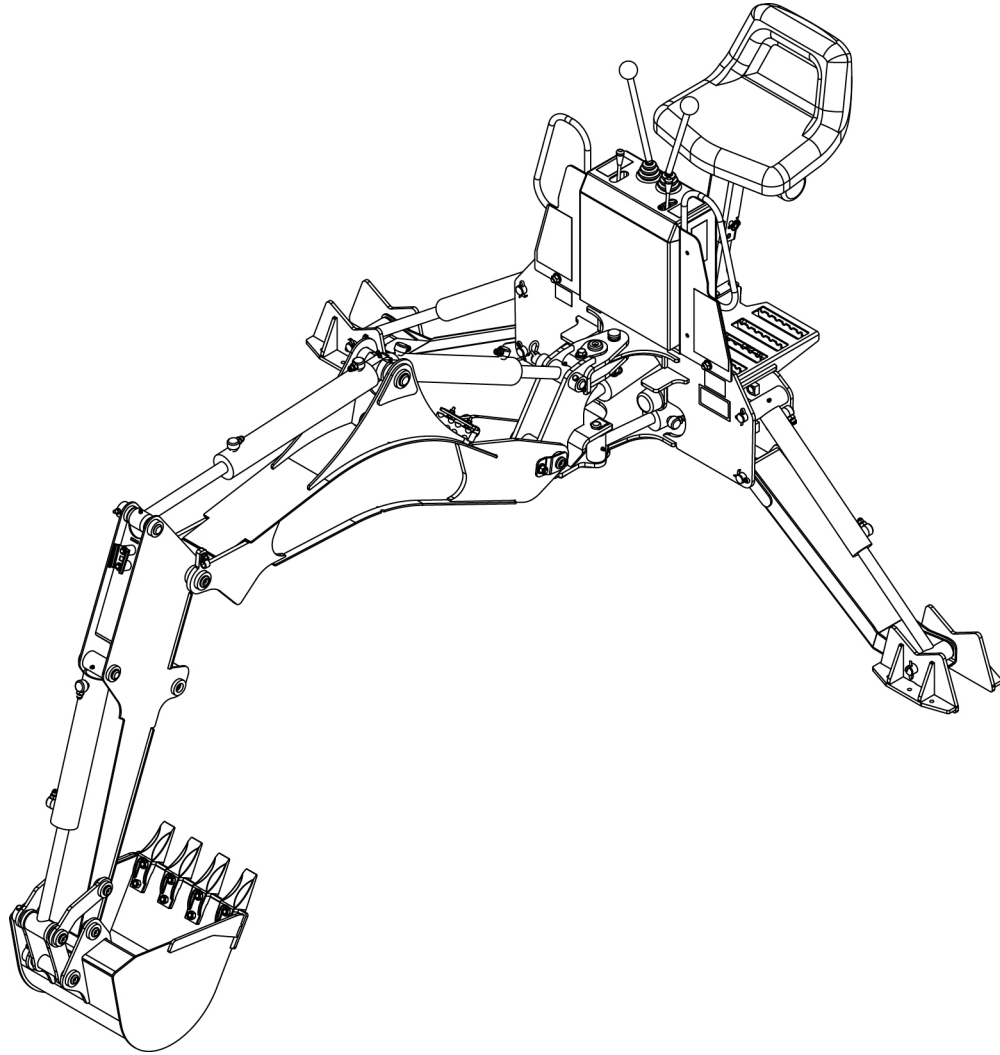


BACKHOE

BH65, BH75



MAN1049

(Rev. 7/03/2019)

WOODS®

OPERATOR'S MANUAL

TO THE DEALER:

Assembly and proper installation of this product is the responsibility of the Woods® dealer. Read manual instructions and safety rules. Make sure all items on the Dealer's Pre-Delivery and Delivery Check Lists in the Operator's Manual are completed before releasing equipment to the owner.

The dealer must complete the online Product Registration form at the Woods Dealer Website which certifies that all Dealer Check List items have been completed. Dealers can register all Woods product at dealer.WoodsEquipment.com under Product Registration.

Failure to register the product does not diminish customer's warranty rights.

TO THE OWNER:

Read this manual before operating your Woods equipment. The information presented will prepare you to do a better and safer job. Keep this manual handy for ready reference. Require all operators to read this manual carefully and become acquainted with all adjustment and operating procedures before attempting to operate. Replacement manuals can be obtained from your dealer. To locate your nearest dealer, check the Dealer Locator at www.WoodsEquipment.com, or in the United States and Canada call 1-800-319-6637.

The equipment you have purchased has been carefully engineered and manufactured to provide dependable and satisfactory use. Like all mechanical products, it will require cleaning and upkeep. Lubricate the unit as specified. Observe all safety information in this manual and safety decals on the equipment.

For service, your authorized Woods dealer has trained mechanics, genuine Woods service parts, and the necessary tools and equipment to handle all your needs.

Use only genuine Woods service parts. Substitute parts will void the warranty and may not meet standards required for safe and satisfactory operation. Record the model number and serial number of your equipment in the spaces provided:

Model: _____ **Date of Purchase:** _____

Serial Number: (see Safety Decal section for location) _____

Provide this information to your dealer to obtain correct repair parts.

Throughout this manual, the term **NOTICE** is used to indicate that failure to observe can cause damage to equipment. The terms **CAUTION**, **WARNING**, and **DANGER** are used in conjunction with the Safety-Alert Symbol (a triangle with an exclamation mark) to indicate the degree of hazard for items of personal safety.



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



Indicates a hazardous situation that, if not avoided, will result in death or serious injury.



Indicates a hazardous situation that, if not avoided, could result in death or serious injury.



Indicates a hazardous situation that, if not avoided, could result in minor or moderate injury.

**IMPORTANT
or NOTICE**

Is used to address practices not related to physical injury.

NOTE

Indicates helpful information.

ALITEC™
CENTRAL FABRICATORS®
GANNON®
WAIN-ROY®
WOODS®

WOODS®
Woods Equipment Company

2 Introduction

Gen'l (Rev. 2/25/2016)

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BH65 & BH75 SPECIFICATIONS

Description	Illustration	English		Metric	
		BH65	BH75	BH65	BH75
Tractor PTO HP		15 - 30 HP	20 - 40 HP	11 - 22 kw	15 - 30 kw
Digging Depth - 2' Flat	G	78 in.	90 in.	1981 mm	2286 mm
Digging Depth - 8' Flat	H	52 in.	70 in.	1321 mm	1778 mm
Reach from Swing Pivot	M	102 in.	119 in.	2591 mm	3023 mm
Loading Height	K	60 in.	73 in.	1524 mm	1854 mm
Loading Reach	L	33.5 in.	46 in.	851 mm	1168 mm
Transport Height	A	66.5 in.	74 in.	1689 mm	1880 mm
Transport Length	B	42 in.	45 in.	1067 mm	1143 mm
Under Cut	C	25 in.	29 in.	635 mm	737 mm
Swing Arc		150°	180°	150°	180°
Bucket Rotation		180°	180°	180°	180°
Stabilizer Spread - Up		52 in.	52 in.	1321 mm	1321 mm
Stabilizer Spread - Down		83 in.	83 in.	2108 mm	2108 mm
Leveling Angle*		10°	10°	10°	10°
Relief Pressure		2030 psi	2470 psi	14.0 Mpa	17.0 Mpa
Bucket Digging Force		2800 lbs	3380 lbs	12455 N	15035 N
Dipperstick Digging Force		1590 lbs	2230 lbs	7073 N	9920 N

Bucket Capacity (Heaped)		cu.-ft.	cu.-meter
9" (203 mm)		0.76	0.022
12" (305 mm)		1.10	0.031
16" (406 mm)		1.56	0.044
18" (457 mm)		1.90	0.054
24" (610 mm)		2.67	0.076

Per Definitions in Standards - SAE J49 and SAE J1234

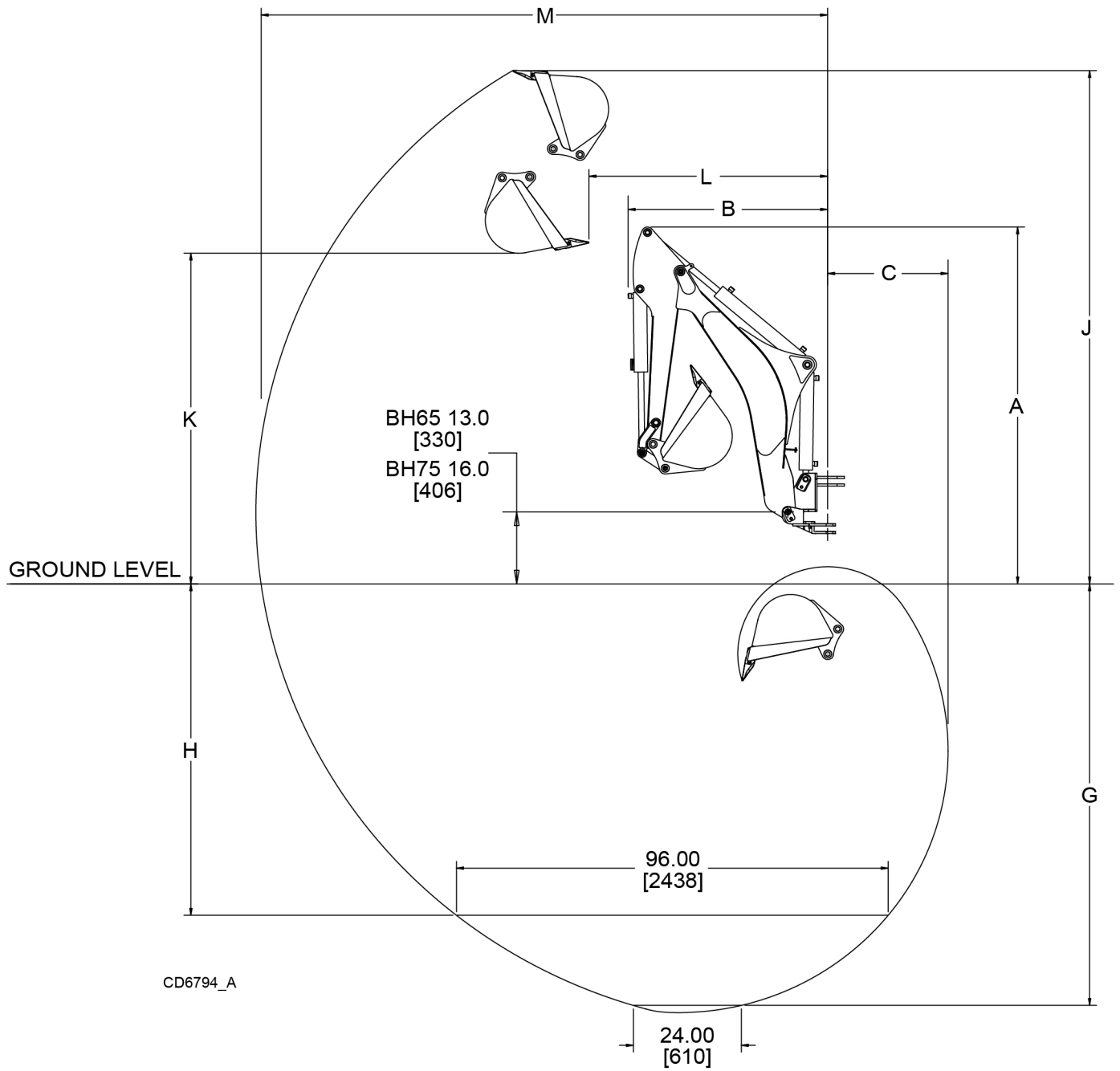


This Operator's Manual should be regarded as part of the machine. Suppliers of both new and second-hand machines must make sure that this manual is provided with the machine.

4 Introduction

MAN1049 (3/1/2015)

BH65 & BH75 SPECIFICATIONS



GENERAL INFORMATION

The purpose of this manual is to assist in setting up, operating and maintaining your backhoe. Read it carefully. It furnishes information and instructions that will help you achieve years of dependable performance.

These instructions have been compiled from extensive field experience and engineering data. 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 procedures suitable to your particular situation.

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

WARNING

■ Some illustrations in this manual show the backhoe with safety shields removed to provide a better view. The backhoe should never be operated with any safety shielding removed.

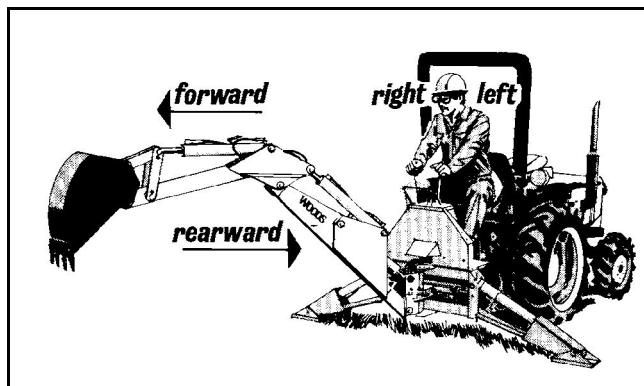


Figure 1. Backhoe Directions

Throughout this manual, references are made to right, left, forward and rearward directions. These are determined from the backhoe operator seat position facing rearward as shown in Figure 1.

Terms for backhoe components have some variations throughout the industry. We use SAE designations as shown in Figure 2.

1. Bucket
2. Bucket cylinder
3. Dipper cylinder
4. Boom cylinder
5. Console
6. Stabilizer
7. Swing cylinder
8. Boom
9. Dipper
10. Stabilizer cylinder
11. Swing frame
12. Main frame

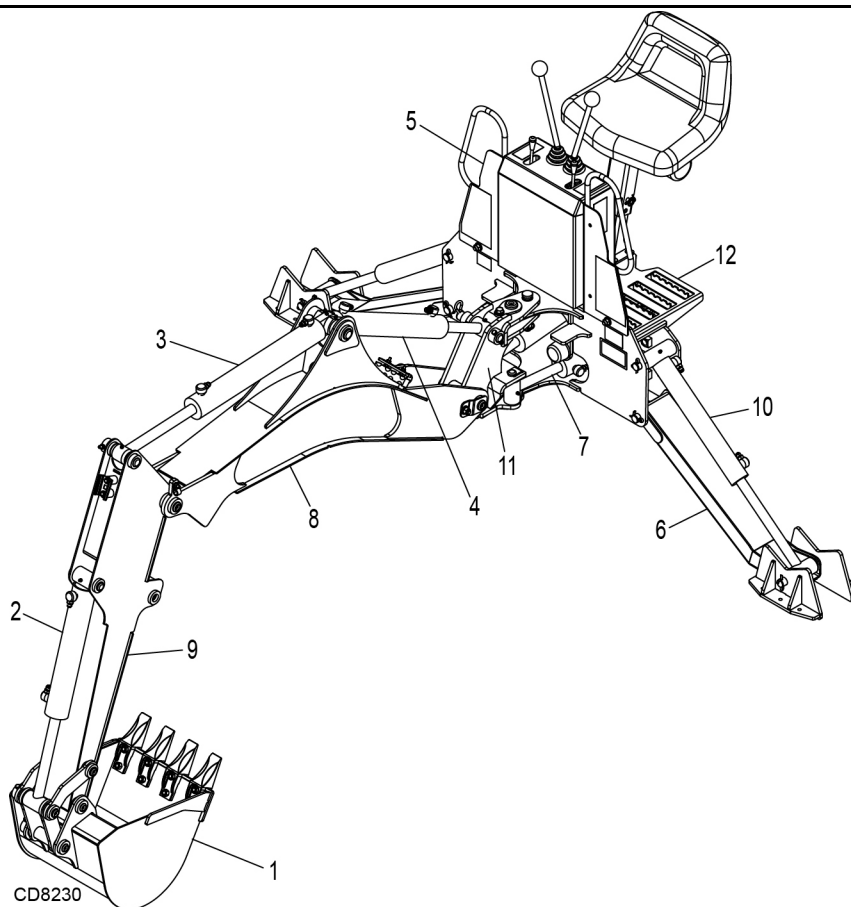


Figure 2. Backhoe Components

6 Introduction

SAFETY RULES



ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!



Safety is a primary concern in the design and manufacture of our products. Unfortunately, our efforts to provide safe equipment can be wiped out by an operator's single careless act.

In addition to the design and configuration of equipment, hazard control and accident prevention are dependent upon the awareness, concern, judgement, and proper training of personnel involved in the operation, transport, maintenance, and storage of equipment.

It has been said, "The best safety device is an informed, careful operator." We ask you to be that kind of operator.

INSTALLATION

- Hydraulics must be connected as instructed in this manual. Do not substitute parts, modify, or connect in any other way.
- After connecting hoses, check that all control lever positions function as instructed in the Operator's Manual. Do not put into service until control lever and equipment movements are correct.

TRAINING

- Safety instructions are important! Read all attachment and power unit manuals; follow all safety rules and safety decal information. (Replacement manuals and safety decals are available from your dealer. To locate your nearest dealer, check the Dealer Locator at www.WoodsEquipment.com, or in the United States and Canada call 1-800-319-6637.) Failure to follow instructions or safety rules can result in serious injury or death.
- If you do not understand any part of this manual and need assistance, see your dealer.
- Know your controls and how to stop engine and attachment quickly in an emergency.
- Operators must be instructed in and be capable of the safe operation of the equipment, its attachments, and all controls. Do not allow anyone to operate this equipment without proper instructions.
- Keep hands and body away from pressurized lines. Use paper or cardboard, not hands or other body parts to check for leaks. Wear safety goggles. Hydraulic fluid under pressure can easily penetrate skin and will cause serious injury or death.
- Make sure that all operating and service personnel know that if hydraulic fluid penetrates skin, it must be surgically removed as soon as possible by a doctor familiar with this form of injury or gan-

grene, serious injury, or death will result. **CONTACT A PHYSICIAN IMMEDIATELY IF FLUID ENTERS SKIN OR EYES. DO NOT DELAY.**

- Never allow children or untrained persons to operate equipment.

PREPARATION

- Check that all hardware is properly installed. Always tighten to torque chart specifications unless instructed otherwise in this manual.
- Air in hydraulic systems can cause erratic operation and allows loads or equipment components to drop unexpectedly. When connecting equipment or hoses or performing any hydraulic maintenance, purge any air in hydraulic system by operating all hydraulic functions several times. Do this before putting into service or allowing anyone to approach the equipment.
- After connecting hoses, check that all control lever positions function as instructed in the Operator's Manual. Do not put into service until control lever and equipment movements are correct.
- Protective hose sleeves must cover all hydraulic hoses within 20 inches of the operator and be secured onto metal hose fittings. Replace hoses or sleeves if damaged or if protective sleeve cannot be properly positioned or secured.
- Make sure all hydraulic hoses, fittings, and valves are in good condition and not leaking before starting power unit or using equipment. Check and route hoses carefully to prevent damage. Hoses must not be twisted, bent sharply, kinked, frayed, pinched, or come into contact with any moving parts. Operate moveable components through full operational range to check clearances. Replace any damaged hoses immediately.
- Always wear relatively tight and belted clothing to avoid getting caught in moving parts. Wear sturdy, rough-soled work shoes and protective equipment for eyes, hair, hands, hearing, and head; and respirator or filter mask where appropriate.
- Make sure spring-activated locking pin or collar slides freely and is seated firmly in tractor PTO spline groove.
- Connect PTO driveline directly to power unit PTO shaft. Never use adapter sleeves or adapter shafts. Adapters can cause driveline failures due to incorrect spline or incorrect operating length and can result in personal injury or death.
- Make sure attachment is properly secured, adjusted, and in good operating condition.

SAFETY RULES



ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!



■ Power unit must be equipped with Roll Over Protection System (ROPS) or ROPS cab and seat belt. Keep seat belt securely fastened. Falling off power unit can result in death from being run over or crushed. Keep foldable ROPS system in “locked up” position at all times.

■ Only mount this backhoe on Category 1, 2, and 3N tractors with 1000 lb. lift capacity at 24" behind 3-point lift arm hitch balls.

■ Never put backhoe into service unless backhoe manufacturer's 3-point hitch Saf-T-Lok[®] limiter or sub-frame has been installed and adjusted.

■ To avoid possible hitch failure, read and follow the Saf-T-Lok Limiter Installation Instructions in the Assembly section before mounting backhoe to tractor 3-point hitch.

■ Remove seat and upper support assembly before installing or removing backhoe from tractor. Failure to comply may result in equipment failure and/or personal injury.

■ Do not operate backhoe unless there is adequate operator clearance as shown on safety decal. (Refer to Danger decal in Safety Decal section.)

■ Always use the special heavy-duty top link (provided with backhoe) and the OEM high-strength top link pin (provided with tractor) to mount the top link to tractor. Use 3/4" x 3-1/2" grade 5 bolt(s) to mount top link to backhoe.

■ Be sure that backhoe is properly mounted, adjusted, and in good operating condition.

