



Wood Chipper

BWC Series - Hydraulic Feed



Operator's Manual

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TO THE DEALER:

Assembly and proper installation of this product is the responsibility of the Tar River dealer. Read manual instructions and safety rules. Make sure all items on the Dealer's Pre-Delivery and Delivery Check Lists in the Owner's/Operator's Manual are completed before releasing equipment to the owner.

TO THE OWNER:

Read this manual before operating your Tar River equipment. The information presented will prepare you to do a better and safer job. Keep this manual handy for ready reference. Require all operators to read this manual carefully and become acquainted with all the adjustment and operating procedures before attempting to operate. Replacement manuals can be obtained from your selling dealer. The equipment you have purchased has been carefully engineered and manufactured to provide dependable and satisfactory use. Like all mechanical products, it will require cleaning and upkeep. Lubricate the machine as specified. Observe all safety information in this manual and safety decals on the equipment. For service, your authorized Tar River dealer has trained mechanics, genuine Tar River service parts, and the necessary tools and equipment to handle all your needs. Use only genuine Tar River service parts. Substitute parts will void the warranty and may not meet standards required for safe and satisfactory operation.

Record your machine model and serial number in the space provide below. Your dealer will need this information to give you prompt, efficient service.

Model Number: _____

Serial Number: _____

Date Purchased: _____

TO THE DEALER: Part 1 of 2

Assembly and proper installation of this product is the responsibility of the Belco Resources Dealer. Read manual instructions and safety rules. Make sure all items on the Dealer's Pre-Delivery List and Owners Check List in the Owner's/Operator's Manual are completed before releasing equipment to the owner.



NOTE: The machine must be inspected thoroughly by the dealer prior to delivery of machine to owner. Place a check mark in the box beside each item checked. Contact Belco Recourses Equipment of any damages, issues or shortages to the machine.

Pre-Delivery Checklist - Dealer

- ☐ Gearbox oil level
- ☐ Check all fluids, hydraulic, gear oil, etc.
- ☐ Grease fittings properly lubricated
- ☐ Guards, shields, attachments securely fastened
- ☐ All hardware tightened
- ☐ Condition and tension of V-belts (if applicable)
- ☐ Blades properly installed, blade hardware tightened to proper torque specifications
- ☐ PTO attached to the machine (if applicable)
- ☐ All decals are clean, legible and in proper location
- ☐ Operator's Manual on machine

Model #: _____ Serial #: _____

Inspected by (Initials): _____ Date: _____

TO THE DEALER: Part 2 of 2

Dealer is to review the following items to the owner. Place a check mark in the box beside each item reviewed.

Checklist - Owner

- ☐ Correct attachment of machine to tractor
- ☐ Safe operation of the machine
- ☐ Importance of regular lubrication, maintenance and inspection
- ☐ Troubleshooting
- ☐ Replacing broken or worn parts (importance of using only OEM parts)
- ☐ Servicing the machine
- ☐ Storage
- ☐ Warranty
- ☐ Encourage owner to read and understand the Operator's Manual before operating the machine
- ☐ Encourage owner to fill out the "Warranty Registration", online warranty@br-equipment.com

Purchase Date: _____ **Delivery Date:** _____

Model #: _____ **Serial #:** _____

Dealer Signature _____ **Date:** _____

Customer Signature _____ **Date:** _____

TO THE OWNER:

Read this manual before operating your Belco Resources equipment. The information presented will prepare you to do a better and safer job. Keep this manual handy for ready reference. Require all operators to read this manual carefully and become acquainted with all the adjustment and operating procedures before attempting to operate. Replacement manuals can be obtained from your selling dealer. The equipment you have purchased has been carefully engineered and manufactured to provide dependable and satisfactory use. Like all mechanical products, it will require cleaning and upkeep. Lubricate the machine as specified. Observe all safety information in this manual and safety decals on the equipment. For service, your authorized Belco Resources dealer has trained mechanics, genuine Belco Resources service parts, and the necessary tools and equipment to handle all your needs. Use only genuine Belco Resources service parts. Substitute parts will void the warranty and may not meet standards required for safe and satisfactory operation.

