Machine Identification
Record your machine details in the log below. If you replace this manual, be sure to transfer this information to the new manual.

If you, or the dealer, have added Options not originally ordered with the machine, or removed Options that were originally ordered, the weights and measurements are no longer accurate for your machine. Update the record by adding the machine weight and measurements provided in the Specifications & Capacities Section of this manual with the Option(s) weight and measurements.

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<th>Model Number</th>
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Dealer Contact Information

Name: __________________________
Street: _________________________
City/State: ____________________
Telephone: _____________________
Email: _________________________

California Proposition 65

⚠️ WARNING: Cancer and reproductive harm - www.P65Warnings.ca.gov
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Printed in the United States of America.

9/9/20

AP-BR310, AP-BR360, AP-BR460, AP-BR510, AP-BR560, & AP-BR860 Hydraulic Breakers 317-382MK
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Listed below are common practices that may or may not be applicable to the products described in this manual.

### Safety at All Times

Careful operation is your best assurance against an accident.

* All operators, no matter how much experience they may have, should carefully read this manual and other related manuals, or have the manuals read to them, before operating the power machine and this attachment.

- Thoroughly read and understand the "Safety Label" section. Read all instructions noted on them.
- Do not operate the equipment while under the influence of drugs or alcohol as they impair the ability to safely and properly operate the equipment.
- Operator should be familiar with all functions of the power machine and attachment and be able to handle emergencies quickly.
- Make sure all guards and shields appropriate for the operation are in place and secured before operating the attachment.
- Keep all bystanders away from equipment and work area.
- Start power machine from the driver's seat with steering levers and hydraulic controls in neutral.
- Operate power machine and controls from the driver's seat only.
- Never dismount from a moving power machine or leave power machine unattended with engine running.
- Do not allow anyone to stand between attachment and power machine while hooking-up.
- Keep hands, feet, and clothing away from power-driven parts.
- While transporting and operating equipment, watch out for objects overhead and along side such as fences, trees, buildings, wires, etc.
- Store attachment in an area where children normally do not play. When needed, secure attachment against falling with support blocks.
- Do not operate any hammer or mulching equipment on an open cab machine or on a machine with a tempered front glass window/door. We strongly recommend use of a polycarbonate front glass door/window when operating any hammer or mulching equipment.

### Look for the Safety Alert Symbol

The SAFETY ALERT SYMBOL indicates there is a potential hazard to personal safety and extra precaution must be taken. When you see this symbol, be alert and carefully read the message that follows it. Hazard control, and accident prevention are dependent upon the awareness, concern, prudence, and proper training of personnel involved in the operation, transport, maintenance, and storage of equipment.

### Be Aware of Signal Words

A signal word designates a degree or level of hazard seriousness. The signal words are:

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

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

- **CAUTION**
  Indicates a hazardous situation that, if not avoided, may result in minor or moderate injury.

### Safety Precautions for Children

Tragedy can occur if the operator is not alert to the presence of children. Children generally are attracted to attachments and their work.

- Never assume children will remain where you last saw them.
- Keep children out of the work area and under the watchful eye of a responsible adult.
- Be alert and shut the attachment and power machine down if children enter the work area.
- Never carry children on the power machine or attachment. There is not a safe place for them to ride. They may fall off and be run over or interfere with the control of the power machine.
- Never allow children to operate the power machine, even under adult supervision.
- Never allow children to play on the power machine or attachment.
- Use extra caution when backing up. Before the power machine starts to move, look down and behind to make sure the area is clear.
Listed below are common practices that may or may not be applicable to the products described in this manual.

**Dig Safe - Avoid Underground Utilities**
- USA: Call 811
- CAN: digsafecanada.ca
- Always contact your local utility companies (electrical, telephone, gas, water, sewer, and others) before digging so that they may mark the location of any underground services in the area.
- Be sure to ask how close you can work to the marks they positioned.

**Transport Safely**
- Comply with federal, state, and local laws.
- Use towing vehicle and trailer of adequate size and capacity. Secure equipment towed on a trailer with chocks, tie downs, and chains.
- **IMPORTANT:** Do not tow a load that is more than double the weight of the vehicle towing the load.
- Sudden braking can cause a towed trailer to swerve and upset. Reduce speed if towed trailer is not equipped with brakes.
- Avoid contact with any overhead utility lines or electrically charged conductors.
- Always drive with attachment on end of power machine arm low to the ground.

**Practice Safe Maintenance**
- Disconnect battery ground cable (-) before servicing or adjusting electrical systems or before welding on equipment.
- Inspect all parts. Make certain that parts are in good condition & installed properly.
- Replace parts on this attachment with genuine Kubota parts only. Do not alter this attachment in a way which will adversely affect its performance.
- Do not grease or oil attachment while it is in operation.
- Always make sure any material and waste products from the repair and maintenance of the attachment are properly collected and disposed.
- Remove all tools and unused parts from equipment before operation.

**Handle Chemicals Properly**
- **USA:** Protective clothing should be worn.
- **CAN:** Handle all chemicals with care.
- Follow instructions on container label.
- Agricultural chemicals can be dangerous. Improper use can seriously injure persons, animals, plants, soil, and property.
- Inhaling smoke from any type of chemical fire can be a serious health hazard.
- Store or dispose of unused chemicals as specified by the chemical manufacturer.

**Transport Safely**
- Comply with federal, state, and local laws.
- Use towing vehicle and trailer of adequate size and capacity. Secure equipment towed on a trailer with chocks, tie downs, and chains.
- **IMPORTANT:** Do not tow a load that is more than double the weight of the vehicle towing the load.
- Sudden braking can cause a towed trailer to swerve and upset. Reduce speed if towed trailer is not equipped with brakes.
- Avoid contact with any overhead utility lines or electrically charged conductors.
- Always drive with attachment on end of power machine arm low to the ground.

**Practice Safe Maintenance**
- Understand procedure before doing work. Refer to the Operator’s Manual for additional information.
- Work on a level surface in a clean dry area that is well-lit.
- Lower attachment to the ground and follow all shutdown procedures before leaving the operator’s seat to perform maintenance.
- Do not work under any hydraulically supported equipment. It can settle, suddenly leak down, or be lowered accidentally. If it is necessary to work under the equipment, securely support it with stands or suitable blocking beforehand.
- Use properly grounded electrical outlets and tools.
- Use correct tools and equipment for the job that are in good condition.
- Allow equipment to cool before working on it.

**Dig Safe - Avoid Underground Utilities**
- USA: Call 811
- CAN: digsafecanada.ca
- Always contact your local utility companies (electrical, telephone, gas, water, sewer, and others) before digging so that they may mark the location of any underground services in the area.
- Be sure to ask how close you can work to the marks they positioned.

**Transport Safely**
- Comply with federal, state, and local laws.
- Use towing vehicle and trailer of adequate size and capacity. Secure equipment towed on a trailer with chocks, tie downs, and chains.
- **IMPORTANT:** Do not tow a load that is more than double the weight of the vehicle towing the load.
- Sudden braking can cause a towed trailer to swerve and upset. Reduce speed if towed trailer is not equipped with brakes.
- Avoid contact with any overhead utility lines or electrically charged conductors.
- Always drive with attachment on end of power machine arm low to the ground.

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- Disconnect battery ground cable (-) before servicing or adjusting electrical systems or before welding on equipment.
- Inspect all parts. Make certain that parts are in good condition & installed properly.
- Replace parts on this attachment with genuine Kubota parts only. Do not alter this attachment in a way which will adversely affect its performance.
- Do not grease or oil attachment while it is in operation.
- Always make sure any material and waste products from the repair and maintenance of the attachment are properly collected and disposed.
- Remove all tools and unused parts from equipment before operation.
Listed below are common practices that may or may not be applicable to the products described in this manual.

### Prepare for Emergencies
- Be prepared if a fire starts.
- Keep a first aid kit and fire extinguisher handy.
- Keep emergency numbers for doctor, ambulance, hospital, and fire department near phone.

### Wear Personal Protective Equipment (PPE)
- Wear protective clothing and equipment appropriate for the job such as safety shoes, safety glasses, hard hat, dust mask, and ear plugs.
- Clothing should fit snug without fringes and pull strings to avoid entanglement with moving parts.
- Prolonged exposure to loud noise can cause hearing impairment or hearing loss. Wear suitable hearing protection such as earmuffs or earplugs.
- Operating a machine safely requires the operator’s full attention. Avoid wearing headphones while operating equipment.

### Avoid High Pressure Fluids
- Escaping fluid under pressure can penetrate the skin causing serious injury.
- Relieve all residual pressure before disconnecting hydraulic lines or performing work on the hydraulic system.
- Make sure all hydraulic fluid connections are properly tightened/torqued and all hydraulic hoses and lines are in good condition before applying pressure to the system.
- Use a piece of paper or cardboard, NOT BODY PARTS, to check for suspected leaks.
- Wear protective gloves and safety glasses or goggles when working with hydraulic systems.
- DO NOT DELAY. If an accident occurs, see a doctor familiar with this type of injury immediately. Any fluid injected into the skin or eyes must be treated within a few hours or gangrene may result.

### Use Safety Lights and Devices
- A slow moving power machine can create a hazard when driven on public roads. They are difficult to see, especially at night. Use the Slow Moving Vehicle (SMV) sign when on public roads.
- Flashing warning lights and turn signals are recommended whenever driving on public roads.

### Use Seat Belt and ROPS
- Kubota recommends the use of a CAB or roll-over-protective-structures (ROPS) and seat belt in almost all power machines. Combination of a CAB or ROPS and seat belt will reduce the risk of serious injury or death if the power machine should be upset.
- If ROPS is in the locked-up position, fasten seat belt snugly and securely to help protect against serious injury or death from falling and machine overturn.

### Keep Riders Off Machinery
- Never carry riders on the power machine or attachments.
- Riders obstruct operator’s view and interfere with the control of the power machine.
- Riders can be struck by objects or thrown from the equipment.
- Never use power machine or attachment to lift or transport riders.
Avoid crystalline Silica (quartz) Dust

Because crystalline silica is a basic component of sand and granite, many activities at construction sites produce dust containing crystalline silica. Trenching, sawing, and boring of material containing crystalline silica can produce dust containing crystalline silica particles. This dust can cause serious injury to the lungs (silicosis).

There are guidelines which should be followed if crystalline silica (quartz) is present in the dust.

- Be aware of and follow OSHA (or other local, State, or Federal) guidelines for exposure to airborne crystalline silica.
- Know the work operations where exposure to crystalline silica may occur.
- Participate in air monitoring or training programs offered by the employer.
- Be aware of and use optional equipment controls such as water sprays, local exhaust ventilation, and enclosed cabs with positive pressure air conditioning if the machine has such equipment. Otherwise respirators shall be worn.
- Where respirators are required, wear a respirator approved for protection against crystalline silica containing dust. Do not alter respirator in any way. Workers who use tight-fitting respirators can not have beards/mustaches which interfere with the respirator seal to the face.

Excavator Shutdown

- If engaged, disengage hydraulics to the attachment.
- Park on solid, level ground.
- Lower attachment and dozer blade until they are on the ground.
- Idle engine and turn switch key to ‘STOP’ position to shutoff engine.
- Move lever lock(s) down to the lock position.
- Turn switch key to “RUN” and relieve hydraulic pressure to the hydraulic system by operating hydraulic levers. Refer to Excavator Operator’s Manual.
- Turn switch key to “STOP” and remove to prevent unauthorized starting.
- Face excavator while using approved steps, grab-handles and anti-slip surfaces when stepping on and off the excavator.

Skid Steer Shutdown And Storage

- Reduce engine speed and shut-off all power to the attachment.
- Park on solid, level ground and lower attachment until it is flat on the ground or support blocks.
- Turn off engine, and remove ignition key to prevent unauthorized starting.
- Relieve all hydraulic pressures.
- If included, raise seat bar and move controls until both lock.
- Wait for all components to stop before leaving operator’s seat.
- Use steps, grab-handles and anti-slip surfaces when stepping on and off the skid steer.
- Detach and store attachment in an area where children normally do not play. Secure attachment by using blocks and supports.

Tractor Shutdown & Storage

- Reduce engine speed and shut-off all power to the attachment.
- Park on solid, level ground and lower attachment to ground or onto support blocks.
- Put tractor in park or set park brake, turn off engine, and remove ignition key to prevent unauthorized starting.
- Move lever lock(s) down to the lock position.
- Turn switch key to “STOP” and remove to prevent unauthorized starting.
- Face tractor while using approved steps, grab-handles and anti-slip surfaces when stepping on and off the tractor.
- Detach and store implement in an area where children normally do not play. Secure implement using blocks and supports.

Avoid crystalline Silica (quartz) Dust

Because crystalline silica is a basic component of sand and granite, many activities at construction sites produce dust containing crystalline silica. Trenching, sawing, and boring of material containing crystalline silica can produce dust containing crystalline silica particles. This dust can cause serious injury to the lungs (silicosis).

There are guidelines which should be followed if crystalline silica (quartz) is present in the dust.

- Be aware of and follow OSHA (or other local, State, or Federal) guidelines for exposure to airborne crystalline silica.
- Know the work operations where exposure to crystalline silica may occur.
- Participate in air monitoring or training programs offered by the employer.
- Be aware of and use optional equipment controls such as water sprays, local exhaust ventilation, and enclosed cabs with positive pressure air conditioning if the machine has such equipment. Otherwise respirators shall be worn.
- Where respirators are required, wear a respirator approved for protection against crystalline silica containing dust. Do not alter respirator in any way. Workers who use tight-fitting respirators can not have beards/mustaches which interfere with the respirator seal to the face.

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- If engaged, disengage hydraulics to the attachment.
- Park on solid, level ground.
- Lower attachment and dozer blade until they are on the ground.
- Idle engine and turn switch key to ‘STOP’ position to shutoff engine.
- Move lever lock(s) down to the lock position.
- Turn switch key to “RUN” and relieve hydraulic pressure to the hydraulic system by operating hydraulic levers. Refer to Excavator Operator’s Manual.
- Turn switch key to “STOP” and remove to prevent unauthorized starting.
- Face excavator while using approved steps, grab-handles and anti-slip surfaces when stepping on and off the excavator.