■ Place and keep 3-point lift quadrant lever in lowered position at all times.

■ If tractor is equipped with draft sensing control, set control to “HEAVY” (minimum sensitivity) position.

■ Make sure all safety decals are installed. Replace if damaged. (See Safety Decals section for location.)

■ Make sure shields and guards are properly installed and in good condition. Replace if damaged.

■ A minimum 25% of tractor and equipment weight must be on tractor front wheels with backhoe in transport position. Without this weight, tractor could tip over, causing personal injury or death. The weight may be attained with a loader, front wheel weights, ballast in tires, or front tractor weights. When attaining the minimum 25% weight on the front wheels, you must not exceed the Roll Over Protection Structure (ROPS) weight certifica-

tion. Weigh the tractor and equipment. Do not estimate.

■ Do not install backhoe and required counterweights on tractor if the total tractor and equipment weight then exceeds the ROPS weight certification of the tractor. To reduce overall weight of unit, remove liquid from rear tires and remove mid-mount mower, if equipped.

■ Clean all dirt, trash, and grease from operator's platform and steps.

OPERATION

■ Do not allow bystanders in the area when operating, attaching, removing, assembling, or servicing equipment.

■ Before operating, make sure stabilizer pads are lowered firmly to the ground. Stabilizer arms provide support for the backhoe and support for the backhoe mounting brackets.

■ Consult local utilities before working. Know location of all underground cables, pipelines, overhead wires, and other hazards in working area and avoid contact.

■ Keep bystanders away from operator, stabilizer, and maximum bucket swing areas.

■ Do not operate or transport equipment while under the influence of alcohol or drugs.

■ Operate only in daylight or good artificial light.

■ Always comply with all state and local lighting and marking requirements.

■ Do not allow riders. Do not lift or carry anybody on the power unit or attachments.

■ Power unit must be equipped with Roll Over Protection System (ROPS) or ROPS cab and seat belt. Keep seat belt securely fastened. Falling off power unit can result in death from being run over or crushed. Keep foldable ROPS system in “locked up” position at all times.

■ The only time the backhoe may be operated from a position other than the operator seat is during backhoe attachment and removal. Operator must:

- Read Mounting Kit Manual instructions on attaching and removing backhoe and use extreme care.
- Always stand between rear tire and backhoe stabilizer arms or along side of tractor to avoid being trapped should the boom swing control be accidentally activated.



SAFETY RULES

ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!



- When operating controls, always sit in backhoe seat.
- Operate tractor PTO at 540 RPM. Do not exceed.
- Always dump spoil at least two feet away from opening.
- Use extreme care when working close to fences, ditches, other obstructions, or on hillsides.
- Be careful when swinging loaded bucket on a hillside. Always dump spoil on uphill side of backhoe to minimize the possibility of upset.
- Never leave equipment unattended with engine running or with bucket in raised position. Always engage swing and boom transport locks, relieve system pressure by operating controls, and remove ignition key before leaving equipment.
- Do not use backhoe for craning; it is primarily designed for digging. Mechanical failures such as hose rupture will cause a load to drop suddenly.

TRANSPORTATION

- Always engage swing stabilizer and boom transport locks and attach Slow Moving Vehicle (SMV) sign before transporting backhoe.
- Power unit must be equipped with Roll Over Protection System (ROPS) or ROPS cab and seat belt. Keep seat belt securely fastened. Falling off power unit can result in death from being run over or crushed. Keep foldable ROPS system in “locked up” position at all times.
- Never exceed 20 mph (32.2 km/h) during transport.
- Always comply with all state and local lighting and marking requirements.
- Never allow riders on power unit or attachment.
- Do not operate PTO during transport.
- Do not operate or transport on steep slopes.
- A minimum 25% of tractor and equipment weight must be on tractor front wheels with backhoe in transport position. Without this weight, tractor could tip over, causing personal injury or death. The weight may be attained with a loader, front wheel weights, ballast in tires, or front tractor weights. When attaining the minimum 25% weight on the front wheels, you must not exceed the Roll Over Protection Structure (ROPS) weight certification. Weigh the tractor and equipment. Do not estimate.
- Do not operate or transport equipment while under the influence of alcohol or drugs.

MAINTENANCE

- Do not modify or alter or permit anyone else to modify or alter the equipment or any of its components in any way.
- Do not allow bystanders within 25 feet of the area when operating, attaching, removing, assembling, maintaining, or servicing equipment.
- Your dealer can supply original equipment hydraulic accessories and repair parts. Substitute parts may not meet original equipment specifications and may be dangerous.
- Adjustment of system relief pressure must be done by a qualified, experienced dealership. Incorrect adjustment can result in system failures and serious personal injury.
- Always wear relatively tight and belted clothing to avoid getting caught in moving parts. Wear sturdy, rough-soled work shoes and protective equipment for eyes, hair, hands, hearing, and head; and respirator or filter mask where appropriate.
- Dealer service personnel must perform work that requires engine operation during service.
- Before working on backhoe, extend boom and dipperstick and place bucket on ground. Make sure that all system pressure has been relieved by operating controls before performing maintenance or service or before disconnecting any hydraulic lines.
- Keep all persons away from operator control area while performing adjustments, service, or maintenance.
- Tighten all bolts, nuts, and screws to torque chart specifications. Check that all cotter pins are installed securely to ensure equipment is in a safe condition before putting unit into service.
- Make sure all safety decals are installed. Replace if damaged. (See Safety Decals section for location.)
- Make sure shields and guards are properly installed and in good condition. Replace if damaged.

STORAGE

- Block equipment securely for storage.
- Keep children and bystanders away from storage area.
- Refer to Removing and Storing Backhoe in Operation section of backhoe manual.

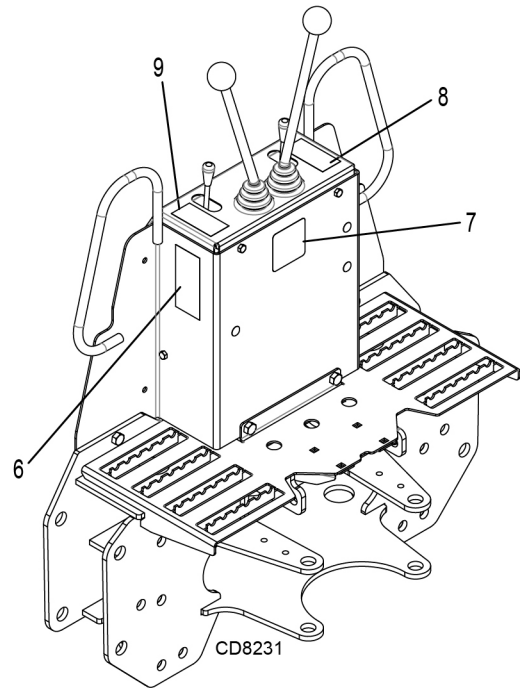
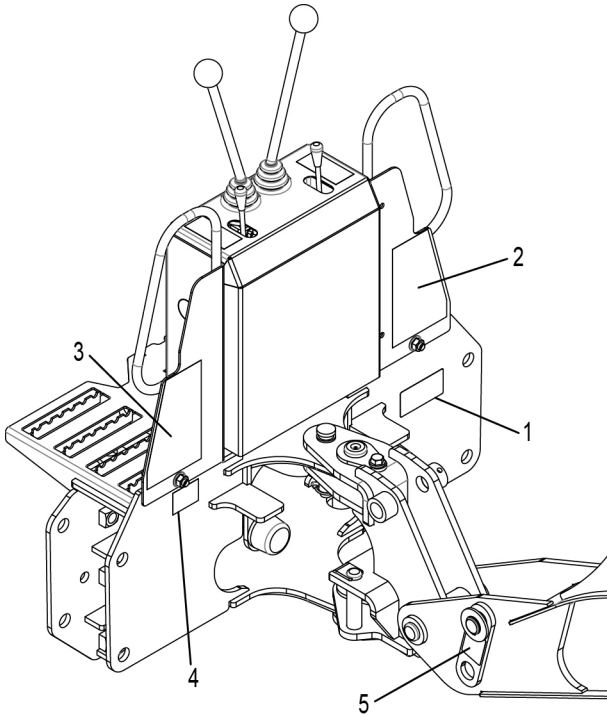
SAFETY & INSTRUCTIONAL DECALS



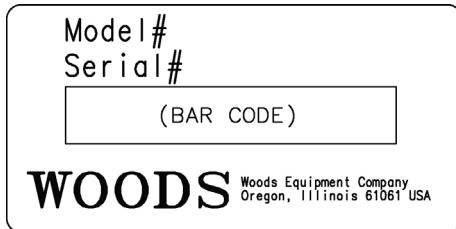
ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!



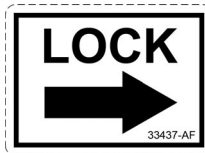
Replace Immediately If Damaged!



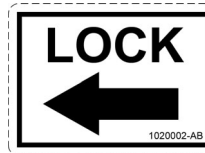
1 - SERIAL NUMBER PLATE



4 - PN 33437



5 - PN 1020002



6 - PN 1008365

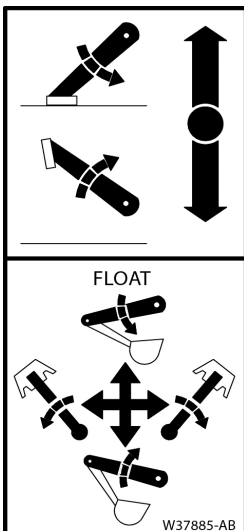
WARNING

HIGH-PRESSURE HYDRAULIC OIL LEAKS CAN PENETRATE SKIN AND RESULT IN SEVERE INJURY, GANGRENE OR DEATH.

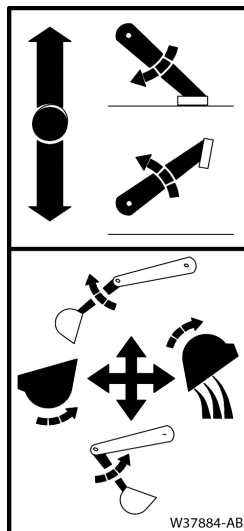
- Check for leaks with cardboard; never use hand.
- Before you loosen fittings: lower load, release pressure, and be sure oil is cool.
- See a doctor at once if oil enters skin.

1008365

9 - PN 37885



8 - PN 37884



7 - PN 1032572





SAFETY & INSTRUCTIONAL DECALS

ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!

Replace Immediately If Damaged!



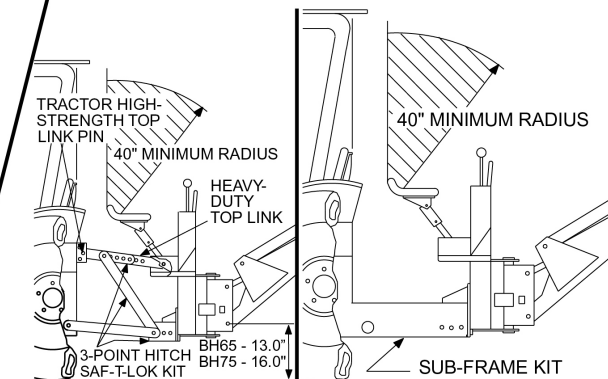
3 - PN 1039516

⚠ DANGER

CRUSHING HAZARD



- Never operate without **3-point hitch Saf-T-Lok® kit** or **sub-frame** installed as instructed in the Operator's Manual.
 - Operator's area (shaded area of 40" radius) must be free from all obstructions.
 - Use heavy-duty top link provided in **3-point hitch Saf-T-Lok kit** or **sub-frame kit**.
 - Use tractor manufacturer's high-strength top link pin of at least 3/4" diameter. See manual details.
- Failure to follow the above instructions may result in serious injury or death from backhoe being thrust upward, forward, or rearward by digging forces.**



BH65/BH75

1039516

2 - PN 1039515

⚠ WARNING

TO AVOID SERIOUS INJURY OR DEATH,

- Before operating, read and follow all safety precautions in Operator's Manual (available from your dealer).
- Make sure all safety decals are installed and readable.
- Make sure all shields are properly installed.
- Never allow riders.
- Remove seat and upper support assembly before installing or removing backhoe.
- Only mount on Category 1 tractors under 35 hp with 800 lb. lift capacity at 24" behind hitch balls.
- Maximum allowable hydraulic flow is 8 gpm at 2470 psi (BH75) or 2030 psi (BH65).
- Do not use "3-point quick attaching coupler".
- Lock out the draft sensing or set control to "Heavy".
- Operate PTO at 540 rpm.
- Consult local utilities before digging to avoid contacting underground hazards.
- Before transporting, attach SMV sign and engage transport locks.
- Do not modify or substitute any mounting or backhoe parts.
- A minimum 25% of tractor and equipment weight must be on tractor front wheels with backhoe in transport position.
- Backhoe digging forces can lift and turn tractor over. Make sure stabilizer pads are on firm ground and avoid soft or deep banks.
- When operating, always sit in backhoe seat; keep bystanders away from maximum swing area.
- Before leaving unattended, raise boom and install transport locks, disengage PTO, relieve pressure on dipperstick and bucket, shut engine off, and remove key.

BH65/BH75

1039515

BE CAREFUL!

Use a clean, damp cloth to clean safety decals.

Avoid spraying too close to decals when using a pressure washer; high-pressure water can enter through very small scratches or under edges of decals causing them to peel or come off.

Replacement safety decals can be ordered free from your Woods dealer. To locate your nearest dealer, check the Dealer Locator at www.WoodsEquipment.com, or in the United States and Canada call 1-800-319-6637.

OPERATION

The operator is responsible for the safe operation of the backhoe. The operator must be properly trained. Operators should be familiar with the backhoe, the tractor, and all safety practices before starting operation. Read the safety rules and safety decals on pages 7 to 11.

⚠ DANGER

- Never put backhoe into service unless backhoe manufacturer's 3-point hitch Saf-T-Lok[®] limiter or sub-frame has been installed and adjusted.
- Do not operate backhoe unless there is adequate operator clearance as shown on safety decal. (Refer to Danger decal in Safety Decal section.)

⚠ WARNING

- Make sure all hydraulic hoses, fittings, and valves are in good condition and not leaking before starting power unit or using equipment. Check and route hoses carefully to prevent damage. Hoses must not be twisted, bent sharply, kinked, frayed, pinched, or come into contact with any moving parts. Operate moveable components through full operational range to check clearances. Replace any damaged hoses immediately.
- Make sure that all operating and service personnel know that if hydraulic fluid penetrates skin, it must be surgically removed as soon as possible by a doctor familiar with this form of injury or gangrene, serious injury, or death will result.

CONTACT A PHYSICIAN IMMEDIATELY IF FLUID ENTERS SKIN OR EYES. DO NOT DELAY.

- Keep hands and body away from pressurized lines. Use paper or cardboard, not hands or other body parts to check for leaks. Wear safety goggles. Hydraulic fluid under pressure can easily penetrate skin and will cause serious injury or death.
- Consult local utilities before working. Know location of all underground cables, pipelines, overhead wires, and other hazards in working area and avoid contact.
- A minimum 25% of tractor and equipment weight must be on the tractor front wheels when attachments are in transport position. Without this weight, tractor could tip over, causing personal injury or death. The weight may be attained with a loader, front wheel weights, ballast in tires, or front tractor weights. Weigh the tractor and equipment. Do not estimate.

START AND STOP OPERATION

⚠ WARNING

- Operate tractor PTO at 540 RPM. Do not exceed.

An optional tractor-driven PTO pump supplies hydraulic pressure for backhoe operation. Instructions for engaging and disengaging the PTO are in your tractor manual. Learn how to disengage PTO quickly should an emergency occur.

Never exceed 540 rpm. Operating the pump in excess of 540 rpm will cause overheating and equipment damage.

GENERAL OPERATION

⚠ WARNING

- Place and keep 3-point lift quadrant lever in lowered position at all times.
- If tractor is equipped with draft sensing control, set control to "HEAVY" (minimum sensitivity) position.
- Do not use backhoe for craning; it is primarily designed for digging. Mechanical failures such as hose rupture will cause a load to drop suddenly.
- Never allow children or untrained persons to operate equipment.

⚠ CAUTION

- When operating controls, always sit in backhoe seat.

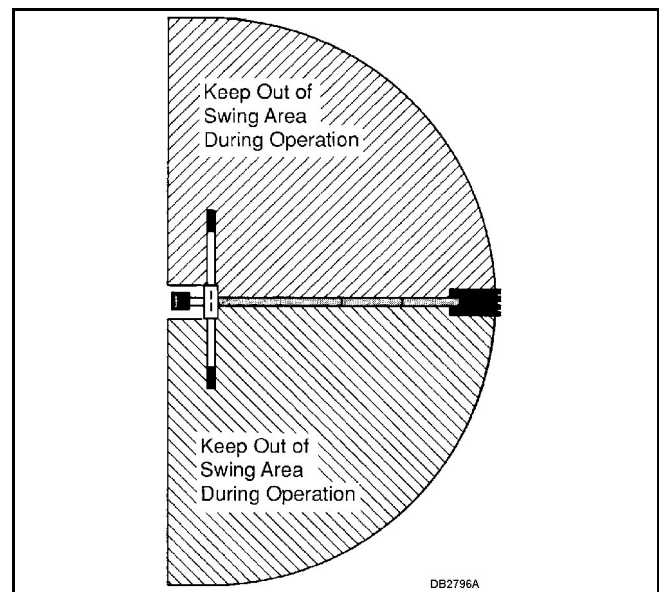


Figure 1. Backhoe Swing Area.

Mechanical failures such as a hose rupture will cause a load to drop. Lifting a heavy load with the dipper, then operating the boom, could cause boom to drop. In either case, if anyone is in the operating area (maximum reach of bucket) as shown in Figure 1, serious injury or death could occur.

Do not dig with backhoe unless stabilizers are down and on a firm surface. Stay clear of steep areas or excavation banks that are soft or could give way

POSITION THE MACHINE

Before operating in an unfamiliar area, walk around the full length of the proposed site and check for hidden holes, drop-off or obstacles that could cause an accident.

Lower stabilizers until they carry the weight of the backhoe. If tractor is equipped with a front loader, place the bucket flat on the ground. Lower loader lift arms until weight is removed from front tractor tires.

Level the machine using stabilizers and front loader before starting to dig.

Stability is very important when operating backhoe in the extreme swing positions as this causes weight transfer.

CONTROL HANDLE OPERATION

Refer to Figure 2.

Assume your position in the operator's seat.

When engaging optional PTO-mounted pump, engine rpm should always be low. Once engaged, engine rpm may be increased to desirable operation speed (not to exceed 540 rpm).

When becoming familiar with backhoe controls, start with a lower rpm.

Before operating, perform a functional test by placing control handles in their various positions and making certain correct operation occurs, matching decals on operator's console. Pay specific attention to float position of boom. Do not operate backhoe if functions differ from decal; serious injury or death could occur.

It is not difficult to become a successful operator. Control lever operating decals (shown in Figure 4) are next to the operating control levers. Study these decals; they will assist you in becoming familiar with the controls.

Pushing handle 1 forward will lower left stabilizer; pulling back raises it.

Pushing handle 2 forward will lower right stabilizer; pulling back raises it.

Pulling left control back (toward A) raises boom; pushing it forward (toward C) lowers it. Full forward (toward C) is the float position.

Moving left handle left (toward B) swings boom left; moving it right (toward D) swings boom right.

Pulling right control back (toward E) moves dipper down and toward operator; pushing it forward (toward G) moves it up and away from operator.

Moving right handle left (toward F) curls bucket toward operator; moving it right (toward H) extends bucket out away from operator.

Operate the control levers, swinging the boom several times to practice control. Do not operate the swing more than 45 degrees each way the first few times. Gradually increase arc.