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Technical Specifications

Thank you for purchasing your Tar River BWC-H Wood Chipper. The Tar River BWC-H Series Wood Chippers are Self-Contained Hydraulic Feed Chippers and are available in 4", 6" and 8" chipping capacities. The Tar River BWC-H Wood Chipper is the perfect tool to help clear your land of fallen limbs and branches.

Technical Specifications

	BWC-040-H	BWC-060-H	BWC-080-H
Chipping Capacity	4"	6"	8"
Req. HP	18-50 HP	35-100 HP	35 - 100 HP
Chipper Wheel	18.5" / 55 lbs.	24.8" / 128 lbs.	24.7" / 131 lbs.
Discharge Hood Height	74"	83"	81"
Weight	584 lbs.	794 lbs.	891 lbs.

Important Safety Information

Safety

It is important that you read the entire manual and to become familiar with this product before you begin using it. This product is designed for certain applications only. The manufacturer cannot be responsible for issues arising from modification. We strongly recommend this product not be modified and /or used for any application other than that for which it is designed. If you have any questions relative to a particular application, DO NOT use the product until you have first contacted us to determine if it can or should be performed on the product.

Read and understand this manual and all safety signs before operating and maintaining. Review the safety instructions and precautions annually.

Safety Signal Words

TAKE NOTE! This safety alert symbol found though out this manual is used to call you attention to instructions involving you personal safety and the safety of others. Failure to follow these instructions can result in injury or death.



**This symbol means:
Attention!
Become alert!
Your safety is involved!**

Note the use of the signal words, DANGER, WARNING and CAUTION with the safety messages. The appropriate signal word for each has been selected using the following guidelines:



DANGER: Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury. This signal word is to be limited to the most extreme situations typically for machine components which, for functional purposes, cannot be guarded.



WARNING: Indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury, and includes hazards that are exposed when guards are removed. It may also be used to alert against unsafe practices.



CAUTION: Indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

Important Safety Information

General Safety Guidelines

Safety of the operator is one of the main concerns in designing and developing a new piece of equipment. Designers and manufacturers build in as many safety features as possible. However, every year many accidents occur which could have been avoided by a few seconds of thought and a more careful approach to handling equipment. You, the operator, can avoid many accidents by observing the following precautions in this section. To avoid personal injury, study the following precautions and insist those working with you, or for you, follow them.

Replace any **DANGER, WARNING, CAUTION** or instruction safety decal that is not readable or is missing. Location of such decals are indicated in this manual. Do not attempt to operate this equipment under the influence of drugs or alcohol.

Review the safety instructions with all users annually.

This equipment is dangerous to children and persons unfamiliar with its operation. The operator should be a responsible adult familiar with farm machinery and trained in this equipment's operations. **Do not allow persons to operate or assemble this machine until they have read this manual and have developed a thorough understanding of the safety precautions and of how it works.**

To prevent injury or death, use a tractor equipped with a Roll Over Protection System (ROPS). Do not paint over, remove or deface any signs or warning decals on your equipment. Observe all safety signs and practice the instructions on them.

Never exceed the limits of a piece of machinery. If its ability to do a job, or to do so safely, is in question - **Don't try it!**



Safety Decal Care

- Keep safety signs clean and legible at all times.
- Replace safety signs that are missing or have become illegible.
- Replaced parts that displayed a safety sign should also display the current safety sign
- Safety signs are available from your Distributor or Dealer Parts Department or the factory.

Important Safety Information

How to Install Safety Signs

- Be sure that the installation area is clean and dry.
- Decide on the exact position before you remove the backing paper.
- Remove the smallest portion of the split backing paper.
- Align the decal over the specified area and carefully press the small portion with the exposed sticky backing in place.
- Slowly peel back the remaining paper and carefully smooth the remaining portion of the decal in place.
- Small air pockets can be pierced with a straight pin and smoothed out using the piece of decal backing paper.