Skid Steer Shutdown And Storage

- Reduce engine speed and shut-off all power to the attachment.
- Park on solid, level ground and lower attachment until it is flat on the ground or support blocks.
- Turn off engine, and remove ignition key to prevent unauthorized starting.
- Relieve all hydraulic pressures.
- If included, raise seat bar and move controls until both lock.
- Wait for all components to stop before leaving operator’s seat.
- Use steps, grab-handles and anti-slip surfaces when stepping on and off the skid steer.
- Detach and store attachment in an area where children normally do not play. Secure attachment by using blocks and supports.

Tractor Shutdown & Storage

- Reduce engine speed and shut-off all power to the attachment.
- Park on solid, level ground and lower attachment to ground or onto support blocks.
- Put tractor in park or set park brake, turn off engine, and remove ignition key to prevent unauthorized starting.
- Move lever lock(s) down to the lock position.
- Turn switch key to “STOP” and remove to prevent unauthorized starting.
- Face tractor while using approved steps, grab-handles and anti-slip surfaces when stepping on and off the tractor.
- Detach and store implement in an area where children normally do not play. Secure implement using blocks and supports.
Important Safety Information

Listed below are common practices that may or may not be applicable to the products described in this manual.

**Tire Safety**

▲ Tire changing can be dangerous and must be performed by trained personnel using the correct tools and equipment.

▲ Always maintain correct tire pressure. Do not inflate tires above recommended pressures shown in the Operator’s Manual.

▲ When inflating tires, use a clip-on chuck and extension hose long enough to allow you to stand to one side and NOT in front of or over the tire assembly. Use a safety cage if available.

▲ Securely support the implement when changing a wheel.

▲ When removing and installing wheels, use wheel handling equipment adequate for the weight involved.

▲ Make sure wheel bolts have been tightened to the specified torque.
Safety Labels

Your Hydraulic Breaker comes equipped with all safety labels in place. They are designed to help you safely operate your attachment. Read and follow their directions.

1. Keep all safety labels clean and legible.
2. Refer to this section for proper label placement. Replace all damaged or missing labels. Order new labels from your nearest Kubota dealer. To find your nearest dealer, visit our dealer locator at www.landpride.com.
3. Some new equipment installed during repair requires safety labels to be affixed to the replaced component as specified by Kubota. When ordering new components make sure the correct safety labels are included in the request.
4. Refer to this section for proper label placement.
   To install new labels:
   a. Clean surface area where label is to be placed.
   b. Spray soapy water onto the cleaned area.
   c. Peel backing from label and press label firmly onto the surface.
   d. Squeeze out air bubbles with edge of a credit card or with a similar type of straight edge.

---

838-093C
Warning: Read Operator’s Manual (1 place)
Models BR310, BR360, & BR460

169400-ENG-10
Danger: High Pressure Hazard (1 place)
Models BR310, BR360, & BR460
Important Safety Information

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Explosion Hazard (1 place)
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Warning: Dust Hazard (1 place)
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169400-ENG-7
Warning: Read Operator’s Manual (1 place)
Models BR310, BR360, & BR460
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169400-ENG-7
Warning: Read Operator’s Manual (1 place)
Models BR510, BR560, & BR860

169400-ENG-6
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169400-ENG-9
Danger: High Pressure Hazard (1 place)
Models BR510, BR560, & BR860
**Warning: Noise Hazard (1 place)**
Models BR510, BR560, & BR860

**Warning: Dust Hazard (1 place)**
Models BR510, BR560, & BR860

**Explosion Hazard (2 places)**
Models BR510, BR560, & BR860
Kubota welcomes you to the growing family of new product owners. This Hydraulic Breaker has been designed with care and built by skilled workers using quality materials. Proper assembly, maintenance, and safe operating practices will help you get years of satisfactory use from this product.

Application

Kubota’s BR Series Hydraulic Breakers (hammers) are designed to demolish rock, concrete, asphalt, and other construction materials. These hydraulic breakers are useful tools on construction sites, in rental fleets, and other demolition-type applications. They fit Kubota Excavators, Skid Steers, Track Loaders, and certain TLBs. Operators of these power units will find that crushing rock and breaking apart concrete can be accomplished with ease.

See “Specifications & Capacities” on page 46 and “Features & Benefits” on page 50 for additional information and performance enhancing options.

Using This Manual

• This Operator’s Manual is designed to help familiarize you with safety, assembly, operation, adjustments, troubleshooting, and maintenance. Read this manual and follow the recommendations to help ensure safe and efficient operation.
• The information contained within this manual was current at the time of printing. Some parts may change slightly to assure you of the best performance.
• To order a new Operator’s or Parts Manual, contact your authorized dealer. Manuals can also be downloaded, free-of-charge, from our website at www.landpride.com

Terminology

“Right” or “Left” as used in this manual is determined by facing the direction the machine will operate while in use unless otherwise stated.

Definitions

IMPORTANT: A special point of information related to the following topic. Kubota’s intention is this information must be read & noted before continuing.

NOTE: A special point of information that the operator should be aware of before continuing.

Owner Assistance

The Online Warranty Registration should be completed by the dealer at the time of purchase. This information is necessary to provide you with quality customer service.

The parts on your Hydraulic Breaker have been specially designed by Kubota/Land Pride and should only be replaced with genuine Kubota parts. Contact a Kubota dealer if customer service or repair parts are required. Your Kubota dealer has trained personnel, repair parts, and equipment needed to service this implement.

Further Assistance

Your dealer wants you to be satisfied with your new Hydraulic Breaker. If for any reason you do not understand any part of this manual or are not satisfied with the service received, the following actions are suggested:

1. Discuss any problems you have with your attachment with your dealership service personnel so they can address the problem.
2. If you are still not satisfied, seek out the owner or general manager of the dealership, explain the question/problem, and request assistance.
3. For further assistance write to:

Kubota by Land Pride
Service Department
1525 East North Street
P.O. Box 5060
Salina, Ks. 67402-5060
E-mail address:
lpservicedept@landpride.com
Power Machine Requirements

The Hydraulic Breaker is designed to attach to excavators, B26 backhoe, skid steers and track loaders with the following requirements:

Skid Steers & Track Loaders
- Maximum horsepower: 100 hp
- Hitch type: Skid steer quick attach, ISO 24410
- Skid steer weight: See warning below
- Rear-view mirror: Recommended

Backhoe Hitch Type
- BR310: Mechanical quick coupler
- BR460: Mechanical quick coupler

Excavators Hitch Type
- BR310: Pin-on coupler
- All other Models: Mechanical quick coupler

Guarding
All power machines must have in place an appropriate guard or shield. A 1/2” polycarbonate door or guard is recommended.

SVL Models with factory closed cab
- Require Kubota’s Special Application Door Kit #S6698.

SVL Models with factory ROPS
- Require Kubota’s Special Application Door Kit #S6698.

SSV Models with factory Closed Cab
- Require Kubota’s Front Demolition Door Kit #V1311-96821

SSV Models with factory ROPS
- Require Kubota’s Front Demolition Door Kit #V1311-96821 and Front Completion Kit #V1311-96811

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WARNING
To avoid serious injury or death:
- All power machines must have in place an appropriate guard or shield. A 1/2” polycarbonate door or guard is recommended.
- Consult your power machine Operator’s Manual for operating capacity, lifting capacity, and operating specifications. Exceeding rated capacities and specifications can result in loss of control, roll-over or other serious hazard.
- Allow only persons to operate this attachment who have fully read and comprehended this manual, who are properly trained to operate the attachment safely, and who are age 16 or older. Serious injury or death can result from the failure to read, understand, and follow instructions provided in this manual.
- Lightweight power machines may need weight added to the rear to maintain steering control and prevent forward tipping or side tipping caused by a heavy front load. Consult your power machine Operator’s Manual to determine proper weight requirements and maximum weight limitations.

Torque Requirements
Refer to “Torque Values Chart” on page 53 to determine correct torque values when tightening hardware.

Dealer Preparations
This Hydraulic Breaker has been mostly assembled at the factory. Some additional preparations will be necessary to finish assembling the attachment and to attach it to the customer’s power machine. Make sure the intended power machine conforms to “Power Machine Requirements” on this page.

An understanding of how this attachment works will aid in final assembly and setup. Read and understand the Operator’s Manual. Go through the “Pre-Assembly Checklist” on page 13. To speed up the assembly task and make the job safer, have all needed parts and equipment readily at hand.

Match Hydraulic Breaker Model Number to Kubota’s Power Machines

<table>
<thead>
<tr>
<th>Model No.</th>
<th>SVL</th>
<th>SSV</th>
<th>B26</th>
<th>M62</th>
<th>K008</th>
<th>U17</th>
<th>KX018</th>
<th>U25</th>
<th>U27</th>
<th>U35</th>
<th>KX71</th>
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<tr>
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</tbody>
</table>

1. Hydraulic flow rates must match power machine’s hydraulic flow rates. Refer to table above for match-up of hammer and Kubota’s power machine.
2. BR560 matched to KX080 to be released soon.
Table of Contents

Section 1: Common Assembly & Set-up

Pre-Assembly Checklist

<table>
<thead>
<tr>
<th></th>
<th>Check</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Have a fork lift or loader with properly sized chains or straps and</td>
<td>Operator’s Manual</td>
</tr>
<tr>
<td></td>
<td>safety stands capable of lifting and supporting the equipment on hand.</td>
<td></td>
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<tr>
<td></td>
<td>Have a minimum of two people available during assembly.</td>
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<tr>
<td></td>
<td>Make sure all major components and loose parts are shipped with the</td>
<td>Operator’s Manual</td>
</tr>
<tr>
<td></td>
<td>attachment.</td>
<td>Parts Manual 317-382PK</td>
</tr>
<tr>
<td></td>
<td>Double check to make sure all parts, fasteners and pins are</td>
<td>Operator’s Manual</td>
</tr>
<tr>
<td></td>
<td>installed in the correct location to lessen the chance of using a</td>
<td>Parts Manual 317-382MK</td>
</tr>
<tr>
<td></td>
<td>bolt incorrectly. Refer to the Parts Manual if unsure.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Make sure working parts move freely, bolts are</td>
<td>Operator’s Manual</td>
</tr>
<tr>
<td></td>
<td>tight &amp; cotter pins are spread.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Make sure all grease fittings are in place and lubricated.</td>
<td>Page 43</td>
</tr>
<tr>
<td></td>
<td>Make sure all safety labels are correctly located and legible.</td>
<td>Page 6</td>
</tr>
</tbody>
</table>

Shutdown Procedures

Tractor Shutdown Procedure

The following are basic tractor shutdown procedures. Follow these procedures and any additional shutdown procedures provided in your tractor Operator’s Manual before leaving the operator’s seat.

1. Reduce engine speed and shut-off all power to the attachment.
2. Park tractor and attachment on solid, level ground.
3. Lower attachment until it is flat on the ground or on non-concrete support blocks.
4. Put tractor in park or set park brake, turn off engine, and remove switch key to prevent unauthorized starting.
5. Relieve all hydraulic pressure to auxiliary hydraulic lines.
6. Wait for all components to come to a complete stop before leaving the operator’s seat.
7. Use steps, grab-handles and anti-slip surfaces when stepping on and off the tractor.

Skid Steer Shutdown Procedure

The following are basic skid steer shutdown procedures. Follow these procedures and any additional shutdown procedures provided in your skid steer Operator’s Manual before leaving the operator’s seat.

1. Reduce engine speed and shut-off all power to the attachment.
2. Park on solid, level ground and lower attachment until it is flat on the ground or on non-concrete support blocks.
3. Turn off engine, and remove switch key to prevent unauthorized starting.
4. Relieve all hydraulic pressure to auxiliary hydraulic lines.
5. If included, raise seat bar and move controls until both lock.
6. Wait for all components to come to a complete stop before leaving the operator’s seat.
7. Use steps, grab-handles and anti-slip surfaces when stepping on and off the skid steer or attachment.

Excavator Shutdown Procedure

The following are basic excavator shutdown procedures. Follow these procedures and any additional shutdown procedures provided in your excavator Operator’s Manual before dismounting the excavator.

1. If engaged, disengage hydraulics to the attachment.
2. Park on solid, level ground.
3. Lower attachment and dozer blade until they are on the ground.
4. Reduce engine speed to an idle and turn switch key to “STOP” position to shut engine off.
5. Turn switch key to “RUN” position.
6. Move lever lock(s) down to the lock position.
7. Relieve hydraulic pressure to the hydraulic system by operating the control levers. Refer to your excavator Operator’s Manual for detailed instructions.
8. Turn switch key to “STOP” and remove to prevent unauthorized starting.
9. Face excavator while using approved steps, grab-handles and anti-slip surfaces while stepping on and off the excavator.
Main Components (310, 360, 460)
Refer to Figure 1-1:
A. Side plates
B. Grease zerk
C. Tool
D. Hammer inlet and outlet ports
E. Hammer power cell

Main Components (510, 560, 860)
Refer to Figure 1-2:
A. Side plates
B. Grease zerk
C. Tool retaining mechanism
D. Tool
E. Hammer inlet and outlet ports
F. Hammer power cell
Lift Safety
Below are some common safety instructions concerning lifting operations. The national standards for machines and lifting-tackles must always be strictly observed. Please note that the list below is not all inclusive, you must always ensure the procedure you choose is safe for you and others. Do not lift load over people. No one shall be under the hoisted load.

⚠️ WARNING
To avoid serious injury or death:
• Be aware of pinch points such as components coming against one another or passing by one another. Keep body extremities away from pinch points.
• Be aware of possible crushing hazards while installing heavy equipment. Use a hoist or other lifting device to lift heavy equipment. Keep bystanders and yourself out from under heavy equipment.
• Do not lift people and never ride the hoisted load.
• Keep people clear from the lift area.
• Avoid side pull on the load. Make sure you take up the slack slowly. Start and stop carefully.
• Lift load a few centimeters and verify it is secured and well balanced before proceeding. Check for any loose items.
• Never leave suspended load unattended. Maintain load control at all times.
• Never lift load over the rated capacity. See “Section 8: Specifications & Capacities” on page 46.
• Inspect all lifting equipment before use. Do not use twisted or damaged lifting equipment. Protect lifting equipment from sharp corners.
• Obey all local safety instructions.

Lift Instructions
Refer to Figure 1-3 & Figure 1-4:
1. Faulty lifting methods are always a risk to yourself and your surrounding. Use a hoist when lifting components which weigh 50 lb (23 kg) or more, to avoid injury.
2. Make sure all chains, hooks, slings etc., are in good condition and of correct capacity. Be sure hooks are positioned correctly. Do not use the hammer’s tools to lift other objects.
3. BR510, BR560, & BR860 hammers only: Do not side load lifting eyes during a lifting operation.
4. Lifting devices must safely carry the working weight of the product. Place chains or slings, as shown by the illustrations, to lift the product. Contact your Kubota dealer to find out how to lift with your excavator.
Pin-on Quick Coupler Mount

Refer to Figure 1-5:
The following are instructions for attaching the pin-on mount to the BR310 Hydraulic Breaker.

