



**COMMERCIAL
PRODUCTS™**

See
initial start-up
instructions on page one

Iron & Oak Hydra-Buddy Hydraulic Power Pack

Model HBH-02



Shown
with Optional
Wheel Kit

Owner / Operator and Safety Manual

 **Made in U. S. A.**

Initial Start-up Instructions

DO NOT start the Hydra-Buddy until you have completed the start-up instructions.

- Read all operating and safety instructions.
- Complete and return the warranty card to register your Hydra-Buddy.
- Write the serial number and date-of-purchase in this manual.
- Your Hydra-Buddy is shipped **DRY**. 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.)

Serial Number _____

Date-of-Purchase _____

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



IRON & OAK

BRAVE
PRODUCTS, INC.
Streator, IL

SERIAL No. _____

Made in U.S.A.

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WARNING



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

Do not attempt to operate or maintain our product without fully understanding all our instructions and safety precautions. Do not operate the Hydra-Buddy 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 Hydra-Buddy 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.

Introduction

This portable hydraulic power pack is designed for tough applications on, around, or away from the farm. The Hydra-Buddy can be used to:

- replace tractor power supply for grain augers, mixers, or lifts
- save fuel and lower tractor operating hours and maintenance costs
- operate any implement normally run off of a tractor's hydraulic supply

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 hydraulic products.

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

- ✓ Rugged, heavy-duty construction for years of exceptional service.
- ✓ 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
 Web Site: www.logsplitters-ironoak.com

Safety






The following is a list of safety rules you must follow in order to use your Hydra-Buddy safely.

Personal Protection







- ✓  To avoid personal injury or death, carefully read and understand all instructions pertaining to the Hydra-Buddy 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 Hydra-Buddy and are legible at all times.

Worksite Safety









- ✓  To avoid tripping, do not leave tools or other components laying around in the work area.
- ✗  NEVER operate equipment attached to the Hydra-Buddy 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 which can be deadly when inhaled. Make sure the area is well ventilated.
- ✓  ALWAYS operate your Hydra-Buddy on dry, solid, level ground.
- ✓  ALWAYS have at least one other person assist in loading the Hydra-Buddy onto a truck or trailer.

Operating Safety










- ✓  The Hydra-Buddy hydraulic power pack is equipped with a pressure control/monitoring valve. The unit at full throttle position operates at a nominal 2100 P.S.I. Make sure this operating pressure does not exceed the maximum pressure of the implement/attachment being operated.
- ✓  ALWAYS relieve pressure before connecting or disconnecting hydraulic lines.
- ✓  Allow only adults to operate the Hydra-Buddy. No one under the age of 18 should be allowed to operate this unit or equipment powered by this unit.
- ✓  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 the operator should stand only within the safety zone prescribed in this manual (see the photos on safe and unsafe operating zones in the "Operation" section.)
- ✓  ALWAYS determine correct rotation of the auger, mixer, pump motors, or other attachments powered by the Hydra-Buddy before connecting the unit.
- ✓  ALWAYS disconnect the spark plug wire when the Hydra-Buddy is not in operation.

- ✘  NEVER leave your Hydra-Buddy operating unattended.
- ✘  Do not allow any person to operate the Hydra-Buddy until they have read and understood the safe operating instructions contained in this manual.
- ✘  Do not, under any circumstances, alter your Hydra-Buddy. 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, the Hydra-Buddy while under the influence of medication, drugs, or alcohol.
- ✘  Never wear loose clothing or jewelry that may get caught or become entangled in the equipment powered by the Hydra-Buddy.
- ✘  Only use your hand to operate the control lever. NEVER use your foot, knee, a rope, or any other extension device.



Maintenance and Repair

- ✓  Follow all safety rules, because most accidents involving the operation, maintenance, or repair of products occur because the owner/operator failed to observe basic safety rules or operating instructions.
- ✓  ALWAYS inspect your Hydra-Buddy 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 Hydra-Buddy 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 Hydra-Buddy in any manner. Such alterations may cause the Hydra-Buddy to become unsafe and WILL VOID THE WARRANTY.
- ✘  NEVER attach a rope or extension to the control lever. Such ALTERATIONS may cause the Hydra-Buddy to become UNSAFE and WILL VOID THE WARRANTY.
- ✘  ALWAYS clean the unit after each use and store it inside or cover it completely, if stored outside.

