BRADCO
BY PALADIN

OPERATOR'S AND PARTS MANUAL

BC60, BC72 & BC78 BRUSH CUTTERS

UNIVERSAL SKID STEER APPLICATIONS

SERIAL NUMBER: _____

MODEL NUMBER: _____

Manual Number: OM636
Part Number: 75536
Rev. 9

800-456-7100 I www.paladinattachments.com 503 Gay Street, Delhi, IA 52223, United States of America

8904 9-17-13-10

READ ENTIRE OPERATOR'S & PARTS MANUAL BEFORE OPERATING!

DANGER! **ROTATING BLADE HAZARD! STAY BACK!**
OBJECTS CAN BE THROWN!
DO NOT operate near bystanders.
DO NOT place hands or feet under deck while in operation or with engine running.
DO NOT operate without a shatterproof door (or front shield) installed on loader.

WARNING! **Before leaving the operator's seat: Lower the lift arms against frame and place unit on the ground. Disengage auxiliary hydraulics. Stop Engine. Engage parking brake. Remove the key.**

WARNING! **Operating the standard flow brush cutter on a high flow hydraulic system may cause severe injury or death to the operator or bystanders due to the increased RPM. Do NOT operate the standard flow brush cutters on high flow hydraulic systems.**

WARNING! **Lift limiting chain must be properly installed before operation.**

WARNING! **AVOID STALLING BRUSH CUTTER. During operation, continuous blade rotation is required to prevent overheating of the hydraulic system. To monitor the blade rotation, there is a window in the motor cover shield so the operator can monitor the blade rotation indicator disk. This disk should always be rotating during operation to prevent overheating of the hydraulic system.**

SERVICE

When servicing your brush cutter, remember to use only manufacturer replacement parts. Substitute parts may not meet the standards required for safe, dependable operation.

To facilitate parts ordering, record the model and serial number of your unit on the cover or in the space provided on this page. This information may be obtained from the identification plate located on the right front of the mounting plate.

MODEL_____
SERIAL NUMBER_____
DATE PURCHASED_____

The parts department needs this information to ensure that you receive the correct parts for your specific model.

TABLE OF CONTENTS

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PREFACE

GENERAL COMMENTS

Congratulations on the purchase of your new BRADCO product! This product was carefully designed and manufactured to give you many years of dependable service. Only minor maintenance (such as cleaning and lubricating) is required to keep it in top working condition. Be sure to observe all maintenance procedures and safety precautions in this manual and on any safety decals located on the product and on any equipment on which the attachment is mounted.

This manual has been designed to help you do a better, safer job. Read this manual carefully and become familiar with its contents.

WARNING! Never let anyone operate this unit without reading the "Safety Precautions" and "Operating Instructions" sections of this manual.
Always choose hard, level ground to park the vehicle on and set the brake so the unit cannot roll.

Unless noted otherwise, right and left sides are determined from the operator's control position when facing the attachment.

NOTE: The illustrations and data used in this manual were current (according to the information available to us) at the time of printing, however, we reserve the right to redesign and change the attachment as may be necessary without notification.

BEFORE OPERATION

The primary responsibility for safety with this equipment falls to the operator. Make sure the equipment is operated only by trained individuals that have read and understand this manual. If there is any portion of this manual or function you do not understand, contact your local authorized dealer or the manufacturer to obtain further assistance. Keep this manual available for reference. Provide the manual to any new owners and/or operators.

SAFETY ALERT SYMBOL

This is the "Safety Alert Symbol" used by this industry. This symbol is used to warn of possible injury. Be sure to read all warnings carefully. They are included for your safety and for the safety of others working with you.

SERVICE

Use only manufacturer replacement parts. Substitute parts may not meet the required standards.

Record the model and serial number of your unit on the cover of this manual. The parts department needs this information to insure that you receive the correct parts.

SOUND AND VIBRATION

Sound pressure levels and vibration data for this attachment are influenced by many different parameters: some items are listed below (not inclusive):

- prime mover type, age, condition, with or without cab enclosure and configuration
- operator training, behavior, stress level
- job site organization, working material condition, environment

Based on the uncertainty of the prime mover, operator, and job site, it is not possible to get precise machine and operator sound pressure levels or vibration levels for this attachment.

NOTE: A list of all Paladin Patents can be found at http//www.paladinbrands.com/patents.asp.

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SAFETY STATEMENTS

THIS SYMBOL BY ITSELF OR WITH A WARNING WORD THROUGHOUT THIS MANUAL IS USED TO CALL YOUR ATTENTION TO INSTRUCTIONS INVOLVING YOUR PERSONAL SAFETY OR THE SAFETY OF OTHERS. FAILURE TO FOLLOW THESE INSTRUCTIONS CAN RESULT IN INJURY OR DEATH.

DANGER — **THIS SIGNAL WORD IS USED WHERE SERIOUS INJURY OR DEATH WILL RESULT IF THE INSTRUCTIONS ARE NOT FOLLOWED PROPERLY.**

WARNING — **THIS SIGNAL WORD IS USED WHERE SERIOUS INJURY OR DEATH COULD RESULT IF THE INSTRUCTIONS ARE NOT FOLLOWED PROPERLY.**

CAUTION — **THIS SIGNAL WORD IS USED WHERE MINOR INJURY COULD RESULT IF THE INSTRUCTIONS ARE NOT FOLLOWED PROPERLY.**

NOTICE — **NOTICE INDICATES A PROPERTY DAMAGE MESSAGE.**

GENERAL SAFETY PRECAUTIONS

WARNING!

READ MANUAL PRIOR TO INSTALLATION

Improper installation, operation, or maintenance of this equipment could result in serious injury or death. Operators and maintenance personnel should read this manual, as well as all manuals related to this equipment and the prime mover thoroughly before beginning installation, operation, or maintenance. **FOLLOW ALL SAFETY INSTRUCTIONS IN THIS MANUAL AND THE PRIME MOVER'S MANUAL(S).**

READ AND UNDERSTAND ALL SAFETY STATEMENTS

Read all safety decals and safety statements in all manuals prior to operating or working on this equipment. Know and obey all OSHA regulations, local laws, and other professional guidelines for your operation. Know and follow good work practices when assembling, maintaining, repairing, mounting, removing, or operating this equipment.

KNOW YOUR EQUIPMENT

Know your equipment's capabilities, dimensions, and operations before operating. Visually inspect your equipment before you start, and never operate equipment that is not in proper working order with all safety devices intact. Check all hardware to ensure it is tight. Make certain that all locking pins, latches, and connection devices are properly installed and secured. Remove and replace any damaged, fatigued, or excessively worn parts. Make certain all safety decals are in place and are legible. Keep decals clean, and replace them if they become worn or hard to read.

GENERAL SAFETY PRECAUTIONS

WARNING! PROTECT AGAINST FLYING DEBRIS

Always wear proper safety glasses, goggles, or a face shield when driving pins in or out, or when any operation causes dust, flying debris, or any other hazardous material.

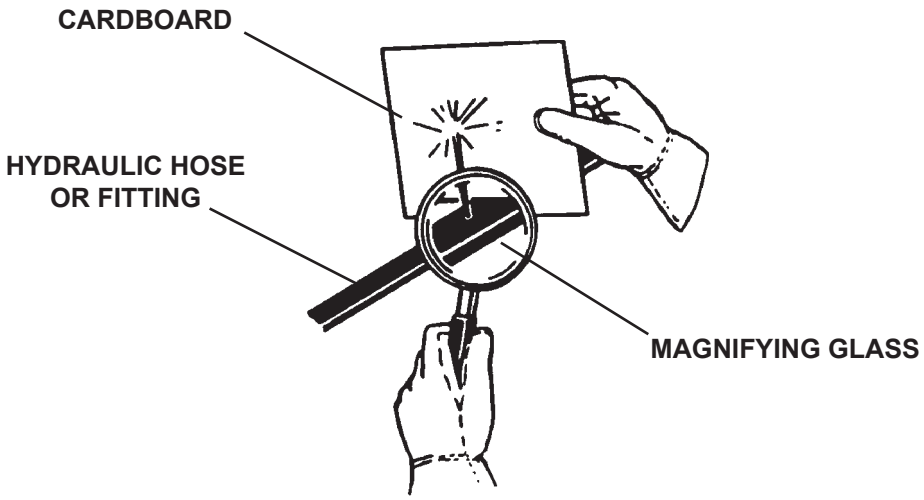
WARNING! LOWER OR SUPPORT RAISED EQUIPMENT

Do not work under raised booms without supporting them. Do not use support material made of concrete blocks, logs, buckets, barrels, or any other material that could suddenly collapse or shift positions. Make sure support material is solid, not decayed, warped, twisted, or tapered. Lower booms to ground level or on blocks. Lower booms and attachments to the ground before leaving the cab or operator's station.

WARNING! USE CARE WITH HYDRAULIC FLUID PRESSURE

Hydraulic fluid under pressure can penetrate the skin and cause serious injury or death. Hydraulic leaks under pressure may not be visible. Before connecting or disconnecting hydraulic hoses, read your prime mover's operator's manual for detailed instructions on connecting and disconnecting hydraulic hoses or fittings.

- Keep unprotected body parts, such as face, eyes, and arms as far away as possible from a suspected leak. Flesh injected with hydraulic fluid may develop gangrene or other permanent disabilities.
- If injured by injected fluid, see a doctor at once. If your doctor is not familiar with this type of injury, ask him to research it immediately to determine proper treatment.
- Wear safety glasses, protective clothing, and use a piece of cardboard or wood when searching for hydraulic leaks. **DO NOT USE YOUR HANDS! SEE ILLUSTRATION.**



GENERAL SAFETY PRECAUTIONS

WARNING!

DO NOT MODIFY MACHINE OR ATTACHMENTS

Modifications may weaken the integrity of the attachment and may impair the function, safety, life, and performance of the attachment. When making repairs, use only the manufacturer's genuine parts, following authorized instructions. Other parts may be substandard in fit and quality. Never modify any ROPS (Roll Over Protection Structure) or FOPS (Falling Object Protective Structure) equipment or device. Any modifications must be authorized in writing by the manufacturer.

WARNING!

SAFELY MAINTAIN AND REPAIR EQUIPMENT

- Do not wear loose clothing or any accessories that can catch in moving parts. If you have long hair, cover or secure it so that it does not become entangled in the equipment.
- Work on a level surface in a well-lit area.
- Use properly grounded electrical outlets and tools.
- Use the correct tools for the job at hand. Make sure they are in good condition for the task required.
- Wear the protective equipment specified by the tool manufacturer.

SAFELY OPERATE EQUIPMENT

Do not operate equipment until you are completely trained by a qualified operator in how to use the controls, know its capabilities, dimensions, and all safety requirements. See your machine's manual for these instructions.

- Keep all step plates, grab bars, pedals, and controls free of dirt, grease, debris, and oil.
- Never allow anyone to be around the equipment when it is operating.
- Do not allow riders on the attachment or the prime mover.
- Do not operate the equipment from anywhere other than the correct operator's position.
- Never leave equipment unattended with the engine running, or with this attachment in a raised position.
- Do not alter or remove any safety feature from the prime mover or this attachment.
- Know your work site safety rules as well as traffic rules and flow. When in doubt on any safety issue, contact your supervisor or safety coordinator for an explanation.

EQUIPMENT SAFETY PRECAUTIONS

WARNING!

KNOW WHERE UTILITIES ARE

Observe overhead electrical and other utility lines. Be sure equipment will clear them. When digging, call your local utilities for location of buried utility lines, gas, water, and sewer, as well as any other hazard you may encounter.

WARNING!

EXPOSURE TO RESPIRABLE CRYSTALLINE SILICA DUST ALONG WITH OTHER HAZARDOUS DUSTS MAY CAUSE SERIOUS OR FATAL RESPIRATORY DISEASE.

It is recommended to use dust suppression, dust collection and if necessary personal protective equipment during the operation of any attachment that may cause high levels of dust.

WARNING!

REMOVE PAINT BEFORE WELDING OR HEATING

Hazardous fumes/dust can be generated when paint is heated by welding, soldering or using a torch. Do all work outside or in a well ventilated area and dispose of paint and solvent properly. Remove paint before welding or heating.

When sanding or grinding paint, avoid breathing the dust. Wear an approved respirator. If you use solvent or paint stripper, remove stripper with soap and water before welding. Remove solvent or paint stripper containers and other flammable material from area. Allow fumes to disperse at least 15 minutes before welding or heating.

WARNING!

END OF LIFE DISPOSAL

At the completion of the useful life of the unit, drain all fluids and dismantle by separating the different materials (rubber, steel, plastic, etc.). Follow all federal, state and local regulations for recycling and disposal of the fluid and components.

OPERATING THE ATTACHMENT

- Block off work area from bystanders, livestock, etc. Flying debris can cause severe injury or death. The brush cutter is capable of producing large amounts of flying debris in all directions.
- Let others know when and where you will be working. Make sure no one is behind the equipment or for several hundred feet in any direction around the equipment when in operation. Never allow anyone to approach the brush cutter when in operation.
- Do not raise the attachment when the blades are rotating.
- Do NOT operate without a shatterproof (demolition) cab door or front shield installed on the prime mover.
- Operate only from the operator’s station.
- Do not exceed rated operating capacity of prime mover.
- Be sure all covers, front deflector chains and lift limiting chain(s) are properly installed before operating unit.
- When mounted onto a loader, do not operate the brush cutter with the back of the attachment over 12” above the ground.
- Do not lift loads in excess of the capacity of the prime mover. Lifting capacity decreases as the loader is moved further away from the unit.
- Never try to board or exit equipment while it is running.
- Test all controls before you begin operation.

EQUIPMENT SAFETY PRECAUTIONS

OPERATING THE ATTACHMENT

- When operating on slopes, drive up and down, not across. Avoid steep hillside operation, which could cause the prime mover to overturn.
- Reduce speed when driving over rough terrain, on a slope, or turning, to avoid overturning the vehicle.
- An operator must not use drugs or alcohol, which can change his or her alertness or coordination. An operator taking prescription or over-the-counter drugs should seek medical advice on whether or not he or she can safely operate equipment.
- Never leave the attachment unattended when in the raised position. Always make sure both skids are on the ground, parking brake is engaged, engine is turned off and the keys are removed before exiting the prime mover.

TRANSPORTING THE ATTACHMENT

- Travel only with the attachment in a safe transport position to prevent uncontrolled movement. Drive slowly over rough ground and on slopes.
- When transporting on a trailer: Secure attachment using tie down accessories that are capable of maintaining attachment stability.
- Use extra care when loading or unloading the attachment onto a truck or trailer. Disconnect hydraulic couplers during transporting when installed on prime mover.
- When driving on public roads use safety lights, reflectors, Slow Moving Vehicle signs etc., to prevent accidents. Check local government regulations that may affect you.
- Do not drive close to ditches, excavations, etc., cave in could result.
- Do not smoke when refueling the prime mover. Allow room in the fuel tank for expansion. Wipe up any spilled fuel. Secure cap tightly when done.

