



AGR/BGR/BRGR SERIES GRAPPLES

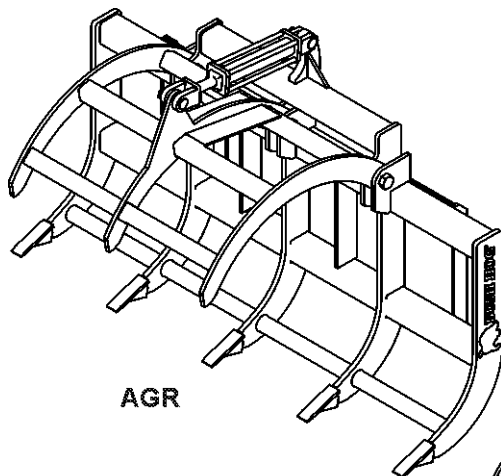
Published 08/22

Part No.50075567

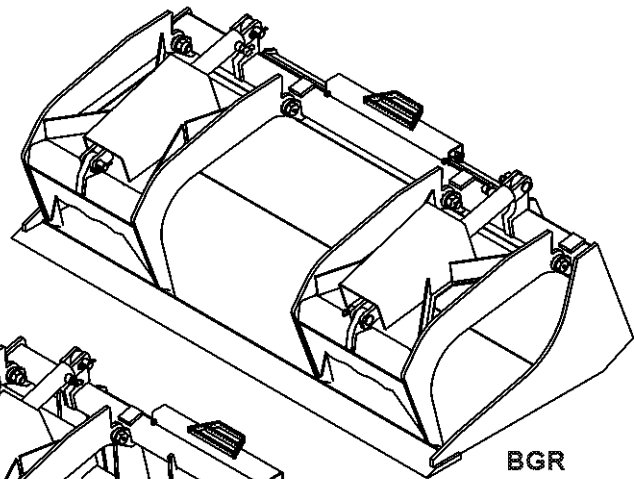
OPERATOR'S MANUAL



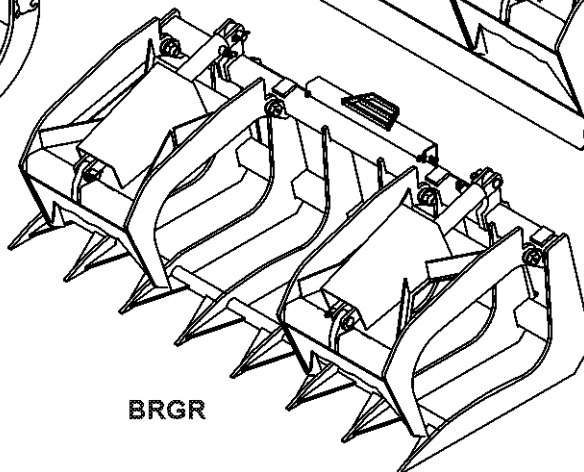
This Operator's Manual is an integral part of the safe operation of this machine and must be maintained with the unit at all times. **READ, UNDERSTAND,** and **FOLLOW** the Safety and Operation Instructions contained in this manual before operating the equipment. C01-Cover str



AGR



BGR



BRGR

FC-SS-0003

BUSH HOG®

2501 Griffin Ave.
Selma, AL 36703
334-874-2700
www.bushhog.com

Bush Hog Web Page



www.alqr.com/bwe

¡ATENCIÓN!
LEA EL INSTRUCTIVO



Si No Lee Ingles, Pida
Ayuda a Alguien
Que Se Lo Lea Para Que le
Traduzca Las
Medidas de Seguridad

**MEMBER OF THE
ALAMO GROUP**
ALWAYS ON THE CUTTING EDGE®

©2022 Alamo Group Inc.

To the Owner/Operator/Dealer

All implements with moving parts are potentially hazardous. There is no substitute for a cautious, safe-minded operator who recognizes the potential hazards and follows reasonable safety practices. The manufacturer has designed this implement to be used with all its safety equipment properly attached to minimize the chance of accidents.

BEFORE YOU START! Read the safety messages on the implement and shown in your manual. Observe the rules of safety and common sense!



WARNING

TO AVOID SERIOUS INJURY OR DEATH:

1. READ AND UNDERSTAND OPERATOR'S MANUAL.
2. TRACTOR MUST BE EQUIPPED WITH ROLL-OVER PROTECTION (ROPS) AND SWAY CHAINS.
3. ALWAYS WEAR SAFETY GLASSES, SAFETY SHOES AND SEAT BELT FASTENED TIGHTLY.
4. STOP TRACTOR, LOCK BRAKES, AND BLOCK UP OR SUPPORT IMPLEMENT SECURELY BEFORE WORKING UNDER RAISED COMPONENTS.
5. ALLOW NO RIDERS AT ANY TIME ON TRACTOR OR IMPLEMENT. FALLING OFF CAN KILL.
6. KEEP BYSTANDERS CLEAR OF MOVING PARTS AND WORKING AREA. KEEP CHILDREN AWAY!
7. DO NOT LIFT, LOWER, OR OPERATE UNLESS EVERYONE IS CLEAR OF IMPLEMENT.
8. USE INCREASED CAUTION ON SLOPES & NEAR BANKS AND DITCHES TO PREVENT OVERTURN.
9. LOCK LIFT LEVER UP FOR TRANSPORT. HAVE SMV SIGN VISIBLE. FOLLOW LOCAL LAWS.
10. USE PARKING STAND OR BLOCK UP WHEN UNHITCHING FROM TRACTOR.

999200

WARRANTY INFORMATION:

Read and understand the complete Warranty Statement found in this Manual. Fill out the Warranty Registration Form in full and return it to within 30 Days. Make certain the Serial Number of the Machine is recorded on the Warranty Card and on the Warranty Form that you retain.

Table of Contents

SAFETY SECTION	1 - 1
GENERAL SAFETY INSTRUCTIONS and PRACTICES	1 - 2
OPERATOR SAFETY INSTRUCTIONS and PRACTICES	1 - 4
EQUIPMENT OPERATION SAFETY INSTRUCTIONS AND PRACTICES	1 - 5
CONNECTING OR DISCONNECTING IMPLEMENT SAFETY INSTRUCTIONS AND PRACTICES	1 - 10
MAINTENANCE AND SERVICE SAFETY INSTRUCTIONS AND PRACTICES	1 - 11
PARTS INFORMATION	1 - 13
Storage and Parking Safety Instructions and Practices	1 - 13
Concluding Safety Instructions and Practices	1 - 13
DECAL LOCATION	1 - 14
FEDERAL LAWS AND REGULATIONS	1 - 15
INTRODUCTION SECTION	2 - 1
BUSH HOG LIMITED WARRANTY	2 - 4
ASSEMBLY SECTION.....	3 - 1
ASSEMBLY.....	3 - 2
OPERATION SECTION	4 - 1
STANDARD EQUIPMENT and SPECIFICATIONS - GRAPPLE	4 - 3
OPERATOR REQUIREMENTS	4 - 5
SKID STEER & TRACTOR HOOK-UP	4 - 6
Hook-Up with Skid Steer Style Hitch	4 - 6
John Deer 300-500 Hitch Style.....	4 - 6
Hook-up With Euro Style Hitch	4 - 7
Hydraulic Hose Hook-Up	4 - 8
GRAPPLE OPERATION	4 - 8
Picking up a Load	4 - 8
Traveling with a Load	4 - 9
Releasing a Load.....	4 - 9
Ripping Out Bushes	4 - 10
Break Sod with Lower Jaw	4 - 10
Back Raking with Upper Jaw	4 - 10
IMPLEMENT STORAGE	4 - 10
TROUBLESHOOTING	4 - 11
MAINTENANCE SECTION	5 - 1
PROPER TORQUE FOR FASTENERS	5 - 2

SAFETY SECTION

Safety Section 1-1

SAFETY

GENERAL SAFETY INSTRUCTIONS and PRACTICES

A careful operator is the best operator. Safety is of primary importance to the manufacturer and should be to the owner/operator. Most accidents can be avoided by being aware of your equipment, your surroundings, and observing certain precautions. The first section of this manual includes a list of Safety Messages that, if followed, will help protect the operator and bystanders from injury or death. Read and understand these Safety Messages before assembling, operating or servicing this Implement. This equipment should only be operated by those persons who have read the manual, who are responsible and trained, and who know how to do so responsibly.



The Safety Alert Symbol combined with a Signal Word, as seen below, is used throughout this manual and on decals which are attached to the equipment. The Safety Alert Symbol means: "ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!" The Symbol and Signal Word are intended to warn the owner/operator of impending hazards and the degree of possible injury faced when operating this equipment.

Practice all usual and customary safe working precautions and above all---remember safety is up to YOU. Only YOU can prevent serious injury or death from unsafe practices.



Indicates an imminently hazardous situation that, if not avoided, WILL result in DEATH OR VERY SERIOUS INJURY.



Indicates an imminently hazardous situation that, if not avoided, COULD result in DEATH OR SERIOUS INJURY.



Indicates an imminently hazardous situation that, if not avoided, MAY result in MINOR INJURY.



Identifies special instructions or procedures that, if not strictly observed, could result in damage to, or destruction of the machine, attachments or the environment.