Refueling

- ✓  ONLY refuel the Hydra-Buddy outdoors in a clear area void of gas fumes or spilled gasoline.
- ✓  ALWAYS use an approved fuel container to carry gasoline.
- ✓  ALWAYS replace the gas cap and the fuel container cap securely.
- ✓  If gasoline is spilled, move the unit 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 Hydra-Buddy 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 Hydra-Buddy near a flame or spark. Oil and gasoline are flammable and can explode.
- ✘  NEVER smoke while operating or refueling the Hydra-Buddy. Gasoline, oil, and even gas fumes can explode.

Important Notice

The Hydra-Buddy 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.

Unpacking Instructions

Carefully remove the Hydra-Buddy power pack from the shipping carton and check for shipping damage. If any parts are damaged call Iron & Oak Products at (815) 672-8596.

Start-up Procedure

Important Notice

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

IMPORTANT: Before starting the engine, read the engine manufacturer's operating and maintenance instruction manual. If an engine manual was not supplied with the Hydra-Buddy, it is your responsibility to obtain a manual. Start by contacting the store where you purchased the Hydra-Buddy. 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 the oil level is one inch from the top of the tank. Also, refer to the implement/attachment service manual for the recommended oil. If you are using an implement/attachment that requires oil that is incompatible with the above recommended oil, contact Iron & Oak.
2. Make sure the engine's crank case is full of the engine manufacturers recommended oil.

Important Notice

The Hydra-Buddy 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.

3. Fill the engine's fuel tank with fresh, clean, lead-free automotive gasoline.
4. Remove the spark plug wire from the engine. This prevents the engine from starting until the hydraulic pump is completely filled with oil. Make sure the spark plug wire is held away from the spark plug with string or other nonconductive material.
5. Place the valve handle in the center (neutral) position.
6. Loosen the hydraulic fill plug so any trapped air can easily escape.
7. Pull the engine start rope several times to draw hydraulic oil up into the pump.
8. Attach the spark plug wire and start the engine per the manufacturer's instructions.
9. Once the engine has started, move throttle down to the mid range position and allow the engine to run for ten (10) minutes.
10. Shut the engine off.
11. Make sure the implement/attachment's hydraulic system is completely primed. If you are connecting the unit to a cylinder, the cylinder rod should be completely retracted (rod completely inside the cylinder). If you are connecting the unit to a hydraulic implement, make sure all the hoses are attached and unit is ready for operation.
12. Check, and refill, all system oils to appropriate levels.
13. Tighten the hydraulic fill plug.
14. Your Hydra-Buddy is now ready to use.

Important Notice

The Hydra-Buddy is equipped with a sealed hydraulic tank. If too much oil is placed in the hydraulic system of the unit and the implement, the hydraulic tank can be placed under high pressure under certain conditions. This high pressure can result in hot hydraulic oil being forced from the tank causing burns or other physical injury. Never overfill the hydraulic tank. It is the operator's responsibility to make sure the proper oil level is maintained.

Operation

CAUTION



The hydraulic tank may become hot under continuous use. Do not touch the unit with your bare hands until the unit has had cooling time. Do not remove the cap from the hydraulic tank while the unit is running. Hot oil under pressure could be expelled resulting in serious injury.

Hydraulic Motors

1. Before connecting your implement hoses to the Hydra-Buddy, you must determine which hose is the pressure or forward acting hose. Consult your implement owners manual to determine which hose is the "PRESSURE IN" hose.
2. Once the implement pressure port has been determined, connect the PRESSURE SIDE hose to Port B (port closest to the engine), as indicated on the valve. Connect the RETURN SIDE hose to Port A.

NOTE: The Hydra-Buddy is equipped with 1/2" quick-disconnect couplers which exceed the ISO 5675 Standard. If the implement/attachment couplers do not match the ones installed on the unit, replace the couplers on the implement/attachment with couplers that will match. Brave does not recommend the use of adapters. Adapters may cause pressure drops.

NOTE: When using the Hydra-Buddy to auger corn or beans, position the unit to the furthest upwind point from the auger intake or chaff cleaner if possible. This will prevent chaff from plugging the engine air filter and cooling fins.