MAINTAINING THE ATTACHMENT

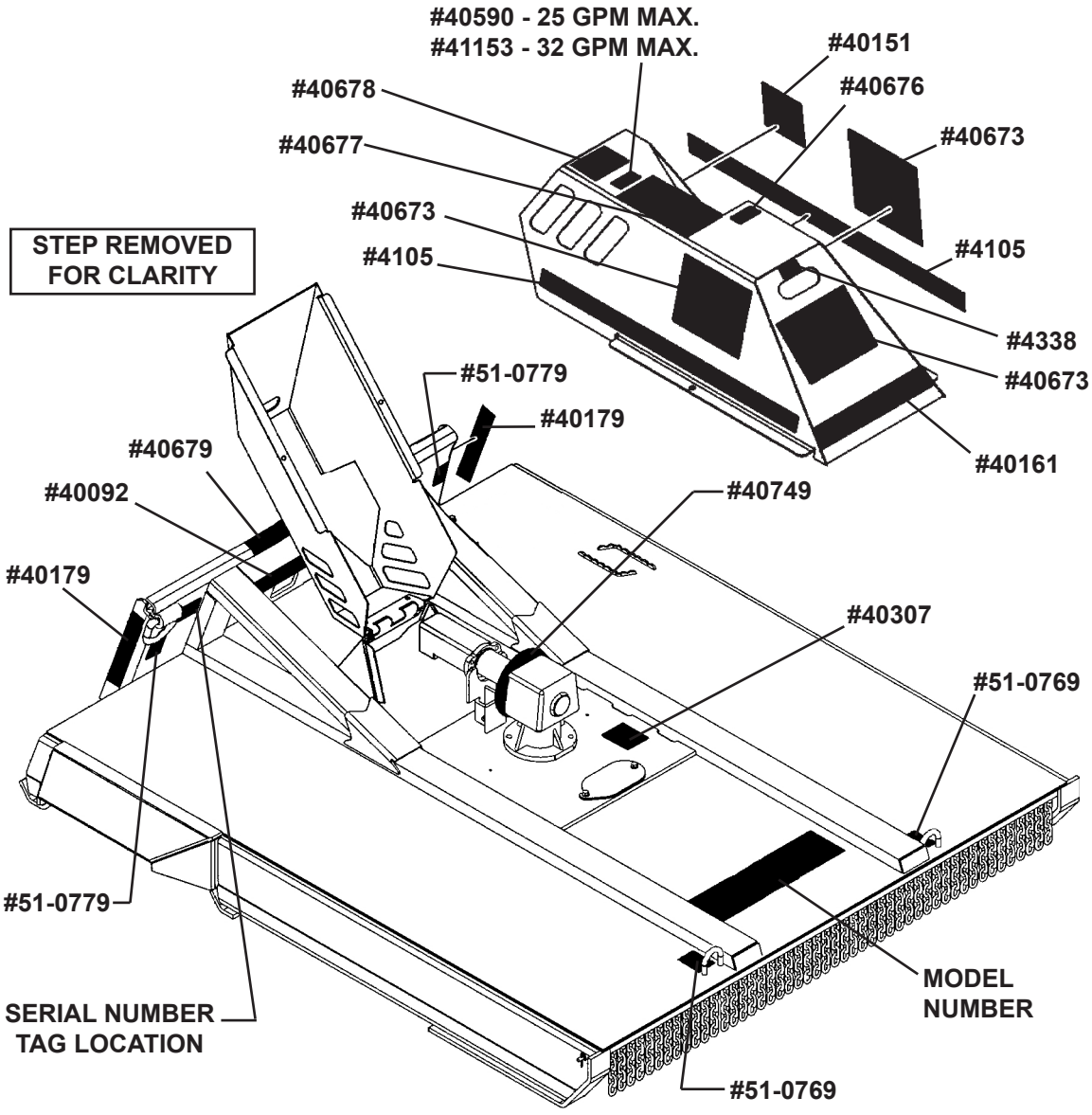
- Before performing maintenance, disengage auxiliary hydraulics, lower the attachment to the ground, turn off the engine, remove the key and apply the brakes. Be sure all rotation has stopped before making any adjustments or repairs.
- Never perform any work on the attachment unless you are authorized and qualified to do so. Always read the operator manual's before any repair is made. After completing maintenance or repair, check for correct functioning of the attachment. If not functioning properly, always tag "DO NOT OPERATE" until all problems are corrected.
- If attachment must be left raised for maintenance or any other reason, block the unit securely to prevent accidental release of the lifting mechanism. Serious damage or personal injury could result.
- Worn, damaged, or illegible safety decals must be replaced. New safety decals can be ordered from BRADCO.
- Never make hydraulic repairs while the system is under pressure. Serious personal injury or death could result.
- Never work under a raised attachment.

DECALS

DECAL PLACEMENT

GENERAL INFORMATION

The diagrams on this page show the location of the decals used on your attachment. The decals are identified by their part numbers, with reductions of the actual decals located on the following pages. Use this information to order replacements for lost or damaged decals. Be sure to read all decals before operating the attachment. They contain information you need to know for both safety and longevity.



IMPORTANT: Keep all safety signs clean and legible. Replace all missing, illegible, or damaged safety signs. When replacing parts with safety signs attached, the safety signs must also be replaced unless otherwise noted.

REPLACING SAFETY SIGNS: Clean the area of application with nonflammable solvent, then wash the same area with soap and water. Allow the surface to fully dry. Remove the backing from the safety sign, exposing the adhesive surface. Apply the safety sign to the position shown in the diagram above, and smooth out any bubbles.

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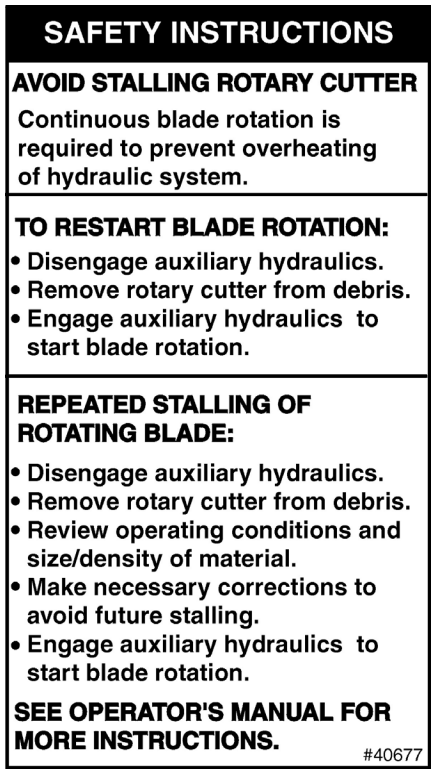
DECALS

DANGER! ROTATING BLADE
PART #40673

WARNING! HIGH PRESSURE FLUID
PART #40151

DANGER! GUARD MISSING
PART #40307



SAFETY INSTRUCTIONS
PART #40677

WARNING! BEFORE LEAVING OPERATOR'S SEAT
PART #40678

WARNING! LIFT LIMITING CHAIN
PART #40679

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DECALS

DANGER STAND CLEAR
PART #4105

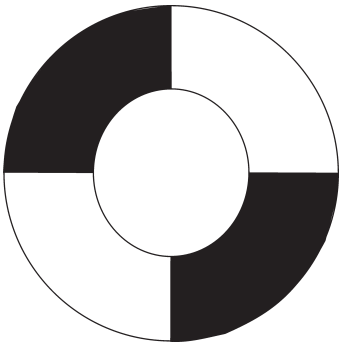
STAND CLEAR
PART #40161

BLADE ROTATION INDICATOR
PART #40676

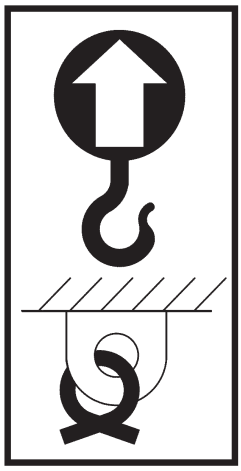
CAUTION! DO NOT OPERATE
PART #40590

MADE IN USA
PART #4338

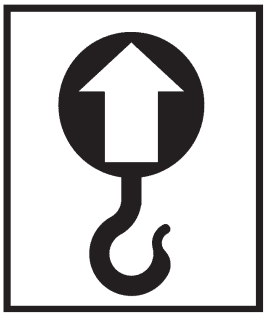
CAUTION! DO NOT OPERATE
PART #40590



ROTATION INDICATOR
PART #40749



LIFT AND TIE DOWN POINT
PART #50-0779



LIFT POINT
PART #50-0769

NOTE: CONTACT YOUR LOCAL DEALER TO PURCHASE LOGO AND MODEL NUMBER DECALS.

PREOPERATION

BRUSH CUTTER

GENERAL INFORMATION

Your attachment is operated by the prime mover's auxiliary hydraulics and mounts to the toolbar/quick attach mechanism for easy operator hook-up.

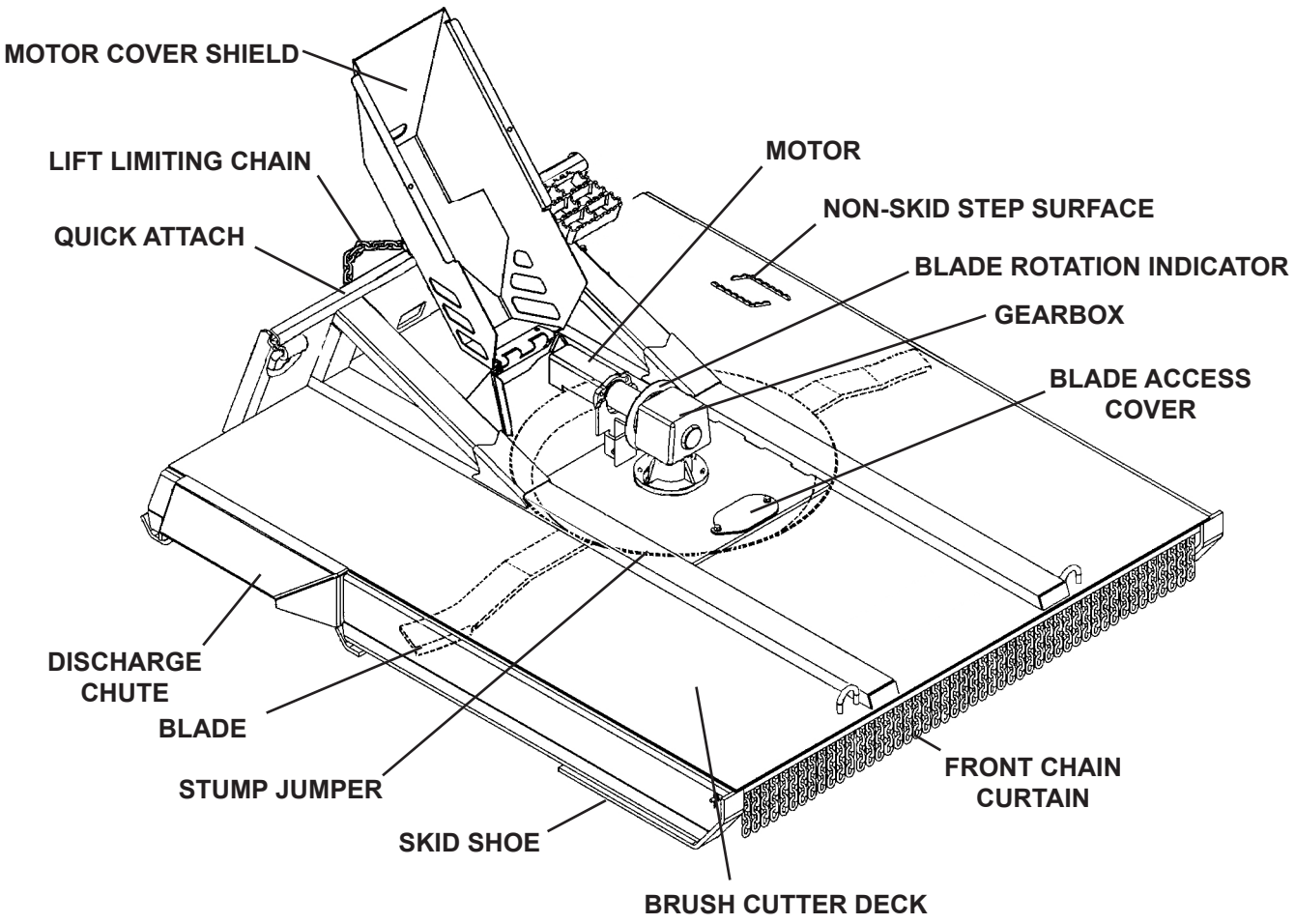
Your prime mover must have an auxiliary hydraulic system and a shatterproof door or front shield to operate the brush cutter.

DANGER! **To avoid personal injury or death: The brush cutter must not be attached to any prime mover that does not have a shatterproof door or front shield installed.**

WARNING! **To avoid personal injury or death: Verify that you have the correct brush cutter for the GPM of your prime mover.**

NOMENCLATURE

Throughout this manual, reference is made to various brush cutter components. The purpose of this page is to acquaint you with the various names of these components. This knowledge will be helpful when reading through this manual or when ordering service parts.



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INSTALLATION INSTRUCTIONS

GENERAL INFORMATION

The following instructions will help you to mount your brush cutter onto your prime mover. The brush cutter uses the quick-attach system for ease of installation. Therefore, if you know how to attach your loader bucket, attaching the brush cutter should prove no problem.

Remember to read all safety warnings, decals and operating instructions before operating the attachment. If there is any portion of this manual that you do not understand, contact your dealer.

DANGER!  **To avoid serious personal injury or death: The brush cutter must not be attached to any prime mover that does not have a shatterproof door or front shield installed.**

WARNING!  **Operating the standard flow brush cutter on a high flow hydraulic system may cause severe injury or death to the operator or bystanders due to the increased RPM. Verify that you have the correct brush cutter for the GPM of your prime mover.**

ATTACHING TO PRIME MOVER

NOTE: Before attaching the brush cutter to your loader, make sure a shatterproof door (or front shield) has been installed onto the front of your prime mover.

1. Remove any attachments from the front of the loader.
2. Following all standard safety practices and the instructions for installing an attachment in your prime mover operator's manual, install the brush cutter onto your prime mover's loader.

NOTE: It is important to make sure the locking mechanism on your quick attach is engaged, therefore locking the attachment onto the prime mover.

3. Connect the Lift Limiting Chain to the front of your loader. The back of the brush cutter should never be more than 1 foot off the ground for proper and safe cutting. (Raise the unit to 1 foot above ground level. Route the end of the Lift Limiting Chain from the back of the brush cutter and then through the tie down mechanism(s) on the front of your loader. Tie the chain securely back to itself with the shackle provided, to limit the lifting capabilities of the cutter to 1 foot maximum.)
4. Lower the unit to the ground and remove the key.
5. After making sure that there is not any foreign matter on the hydraulic couplers, connect the couplers to the auxiliary hydraulic system of your prime mover.