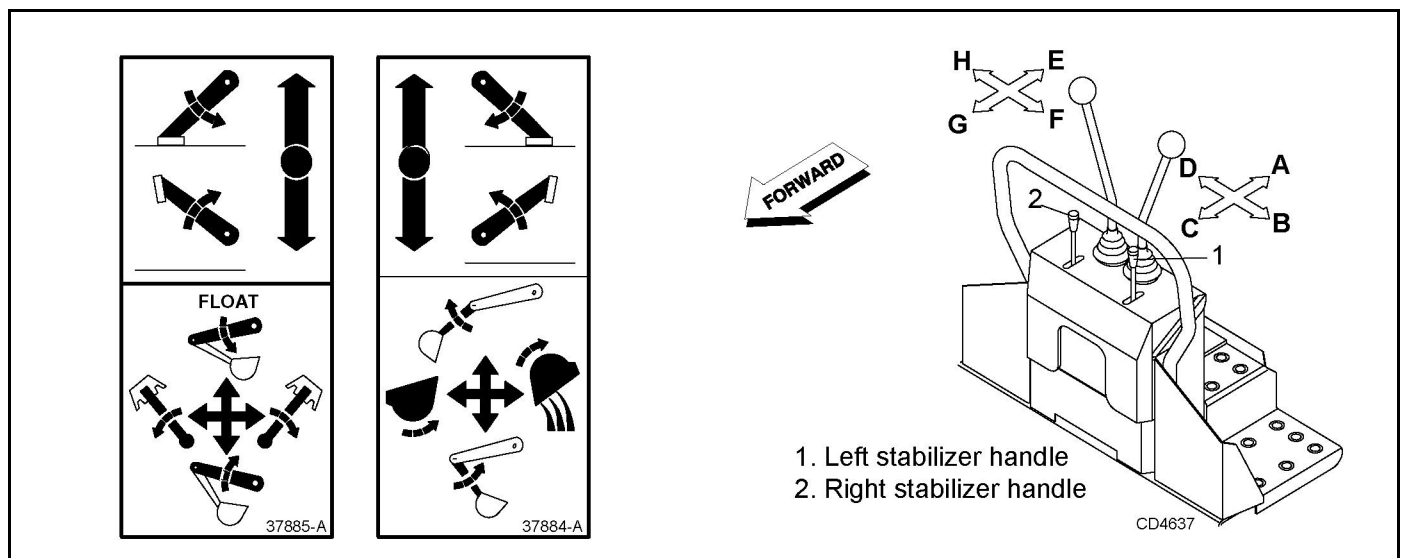


Figure 2. Operator's Controls (Typical View)

After becoming familiar with the backhoe operation, practice coordinated use of the controls in a safe open area at reduced engine speed. Gradually increase engine speed as the technique is mastered.

Operate backhoe gently and smoothly. Avoid swinging boom into mainframe. Sudden stopping or jerking could result in serious damage to tractor and backhoe.

Strive to develop a smooth digging cycle. Avoid abrupt or jerky movements. This is accomplished by operating two or more controls at the same time and not allowing the cylinders to reach the limit of travel.

Should you become confused during operation, simply let go of the controls. The valve control handles will automatically return to neutral.

START EXCAVATION

! WARNING

■ Consult local utilities before working. Know location of all underground cables, pipelines, overhead wires, and other hazards in working area and avoid contact.

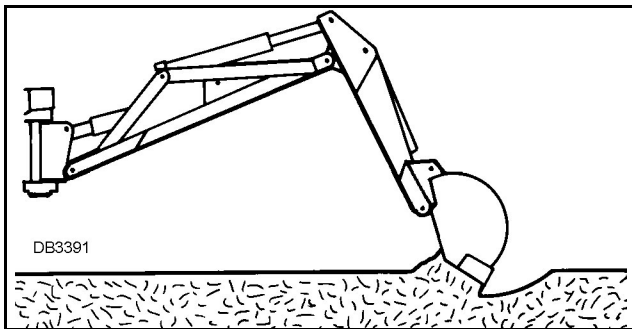


Figure 3. Starting Position

To start the excavation, position backhoe as shown in Figure 3 for maximum breakout force.

Actuate the dipper cylinder to start digging. Approximately halfway through digging cycle, start bucket curl while continuing crowding dipper in. Should bucket stall, raise boom slightly.

Do not use down pressure on the boom when starting to dig, as this will lift the machine and move it out of alignment with the work.

FILL BUCKET

Control bucket attitude throughout digging cycle to keep teeth parallel to bottom of excavation. This will provide best penetration angle and minimize dragging and scraping bucket through the ground.

Penetration depth is determined by soil condition and type.

Only use dipper and bucket during the digging cycle. As the dipper moves the bucket through the soil, curl bucket to maintain proper bucket position.

At the end of the pass, or when bucket is full, curl bucket completely, lift bucket from excavation and swing boom to dump site.

To obtain a cleaner trench and avoid material buildup directly in front of backhoe, extend dipper and curl bucket completely while starting to lift it out of the excavation. This will allow excess material to fall back into the excavation.

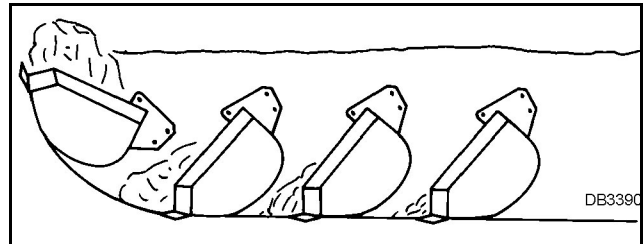


Figure 4. Fill Bucket

DUMP AND RETURN CYCLE

Keep the swing-dump-return cycle as brief as possible. Keep dipper moving outward and start boom swing as soon as the bucket clears the excavation. Continue extending dipper and, as you approach the spoil pile, start to dump bucket.

When bucket is empty, dipper and bucket are in position to resume digging upon return to the excavation.

TRENCHING AND EXCAVATING

Refer to Figure 5.

Trenching is the most basic backhoe digging operation. Other operations are variations of this basic function.

To maintain a level trench bottom, set bucket at proper approach angle and while crowding dipper-stick in, continually move bucket curl lever to maintain correct cutting angle. At the same time, place boom control in the full forward (float) position and keep the bucket in the same plane.

When handle is placed in the float position, pressure on both sides of boom cylinder is released.

Digging near center of swing so material may be dumped on either side will produce good results. Never dig near stabilizers.

Continue the trench by moving machine along trench centerline away from existing excavation. Move machine approximately one-half the effective backhoe reach. Moving too far will require excessive down pressure for digging and hand clean-up of trench bottom.

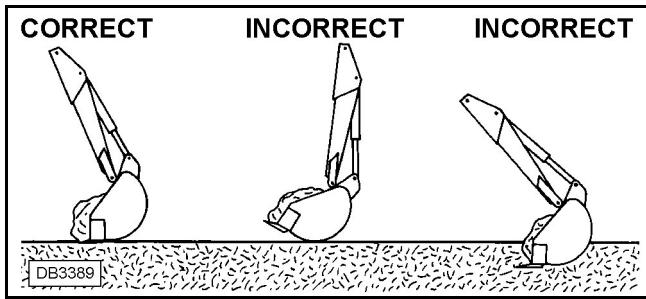


Figure 5. Trenching

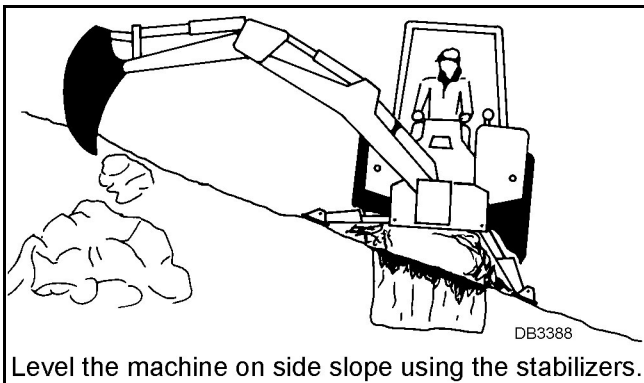
SIDE SLOPE TRENCHING / EXCAVATING

⚠ WARNING

- Be careful when swinging loaded bucket on hill-side. Always dump spoil on uphill side of backhoe to minimize rollover possibility.

When operating on a side slope, the backhoe must be positioned using one of these two methods as shown in Figure 6 or Figure 7.

When operating on a side slope, always place the trench spoil on the uphill side.



Level the machine on side slope using the stabilizers.

Figure 6. Level with Stabilizers

Cut a level pad for the uphill side of the machine and place spoil on the downhill side as shown in Figure 7.

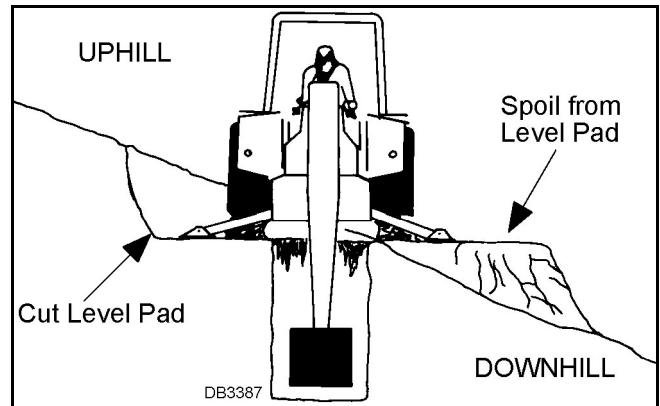


Figure 7. Level with Cut Out

TRANSPORTING

⚠ WARNING

- Always engage swing stabilizer and boom transport locks and attach Slow Moving Vehicle (SMV) sign before transporting backhoe.
- Power unit must be equipped with Roll Over Protection System (ROPS) or ROPS cab and seat belt. Keep seat belt securely fastened. Falling off power unit can result in death from being run over or crushed. Keep foldable ROPS system in “locked up” position at all times.
- Never leave equipment unattended with engine running or with bucket in raised position. Always engage swing stabilizer and boom transport locks, Relieve system pressure by operating controls, and remove ignition key before leaving equipment.

Transport and Swing Lock Installation

IMPORTANT

- Before operating backhoe, disengage transport lock bar and store swing lock pin. Push transport lock bar down fully to prevent damage.

Engage transport lock by fully retracting boom and dipper. Position transport lock bar (1), located on right side of swing frame, over transport lock pin (2). Secure with safety pin (4). See Figure 8.

Center boom from side to side and install swing lock pin (3) through swing frame and main frame. Secure swing lock pin (3) with a safety pin (4) as shown.

During backhoe operation, store swing lock pin (3) in the hole provided on the back side of the seat post. Secure into position with safety pin (4).

Always raise stabilizers before transporting backhoe.

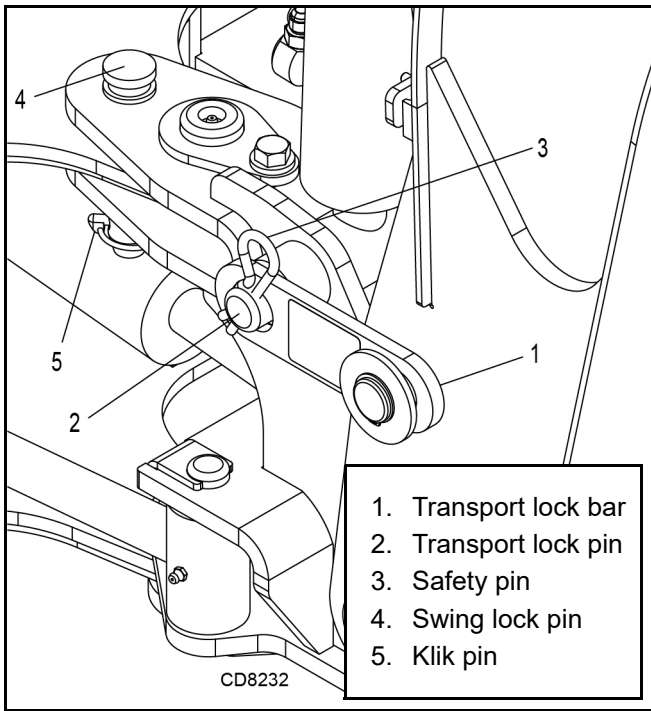


Figure 8. Transport and Swing Lock Installed

REMOVING AND STORING BACKHOE

⚠ DANGER

■ The only time the backhoe may be operated from a position other than the operator seat is during backhoe attachment and removal. Operator must:

- Read Mounting Kit Manual instructions on attaching and removing backhoe and use extreme care.
- Always stand between rear tire and backhoe stabilizer arms or along side of tractor to avoid being trapped should the boom swing control be accidentally activated.

⚠ WARNING

■ Keep all persons away from operator control area while performing adjustments, service, or maintenance.

■ Remove seat and upper support assembly before installing or removing backhoe from power unit. Failure to comply may result in equipment failure and/or personal injury.

3-Point Mount Removal

Position tractor on a hard level surface, remove swing lock pin and transport bar, and center the backhoe boom.

Lower stabilizers and take weight of backhoe off of rear tractor tires.

Lower boom and dipper to form 90-degree angle and rest bucket on the ground.

Remove pin that attaches top link to tractor. Remove lower 3-point arms from backhoe. Place blocks under mainframe and raise stabilizers to lower backhoe mainframe onto blocks. Block backhoe as necessary to make it stable.

Disconnect hydraulic system.

4-Point Sub-Frame Mount Removal

NOTE: See the sub-frame mounting kit manual that fits your tractor for specific instructions.

Position tractor on a hard level surface, remove swing lock pin and transport bar, and center the backhoe boom.

Lower stabilizers and take weight of backhoe off of rear tractor tires.

Lower boom and dipper to form 90-degree angle and rest bucket on the ground.

Remove the seat assembly.

Remove klik pins from bolt and nut assemblies.

Use 1-1/2 inch open end wrench supplied with the mounting kit to remove hex nuts. Return wrench to storage position.

Use the boom to relieve excess pressure on 1-inch bolts and remove bolts.

Tilt backhoe mainframe forward and away from sub-frame.

Raise stabilizers (to lower backhoe) until backhoe brackets slide out of hooks on the sub-frame. Lower backhoe approximately 1-1/2 inch.

Move tractor forward to clear backhoe brackets.

Place 6 inch blocks under backhoe mainframe and raise stabilizers to lower backhoe to the storage position on blocks. Boom and dipper should be at 90-degree angle.

Disconnect hydraulic system.

Disconnect Tractor Hydraulics

For Backhoe Powered with Auxiliary Pump

Disengage the PTO, stop tractor engine and remove key. Remove pump from PTO and secure it on backhoe. Move tractor carefully away from backhoe.

For Tractors with Open-Center Valves (Figure 9)

Stop tractor and remove key.

Disconnect pressure and return hoses. Connect tractor pressure and return hoses together to complete open-center circuit. Connect backhoe pressure and return hoses together for storage.

NOTE: Circuit must be complete to prevent damage to tractor hydraulic system.

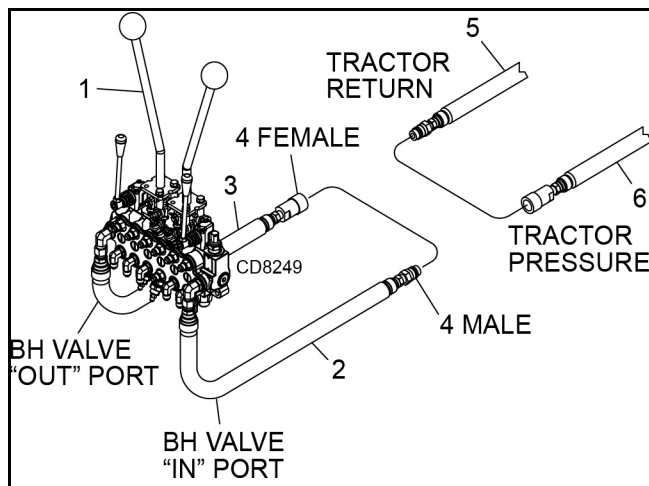


Figure 9. Tractors with Open-Center Valves

MECHANICAL THUMB (OPTIONAL)

The mechanical thumb is used for grabbing objects and securing them between the thumb and the bucket.

Become familiar with the geometry and extra weight the thumb adds to the backhoe before operating. Large heavy objects such as rocks and logs can increase momentum when pivoting backhoe to the side. DO NOT make sudden stops and starts. Be extremely careful lifting and moving long items such as poles or tree limbs which may extend beyond the normal backhoe operating area.

Improper usage can also damage the thumb or backhoe. DO NOT use the thumb to rake material, push or pull material, use as a lifting device with chain or rope, or as a pry bar to dislodge objects.

Place thumb in operating position by selecting an appropriate pin location on the telescoping channel. Rotate the bucket to hold material against the thumb.

When normal backhoe operation is required, place thumb in storage position. Remove pin, rotate thumb up against dipper, and insert pin to lock thumb into position.

PRE-OPERATION CHECK LIST (OWNER'S RESPONSIBILITY)

The operator should perform the following check list before operating backhoe.

- ___ Check that backhoe is properly and securely attached to tractor.
- ___ Make sure all hydraulic connections are tight and all hydraulic lines and hoses are in good condition before engaging tractor PTO.
- ___ Check that there are no leaks in the hydraulic system. Before operating, all hydraulic hoses must be routed properly and not be twisted, bent sharply, kinked, pulled tight or frayed.
- ___ During inspection, check that all nuts and bolts are secure and clevis pins are properly cotter pinned.
- ___ Be sure special heavy-duty top link, provided with backhoe, is installed.
- ___ Make sure only original equipment high-strength top link pin, provided with tractor, is used to attach top link to tractor.
- ___ Use a 3/4" x 3-1/2" grade 5 bolt to mount top link to backhoe.
- ___ Make sure tractor lower lift arm stabilizers (blocks or chains) are positioned to prevent lift arms and backhoe from swaying.
- ___ Place all backhoe controls in neutral position before starting tractor engine.
- ___ Check hydraulic reservoir level.



OWNER SERVICE

The information in this section is written for operators who possess basic mechanical skills. If you need help, your dealer has trained service technicians available. For your protection, read and follow the safety information in this manual.

⚠ WARNING

■ **Keep hands and body away from pressurized lines. Use paper or cardboard, not hands or other body parts to check for leaks. Wear safety goggles. Hydraulic fluid under pressure can easily penetrate skin and will cause serious injury or death.**

■ **Make sure that all operating and service personnel know that if hydraulic fluid penetrates skin, it must be surgically removed as soon as possible by a doctor familiar with this form of injury or gangrene, serious injury, or death will result.**

CONTACT A PHYSICIAN IMMEDIATELY IF FLUID ENTERS SKIN OR EYES. DO NOT DELAY.

■ **Before working on backhoe, extend boom and dipperstick and place bucket on ground. Make sure that all system pressure has been relieved by operating controls before maintenance, service, or disconnecting any hydraulic lines.**

⚠ CAUTION

■ **Always wear relatively tight and belted clothing to avoid getting caught in moving parts. Wear sturdy, rough-soled work shoes and protective equipment for eyes, hair, hands, hearing, and head; and respirator or filter mask where appropriate.**

HYDRAULIC HOSES AND FITTINGS

IMPORTANT

■ **Fittings with O-rings and flange do not require additional sealant; replace damaged O-rings.**

Hydraulic hoses are severely worked on a backhoe. Examine them daily and replace if necessary. Hose routing is very important. Make certain hoses can move freely, without kinking, and cannot be damaged or cut by backhoe action.

When tightening hoses and fittings, always use two wrenches: one to hold hose and one to tighten fitting. This will prevent hose from twisting and kinking.

Always back lock nut off and screw fitting all the way in for fittings that use O-rings for sealing. Then hold in position and tighten lock nut.

RELIEF VALVE

BH65/75

This valve is pre-set at the factory to prevent system pressure from exceeding 2030 psi for BH65 and 2470 psi for BH75. Do not attempt to reset the valve for open-center hydraulic systems. If valve is malfunctioning, replace it with an authorized factory replacement part or have service done by a qualified dealer.

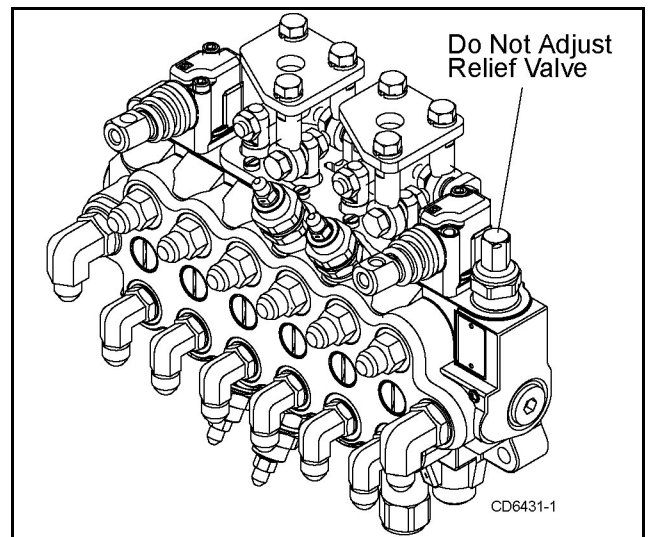


Figure 10. Relief Valve, BH65/75

LUBRICATION

⚠ WARNING

■ **Keep all persons away from operator control area while performing adjustments, service, or maintenance.**

Do not let excess grease collect on or around parts, particularly when operating in sandy areas.

Figure 11 shows lubrication points for the backhoe.

It is recommended that all fittings be lubricated daily or every eight hours of operation. In very wet or dry conditions, lubricate every four hours of operation.

Use an SAE multi-purpose type grease for all locations shown unless otherwise specified. Be sure to clean fitting thoroughly before using grease gun. One good pump of most guns is sufficient.

Position backhoe for easy lubrication by placing boom and dipper at 90° to each other with bucket cutting edge vertical and teeth resting on ground. Lower stabilizers to lubricate cylinders.

