



**COMMERCIAL  
PRODUCTS™**

See  
initial start-up  
instructions on page one

# Iron & Oak 22 Ton Commercial Log Splitter

Model BH4003



## Owner / Operator and Safety Manual

## Initial Start-up Instructions

- Read all assembly, operating, and safety instructions.
- Complete and return the warranty card to register your log splitter.
- Write the serial number and date-of-purchase in this manual.
- Assemble the log splitter.
- Make sure the hydraulic tank is filled with the recommended type and quantity of oil. (See “Start-Up Procedure” section.)
- Make sure the engine crankcase is filled with the manufacturer’s recommended type and quantity of oil. (See “Start-Up Procedure” section.)
- Fill the engine fuel tank with fresh, clean, **lead-free** gasoline. (Do not mix oil with gasoline.)
- Cycle the log splitter cylinders several times to make sure everything is working properly. (See “Start-Up Procedure” section.)
- Make sure the trailer hitch of the towing vehicle is equipped with a 2 inch ball.

**NOTE:** Iron and Oak Commercial Products reserves the right to make technical changes for product improvement. This manual may contain illustrations and photographs, for demonstration purposes, which slightly deviate from the actual product design.

**Serial Number** \_\_\_\_\_

**Date-of-Purchase** \_\_\_\_\_

Please enter the serial number and purchase date of your log splitter in the space provided. Keep this manual for future reference.



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## WARNING



To avoid personal injury or death, carefully read and understand all instructions pertaining to the Iron & Oak Commercial Products' log splitter.

Do not attempt to assemble, operate, or maintain our product without fully understanding all our instructions and safety precautions. Do not operate the log splitter unless you read and understand the instructions and warnings in this manual. If any doubt or question arises about the correct or safe method of performing anything found in this or other Iron & Oak Commercial Products' manuals, contact your Iron & Oak Commercial Products' dealer or call the Sales and Service representatives at our main headquarters. Proper care is your responsibility.

## WARNING

Accidents can often be avoided by being alert and recognizing potentially hazardous situations. Any individuals operating, maintaining, or repairing products manufactured by Iron & Oak Commercial Products should have the necessary training, skills, and tools required to perform these functions properly and safely. The safety information in this manual serves as a basic guide in an attempt to prevent injury or death.

Iron & Oak Commercial Products cannot anticipate every possible circumstance that might involve a potential hazard. The warnings in this manual and on the product itself are, therefore, not all inclusive. If tools, procedures, work methods, or operating techniques that are not specifically mentioned by Iron & Oak Commercial Products are used, you must satisfy yourself that they are safe for you and for others. Make sure the log splitter will not be damaged or made unsafe by any operation, lubrication, maintenance, or repair procedures that you choose.

DO NOT proceed if any doubt arises about the correct or safe method of performing anything found in this or other Iron & Oak Commercial Products' manuals. Seek out expert assistance from a qualified person before continuing.

## WARNING

### CALIFORNIA PROPOSITION 65

Engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm.

This commercial BH4003 Horizontal Log Splitter is designed for tough, commercial applications with large diameter logs. With 22 tons of splitting force, a 12 second cycle time, and an 11 HP engine, the BH4003 will handle most of your commercial log splitting needs. An attractive, powder-coated finish provides the finest protection available, and Iron & Oak's rigid, quality-control and component testing help ensure years of productive, reliable service. Since 1982, the name Iron & Oak has stood for quality and reliability when it comes to log splitters and wood processing products.

Iron & Oak Commercial Products offers the finest commercial log splitter on the market today!








- ✓ Rugged, heavy-duty construction for years of exceptional service.
- ✓ Ergonomic design for use in a horizontal operating position.
- ✓ Rigid, quality-control during manufacturing ensures greater reliability.
- ✓ Factory testing of all major components and hydraulic tank.
- ✓ Powder-coated finish for the best appearance and weather protection.
- ✓ Year-round manufacturing, parts, and support.

For additional information, contact us at:








Iron & Oak Commercial Products  
410 W. Broadway Ave.  
P.O. Box 577  
Streator, Illinois 61364-0577  
Phone: (815) 672-8596  
Fax: (815) 672-9073  
E-mail: [sales@logsplitters-ironoak.com](mailto:sales@logsplitters-ironoak.com)  
Web Site: [www.logsplitters-ironoak.com](http://www.logsplitters-ironoak.com)

The following is a list of safety rules you must follow in order to use your log splitter safely.














## Personal Protection


- ✓  To avoid personal injury or death, carefully read and understand all instructions pertaining to the log splitter including the engine manufacturer's operating and maintenance instruction manual.
- ✓      Always wear protective gear, such as safety goggles, tight-fitting gloves without draw strings or loose cuffs, steel-toed shoes, and a protective hearing device.
- ✓  To prevent injury, make sure all decals are attached to the log splitter and are legible at all times.

## Worksite Safety





- ✓  To avoid tripping, do not leave tools, logs, or other components laying around the work area.
- ✗  NEVER operate your log splitter on slippery, wet, muddy, or icy surfaces. The location you choose should be flat, dry, and free from any tall grass, brush, or other interferences.
- ✗  NEVER operate the engine in an enclosed area. Exhaust fumes contain carbon monoxide that can be deadly when inhaled. Make sure the area is well ventilated.
- ✗  NEVER attempt to move your log splitter over hilly or uneven terrain without a tow vehicle.
- ✗  NEVER use your log splitter at night.
- ✓  ALWAYS operate your log splitter on dry, solid, level ground.
- ✓  ALWAYS block the wheels to prevent movement of the machine while in operation.

## Operating Safety









- ✓  ALLOW ONLY ONE (1) PERSON TO OPERATE THE CONTROLS OF THE LOG SPLITTER. A SECOND PERSON MAY ASSIST LOADING THE LOGS, BUT SHOULD NEVER OPERATE THE CONTROLS.
- ✓  Allow only adults to operate the log splitter. No one under the age of 18 should be allowed to operate the log splitter.
- ✓  Always keep bystanders, including children and pets, at least twenty-five (25) feet away from the work area. Only the operator should stand near the equipment and only within the safe operating area prescribed in this manual (see the photos on safe and unsafe operating zones in the “Operation” section.)
- ✓  The BH4003 is designed for auto-cycling of the cylinder. When the wedge is retracting, keep your hands away from the machine — the log splitter wedge is designed to automatically stop when the cylinder is fully retracted.
- ✓  ALWAYS disconnect the spark plug wire when the log splitter is not in operation.
- ✗  Do not allow any person to operate the log splitter until they have read and understood the safe operating instructions contained in this manual.
- ✗  Do not, under any circumstances, alter your log splitter. This equipment was designed and engineered to be used in accordance with the operating instructions. Altering the equipment, or using the equipment in such a way as to circumvent its design capabilities and capacities, could result in serious or fatal injury and WILL VOID THE WARRANTY.
- ✗  Never operate, or allow anyone else to operate, this equipment while under the influence of medication, drugs, or alcohol.
- ✗  Never wear loose clothing or jewelry that may get caught or become entangled in the log splitter.
- ✗  NEVER place hands or feet between log and splitting wedge or between log and ram during the forward or reverse stroke.
- ✗  DO NOT STRADDLE OR REACH ACROSS THE SPLITTING AREA WHEN OPERATING THE LOG SPLITTER.
- ✗  Do not step over your log splitter when the engine is running, because you may trip or accidentally engage the ram.
- ✗  NEVER attempt to load your log splitter while the ram is in motion.

- ✗  Only use your hand to operate the control lever. NEVER use your foot, knee, a rope, or any other extension device.









## Log Splitting Safety

- ✓  Always keep your fingers away from any cracks that open in the log during the splitting operation.
- ✓  ALWAYS make sure that both ends of the log you are splitting are cut as square as possible. This will prevent the log from sliding out of position while under pressure. Logs should be 24 inches or shorter in length.
- ✗  NEVER try to split two logs on top of each other.
- ✗  Never pile logs to be split in a manner that will cause you to reach across the log splitter.






## Maintenance and Repair





- ✓  Follow all safety rules, because most accidents involving the operation, maintenance, or repair of products occur because the assembler/owner/operator failed to observe basic safety rules or operating instructions.
- ✓  ALWAYS inspect your log splitter before each use. Make sure all nuts, bolts, screws, hydraulic fittings, hose clamps, etc. are securely tightened.
- ✓  ALWAYS check the oil level in the hydraulic oil tank and engine reservoir. Fill as required.
- ✗  NEVER operate your log splitter when it is in need of repair or is in poor mechanical condition.
- ✗  NEVER tamper with the engine to run it at excessive speeds. The maximum engine speed is preset and is within safety limits.
- ✗  NEVER make alterations to your log splitter in any manner. Such alterations may cause the log splitter to become unsafe and WILL VOID THE WARRANTY.
- ✗  NEVER attach a rope or extension to the control lever or add width or height to the splitting wedge. Such ALTERATIONS may cause the log splitter to become UNSAFE and WILL VOID THE WARRANTY.
- ✗  ALWAYS clean the unit after each use. If possible, store the unit inside or cover it completely, if stored outside.