DETACHING FROM PRIME MOVER

1. On firm, level ground, lower the attachment so both skids are on the ground, parking brake is engaged, engine is turned off and the keys are removed.
2. Follow your prime mover operator’s manual to relieve pressure in the hydraulic lines.
3. Disconnect couplers and either connect them together or install dust caps and plugs to prevent contaminants from entering the hydraulic system. Store hoses on attachment, off the ground.
4. Follow your prime mover operator’s manual for detaching (removing) an attachment.

OPERATING INSTRUCTIONS

INTENDED USE: The BRADCO brush cutter is designed for cutting tall grass, brush and small trees up to 4” (102mm) in diameter while still maintaining a 12” (305mm) maximum ground clearance. Use in any other way is considered contrary to its intended use.

GENERAL INFORMATION

The brush cutter attaches to the toolbar/quick-attach mechanism of your prime mover. Due to this arrangement, thorough knowledge of the prime mover controls is necessary for machine operation. Read and understand your prime mover operator's manual for information regarding prime mover operation before attempting to use the brush cutter.

Follow all installation instructions for the proper installation of the unit onto your prime mover before attempting to operate your brush cutter.

OPERATING TIPS

- If your preferred direction of blade rotation is not set up correctly for your prime mover’s “detent”, the hydraulic hoses may be reversed at the motor end.
- Engage and disengage the hydraulic system with the prime mover at idle.
- Continuous rotation of the blades is required during operation to prevent overheating of the hydraulic system. The brush cutter is equipped with a blade rotation indicator disk to assist in monitoring blade rotation. If the brush cutter stalls, disengage auxiliary hydraulics, and remove cutter from debris before restarting.
- Increase the life of your bi-directional blades by cutting brush in one direction and cutting grass and smaller vegetation in the other. (This will keep the blades sharp for cutting grass.)

DANGER! ROTATING BLADE HAZARD! STAY BACK!
OBJECTS CAN BE THROWN!
DO NOT operate near bystanders.
DO NOT place hands or feet under deck while in operation or with engine running.
DO NOT operate without a shatterproof door (or front shield) installed on loader.

WARNING! Before leaving the operator’s seat: Lower the lift arms against frame and place both skid shoes on the ground. Disengage auxiliary hydraulics. Stop Engine. Engage parking brake. Remove the key.

WARNING! Lift limiting chain must be properly installed before operation.

WARNING! Operating the standard flow brush cutter on a high flow hydraulic system may cause severe injury or death to the operator or bystanders due to the increased RPM. Verify that you have the correct brush cutter for the GPM of your prime mover.

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OPERATING INSTRUCTIONS

CUTTING OPERATION

1. Raise the back of the unit off of the ground approximately 4" (102mm) to allow the material to clear from under the cutting deck as you travel forward.

2. Place the front skid shoes 1”-2” (25-51mm) off the ground. This is the preferred position for cutting grass and heavy vegetation.

    - Never drive your prime mover with the front of the brush cutter tilted to the point your view is obstructed. Always make sure you can see what you are cutting.
    - Check the work area. Never operate the brush cutter in populated areas where thrown objects could injure persons or damage property.
    - Never raise the unit and expose yourself or anyone else to the rotating blades. If you can see the blades then the back of the unit is raised too high. Maximum ground clearance at any time is 12” (305mm).

3. Activate the auxiliary hydraulics with the engine at idle. Increase engine speed.

4. Be sure the brush cutter is operating smoothly and at full speed, and then start forward travel while monitoring blade rotation.

NOTE: The brush cutter has a window in the motor cover shield so the operator can see the blade rotation indicator disk. This disk should always be rotating during operation to prevent a drop in hydraulic pressure or overheating of the hydraulic system.

CUTTING LARGE BRUSH AND TREES UP TO 3”-4” (76-102mm) IN DIAMETER:

1. Roll the front of the brush cutter up 1-2 feet (305-610mm). DO NOT LIFT THE BACK OF THE CUTTER!

2. Slowly drive into the tree and use the hydraulic tilt function on the prime mover to bend or push the tree over. As the tree bends, the blades will cut it off.

3. The tree can now be mulched by rotating the front up, driver forward several feet, roll the front down onto the tree and back drag. Repeat, if necessary. Remember do not lift the back of the cutter.

AVOID STALLING BRUSH CUTTER: Continuous rotation is required to prevent overheating of the hydraulic system. The brush cutter is equipped with a blade rotation indicator disk to assist in monitoring blade rotation. If the brush cutter stalls, see “TO RESTART BLADE ROTATION”.

OPERATING INSTRUCTIONS

TO RESTART BLADE ROTATION: Return engine speed to idle and disengage auxiliary hydraulics. Remove brush cutter from debris. Engage auxiliary hydraulics to start blade rotation. (Be sure the brush cutter is operating smoothly and at full speed, then start forward travel while monitoring blade rotation.)

REPEATED STALLING OF ROTATING BLADES: Return the engine speed to idle and disengage auxiliary hydraulics. Remove brush cutter from debris. Review operating conditions and the size/density of material being cut. Make necessary corrections. Engage auxiliary hydraulics to start blade rotation. (Be sure the brush cutter is operating smoothly and at full speed, and then start forward travel while monitoring blade rotation.)

TROUBLESHOOTING OPERATING CONDITIONS:

Below are listed a few operating conditions that may cause repeated stalling of your brush cutter, and suggestions on how to correct them.

GRASS TOO LONG OR THICK: If cutting heavy vegetation, you may need to slow travel speed or make smaller passes (less than full cut) to prevent overloading and stalling the unit.

BRUSH TOO BIG IN DIAMETER: The brush cutter is NOT designed to cut trees larger than 3”-4” (76-102mm) in diameter. If brush is smaller than 3”-4” (76-102mm) in diameter and the cutter is stalling, check sharpness of the blades (see “Maintenance”) and cut using the procedure described earlier in this section for “CUTTING LARGE BRUSH AND SMALL TREES”.

BRUSH TOO THICK OR HEAVY: If cutting heavy or thick brush, you may need to slow travel speed or make smaller passes (less than full cut), to prevent overloading. If the blades seem to be unable to handle the volume of brush, slow down the travel speed until the unit reaches full speed before proceeding.

SCALPING THE GROUND or BOTTOMING OUT: Be aware of changes in the terrain. Stay alert for drop-off’s and holes. Check the terrain and the deck position before restarting and continuing cutting.

STRIKING FOREIGN OBJECTS: Stay alert for rocks, fencing, abandoned wells, septic tanks or other foreign objects. If the brush cutter comes into contact with a foreign object, stop the unit, shut off the engine and disconnect the hydraulic couplers from the prime mover. Inspect the unit and repair any damage before restarting and continuing cutting. (Never try to weld or straighten damaged blades.) Inspect the work area for any other items, and if they are too large to be removed from the area, they should be flagged clearly.

OPERATING INSTRUCTIONS

STORAGE

The following storage procedure will help you to keep your brush cutter in top condition. It will also help you get off to a good start the next time your cutter is needed. We therefore strongly recommend that you take the extra time to follow these procedures whenever your unit will not be used for an extended period of time.

- Clean the unit thoroughly, removing all mud, dirt, and grease.
- Sharpen or replace blades. Replace all blades at the same time and do not try to weld or straighten damaged blades; loss of integrity may result.
- Inspect for visible signs of wear, breakage, or damage. Order any parts required, and make the necessary repairs to avoid delays when starting next season. **NOTE: Purchase only approved replacement parts.**
- Tighten all loose nuts, capscrews, and hydraulic connections.
- Check the drive bearing housing for proper lubricant level.
- Seal hydraulic system from contaminants and secure all hydraulic hoses off the ground to help prevent damage.
- Replace decals if damaged, or in unreadable condition.
- Apply a rust-preventive spray to all moving parts and to the bottom of the deck.
- Store the unit in a dry and protected place. Leaving the unit outside will materially shorten its life.
-

Additional Precautions for Long Term Storage:

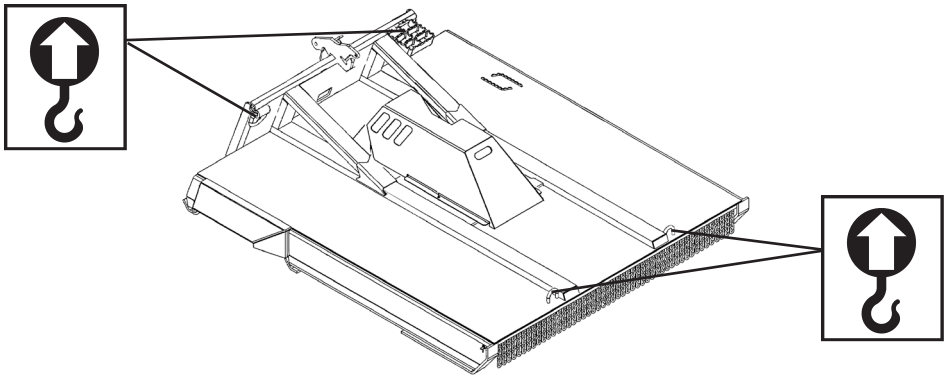
- Touch up all unpainted and exposed areas with paint, to prevent rust.

REMOVING FROM STORAGE

- Remove all protective coverings.
- Check hydraulic hoses for deterioration, and replace if necessary.
- Check all nuts and bolts for proper tightness, especially those securing the motor, bearing housing and blades.

LIFT POINTS

Lifting points are identified by lifting decals where required. Lifting at other points is unsafe and can damage attachment. Do not attach lifting accessories around cylinders or in any way that may damage hoses or hydraulic components. See Diagram



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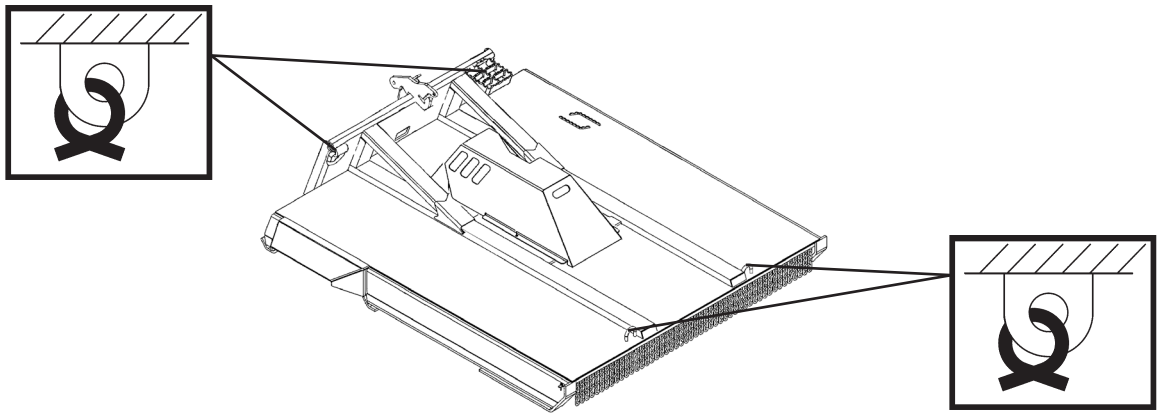
OPERATING INSTRUCTIONS

- Attach lifting accessories to unit at recommended lifting points.
- Bring lifting accessories together to a central lifting point.
- Lift gradually, maintaining the equilibrium of the unit.

WARNING! Use lifting accessories (chains, slings, ropes, shackles and etc.) that are capable of supporting the size and weight of your attachment. Secure all lifting accessories in such a way to prevent unintended disengagement. Failure to do so could result in the attachment falling and causing serious personal injury or death.

TIE DOWN POINTS

Tie down points are identified by tie down decals where required. Securing to trailer at other points is unsafe and can damage attachment. Do not attach tie down accessories around cylinders or in any way that may damage hoses or hydraulic components. See Diagram



- Attach tie down accessories to unit as recommended.
- Check unit stability before transporting.

WARNING! Verify that all tie down accessories (chains, slings, ropes, shackles and etc.) are capable of maintaining attachment stability during transporting and are attached in such a way to prevent unintended disengagement or shifting of the unit. Failure to do so could result in serious personal injury or death.

TRANSPORTING

Follow all local government regulations that may apply along with recommended tie down points and any equipment safety precautions at the front of this handbook when transporting your attachment.

LUBRICATION

GENERAL INFORMATION

Economical and efficient operation of any machine is dependent upon regular and proper lubrication of all moving parts with a quality lubricant. Neglect leads to reduced efficiency, wear, breakdown, and needless replacement of parts.

WEEKLY

The oil level in the gear box should be checked once a week. Fill as necessary with 80-90 weight gear lubricant.

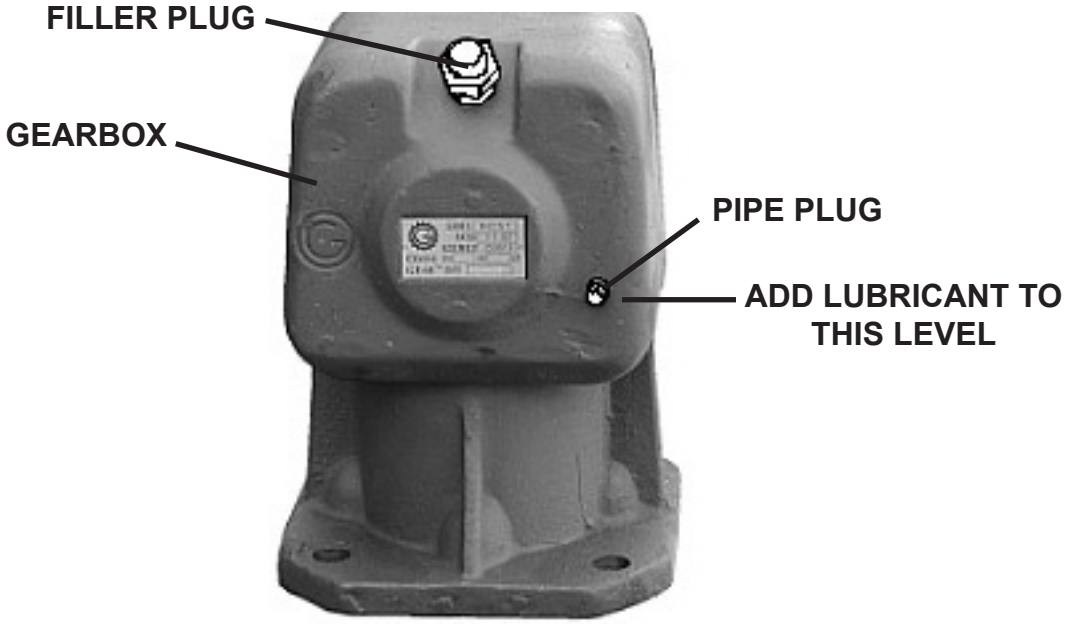
TO CHECK:

Remove pipe plug from end of gearbox. Lubricant should be at the same level as the plug.