NOTE: Hardware for attaching the pin-on mount is supplied with the hammer.

1. Attach Pin-on hitch mount (#3) to hammer (#4) as shown by inserting existing bolts (#1), through top lock washers (#2), pin-on mount (#3), hammer (#4), and bottom lock washers (#2).
2. Secure bolts (#1) with existing nuts (#5). Tighten nuts to the correct torque.

Quick Coupler Mount

Refer to Figure 1-6 or Figure 1-7:
The following are instructions for attaching a quick coupler mount to a Hydraulic Breaker.

NOTE: Bolts (#1) may be inserted from the top or bottom. Hardware for attaching the quick coupler mount is supplied with the hammer.

• BR310, BR360, & BR460 require 4 bolts.
• BR510 & BR560 require 10 bolts.
• BR860 requires 12 bolts.

1. Attach quick coupler mount (#3) to hammer (#4) as shown with supplied bolts (#1), lock washers (#2), and nuts (#5).
2. Tighten nuts (#5) to the correct torque.
Skid Steer Mount with 510/560 Mount
Refer to Figure 1-8: 
The following are instructions for attaching the skid steer with BR510/560 mount to the BR510 or BR560 Hydraulic Breaker.

NOTE: Bolts (#1) may be inserted from the top or bottom. Hardware for attaching the pin-on mount is supplied with the hammer.

1. Attach skid steer mount (#3) to hammer (#4) as shown with existing bolts (#1), lock washers (#2), and nuts (#5).
2. Tighten nuts (#5) to the correct torque.

Port Identification
Refer to Figure 1-9 & Figure 1-10:
It is important to be able to identify the IN port (A) and OUT port (B) for the Hydraulic Hammer to operate properly. The two ports are usually labeled IN and OUT. If they are not, the IN port will be painted blue and the OUT port will be painted red.

Connect the pressurized hydraulic line on your power machine to the IN port and the return hydraulic line to the OUT port. The letter (A) is used throughout this manual to represent the IN port adapter and (B) represents the OUT port adapter. See your power machine Operator’s Manual to determine which line is the pressurized line and which is the return line.

The Hydraulic Breakers are shipped with straight adapters (A & B) tightened to the ports and capped with cap nuts (#1) to keep dirt out. Do not loosen straight adapters during standard service. It is very important to keep dirt out of the hydraulic system. Remove cap nuts (#1) only when attaching the hydraulic hoses to the straight adapters.
Install BR310/360 Hose Kit

Refer to Figure 2-1:

Straight adapters (A & B) are shipped secured to the ports labeled “IN” and “OUT”. Do not remove adapters (A or B) during standard service. The power machine’s pressure line must be connected to the “IN” port with adapter (A).

1. Attach elbows (#1A & #1B) to straight adapters (A & B) as shown. Rotate elbows to point up and tighten.
2. Attach hydraulic hoses (#2A & #2B) to elbows (#1A & #1B) as shown and tighten.
3. Attach male coupler (#3A) to hose (#2A) and tighten.
4. Attach female coupler (#4B) to hose (#2B) and tighten.
5. Continue with one of three bullets for attaching hose fittings to your power machine:
   • See “B26 Backhoe Fittings” on this page.
   • See “K008 Excavator Fittings” on this page.
   • See “U17 & KX018 Excavator Fittings” on this page.

B26 Backhoe Fittings

1. Discard 90° elbows (#6A & #6B) and pipe nipples (#7A & #7B).
2. Consult your backhoe manual to determine which line is the pressure line and which is the return line.
3. Wrap teflon tape around pipe threads on adapters (#5A & #5B).
4. Attach adapter (#5A) to the backhoe’s pressure line and (#5B) to the return line. Tighten both adapters.
5. Attach female coupler (#4A) to adapter (#5A) and tighten.
6. Attach male coupler (#3B) to adapter (#5B) and tighten.

K008 Excavator Fittings

1. Discard adapters (#5A & #5B).
2. Consult your excavator manual to determine which line is the pressure line and which is the return line.
3. Wrap teflon tape around pipe threads on both ends of pipe nipples (#7A & #7B).
4. Attach pipe nipple (#7A) to the excavator’s pressure line and pipe nipple (#7B) to the return line. Tighten both pipe nipples.
5. Attach elbows (#6A & #6B) to pipe nipples (#7A & #7B) and tighten.
6. Attach female coupler (#4A) to elbow (#6A) and tighten.
7. Attach male coupler (#3B) to elbow (#6B) and tighten.

U17 & KX018 Excavator Fittings

1. Pipe nipples (#7A & #7B) and elbows (#6A & #6B) are not included with this optional hose kit.
2. Consult your excavator manual to determine which line is the pressure line and which is the return line.
3. Wrap teflon tape around pipe threads on adapters (#5A & #5B). Attach adapter (#5A) to the excavator pressure line and (#5B) to the return line. Tighten both adapters.
4. Attach female coupler (#4A) to adapter (#5A) and tighten.
5. Attach male coupler (#3B) to adapter (#5B) and tighten.
Install BR460 Hose Kit  
Refer to Figure 2-2:
Straight adapters (A & B) are shipped tightened to the “IN” and “OUT” ports. Do not remove adapters (A or B) during standard service. The power machine’s pressure line must be connected to the “IN” port with adapter (A).

1. Attach elbows (#1A & #1B) to straight adapters (A & B). Rotate elbows to point up and tighten.
2. Attach hoses (#2) to elbows (#1A & #1B) and tighten.
3. Attach male couplers (#3) to hoses (#2) and tighten.
4. Wrap teflon tape around pipe threads on adapters (#5). Attach adapters (#5) to the excavator pressure line and return line, and tighten.
5. Attach female couplers (#4) to adapters (#5) and tighten.

Install BR510/560 Hose Kit  
Refer to Figure 2-3:
Straight adapters (A & B) are shipped tightened and glued to the “IN” and “OUT” ports. Do not remove adapters (A or B) during standard service. The power machine’s pressure line must be connected to the “IN” port with adapter (A).

1. Discard 45° elbows (#5).
2. Attach hoses (#1) to adapters (A & B) and tighten.
3. Attach male couplers (#2) to hoses (#1) and tighten.
4. Wrap teflon tape around pipe threads on adapters (#4). Attach adapters to the excavator pressure line and return line and tighten.
5. Attach female couplers (#3) to adapters (#4) and tighten.

Install BR860 Hose Kit  
Refer to Figure 2-4:
Pressure line (#1A) must be connected to “IN” port (A).

1. Consult your excavator manual to determine which line is the pressure line and which is the return line.
2. Adapters (#4A & #4B) have O-rings. Wrap teflon tape around their pipe threads. Screw adapter (#4A) to the power machine’s pressure line and adapter (#4B) to its return line until they are tight.
3. Screw female coupler (#3A) to adapter (#4A) and male coupler (#3B) to adapter (#4B) until tight.
4. Remove adapters (#5) from hammer ports (A & B).
5. Adapters (#5A & #5B) are without O-rings. Wrap teflon tape around their pipe threads. Screw these two adapters to ports (A & B) until they are tight.
6. Attach hoses (#1A & #1B) to adapters (#5A & #5B) and tighten.
7. Screw male coupler (#2A) to hose (#1A) and female coupler (#3B) to hose (#1B) until they are tight.
Hook-up Hammer to Excavator

**DANGER**
To avoid serious injury or death: A crushing hazard exists while hooking-up and unhooking attachment. Do not allow anyone to stand between attachment and power machine while approaching or backing away from the attachment. Do not operate controls including lift, extend, and swing while someone is near the power machine and/or attachment.

**WARNING**
To avoid serious injury or death:
- Make sure the attachment is properly hooked to the excavator. The quick coupler must be secured in the attachment’s mount and coupler lock pin must be fully inserted and secured with the linchpin. An attachment that is improperly hooked can fall or be thrown from the coupler.
- Ensure the interior of the quick coupler housing is free of obstructions and debris such as mud, excess dirt, rocks and ice. Coupler engagement and disengagement may be impeded and could potentially create an unsafe condition if coupler is obstructed.
- Never stand beneath or position any body part beneath an attachment that is being removed or installed.
- Never attempt to shift an attachment that is raised off the ground. A crushing and/or pinch point hazard exists between coupler and attachment. Keep hands and fingers clear.
- Always have installed an appropriate guard or shield. A 1/2” polycarbonate door or guard is recommended.

**Match Kubota Power Machine with Kubota Hammer**

<table>
<thead>
<tr>
<th>Kubota Backhoes and Excavators</th>
<th>Kubota Hydraulic Breakers</th>
</tr>
</thead>
<tbody>
<tr>
<td>B26</td>
<td>BR310</td>
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<tr>
<td>K008</td>
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<td>U17 &amp; KX018</td>
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<tr>
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<td>BR460</td>
</tr>
<tr>
<td>KX040</td>
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<td>KX057 &amp; U55</td>
<td>BR510 &amp; BR560</td>
</tr>
<tr>
<td>KX080</td>
<td>BR860</td>
</tr>
</tbody>
</table>

**Match Kubota Excavator to Hammer**

Refer to Table Above:
The proper Kubota hammer/excavator combinations are outlined in the table above. The specific excavator or backhoe recommendations of your Kubota dealer must be followed.
- If the combined weight of hammer and mounting gear is too heavy, excavator stability is at risk.

**Hook-up Excavator to Quick Coupler**

Refer to Figure 2-5:

1. Check for and remove all debris in the interior of coupler housing (#13) and mount (#12).
2. Remove linchpin (#6) and pull lock pin (#5) from coupler (#13).
3. Start excavator or backhoe and place dipper arm in line with attachment. Fully retract curl cylinder.
4. Drive slowly forward while maneuvering dipper arm to align and seat rear coupler pucks (#1) with slots (#2).
5. Extend curl cylinder to roll coupler (#13) down until pucks (#3) are fully seated in slots (#4).
6. Raise mount (#12) with hammer (#11) slightly off the ground and curl coupler (#13) to the most vertical position safely allowed by the hammer.
7. Without lowering the hammer, shut excavator or backhoe down before dismounting. Refer to "Excavator Shutdown Procedure" or "Tractor Shutdown Procedure" on page 13.
8. Insert coupler lock pin (#5) and secure with linchpin (#6).

**Note:**
Customer to supply quick attach coupler (#13) lock pin (#5) and linchpin (#6).

If the distance between 'bucket' pins is too small, there is risk of contact between hammer and dipper stick in cylinder end position. This may cause costly damage to cylinder or dipper stick.

Please contact your local Kubota dealer for additional questions.
Hook-up Hydraulic Hoses to Dipper Stick
Refer to Figure 2-5:

**WARNING**
To avoid serious injury or death:
- Shut power machine down and release all hydraulic pressure to the equipment before connecting or disconnecting hydraulic hoses to or from the power machine.
- Hydraulic fluid under high pressure can penetrate the skin and/or eyes causing a serious injury. Wear protective gloves and safety glasses or goggles when working with hydraulic systems. Use a piece of cardboard or wood rather than hands when searching for leaks. A doctor familiar with this type of injury must treat the injury within a few hours or gangrene may result. DO NOT DELAY.
- Make sure hydraulic hoses are properly routed without twists to prevent becoming stretched, pinched, or kinked. A damaged hydraulic hose can burst and leak hydraulic fluid.
1. Consult your excavator or backhoe manual to determine which line on the dipper arm is the pressure line and which line is the return line.
2. Clean quick connect couplers (#9 & #10) of dirt.
3. Attach male coupler (#9) to the pressure line.
4. Attach remaining coupler (#10) to the return line.
5. Return to the power machine. Curl coupler (#13) horizontal while raising hammer (#11) off the ground until hammer tool is hanging straight down.
6. Fully extend and retract curl cylinder to ensure coupler (#13) is fully engaged with mount (#12).

Unhook Hammer from Excavator

**WARNING**
To avoid serious injury or death:
- A crushing hazard exists while hooking-up and unhooking attachment. Do not allow anyone to stand between attachment and power machine while approaching or backing away from the attachment. Do not operate controls including lift, extend, and swing while someone is near the power machine and/or attachment.
- Never stand beneath or position any body part beneath an attachment that is being removed or installed.
- Never attempt to shift an attachment that is raised off the ground. A crushing and/or pinch point hazard exists between coupler and attachment. Keep hands and fingers clear.
1. See “Long-Term Storage” on page 42 when storing the hammer for long periods.
2. Curl coupler (#13) to the most vertical position safely allowed by the attachment.
3. Lower hammer (#11) with boom and arm cylinder until hammer and mount (#12) are slightly above ground level.
5. Disconnect couplers (#9 & #10) from the dipper arm. Coil and store hoses on the hammer with couplers (#9 & #10) out of the dirt.
6. Remove linchpin (#6) and lock pin (#5) from mount (#12). If necessary, use a hammer to tap out lock pin.
7. Return to the excavator/backhoe to finish disconnecting the hammer.
8. Start excavator/backhoe and retract boom cylinder to lower hammer (#11) and mount (#12) until they are resting on the ground.
9. With hammer (#11) and mount (#12) on the ground, retract curl cylinder to roll coupler pucks (#3) out of slots (#4).
10. Extend boom cylinder to lift coupler pucks (#1) out of slots (#2).
11. Carefully maneuver coupler (#13) out of the way of hammer (#11) and mount (#12).
12. Continue on next page.
Section 2: Excavator Assembly & Set-up

13. Shut excavator or tractor down before dismounting. Refer to “Shutdown Procedures” on page 13.
14. The hammer must be stored in the vertical position in a clean, dry place.
15. Make sure the hammer is secured from falling.

Hook-up Hammer to B26 Backhoe
Refer to Figure 2-7 on page 23:
The following instructions are for hooking-up the BR310 hammer to the B26 backhoe. The right and left sides of the dipper stick and hammer are defined by the operator’s position as he sits in the cab.