## Towing



- ✓  ALWAYS check before towing to make certain your log splitter is correctly and securely attached to the towing vehicle. Be sure that the ball hitch you are using is the proper size for the hitch coupler on the log splitter (see “Specification” section). Be sure the safety chains are properly hooked to the vehicle leaving enough slack for turning.
- ✓  ALWAYS allow for added length of the log splitter when turning, parking, crossing intersections, and in all driving situations.
- ✓  ALWAYS be careful when backing up. You could jackknife your log splitter if care is not taken.
- ✓  ALWAYS disconnect your log splitter from your towing vehicle before attempting to use it.
- ✗  NEVER exceed 35 m.p.h. when towing your log splitter. Obey all state and local regulations when towing on state and local roads and highways. Adjust your speed for terrain and conditions, as needed. Be extra cautious when towing over rough terrain, especially over a railroad crossing.
- ✗  NEVER tow your log splitter when there is fuel in the engine's tank.
- ✗  NEVER allow anyone to sit or ride on your log splitter.
- ✗  NEVER carry any cargo or wood on your log splitter.

## Refueling

- ✓  ONLY refuel the log splitter outdoors in a clear area void of gas fumes or spilled gasoline.
- ✓  ALWAYS use an approved fuel container to carry gasoline.
- ✓  ALWAYS replace the log splitter gas cap and the fuel container cap securely.
- ✓  If gasoline is spilled, move the machine away from the area of the spill and avoid creating any source of ignition until the spilled gasoline has completely evaporated.
- ✓  Take a class B fire extinguisher with you when operating the log splitter in dry areas as a precautionary measure against possible flying sparks.

- ✓  Always store gasoline in an approved, tightly sealed container. Store the container in a cool, dry place. Do not store the container in a house or near any heating appliance.
- ✗   Do not smoke or have open flames when refueling the engine. Do not spill fuel. If fuel should spill, quickly wipe up the spill and allow the excess to evaporate before continuing. Make sure gasoline soaked rags are properly disposed of.
- ✗  DO NOT fill the gas tank while the engine is hot or running. Allow time for the engine to cool down before refueling.

## Preventing Fires

- ✗  NEVER operate the log splitter near a flame or spark. Oil and gasoline are flammable and can explode.
- ✗  NEVER smoke while operating or refueling the log splitter. Gasoline, oil, and even gas fumes can explode.

### *Important Notice*

*The log splitter is equipped with an internal combustion engine and should not be used on or near any unimproved forest-covered, brush-covered, or grass-covered land unless the engine's exhaust system is equipped with a spark arrester meeting local or state laws (if any). If a spark arrester is used, it should be maintained in effective working order by the owner and/or operator.*

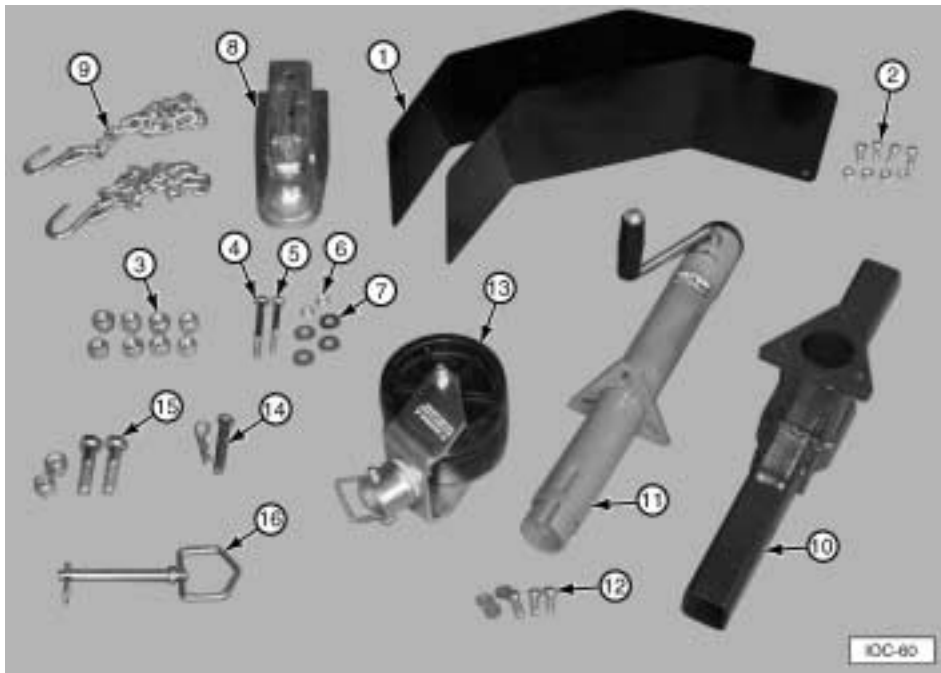
## Shipping List

The following chart contains the list of parts that should be shipped as part of the BH4003 Commercial Log Splitter.

Item	Qty.	Description	Item	Qty.	Description
—	1	Base Unit <sup>1</sup>			<b>Receiver Assembly</b>
		<b>Fender Assembly</b>	10	1	Receiver Weldment <sup>2</sup>
1	2	Fender <sup>2</sup>	11	1	Jack Tube <sup>2</sup>
2	4	Bolt (5/16-18 x 3/4") <sup>2</sup>	12	3	Bolt (3/8-16 x 1") <sup>2</sup>
	4	Locknut (5/16-18) <sup>2</sup>		3	Lockwasher (3/8) <sup>2</sup>
		<b>Wheel Assembly</b>	13	1	Dual Wheel Assembly with Clip <sup>2</sup>
—	2	Wheel Assembly <sup>1</sup>	14	1	Pin <sup>2</sup>
3	8	Lug Nut <sup>2</sup>		1	Hairpin Clip <sup>2</sup>
		<b>Hitch Assembly Parts</b>			<b>Log Lift Assembly</b>
4	1	Bolt (3/8-16 x 3-1/2") <sup>2</sup>	—	1	Log Lift Arm <sup>1</sup>
5	1	Bolt (3/8-16 x 3") <sup>2</sup>	15	2	Bolt (5/8-11 x 3") <sup>2</sup>
6	2	Locknut (3/8-16) <sup>2</sup>		2	Locknut (5/8-11) <sup>2</sup>
7	4	Flat Washer (3/8") <sup>2</sup>	16	1	Safety Pin <sup>2</sup>
8	1	Hitch Assembly (2") <sup>2</sup>		1	Hairpin Clip <sup>2</sup>
9	2	Safety Chain <sup>2</sup>			

<sup>1</sup> On the pallet.

<sup>2</sup> In cardboard box.



## Required Tools

- 10" crescent wrench (all bolts)
- One 1/2" open end wrench (5/16" bolt)
- One 9/16" open end wrench (3/8" bolt)
- One 15/16" open end wrench (5/8" bolt)
- One 1/2" ratchet with a 13/16" socket (lug nuts)
- Band cutters

## Assembly Procedure

### ⚠ CAUTION



Some components are very heavy and can be damaged if mishandled. Also, to help prevent personal injury, it is strongly recommended that two (2) people work together to uncrate and assemble the log splitter.

1. Remove and read all instructions and safety recommendations before assembling or operating this log splitter.

### ⚠ CAUTION



This log splitter weighs approximately 1000 pounds. Do not stand or position yourself under any part of the log splitter when it is raised in the air.

2. Remove the top and sides of the shipping crate. Carefully cut all the metal bands, except the ones holding the tires in place. Carefully check the larger components on the shipping pallet for damage. If any parts are damaged call Iron & Oak Products at (815) 672-8596.



## ⚠ CAUTION



The metal bands holding the log splitter onto the pallet are under tension and can fly outward when cut. To prevent possible personal injury from the sharp, cut ends of the band always wear gloves and eye protection. Never stand in front of or over the band when cutting it. Always stand to the side in a safe area.

3. Remove the parts boxes and the lift arm. Now cut the remaining metal bands and remove the tires and packing materials. Carefully lower the lift arm cylinder.

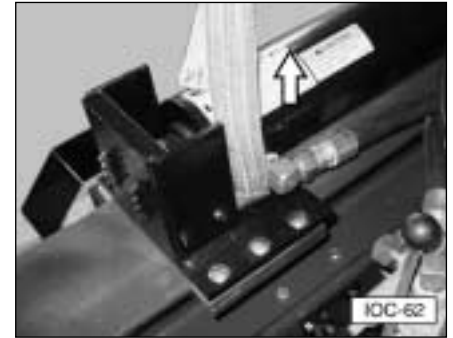


4. Open the cardboard boxes to make sure all the smaller parts have been shipped. The chart in the "Shipping List" section provides a complete list of all the parts shipped with your log splitter. If any parts are missing call Iron & Oak Products at (815) 672-8596.

