY



SEAT, CONTROL ASSEMBLY

REF.NO	PART.NO	DESCRIPTION	QTY	I.C	REMARK
1	BT664-12000H	VALVE ROOM W.A	1		
2	BT651-12210-01	FRONT COVER	1		
2	BT651-12210-03	FRONT COVER	1		07.11.14~
3	BT664-54101H	TOP COVER	1		
4	BT651-12240	FOOT PLATE - CENTER	1		
5	BT651-12230	FOOT PLATE - RH	1		
5	BT651-12230-01	FOOT PLATE - RH	1		07.11.14~
6	BT651-12220	FOOT PLATE - LH	1		
6	BT651-12220-01	FOOT PLATE - LH	1		07.11.14~
7	BT664-41110	SUPPORT SEAT	1		
7	BT664-41110-01	SUPPORT SEAT	1		07.11.14~
8	V-2400	SEAT	1		
9	BT651-12410-01	GUIDE BAR	1		
10	BT664-41120-01	SEAT PLATE	1		
11	BT664-41130-01	LINK ASS'Y	1		
12	BN03-0400-01	SWING PIN HANGER	1		
13	10121-M1205-B0	HEX. BOLT, M12-1.75P 110L	1		
14	10121-M1205-A0	HEX. BOLT, M12-1.75P 100L	1		
15	1021N-M1205	NUT-HEX LOCK, M12-1.75P	2		
16	10316-M1200	WASHER-SPRING, M12	2		
17	BN03-0403	M/C BOSS	1		
18	1200-0364	HEX. BOLT, 5/16-18 20L	4		
19	1204-0301	WASHER-SPRING, 5/16	4		
20	1203-0301	WASHER-PLAIN, 5/16	4		
21	BT664-41150	PIN, $\varnothing 12$	1		
22	14011-03000	R-PIN, $\varnothing 3$	1		
23	10191-M1205-30	HEX. BOLT, M12-1.75P 30L	8		
24	10316-M1200	WASHER-SPRING, M12	8		
25	10211-M1205	HEX. NUT, M12-1.75P	4		
26	1012S-M0803-25	HEX. BOLT, M8-1.25P 25L	15		
27	10211-M0803	HEX. NUT, M8-1.25P	12		
28	1012S-M0803-40	HEX. BOLT, M8-1.25P 40L	4		
29	BT664-72600	SWING PIN	1		
30	10121-M1004-40	HEX. BOLT, M10-1.5P 40L	1		
31	10211-M1004	HEX. NUT, M10-1.5P	1		