WARNING
To avoid serious injury or death:
• A crushing hazard exists while hooking-up and unhooking attachment. Do not allow anyone to stand between attachment and power machine while approaching or backing away from the attachment. Do not operate controls including lift, extend, and swing while someone is near the power machine and/or attachment.
• Make sure the attachment is properly hooked to the backhoe. The pin-on mount must be secured to the dipper stick and bucket pins must be fully inserted and secured.
• Never stand beneath or position any body part beneath an attachment that is being removed or installed.
• Never attempt to shift an attachment that is raised off the ground. A crushing and/or pinch point hazard exists between pin-on mount and attachment. Keep hands and fingers clear.
• Always have installed an appropriate guard or shield. A 1/2" polycarbonate door or guard is recommended.
1. Remove bucket or other attachment presently mounted to the dipper stick. Pay special attention not to misplace any small parts such as dust seals etc.
2. The hammer (#9) is mounted in much the same way as a bucket (see illustration). Bucket pins (#1) are inserted through hole (#3) in the dipper stick and through hole (#4) in the bucket link. Bushings (#2) and o-rings (8) are installed where required.
3. For hose hook-up instructions, see “Hook-up Hydraulic Hoses to Dipper Stick” on page 21.

Unhook Hammer from Backhoe
Refer to Figure 2-7 on page 23:

WARNING
To avoid serious injury or death:
• A crushing hazard exists while hooking-up and unhooking attachment. Do not allow anyone to stand between attachment and power machine while approaching or backing away from the attachment. Do not operate controls including lift, extend, and swing while someone is near the power machine and/or attachment.
• Never stand beneath or position any body part beneath an attachment that is being removed or installed.
• Never attempt to shift an attachment that is raised off the ground. A crushing and/or pinch point hazard exists between pin-on mount and attachment. Keep hands and fingers clear.

IMPORTANT: Make sure the hammer does not come against the backhoe when laying the hammer down to unhook.

1. See “Long-Term Storage” on page 42 when storing the hammer for long periods.
2. Curl pin-on mount to the most vertical position safely allowed by the attachment.
3. Lower hammer with boom and arm cylinder until hammer and mount are resting on the ground.
5. Disconnect hydraulic hose couplers from the dipper arm fittings (#5). Coil and store hoses on the hammer with hydraulic hose couplers out of the dirt.
6. Remove pins (#1) from pin-on mount (#10). If necessary, use a hammer to tap out pins. Pay special attention not to misplace any small parts such as dust seals, etc.
7. Return to the tractor to finish disconnecting the hammer (#9).
8. With hammer (#9) and pin-on mount (#10) on the ground, retract curl cylinder and arm cylinder to lift dipper stick out of mount (#10).
9. Carefully maneuver dipstick and bucket link out of the way of hammer (#9) and pin-on mount (#10).
11. The backhoe is ready for hooking up to another attachment.
12. The hammer (#9) must be stored in the vertical position in a clean, dry place.
13. Make sure the hammer is secured from falling.
Hook-up BR310 Hydraulic Breaker to Kubota’s B26 Backhoe
Figure 2-7
Section 3: Skid Steer Assembly & Set-up

This section provides instructions for attaching the BR510 Hydraulic Breaker to a Kubota skid steer or track loader. If assembling and attaching the Hydraulic Breaker to an excavator or B26 backhoe, see “Section 2: Excavator Assembly & Set-up” on page 18.

Install BR510/560 Hose Kit
Refer to Figure 3-1:
Straight adapters (A & B) are shipped tightened and glued to the “IN” and “OUT” ports. Do not unscrew them. The power machine’s pressure line must be connected to the “IN” port with adapter (A).

1. Attach hydraulic hoses (#1A & #1B) to straight adapters (A & B) as shown and tighten.
2. Attach 90° elbows (#2A & #2B) to hydraulic hoses (#1A & #1B) and tighten as shown.
3. Consult your skid steer manual to determine which line is the pressure line and which is the return line.
4. Attach female coupler (#3) or male coupler (#4) that mates with the skid steer high pressure coupler to elbow (#2A). Tighten coupler to the hose.
5. Attach remaining coupler (#3 or #4) to elbow (#2B) and tighten.

Hook-up Skid Steer Quick Attach Mount
Refer to Figure 3-2:

DANGER
To avoid serious injury or death:
A crushing hazard exists while hooking-up and unhooking the attachment. Do not allow anyone to stand between attachment and power machine while approaching or backing away from the attachment. Do not operate lift and/or tilt controls while someone is near the power machine and/or attachment.

WARNING
To avoid serious injury or death:
• Check hitch fit-up frequently. An improper fit-up can cause the attachment to come loose from the loader hitch plate and fall.
• Use steps, grab-handles, and anti-slip surfaces on the power machine and attachment to get on and off the power machine. Using unapproved stepping surfaces and/or handholds can result in a falling hazard.
• Ensure the interior of the quick coupler housing is free of obstructions and debris such as mud, excess dirt, rocks and ice. Coupler engagement and disengagement may be impeded and could potentially create an unsafe condition if coupler is obstructed.
• Never stand beneath or position any body part beneath an attachment that is being removed or installed.
• Always have installed an appropriate guard or shield. A 1/2” polycarbonate door or guard is recommended.

1. Check loader hitch plate and skid steer quick attach mount (#1) before hooking-up. Make sure all hitch components are in good working condition:
   a. Check for and remove any debris in the loader hitch plate and mount (#1).
   b. Check loader hitch plate and mount (#1) for structural cracks and bent or broken pieces. They can weaken the structure and prevent full and complete hook-up. Repair or replace damaged components before putting the loader hitch plate or skid steer mount (#1) into service.
   c. Check operation of lock pins in the loader hitch plate. Lock pins must move freely and extend fully into the bottom slots in the skid steer mount (#1).
2. If lock mechanism is mechanical, raise lock handles on the loader hitch plate fully up to raise lock pins.
4. If lock mechanism is hydraulic, use auxiliary hydraulic controls to raise lock pins fully up.
5. Drive slowly to the skid steer mount (#1) while making sure the loader hitch is parallel with the top angle bar on skid steer mount (#1).
6. Tilt top of loader hitch plate slightly forward.
7. Place top of loader hitch plate under the top angled bars and slowly raise loader arms up until loader hitch plate is seated under the top angle bars.
8. Tilt top of loader hitch plate back until skid steer mount (#1) makes full contact with loader hitch plate and the skid steer QA mount is slightly off the ground.
9. Engage lock mechanism:
   **Hydraulic Lock Mechanism:**
   a. Engage quick hitch lock mechanism hydraulically.
   **Mechanical Lock Mechanism:**
   b. Push lock handles down to drive lock pins through bottom slots in the skid steer mount (#1). Make sure handles are locked down.
   c. Return to skid steer and start.
10. Raise loader arms enough to visually ensure lock pins are through the bottom slots in skid steer mount (#1).

**Hook-up BR510 Hydraulic Breaker**

**DANGER**
To avoid serious injury or death:
A crushing hazard exists while hooking-up and unhooking the attachment. Do not allow anyone to stand between attachment and power machine while approaching or backing away from the attachment. Do not operate lift and/or tilt controls while someone is near the power machine and/or attachment.

**WARNING**
To avoid serious injury or death:
- Check hitch fit-up frequently. An improper fit-up can cause the attachment to come loose from the loader hitch plate and fall.
- Use steps, grab-handles, and anti-slip surfaces on the power machine and attachment to get on and off the power machine. Using unapproved stepping surfaces and/or handholds can result in a falling hazard.
- Ensure the interior of the quick coupler housing is free of obstructions and debris such as mud, excess dirt, rocks and ice. Coupler engagement and disengagement may be impeded and could potentially create an unsafe condition if coupler is obstructed.
- Never stand beneath or position any body part beneath an attachment that is being removed or installed.
- Always have installed an appropriate guard or shield. A 1/2” polycarbonate door or guard is recommended.

Refer to Figure 3-3:
1. Check for and remove all debris in the interior of skid steer mount (#13) and quick coupler mount (#12).
2. Remove customer supplied linchpin (#6) and pull lock pin (#5) from quick coupler mount (#12).
3. Start skid steer and place loader hitch plate in line with attachment to be engaged.
4. Tilt top of loader hitch plate forward until hitch plate is approximately 45° to the ground.
5. Drive slowly forward while maneuvering the loader hitch plate to align its front pucks (#1) with mounting slots (#2).
6. Lower loader lift arms until pucks (#1) are fully seated in mounting slots (#2).
7. Tilt top of loader hitch plate back until pucks (#3) are fully seated into slots (#4).
8. Raise quick coupler mount (#12) and hammer (#11) slightly off the ground and continue to tilt top of loader hitch plate back to the most vertical position safely allowed by the attachment.
9. Lower loader arms down until skid steer mount (#13) is fully down and Hydraulic Breaker (#11) is held off the ground.
11. Install lock pin (#5) and secure with linchpin (#6).
WARNING

To avoid serious injury or death:

- Hydraulic fluid under high pressure can penetrate the skin and/or eyes causing a serious injury. Wear protective gloves and safety glasses or goggles when working with hydraulic systems. Use a piece of cardboard or wood rather than hands when searching for leaks. A doctor familiar with this type of injury must treat the injury within a few hours or gangrene may result. DO NOT DELAY.

- Shut power machine down and release all hydraulic pressure to the equipment before connecting or disconnecting hydraulic hoses to or from the power machine.

- Make sure hydraulic hoses are properly routed without twists to prevent becoming stretched, pinched, or kinked. A damaged hydraulic hose can burst and leak hydraulic fluid.

IMPORTANT: All hoses should be free of kinks, cuts, or abrasions for safe operation. Do not operate if hoses are worn or damaged.

IMPORTANT: Make sure coupler fittings are clean before making connections. Dirt can quickly damage the hydraulic system. Inspect couplers for corrosion, cracks and excessive wear. Replace couplers if any of these conditions exist.

NOTE: If attaching to a Kubota skid steer, route hydraulic hoses through Kubota’s SVL or SSV Hose Stay as shown. Purchase SVL Hose Stay #S6689 or SSV Hose Stay #77700-07225 through your nearest Kubota dealer. Refer to your skid steer Operator’s Manual for more instructions.
Unhook Hammer Quick Attach Mount

Refer to Figure 3-6:
1. Stop skid steer on flat, level ground that is free of personnel and obstructions.
2. Lower loader arms until skid steer mount (#13) is resting on the ground.
3. Tilt top of loader hitch plate back to raise hammer off the ground.
5. Disconnect hydraulic couplers (#9 & #10).
6. Remove hydraulic hoses (#7 & #8) from hose holder (#14). Coil and store hoses on the hammer with couplers (#9 & #10) out of the dirt.
7. Flip wire retainer up and remove linchpin (#6).
8. Remove lock pin (#5). If necessary, use a hammer to tap out lock pin.
9. Restart skid steer and tilt top of loader hitch plate forward until attachment is resting fully on the ground.
10. Slowly tilt top of loader hitch plate forward to rotate pucks (#3) out of slots (#4).
11. Carefully raise loader arms to lift pucks (#1) out of slots (#2).
13. Replace lock pin (#5) in quick coupler mount (#12) or skid steer mount (#13) and secure in place with linchpin (#6).
14. Follow “Long-Term Storage” guidelines on page 42 when storing the hammer.

Unhook Skid Steer QA Mount

Refer to Figure 3-7:
1. Stop skid steer on flat, level ground that is free of personnel and obstructions.
2. Lower loader arms until skid steer mount (#13) is resting on the ground.
4. Disconnect hydraulic hose couplers (#9 & #10).
5. Coil and store hydraulic hoses (#7 & #8) on the hammer with couplers (#9 & #10) out of the dirt. Make sure hydraulic hoses do not interfere with the loader hitch plate.
6. If lock handles are mechanical, pull lock handles up on loader hitch plate to remove lock pins from the bottom slots in the skid steer mount (#13).
7. Return to the skid steer seat and fasten seat belt. Start skid steer.
8. If lock handles are hydraulic, raise lock pins hydraulically to remove lock pins from the bottom slots in skid steer mount (#13).
9. Tilt top of loader hitch plate slightly forward until bottom of loader hitch plate has separated from the bottom of skid steer mount (#13).
10. Slowly lower loader arms until loader hitch plate is below the attachment’s top angle bars.
11. Back skid steer slowly away from the Hydraulic Breaker making sure the skid steer does not interfere with skid steer mount (#13) and/or hydraulic hoses (#7 & #8).
13. Follow “Long-Term Storage” guidelines on page 42 when storing the hammer.
Safety Information

⚠️ WARNING
To avoid serious injury or death:

- The hydraulic pressure inside the hammer must always be released before removing any plugs or valves. Read the instructions on releasing the hydraulic pressure from the hammer. See “Release Hydraulic Oil Pressure” on page 37.
- Wait at least 10 minutes after releasing hydraulic pressure before opening any plugs or valve covers.
- Releasing hydraulic pressure does not release pressure from the accumulators! Do not disassemble the hammer before releasing gas pressure from accumulators and oil pressure from the hammer. Please contact your Kubota dealer for further instructions before disassembling the hammer.

BR510/560/860 Swivel Couplings
Refer to Figure 4-1:
The hammer is assembled left handed when leaving the factory. It may be turned either left- or right-handed by turning the manifold of the swivel coupling 180 degrees. The swivels are factory equipped with suitable adapters. These adapters are glued to the swivel and are not to be removed during standard service.

Please contact your Kubota dealer for further instructions.

Operating Hydraulic Pressure
Operating hydraulic pressure for Kubota Hydraulic Breakers are factory checked to match Kubota machines. The hammer may require adjusting to match Non-Kubota machines. See “BR310/360/460 Pressure Adjustment” below or “BR510/560/860 Pressure Adjustment” below for additional information.

BR310/360/460 Pressure Adjustment
Refer to Figure 4-2:
The BR310, BR360, and BR460 pressure adjustment is done with a nozzle located inside the OUT-port of the hammer valve body.

If the nozzle is not suitable for the power machine, the hammer power may be low or the oil will have a tendency to overheat. In either case please contact your Kubota dealer for further instructions.

BR510/560/860 Pressure Adjustment
Refer to Figure 4-3:
the BR510, BR560, and BR860 pressure adjustment is done with a pressure adjusting valve (PVA) located inside the valve body behind inlet and outlet ports.

If the valve adjustment is not suitable for the power machine, the hammer power may be low or the oil will have a tendency to overheat. In either case please contact your Kubota dealer for further instructions.
Operating Checklist
Hazard control and accident prevention are dependent upon the awareness, concern, prudence, and proper training involved in the operation, transport, storage, and maintenance of the Hydraulic Breaker. Therefore, it is absolutely essential that no one operates the hammer without first having read, fully understood, and become totally familiar with the Operator’s Manual. Make sure the operator has paid particular attention to:

• Important Safety Information, page 1
• Sections 1-3: Assembly & Set-up, pages 12-27
• Section 4: Adjustments, page 28
• Section 5: Operating Instructions, page 29
• Section 7: Maintenance & Lubrication, page 37

Make the following inspections after attaching the Hydraulic Breaker to the power machine.