5. Attach fenders (1) to the fender brackets using two 5/16-18 x 3/4 inch long hex head bolts and locknuts (2) using 1/2" wrenches. The fenders are interchangeable (left or right).



6. Use an overhead crane or other type of lifting device rated at a 1,200 pound capacity or above to lift the log splitter off of the pallet. Position a lifting strap as shown. Make sure the strap will not slide or move as the log splitter is being lifted. Lift the log splitter approximately one foot off the ground and remove the shipping pallet.



## ⚠ WARNING



To prevent personal injury or death, make sure the lifting device (crane or other device) and the lifting strap is capable of lifting the 1100 pound weight of the log splitter.

## ⚠ WARNING



To prevent personal injury or death, do not stand or put any part of your body under the log splitter while it is being suspended.

7. Install the wheel assemblies using four lug nuts (3) on each wheel. Make sure the valve stem faces outward. Only hand tighten the lug nuts at this time.





## Assembly Instructions

8. Place the jack stand in the DOWN position. Now, hold up the lift cylinder assembly and slowly lower the log splitter to the ground, as shown.

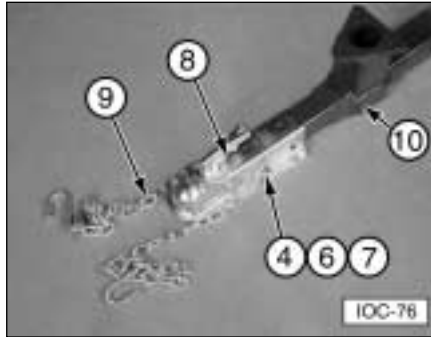
Securely tighten the wheel lug nuts using a ratchet wrench and a 13/16" socket.

**NOTE:** As a precaution, block the wheels to prevent movement of the log splitter during the remaining assembly.

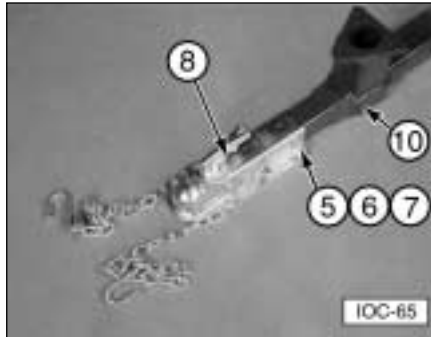


9. Attach hitch coupler (8) and two towing safety chains (9) to receiver weldment (10) using a 3/8-16 x 3-1/2 inch long hex head bolt (4), two flat washers (7), and a locknut (6). Tighten the locknut securely.

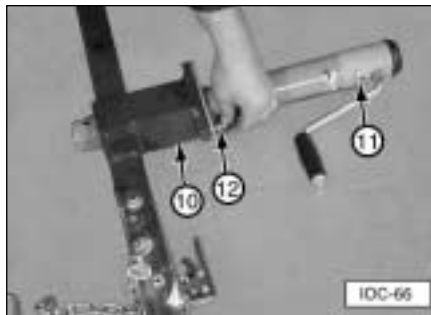
**NOTE:** The safety chains should be installed against the hitch assembly with the flat washers on the outside of the chain.



10. Install a 3/8-16 x 3 inch long hex head bolt (5), two flat washers (7), and a locknut (6) into the rear hole of the hitch coupler. Tighten the locknut securely.

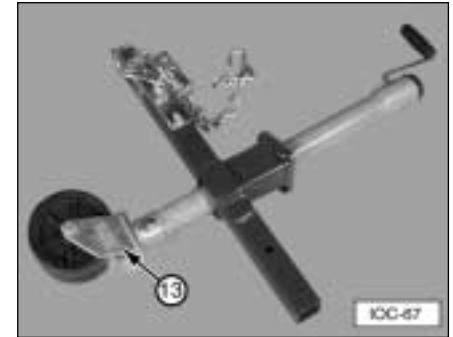


11. Bolt jack tube (11) onto receiver (10) with with three 3/8-16" x 1" bolts and lock washers (12). Securely tighten the bolts.

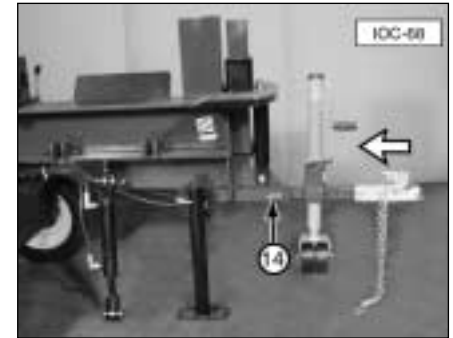


## Assembly Instructions

12. Attach dual wheel assembly (13) and secure it to the jack tube with the clip.



13. Insert the receiver assembly into the end of the frame and secure it in place with pin and hairpin clip (14).



**NOTE:** To install the log lift arm, first lower the dual wheel until the log splitter is sitting horizontal to the ground. Place the jack stand in the UP or stored position. Set all the hardware for installing the log lift arm in a convenient spot on top of frame rail.

14. Remove the clip and the clevis pin from end of the lift cylinder.



15. Before raising the lift arm into position (as shown) make sure the cylinder attachment plate (on bottom side of lift arm) is slid down or away from the log splitter.

**CAUTION**  
The attachment plate slides up and down on the lift arm. Be careful not to pinch your fingers while attaching the lift arm.



## Assembly Instructions

16. Attach the log lift arm using two 5/8-11 x 3" long bolts (15) and locknuts. Do not over-tighten the locknuts, as this may cause the log lift arm to bind and not work properly.



17. Raise the log lift arm. Align the attachment plate and lift cylinder rod.



### ⚠ CAUTION



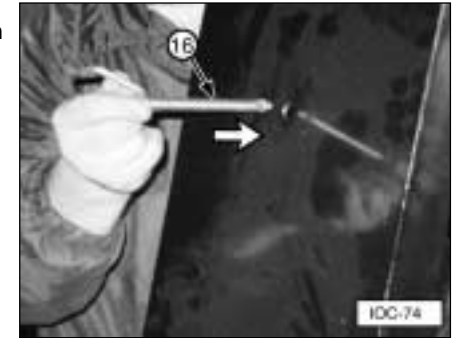
The attachment plate slides up and down on the lift arm. Be careful not to pinch your fingers while attaching the lift cylinder.

18. Attach the lift cylinder to the log lift arm using the clevis pin and two hair pin clips.



## Assembly Instructions

19. Lock the log lift arm in the UP position using the safety pin (16) and hairpin clip.



20. The log splitter is now completely assembled. Follow the "Start-Up Procedure" in the following section before trying to start the engine.



## Important Notice

Do not start the engine. **Follow all the instructions in the "Start-up Procedure" before operating the log splitter.** Failure to follow this recommendation can result in engine and hydraulic pump damage.

If this log splitter is purchased without an engine, the customer assumes all liabilities that might arise from an engine that is incompatible with the design of the log splitter. Also, any unauthorized changes or modifications to the log splitter will void all warranties.

**IMPORTANT:** Before starting the engine, read the engine manufacturer's operating and maintenance instruction manual. If an engine manual was not supplied with the log splitter, it is your responsibility to obtain a manual. Start by contacting the store where you purchased the log splitter. If they cannot help you, contact the engine manufacturer.

1. Make sure the hydraulic tank is filled with SAE 10W tractor hydraulic oil or automatic transmission fluid such as Dextron III. The tank is full when all the cylinders are completely retracted and the oil level is one inch from the top of the tank.

**NOTE:** The total hydraulic system oil capacity for this unit is 16 gallons.

2. Make sure the engine's crank case is full of the manufacturer's recommended oil.
3. Lubricate the surface of slide rail with grease. This will help to prevent wear between the slide plates and the slide rail.

## Important Notice

If your log splitter is equipped with a factory installed engine, do not mix oil with the gasoline. Using mixed oil/gasoline in a four cycle engine can cause engine damage.

## ⚠ WARNING



**Be careful not to spill fuel when filling the fuel tank. If fuel should spill, quickly wipe it off and allow the excess fuel to evaporate before continuing. Fuel and fuel vapors are highly flammable and can cause personal injury or even death when ignited.**

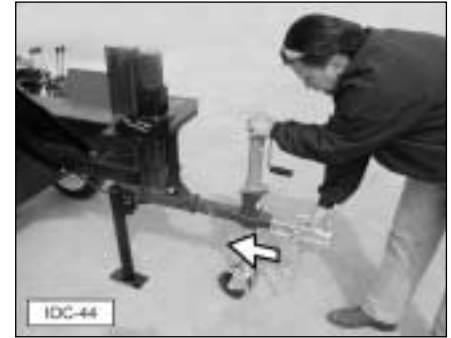
4. Fill the engine's fuel tank with fresh, clean, lead-free automotive gasoline.
5. Start the engine per the manufacturer's instructions.
6. With the engine running, cycle the log splitter several times.
7. Your log splitter is now ready to use.