NOTE: *Identifies points of particular interest for more efficient and convenient operation or repair.* (SG-1) str

READ, UNDERSTAND, and FOLLOW the following Safety Messages. Death or serious injury may occur unless care is taken to follow the warnings and instructions stated in the Safety Messages. Always use good common sense to avoid hazards. (SG-2) str



Si no lee ingles, pida ayuda a alguien que si lo lea para que le traduzca las medidas de seguridad. (SG-3) str

¡ LEA EL INSTRUCTIVO!



SAFETY

WARNING

Operate this Equipment only with a Tractor equipped with an approved roll-over-protective system (ROPS). Always wear seat belts. Death or serious injury could result from falling off the tractor, particularly during a turnover when the operator could be pinned under the ROPS. (SG-7) str



DANGER

Never allow children to operate, ride on, or come close to the Tractor or Implement. Usually, 16-17 year-old children who are mature and responsible can operate the implement with adult supervision, if they have read and understand the Operator's Manuals, been trained in proper operation of the tractor and Implement, and are physically large enough to reach and operate the controls easily. (SG-11) str



DANGER

Never allow children or other persons to ride on the Tractor or Implement. Falling off can result in death or serious injury. (SG-10) str



DANGER

Never allow children to play on or around Tractor or Implement. Children can slip or fall off the Equipment and be killed or injured. Inadvertent contact with controls can cause the Implement to shift or fall crushing themselves or others. (SG-25) str

DANGER

DO NOT use drugs or alcohol immediately before or while operating the Tractor and Implement. Drugs and alcohol will affect an operator's alertness and coordination and therefore affect the operator's ability to operate the equipment safely. Before operating the Tractor or Implement, an operator on prescription or over-the-counter medication must consult a medical professional regarding any side effects of the medication that would hinder their ability to operate the Equipment safely. NEVER knowingly allow anyone to operate this equipment when their alertness or coordination is impaired. Serious injury or death to the operator or others could result if the operator is under the influence of drugs or alcohol. (SG-27) str



DANGER

Never walk or work under any raised boom or bucket. The Boom could fall and cause serious bodily injury or death. Always lower the boom and bucket flat on the ground or support the Boom and bucket on safety stands. Unload all hydraulic actuators prior to performing any maintenance. To do this, set the bucket on the ground then kill the tractor engine. Push and pull the control levers in and out several times to remove pressure. Do not work under raised Boom or Bucket unless components are securely blocked up to prevent inadvertent dropping.

(SBH-7) str

SAFETY

SAFETY

SAFETY

OPERATOR SAFETY INSTRUCTIONS AND PRACTICES

DANGER

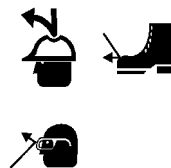
Never operate the Tractor or Implement until you have read and completely understand this Manual, the Tractor Operator's Manual, and each of the Safety Messages found in the Manual or on the Tractor and Implement. Learn how to stop the tractor engine suddenly in an emergency. Never allow inexperienced or untrained personnel to operate the Tractor or Implement without supervision. Make sure the operator has fully read and understood the manuals prior to operation.

(SG-4)str



WARNING

The operator and all support personnel should wear hard hats, safety shoes, safety glasses, and proper hearing protection at all times for protection from injury including injury from items that may be thrown by the equipment. (SG-16)str



CAUTION

PROLONGED EXPOSURE TO LOUD NOISE MAY CAUSE PERMANENT HEARING LOSS! Tractors with or without an Implement attached can often be noisy enough to cause permanent hearing loss. We recommend that you always wear hearing protection if the noise in the Operator's position exceeds 80db. Noise over 85db over an extended period of time will cause severe hearing loss. Noise over 90db adjacent to the Operator over an extended period of time will cause permanent or total hearing loss. **NOTE:** *Hearing loss from loud noise [from tractors, chain saws, radios, and other such sources close to the ear] is cumulative over a lifetime without hope of natural recovery.* (SG-17)str



WARNING

Always read carefully and comply fully with the manufacturer's instructions when handling oil, solvents, cleansers, and any other chemical agent. (SG-22)str



DANGER

Never run the Tractor engine in a closed building or without adequate ventilation. The exhaust fumes can be hazardous to your health. (SG-23) str

WARNING

Battery posts, terminals and related accessories contain lead and lead compounds and chemicals known to the state of California to cause cancer, birth defects or other reproductive harm. (SG-31)

WARNING

Prolonged operation may cause operator boredom and fatigue affecting safe operation. Take scheduled work breaks to help prevent these potentially impaired operating conditions. Never operate the Implement and Tractor in a fatigued or bored mental state which impairs proper and safe operation. (SG-32) str

SAFETY



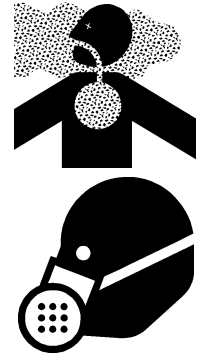
Use extreme caution when getting onto the Implement to perform repairs, maintenance and when removing accumulated material. Only stand on solid flat surfaces to ensure good footing. Use a ladder or raised stand to access high spots which cannot be reached from ground level. Slipping and falling can cause serious injury or death. (SG-33) str



Use extreme care when loading, carrying or handling any agricultural fertilizers, chemicals or biological residue. Follow the manufacturer's handling instructions and wear appropriate Personal Protective Equipment including gloves, safety glasses and respirator when required. If you are using a tractor equipped with a cab, make sure the cab is rated for appropriate environmental exposure. Be safe and always wear proper protection. Short or long term exposure to certain chemicals and materials can result in serious injury or death. (SL-19) str



Repeated or substantial breathing of hazardous dusts, including crystalline silica, could cause fatal or serious respiratory disease including silicosis. Concrete, masonry, many types of rock, and various other materials contain silica sand. California lists respirable crystalline silica as a substance known to cause cancer. Operation of this equipment under certain conditions may generate airborne dust particles that could contain crystalline silica. In those conditions, personal protective equipment including an appropriate respirator must be used. If excessive dust is generated, a dust collection or suppression system should also be used during operation. (SG-41) str



SAFETY

EQUIPMENT OPERATION SAFETY INSTRUCTIONS AND PRACTICES



This Implement may be wider than the Tractor. Be careful when operating or transporting this equipment to prevent the Implement from running into or striking sign posts, guard rails, concrete abutments or other solid objects. Such an impact could cause the Implement and Tractor to pivot violently resulting in loss of steering control, death, or serious injury. Never allow the Implement to contact obstacles. (S3PT-12)str



Never grasp control levers when mounting the machine. (SBH-4) str



The Boom is designed only to position and operate the Bucket which is attached to it. Never attempt to lift, pull, or push other solid objects with the boom or bucket. Serious injury could result from a structural failure when the Boom is used for purposes other than those for which it was designed. (SBH-9) str



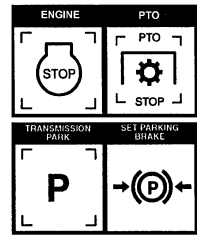
Operate this Implement only in conditions where you have clear visibility in daylight or with adequate artificial lighting. Never operate in darkness or foggy conditions where you cannot clearly see at least 100 yards in front and to the sides of the tractor and implement. Make sure that you can clearly see and identify passersby, steep slopes, ditches, drop-offs, overhead obstructions, power lines, debris and foreign objects. If you are unable to clearly see these types of items discontinue operating this equipment. (S3PT-21) str

SAFETY

⚠ DANGER

BEFORE leaving the tractor seat lower the implement, set the parking brake and/or set the tractor transmission in parking gear, disengage the PTO, stop the engine, remove the key, and wait for all moving parts to stop. Place the tractor shift lever into a low range or parking gear to prevent the tractor from rolling. Never dismount a Tractor that is moving or while the engine is running. Operate the Tractor controls from the tractor seat only.

(SG-9)str



⚠ WARNING

Do not mount or dismount the Tractor while the tractor is moving. Mount the Tractor only when the Tractor and all moving parts are completely stopped. Dismounting a moving power unit can result in a crushing hazard that can cause death or serious injury. (SG-12) str



⚠ DANGER

Start tractor only when properly seated in the Tractor seat. Starting a tractor in gear can result in death or serious injury. Read the Tractor operators manual for proper starting instructions. (SG-13) str



⚠ DANGER

Operate the Tractor and/or Implement controls only while properly seated in the Tractor seat with the seat belt securely fastened around you. Inadvertent movement of the Tractor or Implement may cause death or serious injury. (SG-29)str

⚠ DANGER

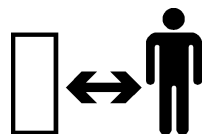
DO NOT operate this Implement on a Tractor that is not properly maintained. Should a mechanical or Tractor control failure occur while operating, immediately shut down the Tractor and perform repairs before resuming operation. Serious injury and possible death could occur from not maintaining this Implement and Tractor in good operating condition. (SG-36) str

⚠ WARNING

Do Not operate this equipment in areas where insects such as bees, may attack you and/or cause you to lose control of the equipment. If you must enter in such areas, use a tractor with an enclosed Cab and close the windows to prevent insects from entering. If a tractor cab is not available, wear suitable clothing including head, face, and hand protection to shield you from the insects. Attacking insects can cause you to lose control of the tractor, which can result in serious injury or death to you or bystanders. Never dismount a moving tractor. (SG-40) str