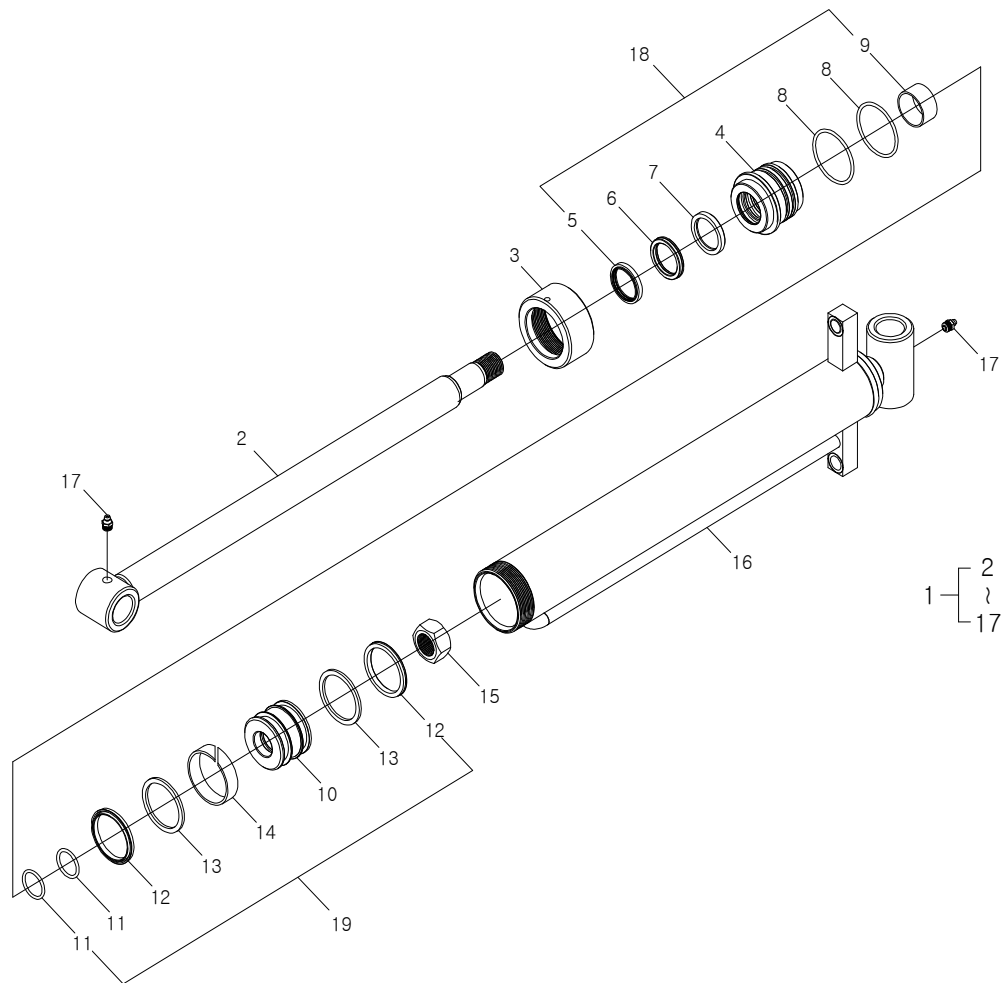
HOSE FITTING ASSEMBLY



HOSE FITTING ASSEMBLY

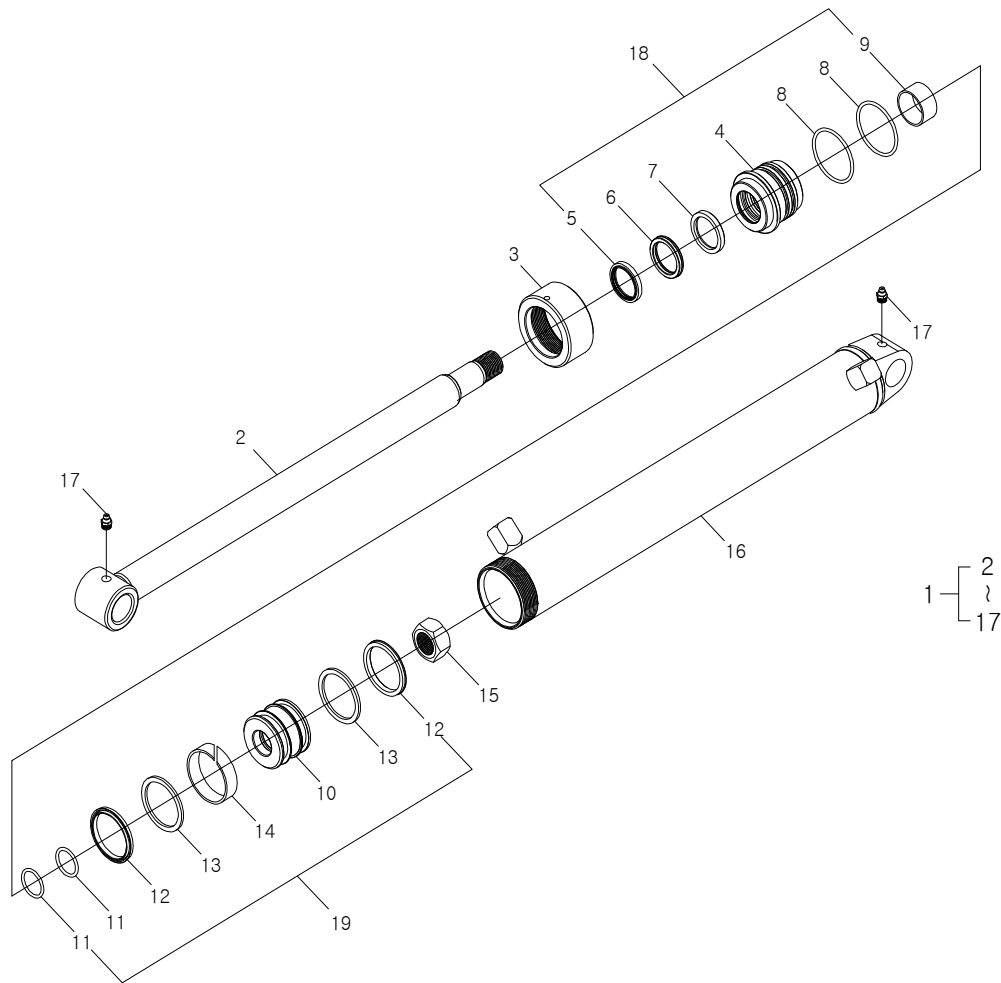
REF.NO	PART.NO	DESCRIPTION	QTY	I.C	REMARK
1	1012S-M0803-35	SEM'S BOLT, M8-1.25P 35L	4		
2	226702	BUCKET CYLINDER ASSEMBLY	1		
3	226901	DIPPERSTICK CYLINDER ASSEMBLY	1		
4	226903	BOOM CYLINDER ASSEMBLY	1		
5	225806	SWING CYLINDER ASSEMBLY	2		
6	224304	STABILIZER CYLINDER ASSEMBLY-LH	1		
7	224305	STABILIZER CYLINDER ASSEMBLY-RH	1		
8	6003-0204	ADAPTER LONG, 1/2-20UNFx3/4-16UNF, O-RING	4		
9	6003-0205	ORIFICE LONG, 1/2-20UNFx3/4-16UNF, O-RING	2		
10	6003-0203	ADAPTER SHORT, 1/2-20UNFx3/4-16UNF, O-RING	4		
11	6003-0206	ORIFICE SHORT, 1/2-20UNFx 3/4-16UNF, O-RING	2		
12	6003-0302	ADAPTER ELBOW, 3/4-16UNFx7/8-14UNF, O-RING 90°	2		
13	6003-0408	NIPPLE, PT1/2x3/4-16UNF	2		
14	8044K-01100	DUST CAP, 1/2, BLACK	2		
15	80410-T1130	QUICK COUPLER, PT1/2 MALE	2		
16	6004-0205	NIPPLE, PF1/4, O-RING x1/2-20UNF	16		
17	802N1-F67F7-50	NIPPLE, 9/16-18UNFx1/2-20UNF	2		
18	5004-0034	O-RING, AS568 #908	12		
19	5004-0014	O-RING, P11	16		
20	5004-0078	O-RING, AS568 #910	2		
21	BT664-83100	NIPPLE KIT, 1/2-20UNFx1/2-20UNF, NUT	2		
22	BT664-82140	PIPE ASS'Y	1		
23	BT664-82150	PIPE ASS'Y	1		
24	802N1-P26F7-52	ADAPTER, PF1/4x9/16-18UNF	2		
25	BH30-0100	HOSE ASS'Y (SWING TO SWING), 1/4x4x4x550L	2		
26	BH30-0200	HOSE ASS'Y (SWING TO VALVE), 1/4x904x4x950L	2		
27	BH30-0300	HOSE ASS'Y (STABILIZER), 1/4x904x4x1300L	4		
28	BT664-83120	HOSE ASS'Y (VALVE TO FIXED), 1/4x904x4x2500L	2		
29	BT664-83130	HOSE ASS'Y (VALVE TO DIPPER. CYL), 1/4x904x4x2530L	2		
30	BT664-83140	HOSE ASS'Y (FIXED TO BUCKET CYL), 1/4x4x4G/Wx900L	2		
31	BT664-83150	HOSE ASS'Y (VALVE TO BOOM CYL), 1/4x904x4x1850L	2		
32	BT664-83160-01	HOSE ASS'Y (VALVE TO IN OUT), 1/2x4x4x1900L	2		
33	8001-B010	BAND, 10	3		
34	COM02-11101	FIX, PIPE	2		
35	802L0-T63FA-32	NIPPLE , PT1/2x7/8-14UNF, O-RING 90°	1		
36	801K1-13000	CHECK VALVE, PT1/2-0.5K	1		
37	802N3-T63FA-30	NIPPLE , PT1/2x7/8-14UNF, HOSE	1		