## ⚠ WARNING

**Maximum Speed Limit — 35 mph**

**Your log splitter is built on a solid, unsuspended axle. To prevent damage or possible loss of vehicle control, use extreme caution when towing and do not exceed a vehicle speed of 35 mph, especially when driving on a bumpy road.**

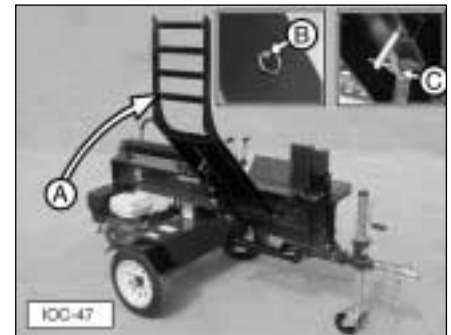
1. Install the hitch assembly, if not already installed and turn the jack handle so the splitter is supported by the wheel jack.



2. Secure the secondary jack in the UP and LOCKED position.



3. Secure the log lift tray in the UP and LOCKED position using the safety pin and hairpin clip.



- Position the hitch of the log splitter over the tow ball on the tow vehicle and pull the latch assembly to the UP and OPEN position.



- Turn the jack handle to lower the hitch onto the tow ball of the tow vehicle. Continue to raise the wheel upward to its maximum travel height.



- Release the latch on the hitch assembly to lock the hitch onto the tow ball of the tow vehicle. Attach the safety chains to the frame of the tow vehicle.



- Place a customer supplied lock or lock pin into the latch assembly of the hitch.



## ⚠️ WARNING

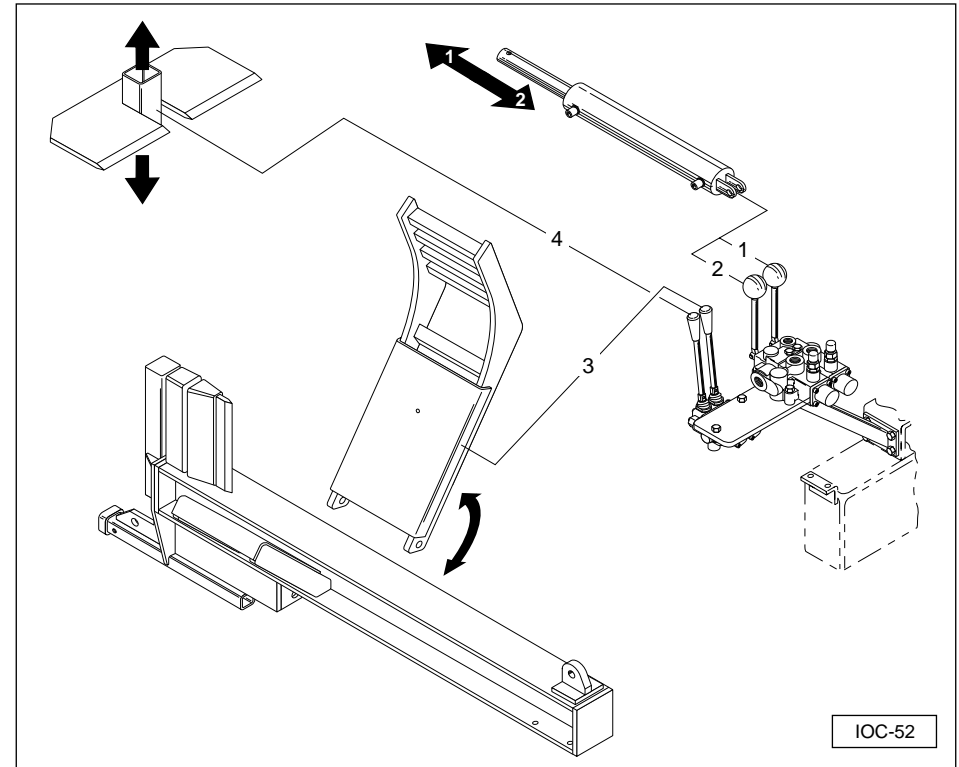
Making sure the log splitter is securely attached to the vehicle is the responsibility of the owner/operator. Failure to do this could result in loss of vehicle control or separation of log splitter from towing vehicle, resulting in serious personal injury or even death.

## ⚠️ WARNING



Do not attempt to operate the log splitter without fully understanding all our instructions, safety precautions, and/or warnings. If any doubt or question arises about the correct or safe method of performing anything found in this or other Iron & Oak Products' manuals, contact your Iron & Oak Products' dealer or call the Sales and Service representatives at our main headquarters. Proper care is your responsibility.

## Valve Control Levers



### Main Control Valve

- 1 - Splitting Cylinder Extend
- 2 - Splitting Cylinder Retract

1 and 2 - Push Both Levers and Splitting Cylinder Automatically Extends and Retracts

### Secondary Control Valve

- 3 - Log Lift Raise and Lower
- 4 - Wedge Raise and Lower

## Operating the Log Splitter

1. Set your log splitter on flat, dry ground. Make sure you read all the recommendations from the "Safety" section before using the log splitter.

When operating the BH4003 Log Splitter make sure you are standing in the **safe operating zone**, as shown in the photo, at all times when the pusher plate is in motion (whether extending or retracting) or when the log lifter is being operated.



If a second person is assisting the operator, extreme caution must be observed. It is the operator's responsibility to keep the second person from being injured while the log splitter is being operated. The operator must not initiate movement of the pusher plate, log lifter, or 4-way wedge unless all hands, feet, or other body parts are clear. It is best for safe operation if the second person loads logs onto the lift, but only the operator positions the log for splitting.

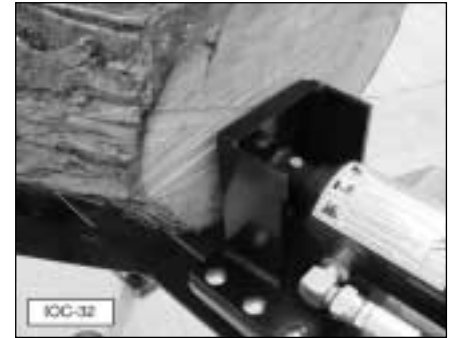


### ⚠ WARNING



Never reach across the log splitter to operate controls. Never place any part of your body into a position which would cause an unsafe operating condition.

2. Make sure both ends of the log you are splitting are cut as square as possible. This will prevent the log from sliding out of position while under pressure. All logs should be 24 inches long or shorter.



3. Start the engine using the instructions from the engine manual. Warm up the engine and hydraulic system by running the engine at half throttle for 3 to 4 minutes, then advance the engine throttle control to maximum speed.



### ⚠ WARNING

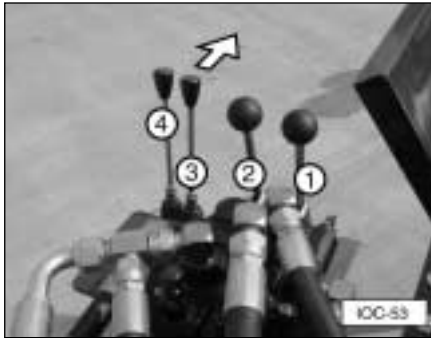


Before loading and operating the log splitter, always wear protective gear such as safety goggles, face shield, hearing protection, tight-fitting gloves without draw strings or loose cuffs, and steel-toed shoes.