⚠ WARNING

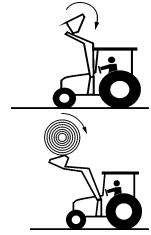
Keep bystanders 10 feet away from the tractor and loader while operating. The bystanders could enter the path of the tractor or items could fall from the loader resulting in serious injury to the bystander. (SL-01



SAFETY

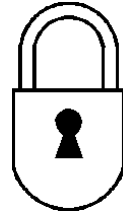
WARNING

For added safety when lifting loads above the height of the operator, install a certified Falling Object Protective Structure. Shiftable loads, round bales, large loose items, and loader attachments can fall toward the operator resulting in serious injury or death. Falling Object Protective Structure (FOPS) rated Cab may be obtained from the tractor dealer or other sources. (SL-02) str



WARNING

Before dismounting the tractor and loader lower the loader to the ground or onto solid support blocks. Engage the loader valve travel lock to prevent inadvertent movement of the valve controls causing the loader to suddenly move and drop. Sudden dropping of the loader and attachment could result in serious injury. (SL-05) str



CAUTION

Use extra care when turning or stopping. Allow for increased length and weight of added loader. The loader adds five to six feet of length in front of the tractor and significant weight. Allow extra distance when stopping or turning. Do not allow loader or attachment to contact solid objects. (SL-07)str

WARNING

Do not raise the loader into an overhead structure or allow a raised attachment to contact overhead structures. Sudden or unexpected contact with an overhead structure could result in serious injury. (SL-08)str

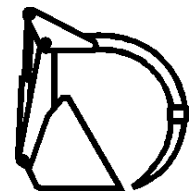
DANGER

Do not let the loader or attachment contact electrical power lines. Contact with electrical power lines can result in serious injury or electrocution. If the loader attachment contacts a power line remain in the tractor seat until the power has been shut off. Stepping off the tractor can permit electrical current to pass through the body resulting in electrocution. (SL-09) str



DANGER

Store the grapple bucket or bale spear attachment with the point(s) on the ground. Walking into the point of the bale or grapple spear can cause serious bodily injury. Never drive the bale spear or grapple bucket attachment forward if a bystander is in front of the loader. (SL-10) str



WARNING

Only mount the loader on a tractor that is listed on the mounting instructions. Never mount on a tricycle steering front axle. Move the tractor front and rear wheels to the widest spacing and add the recommended rear tractor ballast to prevent tractor tip over. Keep the tractor tires properly inflated. Maintain at least 25% of the total Tractor and Loader weight including the maximum load in the bucket or attachment on the rear axle. Always wear your seatbelt and make sure the ROPS structure is fully deployed to prevent serious injury or death from the tractor tipping over. (SL-11)

SAFETY

SAFETY

WARNING

Carry the loader and attachment low when transporting to reduce the potential of the tractor tipping over. Transport on slopes only at slow speeds and use gradual turning angles. Tractor wheel contact with any wash out, drop off or ground obstruction with a raised loader could result in the tractor tipping over and causing serious injury. (SL-12)str



DANGER

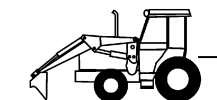
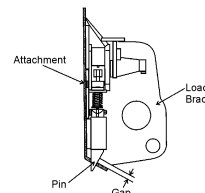
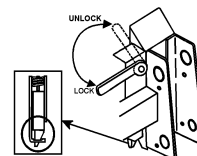
Do not work from the loader or attachments. Do not allow any riders on the loader, tractor or attachments. Falling off the loader could result in serious injury and/or tractor run over (SL-14)str



DANGER

Do not use an attachment that is not securely attached to the quick hitch. The attachment could fall resulting in severe crushing injuries or death to the operator or bystanders.

- Rotate both hitch pin levers down to the locked position. You should feel a firm resistance when locking the levers down. The pins must extend through the slots in the bottom of the attachment bracket.
- Examine the fit between the quick hitch and the bottom of the attachment bracket. The pins must extend through the slots in the bottom of the attachment bracket. The tapered side of each pin must be firmly wedged against the surface of the slot on the bottom of the attachment bracket. The attachment bucket should fit snugly against the bottom of the quick hitch bracket. If there is a gap of more than 1/8" or if the pins are not firmly seated do not use the attachment. Contact your dealer before using the attachment.
- On level ground, tilt the attachment down 90° degrees and lower it to the ground. Lower the loader further to slightly raise the front of the tractor off the ground. Drive the tractor in reverse while the attachment is on the ground for 20-30 feet to ensure the attachment does not disconnect. If the attachment disconnects during this process, discontinue the use of the attachment and contact your dealer.



WARNING

NEVER walk or work under or allow any person to be underneath a raised loader or attachment. (SL-15) str



WARNING

Do not operate the loader from the ground. Operate the tractor and loader only while seated in the tractor seat with the seatbelt fastened. The loader could fall crushing a person resulting in serious injury or death. (SL-16) str

SAFETY

WARNING

Use extreme care when piling material above 6 feet high. Material could shift and fall onto the operator or bystanders. The material could crush or suffocate the operator or bystander resulting in serious injury or death.

(SL-17) str



WARNING

Know before you DIG. Call 888-258-0808 and request that all buried utilities locations be identified before digging in unfamiliar ground. Do not let the loader or attachment contact buried electrical power lines, utilities or gas lines. Contact with electrical power lines can result in serious bodily injury or electrocution. If the loader contacts a power line, remain in the tractor seat until the power has been shut off. Stepping off the tractor can permit electrical current to pass through the body resulting in electrocution. (SL-18)str

DANGER

Do not use loader as a jack to raise the tractor tires off the ground. The loader could fail causing the tractor and loader to fall to the ground resulting in serious injury. (SL-25)str

WARNING

Use extreme care when loading, transporting or dumping loads that impair or partially block the operator's line of sight. Know where you are traveling. Make sure no bystanders are in the area of travel. If a bystander assists in providing guidance, make sure they are not in the path of travel. Keep all bystanders 25 feet away from travel path. (SL-29)str

WARNING

Always look behind you before backing up. Make sure you are looking in the direction of travel. A bystander could walk behind the tractor. Running into a bystander can result in serious injury or death. (SL-30)str



WARNING

Operate the tractor and loader only in conditions where you have clear visibility in daylight or with adequate artificial lighting. Never operate in darkness or foggy conditions where you cannot clearly see at least 100 feet in front and to the sides of the tractor. Make sure you can clearly see bystanders, ditches, steep slopes, drop-offs, overhead obstructions, power lines, and debris or obstruction in the travel path. If you are unable to clearly see these types of items discontinue operating. Contact with unseen vehicles, bystanders, obstructions, or drop-offs can cause serious injury. (SL-35)str

DANGER

Be particularly careful in transport. The Implement has raised and moved the center of gravity to the front of the Power Unit increasing the possibility of overturn and tipping forward. Turn curves or go up slopes only at low speed and using a gradual turning angle. Go up slopes with the Implement located uphill. Slow down on rough or uneven surfaces. (SPU-02)str

WARNING

Never leave the Implement and Power Unit unattended while the Implement is in the raised position. Accidental operation of a lifting lever or a hydraulic failure may cause the implement to suddenly fall causing serious injury or possible death to anyone who might inadvertently be under the Implement. Lower the implement carefully to the ground. Do not put hands or feet under lifted components. (SPU-03) str

DANGER

The center of gravity of a Power Unit equipped with a front-mounted Implement is shifted to the front and removes weight from the rear wheels. The Power Unit should maintain at least 25% total weight with the maximum load in the bucket or attachment on the rear wheels to prevent tipping forward, loss of steering control, and possible injury. Add counterweight if required when operating on slopes and proceed with the load uphill to prevent tipping. Reference the Power Unit's Operator's Manual or an authorized dealer for information on adding additional weight. (SL-37) str

SAFETY

SAFETY

SAFETY

⚠ WARNING

Your driving vision may be reduced or impaired by the tractor, cab, or implement. Before driving on public roadways identify any limited vision areas, and make adjustments to your operating position, mirrors, and the implement transport position so that you can clearly see the area where you will be traveling, and any traffic that may approach you. Failure to maintain adequate vision of the public roadway and traffic can result in serious injury or even death. (STI-10)

⚠ WARNING

Make sure the hydraulic quick disconnects are fully seated into the connections. Do not use the loader if the hydraulic connection is leaking. Leaking oil could allow the loader to fall resulting in a serious crushing injury. (SL-22) str

⚠ WARNING

If the loader valve controls fail to functions properly discontinue use of the tractor and loader until the controls are properly repaired. Sudden or unexpected movement or dropping of the loader and attachment could result in serious injury. (SL-31) str

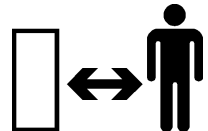
⚠ CAUTION

Make sure all air is purged from the hydraulic system before using the loader. Air in the system can cause the loader to respond sluggishly or with unexpected movement. The air can be purged from the cylinder lines by fully cycling the cylinders several times from the fully closed to fully open position. Sudden or unexpected movement or dropping of the loader and attachment could result in serious injury. (SL-32) str

CONNECTING OR DISCONNECTING IMPLEMENT SAFETY INSTRUCTIONS AND PRACTICES

⚠ WARNING

Do not stand or allow bystander or coworkers between the loader and the tractor while installing or disconnecting the loader from the tractor. Keep hands and body clear of the loader and the loader mounts. Serious injury or death can result from a person being crushed between the tractor and loader. (SL-03) str