Before Operation

- Carefully study and understand this manual.
- Do not wear loose-fitting clothing, which may catch in moving parts.
- Always wear protective clothing and substantial shoes.
- Assure that all tires are inflated evenly.
- Give the machine a visual inspection for any loose bolts, worn parts or cracked welds, and make necessary repairs. Follow the maintenance safety instructions included with this manual.
- Be sure that there are no tools lying on or in the equipment.
- Do not use the machine until you are sure that the area is clear, especially of children and animals.
- Don't hurry the learning process or take the machine for granted. Ease into it and become familiar with your new equipment.
- Practice operation of your equipment and its attachments. Completely familiarize yourself and other operators with its operation before using.
- Use a tractor equipped with a Roll Over Protection System (ROPS) and fasten your seat belt prior to starting engine.
- The manufacturer does not recommend usage of tractor with ROPS removed.
- Move tractor wheels to the widest recommended settings to increase stability.
- Securely attach to towing unit. Use a high strength, appropriately sized hitch pin with a mechanical retainer and attach safety chain.
- Do not allow anyone to stand between the tongue or hitch and the towing vehicle when backing up to the equipment.

Important Safety Information



During Operation

- Children should not be allowed on the product.
- Clear the area of small children and bystanders before moving the machine.
- If using a towing unit, securely attach machine by using a hardened 3/4" pin, a metal retainer, and safety chains if required. Shift towing unit to a lower gear before going down steep downgrades, thus using the engine as a retarding force. Keep towing vehicle in gear at all times. Slow down for corners and rough terrain.
- Make sure you are in compliance with all local and state regulations regarding transporting equipment on public roads and highways. Lights and slow moving signs must be clean and visible by overtaking or oncoming traffic when machine is transported.
- Beware of bystanders, **particularly children!** Always look around to make sure that it is safe to start the engine of the towing vehicle or move the machine. This is particularly important with higher noise levels and quiet cabs, as you may not hear people shouting.
- **NO PASSENGERS ALLOWED!** Do not carry passengers anywhere on, or in, the tractor or equipment, except as required for operation.
- Keep hands and clothing clear of moving parts.
- Do not clean, lubricate or adjust your equipment while it is moving.
- When halting operation, even periodically, set the tractor or towing vehicle brakes, disengage the PTO, shut off the engine and **remove the ignition key.**
- Be especially observant of the operating area and terrain. Watch for holes, rocks or hidden hazards. Always inspect the area prior to operation.
- **DO NOT** operate near the edge of drop-offs or banks.
- **DO NOT** operate on steep slopes as overturns may result.
- Operate up and down (not across) intermediate slopes. Avoid sudden starts and stops.



Warning: Never backup with the machine on the ground! This will cause damage to the machine. Always lift the machine high enough to clear the ground before backing up.

Important Safety Information



Highway and Transport Operations

- Adopt safe driving practices.
- Keep the brake pedals latched together at all times. **Never use independent braking with machine in tow as loss of control and/or upset of machine can result.**
- Always drive at a safe speed relative to local conditions and ensure that your speed is low enough for an emergency stop to be safe and secure. Keep speed at a minimum.
- Reduce speed prior to turns to avoid the risk of overturning.
- Avoid sudden uphill turns on steep slopes.
- Always keep the tractor or towing vehicle in gear to provide engine braking when going downhill. Do not coast.
- Do not drink and drive!
- Comply with state and local laws governing highway safety and movement of farm machinery on public roads.
- Use approved accessory lighting flags and necessary warning devices to protect operators of other vehicles on the highway during daylight and nighttime transport. Various safety lights and devices are available from your dealer.
- The use of flashing amber lights is acceptable in most localities. However, some localities prohibit their use. Local laws should be checked for all highway and marking requirements.
- When driving the tractor and equipment on the road or highway under 40 kph (20 mph) at night or during the day, use the amber warning lights and a slow moving vehicle (SMV) identification emblem.
- Plan your route to avoid heavy traffic.
- Be a safe and courteous driver. Always yield to oncoming traffic in all situations, including narrow bridges, intersections, etc.
- Be observant of bridge loading ratings. Do not cross bridges rated at lower than the gross weight at which you are operating.
- Watch for obstructions overhead and to the side while transporting.
- Always operate in a position to provide maximum visibility at all times. Make allowances for increased length and weight of the equipment when making turns, stopping the machine, etc.
- Pick the most level route when transporting across fields. Avoid the edges of ditches or gullies and steep hillsides.
- Be extra careful when working in inclines.