1. Make sure the operator has read this manual and understands how to operate the Hydraulic Breaker before operating the unit.
2. Inspect safety equipment on the power machine to make sure it is in good working condition.
3. Inspect hydraulic hoses for pinch points. Reposition hoses if needed.
4. Inspect hydraulic hoses for wear, damage and hydraulic leaks. See “Avoid High Pressure Fluids Hazard” on page 3. Replace damaged and worn hoses and fittings with genuine Kubota parts.
5. Make sure all required maintenance has been completed before operating the Hydraulic Breaker. Refer to “Section 7: Maintenance & Lubrication” on page 37.
6. Check initially and periodically for loose bolts and pins. Refer to “Torque Values Chart” on page 53.

General Safety Information

⚠️ DANGER
To avoid serious injury or death:
• Always protect yourself and bystanders against flying chips of rock. Do not operate hammer or power machine if someone is near the hammer.
• Do not allow bystanders or animals to be near the attachment, loader arms, or power machine during operation. Stop operation if bystanders are too close. They can be hit by thrown or falling objects, entangled, crushed, ran over, etc.

⚠️ WARNING
To avoid serious injury or death:
• Make sure safety labels are installed in their proper location and are in good condition before operating the attachment. Read and obey all instructions on the labels.

• Hydraulic fluid under high pressure can penetrate the skin and/or eyes causing a serious injury. Wear protective gloves and safety glasses or goggles when working with hydraulic systems. Use a piece of cardboard or wood rather than hands when searching for leaks. A doctor familiar with this type of injury must treat the injury within a few hours or gangrene may result. DO NOT DELAY.
• Avoid exposure to dust containing crystalline silica particles. This dust can cause serious injury to the lungs (silicosis). Because crystalline silica is a basic component of sand and granite, many activities at construction sites produce dust containing crystalline silica. Trenching, sawing, and boring of material containing crystalline silica can produce dust containing crystalline silica.
• Always follow local laws and regulations for airborne pollutants in the working environment. Obey all work-site guidelines concerning dust particles.
• Breathing or inhaling dust particles could cause death or severe injury. The smallest particles of dust are the most harmful. They may be so fine that you can not see them. Remember, you must protect yourself from the hazard of breathing or inhaling dust particles.
• Always work with a respirator approved by the respirator manufacturer for the job you are doing. It is essential that the respirator that you use protects you from the tiny dust particles which cause silicosis and which may cause other serious lung diseases.
• Do not use the equipment until you are sure your respirator is working properly. This means the respirator must be checked to make sure that it is clean, that its filter has been changed, and to otherwise make sure the respirator will protect you in the way it was designed.
• Always make sure dust has been cleaned off your boots and clothes when you leave your shift.
• Always have installed an appropriate guard or shield. A 1/2” polycarbonate door or guard is recommended.
• Never carry riders on the attachment or power machine. Riders can obstruct the operator’s view, interfere with controls, be pinched by moving components, become entangled in rotating components, struck by objects, thrown about, fall off and be run over, etc.
• Do not disassemble hammer before releasing gas pressure from accumulators and oil pressure from hammer.
• Do not remove pressure adjusting valve before releasing pressure from the pressure measuring ports and hammer inlet fittings.
• Before connecting or disconnecting hydraulic hoses, stop carrier engine and operate controls to release pressure trapped in the hoses. Wait at least 10 minutes to ensure that all pressure has been relieved from the system before disconnecting any hoses, pipes or other components.
• Use only nitrogen (N2) for charging accumulators. The use of other gas may cause accumulators to explode.
• When measuring hammer operating pressure, you are working in the hammer’s danger area. Protect yourself against flying debris.
Section 5: Operating Instructions

Do not exceed 250 bar (3630 psi) pressure setting. Relief valves are designed to protect the system against dangerous or extreme conditions.

High noise level. Continuous exposure to noise above 90 dB(A) could cause hearing impairment. Wear approved hearing protection to prevent personal injury.

Consult your power machine Operator’s Manual for operating capacity, lifting capacity, and operating specifications. Exceeding rated capacities and specifications can result in loss of control, rollover or other serious hazard.

Do not use Hydraulic Breaker or hammer tools for lifting. Contact your Kubota dealer to find out how to lift with your excavator.

**DANGER**

Installation on Non-Kubota Machines

Kubota Hydraulic Breakers are factory checked to match Kubota machines. Non-Kubota machines may have issues with stability of hammer and machine as well as hydraulic and mechanical compatibility between hammer and machine.

**Stability**

**IMPORTANT:** Constant idle strokes have a deteriorating effect on the hammer and side plates. These parts will then wear out more quickly.

**IMPORTANT:** The hammer must not be used under water. The hammer may be damaged by strong pressure waves if the space between piston and tool is filled with water.

**IMPORTANT:** Plug pressure and return line before washing the hammer to prevent dirt from entering into the hammer.

**IMPORTANT:** The accumulator charging device does not have a pressure relief valve. Shut-off gas bottle valve when gauge shows correct charging pressure.

Power Machine Damage

Using a Kubota mounting bracket on a non-Kubota machine may allow contact between hammer and dipper stick, while the cylinder is not in its end position. This may result in severe damage to either the steel structures or to the cylinder.

Using hydraulic hoses and connectors that are sized too small for your non-Kubota machine will result in a heat load, which cannot be handled with the oil cooler.

Hammer Damage

The hydraulic settings of the power machine (operating pressure and oil flow) must be within specifications. Settings that are too high will overload the Hydraulic Breaker and shorten the lifetime of the main components. See “Operating Hydraulic Pressure” on page 28.

In addition, the relief valve setting and the back pressure must be properly adjusted. See:

- “BR310, BR360, & BR460 Specifications & Capacities” on page 46.

Safety Prior to Operation

1. Do not work with the hammer until you are familiar with it. Study this manual before installing, operating or maintaining the hammer. Also read the power machine Operator’s Manual.

2. Do not start any job until you are sure that you and those around you will be safe.

3. If you are unsure of anything, ask someone who knows. Do not assume anything. Find out.

4. Wear protective clothing to suit the job. Examples are: safety helmet, safety shoes, safety glasses, well-fitting overalls, ear-protectors and industrial gloves. Keep cuffs fastened.

5. You can be injured if you use faulty lifting equipment. Make sure lifting equipment is in good condition. Make sure lifting tackle complies with all local regulations and is suitable for the job. Make sure lifting equipment is strong enough for the job and you know how to use it. Refer to “Lift Instructions” on page 15.
Safety During Operation

1. Do not use hammers or hammer tools for lifting objects. Contact your Kubota dealer to find out how to lift with your excavator.

2. Obey all laws, work site rules and local regulations, which affect you and your equipment.

3. Defective equipment can injure you or others around you. Do not operate equipment which is defective or has missing parts. Make sure the maintenance procedures in this manual are completed before using the equipment. Operating the equipment beyond its design limits can cause damage. It can also be dangerous.

4. Do not try to upgrade the hammer’s performance with unapproved modifications. Non-approved modifications can cause injury and damage. Contact your Kubota dealer for advice before modifying the hammer.

5. Disconnect the carrier alternator and battery before welding on a hammer that is installed on the carrier. Welding on the hammer tools will render them useless.

6. Fine jets of hydraulic fluid at high pressure can penetrate the skin causing serious allergic reaction and gangrene. Do not touch fine jets of hydraulic fluid at high pressure, they can penetrate the skin. Do not use your fingers to check for hydraulic fluid leaks. Do not put your face close to suspected leaks. Hold a piece of cardboard close to suspected leaks and then inspect the cardboard for signs of hydraulic fluid leak. Should an injury occur, contact a physician immediately.

7. Hydraulic fluid at system pressure can injure you. Before disconnecting or connecting hydraulic hoses, stop the carrier engine and operate the controls to release pressure trapped in the hoses. During hammer operation, keep people away from the hydraulic hoses.

8. You can be injured by flying splinters when driving metal pins in and out. Use a soft-faced hammer or drift pins to remove and fit metal pins, such as pivot pins. Always wear safety glasses.

9. Kubota recommends the use of a rollover protective structure (ROPS) or falling object protective structure (FOPS) and seat belt fastened around the operator. This combination will reduce risk of serious injury or death should the excavator or skid steer tip over.

10. Always have installed an appropriate guard or shield. A 1/2" polycarbonate door or guard is recommended.

Tool Selection

Refer to Figure 5-1:

A. Chisel Tool (Standard with hammer)
B. Moil Tool (Standard with hammer)
C. Spade, Parallel to Boom (Accessory)
D. Spade, Transverse to Boom (Accessory)
E. Compact Plate (Accessory)
F. Long Moil Tool (Accessory for BR510/560/860)
G. Pyramid Tool (Accessory for BR310/360/460)

Kubota offers a selection of standard and special tools to suit any application. See “Section 8: Specifications & Capacities” on page 46. The correct tool must be selected for best possible working results and maximum life for tool. Contact your Kubota dealer for more information.

Chisel and Moil

Use chisel or moil when breaking concrete or when application is trenching and benching.

Spade Tool

The spade tool is used to cut frozen or compact ground as well as asphalt.

Please note there are two spade tools available: parallel or transverse to excavator boom.

Compacting Plate

A compacting plate is used for ground compacting.

Pyramid Tool

The pyramid tool is used for breaking hard, abrasive material in demolition applications.
Principle of Breaking
Refer to Figure 5-1 on page 31:
In penetrative breaking, a moil or chisel tool is forced into the material. This method is most effective in soft, layered or plastic, low abrasive material. Using the chisel in hard material will cause the sharp edge to wear very quickly and reduce productivity.

The high impact rate of Kubota hammers makes them superior for penetrative breaking.

Correct Working Methods

DANGER
To avoid serious injury or death:
Always protect yourself and bystanders against flying chips of rock. Do not operate hammer or power machine if someone is near the hammer.

1. Prepare the carrier for normal breaking work.
2. Move carrier to the required position.
3. Disengage the boom lock (if fitted).
4. Set engine speed to the recommended engine rpm.

Refer to Figure 5-2:
5. Place tool against the object at a 90 degree angle. Avoid small irregularities on the surface which will break easily and cause either idle strokes or incorrect working angle.
6. Use the excavator boom to press hammer firmly against the object. Do not pry the hammer with the boom, as this will definitely break the tool.
   • Applying too much down force with the boom will cause rapid wear of the hammer and tool.
   • Applying too little down force with the boom will cause vibration, which will cause rapid wear of the tool, hammer, and excavator.
7. Start hammer.
8. Do not let the tool move outwards from the hammer when it penetrates. Keep boom down pressure on the hammer.

9. Keep the tool at a 90 degree angle at all times. If object moves or its surface breaks, correct the angle immediately. Keep feed force aligned with the tool’s centerline.

Refer to Figure 5-3:
10. Stop hammer quickly. Do not let hammer produce idle strokes by working after object breaks.

Refer to Figure 5-4 on page 33:
11. Do not hammer in one spot for more than 15 seconds at a time. If object does not break, stop and change position of the tool. Working too long in one spot will produce stone dust under the tool, which will dampen the impact effect. The tool will overheat and reduce its life.

Refer to Figure 5-5 on page 33:
12. When breaking concrete in hard or frozen ground, never hammer and bend with the tool at the same time. The tool may snap off. Bending may be caused by stone that is inside hard or frozen ground. Be careful while hammering and stop hammering if sudden resistance is seen under the tool.

Listen to the hammer’s sound while using it. If the sound becomes thinner and impacts less efficient, the tool is misaligned with material and/or there is not enough feed force on the tool. Realign tool and press hammer firmly against the material.

Do not operate hammer with power machine’s boom, stick, or bucket cylinder at the end of its stroke (fully extended or fully retracted). Damage to the cylinders could result.

Refer to Figure 5-6 on page 33:
13. Do not use the hammer under water.
Operating Temperature
The operating temperature range for the hammer is -4 °F to +176 °F (-20 °C to +80 °C). The oil viscosity must be between 131 °E -2,90 °E (1000 - 20 cSt) while the hammer is being operated. See “Hydraulic Fluids” on page 44.

- If temperature is lower than -4 °F (-20 °C), the hammer and tool should be preheated before starting operation in order to avoid damage to the accumulator membrane and tool.
- If temperature of the hydraulic oil exceeds +176 °F (+80 °C), an auxiliary oil cooler is needed.

Noise Dampening
Operating the hammer near residential areas or other noise exposure areas can cause noise pollution. In order to avoid unnecessary noise, follow these basic rules:

- When operating with the hammer, keep the tool at 90° to material. Working at other angles may increase noise level by as much as 10 dB.
- Replace or fix all parts that are worn out, damaged or loosened. This increases your hammer life and decreases the noise level.
Table of Contents

Section 6: Options

Quick Coupler Mounts

Refer to Figure 6-1:

These optional excavator quick coupler mounts are available for bolting to the BR360, BR460, BR510, BR560, and BR860 Hydraulic Breakers and provide a means to quick couple the breaker to the quick attach coupler on Kubota’s excavators. Hardware for attaching the quick coupler mount is included with the hammer.

Backhoe Quick Coupler Mounts

Refer to Figure 6-2:

This optional backhoe quick coupler mount is bolted to the BR310 or BR460 Hydraulic Breaker and provides a means for hooking-up the hammer to Kubota’s B26 or M62 backhoe. Hardware for mounting the quick coupler mount to the hammer is included with the hammer.

K008 Excavator Pin-on Mount

Refer to Figure 6-3:

This optional pin-on mount is bolted to the BR310 Hydraulic Breaker and provides a means for hooking-up the hammer to Kubota’s K008 excavator. Hardware for attaching the pin-on mount is included with the BR310 hammer. Hardware for mounting the pin-on mount to the backhoe is included with the backhoe.
Skid Steer QA Breaker Mount

Refer to Figure 6-4:

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>317-391A</td>
<td>Assembly, Skid Steer QA Breaker Mount</td>
</tr>
</tbody>
</table>

NOTE: Use Skid Steer Quick Attach Mount only with Model BR510 Hydraulic Breaker. Using the mount with Model BR560 Hydraulic Breaker can damage the mount and hammer.