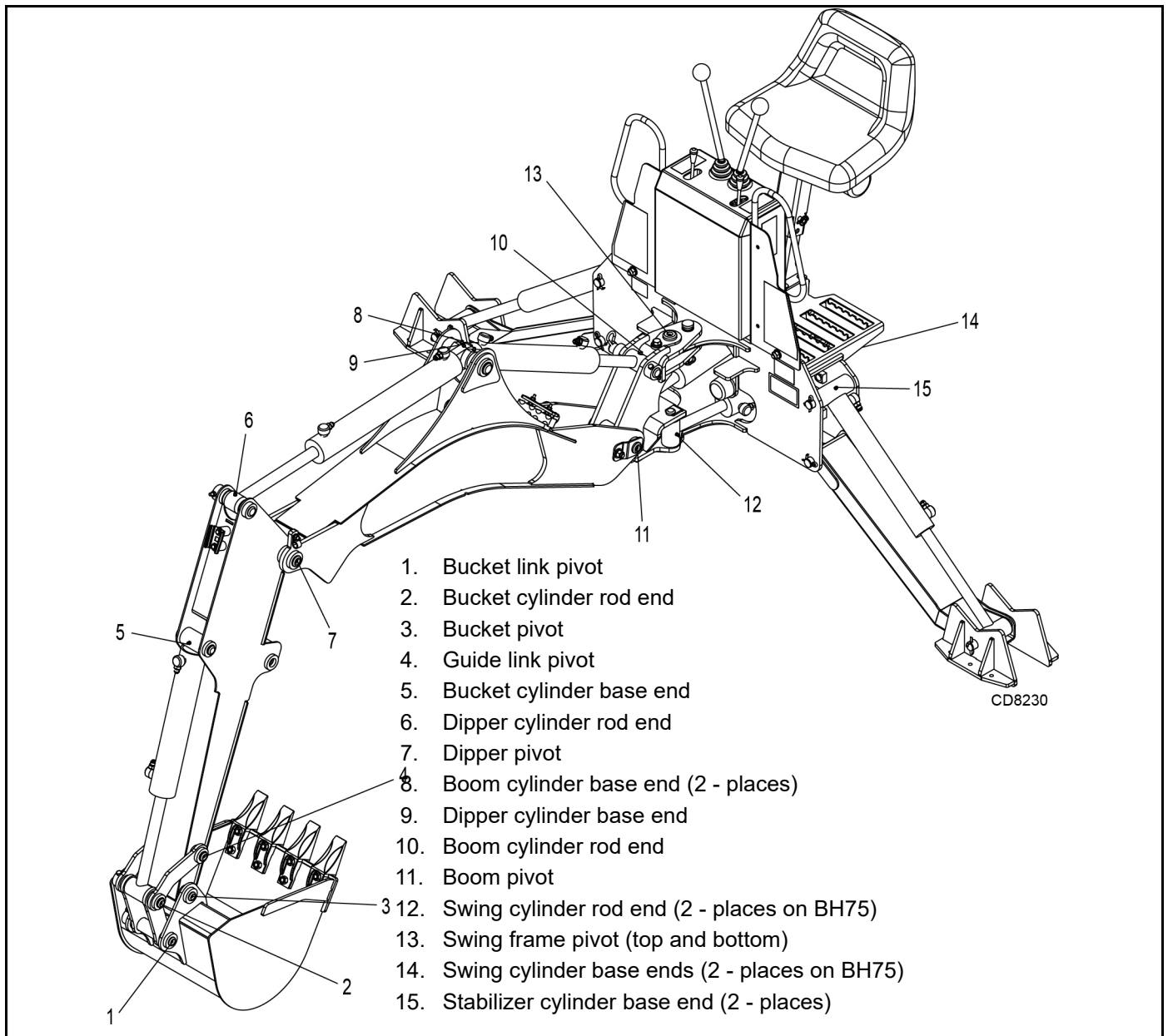


Figure 11. Lubrication Points

OPTIONAL HYDRAULIC PUMP SYSTEM (BH75)

Daily, check the fluid level in reservoir with filler cap dipstick. Contamination will shorten the life of hydraulic system components. Change oil and filter after first 20 hours of operation and then every 200 hours of operation or annually, whichever occurs first. In extremely dusty or dry conditions, more frequent changes may be necessary. System capacity is approximately 4-1/2 to 5 U.S. gallons.

Drain the oil into a suitable container and dispose of properly in a manner compatible with the environment.

IMPORTANT

■ **Fill with clean oil. Do not mix oil types or grades.**

ENGAGE PTO AND RUN AT IDLE FOR 5 MINUTES, THEN CHECK OIL LEVEL. Add fluid as necessary.

Recommended Oils and Temperature Ranges Do not mix oil grades or types

SAE Hydraulic Transmission Fluid	All Temperatures
Type "A" or "F" ATF	All Temperatures
SAE 30-30W	90° F and above
SAE 20-20W	35° - 90° F
SAE 10-10W	35° F and below

CLEANING

After Each Use

- Remove large debris such as clumps of dirt, grass, crop residue, etc. from machine.
- Inspect machine and replace worn or damaged parts.
- Replace any safety decals that are missing or not readable.

Periodically or Before Extended Storage

- Clean large debris such as clumps of dirt, grass, crop residue, etc. from machine.
- Remove the remainder using a low-pressure water spray.
 1. Be careful when spraying near scratched or torn safety decals or near edges of decals as water spray can peel decal off surface.
 2. Be careful when spraying near chipped or scratched paint as water spray can lift paint.
 3. If a pressure washer is used, follow the advice of the pressure washer manufacturer.
- Inspect machine and replace worn or damaged parts.
- Sand down scratches and the edges of areas of missing paint and coat with Woods spray paint of matching color (purchase from your Woods dealer).
- Replace any safety decals that are missing or not readable (supplied free by your Woods dealer). See Safety Decals section for location drawing.



TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	SOLUTION
Noisy pump caused by cavitation	Oil too heavy Oil filter plugged Suction line plugged or too small Suction line kinked	Change to proper viscosity Replace filter Clean line and check for size Replace line
Oil heating	Oil supply low Contaminated oil Setting of relief valve too high or too low Pump operating too fast	Fill reservoir Drain reservoir, change filter, and refill with clean oil Set to correct pressure Do not exceed 540 rpm PTO speed
Shaft seal leakage	Worn shaft seal	Replace shaft seal
Foaming oil	Low oil level Air leaking into suction line Wrong kind of oil Moisture in oil	Fill reservoir Tighten fittings Drain and refill reservoir with non-foaming oil Keep oil temperature below 180° and continue to operate as oil dries out, or replace oil and purge system if foaming is excessive
Boom drops as dipper or bucket cylinder lever is activated while boom control is in raised position	Load check valve leaking	Clean or replace check valve assembly
Jerky operation	Hydraulic hoses plumbed incorrectly	Check hydraulic plumbing schematic and correct hose routing as required

DEALER SERVICE

The information in this section is written for dealer service personnel. The repair described here requires special skills and tools. If your shop is not properly equipped or your mechanics are not properly trained in this type of repair, it may be more time and cost effective to replace complete assemblies.

WARNING

■ Keep hands and body away from pressurized lines. Use paper or cardboard, not hands or other body parts to check for leaks. Wear safety goggles. Hydraulic fluid under pressure can easily penetrate skin and will cause serious injury or death.

■ Make sure that all operating and service personnel know that if hydraulic fluid penetrates skin, it must be surgically removed as soon as possible by a doctor familiar with this form of injury or gangrene, serious injury, or death will result.

CONTACT A PHYSICIAN IMMEDIATELY IF FLUID ENTERS SKIN OR EYES. DO NOT DELAY.

■ Before working on backhoe, extend boom and dipperstick and place bucket on ground. Make sure that all system pressure has been relieved by operating controls before maintenance, service, or disconnecting any hydraulic lines.

CAUTION

■ Always wear relatively tight and belted clothing to avoid getting caught in moving parts. Wear sturdy, rough-soled work shoes and protective equipment for eyes, hair, hands, hearing, and head; and respirator or filter mask where appropriate.

BH65/75

HYDRAULIC VALVE REPAIR

Refer to Figure 12.

Valve repair should be accomplished in a clean work place. Note the configuration of the parts before disassembling valve and control linkage. This will make reassembly easier.

System Relief Valve

WARNING

■ Adjustment of system relief pressure must be done by a qualified, experienced dealership. Incor-

rect adjustment can result in system failures and serious personal injury.

No individual parts are available for relief valve. Replace entire assembly if required.

Pressure Setting Adjustment

NOTE: Before changing the pressure setting on the valve, determine tractor hydraulic system pressure. Many tractors do not create 2030 psi. If your tractor does not create 2030 psi, changing the relief valve setting will not improve the backhoe performance.

To adjust relief valve setting, place a 3000 psi pressure gauge in the line attached to the valve inlet (IN) port. Remove cap from top of main relief (1, Figure 12). Turn adjusting screw clockwise to increase pressure and counter clockwise to decrease pressure. Start tractor and set throttle for full engine speed. Move right stabilizer control lever to raise stabilizer to transport position and hold the lever so full pressure builds. Adjust screw to attain 2030 psi for BH65 or 2470 psi for BH75. Shut off tractor and replace cap.

Port Relief Valves

Pressure settings on port relief valves are preset at the factory. Although they are adjustable, they must not be reset in the field using backhoe hydraulic system. An incorrect setting could cause hydraulic pump to fail or backhoe cylinder rods to buckle.

Replace Port Relief Valves

It is not necessary to remove the entire valve assembly from the console to replace individual port relief valves. Be sure to install valve cartridges set at the correct pressure. Valves are similar and can be easily mixed up.

NOTE: Valve cartridges have small sealing washers attached to them. When replacing valve, check cavity in valve housing for any loose washers.

Port Relief Valve	Pressure Setting
Cartridge 2	2470 psi
Cartridge 3	2610 psi

Load Check Valve Replacement

The load check valves (4) are located between the valve work ports. Remove load check assembly using a large screwdriver. Inspect seat in valve housing for any dirt or damage. Replace load check if required.

Spool Repair

Whenever repairing spools or positioner, replace valve spool seals which are included in the spool seal repair kit.

Disassemble

Remove the joystick assembly and/or single lever control from valve. Remove the plastic dust cap from positioner (5, 6). Unscrew the positioner assembly from valve housing. Push spool (7, 8) out of housing.

Secure spool in vise taking care not to scratch or nick the outer surface. Unscrew the positioner from spool. Remove brass sleeve (9) and O-ring (10) from positioner end of valve housing. Remove O-ring (10) and flange washer (11) from control lever end of valve housing. The boom spool has a special sleeve with two O-rings.

Check spools, replace if nicked and scratched.

Carefully inspect spool bore in valve housing. If deep scratches or scouring is present, entire valve should be replaced.

Assemble

Clean threads on positioner and spool. Apply a removable-type thread locking compound to male threads and assemble positioner to spool. Torque to 85 ± 15 in-lbs.

Apply clean oil to O-ring (10) and install, along with brass sleeve (9) on spool housing positioner end. Slide spool into valve housing. Torque positioner end cap (5, 6) to 70 ± 15 in-lbs.

Reassemble the O-ring (10) and flanged washer (11) on control lever end of spool. Boom spool does not use a flange washer.

Position spool wipers (A) (Figure 12) on swing, dipper, and bucket spools in linkage plate. Reinstall control linkage. Note the screws installed in the boom and dipper spools should be tightened until snug, then backed off approximately $\frac{1}{2}$ turn to allow free movement of the joystick.

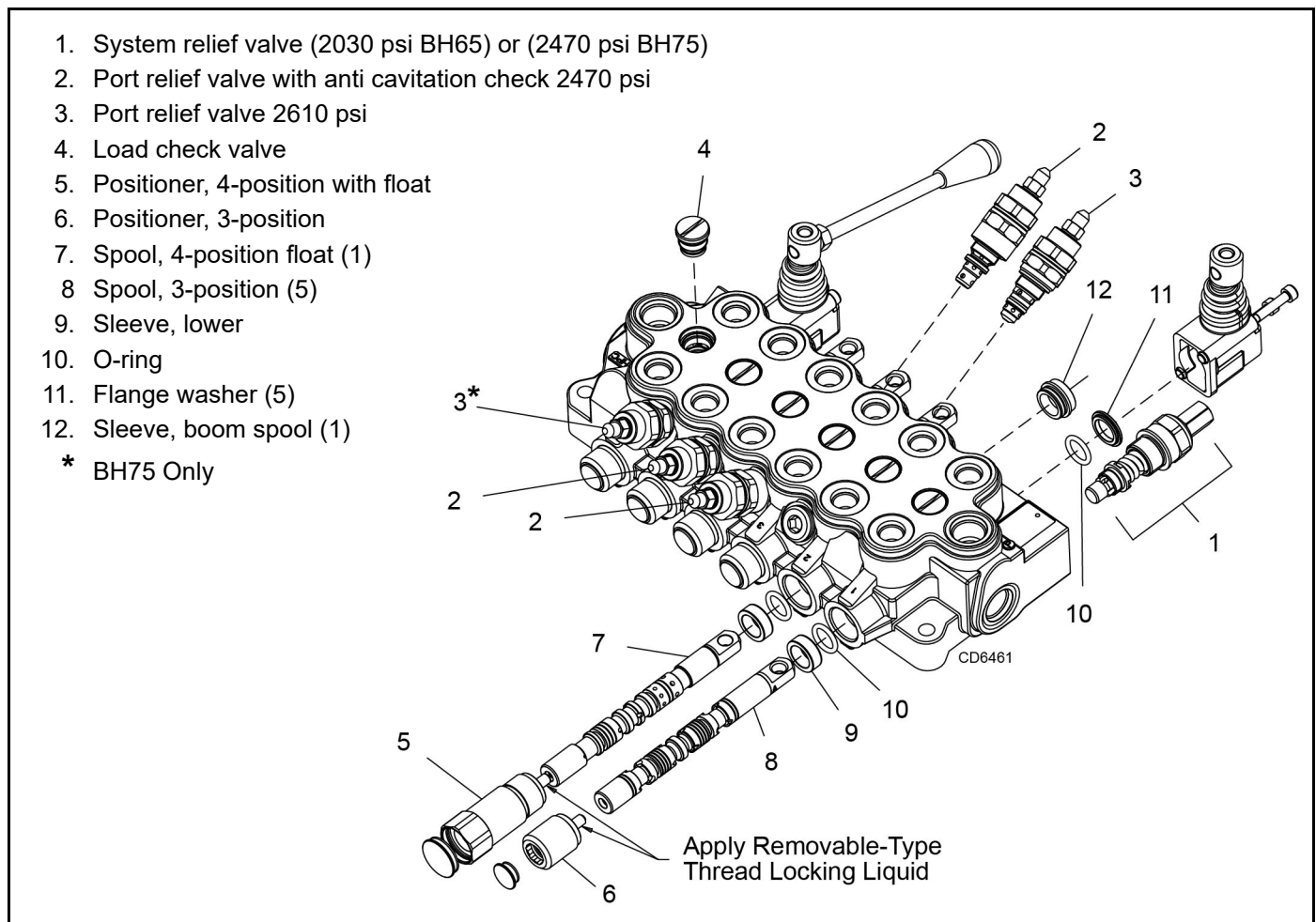


Figure 12. BH65/75 Control Valve Assembly

ADJUST CONTROL VALVE LINKAGE

Reconnect control linkage to valve.

Control handles should be positioned as shown.

When completing a maintenance function on the valve, perform a functional test by placing control handles in their various positions and make certain the correct operation occurs corresponding to the decals on the operator's console. Pay specific attention to the float position of the boom. Do not operate backhoe if functions differ from the decal.

If the functions differ from the decal, check to make sure control linkage is correctly installed and check plumbing schematics to make sure hoses are correctly connected.

HYDRAULIC CYLINDER REPAIR

Cylinder Service

The cylinders are designed to be reliable and easy to service. If a cylinder should malfunction during the warranty period, return the complete cylinder assembly, without disassembling, to your authorized service department or contact your authorized service department for instructions. Unauthorized disassembly of a cylinder in the warranty period will VOID WARRANTY. **NOTE:** Repair to cylinders is limited to replacing seals, wear rings, and O-rings. Replacing rod, barrel, or pistons is not cost effective. Purchasing a complete cylinder is more economical

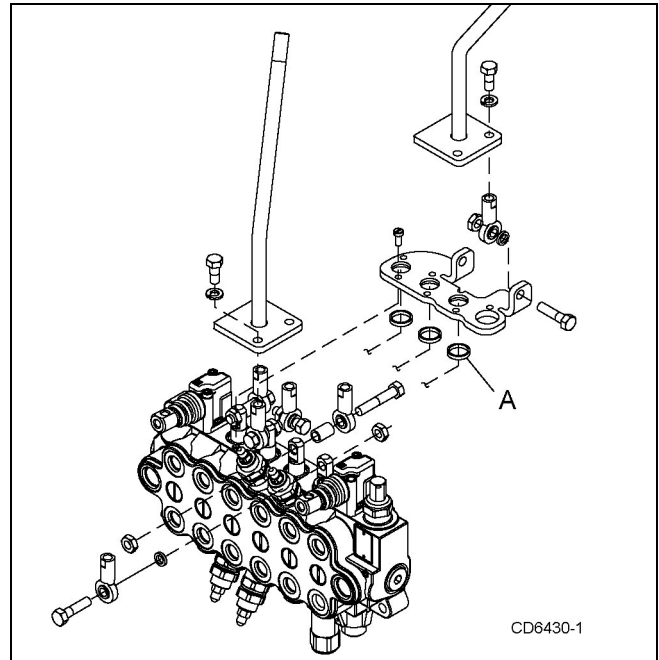


Figure 13. Control Lever Adjustment

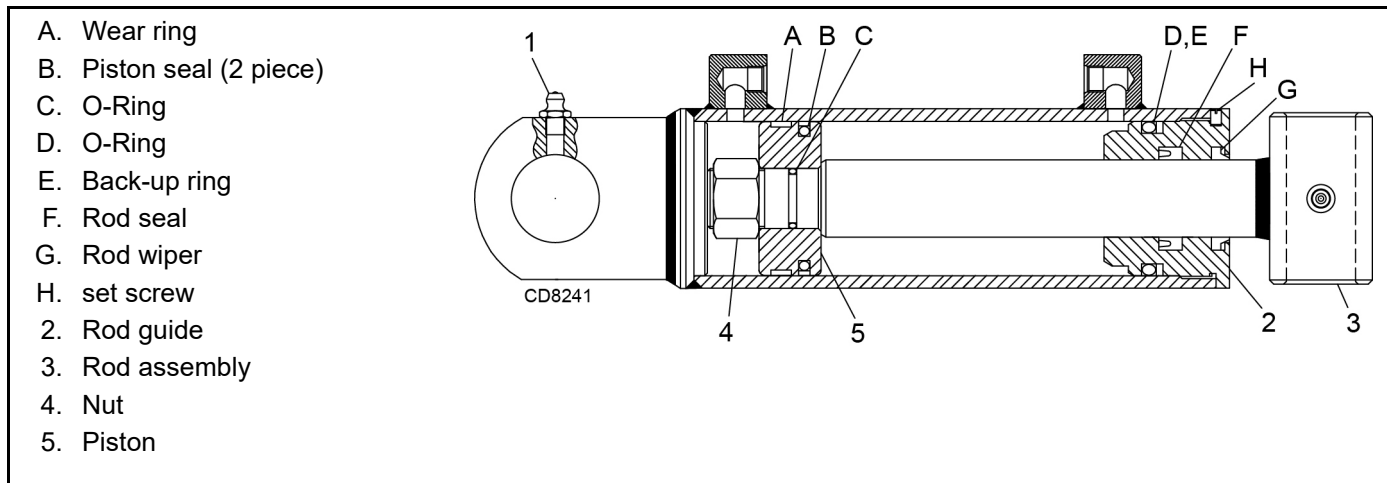


Figure 14. Cylinder Assembly

Disassembly

Remove set screw (H) from outside of rod guide (2). Using a spanner wrench or a hammer and punch, unscrew rod guide from cylinder barrel. (Spanner wrench 1021841 is available from Woods to help with these procedures.) Remove rod assembly (3) from barrel.

Clamp cross tube of rod assembly in a vise and remove nut (4) from rod. Remove piston (5) from rod and slide rod guide off of rod. Remove and discard all seals, wear rings and O-rings. Clean all components in solvent and blow dry with low pressure air. Inspect inside diameter of barrel. Replace cylinder if damaged.

Assembly

For these assembly instructions the front surface of the threaded rod guide with two holes will be referred to as the "rod guide face".

Lubricate O-rings and seals with clean hydraulic fluid. Install back-up washer (E) on rod guide (2), and then install O-ring (D) in exterior O-ring groove of rod guide. Make sure that the back-up ring is located closest to the rod guide face. Place rod wiper (G) in outer rod guide groove. Install rod seal (F) into the second groove from the rod guide face with the open portion of V-groove toward piston. With all rod guide seals installed, slide the rod guide assembly onto rod (3).