TO ADD:

Remove pipe plug from end of gearbox. Remove filler plug from top end of gearbox and add 80-90 weight gear lubricant up to the same level as the pipe plug. Replace pipe plug and filler plug.

IMPORTANT: DO NOT OVERFILL, AS TOO MUCH LUBRICANT MAY RUPTURE THE GEAR BOX SEALS.



MAINTENANCE

GENERAL INFORMATION

Regular maintenance is the key to long equipment life and safe operation. Maintenance requirements have been reduced to an absolute minimum. However, it is very important that these maintenance functions be performed as described below.

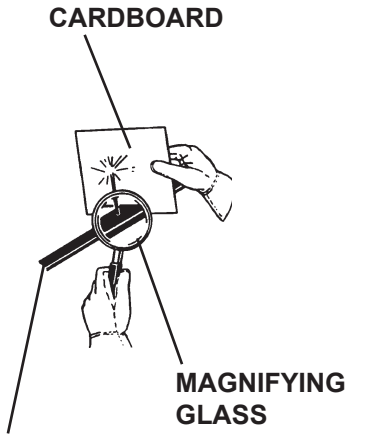
WARNING! Avoid serious injury. Lower the brush cutter to the ground, set the parking brake, stop the prime mover engine, and remove the key before leaving the operator's seat. If unit must be left raised for maintenance, block the unit securely to prevent accidental release of the lifting mechanism. Disconnect the hydraulic couplers.

PROCEDURE	DAILY	EVERY 40 HOURS
Check gearbox castle nut and torque to 250-350 ft. lbs.	✔	
Check skid steer loader hydraulic system to ensure an adequate level of hydraulic oil.	✔	
Check mounting hardware on blades and tighten if necessary. See Bolt Torque Specifications.	✔	
Check all other hardware and tighten, if necessary. See Bolt Torque Specifications.	✔	
Check hydraulic system for hydraulic oil leaks.	✔	
Check blades for damage and replace or sharpen as needed.	✔	
Check all safety guards and ensure that all devices are installed correctly.	✔	
Check gearbox power shaft for foreign material wrapped around the shaft and remove, if necessary.	✔	
Check for missing or illegible Safety / Warning Decals.	✔	
Check oil level in gearbox and add if necessary.		✔

WARNING! Escaping fluid under pressure can have sufficient force to penetrate the skin, causing serious personal injury. Fluid escaping from a very small hole can be almost invisible. Use a piece of cardboard or wood, rather than hands to search for suspected leaks.

Keep unprotected body parts, such as face, eyes, and arms as far away as possible from a suspected leak. Flesh injected with hydraulic fluid may develop gangrene or other permanent disabilities.

If injured by injected fluid, see a doctor at once. If your doctor is not familiar with this type of injury, ask him to research it immediately to determine proper treatment.



MAINTENANCE

WARNING! Avoid serious injury. Lower the brush cutter to the ground, set the parking brake, stop the prime mover engine, and remove the key before leaving the operator's seat. If unit must be left raised for maintenance, block the unit securely to prevent accidental release of the lifting mechanism. Disconnect the hydraulic couplers.

REPLACING BLADES

When replacing, changing, or sharpening the blades, the unit must be blocked securely off the ground to gain access to the blades.

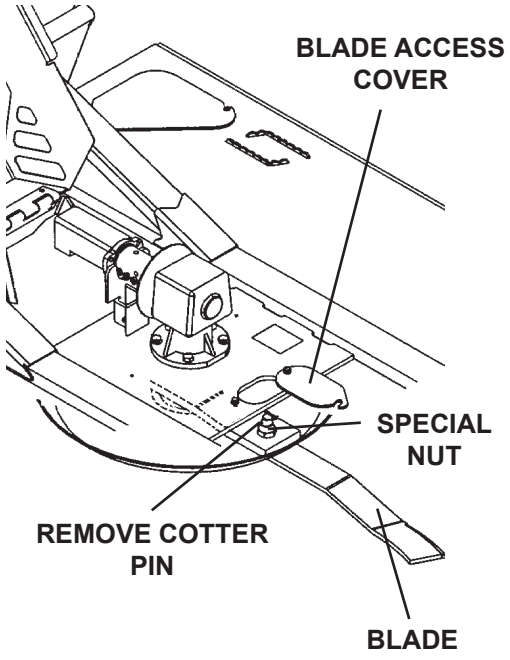
The blades should be inspected regularly (every 8 hours) to ensure they are sharp, tightened correctly, and intact. Always replace both blades at the same time and NEVER try to weld or straighten damaged blades, as loss of blade integrity may result.

Removing Blades:

1. With unit securely blocked off the ground and hydraulic couplers disconnected, loosen the capscrews on the blade access cover and swing cover open.
2. Position one of the blades under the access panel and remove the cotter pin and special nut. You can now remove the blade mounting bolt and the blade.
3. Repeat step #2 for the remaining blade.

Installing Blades:

1. With unit securely blocked off the ground and hydraulic couplers disconnected, loosen the capscrews on the blade access cover and swing cover open.
2. Position the blade with the key of the mounting bolt in alignment with the key way, and either prop up in place or have an assistant hold in place while the special nut is installed onto the bolt through the blade access panel. Torque nut to 450 ft. lbs. and install cotter pin.
3. Repeat step #1 for the second blade.



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MAINTENANCE

WARNING! Avoid serious injury. Lower the brush cutter to the ground, set the parking brake, stop the prime mover engine, and remove the key before leaving the operator's seat. If unit must be left raised for maintenance, block the unit securely to prevent accidental release of the lifting mechanism. Disconnect the hydraulic couplers.

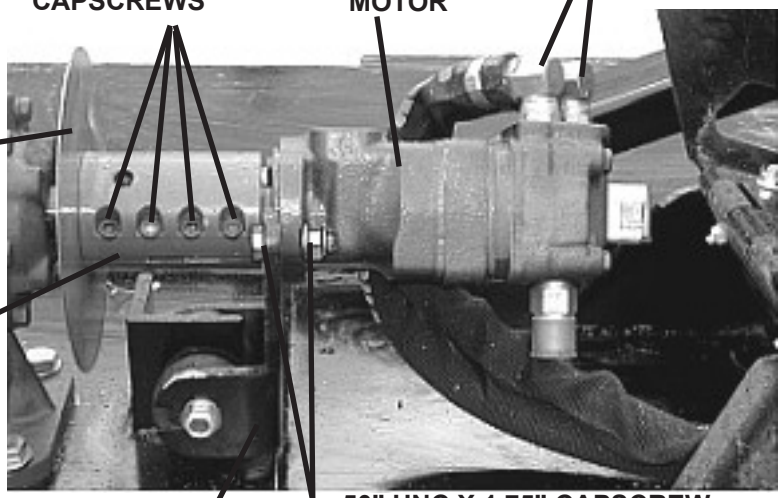
REPLACING HYDRAULIC MOTOR

When replacing the hydraulic motor the unit should be setting on the ground with the hydraulic couplers disconnected.

NOTE: Field replacement of the internal motor seals voids warranty.

1. With unit setting on the ground and hydraulic couplers disconnected, tag and disconnect the hydraulic hoses and fittings from the hydraulic motor. Note the hose routing for re-installation.
2. Loosen the four sockethead capscrews on the coupler and slide the motor out of the coupler.
3. Remove the capscrews holding the motor to the motor mounting plate(s), and remove the motor.
4. Install the new motor onto the mounting plate(s) using the existing hardware.
5. Slide the motor with the mounting plate(s) into the coupler and retighten the sockethead capscrews. Torque all hardware to specification. See Bolt Torque Specifications.
6. Re-connect the hydraulic hoses and fittings to the new motor.

STANDARD FLOW CUTTER SHOWN



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MAINTENANCE

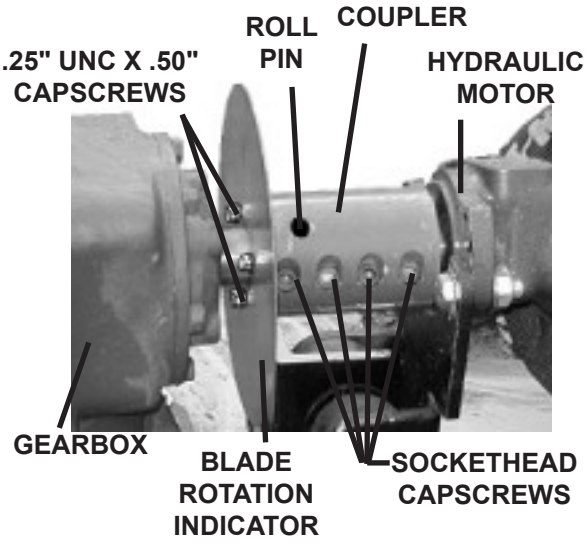
WARNING! Avoid serious injury. Lower the brush cutter to the ground, set the parking brake, stop the prime mover engine and remove the key before leaving the operator's seat. If unit must be left raised for maintenance, block the unit securely to prevent accidental release of the lifting mechanism. Disconnect the hydraulic couplers.

REPLACING GEARBOX/MOTOR COUPLER

When replacing the coupler the unit should be setting on the ground with the hydraulic couplers disconnected.

1. With unit setting on the ground and hydraulic couplers disconnected, loosen the four sockethead capscrews on the coupler and remove the motor with the motor mounting plate still installed.

2. Remove the roll pin holding the coupler to the gearbox, and the three capscrews holding the blade rotation indicator to coupler.
3. Replace the coupler on the gearbox shaft, and reinstall the roll pin and the blade rotation indicator using the existing hardware.
4. Reinstall the motor into the coupler, and retighten the sockethead capscrews. Torque to specification. See Bolt Torque Specifications.



WARNING! Avoid serious injury. Lower the brush cutter to the ground, set the parking brake, stop the prime mover engine, and remove the key before leaving the operator's seat. If unit must be left raised for maintenance, block the unit securely to prevent accidental release of the lifting mechanism. Disconnect the hydraulic couplers.

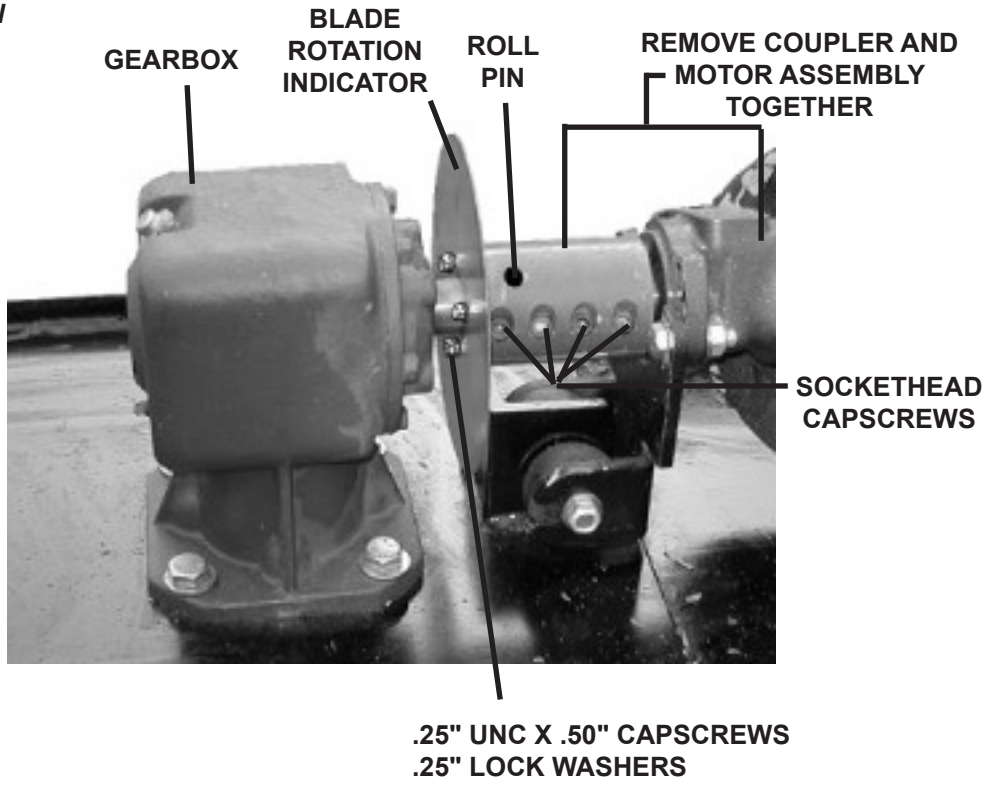
REPLACING GEARBOX

When replacing the gearbox, the unit must be blocked securely off the ground to gain access to the castle nut holding the stump jumper to the lower end of the gearbox.

1. With unit securely blocked off the ground and hydraulic couplers disconnected, remove the cotter pin and castle nut holding the stump jumper to the lower end of the gearbox. **NOTE: Be prepared for the weight of the stump jumper with the blades attached to fall when the castle nut is removed.**

2. Remove the roll pin holding the coupler to the gearbox and the three capscrews holding the blade rotation indicator to coupler.
3. Loosen the four socket head capscrews on the coupler and slide the coupler along with the motor assembly off of the gearbox drive shaft.
4. Remove the four capscrews securing the gearbox to the brush cutter deck, and lift the gearbox off the cutter.
5. Install the new gearbox with the existing hardware removed in Step #4.
6. Position the stump jumper onto the lower end of the gearbox and reinstall the castle nut. Torque nut to 230 ft. lbs. Continue to tighten until the next nut castellation aligns with cross pin hole in the output shaft. Final torque range must be between 240 - 250 ft. lbs. Reinstall cotter pin.
7. Install the blade rotation indicator onto the gearbox followed by the coupler/motor assembly.
8. Reinstall the .25" capscrews securing the blade rotation indicator to the coupler, reinstall the roll pin, and tighten the four sockethead capscrews specification. See Bolt Torque Specifications
9. Check lubrication level in the gearbox and add as needed. See Lubrication Section

STANDARD FLOW CUTTER SHOWN



TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	POSSIBLE REMEDY
Loss of Power.	Prime mover auxiliary valve not engaged.	Engage auxiliary valve.
	Relief valve setting adjusted too low.	Refer to prime mover operator's manual.
	Inadequate hydraulic flow from prime mover.	Check hydraulic flow to brush cutter.
	Low oil supply.	Add oil.
	Couplers not engaged.	Engage couplers.
	Air in hydraulic lines.	Activate system until air is purged from system.
	Broken hose.	Replace damaged hose.
	Obstruction in hydraulic lines.	Remove obstruction and replace if necessary.
	Loose or damaged hydraulic connection.	Tighten or replace fittings.
	Broken gearbox pin.	Replace pin.
	Hydraulic motor damaged or seal blown.	Call Bradco service department for instructions.