4. Roll or place a log onto the log lift.



5. Raise the log lift using lever (3), slightly past horizontal.



6. Allow the log to slowly and gently roll up against the rail assembly. Use your hand to guide the log, but **be extremely cautious and do not place your hand or fingers in any pinch points.**



7. Fully raise the log lift using lever (3) and center the log on the rail assembly.

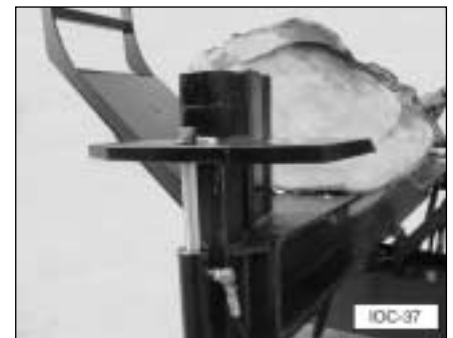
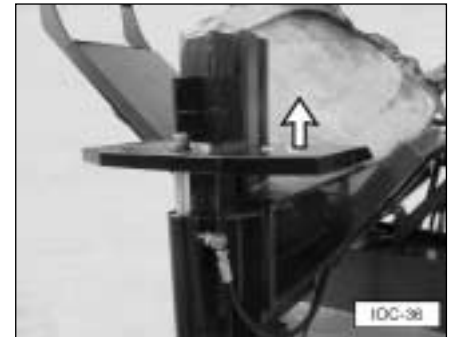
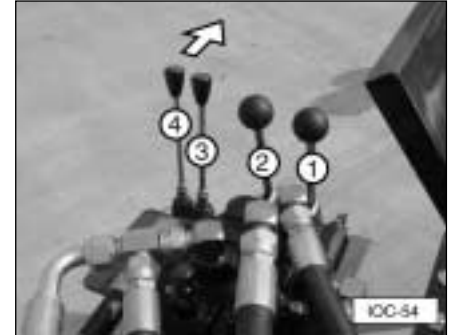


## ⚠ CAUTION

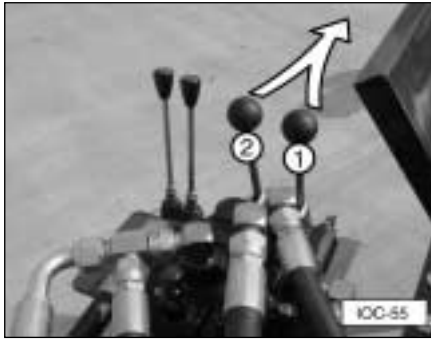


If you find you must hold or guide the log, (a) until it is on the rail or (b) the pusher plate touches it and holds it in place, be very careful not to put your hand between the log and the pusher plate. Remove your hand immediately when the pusher plate touches the log.

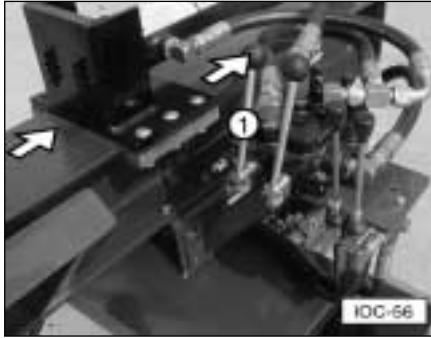
8. Position the four-way wedge to the desired log thickness using control lever (4).



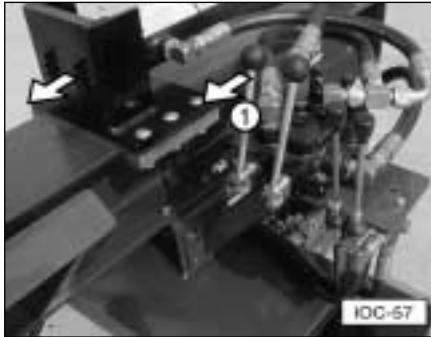
9. When the log is in position, push both control levers (1 and 2) forward. This starts an automatic log splitting cycle that extends the cylinder to the end of the stroke and then fully retracts it—ready for another log.



**NOTE:** Pulling back on lever (1) will retract the cylinder rod at any time during its forward movement. The rod will automatically stop when it is fully retracted.



**NOTE:** By pushing only lever (1) the cylinder rod will extend to its full forward movement, but the rod will not automatically return.



10. Do not remove any of the split logs from the cutting area until the pusher plate has fully retracted.



## Splitting Large Diameter Logs

When the log is very large in diameter, only raise the wedge 4 to 5 inches. This will allow two finished pieces of wood to be split off the bottom of the block and two large pieces to remain on top.



Lower the log lift to a horizontal position where it can be used as a work table. Carefully move the two large pieces to the log catch tray and log lift tray. Now split one of the large pieces into four more pieces. Do the same with the second large piece. This procedure can save the time of loading and reloading large pieces from the original log.



Continue splitting the large pieces into smaller pieces, until the log is completely split.

**NOTE:** To assist in gathering split wood, the BH4003 has been designed so the hitch can be removed and a conveyor or bucket from a loader can be placed close to the wedge to catch split logs.



### General Maintenance Check (before operating)

The hydraulic system (hoses, cylinders, and pump) should be carefully inspected before each use. Also, inspect the mechanical parts at the same time. Make sure all clamps, nuts, bolts, fittings, etc. are properly installed and tightened.

#### WARNING



**Do not check for leaks with your hand. Leaks can be located by passing a piece of cardboard or wood around the suspected leak and looking for discoloration. High-pressure fluid escaping from a very small hole can be almost invisible. Escaping fluid under pressure can have sufficient force to penetrate skin, causing serious injury or even death. If fluid is injected into your skin, it must be treated immediately by a doctor familiar with this type of injury.**

Always replace frayed, kinked, or cracked hoses and/or other damaged hydraulic components with Iron & Oak Commercial Products authorized parts and components specified in the “Parts Section” of this manual. Replacement parts from secondary suppliers (not original Iron & Oak replacement parts) can lead to product damage and/or personal injury, and will void the warranty.

#### CAUTION



**Do not remove the cap from the hydraulic tank or reservoir while the log splitter is running. Hot oil, under pressure, could be expelled resulting in serious injury.**

Should it become necessary to loosen or remove any hydraulic fitting or line, be sure to relieve all hydraulic pressure by shutting off the engine, removing spark plug wire, and moving the valve control handle back and forth several times until no cylinder movement is visible.

### Engine Service

Refer to the engine manufacturers' manual for engine maintenance and repair.

### Storage

Refer to the engine manufacturers' manual for engine storage. No special procedures are required for the hydraulic system to store the log splitter.

### Hydraulic Oil Change

We recommend an oil and filter change every 100 hours of operation. Refer to the “Specifications” section in this manual for the type and quantity of oil.

#### *Important Notice*

*Never run the log splitter unless the hydraulic oil tank is full (cylinders retracted, 1 inch from the top of the tank).*

- To make sure the greatest quantity of oil is in the hydraulic tank:
  - Retract the main splitting cylinder.
  - Lower both log lift and log catch cylinders.
  - Lower four-way splitting wedge cylinder.
- Drain the hydraulic tank.
  - Place a waste oil container under the inlet hose.
  - Remove inlet hose from the pump.
  - Slightly raise the front of the log splitter to completely drain the tank.
- Remove and replace the oil filter.
  - Remove the existing oil filter and properly dispose of it.
  - Apply a thin coat of oil to the rubber seal of the new oil filter.
  - Thread the filter onto the filter head until it makes contact, then turn an additional 3/4 turn. Hand-tighten only.
- Refill the hydraulic tank.
  - Reconnect the inlet hose to the pump.
  - Remove the hydraulic tank fill cap and fill the tank with the recommended type and quantity of oil. Replace the cap.
  - Start the engine and cycle all the cylinders several times.
  - Retract the main splitting cylinder, lower both log lift and log catch cylinders, and lower the four-way splitting wedge cylinder.
  - Recheck the hydraulic tank to make sure oil is filled within one inch from the top of the tank.





## Mechanical Specifications

Slide Rail	8" x 8" heavy-duty, H-beam
Wedge	12 inch, high-carbon steel, compound angle (replaceable)
Force/Tonnage	30 ton (with 5 inch cylinder) 22 ton (with 4 inch cylinder)
Cylinder Stroke	24 inches
Log Opening	25 inch maximum
Cycle Time	8 seconds (with 4 inch cylinder) 12 seconds (with 5 inch cylinder)
Operating Position	Horizontal
Wheels & Tires	High-Speed, 4.80 x 12"
Safety Chains	Standard
2" Hitch Coupler	Standard
Engine	11 HP Honda GX horizontal shaft engine

## Hydraulic Specifications

Splitting Cylinder Size	4 x 24 inch clevis type cylinder, 3.00" rod (standard) 5 x 24 inch (optional)
Hydraulic Tank	14 gallons
Hydraulic System Capacity (includes cylinder, tank, hoses, and filter)	16 gallons
Hydraulic Oil Filter	Spin-on, 60 micron filter
Control Valve	Auto cycle
Gear Pump	2-stage, 22 GPM
Unit Weight	1065 lbs.

## Hydraulic Oil Specifications (non foaming)

Tractor Hydraulic Oil	
Above 30° F	AW-32, 10W (non foaming) or ATF Dextron III
Below 30° F	Use only ATF Dextron III
Transmission Fluid	Dextron III

### *Important Notice*

*DO NOT mix tractor hydraulic oil with transmission fluid. Use one or the other.*

The following section will detail procedures for checking your log splitter, should you encounter a malfunction. We recommend that you do not attempt to make repairs to the log splitter. In the long run, it is better to take your log splitter to a servicing lawn and garden dealer for repairs.

**Problem:** When the control handles are pushed forward (extend), the pusher plate does not move.

1. Check the hydraulic tank to make sure the oil level is one inch from the top of the tank.
2. Remove the finger guards from the engine flange. Visually check the coupler, making sure the drive keys are in place and there is no damage to the blue urethane spider.
3. Disconnect the pusher plate from the cylinder. Grasp the hydraulic cylinder shaft and try to pull it out. If the rod comes out easily, you will need to rebuild or replace the cylinder.
4. Once you have determined that the engine-to-pump coupler is intact and the cylinder is in good condition, you will need to replace the pump.