Coat O-ring (C) with oil and slide over rod threads and install in groove on rod. Slide piston (5) onto rod. Clean threads of rod and apply Loctite^{®1} primer 7649 and

removable thread locker 243. Install nut (4) and torque to 180 lbs-ft. [244 Nm]. Install wear ring (A) and piston seal (B) into grooves on outside of piston. Note that piston seal consists of two pieces.

Compress wear rings and piston seals and carefully insert piston and rod assembly into barrel. Use care to prevent damage while installing. Carefully screw rod guide (2) into barrel using a spanner wrench, or a punch and hammer. Align drilled hole in guide and barrel and install new set screw (H).

1. Loctite is a registered trademark of the Henkel Loctite Corporation.



ASSEMBLY

GENERAL ASSEMBLY INSTRUCTIONS

Backhoe assembly is the responsibility of the WOODS dealer. The backhoe should be delivered to the owner completely assembled, lubricated and adjusted for normal operating conditions.

Set backhoe up as received from the factory with these instructions and illustrations.

The backhoe must only be mounted with a tractor 3-point hitch using WOODS 3-Point Mount kit or a WOODS sub-frame kit. See WOODS 3-Point Mount manual for mount installation instructions.

When mounting this backhoe on a tractor using a sub-frame mount, special assembly instructions (which are contained in another manual furnished with the sub-frame) apply to some of the assembly procedures.

The backhoe is shipped partially assembled. Assembly will be easier if components are aligned and loosely assembled before tightening hardware.

NOTE: References to right, left, forward and rearward directions are determined from the backhoe operator seat position facing rearward.

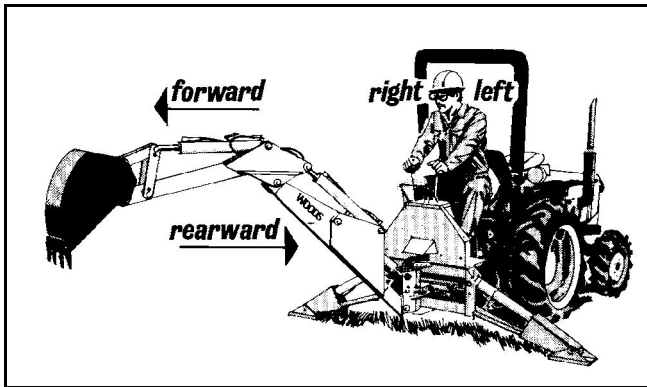


Figure 18. Backhoe Directions

WARNING

■ Keep all persons away from operator control area while performing adjustments, service, or maintenance.

■ Only mount this backhoe on Category 1 tractors with 800 lb. lift capacity at 24" behind 3-point lift arm hitch balls.

■ Keep hands and body away from pressurized lines. Use paper or cardboard, not hands or other body parts to check for leaks. Wear safety goggles.

Hydraulic fluid under pressure can easily penetrate skin and will cause serious injury or death.

WARNING

■ Make sure that all operating and service personnel know that if hydraulic fluid penetrates skin, it must be surgically removed as soon as possible by a doctor familiar with this form of injury or gangrene, serious injury, or death will result.

CONTACT A PHYSICIAN IMMEDIATELY IF FLUID ENTERS SKIN OR EYES. DO NOT DELAY.

CAUTION

■ Always wear relatively tight and belted clothing to avoid getting caught in moving parts. Wear sturdy, rough-soled work shoes and protective equipment for eyes, hair, hands, hearing, and head; and respirator or filter mask where appropriate.

STABILIZER INSTALLATION

Remove stabilizer arms from shipping position.

Remove pivot pins (3) from their shipping position. Attach stabilizer arm (2) to main frame (1) with pivot pin (3) and secure with cotter pin (4).

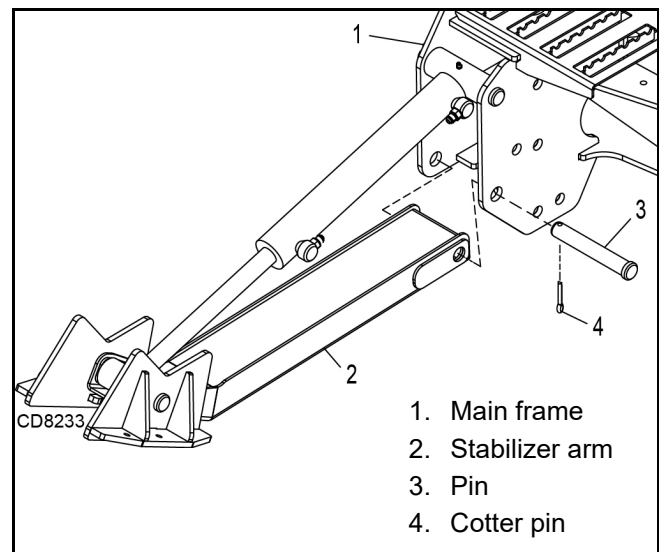


Figure 19. Stabilizer Arm Assembly - Left Side

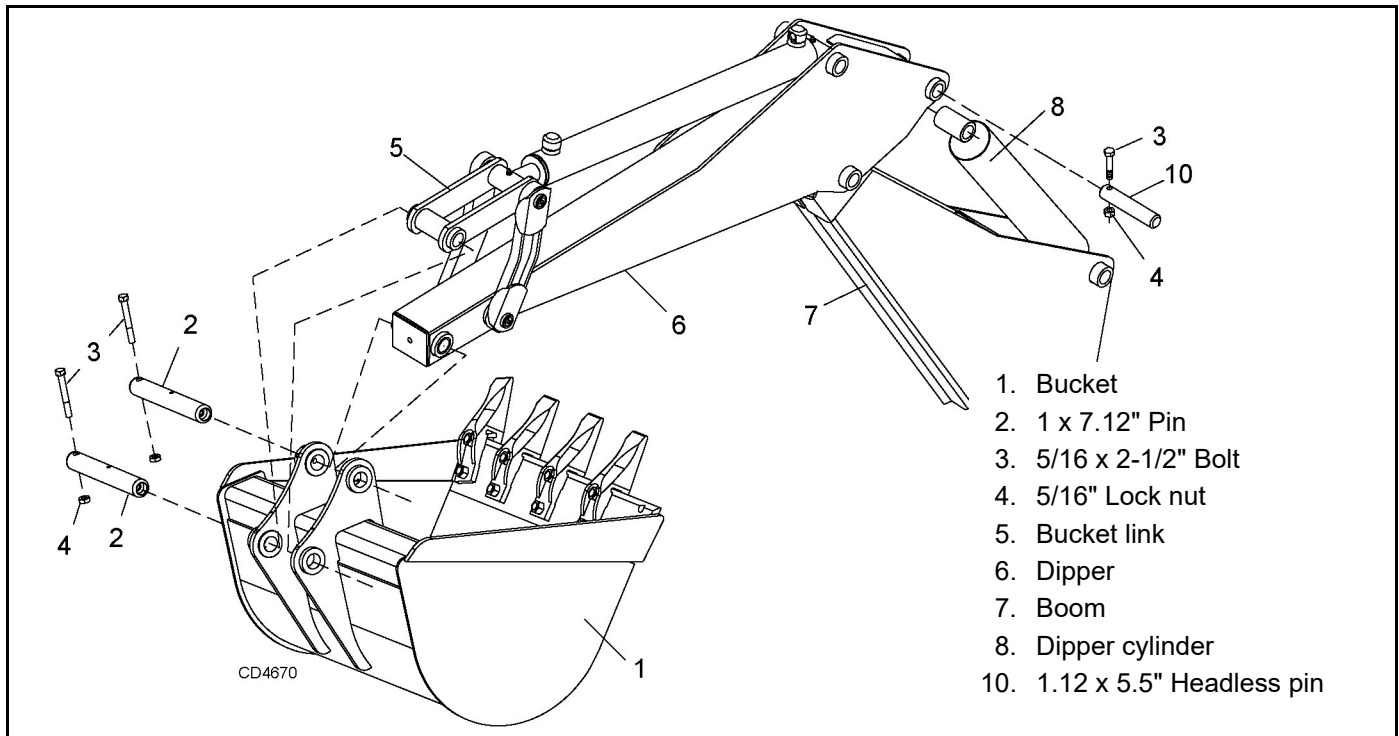


Figure 20. Dipper and Bucket Installation (Typical Assembly)

DIPPER CYLINDER INSTALLATION

Remove pivot pin (10) from end of dipper (6). Attach dipper cylinder (8) to dipper (6) with pivot pin and secure with bolt (3) and lock nut (4). Make sure hydraulic hoses are not twisted after boom and dipper are assembled.

BUCKET INSTALLATION

9", 12" and 16" buckets are available for the BH65 backhoe. 9", 12", 16", 18" and 24" buckets are available for the BH75. Remove pivot pins (2) from end of bucket link (5) and dipper (6). Attach bucket (1) to bucket link and dipper with pivot pins (2) and secure with bolts (3) and lock nuts (4).

HYDRAULIC INSTALLATION

Refer to Figure 21.

⚠ WARNING

■ **Keep hands and body away from pressurized lines. Use paper or cardboard, not hands or other body parts to check for leaks. Wear safety goggles. Hydraulic fluid under pressure can easily penetrate skin and will cause serious injury or death.**

■ **Make sure that all operating and service personnel know that if hydraulic fluid penetrates skin, it must be surgically removed as soon as possible by**

a doctor familiar with this form of injury or gangrene, serious injury, or death will result.

CONTACT A PHYSICIAN IMMEDIATELY IF FLUID ENTERS SKIN OR EYES. DO NOT DELAY.

■ **Make sure shields and guards are properly installed and in good condition. Replace if damaged.**

Power to the backhoe can be supplied directly from the tractor hydraulic system. A hydraulic requirement of 3-5 gallons per minute and 2030 PSI, (BH65) or 6-8 gallons per minute and 2470 psi (BH75), is necessary to operate the backhoe efficiently. 3/8" diameter hoses (SAE 100 R1 with 2500 PSI working pressure) should be used to connect the hydraulic source to the backhoe valve. These hoses must be long enough to allow ease of removal or attachment of backhoe. Hoses must include external shielding to prevent oil from spraying on operator if hose fails.

Open-Center

Refer to Figure 21.

Remove the console cover from the backhoe to gain access to control valve (1). Connect 3/8" hoses (2 & 3) to the backhoe inlet and outlet ports. Install couplers (4) compatible to the tractor on opposite end of the 3/8" hoses. Determine the direction of flow and connect tractor pressure hose (6) to the inlet side of the control valve (under left foot rest).

Note: The backhoe will not function if oil is routed backwards through the valve. Connect the tractor return

hose (5) to the control valve outlet port. Tighten all fittings securely. Start engine and run at low rpm. Activate hydraulic circuit and check for leaks.

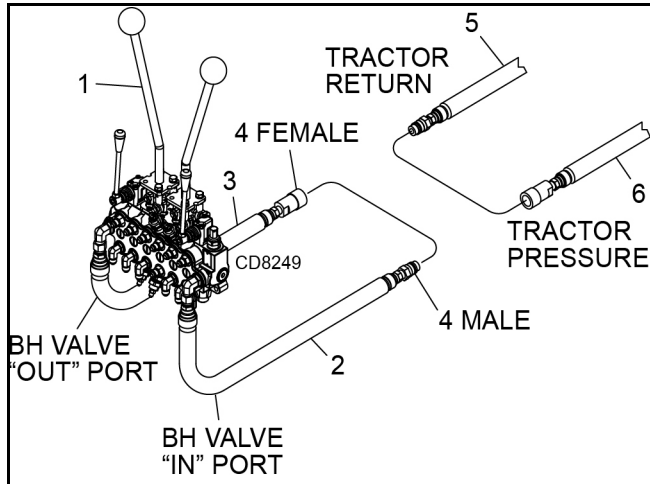


Figure 21. Open Center Hydraulic Plumbing

HYDRAULIC PUMP INSTALLATION (OPTIONAL) (BH75)

See manual included with PTO pump kit.

SEAT INSTALLATION AND ADJUSTMENT

The seat may be adjusted fore, aft, up and down for operator comfort. It is necessary to use the two adjustments together. Moving the seat down also moves it forward, moving it up also moves it rearward. The fore and aft adjustment may be used with the up and down adjustment to obtain desired position. Never operate the backhoe unless manufacturer's 3-point hitch Saf-T-Lok Limiter or sub-frame has been installed, adjusted and operator's area (shown in decal 1039516, see decal page 11) is free from obstructions.

INSTALL OPTIONAL STABILIZER STREET PAD 1006610KT

1. Attach two rubber stabilizer pads (2) to the bottom stabilizer pad (1) using three lock nuts (3).
2. Repeat step for opposite side stabilizer.

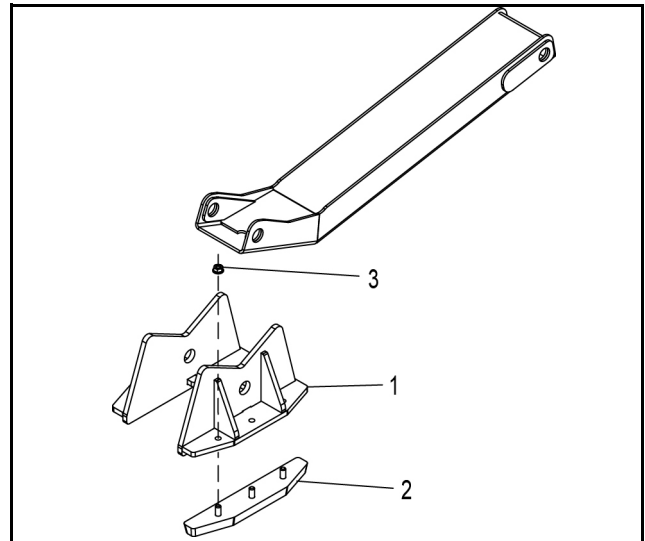


Figure 22. Stabilizer Pad Installation

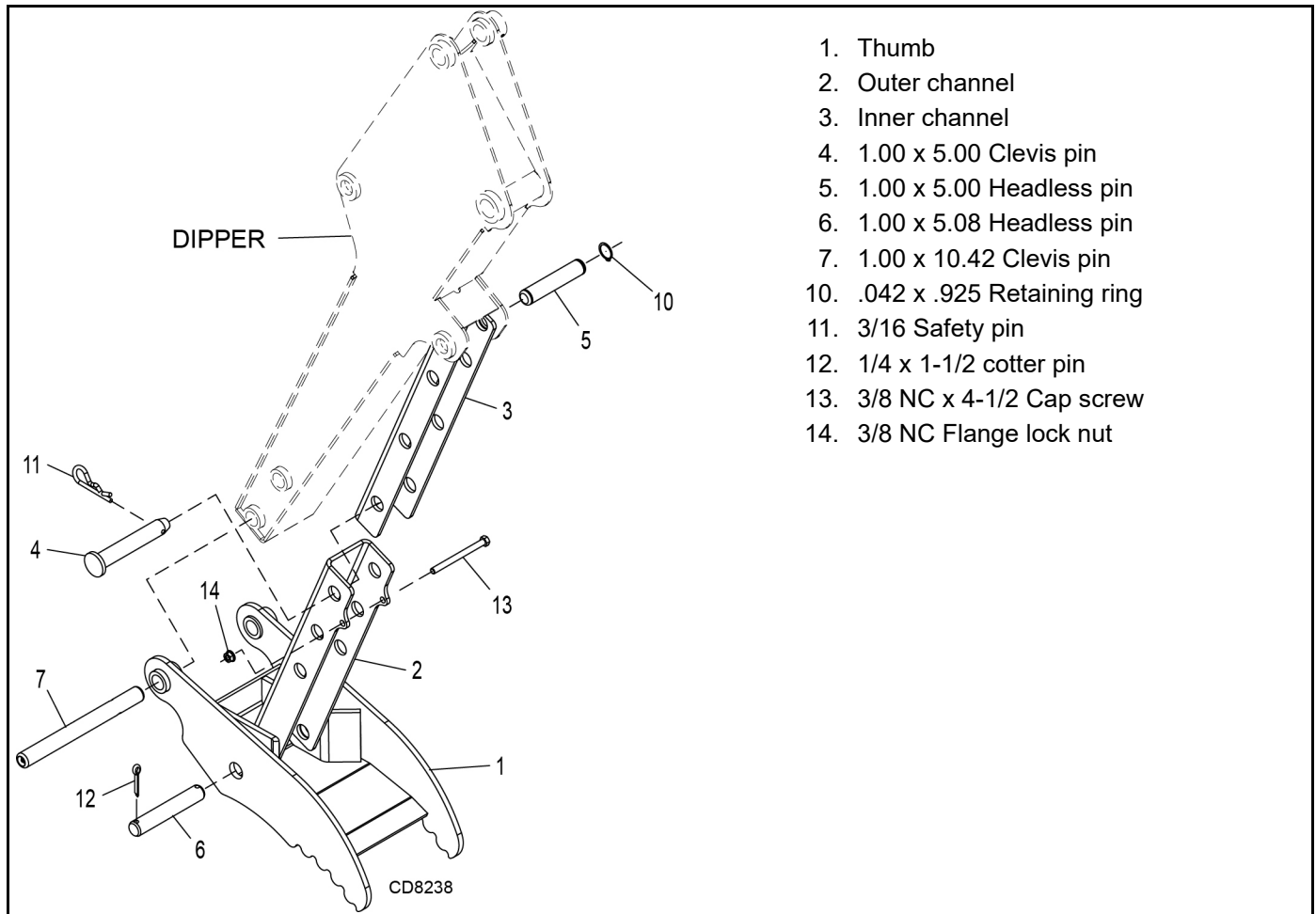
OPTIONAL EQUIPMENT

1040225 3-Point Mount Kit (BH65)

1039001 3-Point Mount Kit (BH75)

See 3-Point Mount Kit manual for installation instructions.

1039410 Mechanical Thumb (BH65)
1039000 Mechanical Thumb (BH75)



1. Thumb
2. Outer channel
3. Inner channel
4. 1.00 x 5.00 Clevis pin
5. 1.00 x 5.00 Headless pin
6. 1.00 x 5.08 Headless pin
7. 1.00 x 10.42 Clevis pin
10. .042 x .925 Retaining ring
11. 3/16 Safety pin
12. 1/4 x 1-1/2 cotter pin
13. 3/8 NC x 4-1/2 Cap screw
14. 3/8 NC Flange lock nut

Figure 23. Mechanical Thumb Installation

1. Extend dipper and lower bucket to ground. Support dipper with a jack stand.
2. Remove pin from bucket/dipper joint.
3. Position thumb (1) over bucket pivot sleeves and install pin (7). Secure pin with bucket pin hardware previously removed.
4. Secure outer channel (2) to thumb using pin (6) and cotter pins (12). Install cap screw (13) and lock nut (14) in channel.
5. Slide inner channel (3) in outer channel and secure to dipper with pin (5) and snap rings (10).
6. Rotate thumb into desired position and install pin (4) and secure with safety pin (11).

DEALER CHECK LIST

PRE-DELIVERY CHECK LIST (DEALER'S RESPONSIBILITY)

Inspect the backhoe (and sub-frame when applicable) thoroughly after assembly to be certain it is set up properly before delivering it to the customer. The check lists are a reminder of points to inspect. Check off each item as it is found satisfactory or after proper adjustments are made.

- ___ Check all bolts to be sure they are tight.
- ___ Check that all lubrication points have been lubricated.
- ___ Check that all cotter pins and safety pins are properly installed.
- ___ Properly attach backhoe (and sub-frame when applicable) to tractor and make all necessary adjustments.
- ___ Check that optional hydraulic reservoir has been serviced and that hydraulic system and all functions have been operated through full cylinder stroke to purge air from system.
- ___ Make sure all hydraulic fittings are tight and hoses are properly routed and not twisted, bent sharply, kinked or pulled tight.
- ___ After pressurizing and operating all backhoe functions, stop tractor and make sure there are no leaks in the hydraulic system. Follow all safety rules when checking for leaks.