Important Safety Information



Highway and Transport Operations

- Maneuver the tractor or towing vehicle at safe speeds.
- Avoid overhead wires or other obstacles. Contact with overhead lines could cause serious injury or death.
- Avoid loose fill, rocks and holes, they can be dangerous for equipment operation or movement.
- Allow for machine length when making turns,
- Operate the towing vehicle from the operator's seat only.
- Never stand alongside of machine with engine running or attempt to start engine and/or operate machine while standing alongside of machine.
- Never leave running equipment attachments unattended.
- As a precaution, always recheck the hardware on equipment following every 100 hours of operation. Correct all problems. Follow the maintenance safety procedures.

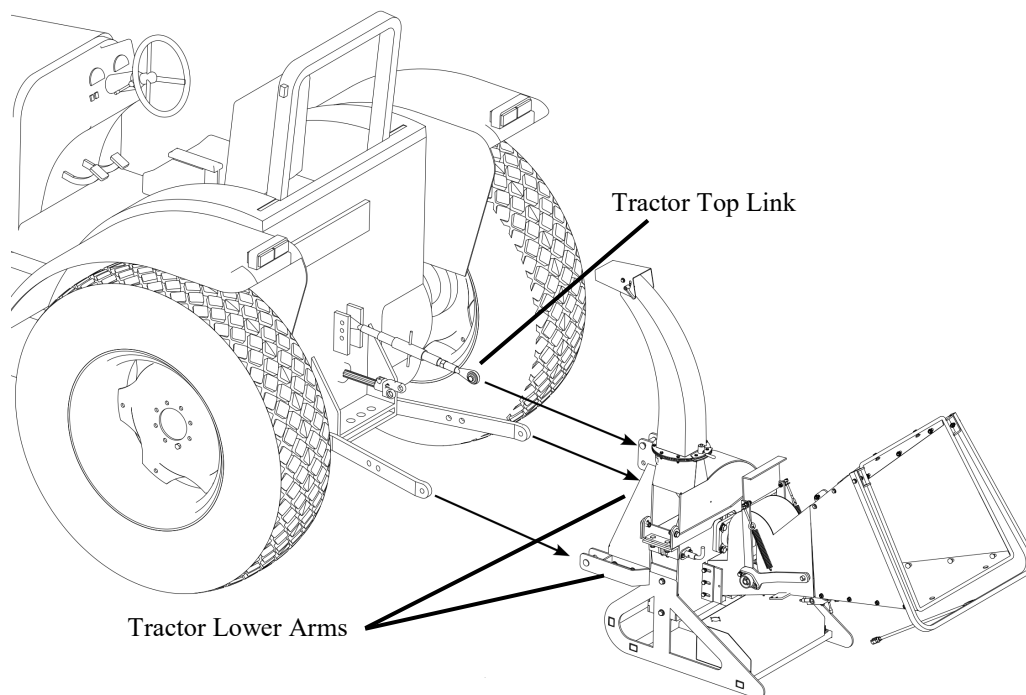
Attaching to Tractor



Warning: When attaching the Wood Chipper, *Never* allow anyone to stand between the machine and the tractor. Serious injury or death can occur!