PROBLEM	POSSIBLE CAUSE	POSSIBLE REMEDY
Excessive vibration.	Dull, broken or damaged blades.	Sharpen or replace.
	Bent gearbox shaft.	Call Bradco service department for instructions.
	Stump Jumper out of balance.	Call Bradco service department for instructions.

PROBLEM	POSSIBLE CAUSE	POSSIBLE REMEDY
Leaking oil.	Loose or damaged hydraulic line.	Tighten or replace.
	Ruptured gearbox seal.	Call Bradco service department for instructions.
	Bent gearbox shaft.	Call Bradco service department for instructions.
	Loose or missing gearbox plug.	Tighten or replace.
	Hydraulic motor damaged or seal blown.	Call Bradco service department for instructions.

9012 1-28-13-3

BOLT TORQUE SPECIFICATIONS

GENERAL TORQUE SPECIFICATION TABLES

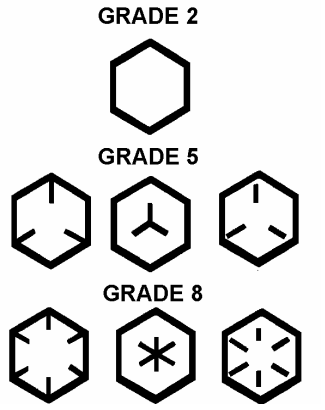
Use the following charts when determining bolt torque specifications when special torques are not given. Always use grade 5 or better when replacing bolts.

SAE BOLT TORQUE SPECIFICATIONS

NOTE: The following torque values are for use with extreme pressure lubricants, plating or hard washer applications Increase torque 15% when using hardware that is unplated and either dry or lubricated with engine oil.

Bolt Size		SAE GRADE 5 TORQUE				SAE GRADE 8 TORQUE			
		Pounds Feet		Newton-Meters		Pounds Feet		Newton-Meters	
Inches	Millimeters	UNC	UNF	UNC	UNF	UNC	UNF	UNC	UNF
1/4	6.35	8	9	11	12	10	13	14	18
5/16	7.94	14	17	19	23	20	25	27	34
3/8	9.53	30	36	41	49	38	46	52	62
7/16	11.11	46	54	62	73	60	71	81	96
1/2	12.70	68	82	92	111	94	112	127	152
9/16	14.29	94	112	127	152	136	163	184	221
5/8	15.88	128	153	174	207	187	224	254	304
3/4	19.05	230	275	312	373	323	395	438	536
7/8	22.23	340	408	461	553	510	612	691	830
1	25.40	493	592	668	803	765	918	1037	1245
1-1/8	25.58	680	748	922	1014	1088	1224	1475	1660
1-1/4	31.75	952	1054	1291	1429	1547	1700	2097	2305
1-3/8	34.93	1241	1428	1683	1936	2023	2312	2743	3135
1-1/2	38.10	1649	1870	2236	2535	2686	3026	3642	4103

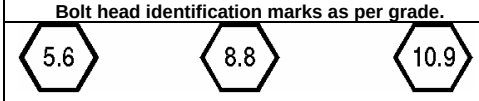
Bolt head identification marks as per grade. NOTE: Manufacturing Marks Will Vary



METRIC BOLT TORQUE SPECIFICATIONS

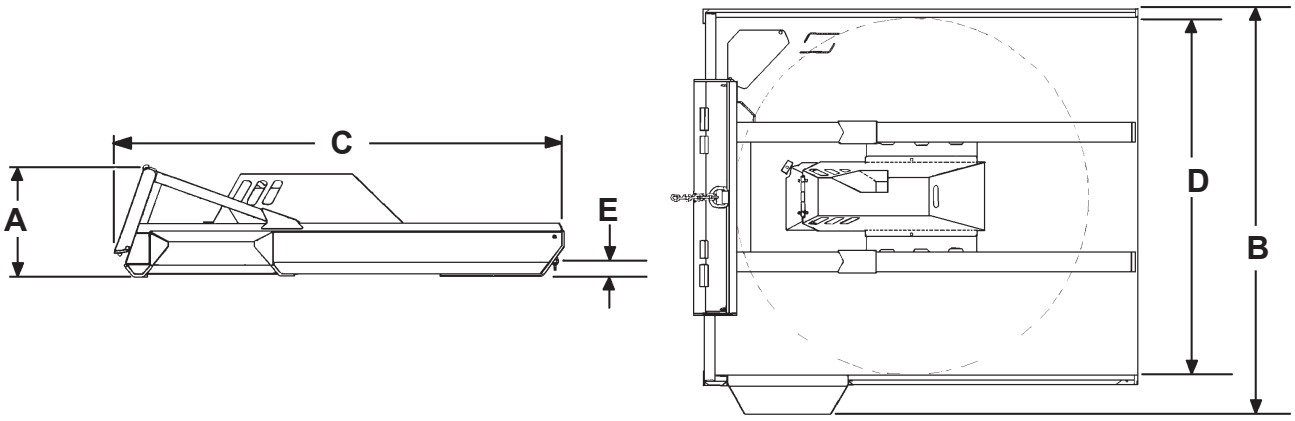
NOTE: The following torque values are for use with metric hardware that is unplated and either dry or lubricated with engine oil. Reduce torque 15% when using hardware that has extreme pressure lubricants, plating or hard washer applications.

Bolt head identification marks as per grade.



Size of Bolt	Grade No.	Pitch (mm)	Pounds Feet	Newton-Meters	Pitch (mm)	Pounds Feet	Newton-Meters
M6	5.6	1.0	3.6-5.8	4.9-7.9	-	-	-
	8.8		5.8-.4	7.9-12.7		-	-
	10.9		7.2-10	9.8-13.6		-	-
M8	5.6	1.25	7.2-14	9.8-19	1.0	12-17	16.3-23
	8.8		17-22	23-29.8		19-27	25.7-36.6
	10.9		20-26	27.1-35.2		22-31	29.8-42
M10	5.6	1.5	20-25	27.1-33.9	1.25	20-29	27.1-39.3
	8.8		34-40	46.1-54.2		35-47	47.4-63.7
	10.9		38-46	51.5-62.3		40-52	54.2-70.5
M12	5.6	1.75	28-34	37.9-46.1	1.25	31-41	42-55.6
	8.8		51-59	69.1-79.9		56-68	75.9-92.1
	10.9		57-66	77.2-89.4		62-75	84-101.6
M14	5.6	2.0	49-56	66.4-75.9	1.5	52-64	70.5-86.7
	8.8		81-93	109.8-126		90-106	122-143.6
	10.9		96-109	130.1-147.7		107-124	145-168
M16	5.6	2.0	67-77	90.8-104.3	1.5	69-83	93.5-112.5
	8.8		116-130	157.2-176.2		120-138	162.6-187
	10.9		129-145	174.8-196.5		140-158	189.7-214.1
M18	5.6	2.0	88-100	119.2-136	1.5	100-117	136-158.5
	8.8		150-168	203.3-227.6		177-199	239.8-269.6
	10.9		175-194	237.1-262.9		202-231	273.7-313
M20	5.6	2.5	108-130	146.3-176.2	1.5	132-150	178.9-203.3
	8.8		186-205	252-277.8		206-242	279.1-327.9
	10.9		213-249	288.6-337.4		246-289	333.3-391.6

SPECIFICATIONS



SPECIFICATIONS AND DESIGN ARE SUBJECT TO CHANGE WITHOUT NOTICE AND WITHOUT LIABILITY THEREFOR.

	STANDARD FLOW				
DESCRIPTION	**BC60**	**BC60***	**BC72**	**BC72**	**BC78**
A. Overall Height	22.50"	22.50"	22.50"	22.50"	22.50"
B. Overall Width	72.00"	72.00"	85.00"	85.00"	91.00"
C. Overall Length	78.25"	78.25"	90.25"	90.25"	96.00"
D. Cutting Width	60.00"	60.00"	72.00"	72.00"	78.00"
E. Minimum Cutting Height 2.00" (Skid Shoes on Ground)	2.00"	2.00	2.00"	2.00"	2.00"
Cutting Capacity (Max. Cutting Diameter)	4.00"	4.00"	4.00"	4.00"	4.00"
Deck Thickness	1/4" Steel	1/4" Steel	1/4" Steel	1/4" Steel	1/4" Steel
Recommended GPM	15-20	25-30	18-20	20-24	20-24
Required Skid Steer Lift Capacity	1300#	1300#	1700#	1700#	1800#
Weight	1225#	1225#	1470#	1485#	1666#

*** (SPECIFICATIONS FOR BC60 WITH SPECIAL MOTOR #106601 ONLY)**

	HIGH FLOW			
DESCRIPTION	**BC72**	**BC72**	**BC78**	**BC78**
A. Overall Height	22.50"	22.50"	22.50"	22.50"
B. Overall Width	85.00"	85.00"	91.00"	91.00"
C. Overall Length	90.25"	90.25"	96.00"	96.00"
D. Cutting Width	72.00"	72.00"	78.00"	78.00"
E. Minimum Cutting Height 2.00" (Skid Shoes on Ground)	2.00	2.00"	2.00"	2.00"
Cutting Capacity (Max. Cutting Diameter)	4.00"	4.00"	4.00"	4.00"
Deck Thickness	1/4" Steel	1/4" Steel	1/4" Steel	1/4" Steel
Recommended GPM	26-32	32-40	26-32	32-40
Required Skid Steer Lift Capacity	1700#	1700#	1800#	1800#
Weight	1610#	1610#	1666#	1666#

Limited Warranty

Except for the Excluded Products as described below, all new products are warranted to be free from defects in material and/or workmanship during the Warranty Period, in accordance with and subject to the terms and conditions of this Limited Warranty.

1. Excluded Products. The following products are excluded from this Limited Warranty:

(a) Any cable, part that engages with the ground (i.e. sprockets), digging chain, bearing, teeth, tamping and/or demolition head, blade cutting edge, pilot bit, auger teeth and broom brush that either constitutes or is part of a product.

(b) Any product, merchandise or component that, in the opinion of Paladin Light Construction[1], has been (i) misused; (ii) modified in any unauthorized manner; (iii) altered; (iv) damaged; (v) involved in an accident; or (vi) repaired using parts not obtained through Paladin Light Construction.

2. Warranty Period. The Limited Warranty is provided only to those defects that occur during the Warranty Period, which is the period that begins on the first to occur of: (i) the date of initial purchase by an end-user, (ii) the date the product is first leased or rented, or (iii) the date that is six (6) months after the date of shipment by Paladin Light Construction as evidenced by the invoiced shipment date (the "Commencement Date") and ends on the date that is twelve (12) months after the Commencement Date.

3. Terms and Conditions of Limited Warranty. The following terms and conditions apply to the Limited Warranty hereby provided:

(a) Option to Repair or Replace. Paladin Light Construction shall have the option to repair or replace the product.

(b) Timely Repair and Notice. In order to obtain the Limited Warranty, (i) the product must be repaired within thirty (30) days from the date of failure, and (ii) a claim under the warranty must be submitted to Paladin Light Construction in writing within thirty (30) days from the date of repair.

(c) Return of Defective Part or Product. If requested by Paladin Light Construction, the alleged defective part or product shall be shipped to Paladin Light Construction at its manufacturing facility or other location specified by Paladin Light Construction, with freight PRE-PAID by the claimant, to allow Paladin Light Construction to inspect the part or product.

Claims that fail to comply with any of the above terms and conditions shall be denied.

LIMITATIONS AND EXCLUSIONS.

THIS LIMITED WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND ANY WARRANTY BASED ON A COURSE OF DEALING OR USAGE OF TRADE.

IN NO EVENT SHALL PALADIN LIGHT CONSTRUCTION BE LIABLE FOR CONSEQUENTIAL OR SPECIAL DAMAGES.

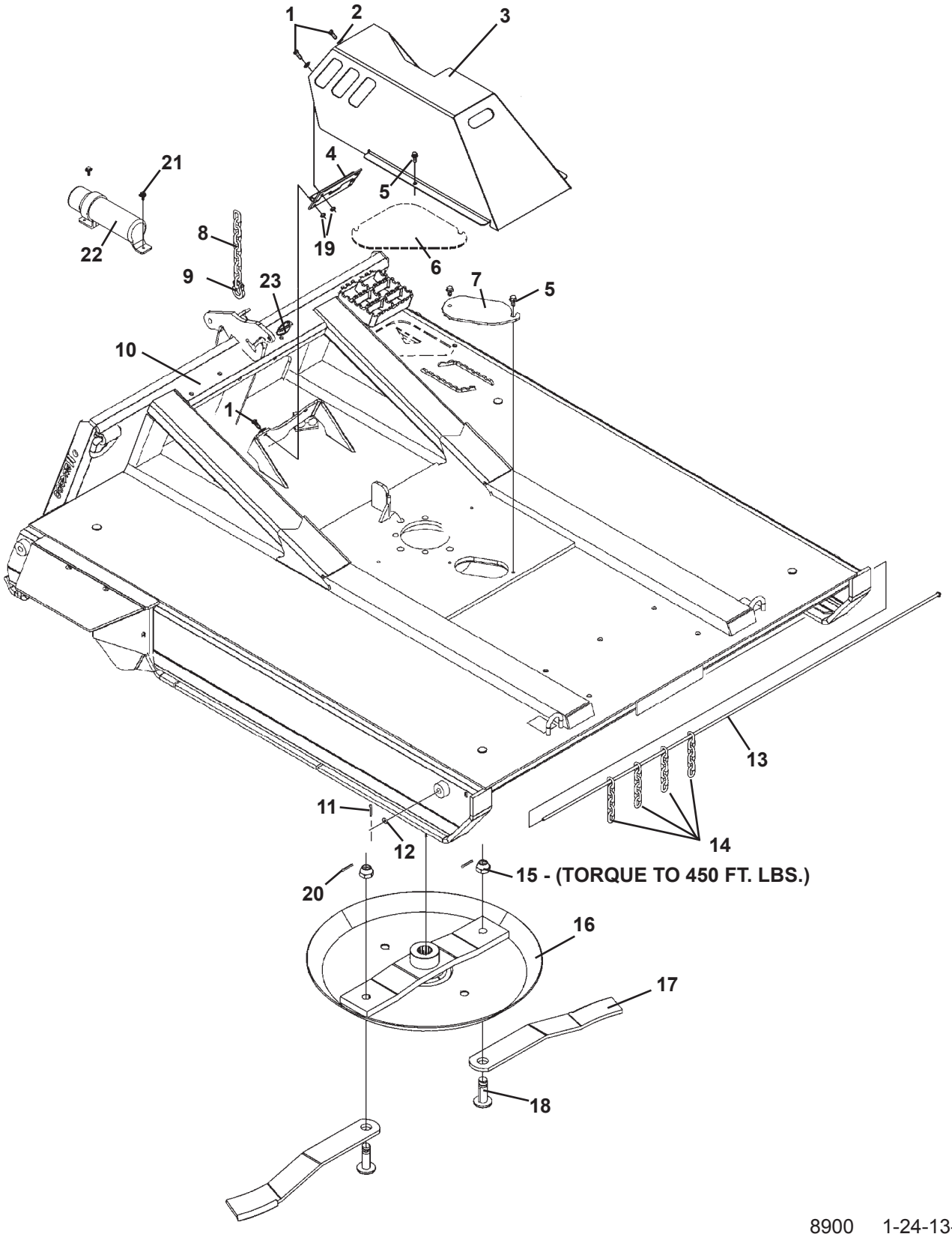
IN NO EVENT SHALL PALADIN LIGHT CONSTRUCTION BE LIABLE FOR ANY LOSS OR CLAIM IN AN AMOUNT IN EXCESS OF THE PURCHASE PRICE, OR, AT THE OPTION OF PALADIN LIGHT CONSTRUCTION, THE REPAIR OR REPLACEMENT, OF THE PARTICULAR PRODUCT ON WHICH ANY CLAIM OF LOSS OR DAMAGE IS BASED. THIS LIMITATION OF LIABILITY APPLIES IRRESPECTIVE OF WHETHER THE CLAIM IS BASED ON BREACH OF CONTRACT, BREACH OF WARRANTY, NEGLIGENCE OR OTHER CAUSE AND WHETHER THE ALLEGED DEFECT IS DISCOVERABLE OR LATENT.