BUCKET CYLINDER ASSEMBLY



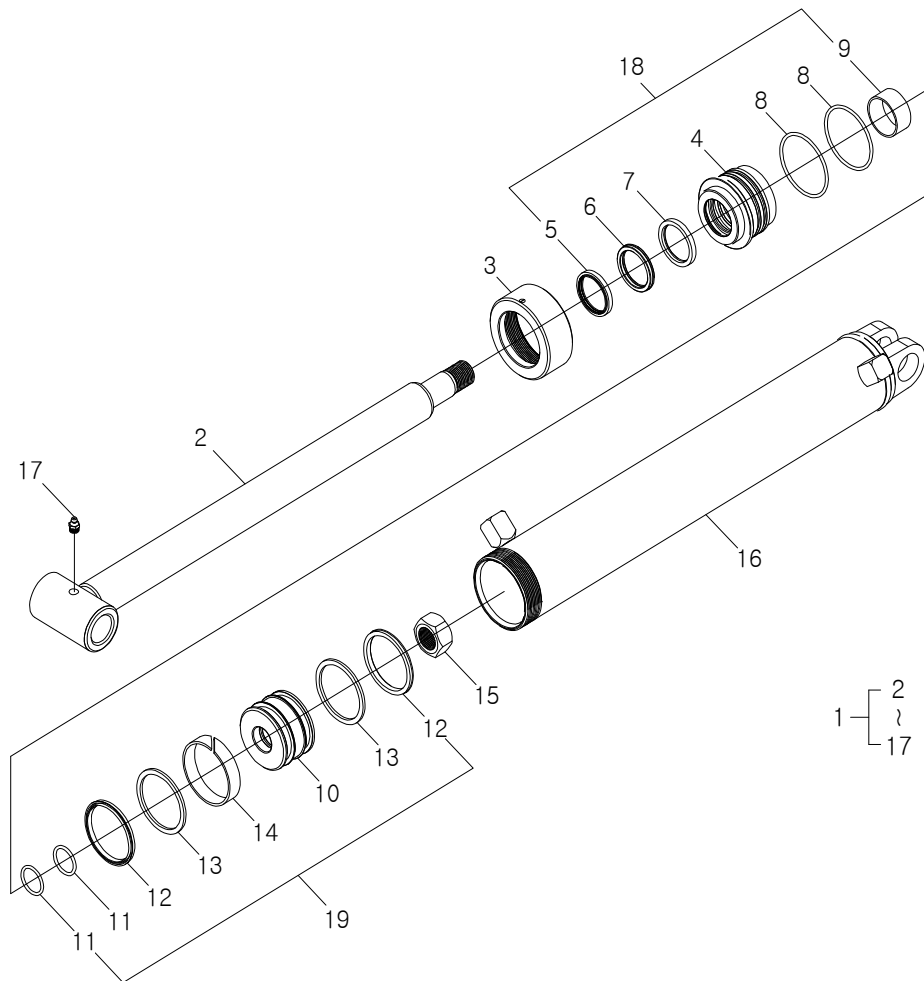
REF.NO	PART.NO	DESCRIPTION	QTY	I.C	REMARK
1	226702	BUCKET CYLINDER ASSEMBLY	1		
2	226702-R	ROD ASS'Y	1		
3	OC60-7037	CAP OUTER, Φ60x70x37L	1		
4	IC60-3555	COVER INNER, Φ60x35x55L	1		
5	DSSD-R035	DUST, SDR 35x43x5/6.5	1		
6	UPSK-Y035	PACKING U , SKY 35x45x6	1		
7	UPIS-I035	PACKING U, ISI 35x45x6	1		
8	OR1B-G055	O-RING, 1BG55	2		
9	DU03-5020	BUSHING DU, 35x39x20	1		
10	PI60-2746	PISTON, Φ60x27x46L	1		
11	OR1B-G027	O-RING, 1BG27	2		
12	UPOS-I060	PACKING U, OSI, 60x50x6	2		
13	TRBR-0060	BACKUP RING, 60x50x3	2		
14	WEWR-0060	WEARING, WR 60x55x15	1		
15	NTP0-U100-C	NUT, 1-14UN	1		
16	226702-T	TUBE ASS'Y	1		
17	GNIT-0181	GREASE NIPPLE, PT 1/8"	2		
18	IA60-3555	SEAL KIT HEAD, NO.4~9	1		
19	PA60-2746	SEAL KIT PISTON, NO.10~14	1		