Attaching the Wood Chipper

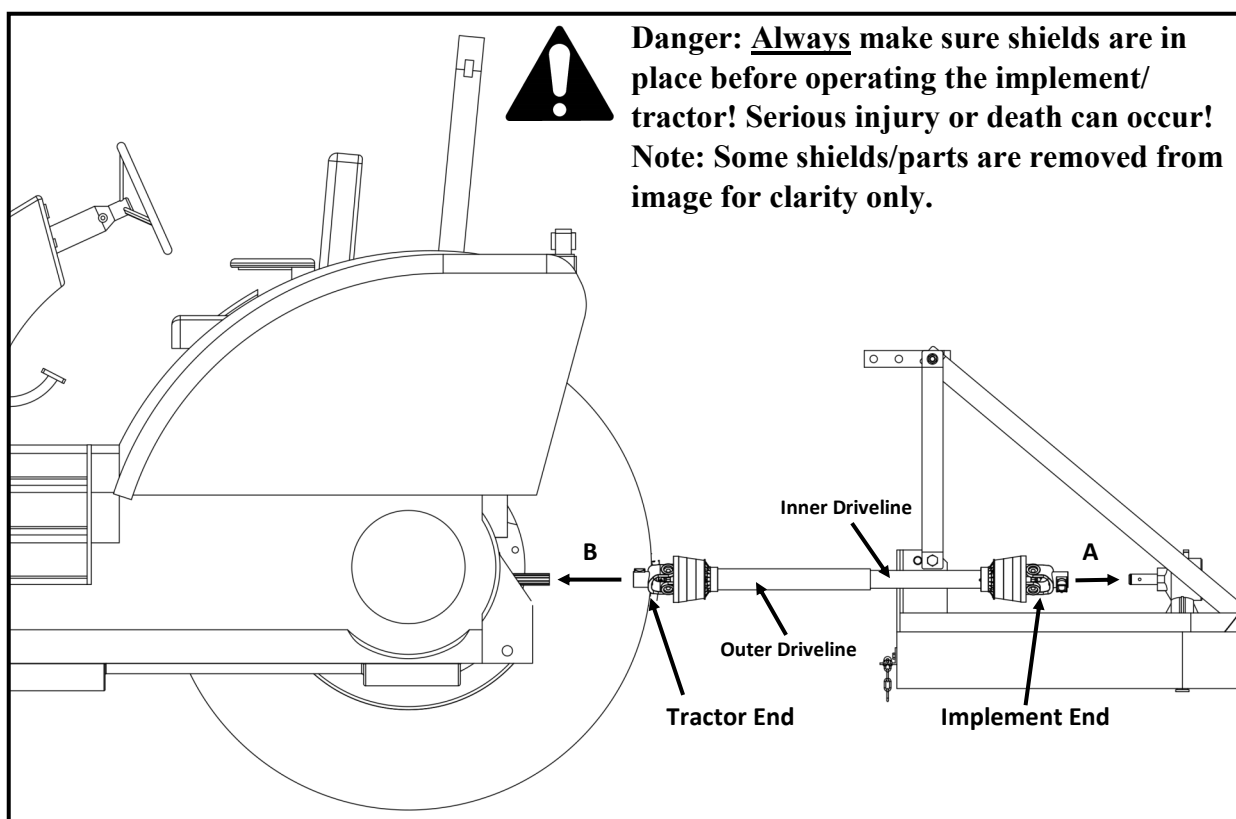
- Back up the tractor to the wood chipper, while lining up the lower tractor links to the Wood chipper lower pins.
- Stop the engine, set the brake and remove the key from the tractor and block the tractor tires.
- Secure the lower tractor arms to the wood chipper lower pins with lynch pins.
- Attach the tractor top link to the wood chipper with the top link pin and r-clip.
- Adjust the tractor sway bars/chains to center the rotary cutter and remove excess sway.
- Adjust lower links and top link so that the wood chipper is level.
- Operate the tractor hydraulic controls very slowly up and down. There should be no contact between the wood chipper or any part of the tractor. Failure to check clearance can result in damage to the Wood chipper, tractor (especially the tires) and possible injury to the operator. Maintain no less than 6" of clearance between the wood chipper, tractor and tractor tires throughout the complete range of motion.



PTO Driveline Instructions

Instructions for Installing a PTO Driveline:

1. Begin by parking the tractor and implement on a level, solid surface. Attach the implement to the tractor's hitch arms, upper and lower. Adjust the tractor's 3-point hitch so that the tractor's output shaft is level with the implement's input shaft.
2. Leave the tractor in gear, shut off the tractor engine, remove the key and set the park brake. Block the implement to prevent it from falling over or shifting.
3. Slide the inner yoke of the PTO shaft 'A' (implement end) onto the input shaft of the implement. Make sure the yoke is securely locked in place.
4. Slide the outer yoke of the PTO shaft 'B' (tractor end) onto the tractor input shaft. Make sure the yoke is securely locked in place.
5. Because of differences in tractor 3-point arms and implements, it may be necessary to shorten the PTO Driveline. See next page for **"Instructions for Shortening a PTO Driveline"**.
6. Check that the PTO Driveline yokes are securely attached to the tractor and implement before operating. PTO Drivelines not attached properly can cause serious injury or death!
7. If your PTO Driveline shields are equipped with chains, secure the chain to the tractor and or implement to prevent the shield from rotating.
8. Before starting tractor and engaging the PTO Driveline, make certain there are no people or animals between tractor and implement. Rotating PTO Drivelines can cause serious injury or death!