⚠ DANGER

Never allow anyone to get under the loader or attachment or to reach through the loader lift arms when raised. Serious injury could result from crushing or pinching by the loader or attachment. (SL-06) str



⚠ WARNING

Make sure the loader is properly attached to the tractor and the retaining pins securely lock the loader into position. Improper mounting of the loader onto the tractor can result in the loader falling causing serious injury. (SL-23) str

⚠ WARNING

Make sure all tractor and loader guards are in place and properly functioning. Do not use an attachment if the roll back guards are damaged or missing. The roll back guards prevents items carried in the attachment from rolling back onto the operator causing serious injury. For added safety when lifting loads above the height of the operator, install a certified Falling Object Protective Structure. (SL-28) str

SAFETY

SAFETY

MAINTENANCE AND SERVICE SAFETY INSTRUCTIONS AND PRACTICES

READ, UNDERSTAND, and FOLLOW the following Safety Messages. Death or serious injury may occur unless care is taken to follow the warnings and instructions stated in the Safety Messages. Always use good common sense to avoid hazards. (SG-2) str



WARNING

Always maintain the safety signs in good readable condition. If the safety signs are missing, damaged, or unreadable, obtain and install replacement safety signs immediately. (SG-5)str

WARNING

Do not modify or alter this Implement. Do not permit anyone to modify or alter this Implement, any of its components or any Implement function. (SG-8)str

DANGER

Never work under the Implement, the framework, or any lifted component unless the Implement is securely supported or blocked up to prevent sudden or inadvertent falling which could cause serious injury or even death. (SL-36)str



WARNING

Do not operate this Equipment with hydraulic oil or fuel leaking. Oil and fuel are explosive and their presence could present a hazard. Do not check for leaks with your hand! High-pressure oil streams from breaks in the line could penetrate the skin and cause tissue damage including gangrene. To check for a hose leak, SHUT the unit ENGINE OFF and remove all hydraulic pressure. Wear oil impenetrable gloves, safety glasses and use cardboard to check for evidence of oil leaks. If you suspect a leak, REMOVE the HOSE and have it tested at a Dealer. If oil does penetrate the skin, have the injury treated immediately by a physician knowledgeable and skilled in this procedure. (SG-15) str

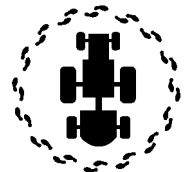


WARNING

Never attempt to lubricate, adjust, or remove material from the Implement while it is in motion or while tractor engine is running. (SG-20)str

WARNING

Periodically inspect all moving parts for wear and replace when necessary with authorized service parts. Look for loose fasteners, worn or broken parts, and leaky or loose fittings. Make sure all pins have cotter pins and washers. Serious injury may occur from not maintaining this machine in good working order. (SG-21) str



SAFETY



Avoid contact with hot surfaces including hydraulic oil tanks, pumps, motors, valves and hose connections. Relieve hydraulic pressure before performing maintenance or repairs. Use gloves and eye protection when servicing hot components. Contact with a hot surface or fluid can cause serious injury from burns or scalding. (SG-34str)



Use caution and wear protective gloves when handling sharp objects such as blades, knives, and other cutting edges. Be alert to worn component surfaces which have sharp edges. Sharp surfaces can inflict severe laceration injuries if proper hand protection is not worn. (SG-37) str



WARNING

Cancer and Reproductive Harm www.P65Warnings.ca.gov

SAFETY

SAFETY

PARTS INFORMATION

Bush Hog products are designed utilizing specifically matched system components to ensure optimum equipment performance. These parts are made and tested to Bush Hog specifications. Non-genuine "will fit" parts do not consistently meet these specifications. The use of "will fit" parts may reduce equipment performance, void warranties, and present a safety hazard. Use genuine Bush Hog parts for economy and safety. (SPBH-2)str

SEE YOUR BUSH HOG DEALER

Storage and Parking Safety Instructions and Practices



Never crawl under or allow children to play around or on a loader that is disconnected from the tractor. The loader could fall crushing a person resulting in serious injury or death. (SL-13)str



Do not remove the attachment from the loader when the loader is disconnected from the tractor. The attachment stabilizes the loader. If the attachment is removed, the loader will fall and could result in serious injury. (SL-26)str



Only disconnect and store the loader on firm flat ground. Make sure the loader stands are properly installed and rest on firm ground or support blocks. If the stands sink or fail, the loader could fall causing serious injury. (SL-27)str

Concluding Safety Instructions and Practices

In addition to the design and configuration of this Implement, including Safety Signs and Safety Equipment, 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 the machine. Refer also to Safety Messages and operation instruction in each of the appropriate sections of the Tractor and Equipment Manuals. Pay close attention to the Safety Signs affixed to the Tractor and Equipment. (SG-18)str

SAFETY

DECAL LOCATION

NOTE: Bush Hog supplies safety decals on this product to promote safe operation. Damage to the decals may occur while in shipping, use, or reconditioning. Bush Hog cares about the safety of its customers, operators, and bystanders, and will replace the safety decals on this product in the field, free of charge (Some shipping and handling charges may apply). Contact your Bush Hog dealer to order replacement decals

WARNING

Do not operate without confirmation that coupler pins are fully engaged.

Loader attachment can fall off if not properly attached.

To avoid serious injury or death:

- Only use loader manufacturer approved attachments.
- Read all operators manuals and decals before operating. Follow all safety, operating, and service instructions. Contact dealer for replacement parts.

50100907



WARNING

Cancer and Reproductive Harm

www.P65Warnings.ca.gov

D960

SAFETY

SAFETY

FEDERAL LAWS AND REGULATIONS

This section is intended to explain in broad terms the concept and effect of federal laws and regulations concerning employer and employee equipment operators. This section is not intended as a legal interpretation of the law and should not be considered as such.

Employer-Employee Operator Regulations

U.S. Public Law 91-596 (The Williams-Steiger Occupational and Health Act of 1970) OSHA

This Act Seeks:

"...to assure so far as possible every working man and woman in the nation safe and healthful working conditions and to preserve our human resources..."

DUTIES

Sec. 5 (a) Each employer-

(1) shall furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees;

(2) shall comply with occupational safety and health standards promulgated under this Act.

(b) Each employee shall comply with occupational safety and health standards and all rules, regulations and orders issued pursuant to this Act which are applicable to his own actions and conduct.

OSHA Training Requirements

Title 29, Code of Federal Regulations Part 1928.57(a)(6). www.osha.gov

Operator instructions. At the time of initial assignment and at least annually thereafter, the employer shall instruct every employee who operates an agricultural tractor and implements in the safe operating practices and servicing of equipment with which they are or will be involved, and of any other practices dictated by the work environment.

Keep all guards in place when the machine is in operation;

Permit no riders on equipment

Stop engine, disconnect the power source, and wait for all machine movement to stop before servicing, adjusting, cleaning or unclogging the equipment, except where the machine must be running to be properly serviced or maintained, in which case the employer shall instruct employees as to all steps and procedures which are necessary to safely service or maintain the equipment.

Make sure everyone is clear of machinery before starting the engine, engaging power, or operating the machine.

Employer Responsibilities:

To ensure employee safety during Tractor and Implement operation, it is the employer's responsibility to:

1. Train the employee in the proper and safe operation of the Tractor and Implement.
2. Require that the employee read and fully understand the Tractor and Implement Operator's Manual.
3. Permit only qualified and properly trained employees to operate the Tractor and Implement.
4. Maintain the Tractor and Implement in a safe operational condition and maintain all shields and guards on the equipment.
5. Ensure the Tractor is equipped with a functional ROPS and seat belt and require that the employee operator securely fasten the safety belt and operate with the ROPS in the raised position at all times.
6. Forbid the employee operator to carry additional riders on the Tractor or Implement.
7. Provide the required tools to maintain the Tractor and Implement in a good safe working condition and provide the necessary support devices to secure the equipment safely while performing repairs and service.
8. Require that the employee operator stop operation if bystanders or passersby come within 300 feet.

Child Labor Under 16 Years of Age

Some regulations specify that no one under the age of 16 may operate power machinery. It is your responsibility to know what these regulations are in your own area or situation. (Refer to U.S. Dept. of Labor, Employment Standard Administration, Wage & Home Division, Child Labor Bulletin #102.)

INTRODUCTION SECTION

Introduction Section 2-1

INTRODUCTION

These Grapples are designed with care and built with quality materials by skilled workers. Proper assembly, maintenance, and operating practices, as described in this manual, will help the owner/operator get years of satisfactory service from the machine.

The purpose of this manual is to familiarize and instruct.

Careful use and timely service saves extensive repairs and costly downtime losses. The Operation and Maintenance Sections of the manual train the owner/operator how to work the Grapple correctly and attend to appropriate maintenance. The Troubleshooting Guide helps diagnose difficulties and offers solution to the problems.

Safety is of primary importance to the owner/operator and to the manufacturer. The first section of this manual includes a list of Safety Messages, that, if followed, will help protect the operator and bystanders from injury or death. Many of the Safety Messages will be repeated throughout the manual. The owner/operator/dealer should know these Safety Messages before assembly and be aware of the hazards of operating this Grapple during assembly, use, and maintenance. The Safety Alert Symbol combined with a Signal Word, as seen below, is intended to warn the owner/operator of impending hazards and the degree of possible injury faced when operating this machine.