DIPPERSTICK CYLINDER ASSEMBLY



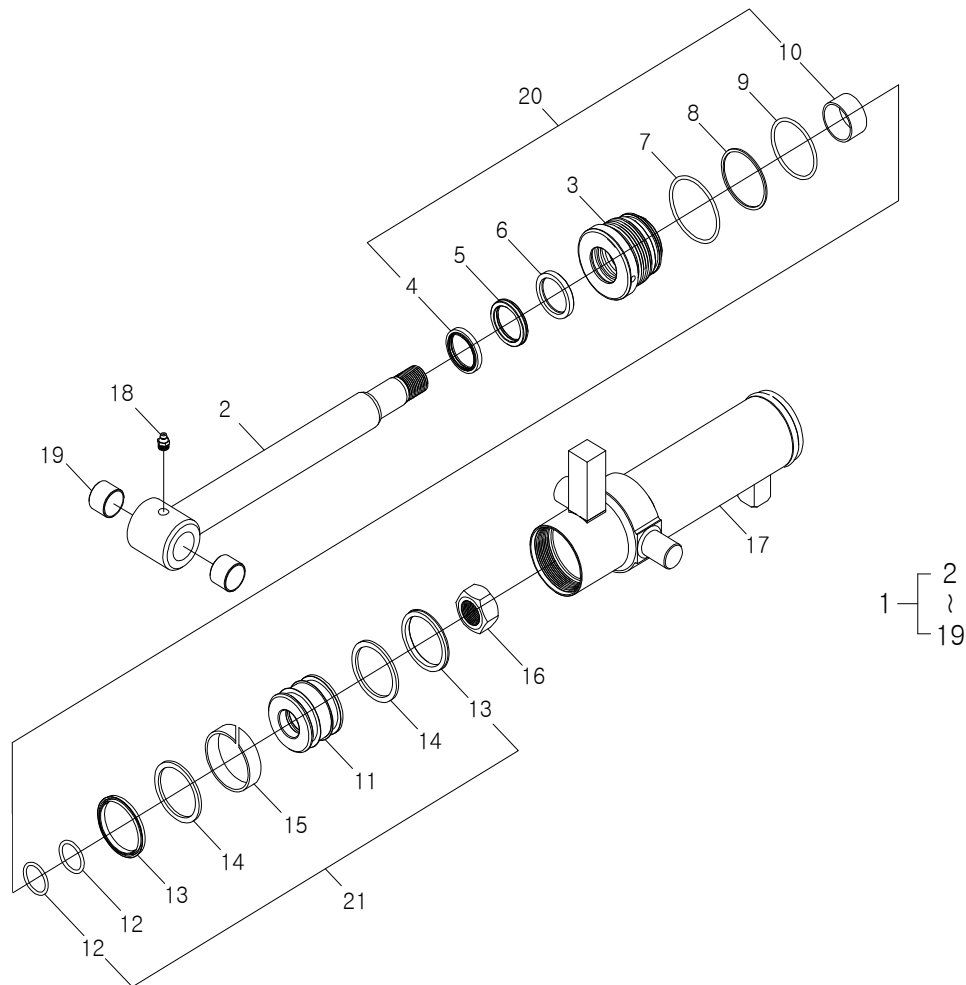
REF.NO	PART.NO	DESCRIPTION	QTY	I.C	REMARK
1	226901	DIPERSTICK CYLINDER ASSEMBLY	1		
2	226901-R	ROD ASS'Y	1		
3	OC60-7037	CAP OUTER, Φ60x70x37L	1		
4	IC60-3555	COVER INNER , Φ60x35x55L	1		
5	DSSD-R035	DUST, SDR 35x43x5/6.5	1		
6	UPSK-Y035	PACKING U, SKY 35x45x6	1		
7	UPIS-I035	PACKING U, ISI 35x45x6	1		
8	OR1B-G055	O-RING, 1BG55	2		
9	DU03-5020	BUSHING DU, 35x39x20	1		
10	PI60-2746	PISTION, Φ60x27x46L	1		
11	OR1B-G027	O-RING, 1BG27	2		
12	UPOS-I060	PACKING U, OSI 60x50x6	2		
13	TRBR-0060	BACKUP RING, 60x50x3	2		
14	WEWR-0060	WEARING, WR 60x55x15	1		
15	NTP0-U100-C	NUT, 1-14UN	1		
16	226901-T	TUBE ASS'Y	1		
17	GNIT-0181	GREASE NIPPLE, PT 1/8"	2		
18	IA60-3555	SEAL KIT HEAD, NO.4~9	1		
19	PA60-2746	SEAL KIT PISTON, NO.10~14	1		