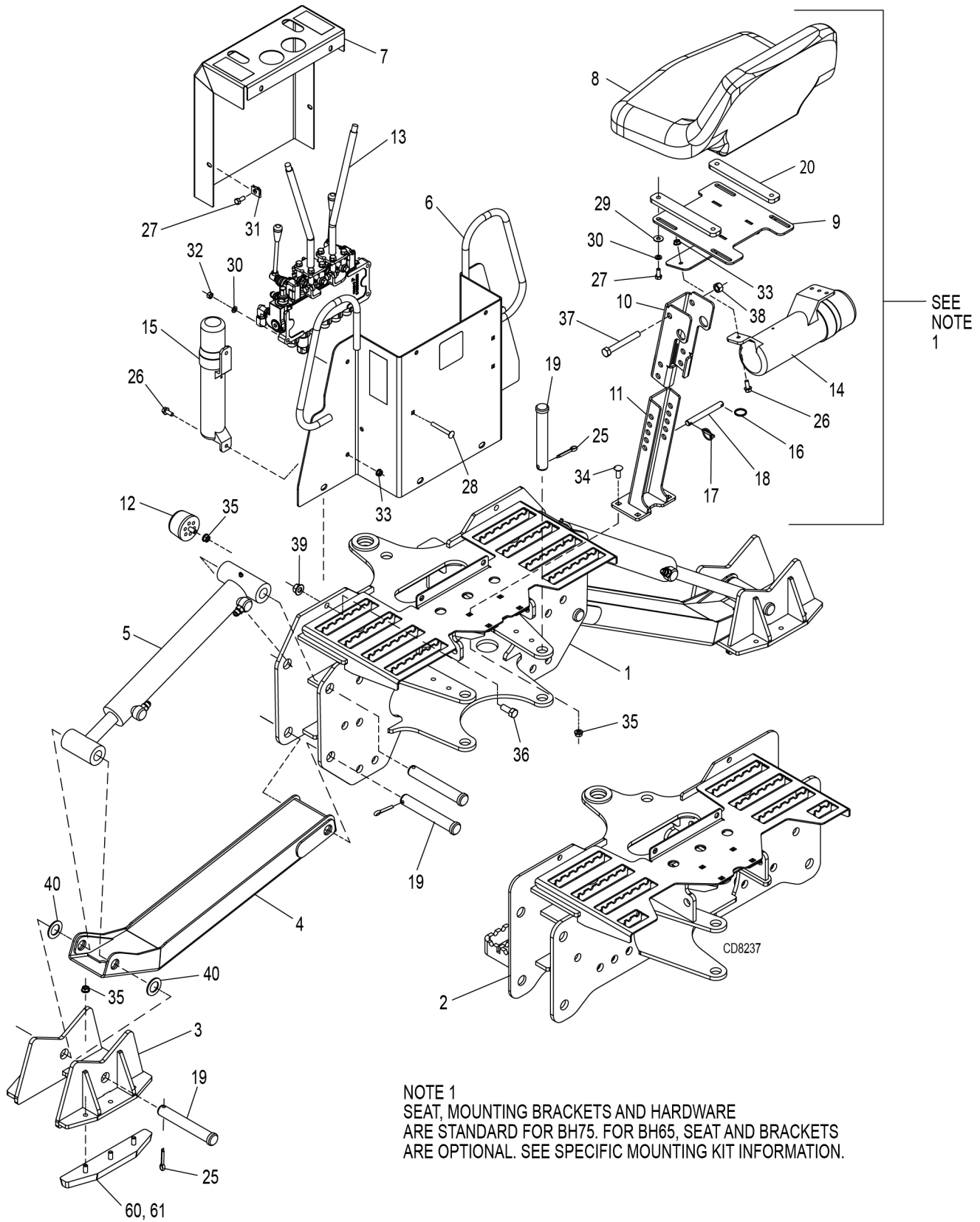
DELIVERY CHECK LIST (DEALER'S RESPONSIBILITY)

- ___ Present Operator's Manual (and sub-frame manual when applicable) and request that customer and all operators read it before operating equipment.
- ___ Point out all safety features of the equipment. Explain the importance and meaning of all safety decals and emphasize the potential hazards when not followed.
- ___ Show customer how to make adjustments.
- ___ Explain importance of lubrication and show lubrication points to customer.
- ___ Show customer the safe and proper procedures to be used when mounting, dismounting and storing backhoe (and sub-frame when applicable).
- ___ If backhoe is mounted to tractor 3-point hitch, explain the importance of the Saf-T-Lok limiter. Point out (as shown in Operator's Manual) the correct attachment and adjustment of the limiter.
- ___ Point out the correct mounting of the hydraulic pump and routing of the hoses. Explain that during operation, mounting, dismounting and storage, care must be taken to prevent hose damage from pulling, twisting and kinking.
- ___ Show customer the safe and proper procedures to be used when mounting, dismounting and storing backhoe (and sub-frame when applicable).

BH65 & BH75

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BH65, BH75 MAIN FRAME ASSEMBLY



NOTE 1
SEAT, MOUNTING BRACKETS AND HARDWARE
ARE STANDARD FOR BH75. FOR BH65, SEAT AND BRACKETS
ARE OPTIONAL. SEE SPECIFIC MOUNTING KIT INFORMATION.

32 Parts

(Rev. 7/29/2016)
MAN1049 (3/1/2015)

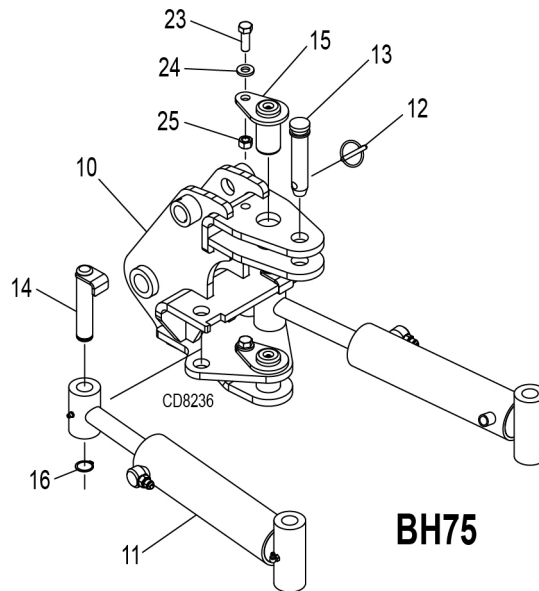
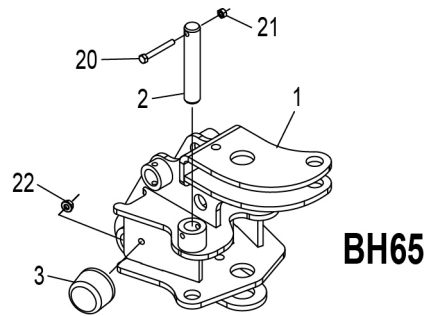
BH65, BH75 MAIN FRAME ASSEMBLY PARTS LIST

REF	PART	QTY	DESCRIPTION	REF	PART	QTY	DESCRIPTION
1	1038142RP	1	WA, Mainframe BH75 -or-	25	1285 *	8	1/4 x 1-1/2 Cotter pin
2	1037660RP	1	WA, Mainframe BH65	26	71851 *	3	5/16 NC x 3/4 HHCS, flange
3	1038486RP	2	WA, Stabilizer pad	27	6096 *	8	5/16 NC x 3/4 HHCS, GR5 -or-
4	1036925RP	2	WA, Stabilizer	27A	6250 *	4	5/16 NC x 1-1/4 HHCS, GR5 (Used with item 20)
5	1038994	2	Hydraulic cylinder, 1.97 x 1.18 x 13.00	28	1008291 *	3	5/16 NC x 2-1/2 Carriage bolt, GR5
6	1040881	1	Console w/decals	29	4378 *	4	5/16 STD Flat washer
7	1039006	1	Cover w/decals	30	2472 *	7	5/16 Lockwasher
8	33500	1	Seat - high back	31	74047	4	5/16 NC Spring nut
9	1037845RP	1	WA, Seat bracket	32	4529 *	3	5/16 NC Hex nut
10	1037841RP	1	Channel, seat support	33	14139 *	3	5/16 NC Flanged lock nut
11	1037840RP	1	WA, Lower seat support	34	6697 *	4	3/8 NC x 1 Carriage bolt, GR5
12	62440	2	Pad asm - bumper (BH75 position shown)	35	14350 *	6	3/8 NC Flanged lock nut
13	-----	1	Valve, w/control asy (See pages 39 & 40)	36	6100 *	4	1/2 NC x 1-1/4 HHCS, GR5
14	1003828	1	Manual tube (BH75)	37	10380 *	1	1/2 NC x 4 HHCS, GR5
15	1026530	1	Manual tube (BH65)	38	765 *	1	1/2 NC Lock nut
16	62992	1	.11 x 1.1 OD Split ring	39	1028903	4	1/2 NC Flange hex nut, GR8
17	22411 *	1	1/4 x 1-3/4 Klik pin	40	1863	4	1" SAE Flat washer
18	W13817	1	Pin, headless .50 x 3.78	50	1040882	1	Safety decal set
19	1037844	8	Pin, 1.00 x 6.50	51	1040883	1	Complete decal set
20	1037842	2	Spacer - seat (Only used with seat that has bracket welded in center of mounting area)	52	1040884	1	French safety decal set
				60	1006610	4	Rubber stabilizer pad (Optional)
				61	1006610KT	1	Street pad kit (Optional) (Includes Items 35 & 60)

* Standard Hardware, Obtain locally

HHCS Hex Head Cap Screw

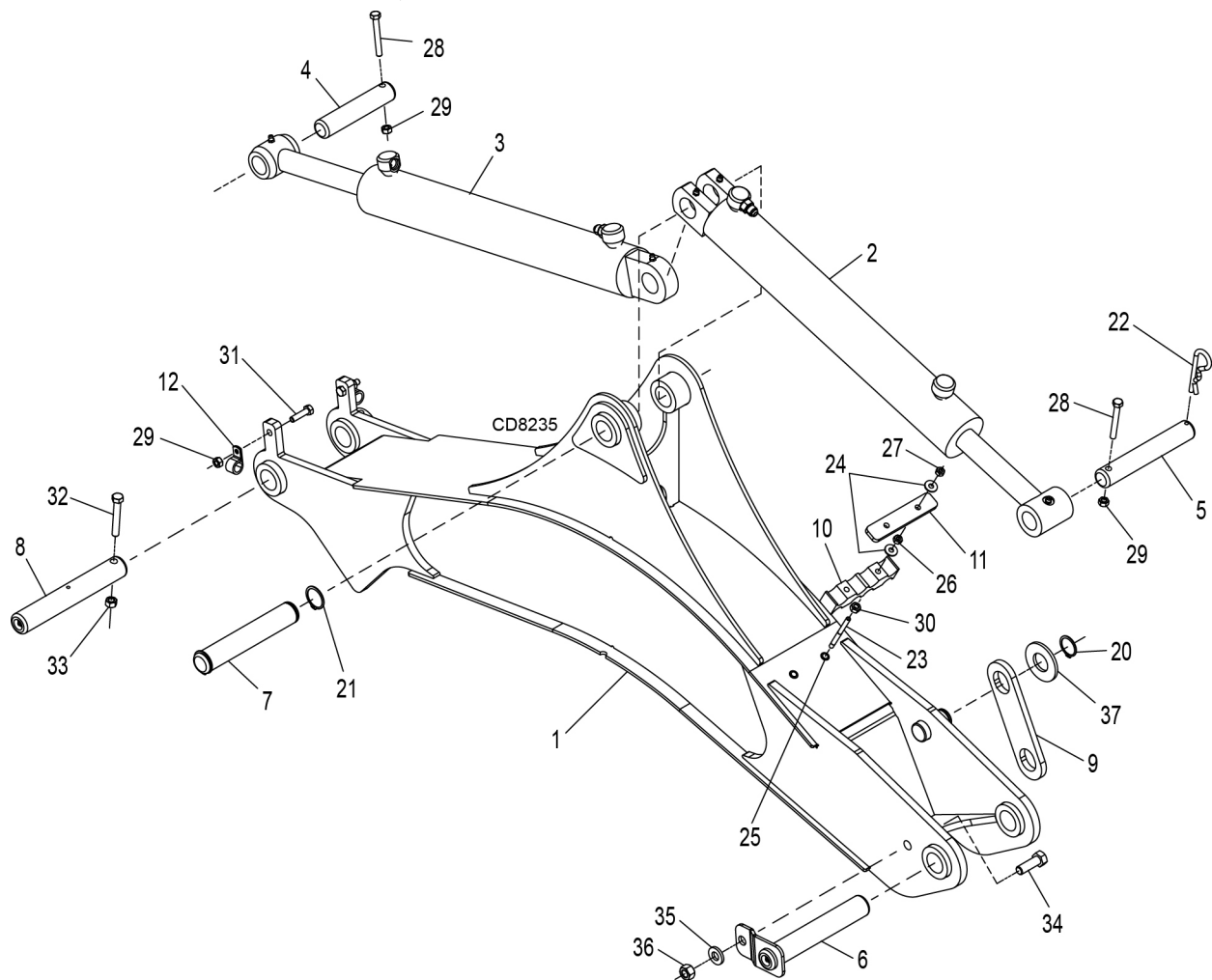
BH65, BH75 SWING FRAME ASSEMBLY



REF	PART	QTY	DESCRIPTION	USAGE
1	1037650RP	1	WA, Swing frame BH65	BH65 Only
2	55242	1	Pin, 1.0 x 5.09 x 5.60	BH65 Only
3	62440	2	Pad asm - bumper	BH65 Only
10	1036980RP	1	WA, Swing frame BH75	BH75 Only
11	1038993	2	Hydraulic cylinder 2.48 x 1.18 x 8.00	Qty 1 for BH65
12	27542	* 1	7/16 x 11/32 Klik pin	
13	S07071600	1	Pin, hitch 1.00 x 3.56	
14	1036940	2	Pin, 1.00 x 4.62	BH75 Only
15	1011870	2	WA, Pin 1.50 x 2.62	
16	62102	2	Retaining ring, .042 x .925 ext	BH75 Only
20	10509	* 1	5/16 NC x 2-1/2 HHCS, GR5	BH65 Only
21	6778	* 1	5/16 NC Lock nut	BH65 Only
22	14350	* 2	3/8 NC Flanged lock nut	BH65 Only
23	3379	* 2	1/2 NC x 1-1/2 HHCS, GR5	
24	765	* 2	1/2 NC Lock nut	
25	57816	2	1/2 SAE Hardened flat washer	

* Standard Hardware, Obtain Locally
 HHCS Hex Head Cap Screw

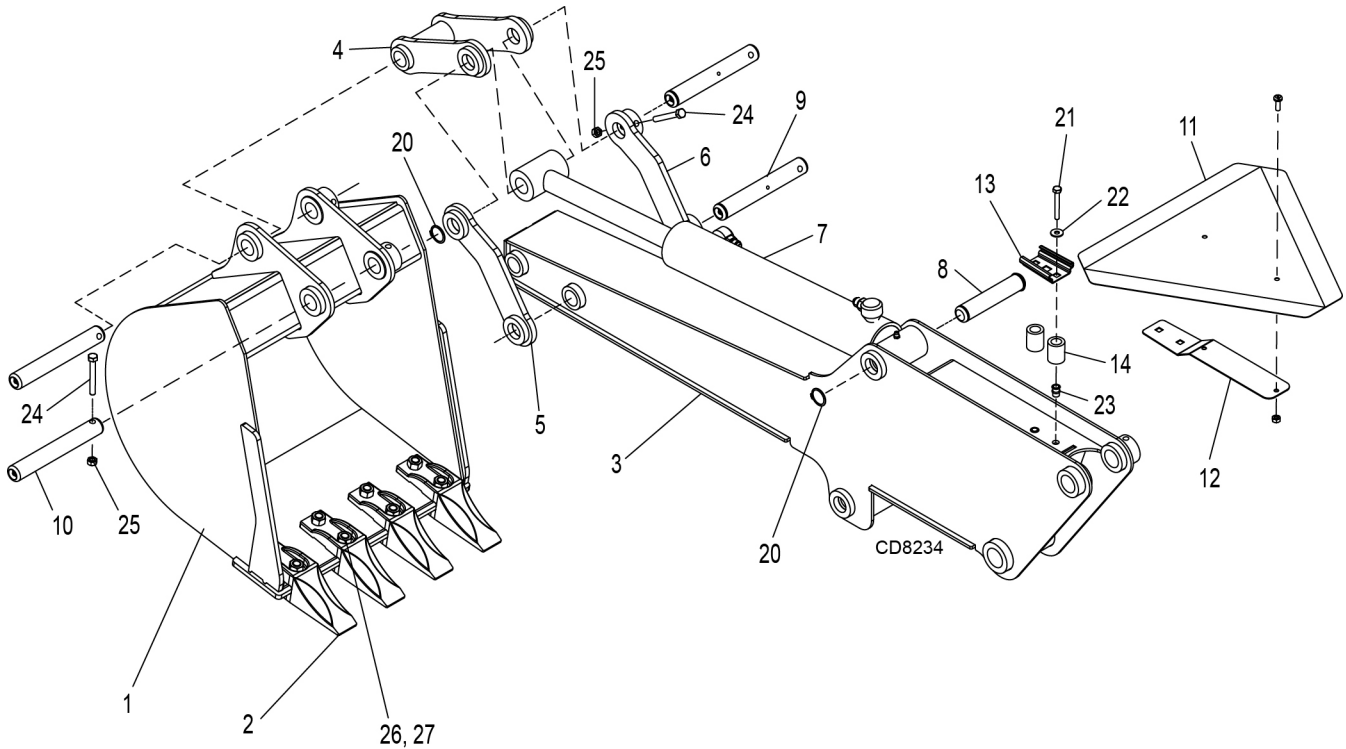
BH65, BH75 BOOM ASSEMBLY



REF	PART	QTY	DESCRIPTION	REF	PART	QTY	DESCRIPTION
1	1036960RP	1	WA, Boom (BH75)	20	1011837	1	Retaining ring, ext .05 x 1.041
1	1037675RP	1	WA, Boom (BH65)	21	63236	2	Retaining ring, .050 x 1.156
2	1038990	1	Hyd cylinder 2.48 x 1.26 x 15.50 (BH75)	22	18270 *	1	3/16 Safety pin
2	1038995	1	Hyd cylinder 2.48 x 1.26 x 12.50 (BH65)	23	1011842	2	Stud, 1/4 NC x 3.00
3	1038991	1	Hyd cylinder 2.48 x 1.26 x 16.75 (BH75)	24	5336 *	4	1/4 Std Flat washer
3	1038996	1	Hyd cylinder 2.48 x 1.26 x 12.50 (BH65)	25	1011838	2	1/4 NC Blind hole nut
4	1011863	1	Pin, 1.12 x 5.50	26	5288 *	2	1/4 NC Hex nut (BH75)
5	1036943	1	Pin, 1.12 x 7.00	27	FA254	2	1/4 NC Nylock nut
6	1036935	1	Pin, 1.25 x 7.25	28	10509 *	2	5/16 NC x 2-1/2 HHCS, GR5
7	1011884	1	Pin, 1.25 x 7.32	29	6778 *	4	5/16 NC Lock nut
8	1017974	1	Pin, 1.25 x 7.49	30	4529 *	2	5/16 NC Hex nut (BH75)
9	1036938RP	1	Link, lockup w/decals (BH75)	31	6250 *	2	5/16 NC x 1-1/4 HHCS, GR5
9	1037687RP	1	Link, lockup (BH65)	32	2290 *	1	3/8 NC x 2-1/2 HHCS, GR5
10	1011843	1	Clamp, 8 hose	33	6698 *	1	3/8 NC Lock nut
11	1011844RP	1	Clamp bar, .25 x 5.00	34	3379 *	1	1/2 NC x 1-1/2 HHCS, GR5
12	74058	2	Clamp, .625 Dia steel cushion	35	57816	1	1/2 SAE Hardened flat washer
				36	765 *	1	1/2 NC Lock nut
				37	12272	1	1-1/8 x 2-3/8 x 3/16 Flat washer