Indicates an imminently hazardous situation that, if not avoided, WILL result in DEATH OR VERY SERIOUS INJURY.



Indicates an imminently hazardous situation that, if not avoided, COULD result in DEATH OR SERIOUS INJURY.



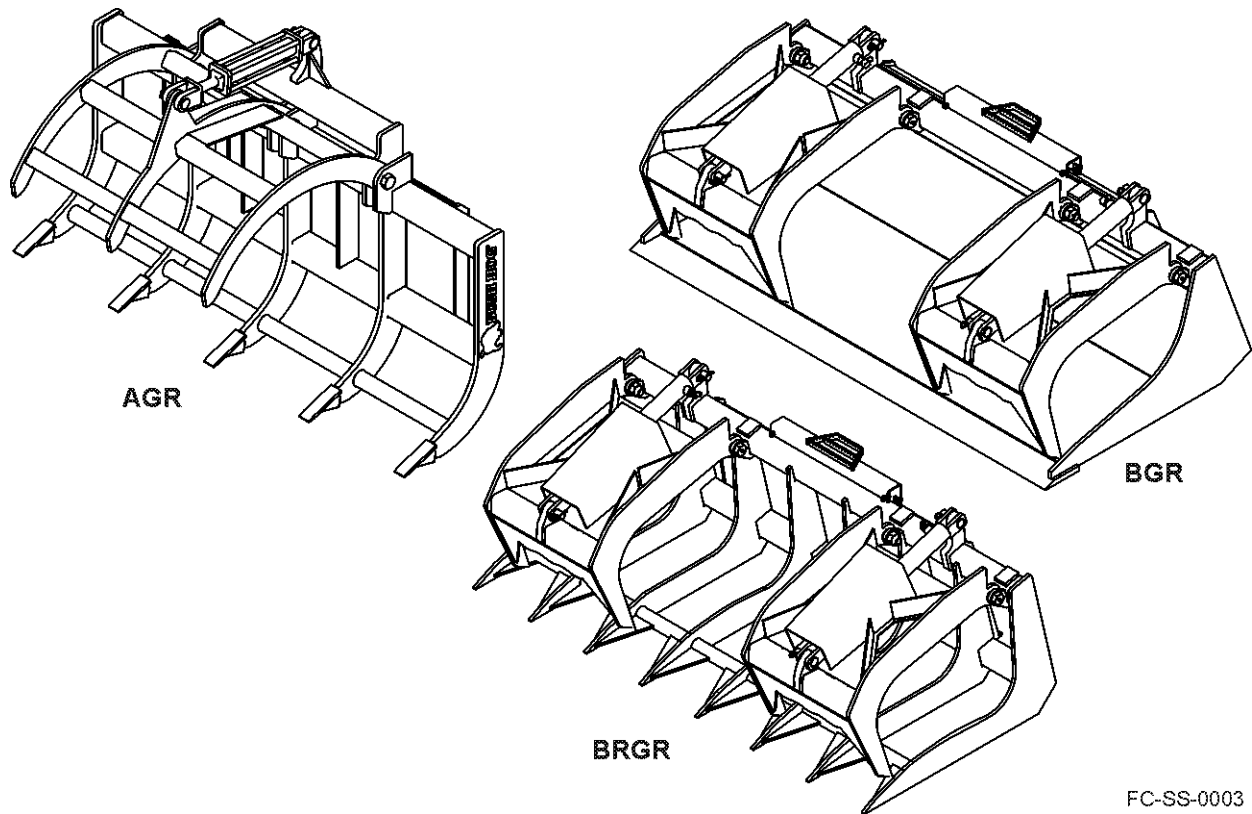
Indicates an imminently hazardous situation that, if not avoided, MAY result in MINOR INJURY.

Important

Identifies special instructions or procedures that, if not strictly observed, could result in damage to, or destruction of the machine, attachments or the environment.

INTRODUCTION

INTRODUCTION



FC-SS-0003

The Bush Hog Ag Grapple, Bucket Grapple, & Bush Grapples have uses and applications in farming, ranching, construction sites, nurseries, campuses, theme parks, salvage operations, warehouses, lumber yards, and large or small retail outlets. They have the capability of quickly and conveniently turning your skid steer loader or tractor loader with a universal quick attach mounting system into a Grapple expanding your material handling capabilities..

Models AGR are available in 60" and 72" widths respectively and BGR and BRGR models are available in 72" and 84" widths respectively. Whichever model you select, you will find that these Rhino attachments will save you time and money and handle all jobs with ease.

Front and rear, and left and right are determined by the normal direction of travel (the same as on your automobile).

Literature Page



www.algqr.com/ble

INTRODUCTION

BUSH HOG LIMITED WARRANTY



Bush Hog warrants to the original purchaser of any new Bush Hog equipment, purchased from an authorized Bush Hog dealer, that the equipment be free from defects in material and workmanship for a period of one (1) year for non-commercial, state and municipalities' use and ninety (90) days for commercial use from date of retail sale. The obligation of Bush Hog to the purchaser under this warranty is limited to the repair or replacement of defective parts.

Replacement or repair parts installed in the equipment covered by this limited warranty are warranted for ninety (90) days from the date of purchase of such part or to the expiration of the applicable new equipment warranty period, whichever occurs later. Warranted parts shall be provided at no cost to the user at an authorized Bush Hog dealer during regular working hours. Bush Hog reserves the right to inspect any equipment or parts which are claimed to have been defective in material or workmanship.

DISCLAIMER OF IMPLIED WARRANTIES & CONSEQUENTIAL DAMAGES

Bush Hog's obligation under this limited warranty, to the extent allowed by law, is in lieu of all warranties, implied or expressed, **INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE** and any liability for incidental and consequential damages with respect to the sale or use of the items warranted. Such incidental and consequential damages shall include but not be limited to: transportation charges other than normal freight charges; cost of installation other than cost approved by Bush Hog; duty; taxes; charges for normal service or adjustment; loss of crops or any other loss of income; rental of substitute equipment, expenses due to loss, damage, detention or delay in the delivery of equipment or parts resulting from acts beyond the control of Bush Hog.

THIS LIMITED WARRANTY SHALL NOT APPLY:

1. To vendor items which carry their own warranties, such as engines, tires, and tubes.
2. If the unit has been subjected to misapplication, abuse, misuse, negligence, fire or other accident.
3. If parts not made or supplied by Bush Hog have been used in connection with the unit, if, in the sole judgment of Bush Hog such use affects its performance, stability or reliability.
4. If the unit has been altered or repaired outside of an authorized Bush Hog dealership in a manner which, in the sole judgment of Bush Hog, affects its performance, stability or reliability.
5. To normal maintenance service and normal replacement items such as gearbox lubricant, hydraulic fluid, worn blades, or to normal deterioration of such things as belts and exterior finish due to use or exposure.
6. To expendable or wear items such as teeth, chains, sprockets, belts, springs and any other items that in the company's sole judgment is a wear item.

NO EMPLOYEE OR REPRESENTATIVE OF BUSH HOG IS AUTHORIZED TO CHANGE THIS LIMITED WARRANTY IN ANY WAY OR GRANT ANY OTHER WARRANTY UNLESS SUCH CHANGE IS MADE IN WRITING AND SIGNED BY BUSH HOG'S SERVICE MANAGER, 2501 GRIFFIN AVE., SELMA, ALABAMA 36703.



Record the model number, serial number and date purchased. This information will be helpful to your dealer if parts or service are required.

MODEL NUMBER _____

SERIAL NUMBER _____

MAKE CERTAIN THE WARRANTY
HAS BEEN FILED WITH BUSH HOG
SELMA, ALABAMA

DATE OF RETAIL SALE _____



ASSEMBLY SECTION

Assembly Section 3-1

ASSEMBLY

ASSEMBLY

Your Bush Hog Grapple is fully assembled at the factory. If applicable, make sure all nuts and or bolts are properly torqued before use of attachment. Refer to “Torque Chart” in the Maintenance Section of this manual.



Light weight tractors and some skid steer loaders will require rear ballast for heavy loads to maintain steering control. Be sure to consult your Skid Steer or Tractor Operator's Manual to determine whether or not to add ballast.

OPERATION SECTION

Operation Section 4-1

OPERATION

BUSH HOG SERIES GRAPPLES OPERATING INSTRUCTIONS

Your Bush Hog Series Grapple should now be assembled and inspected for any evidence of defective or damaged parts before use. Any evidence of damage should be reported to your dealer immediately. After Hydraulic Lines have been attached to skid steer or tractor, carefully remove safety blocks.

This section of the Operator's Manual is designed to familiarize, instruct, and educate safe and proper use to the operator. Pictures contained in this section are intended to be used as a visual aid to assist in explaining the operation of a . Some pictures may show shields removed for purposes of clarity. NEVER OPERATE this implement without all shields in place and in good operational condition. The operator must be familiar with the grapple and skid steer or tractor operation and all associated safety practices before operating. Proper operation of the grapple, as detailed in this manual, will help ensure years of safe and satisfactory use of the grapple.