This skid steer mount is designed for hooking-up to the customer’s BR510 quick coupler mount #317-347A. Refer to Item (#4) in Figure 6-1 on page 34.

Lock pin (#2) and lock pin keeper (#3) are included. Customer must supply quick coupler mount (#4) shown in Figure 6-1 on page 34.

BR510 Skid Steer QA/Excavator Mount

Refer to Figure 6-5:

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>317-392A</td>
<td>Assembly, Skid Steer Mount, BR510</td>
</tr>
</tbody>
</table>

NOTE: Use Skid Steer Quick Attach Mount only with Model BR510 Hydraulic Breaker. Using the mount with Model BR560 Hydraulic Breaker can damage the mount and hammer.

This assembly consists of one skid steer QA mount (#1) one quick coupler mount (#2), lock pin (#3), and lock pin keeper (#4) for hooking-up the BR510 Hydraulic Breaker to a skid steer or track loader. This assembly is intended for users who do not already have an excavator quick coupler mount. Hardware for attaching the quick coupler mount to the hammer is included with the hammer.

Skid Steer Mount with BR510/560 Mount

Refer to Figure 6-6:

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>317-349A</td>
<td>Assembly, Skid Steer Mount, BR510/560</td>
</tr>
</tbody>
</table>

This skid steer mount with BR510/560 hammer mount is designed for attaching to the BR510 or BR560 Hydraulic Breaker with bolts.

Hardware for attaching the skid steer quick attach mount is included with the hammer.
Optional Hydraulic Hoses For Skid Steer Mounted Hydraulic Breakers

<table>
<thead>
<tr>
<th>Item</th>
<th>Fits Most Skid Steers with Quick Disconnect Couplers</th>
<th>Fits Breaker Model No(s.)</th>
<th>Hose Kit Part No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1 1/16&quot; Flat face couplers, Connect under pressure</td>
<td>BR510, BR560</td>
<td>317-353A</td>
</tr>
</tbody>
</table>

Skid Steer Hydraulic Hoses

Optional Hydraulic Hose Kits
A variety of optional hydraulic hose kits are available for connecting Kubota hammers to Kubota's power machines.

Skid Steer Hydraulic Hose Kit
Refer to Figure 6-7:
This hose kit is complete with hoses, 90° elbows, and 1 1/16" male and female flat face couplers for hooking-up hammer hydraulics to the skid steer male and female flat face hydraulic couplers.

Excavator/Backhoe Hose Kits
Refer to Figure 6-8:
These hydraulic hose kits are complete for connecting one end of the pair of hoses to the hammer hydraulic ports and the other ends to the excavator or backhoe hydraulic ports. Quick disconnect couplers located at the excavator or backhoe ports provide easy hook-up.
Maintenance
Proper servicing and adjustment are key to the long life of any attachment. With careful and systematic inspection, you can avoid costly maintenance, time, and repair.

After using your hammer for several hours, check all bolts to be sure they are tight. Replace any worn, damaged, or illegible safety labels by obtaining new labels from your Kubota dealer.

⚠️ DANGER
To avoid serious injury or death:
- Do not go near or under raised loader arms without first securing loader arms in the raised position with an approved lift-arm support.
- Keep body, body extremities, clothing, pull strings, etc. away from rotating/moving parts. Always shut off hydraulics to the attachment and shutdown the power machine before adjusting or servicing the equipment.
- Always secure equipment with solid, non-concrete supports before working under it. Never go under equipment supported by concrete blocks or hydraulics. Concrete can break, hydraulic lines can burst, and/or hydraulic controls can be actuated even when power to hydraulics is off.

⚠️ WARNING
To avoid serious injury or death:
- Always shut power machine down using the “Shutdown Procedure” provided in this manual before servicing, adjusting, cleaning, or maintaining the attachment.
- Allow only persons to perform maintenance on this attachment who have been properly trained in its safe operation.
- Perform scheduled maintenance. Check for loose hardware, missing parts, broken parts, structural cracks, and excessive wear. Make repairs before putting the attachment back into service. Serious breakdowns can result in injury or death.
- Do not alter attachment or replace parts on the attachment with other brands. Other brands may not fit properly or meet OEM specifications. They can weaken the integrity and impair the safety, function, performance, and life of the attachment. Replace parts only with genuine OEM parts.
- Check hydraulic hoses and fittings frequently for leaks or damage. Fluid escaping under pressure can penetrate skin. Large leaks can drop the attachment.
- Lubricate, make adjustments and repairs in a safe area away from traffic and other hazards.
- Check hitch fit-up frequently. An improper fit-up can cause the attachment to come loose from the loader hitch plate and fall.
- Hydraulic fluid heats up when the skid steer is operating. This can cause hydraulic hoses, fittings, and couplers to become hot. Wear gloves when working with hydraulic components and when connecting and disconnecting hydraulic couplers.

Basic Maintenance Rules
Whenever hammer maintenance work is performed, keep these basic rules in mind:

1. The hammer is a precision made hydraulic attachment. Absolute cleanliness and great care are basic and essential matters in handling any hydraulic component. Dirt is the worst enemy of hydraulic systems.
   - Do not drop hydraulic hose ends in the dirt.
   - Do not leave hammer IN and OUT ports open on site for sand and dust to enter.
2. Handle hammer parts carefully. Remember to cover cleaned and dried parts with clean lint free cloth.
3. Only use purpose designed materials for cleaning hydraulic parts. Never use water, paint thinners or carbon tetrachloride.
4. Components, gaskets, and seals in the hydraulic system should be covered with very clean hydraulic oil before assembly.

Release Hydraulic Oil Pressure

⚠️ WARNING
To avoid serious injury or death:
- The hydraulic pressure inside the hammer must always be released before making any adjustments or repairs when the hammer is connected to the power machine. There may also be pressurized oil trapped inside the hammer even if the hammer is disconnected from the carrier.
- Release hydraulic pressure according to the following instructions. Wait at least 10 minutes before opening any plugs or valve covers.
- The steps below do not release pressure from the accumulators. Do not disassemble the hammer before releasing gas pressure from accumulators and oil pressure from the hammer. Please contact your Kubota dealer for further instructions before disassembling the hydraulic hammer.

2. Operate hydraulic controls to release any pressure trapped inside the hydraulic system.
3. Wait 10 minutes for oil pressure to drop inside the hammer.
4. Close hammer inlet and outlet lines. If quick couplers are used, disconnection automatically closes hammer lines. If hammer line includes ball valves, please make sure that they are closed.
Tool Maintenance (310/360/460)
Refer to Figure 7-1:

**WARNING**
To avoid serious injury or death:
- The hydraulic pressure inside the hammer must always be released before removing the tool. After operating the hammer, wait 10 minutes for the oil pressure to drop inside the hammer. Not complying may result in serious injury.
- Allow time for the tool to cool before handling it. A hot tool may cause severe injury.

**Remove Tool**
1. Set the hammer on level ground.
3. Wait 10 minutes for oil pressure to drop inside the hammer before continuing with step 4.
4. Pry out upper and lower rubber rings (#1) with customer supplied hook tool.
5. Remove tool retaining pin (#2) by pushing it through hole (#3) located on the opposite side.

**Install Tool**
1. Clean and lubricate tool (#4) and pin (#2). Remove burrs from the tool. If using old tools, check tool and bushing wear limits. Refer to Figure 7-7 & Figure 7-8 on page 41.
2. Refer to Figure 7-2: Check seal (#5) inside tool bushing (#6) for wear and replace if required. Install seal (#5).
4. Install tool retaining pin (#2).
5. Install upper and lower rubber ring(s) (#1).

Tool Bushing Maintenance (310/360/460)
Refer to Figure 7-2:

**Remove Tool Bushing**
1. Set the hammer on level ground.
3. Wait 10 minutes for oil pressure to drop inside the hammer before continuing with step 4.
4. Remove tool. See “Remove Tool” on this page.
5. Remove tool bushing (#6).
6. Remove seal (#5) from tool bushing.

**Install Tool bushing**
1. Clean all parts.
2. Measure inner diameter of bushing (#6). Replace bushing if necessary. Refer to Figure 7-8 on page 41.
3. Check seal (#5) for wear and replace if required. Install seal (#5).
4. Refer to Figure 7-3 on page 39:
   - Apply a thin layer of joint paste (silicone sealant) on tool bushing's outer surface as shown.
     - Suitable area is approximately 13/16” (20 mm).
     - Do not apply joint paste inside front head bore.
5. Apply thread grease inside front head bore as shown in the illustration (make sure the thread grease and joint paste will not get mixed). The thread grease will prevent corrosion and seizures and make bushing removal easier.
6. Install tool bushing (#6), in its place before the joint paste hardens.
7. Install tool. Refer to “Install Tool” on this page.
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Section 7: Maintenance & Lubrication

BR310/360/460 Tool Bushing Preparation
Figure 7-3
Tool Maintenance (510/560/860)

Refer to Figure 7-4:

WARNING
To avoid serious injury or death:
- The hydraulic pressure inside the hammer must always be released before removing the tool. After operating the hammer, wait 10 minutes for the oil pressure to drop inside the hammer. Not complying may result in serious injury.
- Allow time for the tool to cool before handling it. A hot tool may cause severe injury.

Remove Tool
1. Set the hammer on level ground.
3. Wait 10 minutes for oil pressure to drop inside the hammer before continuing with step 4.
4. Pry out plug (#1).
5. Pry out O-ring (#2) with customer supplied hook tool.
6. Remove tool retaining pin (#3) by pushing it through hole (#4) located on the opposite side.
7. Remove tool (#5). Use a lifting device if necessary.

Install Tool
1. Clean and lubricate tool (#5) and pin (#3). Remove burrs from the tool. If you are using old tools, check tool and bushing wear limits. Refer to Figure 7-7 & Figure 7-8 on page 41.
2. Install tool (#5). Align notch of tool with pin bore.
3. Install tool retaining pin (#3).
4. Install rubber ring (#2) and plug (#1).

Bushing Maintenance (510/560/860)

Refer to Figure 7-5:

Remove Tool Bushing
1. Set hammer on level ground.
3. Wait 10 minutes for oil pressure to drop inside the hammer before continuing with step 4.
4. Remove tool. See “Remove Tool” on this page.
5. Remove tool bushing (#6).
6. Remove the seal (#7) from tool bushing.

Install Tool Bushing
1. Clean all parts.
2. Check seal (#7) for wear and replace if required.
3. Measure inner diameter of bushing (#6) to check for wear. Replace bushing if necessary. Refer to Figure 7-8 on page 41.
4. Install seal (#7).
5. Install tool bushing (#6).
6. Install tool. Refer to “Install Tool” on this page.
Operator Maintenance
It is the operator’s responsibility to perform the following maintenances:

**Every Two Hours or Daily**

Refer to Figure 7-6:
2. Regular visual inspections during operation are recommended.
   - A tool shank (#1) covered in grease part way down the shank is properly greased.
   - A tool shank (#2) covered with excessive grease requires less frequent greasing intervals.
   - A tool shank (#3) that is dry requires frequent greasing intervals.
3. Refer to Figure 7-9 on page 43: Visually inspect condition of grease zerks and the presence of the grease nipple. Replace grease zerk if lost or destroyed.
4. Observe hydraulic oil temperature, all hydraulic lines and connections as well as impact efficiency and evenness of operation.
5. Tighten loose connections.

**Every Ten Hours or Monthly**

1. Refer to Figure 7-7: Check tool shank for wear. Replace tool if tool shank diameter is less than dimension (B) in the table.
2. Refer to Figure 7-8: Check tool bushings for wear. Replace tool bushing if bushing diameter is larger than dimension (D) in the table.
3. Check hydraulic hoses, replace if necessary. Do not let dirt get into the hammer or hoses.

---

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**Visible Lubrication on the Tool**

**Figure 7-6**

**Operator Maintenance**

**Every Two Hours or Daily**

**Refer to Figure 7-6:**

2. Regular visual inspections during operation are recommended.
   - A tool shank (#1) covered in grease part way down the shank is properly greased.
   - A tool shank (#2) covered with excessive grease requires less frequent greasing intervals.
   - A tool shank (#3) that is dry requires frequent greasing intervals.
3. Refer to Figure 7-9 on page 43: Visually inspect condition of grease zerks and the presence of the grease nipple. Replace grease zerk if lost or destroyed.
4. Observe hydraulic oil temperature, all hydraulic lines and connections as well as impact efficiency and evenness of operation.
5. Tighten loose connections.

**Every Ten Hours or Monthly**

1. Refer to Figure 7-7: Check tool shank for wear. Replace tool if tool shank diameter is less than dimension (B) in the table.
2. Refer to Figure 7-8: Check tool bushings for wear. Replace tool bushing if bushing diameter is larger than dimension (D) in the table.
3. Check hydraulic hoses, replace if necessary. Do not let dirt get into the hammer or hoses.
Annual Service
Kubota recommends the hammer be serviced by your Kubota dealer every 600 hours or annually, whichever comes first. Your Kubota dealer will inspect and repair as required.

1. Check all hydraulic connections.
2. Check hydraulic hoses. Make sure they do not rub against the power machine in any operating position.
3. Replace hydraulic oil filters in the power machine.

Washing the Hammer

**IMPORTANT:** Plug pressure and return line before washing the hammer to prevent dirt from entering into the hammer.

Dirt (mud, concrete dust, etc.) can attach to the hammer. Wash the outside of the hammer with a steam washer before sending it to the workshop. Doing this will help prevent contamination from dirt while being repaired.

Long-Term Storage
Clean, inspect, service, and make necessary repairs to the hydraulic hammer when storing it for long periods and at the end of the season. This will help ensure the unit is ready for field use the next time you hook-up to it.

**DANGER**
To avoid serious injury or death:
- Always secure equipment with solid, non-concrete supports before working under it. Never go under equipment supported by concrete blocks or hydraulics. Concrete can break, hydraulic lines can burst, and/or hydraulic controls can be actuated even when power to hydraulics is off.

**IMPORTANT:** Plug pressure and return line before washing the hammer to prevent dirt from entering into the hammer.

4. Repaint parts where paint is worn or scratched to prevent rust. Ask your Land Pride dealer for aerosol touch-up paint. Paint is also available in touch-up bottles with brush, quarts, and gallon sizes by adding TU, QT, or GL to the end of the aerosol part number.