* Standard Hardware, Obtain Locally
HHCS Hex Head Cap Screw

BH65, BH75 DIPPER/BUCKET ASSEMBLY

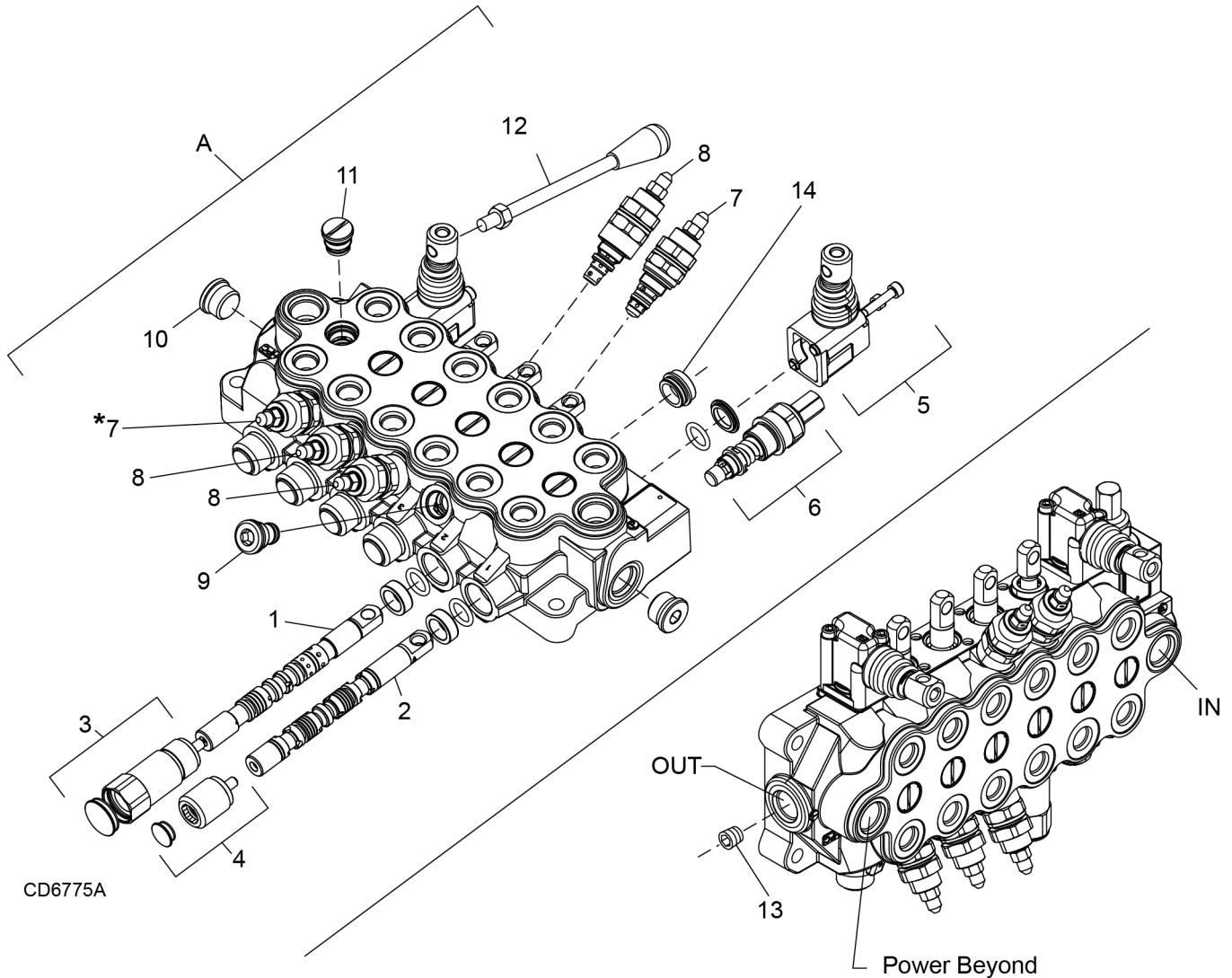


REF	PART	QTY	DESCRIPTION	REF	PART	QTY	DESCRIPTION
1	1038209	1	Bucket, 9" -OR-	20	62102	4	Retaining ring, .042 x .925 ext
1	1038212	1	Bucket, 12" -OR-	21	22348 *	2	1/4 NC x 2 HHCS, GR5 (BH75) -OR-
1	1038216	1	Bucket, 16" -OR-	21	62532 *	2	5/16 NC x 1/2 Carriage bolt (BH65)
1	1038218	1	Bucket, 18" -OR- (BH75 Only)	22	5336 *	2	1/4 Std Flat washer
1	1038224	1	Bucket, 24" (BH75 Only)	23	1011838	2	1/4 NC Blind hole nut (BH75) -OR-
2	1038200	A/R	Tooth, bolt-on 2.0 x 7.5	23	14139 *	2	5/16 NC Flanged lock nut (BH65)
3	1036950RP	1	WA, Dipper (BH75) -OR-	24	10509 *	4	5/16 NC x 2-1/2 HHCS, GR5
3	1037688RP	1	WA, Dipper (BH65)	25	6778 *	4	5/16 NC lock nut
4	1036990RP	1	WA, Bucket link	26	3699 *	A/R	1/2 NC x 2 HHCS, GR5
5	1036993RP	1	WA, Lt Guide link	27	765 *	A/R	1/2 NC Lock nut
6	1036992RP	1	WA, Rt Guide link				
7	1038992	1	Hyd cylinder, 2.48 x 1.26 x 12.50				* Standard Hardware, Obtain Locally
8	1036939	1	Pin, 1.00 x 5.00				HHCS Hex Head Cap Screw
9	1011879	2	Pin, 1.00 x 7.00				A/R As Required
10	1011864	2	Pin, 1.00 x 7.12				
11	24611	1	Sign (SMV) Slow Moving Vehicle				
12	1004251	1	SMV Bracket				
13	62484	1	Socket, SMV Emblem				
14	66661	2	Sleeve, .626 x 1.00 x 1.26 (BH75)				

36 Parts

(Rev. 7/03/2019)
MAN1049 (3/1/2015)

BH65, BH75 CONTROL VALVE ASSEMBLY

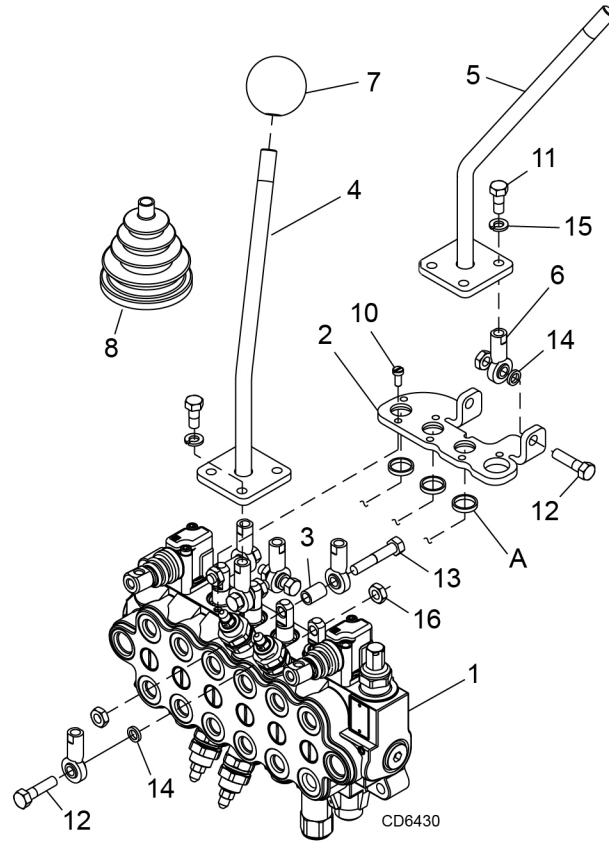


CD6775A

Port Function In Power Beyond Configuration

REF	PART	QTY	DESCRIPTION	REF	PART	QTY	DESCRIPTION
A	1011951	1	6-Spool control valve 2470 psi MBLK (BH75 Only)	8	53381	3	Valve relief 2470 psi w/anti-cavitation check
A	1008206	1	6-Spool control valve 2030 psi MBLK (BH65 Only)	9	38631-1	2	Plug port relief cavity
1	1011953	1	4-Position float spool (BH75 Only)	10	38632-1	2	Plug, 3/4 SAE male w/O-ring
1	1008384	1	4-Position float spool (BH65 Only)	11	33339	6	Valve, load check assembly
2	1011954	5	3-Position spool (BH75 Only)	12	38629	2	Handle control-stabilizer
2	1008385	5	3-Position spool (BH65 Only)	13	1020211	1	Plug, PBY (if required)
3	33343	1	Spool, 4-position control assembly	14	1034169	1	Sleeve w/O-rings (Boom spool only)
4	1011955	5	Spool, 3-position control assembly	NS	33346	6	Spool, seal repair kit
5	38628-1	2	Control assembly stabilizer				
6	33342	1	Valve relief				NS Not shown
7	53380	2	Valve relief 2610 psi (*Item 7 - Only used on BH75 bucket circuit. BH65 uses item 9)				

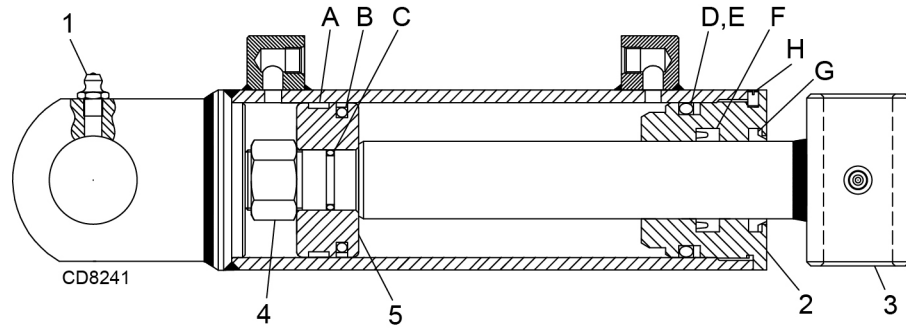
BH65, BH75 CONTROL VALVE HARDWARE



REF	PART	QTY	DESCRIPTION	REF	PART	QTY	DESCRIPTION
A	----	3	Spool wiper (included w/item 1)	10	-----	7	Screw, slotted head M5 x .8 x 12 (Included with item 1)
1	----	1	Valve, 6 spool monoblock (See page 39)	11	24405	6	5/16 NF x 3/4 Cap screw, GR5
2	1008321RP	1	Plate, control linkage mounting	12	6250 *	4	5/16 NC x 1-1/4 Cap screw, GR5
3	1008322	2	Sleeve .325 x .463 x .680	13	4528 *	2	5/16 NC x 1-3/4 Cap screw, GR5
4	1011865RP	2	Control handle (BH75 Only) -or-	14	37577	4	Washer, .328 x .50 x .093
4	1008369	1	Control handle, Rt (BH65 Only)	15	2472 *	6	Washer, lock 5/16
5	1008370	1	Control handle, Lt (BH65 Only)	16	6778 *	6	Nut, lock 5/16 NC
6	37613	6	Rod end, 5/16 NF female				
7	1042055	2	Knob, 1.88 OD x 1/2 NC				
8	37765	2	Boot, rubber control				

* Standard Hardware, Obtain Locally

HYDRAULIC CYLINDERS



Spanner Wrench



Function	* Complete Assembly	Base End Style	Retracted Length	Bore Dia	Rod Dia	Seal Kit (Includes A - H)
Swing	1038993	Tube	15.00	2.48	1.18	1038998
Stabilizer	1038994	Tube	20.00	1.97	1.18	1038999
Dipper (BH65)	1038996	Tang	19.50	2.48	1.26	1038997
Dipper (BH75)	1038991	Tang	24.70	2.48	1.26	1038997
Boom (BH65)	1038995	Clevis	19.50	2.48	1.26	1038997
Boom (BH75)	1038990	Clevis	23.38	2.48	1.26	1038997
Bucket	1038992	Tube	19.50	2.48	1.26	1038997

*** Part Number Is Stamped On Cylinder Barrel Near Base End Port.**

Item 1. - Grease Fitting, M6 x 1 (Obtain Locally) (Used On Early Models)

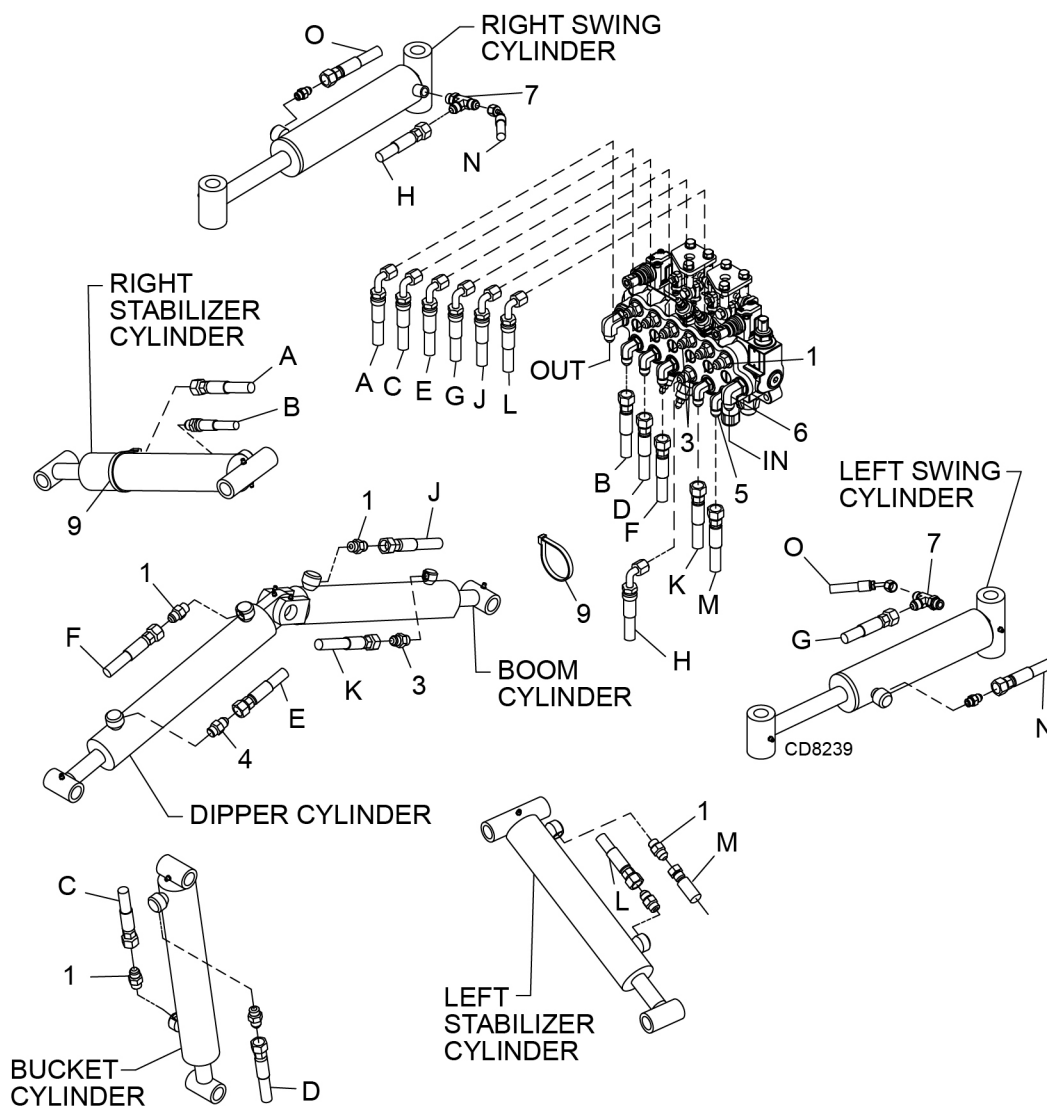
Item 1a. - Grease Fitting, M10 x 1.0 Straight - Part Number - 1044450 (Used On Later Models)

Item 1b. - Grease Fitting, M10 x 1.0 90° - Part Number - 1044451 (Used On Later Models)

1021841 - Spanner Wrench

1021842 - Replacement Pin Kit for Spanner Wrench

BH75 HOSES & FITTINGS

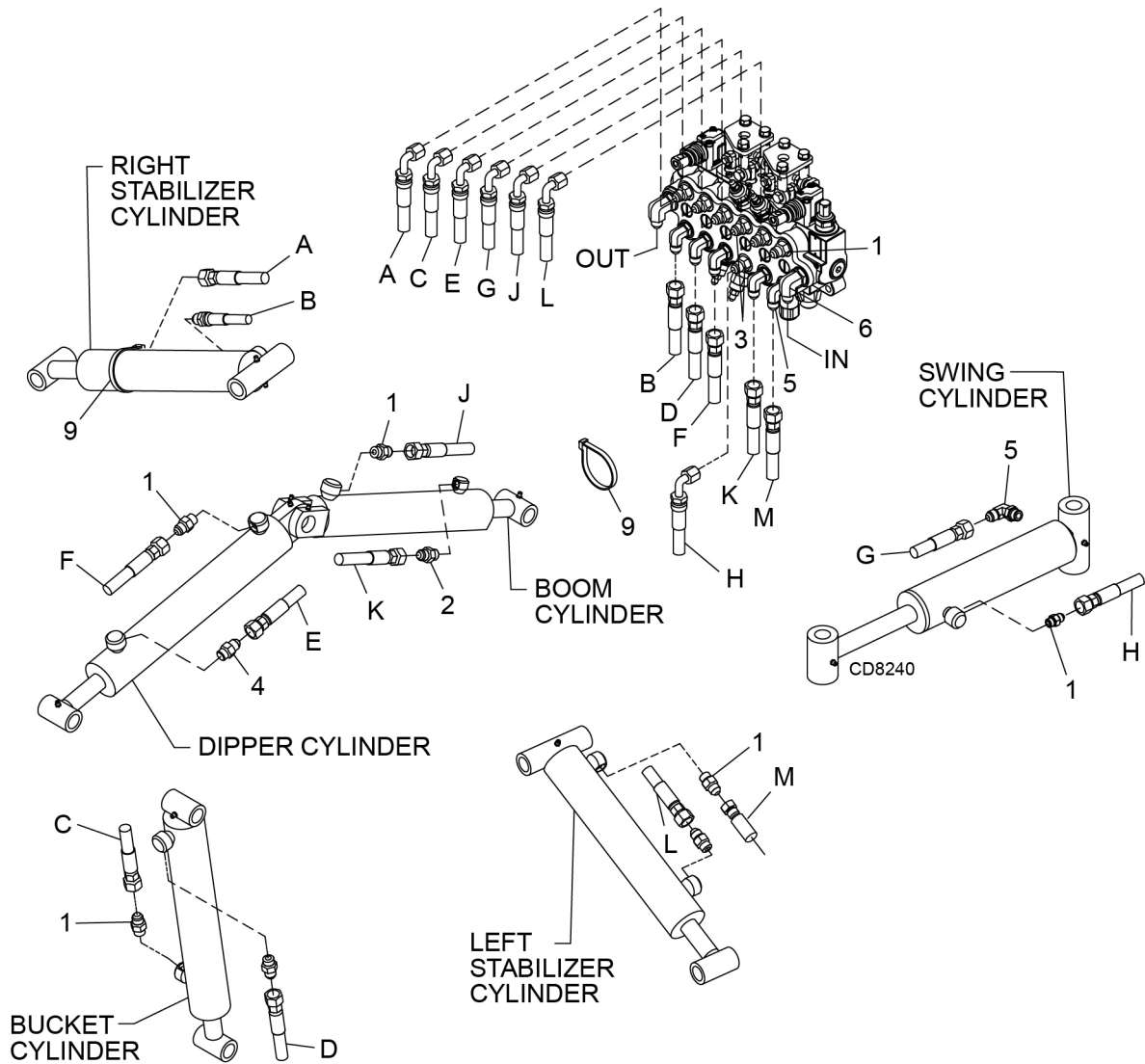


HOSE

REF	PART	QTY	DESCRIPTION	REF	PART	DESCRIPTION
1	62367	15	Adapter, 9/16 ORBM x 9/16 JICM	A	1039015	Hose - 45" x 9/16 JICF x 9/16 JICF 1/4
3	1011816	3	Adapter, restr 9/16 ORBM x 9/16 JICM	B	1014240	Hose - 42" x 9/16 JICM x 9/16 JICF 1/4
4	37508	1	Adapter, restr 9/16 JICM x 9/16 ORBM	C	1039014	Hose - 132" x 9/16 JICF x 9/16 JICF 3/8
5	63558	5	Elbow, 9/16 ORBM x 9/16 JICM	D	1020052	Hose - 127" x 9/16 JICF x 9/16 JICF 3/8
6	316004	2	Elbow, 3/4 ORBM x 3/4 JICM	E	1039013	Hose - 85" x 9/16 JICF x 9/16 JICF 3/8
7	F1103	2	Tee, 9/16 ORBM x 9/16 JICM	F	1039509	Hose - 86" x 9/16 JICF x 9/16 JICF 3/8
9	65766 *	3	Plastic cable tie, .34 x 34.0	G	1039016	Hose - 26" x 9/16 JICF x 9/16 JICF 1/4
				H	1039016	Hose - 26" x 9/16 JICF x 9/16 JICF 1/4
				J	1039012	Hose - 65" x 9/16 JICF x 9/16 JICF 3/8
				K	1039508	Hose - 67" x 9/16 JICF x 9/16 JICF 3/8
				L	1039015	Hose - 45" x 9/16 JICF x 9/16 JICF 1/4
				M	1014240	Hose - 42" x 9/16 JICM x 9/16 JICF 1/4
				N	1039017	Hose - 16" x 9/16 JICM x 9/16 JICF 1/4
				O	1039017	Hose - 16" x 9/16 JICM x 9/16 JICF 1/4