[1]Attachment Technologies Inc., a subsidiary of Paladin Brands Holding, Inc. (PBHI) is referred to herein as Paladin Light Construction.

February 10, 2010

BRUSH CUTTER ASSEMBLY

60” (15-20 GPM) STANDARD FLOW ASSEMBLY #17880
72” (18-20 GPM) STANDARD FLOW ASSEMBLY #15330
60” (25-30 GPM) HI-FLOW ASSEMBLY #106627



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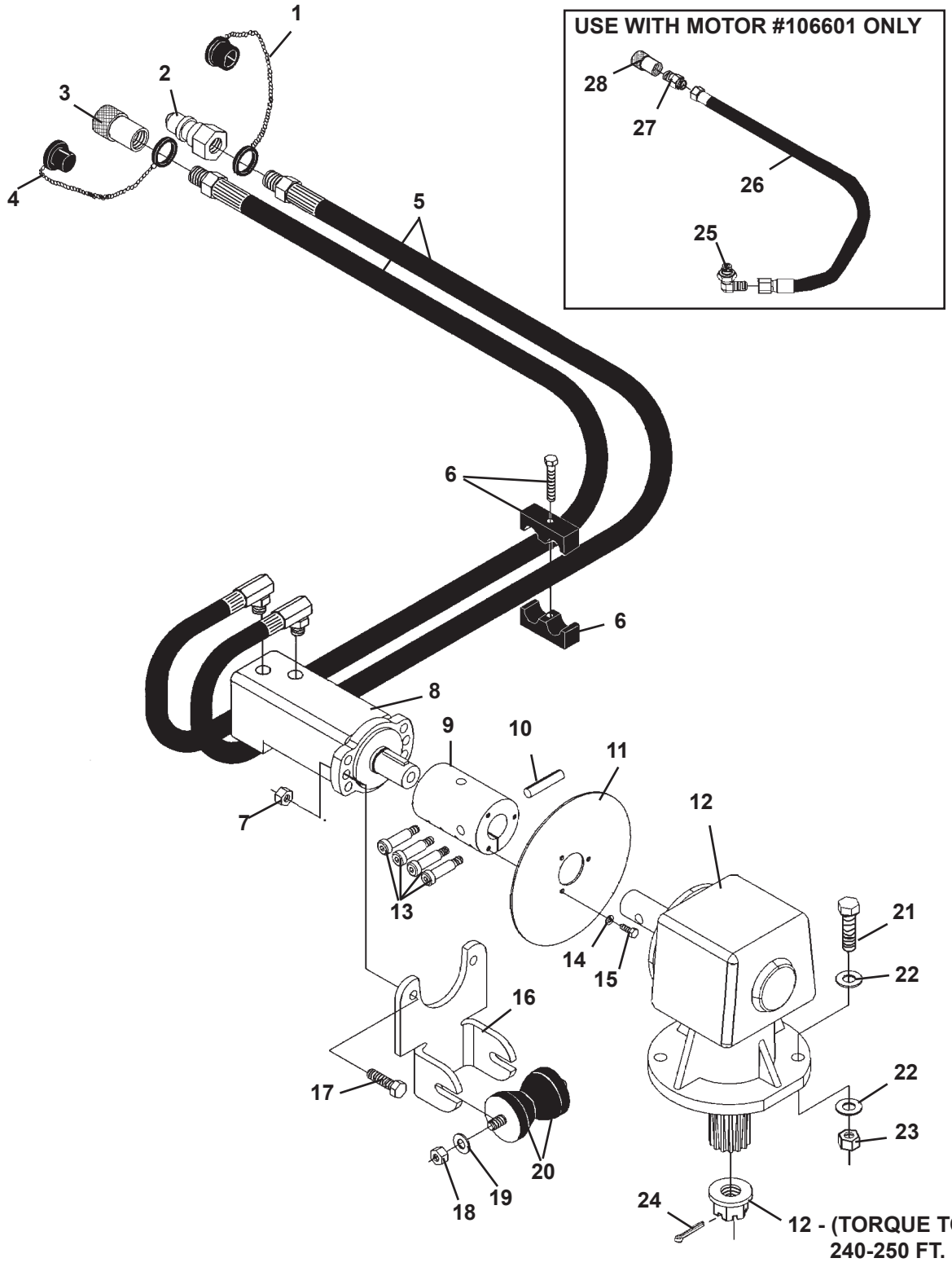
BRUSH CUTTER ASSEMBLY

60” (15-20 GPM) STANDARD FLOW ASSEMBLY #17880
72” (18-20 GPM) STANDARD FLOW ASSEMBLY #15330
60” (25-30 GPM) HI-FLOW ASSEMBLY #106627

ITEM	REQ’D	PART NO.	DESCRIPTION
1	4	1044	.38” UNC x 1.25” Hex Capscrew
2	4	1800	.38” Hard Flat Washer
3	1	18059	Replacement Cover with Decals
4	1	17941	Hinge
5	4	1953	.38” UNC X .75” Flange Hex Capscrew
6	~	17846	Rear Access Cover - Service Part Only
7	1	15321	Blade Access Cover
8	1	18169	Lift Limiting Chain
9	1	89968	Shackle
10	1	116016	60” Cutter
	1	113852	72” Cutter
11	1	1611	Cotter Pin
12	1	1514	.38” Flat Washer
13	1	17902	60” Front Chain Retainer
	1	17348	72” Front Chain Retainer
14	47	15326	Front Chain
	57	15326	Front Chain
15	2	17390	Special Nut (Torque to 450 ft. lbs.)
16	1	15324	Stump Jumper Hub
17	2	18514	Double Edged Blade (60” Brush Cutter)
	-	17903	Optional Banana Blade (60” Brush Cutter)
	2	18515	Double Edged Blade (72” Brush Cutter)
	-	17847	Optional Banana Blade (72” Brush Cutter)
18	2	17389	Blade Mounting Bolt
19	4	2005510	.38” UNC Flange Lock Nut
20	2	1793	Cotter Pin
21	2	1930	.31” UNC X .75” Flangehead Hex Capscrew
22	1	25453	Manual Tube
23	1	6626	Klik Pin

BRUSH CUTTER ASSEMBLY

60” (15-20 GPM) STANDARD FLOW ASSEMBLY #17880
72” (18-20 GPM) STANDARD FLOW ASSEMBLY #15330
60” (25-30 GPM) HI-FLOW ASSEMBLY #106627



8902 1-24-13-5

BRUSH CUTTER ASSEMBLY

60” (15-20 GPM) STANDARD FLOW ASSEMBLY #17880
72” (18-20 GPM) STANDARD FLOW ASSEMBLY #15330
60” (25-30 GPM) HI-FLOW ASSEMBLY #106627

NO	REQ'D	PART NO.	DESCRIPTION
1	1	17921	Dust Cap
2	1	22519	Male Coupler
3	1	22518	Female Coupler
4	1	17922	Dust Cap
5	2	38081	Hose Assembly .62" x 104" 12MBo-10MBo 90°
6	-	17143	Replacement Hose Clamp
7	2	1841	.50" UNC Deformed Lock Nut
8	1	17938	60" Cutter Hydraulic Motor (6.8 Cu. In.)
	1	17787	72" Cutter Hydraulic Motor (10 Cu. In.)
	1	106601	60" Cutter Hydraulic Motor (25-30 GPM ONLY)
	--	5661	Replacement Key
9	1	17808	Coupler
10	1	22277	Roll Pin
11	1	17843	Blade Rotation Indicator
12	1	15302	Right Angle Gearbox Assembly
	-	19701	Replacement Castle Nut
			(Torque Castle Nut to 240-250 ft. lbs.)
	-	19702	Replacement Input Seal
	-	19703	Replacement Output Seal
	-	19704	Replacement Vent
13	4	1799	.38" UNC X 1.50" Sockethead Capscrew
	4	1837	.38” UNC Deformed Lock Nut
14	3	1501	.25" Lock Washer
15	3	1001	.25" UNC X .50" Hex Capscrew
16	1	17844	Motor Mounting Plate
17	2	1091	.50" UNC X 1.75" Hex Capscrew
18	2	1841	.50" UNC Deformed Lock Nut
19	2	1646	.50" Hard Flat Washer
20	2	6886	Rubber Bumper
21	4	10071	.62" UNC X 2.25" Hex Capscrew - Grade 8
22	8	1627	.62" Hard Flat Washer
23	4	1839	.62" UNC Deformed Lock Nut
24	1	1793	Cotter Pin

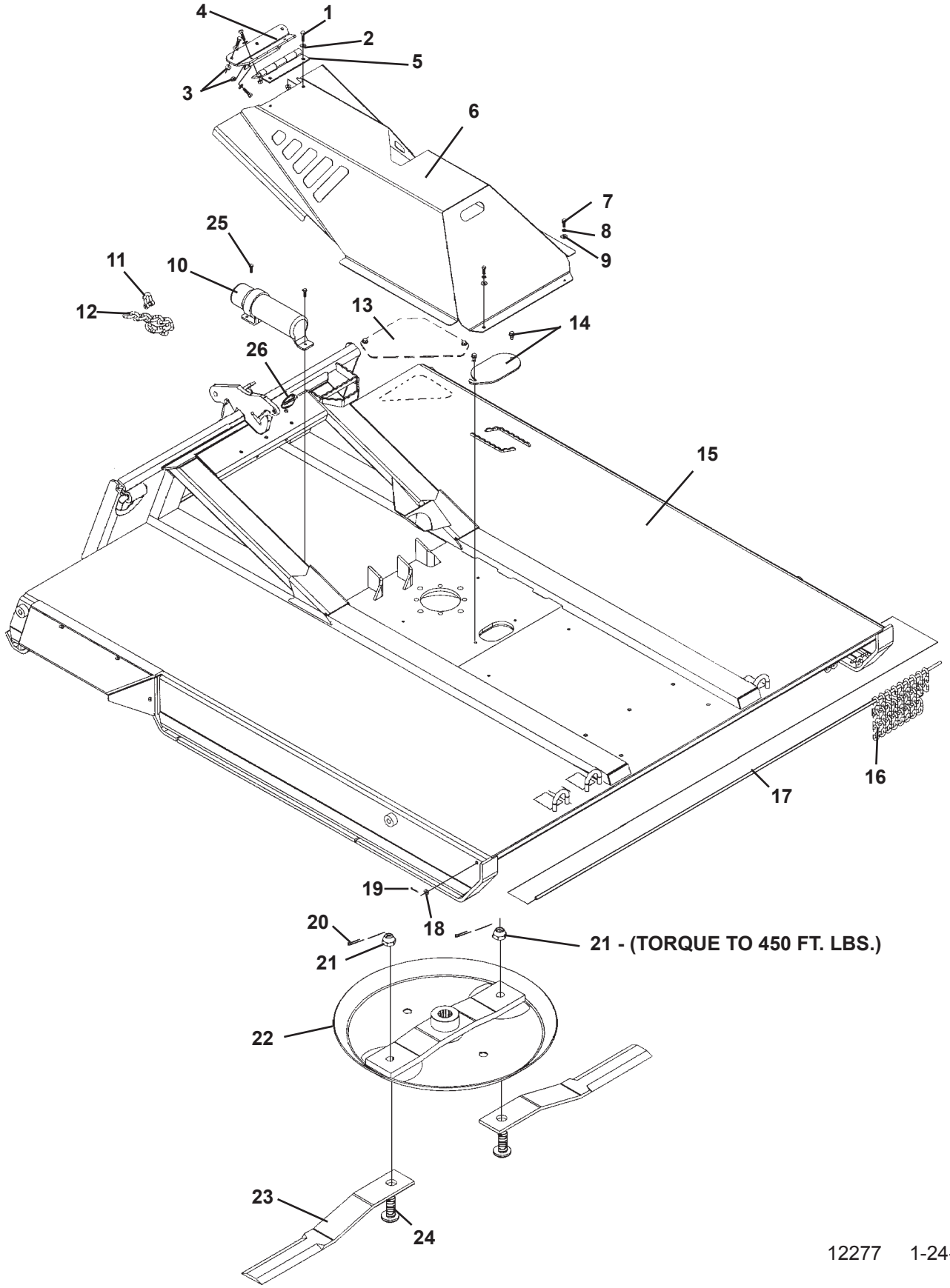
Use Item 25 through 28 with Motor #106601 ONLY

25	1	3417	90° Elbow 4MBo-6MJ
26	1	37754	Hose Assembly .25" x 116" 6FJX-6FJX
27	1	3269	Straight Connector 8MBo-6MJ
28	1	84928	Female Coupler