READ AND UNDERSTAND THE ENTIRE OPERATING INSTRUCTIONS AND SAFETY SECTION OF THIS MANUAL AND THE TRACTOR MANUAL BEFORE ATTEMPTING TO USE THE TRACTOR AND IMPLEMENT. If you do not understand any of the instructions, contact your nearest authorized dealer for a full explanation. Pay close attention to all safety signs and safety messages contained in this manual and those affixed to the implement and tractor. *OPS-U- 0001str*

READ, UNDERSTAND, and FOLLOW the following Safety Messages. Death or serious injury may occur unless care is taken to follow the warnings and instructions stated in the Safety Messages. Always use good common sense to avoid hazards. (SG-2str)



Si no lee ingles, pida ayuda a alguien que si lo lea para que le traduzca las medidas de seguridad. (SG-3) str



OPERATION

1. STANDARD EQUIPMENT AND SPECIFICATIONS - GRAPPLE

	AGR
Overall Depth	25"
Overall Height	37-3/4"
Overall Width	5 Ft & 6 Ft
Usable Open Height	31" inside
Usable Width (inside side plates)	5 Ft / 6 Ft
Weight	372 lbs (5 Ft) 409 lbs (6 Ft)
Number of Teeth	5 (5 Ft) / 5 (6 Ft)
Paint Options	R, G, O, B or Y

	BRGR72	BRGR84
Overall Depth	37-1/2"	37-1/2"
Overall Height	25-1/2"	25-1/2"
Overall Width	6 Ft	7 Ft
Usable Depth	28"	28"
Usable Open Height	46-1/2"	46-1/2"
Usable Width (inside side plates)	71"	83"
Roll Back Angle	13°	13°
Weight	702 lbs	787 lbs
Number of Teeth	8	10
Paint Options	Black	Black

OPERATION

OPERATION

	BGR72T (with teeth)	BGR84T (with teeth)	BGR72 (smooth)	BGR84 (smooth)
Overall Depth	39-1/4"	39-1/4"	39-1/4"	39-1/4"
Overall Height	25-1/8"	25-1/8"	25-1/8"	25-1/8"
Overall Width	6 Ft	7 Ft	6 Ft	7 Ft
Usable Depth	33-3/4"	33-3/4"	33-3/4"	33-3/4"
Usable Open Height	45-1/2"	45-1/2"	45-1/2"	45-1/2"
Usable Width (inside side plates)	6 Ft	7 Ft	6 Ft	7 Ft
Roll Back Angle	20°	20°	20°	20°
Weight	907 lbs	993 lbs	827 lbs	903 lbs
Number of Teeth	8	9		
Paint Options	Black	Black	Black	Black

OPERATION

2. OPERATOR REQUIREMENTS

Safe operation of the unit is the responsibility of a qualified operator. A qualified operator has read and understands the implement and tractor Operator's Manuals and is experienced in implement and tractor operation and all associated safety practices. In addition to the safety messages contained in this manual, safety signs are affixed to the implement and tractor. If any part of the operation and safe use of this equipment is not completely understood, consult an authorized dealer for a complete explanation.

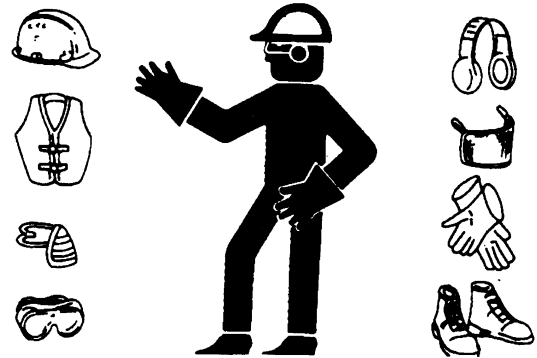
If the operator cannot read the manuals for themselves or does not completely understand the operation of the equipment, it is the responsibility of the supervisor to read and explain the manuals, safety practices, and operating instructions to the operator.

Safe operation of equipment requires that the operator wear approved Personal Protective Equipment (PPE) for the job conditions when attaching, operating, servicing, and repairing the equipment. PPE is designed to provide operator protection and includes the following safety wear:

PERSONAL PROTECTIVE EQUIPMENT (PPE)

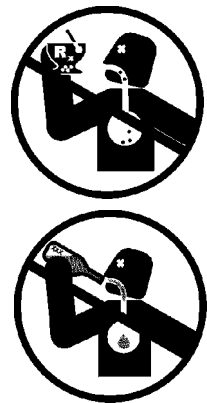
- Always Wear Safety Glasses (with side shields marked to comply with ANSI Z87)
- Hard Hat
- Steel Toe Safety Footwear
- Gloves
- Hearing Protection
- Close Fitting Clothing
- Respirator or Filter Mask (depends on operating conditions)

OPS-U- 0002str



⚠ DANGER

DO NOT use drugs or alcohol immediately before or while operating the Tractor and Implement. Drugs and alcohol will affect an operator's alertness and coordination and therefore affect the operator's ability to operate the equipment safely. Before operating the Tractor or Implement, an operator on prescription or over-the-counter medication must consult a medical professional regarding any side effects of the medication that would hinder their ability to operate the Equipment safely. NEVER knowingly allow anyone to operate this equipment when their alertness or coordination is impaired. Serious injury or death to the operator or others could result if the operator is under the influence of drugs or alcohol. (SG-27) str



OPERATION

3. SKID STEER & TRACTOR HOOK-UP



A crushing hazard exists when hooking-up attachments. DO NOT allow anyone to stand between the Skid Steer/Tractor and the attachment itself. DO NOT operate hydraulic controls while someone is near the Skid Steer/Tractor or attachment.

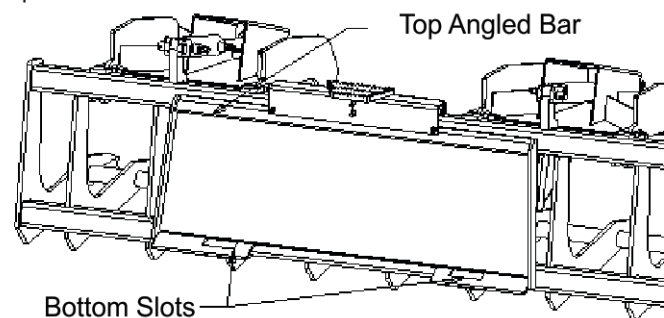
3.1 Hook-Up with Skid Steer Style Hitch



Make sure Skid Steer Hitch Plate is properly attached to . It must be secured under the top angle bar and locking handles must be locked down with locking pins extending fully through the bottom slots. An improperly attached can fall resulting in serious injury and or death.

1. If needed, pull locking handles up on the Skid Steer Hitch plate until locking pins are raised up and ready for hook-up.
2. Carefully drive up to the Grapple making sure the hitch plate on the Skid Steer arms is parallel with the Grapple hitch plate.
3. Rotate top of Skid Steer tilt arms slightly forward.
4. Place top of Skid Steer hitch plate under the top angled bar on the Grapple.
5. Slowly lift Skid Steer hitch up until top angle bar and Grapple hitch plate have come together.
6. Rotate top of Skid Steer hitch plate back to align bottom slots in the Grapple with locking pins in the Skid Steer hitch plate.
7. Push lock handles on Skid Steer hitch down so that the pins go through the bottom slots of the Grapple hitch plate and handles lock down.

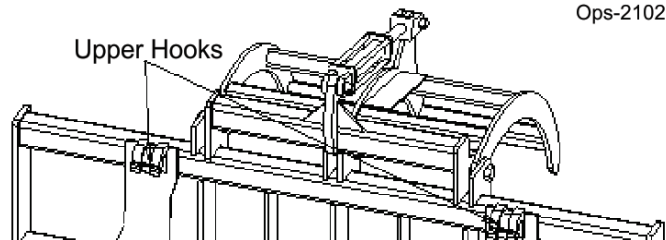
Op2101



3.2 John Deere 300-500 Hitch Style

1. Lower John Deere hitch plate down as far as possible and tilt forward.
2. Lock the upper attachment bar into the upper hooks.
3. Lift the loader up and tilt back until the lower attachment pins can be secure to the loader with lynch pins.