3. Place the control valve handle in the center (neutral) position.
4. Start the engine.
5. Place the engine control lever in the fast position.
6. Push the valve handle slowly inward until it locks in position.

IMPORTANT: The Hydra-Buddy has a bidirectional valve that allows you to reverse the direction of the attachment motor. Before using the reverse feature, consult your attachment owners manual to make sure the motor can be reversed. Using reverse oil flow in a non-reversing pump or motor can result in damage to your implement.

7. To reverse the direction of the attachment motor:
 - a. Pull the valve handle outward to the center (neutral) position.
 - b. Wait until the attachment motor comes to a complete STOP.

- c. Pull the valve handle out slowly and hold it. As a safety precaution, the reverse valve position is spring loaded to return to the center (neutral) position, when released. You must hold the valve handle in the reverse position for reverse operation.

8. To turn off the motor, place the valve handle in the center (neutral) position.
9. Allow motor to come to a complete stop.
10. Turn the engine off.
11. Move the valve handle to the forward position for four to five seconds, then to the reverse position for four to five seconds.
12. Disconnect the hoses.

Cylinder Attachments

WARNING

The Hydra-Buddy valve does not have a positive locking device to hold the cylinder in position. Always use a mechanical lock to prevent the cylinder from creeping/drift.

IMPORTANT: Applications with cylinders can excessively deplete the Hydra-Buddy hydraulic tank. DO NOT use this unit in applications where more than 75% of the hydraulic fluid is purged from the hydraulic tank. DO NOT attempt to add more hydraulic fluid to extend the hydraulic capacity.

1. Determine the best way to connect the implement's cylinder to the unit. The procedure given below connects the pressure port to the extend port of the cylinder (opposite the rod end). The cylinder rod should be fully retracted before connecting any hoses.
2. Connect the return hose (rod end) to PORT A.
3. Connect the pressure hose (opposite rod end) to PORT B.
4. Place the valve handle in the center (neutral) position.
5. Place the engine control lever in the fast position.
6. To raise the cylinder, push the handle inward until the desired height is reached, then return the valve handle to the center (neutral) position. Block/lock the attachment at the desired height. If the attachment is not locked into position, the Hydra-Buddy will allow the cylinder to drift.
7. To lower the cylinder, pull the handle outward until the desired height is reached, then release the handle (it will automatically return to the center position).

IMPORTANT: When the valve handle is pushed inward, it locks in place. You must then pull the handle back to the center (neutral) position to stop cylinder movement.

8. To remove the unit, place the cylinder in the fully retract position (so the rod is inside the cylinder barrel).
9. Place the valve handle in the center (neutral) position.
10. Turn the engine off.
11. Move the valve handle to the forward position for four to five seconds, then to the reverse position for four to five seconds.
12. Disconnect the hoses.

Inspection and Maintenance

General Maintenance Check (before operating)

The hydraulic system (hoses and pump) should be carefully inspected before each use. Also inspect the mechanical parts at the same time. Make sure all hoses, 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 while the unit 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 hose, 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.

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 Hydra-Buddy.

Hydraulic Oil Change

Iron & Oak Commercial Products recommends an oil 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 Hydra-Buddy unless the hydraulic oil tank is full (1 inch from the top of the tank).

Specifications

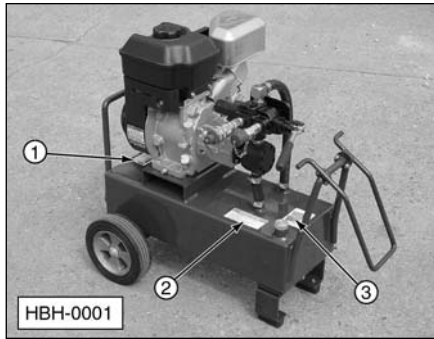
Engine	5.5 HP Briggs & Stratton
Hydraulic Tank	5.6 gallons
Safety Release Control Valve	Detent, auto return
Gear Pump	single-stage
Maximum Pressure	2100 psi
Unit Weight	106 lbs.
Shipping Weight	116 lbs.
Overall Shipping Size (H x W x L)	26 x 22 x 38 inches
Tractor Hydraulic Oil	
For extremely cold weather conditions	SAE 10W
For extremely warm weather conditions	SAE 30W
Transmission Fluid	Dextron III