**Problem:** The engine stalls when the pusher plate engages the wood.

1. The engine may not be properly adjusted. Take the engine to a service center for repair and/or adjustment.
2. If all engine settings are correct, replace the pump.
3. The valve adjustment may need resetting.

**Problem:** The pusher plate moves slowly, but will split wood.

1. Check the oil level in the hydraulic tank and fill if necessary.
2. Check the high-pressure hoses, fittings, and valve openings for dirt and debris that may have obstructed the openings.
3. If the ram speed is still slow, replace the pump.

**Problem:** The ram will not automatically retract.

1. Check the slide rail or wedge assembly for damage.
2. Push the valve handle to the retract position. If the handle will not stay in this position, adjust valve detent, as described below.

### **Detent Adjustment Procedure**

Refer to the instructions in the Prince RD5000 Autocycle Directional Control Valve manual.

3. If adjustment of detent does not correct the problem, replace the valve assembly.

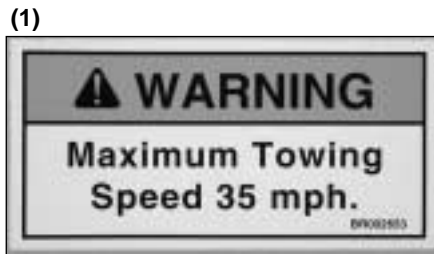
**Problem:** Oil squirts from the fill plug during operation.

1. The oil tank may be over-filled. Drain oil to 1 inch below the top of the tank.
2. The log splitter is not level. Make sure the log splitter is on level ground.

**⚠ WARNING**



Make sure all decals are attached to the log splitter and/or engine and are legible at all times.



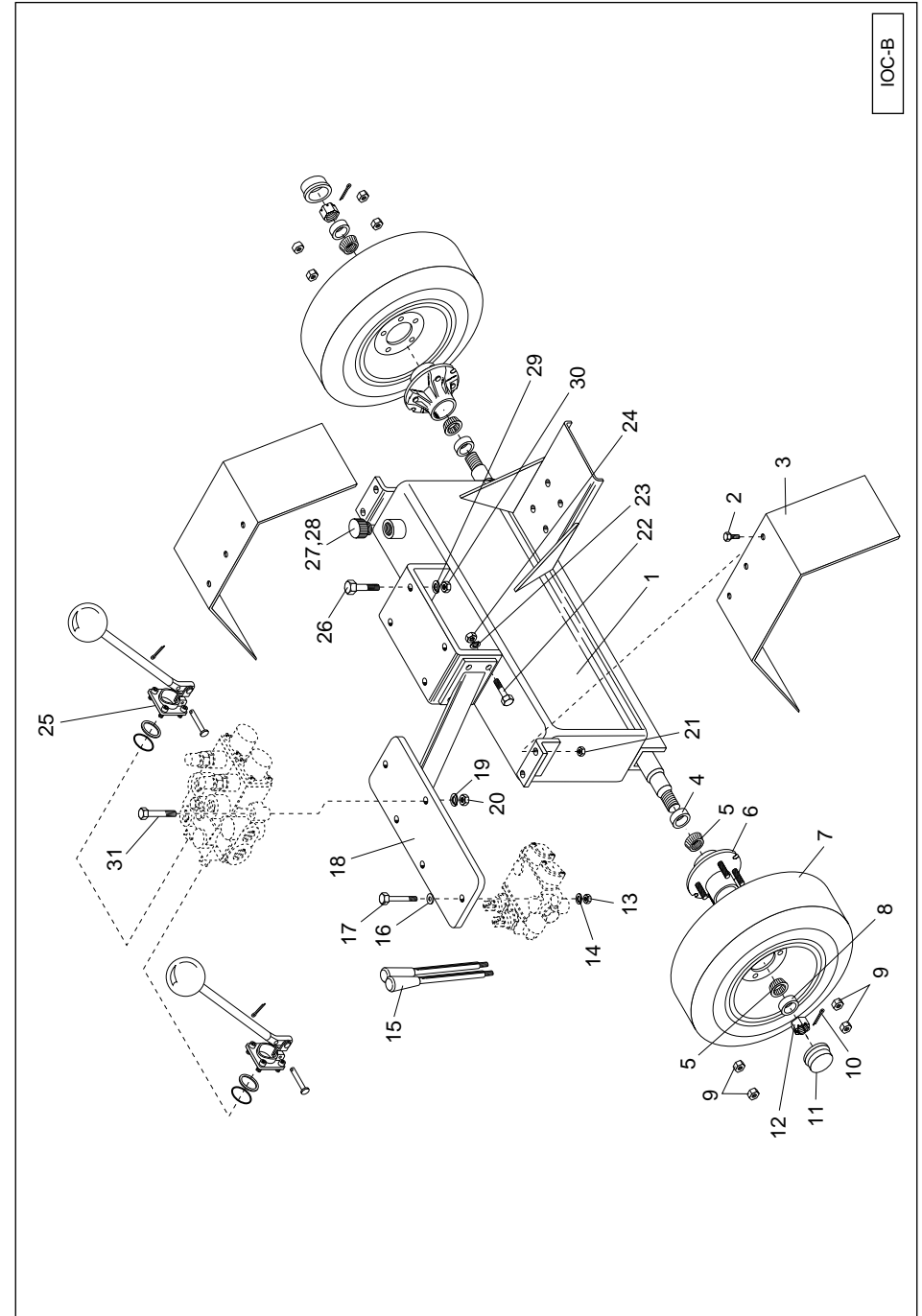
Item	Part No.	Description	Qty.
1	BR002653	Decal, Max. Towing Speed	1
2	BR002558	Decal, Warning	1
3	BR002555	Decal, Caution	1
4	BR002652	Decal, Notice	1
5	BR002557	Decal, Caution	1
6	BR002621	Decal, Flag	1
7 (NS)	BR002676	Commercial Decal	2
8	BR002521	Decal, Serial Number	1
9 (NS)	BR002499	Decal, Iron & Oak	2

NS - not shown

# Parts Section

Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
1	BR020268-03	Weldment, Base	1	25	BR004319	Handle Kit	2
2	BR001209	Bolt, 5/16-18 x 3/4" long	4	26	BR001208	Bolt, 1/2-13 x 1-1/2" long	4
3	BR007003	Fender	2	27	BR001022	Plug, Fill Vented	1
4	BR008301B	Seal, Inside	2	28	BR001025	O-ring, Vented Fill Plug	1
5	BR008301A	Bearing, Tapered Roller	4	29	BR001404	Lockwasher, 1/2"	4
6	BR008317	Hub, Studded	2	30	BR001304	Nut, 1/2-13	4
7	BR008311	Tire, 4.8" x 12"	2	31	BR001236	Bolt, 3/8-16 x 2" long	3
8	BR008301D	Washer, Thrust	2				
9	BR008317A	Nut, Lug	8				
10	BR008301F	Key, Cotter, 1/8" dia.	2				
11	BR008301G	Dust Cap	2				
12	BR008301E	Nut, Spindle	2				
13	BR001305	Nut, 1/4-20	2				
14	BR001395	Lockwasher, 1/4"	2				
15	BR004517A	Valve Lever	2				
16	BR001405	Washer, 1/4"	2				
17	BR001219	Bolt, 1/4-20 x 2" long	2				
18	BR011244-03	Weldment, Valve Mount	1				
19	BR001403	Lockwasher, 3/8"	3				
20	BR001300	Nut, 3/8-16	3				
21	BR001325	Locknut, 5/16-18	4				
22	BR001291	Bolt, 3/8-16 x 1 1/4" long	4				
23	BR001403	Lockwasher, 3/8"	4				
24	BR001300	Nut, 3/8-16	4				