BOOM CYLINDER ASSEMBLY



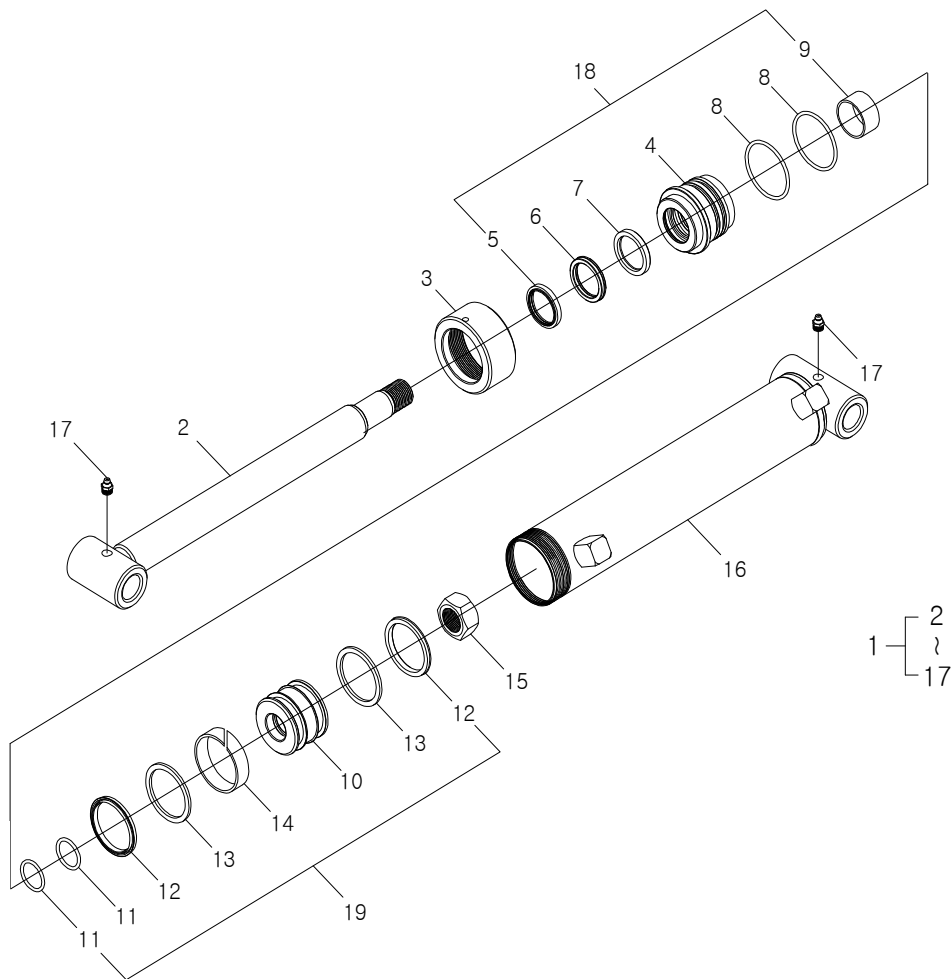
REF.NO	PART.NO	DESCRIPTION	QTY	I.C	REMARK
1	226903	BOOM CYLINDER ASSEMBLY	1		
2	226903-R	ROD ASS'Y	1		
3	OC70-8037	CAP OUTER, Φ70x80x37L	1		
4	IC70-4055	COVER INNER, Φ70x40x55L	1		
5	DSSD-R040	DUST, SDR 40x48x5/6.5	1		
6	UPSK-Y040	PACKING U, SKY 40x50x6	1		
7	UPIS-I040	PACKING U, ISI 40x50x6	1		
8	OR1B-G065	O-RING, 1BG65	2		
9	DU04-0020	BUSHING DU, 40x44x20	1		
10	PI70-2746	PISTON, Φ70x27x46L	1		
11	OR1B-G027	O-RING, 1BG27	2		
12	UPOS-I070	PACKING U, OSI 70x60x6	2		
13	TRBR-0070	BACKUP RING, 70x60x3	2		
14	WERY-T070	WEARING, RYT 70x65x15	1		
15	NTP0-U100-C	NUT, 1-14UN	1		
16	226903-T	TUBE ASS'Y	1		
17	GNIT-018I	GREASE NIPPLEPT, PT 1/8"	1		
18	IA70-4055	SEAL KIT HEAD, NO.4~9	1		
19	PA70-2746	SEAL KIT PISTON, NO.10~14	1		

SWING CYLINDER ASSEMBLY



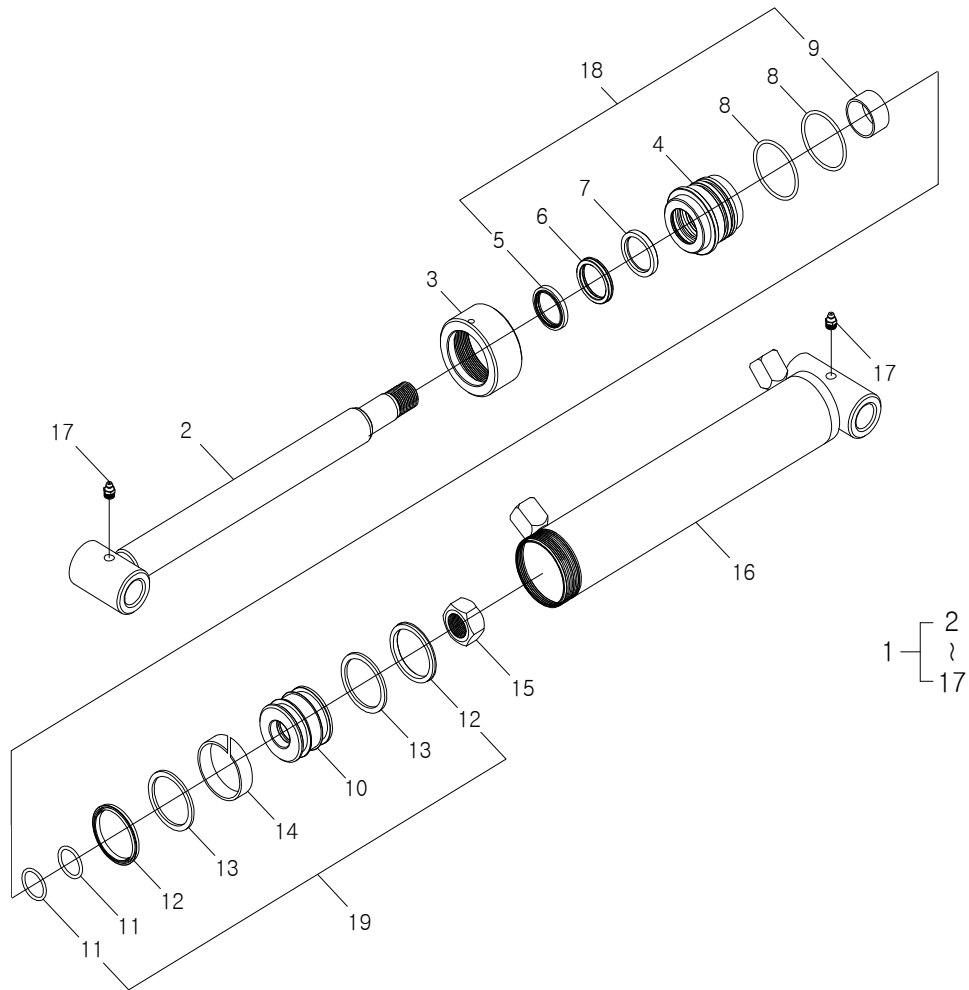
REF.NO	PART.NO	DESCRIPTION	QTY	I.C	REMARK
1	225806	SWING CYLINDER ASSEMBLY	1		
2	225806-R	ROD ASS'Y	1		
3	BC60-3555	HEAD, Φ60x35x55L	1		
4	DSSD-R035	DUST, SDR 35x43x5/6.5	1		
5	UPSK-Y035	PACKING U, SKY 35x45x6	1		
6	UPIS-I035	PACKING U, ISI 35x45x6	1		
7	TRBR-G055	BACKUP RING, G55	1		
8	OR00-G060	O-RING, G60	1		
9	OR1B-G055	O-RING, 1BG55	1		
10	DU03-5020	BUSHING DU, 35x39x20	1		
11	PI60-2746	PISTION, Φ60x27x46L	1		
12	OR1B-G027	O-RING, 1BG27	2		
13	UPOS-I060	PACKING U, OSI 60x50x6	2		
14	TRBR-0060	BACKUP RING, 60x50x3	2		
15	WEWR-0060	WEARING, WR 60x55x15	1		
16	NTP0-U100-C	NUT, 1-14UN	1		
17	225806-T	TUBE ASS'Y	1		
18	GNIT-018I	GREASE NIPPLE, PT 1/8"	1		
19	DU02-5020	BUSHING DU, 25x28x20	2		
20	BA60-3555	SEAL KIT HEAD, NO.3~10	1		
21	PA60-2746-S	SEAL KIT PISTON, NO.11~15	1		