Ops-2102



OPERATION

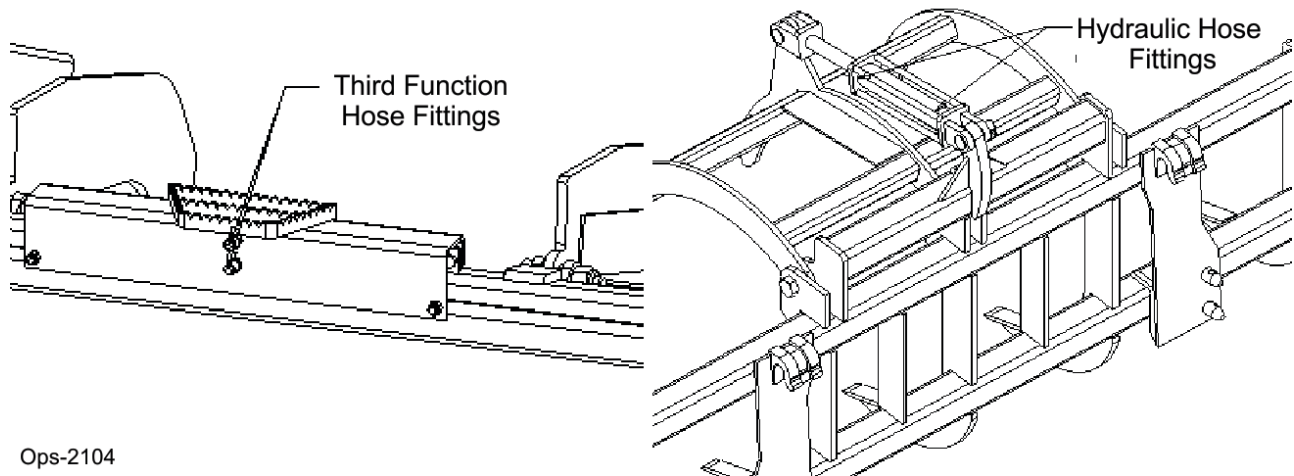
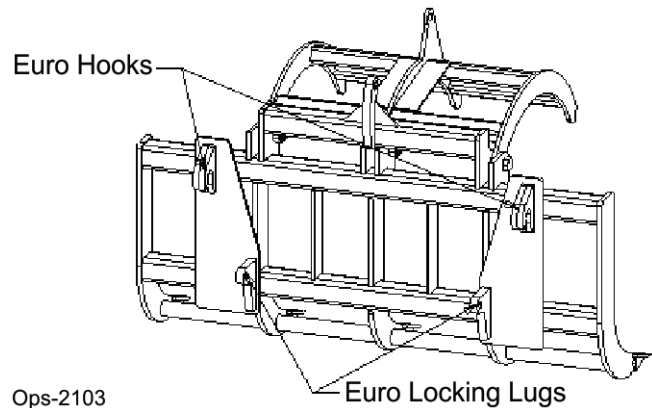
OPERATION

3.3 Hook-up With Euro Style Hitch

CAUTION

Make sure Euro hitch plate is properly attached to the Grapple. It must be secured under the hooks and locking pins must be fully extended into the locking lugs. An improperly attached Grapple can fall.

1. Lower Euro hitch plate down as far as possible.
2. If required, manually move locking handle until locking pins are fully back and ready for hook-up.
3. Carefully drive up to the Grapple hooks until mounting bar and hook guides on the Euro hitch plate are aligned under the Grapple hooks.
4. Raise Euro hitch plate up until mounting bar is completely caught inside the Grapple hooks.

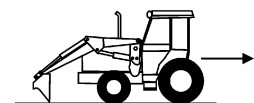


WARNING

Do not use an attachment that is not securely attached to the quick hitch. The attachment could fall resulting in severe crushing injuries or death to the operator or bystanders.



On level ground, tilt the attachment down 90° degrees and lower it to the ground. Lower the loader further to slightly raise the front of the tractor off the ground. Drive the tractor in reverse while the attachment is on the ground for 20-30 feet to ensure the attachment does not disconnect. If the attachment disconnects during this process, discontinue the use of the attachment and contact your dealer.



OPERATION

3.4 Hydraulic Hose Hook-Up

After attaching your implement to your Skid Steer or tractor loader you need to now hook-up your third function kit to allow control over your Grapple arms. If you have already obtained a third function kit for your tractor or skid steer then you can attach your hydraulic hoses to the fittings located on top of your quick attach plate on the back side of the Grapple. If you have an AGGR then you may attach your hoses directly to the cylinder from your third function kit.

4. GRAPPLE OPERATION

4.1 Picking up a Load

1. Make sure the load of material does not exceed 83% of the Skid Steer or Tractor rated lift capacity for an attached front loader.

Important

Prying with the teeth of the Grapple can damage the unit and void its warranty. Operating any Rhino attachments with a Tractor/Skid Steer in excess horsepower than what the attachment is rated for can damage the implement and void its warranty.

2. Stop completely before raising or lowering the Grapple to the correct height.
3. Lift load of material up a short distance and tilt back 5-10 degrees from horizontal before traveling. Check to make sure material is properly secured before traveling.

⚠ WARNING

Keep all bystanders at a safe distance when entering and picking up a load. Objects can shift or be thrown suddenly as the Grapple makes contact with load causing serious injury or death.

⚠ WARNING

Carefully approach the loading area making sure no objects will come back into the operator's space causing serious injury or death.

Important

DO NOT ram Grapple into a pile or hook a chain to the to secure a load. Doing so can damage the implement. Close upper jaw with care when lifting fragile or hollow objects such as a crate. This will help protect the object from being crushed.

1. Be sure to read and understand all safety alerts. Be sure to read and understand all safety alerts.
2. Make sure load does not exceed rated lift capacity of the Skid Steer or Tractor being used to lift the load
3. Check for overhead obstructions.
4. Center Grapple on material to be picked up.
5. Make a complete stop in front of material and position Grapple at the proper height to enter the pile.
6. Fully open Grapple jaw and slowly drive into the pile. Do not ram Grapple into pile.
7. Close Grapple jaw to secure load.
8. Lift load a few inches and tilt it back slightly.
9. Make sure you have good control of the load. If load is not secure, release and recapture load in a more secure location.
10. Back load out of the pile slowly making sure load clears all other obstacles.
11. Not always will load be secured properly in the Grapple when pull free from a pile. Before traveling with a loose load, lower load to ground, release load, and re-clamp load to make it more secure.
12. Position load at a safe, low traveling height before transferring to the unloading site.

OPERATION

4.2 Traveling with a Load

1. Be sure to read and understand all safety alerts.
2. Pedestrians always have the right-of-way.
3. Keep load tilted back slightly.
4. Travel with Grapple and load as low as possible to the ground.

Important

Do not ram Grapple into a pile or hook a chain to the Grapple to secure a load. Doing so can damage the Grapple.

Important

Close upper jaw with care when lifting fragile or hollow objects such as a crate. This will help protect the object from being crushed.

5. Continually scan all sides for pedestrians, other traffic, and obstacles.
6. If load is large and blocks your view, travel in reverse.
7. Always drive at a safe speed and slow down when going around corners. Avoid sudden braking.
8. Leave enough clearance when turning so that the load does not contact obstacles such as vehicles, buildings, trees, or fences.
9. When traveling over a ramp or incline, keep load on the "Up-hill" side of skid steer/tractor.
10. When possible, travel straight up and down grades, ramps, and inclines. Avoid making turns on grades, ramps, and inclines.
11. Raise or lower load only when stopped, never while traveling.
12. Slow down when traveling over rough or hilly terrain.
13. Do not transport loads on public roadways.
14. Transport on public roadways without a load and transport in such a way that faster moving vehicles may pass you safely.
15. Plan your route to avoid heavy traffic.

4.3 Releasing a Load

1. Be sure to read and understand all safety alerts.
2. Stop in front of desired location.
3. Slowly raise load to a height just above the pile.
4. Move forward slowly checking to make sure Grapple and load clears all obstacles.
5. Stop forward movement when load is positioned over its release location.
6. Releasing load requires a combination of tilting front of Grapple down, raising upper jaw, and raising loader arms. The order in which the load is released will vary depending on type of material being released. The most important objective is to have the load under control throughout the release.
7. Once load has settled onto the pile, slowly back up making sure Grapple clears all objects and there are not any pedestrians or other traffic behind or on either side.
8. Leave enough clearance when turning and/or lowering the Grapple so that it does not make contact with obstacles such as vehicles, buildings, trees, or fences.
9. Lower Grapple to transporting height (low to the ground) before moving again.

OPERATION

OPERATION

4.4 Ripping Out Bushes

1. Make sure to read and understand all safety alerts.
2. Open upper claw halfway.
3. Rotate front of Grapple down while lowering unit until upper teeth extend into the ground on the far side of the bush and lower teeth are on the near side.
4. Close Grapple claws around the roots of the bush.
5. Raise Grapple up to rip bush from the ground.

4.5 Break Sod with Lower Jaw

Important

Do not operate Grapple with lower teeth extending very deep into the ground. Doing so can damage equipment.

1. Make sure to read and understand all safety alerts.
2. Open upper jaw halfway.
3. Lower Grapple until bottom teeth start to go into the ground. Do not go very deep into the ground.
4. Drive forward to break up sod and push debris ahead of attachment.

4.6 Back Raking with Upper Jaw

Important

Check full range of motion before rotating Grapple down to back rake.

1. Make sure to read and understand all safety alerts.
2. Open upper jaw fully and rotate front of Grapple down while lowering unit until the tips of the upper teeth touch the ground.
3. Back-up to rake loose sticks and debris into a pile.
4. For instructions for Picking-Up a Raked Pile, use the same instructions used for Picking-Up a Load.

5.IMPLEMENT STORAGE

⚠WARNING

Store Grapple on solid level ground with hydraulic cylinders fully collapsed, with jaws opened, face down to ensure stable storage. The Grapple can tip over and cause serious injury or death if stored improperly.

Clean, inspect, service, and make necessary repairs to the when parking it for long periods and when parking it at the end of a working season. This will help ensure that the unit is ready for use next time you hook up to it

1. Clean off any dirt and grease that may have accumulated on the Grapple Scrape off compacted dirt and then wash it surface thoroughly with a garden hose.
2. Inspect Grapple for loose, damaged, or worn parts and adjust or replace when needed.
3. Repaint parts where paint is worn or scratched too prevent rust. Paint is available from your local Rhino dealer.
4. Replace all damaged or missing guards and decals.
5. Apply lubricant to areas not painted to help prevent rust.
6. Store Grapple on a level surface in a clean, dry place. Inside storage will reduce maintenance and make for a longer Grapple life.
7. Do not allow children to play on or around the stored Grapple.