<table>
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<th>Touch-Up Paint</th>
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<tbody>
<tr>
<td>Part No.</td>
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<tr>
<td>821-070C</td>
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<tr>
<td>821-070CTU</td>
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<tr>
<td>821-070CQT</td>
</tr>
<tr>
<td>821-070CGL</td>
</tr>
</tbody>
</table>

5. Replace all damaged or missing decals.
6. Lubricate as noted in the lubrication section. See "Lubrication Points" on page 43.
7. The tool must be removed from the hammer.
8. The lower end of the piston, tool and tool bushings must be well protected with grease to minimize oxidation.
9. Open connections must be sealed with clean plugs to prevent oil leakage and dirt access into the hydraulic system.
10. The hammer must be stored in the vertical position in a clean, dry place. Inside storage will reduce maintenance and make for a longer hammer life.
11. Make sure the hammer is secured from falling.
12. Follow all unhooking instructions.
   - Refer to “Unhook Hammer from Excavator” on page 21 if unhooking the hammer from an excavator or backhoe.
   - Refer to “Unhook Hammer Quick Attach Mount” on page 27 if disconnecting the quick coupler mount from the skid steer quick attach mount.
   - Refer to “Unhook Skid Steer QA Mount” on page 27 if disconnecting the loader hitch plate from the skid steer quick attach mount.
Lubrication Points

Grease Interval

Refer to Figure 7-9 & Figure 7-10:
1. Every two hours or daily, apply grease to the tool bushing and tool. Generally, 3-5 pumps is enough.
2. Adapt interval and amount of grease to wear rate of tool and working conditions.
3. Tool shank must be well lubricated before installing the tool.

Grease Instructions

1. BR310, BR360, & BR460 hammer must be standing upright with pressure against the tool to ensure even flow of grease around the tool and bushing.
2. Do not fill the space between piston and tool with grease.
3. Insufficient greasing may cause:
   - Abnormal wear of tool bushing and tool.
   - Tool breakage.

Grease Type

Grease must meet the following requirements:
- No dropping point (or very high, over 250 °C/ 480 °F)
- Minimum working temperature under lowest ambient temperature.
- Maximum working temperature over 150 °C/ 300 °F.
- Additives: molybdenum disulphide (MoS2), graphite or equivalent
- Grade (thickness): NLGI 0-2
- Water resistant.

Recommended Grease

Kubota recommends using chisel paste grease.

<table>
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<th>Description</th>
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<tr>
<td>821-082C</td>
<td>Grease, Chisel Paste</td>
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</table>
Hydraulic Fluids

Generally the hydraulic oil originally intended for a Kubota excavator is suitable for the Kubota hydraulic hammer. However, working with the hydraulic hammer will create more heat than standard excavation work, so the oil viscosity must be checked.

Normal operating viscosity of the hydraulic oil should be 2.90-5.35 °E (20-40 cSt). Do not start the hammer if viscosity of the hydraulic oil is above 131 °E (1000 cSt) or below 2.90 °E (20 cSt).

Hydraulic oil normalizes at a certain level depending on conditions and on the power machine. During continuous use, the operating temperature range should be between -4 °F to +176 °F (-20 °C to +80 °C). If temperature is lower than -4 °F, the hammer and tool should be preheated before starting operation to avoid damage to the accumulator membrane and tool. For additional information, see “Hydraulic Oil Cooling” below.

Hydraulic Oil Cooling

The maximum permitted hydraulic oil temperature in continuous hammer use is 120-175 °F (50-80 °C) depending on the viscosity of the oil in the system. The temperature of the hydraulic oil depends on ambient conditions, cooling system efficiency and duty cycle of the hammer.

When the hydraulic hammer is used continuously it is necessary to have an oil cooling system. The oil cooler of the carrier must have a volume flow capacity of at least twice the hammer’s maximum volume flow. The cooler must stand the dynamic pressure of 20 bar, 290 psi (2 MPa). If the oil temperature is still too high in spite of the cooler, please contact your Kubota dealer.

Standard Hydraulic Oil

The table above shows hydraulic oils recommended for hammer use. The most suitable oil is selected in such a way that the temperature of the hydraulic oil in continuous use is in the permitted range.

It is strongly recommended to change hydraulic oils between summer and winter if there is an average temperature difference of more than 63 °F (35 °C). The correct hydraulic oil viscosity would thus be ensured.

Substandard Hydraulic oil

Damaged to the Hydraulic Breaker attributed to incorrect hydraulic oil in hammer:

**Oil too Thick**
- Difficult start up.
- Stiff operation.
- Hammer strikes irregularly and slowly.
- Danger of cavitation in the pumps and hydraulic hammer.
- Sticky valves.
- Filter bypass, impurities in oil not removed.

**Oil too Thin**
- Efficiency losses (internal leaks).
- Damage to gaskets and seals, through leakage.
- Accelerated wear of parts, due to reduced lubrication efficiency.

Special Oils

In some cases special oils (e.g. biological oils and non-flammable oils) can be used with Kubota hydraulic hammers. Observe the following aspects when considering use of special oils:

- The viscosity range in the special oil must be in the specified range 2,90 °E - 131 °E (20-1000 cSt).
- Lubrication properties must be proper.
- The corrosion resistance properties must be proper.

Special oil may be used in the carrier. Due to the high piston speed in hammer, always check suitability with hammer. Please contact your Kubota dealer for more information about special oils.

Hydraulic Oil Purity

No separate filter is required when the Kubota hammer is installed in the hydraulic circuit. The hydraulic oil filter of the carrier will clean the oil flowing through the hammer.

The purpose of the oil filter is to remove impurities from the hydraulic oil since impurities accelerate component wear, blockages and even seizure. Impurities also cause heat and deterioration. Air and water are considered impurities in oil. Oil sampling is recommended at regular intervals, as not all impurities can be seen with the naked eye.
Impurities Enter Hydraulic System
- During hydraulic oil changes and refilling.
- When components are repaired or serviced.
- When hammer is being installed on carrier.
- Due to component wear.

Oil Filter
In hydraulic hammer work, the power machine’s oil filter must fulfill the following specifications:
- The oil filter must allow a maximum particle size of 25 microns.
- The oil filter material must be man-made fiber cloth or very fine gauge metallic mesh to withstand pressure fluctuations.
- The oil filter must have a volume flow capacity of at least twice hammer’s maximum flow.

Adding New Oil
In general, new oils have a maximum particle count of 40 microns. New oil must be filtered when adding oil to the power machine’s reservoir.

Component Damage Caused by Oil Impurities
The following is a list of Component damages caused by hydraulic oil impurity in the power machine and hammer circuits:

Pump Working Life is Shortened
- Rapid wear of parts
- Cavitation

Valves Do Not Function Properly
- Spools bind
- Rapid wear of parts
- Blocking of small transfer ports

Cylinder and Gasket Wear
- Reduces Hammer Efficiency
- Rapid wear of moving parts and seals
- Danger of piston seizing up
- Oil leakage

Shortened Working Life and Reduced Efficiency of the Hydraulic Oil
- Oil overheats
- Oil quality deteriorates
- Electro-chemical changes in hydraulic oil

Repair Hammer and Clean Hydraulic System

WARNING
To avoid serious injury or death:
- The hydraulic pressure inside the hammer must always be released before removing any plugs or valves. Read the instructions on releasing the hydraulic pressure from the hammer. See “Release Hydraulic Oil Pressure” on page 37.
- Wait at least 10 minutes after releasing hydraulic pressure before opening any plugs or valve covers.
- Releasing hydraulic pressure does not release pressure from the accumulators! Do not disassemble the hammer before releasing gas pressure from accumulators and oil pressure from the hammer.
- Please have your Kubota dealer relieve accumulator gas pressure and disassemble the hammer.

Component damage is only “a symptom.” The trouble will not be cured by removing “the symptom.” After any component damage due to impurities in the oil, the hammer must be disassembled and the entire hydraulic system cleaned. The hammer must not be disassembled before releasing hydraulic oil pressure inside the hammer and gas pressure in the accumulator. Refer to “Release Hydraulic Oil Pressure” on page 37 and “Service Accumulator” below.

Please have your Kubota dealer dismantle, clean, replace damaged components, reassemble, and fill the hammer with new hydraulic oil.

Service Accumulator

WARNING
To avoid serious injury or death:
- Do not release gas pressure from accumulator before releasing oil pressure from the hammer’s hydraulic system.
- Do not disassemble hammer before releasing gas pressure from accumulator.
- Use only nitrogen (N2) for charging accumulators. The use of other gas may cause accumulators to explode. Not complying could result in serious injury or death.

IMPORTANT: The charging device does not have a pressure relief valve. The nitrogen gas bottle valve must be closed when its gauge shows correct charging pressure.

Please have your Kubota dealer release accumulator gas pressure, service the accumulator, and recharge the accumulator with nitrogen.
BR310, BR360, & BR460 Specifications & Capacities

<table>
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<th>Model Numbers</th>
<th>Unit</th>
<th>BR310</th>
<th>BR360</th>
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<th>Compact Plate</th>
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<td>BH406SK</td>
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</table>

1. Specifications are subject to change without prior notice.
2. Depends on hydraulic parameters (oil flow, pressure and nozzle).
3. Operating pressure +50 bar.
4. Includes hammer and standard tool only.
5. Check Carrier’s lifting capacity, especially with flange mount hammers and mounting bracket.
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Section 8: Specifications & Capacities

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Dimensions [in (mm)]&lt;sup&gt;1&lt;/sup&gt;</th>
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<td>11 1/2 (292) 6 5/16 (160) 14 1/4 (360) 34 1/4 (868) 44 3/8 (1129) 13/16 (21)</td>
<td>4</td>
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1. Dimensions are subject to change without prior notice.
2. Diameter of holes.
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**Section 8: Specifications & Capacities**

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### BR510, BR560, & BR860 Specifications & Capacities

<table>
<thead>
<tr>
<th>Model Numbers</th>
<th>BR510</th>
<th>BR560</th>
<th>BR860</th>
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<td><strong>Frequency range</strong></td>
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<td>10-32 (40-120)</td>
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</tr>
<tr>
<td><strong>Pressure relief setting minimum</strong></td>
<td>2030-2900 (140-200)</td>
<td>2030-2760 (140-190)</td>
<td>2180-2760 (150-190)</td>
</tr>
<tr>
<td><strong>Pressure relief setting maximum</strong></td>
<td>3190 (220)</td>
<td>3190 (220)</td>
<td>3190 (220)</td>
</tr>
<tr>
<td><strong>Back pressure, maximum</strong></td>
<td>290 (20)</td>
<td>290 (20)</td>
<td>290 (20)</td>
</tr>
<tr>
<td><strong>Operating weight</strong></td>
<td>610 (275)</td>
<td>820 (370)</td>
<td>1110 (505)</td>
</tr>
<tr>
<td><strong>Tool shank diameter</strong></td>
<td>2.83 (72)</td>
<td>3.15 (80)</td>
<td>3.54 (90)</td>
</tr>
<tr>
<td><strong>Mini-excavator, tractor backhoe weight</strong></td>
<td>3.7-8.8 (3.4-8.0)</td>
<td>5.05-9.9 (4.6-9.0)</td>
<td>7.7-13.8 (7.0-12.5)</td>
</tr>
<tr>
<td><strong>Skid steer, robot weight</strong></td>
<td>2.1-3.95 (1.9-3.6)</td>
<td>2.85-5.5 (2.6-5.0)</td>
<td>4.4-7.7 (4.0-7.0)</td>
</tr>
<tr>
<td><strong>Hammer weight</strong></td>
<td>915 (415)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Units</strong></th>
<th><strong>Chisel Tool</strong></th>
<th><strong>Moil Tool</strong></th>
<th><strong>Spade, Parallel</strong></th>
<th><strong>Spade, Transverse</strong></th>
<th><strong>Compact Plate</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BR510</strong></td>
<td>BJ631SK</td>
<td>BJ633SK</td>
<td>BJ635SK</td>
<td>BJ636SK</td>
<td>BJ637SK</td>
</tr>
<tr>
<td><strong>Length</strong></td>
<td>in (mm) 25 5/8 (650)</td>
<td>25 5/8 (650)</td>
<td>25 5/8 (650)</td>
<td>125 5/8 (650)</td>
<td>20 1/8 (510)</td>
</tr>
<tr>
<td><strong>Base width or diameter</strong></td>
<td>in (mm) 6 (150)</td>
<td>6 (150)</td>
<td>13 (330)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Weight</strong></td>
<td>lbs (kg) 42 (19)</td>
<td>42 (19)</td>
<td>40 (18)</td>
<td>40 (18)</td>
<td>112 (51)</td>
</tr>
<tr>
<td><strong>BR560</strong></td>
<td>BJ701SK</td>
<td>BJ703SK</td>
<td>BJ705SK</td>
<td>BJ706SK</td>
<td>BJ707SK</td>
</tr>
<tr>
<td><strong>Length</strong></td>
<td>in (mm) 29 1/8 (740)</td>
<td>29 1/8 (740)</td>
<td>29 1/8 (740)</td>
<td>29 1/8 (740)</td>
<td>27 5/8 (740)</td>
</tr>
<tr>
<td><strong>Base width or diameter</strong></td>
<td>in (mm) 8 (200)</td>
<td>8 (200)</td>
<td>13 (330)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Weight</strong></td>
<td>lbs (kg) 60 (27)</td>
<td>60 (27)</td>
<td>55 (25)</td>
<td>55 (25)</td>
<td>150 (68)</td>
</tr>
<tr>
<td><strong>BR860</strong></td>
<td>BJ801SK</td>
<td>BJ803SK</td>
<td>BJ805SK</td>
<td>BJ806SK</td>
<td>BJ807SK</td>
</tr>
<tr>
<td><strong>Length</strong></td>
<td>in (mm) 32 3/4 (830)</td>
<td>33 1/8 (840)</td>
<td>33 1/8 (840)</td>
<td>33 1/8 (840)</td>
<td>31 1/2 (800)</td>
</tr>
<tr>
<td><strong>Base width or diameter</strong></td>
<td>in (mm) 8 3/8 (210)</td>
<td>8 3/8 (210)</td>
<td>13 (330)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Weight</strong></td>
<td>lbs (kg) 84 (38)</td>
<td>84 (38)</td>
<td>84 (38)</td>
<td>84 (38)</td>
<td>170 (77)</td>
</tr>
</tbody>
</table>

1. Specifications are subject to change without prior notice.
2. Depends on hydraulic parameters (oil flow, pressure and nozzle).
3. Operating pressure +50 bar.
4. Operating weight includes standard mounting bracket and standard tool.
5. Includes hammer and standard tool only.
6. Check Carrier’s lifting capacity, especially with flange mount hammers and mounting bracket.
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Section 8: Specifications & Capacities