STABILIZER CYLINDER ASSEMBLY-LH



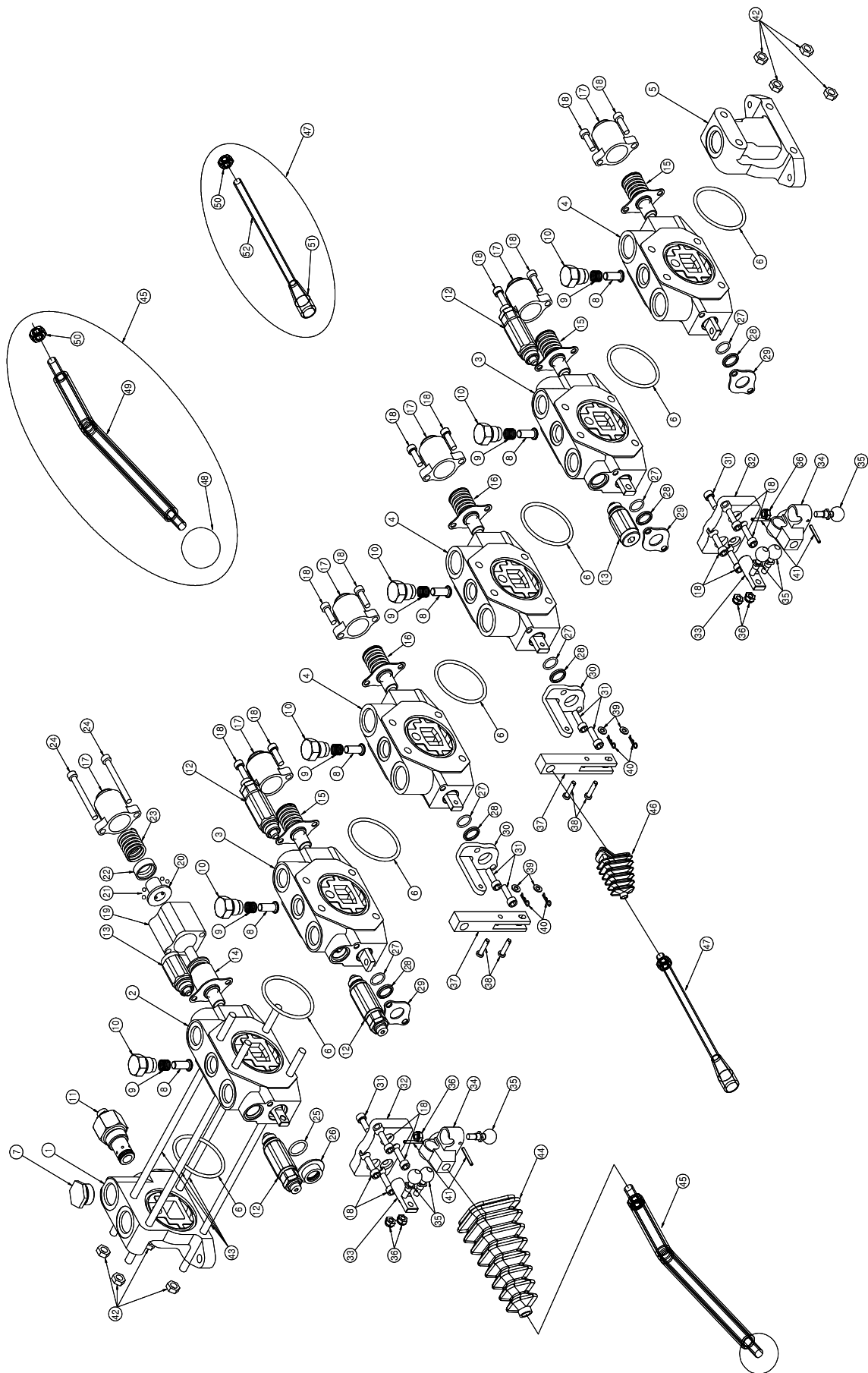
REF.NO	PART.NO	DESCRIPTION	QTY	I.C	REMARK
1	224304	STABILIZER CYLINDER ASSEMBLY -LH	1		
2	224304-R	ROD ASS'Y	1		
3	OC60-7037	CAP OUTER, Φ60x70x37L	1		
4	IC60-3555	COVER INNER, Φ60x35x55L	1		
5	DSSD-R035	DUST, SDR 35x43x5/6.5	1		
6	UPSK-Y035	PACKING U, SKY 35x45x6	1		
7	UPIS-I035	PACKING U, ISI 35x45x6	1		
8	OR1B-G055	O-RING, 1BG55	2		
9	DU03-5020	BUSHING DU, 35x39x20	1		
10	PI60-2746	PISTON, Φ60x27x46L	1		
11	OR1B-G027	O-RING, 1BG27	2		
12	UPOS-I060	PACKING U, OSI 60x50x6	2		
13	TRBR-0060	BACKUP RING, 60x50x3	2		
14	WEWR-0060	WEARING, WR 60x55x15	1		
15	NTP0-U100-C	NUT, 1-14UN	1		
16	224304-T	TUBE ASS'Y	1		
17	GNIT-018I	GREASE NIPPLE, PT 1/8"	2		
18	IA60-3555	SEAL KIT HEAD, NO.4~9	1		
19	PA60-2746	SEAL KIT PISTON, NO.10~14	1		