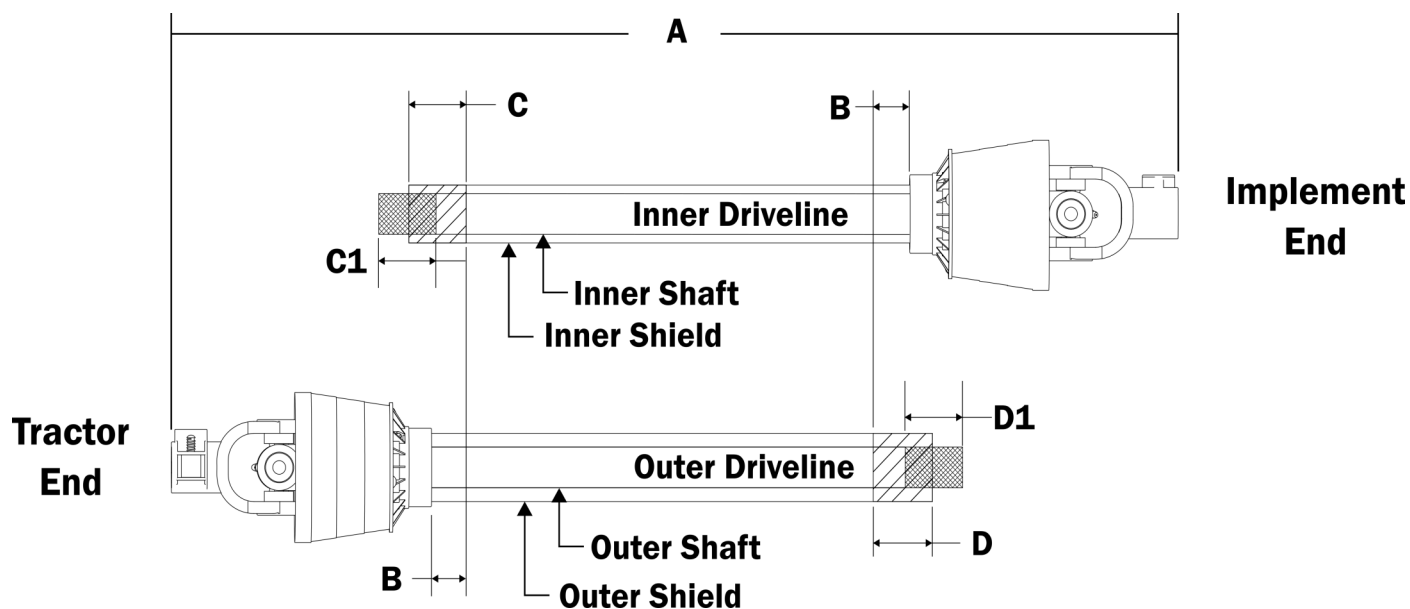
PTO Driveline Instructions

Instructions for Shortening a PTO Driveline:



Note: If you are not confident modifying the PTO Driveline, you should contact a Qualified Professional.