* Standard hardware, obtain locally

BH65 HOSES & FITTINGS

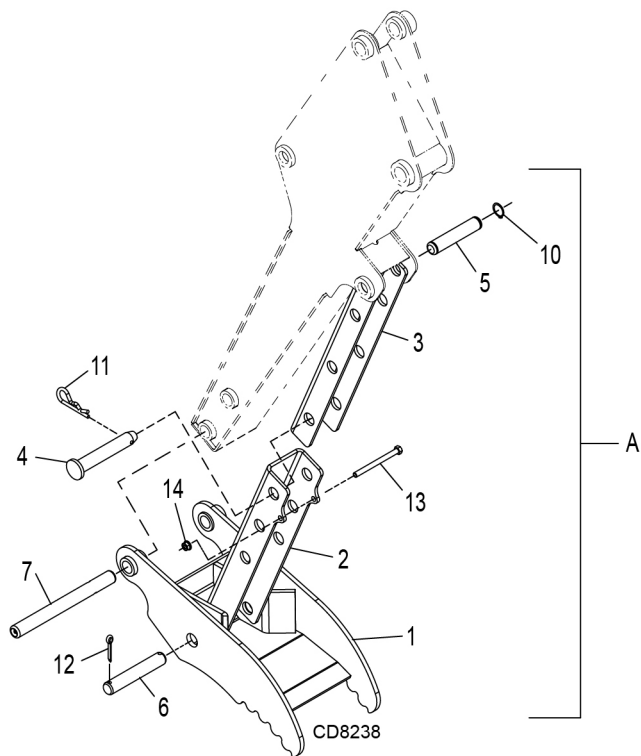


HOSE

REF	PART	QTY	DESCRIPTION	REF	PART	QTY	DESCRIPTION
1	62367	15	Adapter, 9/16 ORBM x 9/16 JICM	A	1039015	1	Hose, 45" 9/16 JICF 9/16 x JICF 1/4
2	1011816	1	Adapter, restr 9/16 JICM x 9/16 ORBM	B	1014240	1	Hose, 42" 9/16 JICM 9/16 x JICF 1/4
3	1011814	2	Adapter, restr 9/16 JICM x 9/16 ORBM	C	1037641	1	Hose, 107" 9/16 JICF x 9/16 JICF 1/4
4	37508	1	Adapter, restr 9/16 JICM x 9/16 ORBM	D	1037640	1	Hose, 106" 9/16 JICF x 9/16 JICF 1/4
5	63558	6	Elbow, 9/16 ORBM x 9/16 JICM	E	1008344	1	Hose, 75" 9/16 JICF x 9/16 JICF 1/4
6	316004	2	Elbow, 3/4 ORBM x 3/4 JICM	F	1008350	1	Hose, 80" 9/16 JICF x 9/16 JICF 1/4
9	65766 *	3	Plastic cable tie, .34 x 34.0	G	1039016	1	Hose, 26" 9/16 JICF x 9/16 JICF 1/4
				H	1039016	1	Hose, 26" 9/16 JICF x 9/16 JICF 1/4
				J	1008343	1	Hose, 57" 9/16 JICF x 9/16 JICF 1/4
				K	1008349	1	Hose, 62" 9/16 JICF x 9/16 JICF 1/4
				L	1039015	1	Hose, 45" 9/16 JICF x 9/16 JICF 1/4
				M	1014240	1	Hose, 42" 9/16 JICM x 9/16 JICF 1/4

* Standard Hardware, Obtain Locally

BH65 & BH75 THUMB ASSEMBLY (OPTIONAL)

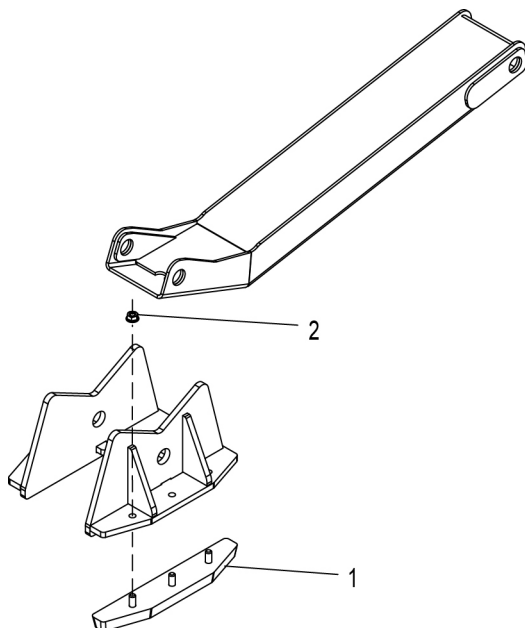


REF	PART	QTY	DESCRIPTION
A	1039000		BH75 Thumb kit - 16", 18", 24" bucket
A	1039410		BH65 Thumb kit - 12", 16" bucket
1	1038980RP	1	WA, Thumb
2	1038988RP	1	Channel, outer (BH75 Only)
2	1037694RP	1	Channel, outer (BH65 Only)
3	1038989RP	1	Channel, inner (BH75 Only)
3	1037695RP	1	Channel, inner (BH65 Only)
4	HBL228	1	Pin, clevis 1.00 x 5.0 (Includes item 11)
5	1036939	1	Pin, 1.00 x 5.00
6	8347	1	Pin, headless 1.00 x 5.08
7	1015115	1	Pin, clevis 1.00 x 10.42
10	62102	2	Retaining ring, .042 x .925 ext
11	18270 *	1	3/16 Safety pin
12	1285 *	2	1/4 x 1-1/2 Cotter pin
13	12915 *	1	3/8 NC x 4-1/2 HHCS, GR5
14	14350 *	1	3/8 NC Flanged lock nut

* Standard hardware, obtain locally

HHCS Hex Head Cap Screw

STABILIZER STREET PAD KIT (OPTIONAL)



REF	PART	QTY	DESCRIPTION
A	1006610KT	1	Street pad kit (includes item 1 & 2)
1	1006610	4	Rubber stabilizer pad
2	6698 *	12	3/8 NC Lock nut

* Standard Hardware, Obtain Locally

BOLT TORQUE CHART

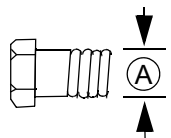
Always tighten hardware to these values unless a different torque value or tightening procedure is listed for a specific application.

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

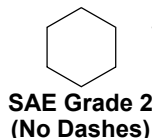
Always use the proper tool for tightening hardware: SAE for SAE hardware and Metric for metric hardware.

Make sure fastener threads are clean and you start thread engagement properly.

All torque values are given to specifications used on hardware defined by SAE J1701 MAR 99 & J1701M JUL 96.



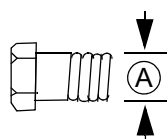
SAE SERIES TORQUE CHART



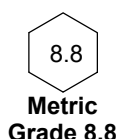
SAE Bolt Head Identification



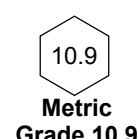
Ⓐ Diameter (Inches)	Wrench Size	MARKING ON HEAD					
		SAE 2		SAE 5		SAE 8	
		lbs-ft	N-m	lbs-ft	N-m	lbs-ft	N-m
1/4"	7/16"	6	8	10	13	14	18
5/16"	1/2"	12	17	19	26	27	37
3/8"	9/16"	23	31	35	47	49	67
7/16"	5/8"	36	48	55	75	78	106
1/2"	3/4"	55	75	85	115	120	163
9/16"	13/16"	78	106	121	164	171	232
5/8"	15/16"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



METRIC SERIES TORQUE CHART

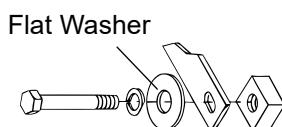
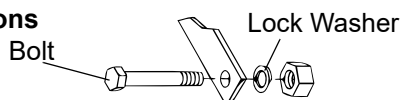


Metric Bolt Head Identification



Ⓐ Diameter & Thread Pitch (Millimeters)	Wrench Size	Coarse Thread				Fine Thread				Ⓐ Diameter & Thread Pitch (Millimeters)
		Marking on Head				Marking on Head				
		Metric 8.8		Metric 10.9		Metric 8.8		Metric 10.9		
		N-m	lbs-ft	N-m	lbs-ft	N-m	lbs-ft	N-m	lbs-ft	
6 x 1.0	10 mm	8	6	11	8	8	6	11	8	6 x 1.0
8 x 1.25	13 mm	20	15	27	20	21	16	29	22	8 x 1.0
10 x 1.5	16 mm	39	29	54	40	41	30	57	42	10 x 1.25
12 x 1.75	18 mm	68	50	94	70	75	55	103	76	12 x 1.25
14 x 2.0	21 mm	109	80	151	111	118	87	163	120	14 x 1.5
16 x 2.0	24 mm	169	125	234	173	181	133	250	184	16 x 1.5
18 x 2.5	27 mm	234	172	323	239	263	194	363	268	18 x 1.5
20 x 2.5	30 mm	330	244	457	337	367	270	507	374	20 x 1.5
22 x 2.5	34 mm	451	332	623	460	495	365	684	505	22 x 1.5
24 x 3.0	36 mm	571	421	790	583	623	459	861	635	24 x 2.0
30 x 3.0	46 mm	1175	867	1626	1199	1258	928	1740	1283	30 x 2.0

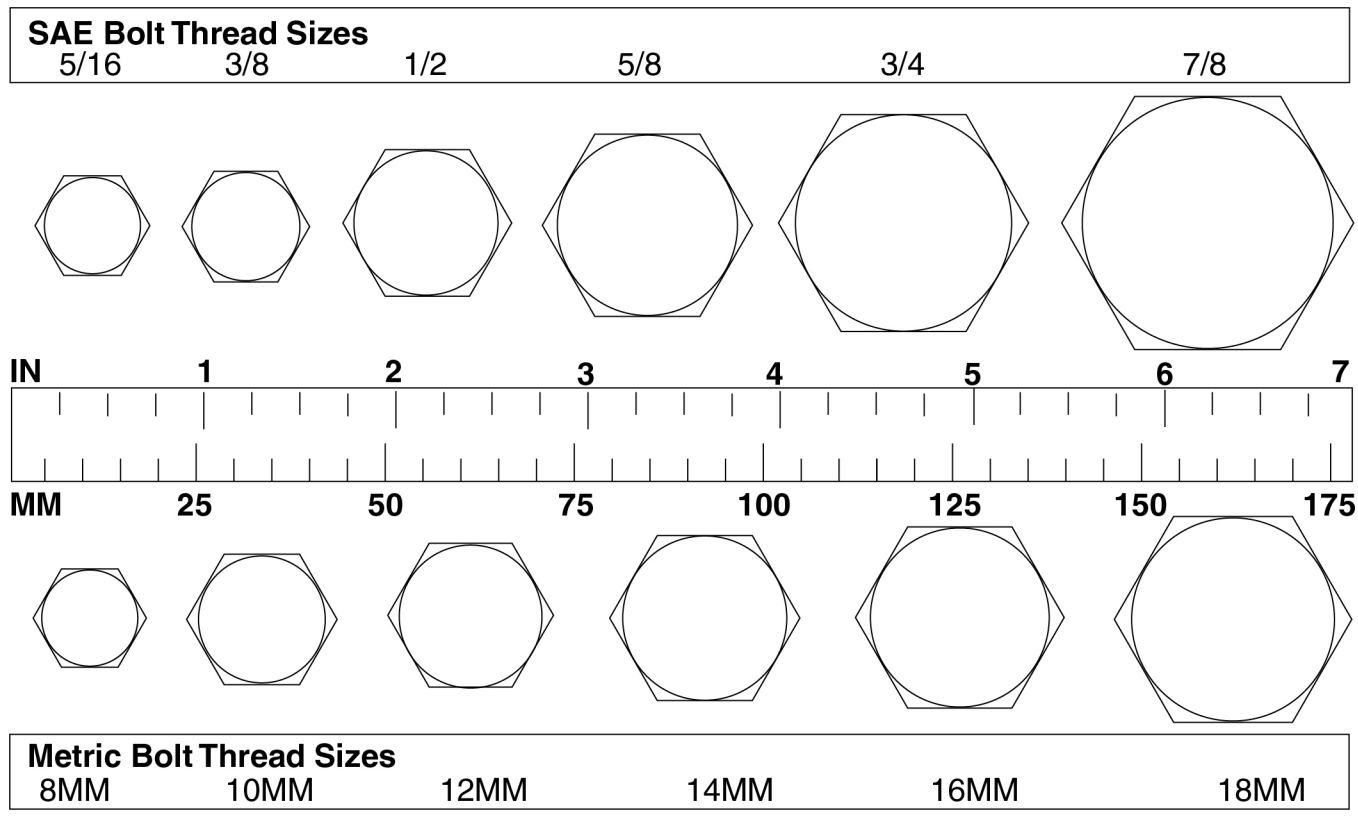
Typical Washer Installations



8/9/00

BOLT SIZE CHART

NOTE: Chart shows bolt thread sizes and corresponding head (wrench) sizes for standard SAE and metric bolts.



ABBREVIATIONS

AG.....Agriculture	MPa.....Mega Pascal
ASABE..... American Society of Agricultural & Biological Engineers (formerly ASAE)	N..... Newton
ASAE..... American Society of Agricultural Engineers	NC..... National Coarse
ATF..... Automatic Transmission Fluid	NF..... National Fine
BSPP..... British Standard Pipe Parallel	NPSM..... National Pipe Straight Mechanical
BSPTM..... British Standard Pipe Tapered Male	NPT..... National Pipe Tapered
CV..... Constant Velocity	NPT SWF..... National Pipe Tapered Swivel Female
CCW..... Counter-Clockwise	ORBM..... O-Ring Boss - Male
CW..... Clockwise	P..... Pitch
F..... Female	PBY..... Power-Beyond
FT..... Full Thread	psi..... Pounds per Square Inch
GA..... Gauge	PTO..... Power Take Off
GR (5, etc.)..... Grade (5, etc.)	QD..... Quick Disconnect
HHCS..... Hex Head Cap Screw	RH..... Right Hand
HT..... Heat-Treated	ROPS..... Roll-Over Protective Structure
JIC..... Joint Industry Council 37° Flare	RPM..... Revolutions Per Minute
LH..... Left Hand	RT..... Right
LT..... Left	SAE..... Society of Automotive Engineers
m..... Meter	UNC..... Unified Coarse
mm..... Millimeter	UNF..... Unified Fine
M..... Male	UNS..... Unified Special

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WARRANTY

All Models Except Zero-Turn Mowers

Please Enter Information Below and Save for Future Reference.

Date Purchased: _____ From (Dealer): _____

Model Number: _____ Serial Number: _____

Woods Equipment Company ("WOODS") warrants this product to be free from defect in material and workmanship. Except as otherwise set forth below, the duration of this Warranty shall be for TWELVE (12) MONTHS COMMENCING ON THE DATE OF DELIVERY OF THE PRODUCT TO THE ORIGINAL PURCHASER.

All current model backhoes, loaders and mounts (except 3-pt. SAF-T-LOK® mounts) are warranted for two (2) years from the date of delivery to the original purchaser. The limited warranty covers any defects in the material and/or workmanship. Following the proper, recommended installation by an authorized Woods Dealer and normal use of a Woods mounting and backhoe or loader, if a tractor incurs damage resulting from the attachment, Woods will cover the existing tractor warranty in the event the manufacturer voids its tractor warranty because of the attachment. Warranty does not cover any misuse or abusive conditions that could cause premature wear or damage to attachment or tractor.

The warranty periods for specific parts or conditions are listed below:

Part or Condition Warranted	Model Number	Duration (from date of delivery to the original purchaser)
	All units invoiced after 4/30/2012	
Gearbox components	BB48X, BB60X, BB72X, BB84X, BB600X, BB720X, BB840X, BB6000X, BB7200X, BB8400X, DS12.50, TS14.60, DS1440, TS1680, DS8.30, DS10.40, DS8.50, DSO8.50, DS10.50, DSO10.50, DBH5.30, DBH6.30	6 years
	BW12, BW15, BW126X, BW180X, BW126XHD, BW180XHD, BW1260X, BW1800X, BW10.50, BW10.50Q, BW15.50, BW15.50Q, BW10.60, BW10.60Q, BW15.60, BW15.60Q, BW10.70, BW10.70Q, BW15.70, BW15.70Q	
	BW240X, BW240XHD, BW1620X, BW2400X	
	RD990X, PRD6000, PRD7200, PRD8400, S15CD, S20CD, S22CD, S25CD, S27CD, S30CD, TC/R74, TC/R68, TC/R60, TBW144, TBW180, TBW204, TSG50, S12ED, S15ED, S18ED, S20ED, TPD25, TPD35, TPD65, TPD95	
	RDC54, RD60, RD72, TBW150C, TS/R60, TS/R52, TS/R44, RC3.5, RC4, RC5, RC6	3 years (1 year if used in rental or commercial applications)
Blade spindles	RD990X, PRD6000, PRD7200, PRD8400, TBW144, TBW180, TBW204	3 years

Under no circumstances will this Warranty apply in the event that the product, in the good faith opinion of WOODS, has been subjected to improper operation, improper maintenance, misuse, or an accident. This Warranty does not apply in the event that the product has been materially modified or repaired by someone other than WOODS, a WOODS authorized dealer or distributor, and/or a WOODS authorized service center. This Warranty does not cover normal wear or tear, or normal maintenance items. This Warranty also does not cover repairs made with parts other than those obtainable through WOODS.

This Warranty is extended solely to the original purchaser of the product. Should the original purchaser sell or otherwise transfer this product to a third party, this Warranty does not transfer to the third party purchaser in any way. There are no third party beneficiaries of this Warranty.

WOODS makes no warranty, express or implied, with respect to engines, batteries, tires or other parts or accessories not manufactured by WOODS. Warranties for these items, if any, are provided separately by their respective manufacturers.

WOODS' obligation under this Warranty is limited to, at WOODS' option, the repair or replacement, free of charge, of the product if WOODS, in its sole discretion, deems it to be defective or in noncompliance with this Warranty. **The product must be returned to WOODS with proof of purchase within thirty (30) days after such defect or noncompliance is discovered or should have been discovered, routed through the dealer and distributor from whom the purchase was made, transportation charges prepaid.** WOODS shall complete such repair or replacement within a reasonable time after WOODS receives the product. THERE ARE NO OTHER REMEDIES UNDER THIS WARRANTY. THE REMEDY OF REPAIR OR REPLACEMENT IS THE SOLE AND EXCLUSIVE REMEDY UNDER THIS WARRANTY.

THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE OF THIS WARRANTY. WOODS MAKES NO OTHER WARRANTY, EXPRESS OR IMPLIED, AND WOODS SPECIFICALLY DISCLAIMS ANY IMPLIED WARRANTY OF MERCHANTABILITY AND/OR ANY IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE.

WOODS shall not be liable for any incidental or consequential losses, damages or expenses, arising directly or indirectly from the product, whether such claim is based upon breach of contract, breach of warranty, negligence, strict liability in tort or any other legal theory. Without limiting the generality of the foregoing, Woods specifically disclaims any damages relating to (i) lost profits, business, revenues or goodwill; (ii) loss of crops; (iii) loss because of delay in harvesting; (iv) any expense or loss incurred for labor, supplies, substitute machinery or rental; or (v) any other type of damage to property or economic loss.

This Warranty is subject to any existing conditions of supply which may directly affect WOODS' ability to obtain materials or manufacture replacement parts.

No agent, representative, dealer, distributor, serviceperson, salesperson, or employee of any company, including without limitation, WOODS, its authorized dealers, distributors, and service centers, is authorized to alter, modify, or enlarge this Warranty. Answers to any questions regarding warranty service and locations may be obtained by contacting:

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GANNON®
WAIN-ROY®
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 Post Office Box 1000
 Oregon, Illinois 61061 USA
 800-319-6637 tel
 800-399-6637 fax
 woodsequipment.com



WARRANTY

(Replacement Parts For All Models Except Zero-Turn Mowers)

Woods Equipment Company (“WOODS”) warrants this product to be free from defect in material and workmanship for a period of ninety (90) days from the date of delivery of the product to the original purchaser with the exception of V-belts, which will be free of defect in material and workmanship for a period of 12 months.

Under no circumstances will this Warranty apply in the event that the product, in the good faith opinion of WOODS, has been subjected to improper operation, improper maintenance, misuse, or an accident. This Warranty does not cover normal wear or tear, or normal maintenance items.

This Warranty is extended solely to the original purchaser of the product. Should the original purchaser sell or otherwise transfer this product to a third party, this Warranty does not transfer to the third party purchaser in any way. There are no third party beneficiaries of this Warranty.

WOODS’ obligation under this Warranty is limited to, at WOODS’ option, the repair or replacement, free of charge, of the product if WOODS, in its sole discretion, deems it to be defective or in noncompliance with this Warranty. **The product must be returned to WOODS with proof of purchase within thirty (30) days after such defect or noncompliance is discovered or should have been discovered, routed through the dealer and distributor from whom the purchase was made, transportation charges prepaid.** WOODS shall complete such repair or replacement within a reasonable time after WOODS receives the product. THERE ARE NO OTHER REMEDIES UNDER THIS WARRANTY. THE REMEDY OF REPAIR OR REPLACEMENT IS THE SOLE AND EXCLUSIVE REMEDY UNDER THIS WARRANTY.

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