STABILIZER CYLINDER ASSEMBLY-RH



REF.NO	PART.NO	DESCRIPTION	QTY	I.C	REMARK
1	224305	STABILIZER CYLINDER ASSEMBLY -RH	1		
2	224305-R	ROD ASS'Y	1		
3	OC60-7037	CAP OUTER, Φ60x70x37L	1		
4	IC60-3555	COVER INNER, Φ60x35x55L	1		
5	DSSD-R035	DUST, SDR 35x43x5/6.5	1		
6	UPSK-Y035	PACKING U, SKY 35x45x6	1		
7	UPIS-I035	PACKING U, ISI 35x45x6	1		
8	OR1B-G055	O-RING, 1BG55	2		
9	DU03-5020	BUSHING DU, 35x39x20	1		
10	PI60-2746	PISTON, Φ60x27x46L	1		
11	OR1B-G027	O-RING, 1BG27	2		
12	UPOS-I060	PACKING U, OSI 60x50x6	2		
13	TRBR-0060	BACKUP RING, 60x50x3	2		
14	WEWR-0060	WEARING, WR 60x55x15	1		
15	NTP0-U100-C	NUT, 1-14UN	1		
16	224305-T	TUBE ASS'Y	1		
17	GNIT-018I	GREASE NIPPLE, PT 1/8"	2		
18	IA60-3555	SEAL KIT HEAD, NO.4~9	1		
19	PA60-2746	SEAL KIT PISTON, NO.10~14	1		

CONTROL VALVE ASSEMBLY-HANIL AV 80/6



CONTROL VALVE ASSEMBLY-HANIL AV 80/6

REF.NO	PART.NO	DESCRIPTION	QTY	I.C	REMARK
0	BC04-0000-P	Control Valve Ass'y	1		
1	BC04-0100	BLOCK ; BA TYPE(INLET)	1		
2	BC04-0200	BLOCK ; HB TYPE(BOOM)	1		
3	BC04-0300	BLOCK ; HA TYPE	2		
4	BC04-0400	BLOCK ; EA TYPE	3		
5	BC04-0500	BLOCK ; GB TYPE (OUTLET)	1		
6	BC04-0600	O-RING	7		
7	BC04-0700	PLUG ASS'Y	1		
8	BC04-0800	POPPET ; CHECK	6		
9	BC04-0900	SPRING ; CHECK	6		
10	BC04-1000	PLUG-CHECK ASS'Y	6		
11	BC04-1100	M.R.V. ASS'Y	1		
12	BC04-1200	O.R.V. ASS'Y	4		
13	BC04-1300	A.C.V. ASS'Y	2		
14	BC04-1400	SPOOL ASS'Y ; FLOAT	1		
15	BC04-1500	SPOOL ASS'Y ; STD	3		
16	BC04-1600	SPOOL ASS'Y ; STABILIZER	2		
17	BC04-1700	RETURN CAP	6		
18	BC04-1800	WRENCH BOLT	18		
19	BC04-1900	HOUSING ; DETENT	1		
20	BC04-2000	SOCKET ; DETENT	1		
21	BC04-2100	BALL ; DETENT	4		
22	BC04-2200	SLEEVE ; DETENT	1		
23	BC04-2300	SPRING ; RETURN	1		
24	BC04-2400	WRENCH BOLT	2		
25	BC04-2500	O-RING	1		
26	BC04-2600	SEAL KIT ASS'Y ; FLOAT	1		
27	BC04-2700	O-RING	5		
28	BC04-2800	DUST WIPER	5		
29	BC04-2900	SEAL PLATE	3		
30	BC04-3000	BRACKET ; STABILIZER	2		
31	BC04-3100	WRENCH BOLT	6		
32	BC04-3200	BRACKET ; JOINT	2		
33	BC04-3300	SUPPORT ; JOINT	2		
	BC04-3400	BLOCK ; JOINT	2		
35	BC04-3500	SUPPORT ; BALL	6		
36	BC04-3600	NYLON NUT	6		
37	BC04-3700	LEVER ; STABILIZER	2		
38	BC04-3800	PIN	4		
39	BC04-3900	WASHER ; PIN	4		
40	BC04-4000	SNAP PIN	4		
41	BC04-4100	SPRING PIN	4		
42	BC04-4200	NUT	8		
43	BC04-4300	TIE BOLT	4		
44	BC04-4400	BOOT , CONTROL	2		
45	BC04-4500	HAND LEVER	2		
46	BC04-4600	BOOT , CONTROL	2		
47	BC04-4700	HAND LEVER	2		
48	BC01-2400	PLASTIC BALL	2		
49	BC04-4900	LEVER STICK	2		
50	1002-1051	NUT	4		
51	BC04-5100	PLASTIC BALL	2		
52	BC04-5200	LEVER STICK	2		