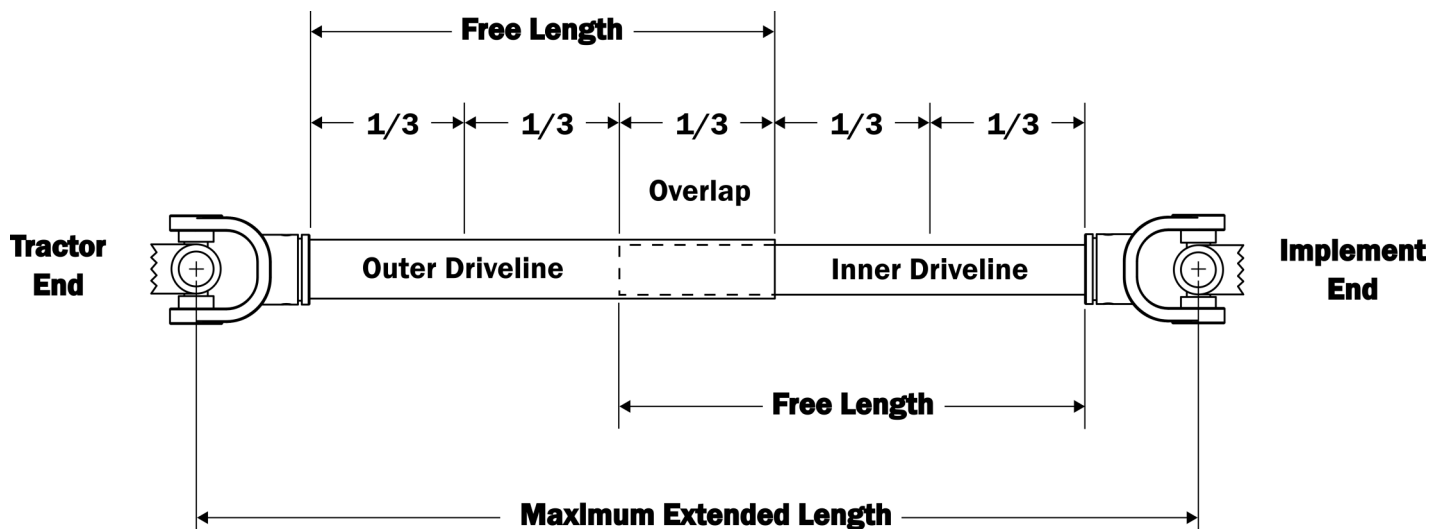
1. Separate the inner and outer PTO Drivelines. Leave separated at this time.
2. Attach the outer PTO Driveline to the tractor implement input shaft and inner PTO driveline to the implement input shaft.
3. With the drivelines parallel to one another, measure 1" (dim. 'B') back from the outer PTO Driveline shield (see fig. 2) and make a mark on the inner PTO Driveline.
4. Measure 1" (dim 'B') back from the inner PTO Driveline shield (see fig. 2) and make a mark on the outer PTO Driveline.
5. Remove the drivelines from the tractor and implement.
6. Measure from the end of the inner shield to the scribed mark (dim. "C"). Cut the inner shield at that mark. Cut the same amount off the inner shaft (dim. "C1").
7. Measure from the end of the outer shield to the scribed mark (dim. "D"). Cut the outer shield at that mark. Cut the same amount off the inner shaft (dim. "D1").
8. Clean off all burrs from both drivelines.
9. Refer to "Checking PTO Driveline Extended Length" section next.



PTO Driveline Instructions

Checking PTO Driveline Extended Length:

1. Apply multi-purpose grease to the outside of the inner driveline section. Assemble the outer and inner drivelines.
2. When fully extended, the maximum allowable length must have a minimum overlap of $\frac{1}{3}$ the free length of the inner and outer sections. Measure and record the maximum extended length for future reference.
3. Attach the outer PTO Driveline to the tractor implement input shaft and inner PTO driveline to the implement input shaft.
4. Pull both yoke ends to make sure they are properly seated on the input shafts. **Warning:** If the drive lines are not properly seated, they can separate from the tractor or implement, causing extensive damage and possibly serious injury or death.
5. Raise and lower the implement to determine the maximum extended length. Make sure the maximum extended length does not exceed the maximum length determined from step 2.