OPERATION

6.TROUBLESHOOTING

Problem	Possible Cause	Remedy
Cannot Lift Load	Insufficient power to lift load.	Reduce load on or switch to a Skid Steer or Tractor that is rated for more lift capacity.
Load is Shifting	Hitch not properly attached to Skid Steer/Tractor.	Always make sure hitch is properly attached before lifting load. Reattach hitch to skid steer/tractor if loose.
	Load is being carried too high.	Recommended carrying height as close to the ground as possible without hitting objects.
	Traveling and/or turning too fast.	Reduce speed to a safe non-bouncing speed.
	Traveling sideways to an incline.	Travel straight up and back on inclines.
	Load is not centered in the bucket.	Center load in bucket.
	Traveling with teeth level or tilted down at the front.	Rotate teeth back so that the ends at the front are slightly higher than at the back.
	Teeth are bent.	Straighten bent teeth.
	Traveling forward while going down an incline with a slope in excess of 10% (5.7 degrees).	Back down steep inclines.
Teeth are Bending or Breaking	The load's center of gravity is not centered in the bucket.	Reposition load so that the load's center of gravity is centered in the bucket.
	Load is too heavy for the bucket.	Lift lighter loads.
	Ramming into the ground or load.	Never ram with the bucket.
	Striking solid objects with the bucket.	Watch for objects while moving and allow clearance when making turns. Inspect area thoroughly before working in it and place markers, such as flags, to indicate potential hazards.
	Prying objects out of the ground.	Never use to pry objects.
	Hooking teeth on a solid object below ground such as tree roots and rocks.	Never run teeth underground to get under a load.
	Wedging objects between the teeth.	Do not wedge objects between the teeth.

MAINTENANCE SECTION

Maintenance Section 5-1

MAINTENANCE

PROPER TORQUE FOR FASTENERS

Because of severe operating conditions, correct bolt torque is very important. An improperly torqued bolt can be easily shaken loose or broken by the vibrations. When replacing bolts, always use the same grade of bolt as used originally. Use the chart as a guide to tightening all bolts. Torque values listed are for general use only.

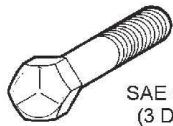
TORQUE SPECIFICATIONS - DRY TORQUE

Proper torque for American fasteners.
Recommended Torque in Foot Pounds (Newton Meters).*

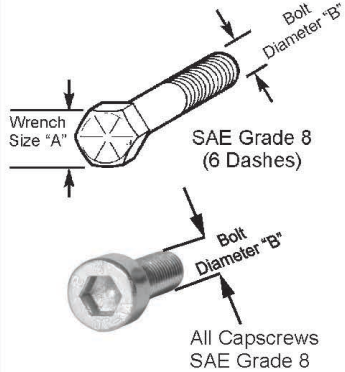
AMERICAN Bolt Head Markings



SAE Grade 2
(No Dashes)



SAE Grade 5
(3 Dashes)



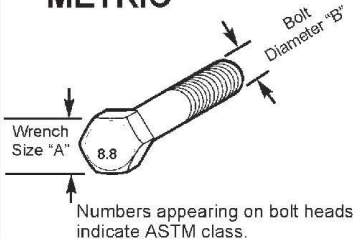
SAE Grade 8
(6 Dashes)



All Capscrews
SAE Grade 8

WRENCH SIZE (IN.) "A"	BOLT DIAMETER (IN.) "B" AND THREAD SIZE	SAE GRADE 2	SAE GRADE 5	SAE GRADE 8
7/16	1/4 - 20 UNC	6 (7)	8 (11)	12 (16)
7/16	1/4 - 28 UNF	6 (8)	10 (13)	14 (18)
1/2	5/16 - 18 UNC	11 (15)	17 (23)	25 (33)
1/2	5/16 - 24 UNF	13 (17)	19 (26)	27 (37)
9/16	3/8 - 16 UNC	20 (27)	31 (42)	44 (60)
9/16	3/8 - 24 UNF	23 (31)	35 (47)	49 (66)
5/8	7/16 - 14 UNC	32 (43)	49 (66)	70 (95)
5/8	7/16 - 20 UNF	36 (49)	55 (75)	78 (106)
3/4	1/2 - 13 UNC	49 (66)	76 (103)	106 (144)
3/4	1/2 - 20 UNF	55 (75)	85 (115)	120 (163)
7/8	9/16 - 12 UNC	70 (95)	109 (148)	153 (207)
7/8	9/16 - 18 UNF	79 (107)	122 (165)	172 (233)
15/16	5/8 - 11 UNC	97 (131)	150 (203)	212 (287)
15/16	5/8 - 18 UNF	110 (149)	170 (230)	240 (325)
1-1/8	3/4 - 10 UNC	144 (195)	266 (360)	376 (509)
1-1/8	3/4 - 16 UNF	192 (260)	297 (402)	420 (569)
1-5/16	7/8 - 9 UNC	166 (225)	430 (583)	606 (821)
1-5/16	7/8 - 14 UNF	184 (249)	474 (642)	668 (905)
1-1/2	1 - 8 UNC	250 (339)	644 (873)	909 (1232)
1-1/2	1 - 12 UNF	274 (371)	705 (955)	995 (1348)
1-1/2	1 - 14 UNF	280 (379)	721 (977)	1019 (1381)
1-11/16	1-1/8 - 7 UNC	354 (480)	795 (1077)	1288(1745)
1-11/16	1-1/8 - 12 UNF	397 (538)	890 (1206)	1444 (1957)
1-7/8	1-1/4 - 7 UNC	500 (678)	1120 (1518)	1817 (2462)
1-7/8	1-1/4 - 12 UNF	553 (749)	1241 (1682)	2013 (2728)
2-1/16	1-3/8 - 6 UNC	655 (887)	1470 (1992)	2382 (3228)
2-1/16	1-3/8 - 12 UNF	746 (1011)	1672 (2266)	2712 (3675)
2-1/4	1-1/2 - 6 UNC	870 (1179)	1950 (2642)	3161 (4283)
2-1/4	1-1/2 - 12 UNF	979 (1327)	2194 (2973)	3557 (4820)

METRIC



Numbers appearing on bolt heads
indicate ASTM class.

Proper torque for Metric fasteners.
Recommended torque in Foot Pounds (Newton Meters).*

WRENCH SIZE (mm) "A"	BOLT DIA. (mm) "B"	ASTM 4.6	ASTM 8.8	ASTM 9.8	ASTM 10.9
8	5	1.8 (2.4)		5.1 (6.9)	6.5 (8.8)
10	6	3 (4)		8.7 (12)	11.1 (15)
13	8	7.3 (10)		21.1 (29)	27 (37)
16	10	14.5 (20)		42 (57)	53 (72)
18	12	25 (34)	74 (100)	73 (99)	93 (126)
21	14	40 (54)	118 (160)	116 (157)	148 (201)
24	16	62 (84)	167 (226)	181 (245)	230 (312)
30	20	122 (165)	325 (440)		449 (608)
33	22		443 (600)		611 (828)
36	24	211 (286)	563 (763)		778 (1054)
41	27		821 (1112)		1138 (1542)
46	30	418 (566)	1119 (1516)		1547 (2096)

*Use 75% of the specified torque value for plated fasteners. Use 85% of the specified torque values for lubricated fasteners.

Mnt-B-0005



TO THE OWNER/OPERATOR/DEALER

To keep your implement running efficiently and safely, read your manual thoroughly and follow these directions and the Safety Messages in this Manual. The Table of Contents clearly identifies each section where you can easily find the information you need.

The OCCUPATIONAL SAFETY AND HEALTH ACT (1928.51 Subpart C) makes these minimum safety requirements of tractor operators:

REQUIRED OF THE OWNER:

1. Provide a Roll-Over-Protective Structure that meets the requirements of this Standard; and
2. Provide Seat belts that meet the requirements of this paragraph of this Standard and SAE J4C; and
3. Ensure that each employee uses such Seat belt while the tractor is moving; and
4. Ensure that each employee tightens the Seat belt sufficiently to confine the employee to the protected area provided by the ROPS

REQUIRED OF THE OPERATOR:

1. Securely fasten seat belt if the tractor has a ROPS.
2. Where possible, avoid operating the tractor near ditches, embankments, and holes.
3. Reduce speed when turning, crossing slopes, and on rough, slick, or muddy surfaces.
4. Stay off slopes too steep for safe operation.
5. Watch where you are going - especially at row ends, on roads, and around trees.
6. Do not permit others to ride.
7. Operate the tractor smoothly - no jerky turns, starts, or stops.
8. Hitch only to the drawbar and hitch points recommended by the tractor manufacturer.
9. When the tractor is stopped, set brakes securely and use park lock, if available.

X Keep children away from danger all day, every day...

X Equip tractors with rollover protection (ROPS) and keep all machinery guards in place...

X Please work, drive, play and live each day with care and concern for your safety and that of your family and fellow citizens.



BUSH HOG®

**AGR/BGR/BRGR
GRAPPLE**

AGR/BGR/BRGR-SOM--08-22
Printed U.S.A

P/N 50075567