Decals

WARNING



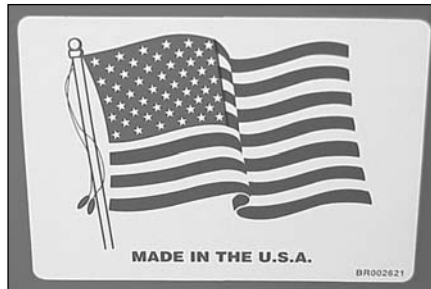
Make sure all decals are attached to the Hydra-Buddy and/or engine and are legible at all times.



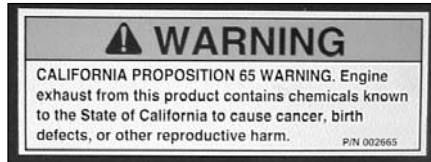
(2)



(3)



(4)



(1)



Item	Part No.	Description	Qty.
1	BR002521	Decal, Serial Number	1
2	BR002652	Decal, Notice	1
3	BR002621	Decal, Flag	1
4	BR002665	Decal, Warning Engine	1
5 (NS)	BR002696	Decal, Hydra-Buddy	1

NS - not shown

Troubleshooting

SYMPTOM	POSSIBLE CAUSE	FIXES & HINTS
Engine stalls when valve is engaged. (See "Possible Cause" 1, 2, 4, 22, or 24)	1. Bad connection at hydraulic coupler. (E,J) 2. Lines reversed. (C) 3. Worn ball seat on coupler. (E)	A. Keep oil tank full and clean. B. Clean vent hole. C. Slowly reverse position of valve handle. If implement moves shut and down, reverse lines.
Motor or cylinder moves slow. (1, 3, 5, 7, 22, 24, 25)	4. Auger plugged or jammed. 5. Lower hydraulic oil in reservoir. (A,H)	D. Shut engine off, remove debris. E. Shut off engine, remove and inspect the hydraulic coupler for worn area, if found remove and replace.
Engine appears to be frozen (will not move). (1, 2, 6, 7, 8, 24)	6. Pressure lock. (B,D,E,J) 7. Defective pump. (L) 8. Defective engine. (L)	F. Flush and clean hydraulic system. G. Shut down engine and inspect oil levels. Fill to adequate levels or change.
Motor or cylinder move erratically. (3, 9, 10, 11, 12, 18, 19, 20, 22, 23, 24, 25)	9. Air in system. (A,I) 10. Insufficient oil to pump. (A,E,F,G,H,J) 11. Tank breather plugged. (B)	H. Remove pump and check to see that it moves freely. I. Shut engine off then restart.
Engine won't turn or stalls at no load. (10, 14, 16, 21, 23, 24)	12. Shaft seal improperly vented. (L) 13. Leakage through pump check valve. (L)	J. Check hoses for damage and correct placement. K. Precise alignment of engine and pump is necessary (do not force).
Pump shaft seal leaks. (9, 11, 12, 13, 14, 15, 16, 17)	14. Pump high pressure gear set damaged. (L) 15. Pump gear set worn. (L) 16. Pump seized-up. (H,L) 17. Drive shaft broken. (L)	L. Return component to dealer/manufacturer for necessary repairs.
	18. Internal leakage in directional valve. (F,H,L) 19. Directional valve damaged. (L) 20. Obstruction in directional valve. (F,H,L) 21. Obstruction in hydraulic lines. (F,H,J,L) 22. Weak engine-low horsepower. (D,L) 23. Low engine speed. (D,L) 24. Improper engine/pump alignment. (K,L) 25. Shaft coupling loose. (K,L)	

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 Hydra-Buddy 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.

BR021171 Optional Wheel Kit

An optional wheel kit is available to make the Hydra-Buddy more portable. The kit contains all the parts necessary to attach the wheels to the portable hydraulic power pack.



Important Warranty Information

To activate your Iron & Oak 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

Iron & Oak Hydra-Buddy Power Pack Warranty Information - Please Print -

Model: HBH-02 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
Web Site: www.logsplitters-ironoak.com**

**HBH-02-03
02/04**