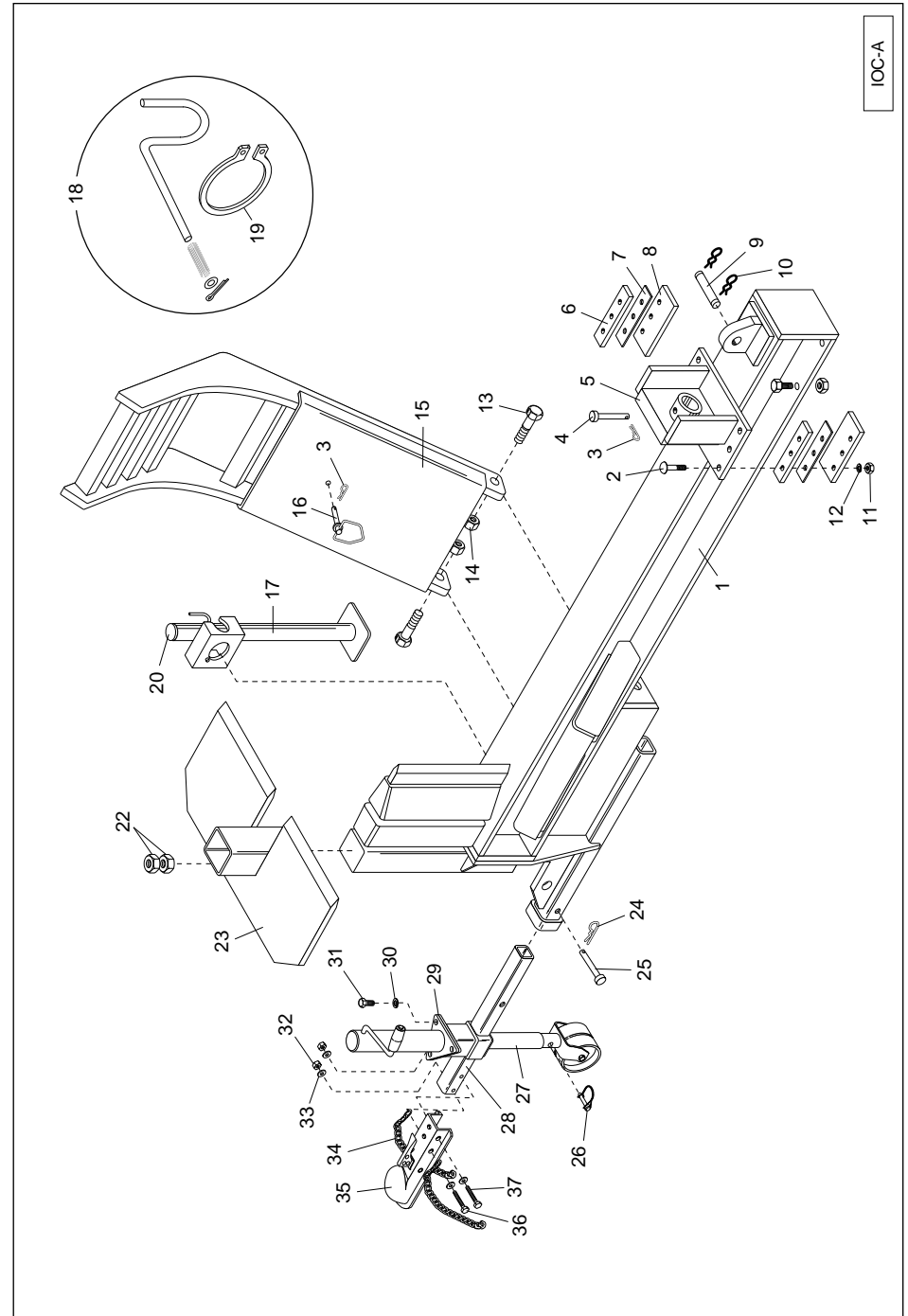
# Parts Section



# Parts Section

Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
1	BR020269-03	Weldment, Rail	1	25	BR001767	Pin	1
2	BR001259	Bolt, Carriage, 1/2-13 x 2-1/2"	6	26	BR008536	Dual Wheel Assembly with Clip	1
3	BR001761	Clip, Hairpin, 3/32 x 1-3/4" long	2	27	BR008532	Tube with Crank	1
4	BR001765	Pin, Slide, 1/2 x 2-3/4" long	1	28	BR021269-03	Receiver Weldment	1
5	BR020267	Pusher Plate	1	29	BR008535	Plate	1
6	BR013103	Slide Glide	2	30	BR001403	Lockwasher, 3/8"	3
7	—	Shim (when needed)	2	31	BR001198	Bolt, 3/8-16 x 1" long	3
8	BR013104	Slide Retainer	2	32	BR001301	Locknut, 3/8-16	2
9	BR008531A	Pin, Clevis	1	33	BR001400	Washer, 3/8"	4
10	BR001705	Pin Clip, Clevis	2	34	BR008508	Chain Assembly	2
11	BR001304	Nut, 1/2-13	6	35	BR008540	Coupler, Hitch, 2"	1
12	BR001404	Lockwasher, 1/2"	6	36	BR001260	Bolt, 3/8-16 x 3-1/2" long	1
13	BR001378	Bolt, 5/8-11 x 3" long	2	37	BR001218	Bolt, 3/8-16 x 3" long	1
14	BR001314	Locknut, 5/8-11	2				
15	BR011263-03	Log Lift Tray	1				
16	BR001494	Safety Pin	1				
17	BR021275	Jack Leg Weldment	1				
18	BR008589	Jack Leg Plunger Kit	1				
19	BR008587	Retaining Clip	1				
20	BR001023	Cap	1				
21	—	Not Used	1				
22	BR001310	Nut, 3/4-10	2				
23	BR021274	Wedge, Four way	1				
24	BR001761	Hairpin Clip	1				