8903 1-24-13-4

BRUSH CUTTER ASSEMBLY

72” (20-24 GPM) STANDARD FLOW ASSEMBLY #115690
78” (20-24 GPM) STANDARD FLOW ASSEMBLY #114390



12277 1-24-13

BRUSH CUTTER ASSEMBLY

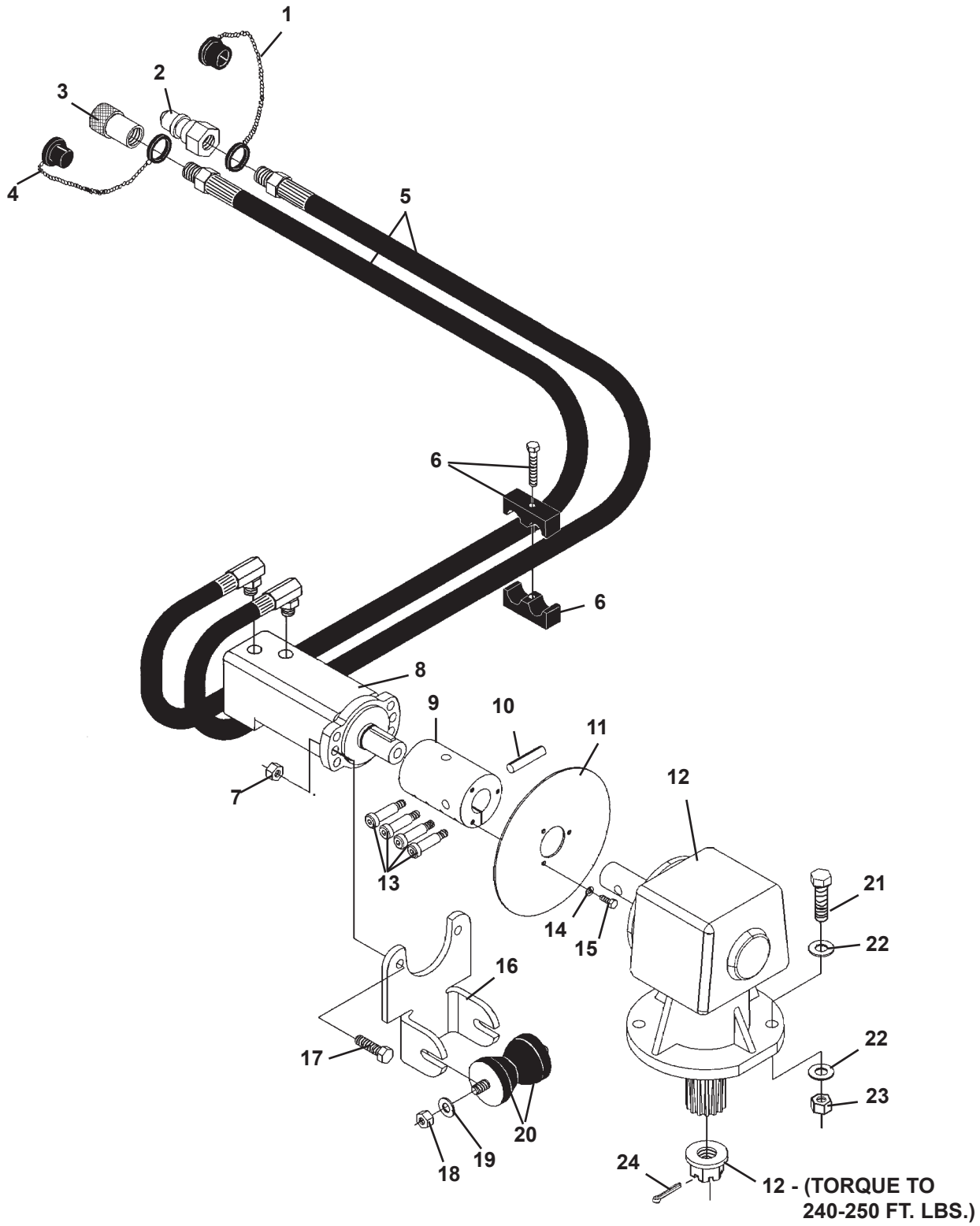
72” (20-24 GPM) STANDARD FLOW ASSEMBLY #115690
78” (20-24 GPM) STANDARD FLOW ASSEMBLY #114390

ITEM	REQ’D	PART NO.	DESCRIPTION
1	8	1044	.38” UNC x 1.25” Hex Capscrew
2	8	1800	.38” Hard Flat Washer
3	8	2005510	.38” UNC Flange Lock Nut
4	1	104420	Hinge Mounting Cover
5	1	17941	Hinge
6	1	108547	Replacement Cover with Decals
7	2	1022	.31” UNC X 1.00” Hex Capscrew
8	2	1502	.31” Lock Washer
9	2	1513	.31” Flat Washer
10	1	25453	Manual Tube
11	1	89968	Shackle
12	1	18169	Lift Limiting Chain
13	1	17846	Rear Access Cover (72” Brush Cutter Service Part ONLY)
	2	1953	.38” UNC X .75” Flange Hex Capscrew
14	1	15321	Blade Access Cover
	2	1953	.38” UNC X .75” Flange Hex Capscrew
15	1	113852	72” Cutter
	1	113853	78” Cutter
16	57	15326	Front Chain (72” Cutter)
	61	15326	Front Chain (78” Cutter)
17	1	17348	72” Front Chain Retainer
	1	106342	78” Front Chain Retainer
18	1	1514	.38” Flat Washer
19	1	1611	Cotter Pin
20	2	1793	Cotter Pin
21	2	17390	Special Nut (Torque to 450 ft. lbs.)
22	1	15324	Stump Jumper Hub
23	2	18515	Double Edged Blade (72” Brush Cutter)
	-	17847	Optional Banana Blade (72” Brush Cutter)
	2	106312	Double Edged Blade (78” Brush Cutter)
24	2	17389	Blade Mounting Bolt
25	2	1930	.31” UNC x .75” Flangehead Hex Capscrew
26	1	6626	Klik Pin

12278 1-24-13

BRUSH CUTTER ASSEMBLY

72 & 78” (20-24 GPM) STANDARD FLOW DRIVE ASSEMBLY #112156



12279 1-24-13

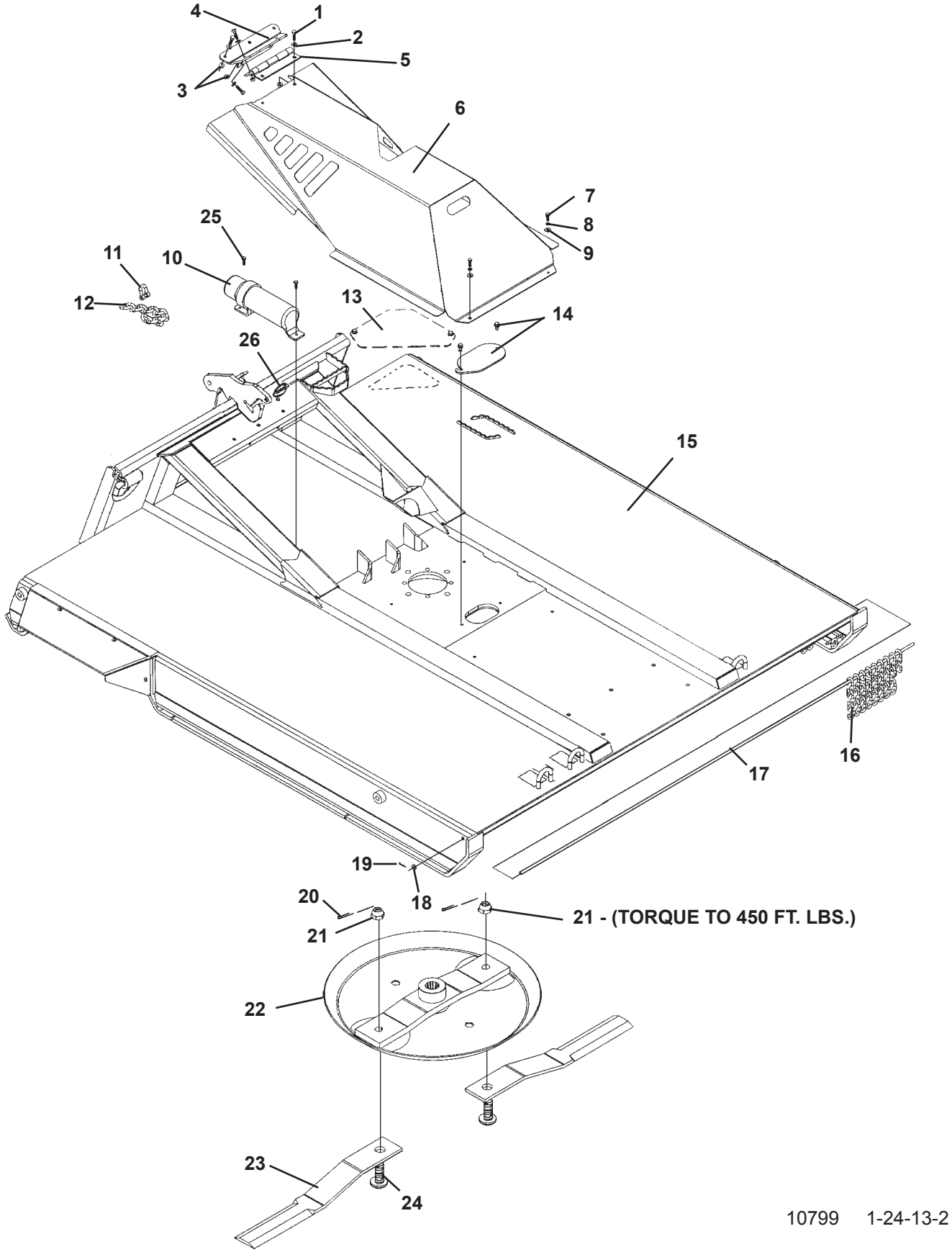
BRUSH CUTTER ASSEMBLY

72 & 78” (20-24 GPM) STANDARD FLOW DRIVE ASSEMBLY #112156

NO	REQ'D	PART NO.	DESCRIPTION
1	1	17921	Dust Cap
2	1	22519	Male Coupler
3	1	22518	Female Coupler
4	1	17922	Dust Cap
5	2	38081	Hose Assembly .62" x 104" 12MBo-10MBo 90°
6	-	17143	Replacement Hose Clamp
7	2	1841	.50" UNC Deformed Lock Nut
8	1	106601	Hydraulic Motor
	--	5661	Replacement Key
9	1	17808	Coupler
10	1	22277	Roll Pin
11	1	17843	Blade Rotation Indicator
12	1	101508	Right Angle Gearbox Assembly
	-	19701	Replacement Castle Nut (Torque Castle Nut to 240-250 ft. lbs.)
	-	102111	Replacement Input Seal
	-	102010	Replacement Output Seal
	-	7781	Replacement Vent
13	4	1799	.38" UNC X 1.50" Sockethead Capscrew
	4	1837	.38” UNC Deformed Lock Nut
14	3	1501	.25" Lock Washer
15	3	1001	.25" UNC X .50" Hex Capscrew
16	1	112150	Motor Mounting Plate
17	2	1091	.50" UNC X 1.75" Hex Capscrew
18	2	1841	.50" UNC Deformed Lock Nut
19	2	1646	.50" Hard Flat Washer
20	2	6886	Rubber Bumper
21	4	1141	.75" UNC X 2.25" Hex Capscrew
22	8	1649	.75" Hard Flat Washer
23	4	1936	.75" UNC Deformed Lock Nut
24	1	1793	Cotter Pin

BRUSH CUTTER ASSEMBLY

72” (26-32 GPM) HI-FLOW ASSEMBLY #110491 / 72” (32-40 GPM) HI-FLOW ASSEMBLY #104419
78” (26-32 GPM) HI-FLOW ASSEMBLY #114613 / 78” (32-40 GPM) HI-FLOW ASSEMBLY #106300



10799 1-24-13-2

BRUSH CUTTER ASSEMBLY

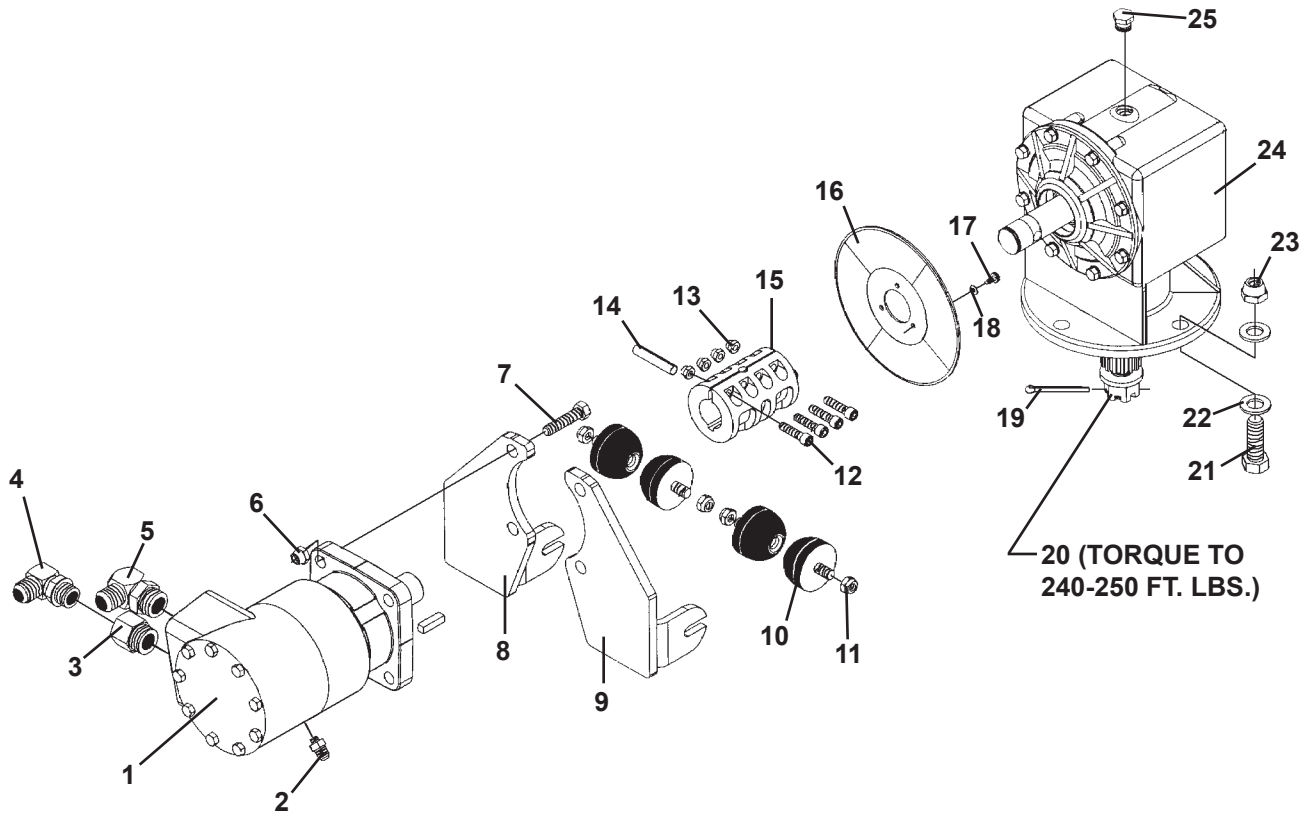
72” (26-32 GPM) HI-FLOW ASSEMBLY #110491 / 72” (32-40 GPM) HI-FLOW ASSEMBLY #104419
78” (26-32 GPM) HI-FLOW ASSEMBLY #114613 / 78” (32-40 GPM) HI-FLOW ASSEMBLY #106300