1. Specifications are subject to change without prior notice.

2. Diameter of holes.

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Dimensions [in (mm)]¹</th>
<th>Qty</th>
</tr>
</thead>
<tbody>
<tr>
<td>BR510</td>
<td>15 (380) 16.4 (417) 35.9 (911) 49.6 (1261) 17 (432) 0.7 (18)</td>
<td>10</td>
</tr>
<tr>
<td>BR560</td>
<td>15 (380) 17.8 (453) 40.6 (1032) 57 (1449) 17.87 (454) 0.7 (18)</td>
<td>10</td>
</tr>
<tr>
<td>BR860</td>
<td>15.8 (400) 20.7 (526) 47.9 (1217) 65.7 (1669) 20.62 (524) 0.87 (22)</td>
<td>12</td>
</tr>
</tbody>
</table>

¹ Specifications are subject to change without prior notice.
² Diameter of holes.
## Features and Benefits of All Models

<table>
<thead>
<tr>
<th>Features</th>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oil fired</td>
<td>Oil fired units do not have a bladder of nitrogen that has to be re-filled.</td>
</tr>
<tr>
<td>No tie rods</td>
<td>Tie rods can become loose and need tightening periodically.</td>
</tr>
<tr>
<td>Service interval = 1000 hrs.</td>
<td>The Hydraulic Breaker is built tough to last a long time between service intervals.</td>
</tr>
<tr>
<td>Higher impact rate, Up to 2600 bpm</td>
<td>Able to complete the job faster than most machines.</td>
</tr>
<tr>
<td>All models operate quiet</td>
<td>Each model has a lower operating noise level than the competitors.</td>
</tr>
<tr>
<td>Standard tools included:</td>
<td>All hammers are shipped with two of the most heavily used tools to ensure the hammer is equipped to work.</td>
</tr>
<tr>
<td>1 moil point and 1 chisel point</td>
<td>Constant energy throughout a given oil flow range means less drop off in effective energy with lower oil flow and pressures.</td>
</tr>
<tr>
<td>BR510, BR560, &amp; BR860 models have CBE (Constant blow energy)</td>
<td>Fewer adjustments between power machines.</td>
</tr>
<tr>
<td>Models with CBE span a larger hydraulic range</td>
<td></td>
</tr>
<tr>
<td>Problem</td>
<td>Cause</td>
</tr>
<tr>
<td>---------</td>
<td>-------</td>
</tr>
<tr>
<td>Hammer does not start</td>
<td>Pressure or return lines are closed.</td>
</tr>
<tr>
<td></td>
<td>Pressure and return hoses installed backward.</td>
</tr>
<tr>
<td></td>
<td>Piston is in its lower hydraulic brake.</td>
</tr>
<tr>
<td></td>
<td>Hammer control valve does not open.</td>
</tr>
<tr>
<td></td>
<td>Relief valve in hydraulic circuit opens at a low pressure. Hammer operating pressure is not reached.</td>
</tr>
<tr>
<td></td>
<td>Leakage from pressure to return in excavator hydraulic circuit.</td>
</tr>
<tr>
<td></td>
<td>Excessive back pressure in return line.</td>
</tr>
<tr>
<td></td>
<td>Failure in hammer valve or distributor operation.</td>
</tr>
<tr>
<td></td>
<td>Grease between piston and tool contact area.</td>
</tr>
<tr>
<td></td>
<td>Piston not operating</td>
</tr>
<tr>
<td>Hammer operates irregularly but the blow has full power</td>
<td>Relief valve in hydraulic circuit opens at a low pressure. Hammer operating pressure is not reached.</td>
</tr>
<tr>
<td></td>
<td>The low pressure accumulator has lost its nitrogen charge.</td>
</tr>
<tr>
<td></td>
<td>Pressure adjusting valve setting is incorrect.</td>
</tr>
<tr>
<td></td>
<td>Working method is not correct.</td>
</tr>
<tr>
<td></td>
<td>Hammer valve or distributor operation not working.</td>
</tr>
</tbody>
</table>

Continued on next page.
## Troubleshooting Chart

<table>
<thead>
<tr>
<th>Problem</th>
<th>Cause</th>
<th>Solution</th>
</tr>
</thead>
</table>
| Oil overheated. (Over +80°C/+176°F) | • Check for a fault in the oil cooling system or an internal leak in the hammer. | • Check for a fault in the oil cooling system or an internal leak in the hammer.  
• Check hydraulic circuit of the carrier.  
• Check relief valve operation in the carrier.  
• Check line size. Assemble an additional oil cooler. |
| Oil overheats | Relief valve in hydraulic circuit opens at a low pressure. Hammer operating pressure is not reached. | Check installation. Check the relief valve operation. Adjust the relief valve in hydraulic circuit. Measure the high pressure in the hammer inlet line. |
| Oil overheats | Leakage from pressure to return in excavator hydraulic circuit. | Check the installation. Check the pump and the other hydraulic components. |
| Oil overheats | Internal oil leak in hammer. | Disassemble the hammer. Locate the oil leak. Change all O-rings and seals. |
| Oil overheats | Hydraulic oil viscosity too low. | Check hydraulic oil viscosity. |
| Oil overheats | Cooling capacity of oil cooler is too small. | Assemble an additional oil cooler. |
| Oil overheats | Application not correct for hammer. | See “Correct working methods” on page 12. |
| Oil overheats | Excessive back pressure in return line. | Check the installation. Check the size of the return line. |
| Recurrent tool failure | Rapid wear of tool. | Do not work with tool in one spot for more than 15 seconds. Refer to recommended use and to correct working methods. See “Correct Working Methods” on page 32 |
| Recurrent tool failure | Rough operating practices. | There is a wide selection of tools available for different applications. See “Tool Selection” on page 31. Consult your Kubota dealer for more information. |
| Recurrent tool failure | Tool does not get enough lubricant. | See “Lubrication Points” on page 43. Also check on correct working methods. See “Correct Working Methods” on page 32. |
| Further assistance | If further assistance is required, please prepare to answer the following questions before calling your Kubota dealer. | • Model and serial number.  
• Working hours and service history.  
• Excavator model.  
• Installation: Oil flow, operating pressure and return line pressure if known.  
• Application.  
• Has the product operated normally before. |
## Torque Values Chart for Common Bolt Sizes

<table>
<thead>
<tr>
<th>Bolt Size (inches)</th>
<th>Grade 2</th>
<th>Grade 5</th>
<th>Grade 8</th>
<th>Bolt Size (Metric)</th>
<th>Grade 5.8</th>
<th>Grade 8.8</th>
<th>Grade 10.9</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4&quot; - 20</td>
<td>7.4</td>
<td>5.6</td>
<td>11</td>
<td>5.8</td>
<td>4</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>1/4&quot; - 28</td>
<td>8.5</td>
<td>6</td>
<td>13</td>
<td>10</td>
<td>5</td>
<td>11</td>
<td>18</td>
</tr>
<tr>
<td>5/16&quot; - 18</td>
<td>15</td>
<td>11</td>
<td>24</td>
<td>17</td>
<td>33</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>5/16&quot; - 24</td>
<td>17</td>
<td>13</td>
<td>26</td>
<td>19</td>
<td>37</td>
<td>27</td>
<td></td>
</tr>
<tr>
<td>3/8&quot; - 16</td>
<td>27</td>
<td>20</td>
<td>42</td>
<td>31</td>
<td>59</td>
<td>44</td>
<td></td>
</tr>
<tr>
<td>3/8&quot; - 24</td>
<td>31</td>
<td>22</td>
<td>47</td>
<td>35</td>
<td>67</td>
<td>49</td>
<td></td>
</tr>
<tr>
<td>7/16&quot; - 14</td>
<td>43</td>
<td>32</td>
<td>67</td>
<td>49</td>
<td>95</td>
<td>70</td>
<td></td>
</tr>
<tr>
<td>7/16&quot; - 20</td>
<td>49</td>
<td>36</td>
<td>75</td>
<td>55</td>
<td>105</td>
<td>78</td>
<td></td>
</tr>
<tr>
<td>1/2&quot; - 13</td>
<td>66</td>
<td>49</td>
<td>105</td>
<td>76</td>
<td>145</td>
<td>105</td>
<td></td>
</tr>
<tr>
<td>1/2&quot; - 20</td>
<td>75</td>
<td>55</td>
<td>115</td>
<td>85</td>
<td>165</td>
<td>120</td>
<td></td>
</tr>
<tr>
<td>9/16&quot; - 12</td>
<td>95</td>
<td>70</td>
<td>150</td>
<td>110</td>
<td>210</td>
<td>155</td>
<td></td>
</tr>
<tr>
<td>9/16&quot; - 18</td>
<td>105</td>
<td>79</td>
<td>165</td>
<td>120</td>
<td>235</td>
<td>170</td>
<td></td>
</tr>
<tr>
<td>5/8&quot; - 11</td>
<td>130</td>
<td>97</td>
<td>205</td>
<td>150</td>
<td>285</td>
<td>210</td>
<td></td>
</tr>
<tr>
<td>5/8&quot; - 18</td>
<td>150</td>
<td>110</td>
<td>230</td>
<td>170</td>
<td>325</td>
<td>240</td>
<td></td>
</tr>
<tr>
<td>3/4&quot; - 10</td>
<td>235</td>
<td>170</td>
<td>360</td>
<td>265</td>
<td>510</td>
<td>375</td>
<td></td>
</tr>
<tr>
<td>3/4&quot; - 16</td>
<td>260</td>
<td>190</td>
<td>405</td>
<td>295</td>
<td>570</td>
<td>420</td>
<td></td>
</tr>
<tr>
<td>7/8&quot; - 9</td>
<td>225</td>
<td>165</td>
<td>585</td>
<td>430</td>
<td>820</td>
<td>605</td>
<td></td>
</tr>
<tr>
<td>7/8&quot; - 14</td>
<td>250</td>
<td>185</td>
<td>640</td>
<td>475</td>
<td>905</td>
<td>670</td>
<td></td>
</tr>
<tr>
<td>1&quot; - 8</td>
<td>340</td>
<td>250</td>
<td>875</td>
<td>645</td>
<td>1230</td>
<td>910</td>
<td></td>
</tr>
<tr>
<td>1&quot; - 12</td>
<td>370</td>
<td>275</td>
<td>955</td>
<td>705</td>
<td>1350</td>
<td>995</td>
<td></td>
</tr>
<tr>
<td>1-1/8&quot; - 7</td>
<td>480</td>
<td>355</td>
<td>1080</td>
<td>795</td>
<td>1750</td>
<td>1290</td>
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</tr>
<tr>
<td>1-1/8&quot; - 12</td>
<td>540</td>
<td>395</td>
<td>1210</td>
<td>890</td>
<td>1960</td>
<td>1440</td>
<td></td>
</tr>
<tr>
<td>1-1/4&quot; - 7</td>
<td>680</td>
<td>500</td>
<td>1520</td>
<td>1120</td>
<td>2460</td>
<td>1820</td>
<td></td>
</tr>
<tr>
<td>1-1/4&quot; - 12</td>
<td>750</td>
<td>555</td>
<td>1680</td>
<td>1240</td>
<td>2730</td>
<td>2010</td>
<td></td>
</tr>
<tr>
<td>1-3/8&quot; - 6</td>
<td>890</td>
<td>655</td>
<td>1990</td>
<td>1470</td>
<td>3230</td>
<td>2380</td>
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</tr>
<tr>
<td>1-3/8&quot; - 12</td>
<td>1010</td>
<td>745</td>
<td>2270</td>
<td>1670</td>
<td>3680</td>
<td>2710</td>
<td></td>
</tr>
<tr>
<td>1-1/2&quot; - 6</td>
<td>1180</td>
<td>870</td>
<td>2640</td>
<td>1950</td>
<td>4290</td>
<td>3160</td>
<td></td>
</tr>
<tr>
<td>1-1/2&quot; - 12</td>
<td>1330</td>
<td>980</td>
<td>2970</td>
<td>2190</td>
<td>4820</td>
<td>3560</td>
<td></td>
</tr>
</tbody>
</table>

1. in-tpi = nominal thread diameter in inches-threads per inch
2. N·m = newton-meters
3. ft-lb = foot pounds
4. mm x pitch = nominal thread diameter in millimeters x thread pitch

Torque tolerance + 0%, -15% of torquing values. Unless otherwise specified use torque values listed above.
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Section 12: Warranty & Legal Disclaimer

Warranty

Land Pride warrants to the original purchaser that this Land Pride product will be free from defects in material and workmanship beginning on the date of purchase by the end user according to the following schedule when used as intended and under normal service and conditions for personal use.

Overall Unit: One year Parts and Labor
All wear items are excluded, including: seals, hoses, and moil/chisel points

This Warranty is limited to the repair or replacement of any defective part by Land Pride and the installation by the dealer of any such replacement part, and does not cover common wear items such as blades, belts, tines, etc. Land Pride reserves the right to inspect any equipment or parts which are claimed to have been defective in material or workmanship.

This Warranty does not apply to any part or product which in Land Pride's judgment shall have been misused or damaged by accident or lack of normal maintenance or care, or which has been repaired or altered in a way which adversely affects its performance or reliability, or which has been used for a purpose for which the product is not designed. Misuse also specifically includes failure to properly maintain oil levels, grease points and driveline shafts.

Claims under this Warranty should be made to the dealer which originally sold the product and all warranty adjustments must be made through an authorized Kubota dealer. Kubota reserves the right to make changes in materials or design of the product at any time without notice.

This Warranty shall not be interpreted to render Land Pride liable for damages of any kind, direct, consequential, or contingent to property. Furthermore, Land Pride shall not be liable for damages resulting from any cause beyond its reasonable control. This Warranty does not extend to loss of crops, any expense or loss for labor, supplies, rental machinery or for any other reason.

No other warranty of any kind whatsoever, express or implied, is made with respect to this sale; and all implied warranties of merchantability and fitness for a particular purpose which exceed the obligations set forth in this written warranty are hereby disclaimed and excluded from this sale.

This Warranty is not valid unless registered with Land Pride within 30 days from the date of original purchase. Registration is done by your dealer.

IMPORTANT: The Online Warranty Registration should be completed by the dealer at the time of purchase. This information is necessary to provide you with quality customer service.

Model Number ____________________ Serial Number ____________________
Legal Disclaimer

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