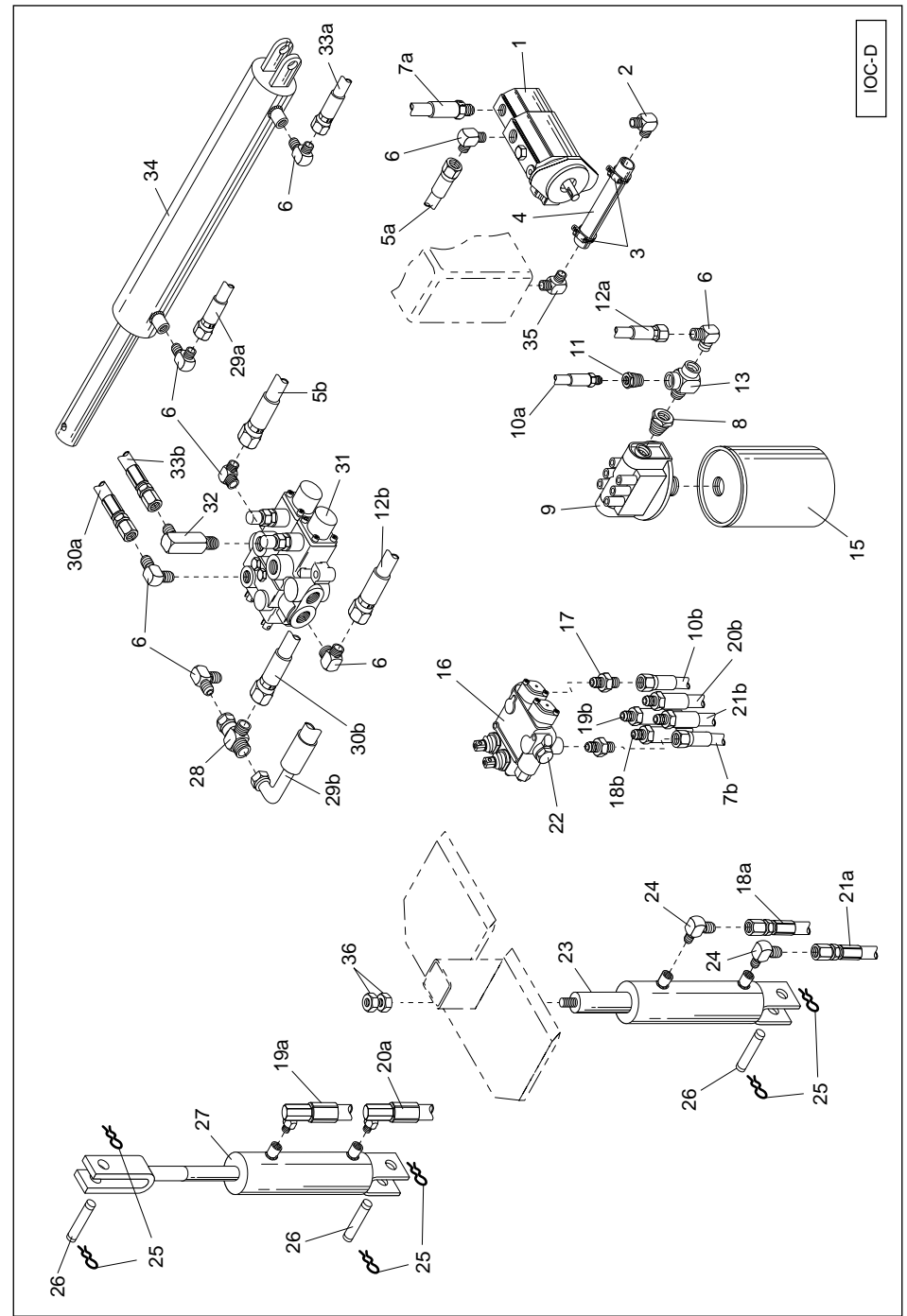
# Parts Section



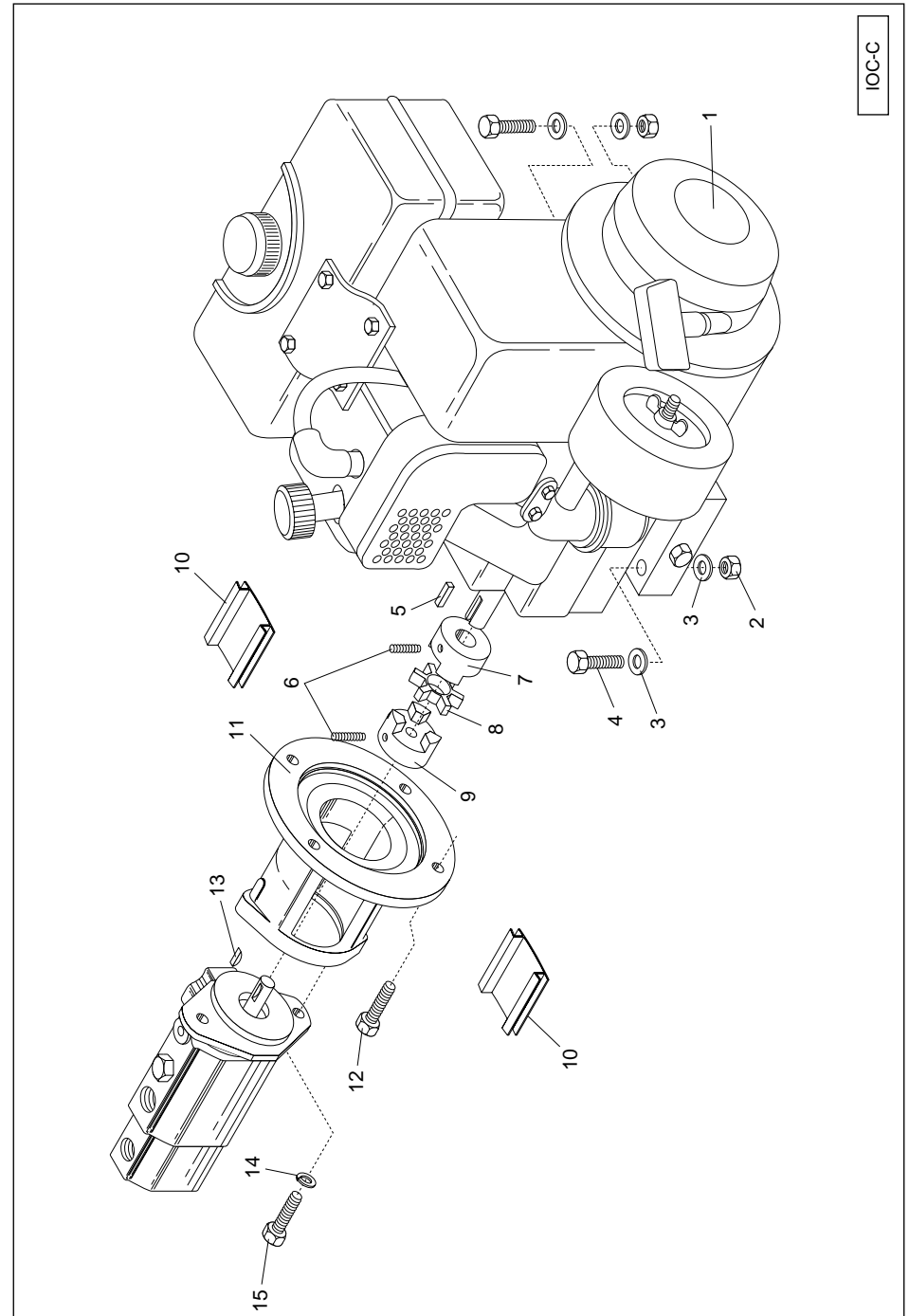
# Parts Section

Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
1	BR001998	Pump, Hydraulic	1	20	BR005225	Hose, log lift cylinder to raise	1
2	BR001008	Fitting, 90° Elbow	1	21	BR005223	Hose, four-way wedge cylinder to raise	1
3	BR004999	Clamp, Hose No. 16	2	22	BR004518	Plug, Hex Hollow	1
4	BR005081	Hose, Low-Pressure 1 x 25"	1	23	BR004029	Cylinder, Four-Way Wedge	1
5	BR005228	Hose, Pump to Main Control Valve	1	24	BR001078	Fitting, 90° Elbow	2
6	BR001006	Fitting, 90° Elbow	8	25	BR001705	Clip, Hair Pin	6
7	BR005226	Hose, Pump to Secondary Control Valve	1	26	BR008531A	Pin, Clevis	3
8	BR001593	Reducer, 1 1/4 x 3/4" NPT	1	27	BR004026	Cylinder, Log Lift, 2 x 1 1/8 x 8"	1
9	BR001117	Casting, Head Filter	1	28	BR008619	Fitting, Swivel Tee	1
10	BR005229	Hose, Filter to Secondary Control Valve	1	29	BR005227	Hose, front of cylinder to control valve	1
11	BR001594	Reducer	1	30	BR005096	Hose, between A & D port	1
12	BR005096	Hose, Filter to Main Control Valve	1	31	BR004318	Valve, 2 Lever Control	1
13	BR001343	Fitting, Tee	1	32	BR001016	Extra Long Fitting, 90°	1
14	—	—	—	33	BR005228	Hose, rear of cylinder to control valve	1
15	BR001118	Element, Filter	1	34	BR004024 BR004073	Cylinder, Splitting, 4 x 24 x 3 Cylinder, 5 x 24 x 3	1
16	BR004520	Valve, 2 Lever Control	1	35	BR001007	Low-Pressure Fitting, 90°	1
17	BR001060	Fitting	2	36	BR001310	Nut, 3/4-10	2
18	BR005089	Hose, four-way wedge cylinder to lower	1				
19	BR005224	Hose, log lift cylinder to lower	1				

# Parts Section



Item	Part No.	Description	Qty
1	BR003058	Engine (refer to engine manual)	1
2	BR001301	Lock Nut, 3/8-16	4
3	BR001400	Washer, 3/8"	8
4	BR001236	Bolt, 3/8-16 x 2" long	4
5	BR010105	Key, Engine Shaft, 1/4 x 1/4 x 1"	1
6	BR001382	Screw, Set, 5/16-18	2
7	BR006001C	Coupling, Engine	1
8	BR006001B	Spider, Urethane	1
9	BR006001F	Coupling, Pump	1
10	BR020011F	Finger Guards	2
11	BR020011	Flange, Engine	1
12	BR001291	Bolt, 3/8-16 x 1-1/4" long	4
13	BR010104	Key, Pump Shaft	1
14	BR001403	Lockwasher, 3/8"	2
15	BR001198	Bolt, 3/8-16 x 1" long	2



# Warranty

For one year from the date of purchase, Iron & Oak Commercial Products Inc. will replace for the original purchaser, or repair free of charge, all parts of the Iron & Oak Commercial Products' Hydraulic Log Splitter, returned to our factory PREPAID and found upon inspection by us to be faulty, due to defects in materials or workmanship.

The warranty shall not apply to any unit which has been overloaded or misused or which has been installed, used, or operated contrary to our instructions, or which has been repaired or altered by anyone other than our authorized representative.

We shall not be liable for any contingent liabilities arising out of the improper function of any parts.

We make NO WARRANTY with respect to parts NOT of our manufacture, but we will carry out the terms of the warranties of their respective manufacturers.

If a service representative cannot be found in your area, call Iron & Oak Commercial Products at (815) 672-8596. Have your model and serial number on hand before calling.

## *Important Warranty Information*

*To activate your Iron & Oak log splitter warranty, please fill out the information in the form below, clip out the form on the dotted line, insert into an envelope, and mail to:*

Iron & Oak Commercial Products, Inc.  
P.O. Box 577  
Streator, IL 61364-0577

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## *Iron & Oak Log Splitter Warranty Information*

- Please Print -

Model: BH4003 SERIAL #: \_\_\_\_\_

OWNER'S NAME: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

CITY: \_\_\_\_\_ STATE: \_\_\_\_\_ ZIP: \_\_\_\_\_

Purchased From: \_\_\_\_\_

Street Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Your Signature: \_\_\_\_\_ Date: \_\_\_\_\_







**COMMERCIAL  
PRODUCTS™**

Iron & Oak Commercial Products, Inc.  
410 W. Broadway Ave.  
Streator, Illinois 61364-0577  
Phone: 815-672-8596  
Fax: 815-672-9073  
E-mail: [sales@logsplitters-ironoak.com](mailto:sales@logsplitters-ironoak.com)  
Web Site: [www.logsplitters-ironoak.com](http://www.logsplitters-ironoak.com)

BH4003-01  
07/03