DECALS



CAUTION :

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

Warning
BH35-0110



Warning
BH35-0107

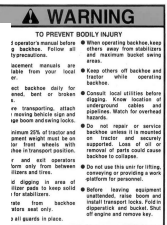


Model
3101E-00301
TM

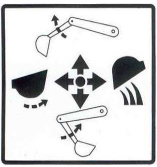
Warning
BH35-0105



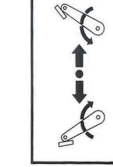
Warning
BH35-0102



Warning
BH35-0108



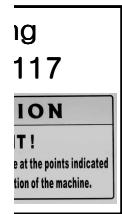
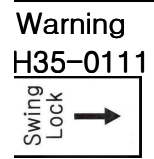
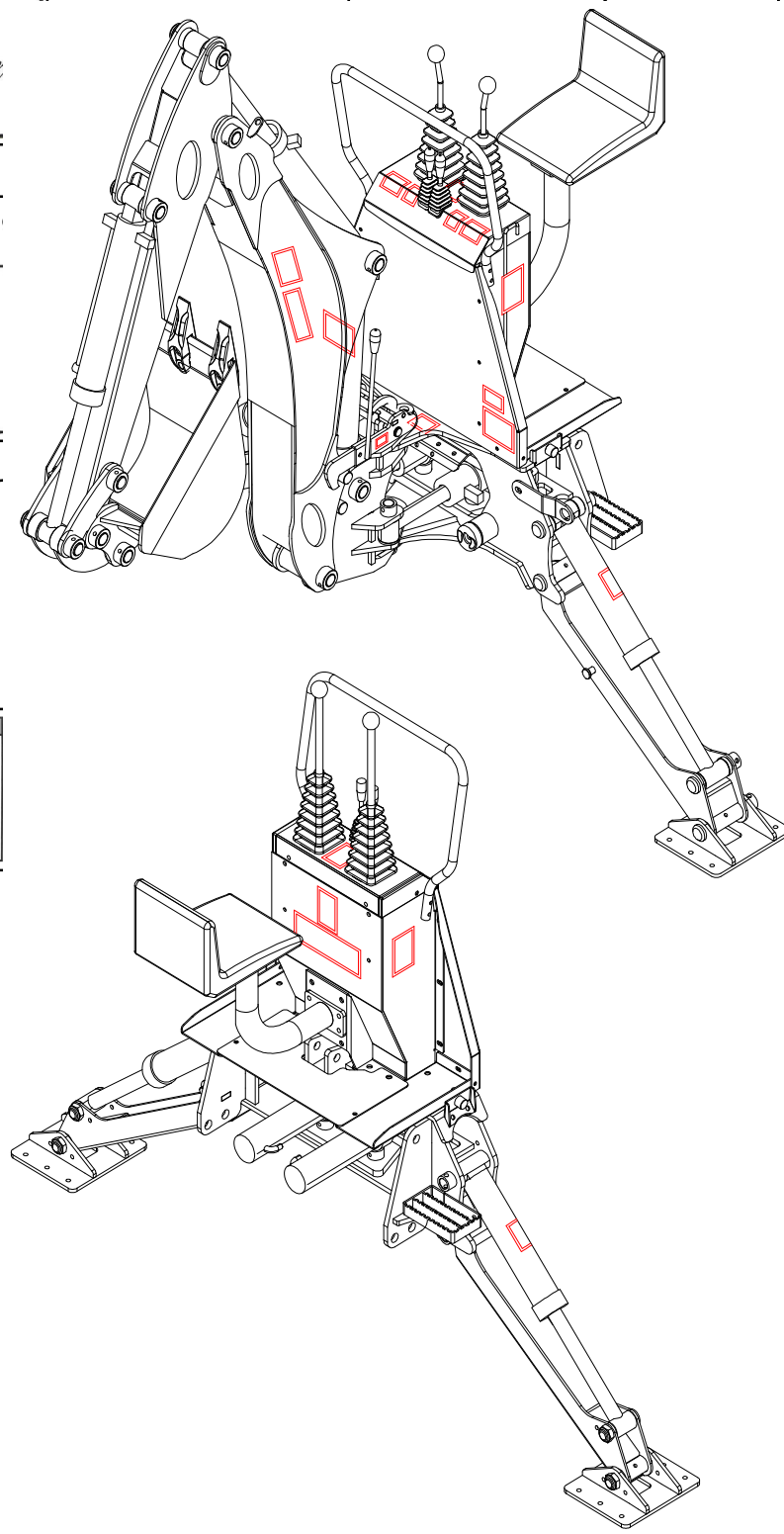
Warning
BH35-0109



Warning
BH35-0112



Warning
BH35-0101



Refer to category "Safety decals"