ITEM	REQ’D	PART NO.	DESCRIPTION
1	8	1044	.38” UNC x 1.25” Hex Capscrew
2	8	1800	.38” Hard Flat Washer
3	8	2005510	.38” UNC Flange Lock Nut
4	1	104420	Hinge Mounting Cover
5	1	17941	Hinge
6	1	108547	Replacement Cover with Decals
7	2	1022	.31” UNC X 1.00” Hex Capscrew
8	2	1502	.31” Lock Washer
9	2	1513	.31” Flat Washer
10	1	25453	Manual Tube
11	1	89968	Shackle
12	1	18169	Lift Limiting Chain
13	1	17846	Rear Access Cover (72” Brush Cutter Service Part ONLY)
	2	1953	.38” UNC X .75” Flange Hex Capscrew
14	1	15321	Blade Access Cover
	2	1953	.38” UNC X .75” Flange Hex Capscrew
15	1	113852	72” Cutter
	1	113853	78” Cutter
16	57	15326	Front Chain (72” Cutter)
	61	15326	Front Chain (78” Cutter)
17	1	17348	72” Front Chain Retainer
	1	106342	78” Front Chain Retainer
18	1	1514	.38” Flat Washer
19	1	1611	Cotter Pin
20	2	1793	Cotter Pin
21	2	17390	Special Nut (Torque to 450 ft. lbs.)
22	1	15324	Stump Jumper Hub
23	2	18515	Double Edged Blade (72” Brush Cutter)
	-	17847	Optional Banana Blade (72” Brush Cutter)
	2	106312	Double Edged Blade (78” Brush Cutter)
24	2	17389	Blade Mounting Bolt
25	2	1930	.31” UNC x .75” Flangehead Hex Capscrew
26	1	6626	Klik Pin

10800 1-24-13-3

BRUSH CUTTER ASSEMBLY

72 & 78” (26-32 GPM) HI-FLOW DRIVE ASSEMBLY #110492
72 & 78” (32-40 GPM) HI-FLOW DRIVE ASSEMBLY #104740



10801 1-25-13-2

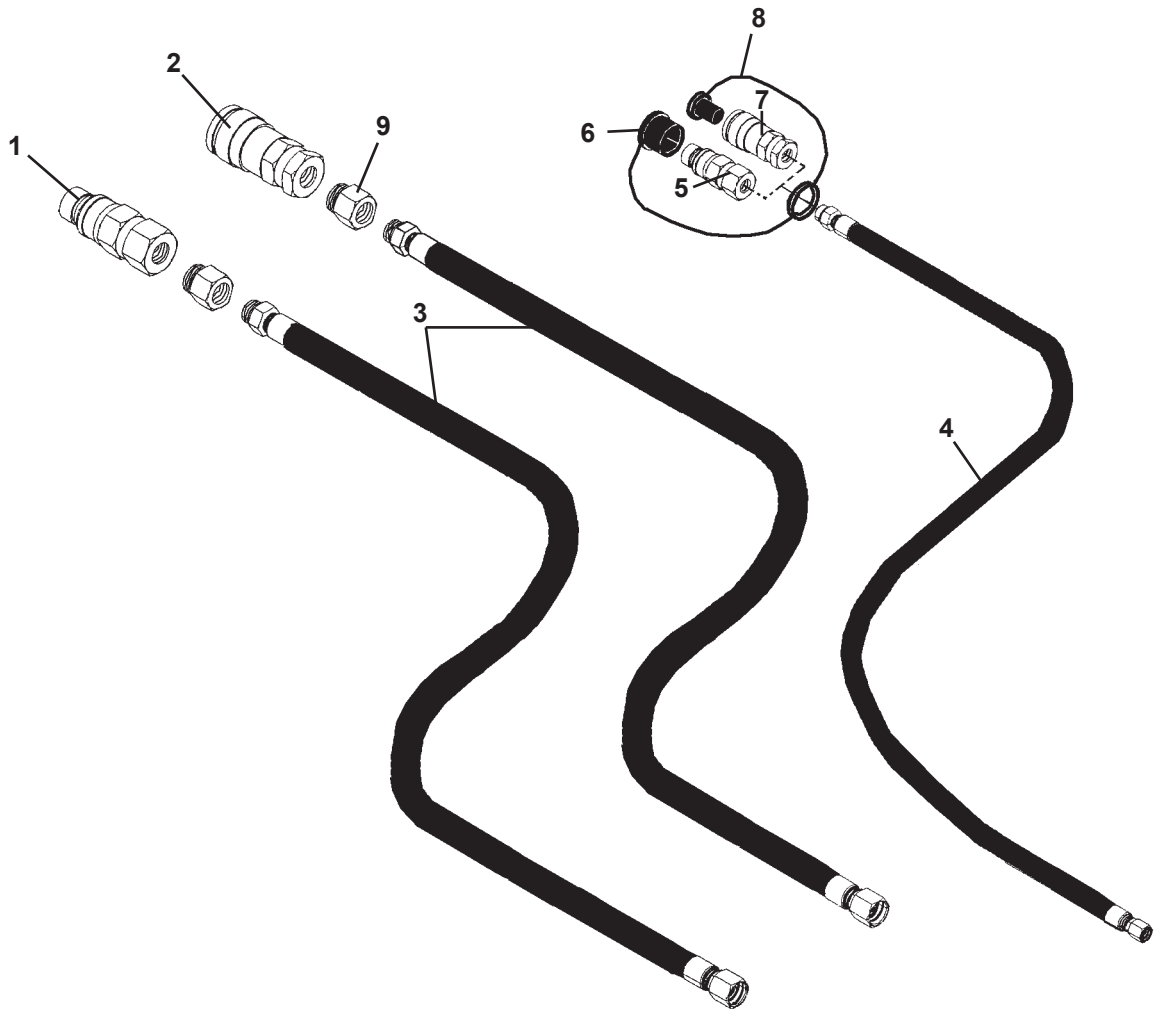
BRUSH CUTTER ASSEMBLY

72 & 78” (26-32 GPM) HI-FLOW DRIVE ASSEMBLY #110492
72 & 78” (32-40 GPM) HI-FLOW DRIVE ASSEMBLY #104740

ITEM	REQ’D	PART NO.	DESCRIPTION
1	1	110490	High Flow Hydraulic Motor (15.6 Cu. In.) (26-32 GPM)
	1	100928	High Flow Hydraulic Motor (17.9 Cu. In.) (32-40 GPM)
	-	5661	Replacement Key
2	1	3269	Straght Connector 8MBo-6MJ
3	1	30292	Straght Adapter 16MBo-12FB
4	1	22600	90° Elbow 12MBo-12MJ
5	1	30051	90° Elbow 16MBo-12MJ
6	4	1839	.62” UNC Deformed Lock Nut
7	4	10071	.62” UNC X 2.25” Hex Capscrew
8	1	104561	Left Motor Mount
9	1	104562	Right Motor Mount
10	4	6886	Bumper
11	4	1841	.50” UNC Deformed Lock Nut
12	4	1799	.38” UNC X 1.50” Socket Head Capscrew
13	4	1837	.38” UNC Deformed Lock Nut
14	1	22277	.50” X 2.50” Roll Pin
15	1	100917	Coupler
16	1	17843	Blade Rotation Indicator
17	3	1001	.25” UNC X .50” Hex Capcrew
18	3	1501	.25” Lock Washer
19	1	1793	Cotter Pin
20	-	19701	Replacement Castle Nut
21	4	1141	.75” UNC X 2.50” Hex Capscrew
22	8	1649	.75” Hard Flat Washer
23	4	1936	.75” UNC Lock Nut
24	1	101508	Right Angle Gearbox Assembly
25	1	7781	Breather Plug

HYDRAULIC ASSEMBLY

HYDRAULIC ASSEMBLIES FOR HIGH FLOW DRIVES



10803 10-12-06

HYDRAULIC ASSEMBLY

HYDRAULIC ASSEMBLIES FOR HIGH FLOW DRIVES

HYDRAULIC KIT #105779

NO	REQ'D	PART NO.	DESCRIPTION
1	1	19638	Male Coupler .75” Body 12FBo
2	1	22520	Female Coupler .75” Body 12FBo
3	2	37060	Hose Assembly .75” X 88” 12MBo-12FJX
4	1	38151	Hose Assembly .38” X 94” 6FJX-8MBo
5	1	84923	Male Coupler .38” Body 8FBo
6	1	32549	Dust Cap

HYDRAULIC KIT #105780

NO	REQ'D	PART NO.	DESCRIPTION
1	1	84922	Male Coupler .62” Body 12FBo
2	1	84921	Female Coupler .62” Body 12FBo
3	2	37769	Hose Assembly .75” X 108” 12MBo-12FJX
4	1	38162	Hose Assembly .38” X 112” 6FJX-8MBo
5	1	84923	Male Coupler .38” Body 8FBo
6	1	32549	Dust Cap

HYDRAULIC KIT #105781

NO	REQ'D	PART NO.	DESCRIPTION
1	1	22519	Male Coupler .50” Body 12FBo
2	1	22518	Female Coupler .50” Body 12FBo
3	2	37060	Hose Assembly .75” X 88” 12MBo-12FJX
4	1	38151	Hose Assembly .38” X 94” 6FJX-8MBo
5	1	84923	Male Coupler .38” Body 8FBo
6	1	32549	Dust Cap

HYDRAULIC KIT #105782

NO	REQ'D	PART NO.	DESCRIPTION
1	1	19638	Male Coupler .75” Body 12FBo
2	1	22520	Female Coupler .75” Body 12FBo
3	2	37060	Hose Assembly .75” X 88” 12MBo-12FJX
4	1	38151	Hose Assembly .38” X 94” 6FJX-8MBo
7	1	84928	Female Coupler .38” Body 8FBo
8	1	32548	Dust Plug

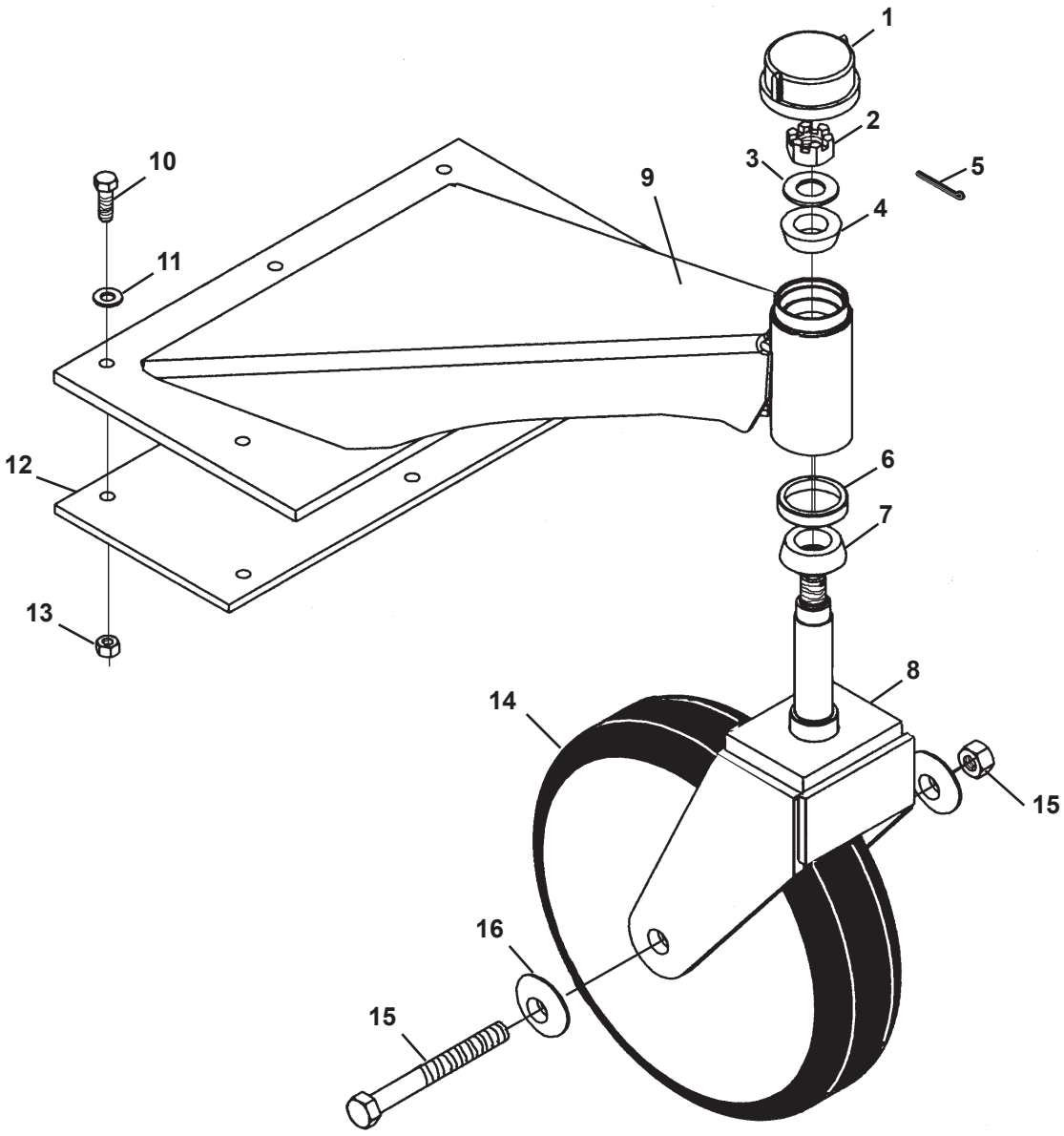
HYDRAULIC KIT #105783

NO	REQ'D	PART NO.	DESCRIPTION
1	1	16434	Male Coupler 1.00” Body 16FBo
2	1	16433	Female Coupler 1.00” Body 16FBo
3	2	37060	Hose Assembly .75” X 88” 12MBo-12FJX
4	1	38151	Hose Assembly .38” X 94” 6FJX-8MBo
5	1	14176	Male Coupler 50” Body 8FBo
6	1	17921	Dust Cap
9	2	30292	Straight Adapter 12FBo-16MBo

10804 10-12-06

MOUNTING KIT INSTALLATION

WHEEL KIT ASSEMBLY #24518



10041 9-17-13-3

MOUNTING KIT INSTALLATION

WHEEL KIT ASSEMBLY #24518

ITEM	REQ'D	PART NO.	DESCRIPTION
1	1	101414	Spindle Dust Cap
2	1	10047	1.00" UNC Castle Nut
3	1	1706	1.00" Hard Flat Washer
4	1	33715	Tapered Roller Bearing
5	1	1614	Cotter Pin
6	1	33714	Tapered Roller Bearing
7	1	15511	Seal
8	1	101115	Wheel Yoke
9	1	24513	Support Arm
10	5	1092	.50" UNC x 2.00 Hex Capscrew, Grade 8
11	10	1516	.50" Hard Flat Washer
12	1	24530	.38" x 9.00" x 21.00 Plate
13	5	1841	.50" UNC Locknut, Grade 8
14	1	101195	Foam Filled Wheel & Tire Assembly
	1	6616	Replacement Zerk
15	1	10105	Wheel Shaft/Nut Assembly
16	Varies	6562	Spring Washer

10042 6-25-10-2