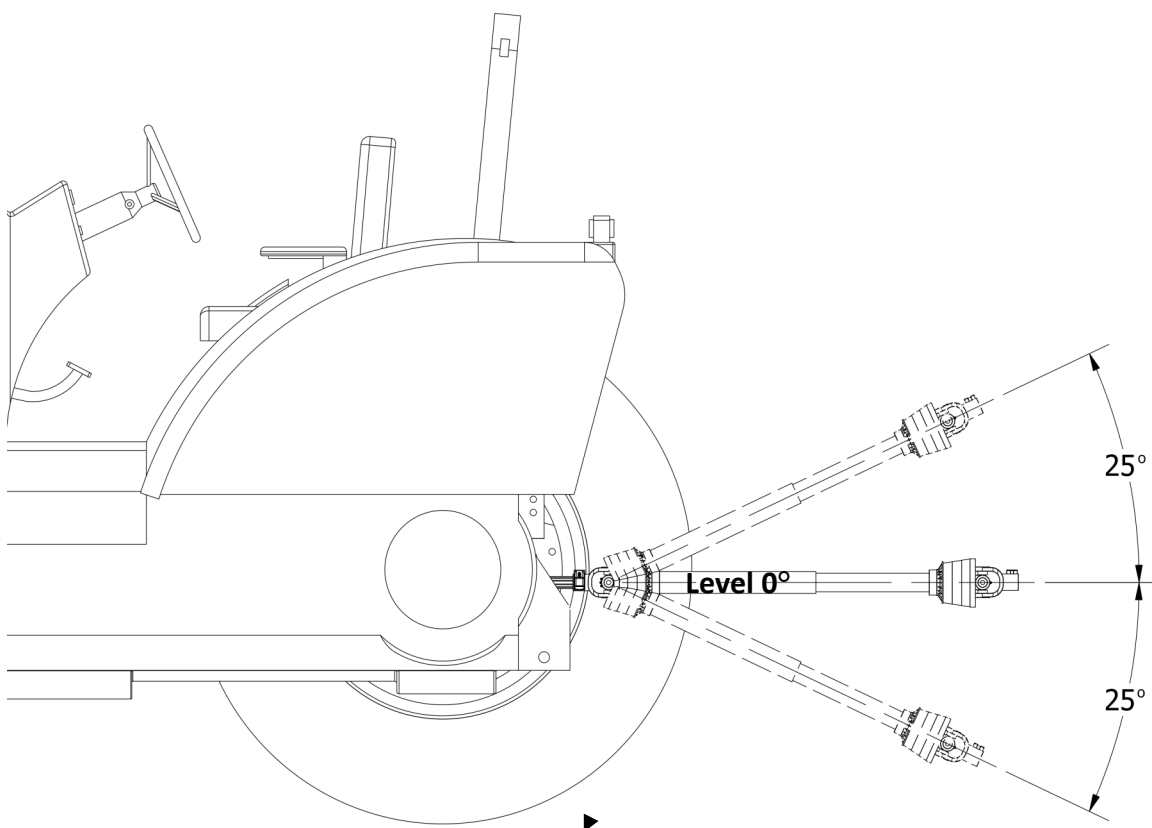
Danger: Always make sure shields are in place before operating the implement/tractor! Serious injury or death can occur!

Note: Some shields/parts are removed from image for clarity

PTO Driveline Instructions

Checking for PTO Driveline Interference:

1. Begin with the PTO Driveline level (0 degrees). Raise the implement at an angle no greater than 25 degrees from level. Check for any interference and the length of the PTO Driveline extended. Do not exceed the maximum extended length!
2. Next lower the PTO Driveline at an angle no greater than 25 degrees from level. Check for any interference and the length of the PTO Driveline extended. Do not exceed the maximum extended length!



Danger: Always make sure shields are in place before operating the implement/tractor! Serious injury or death can occur!

Note: Some shields/parts are removed from image for clarity



Scan the QR code below for more detailed information on PTO installation.



Operating Instructions



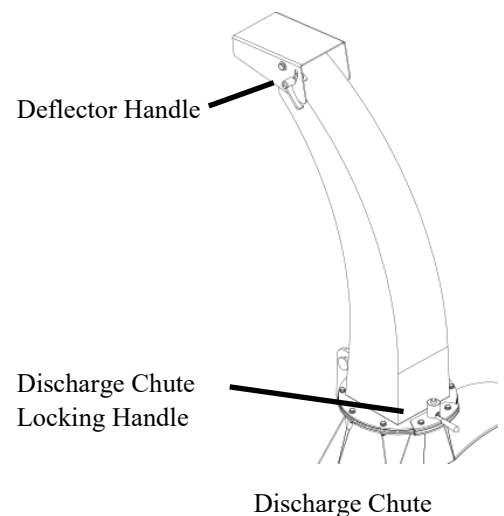
Warning: Never operate the wood chipper without Personal Protection Equipment such as, wrap around safety glasses/face shield, hearing protection, leather gloves, steel-toe work boots, heavy pants and long sleeve shirt! Keep bystanders away from the Feed Hopper and Discharge Chute at all times. Any person operating the Wood Chipper should read and understand the Operator's Manual.

Inspect the following prior to the operating the machine for the first time and every 5 hours of operation:

- Torque all fasteners and hardware. Replace missing or damaged hardware.
- Check condition of rotor bearings.
- Check the condition and clearance of the rotor and stationary blades.
- Check for entangled material. Remove all entangled material before beginning/resuming work.
- Lubricate all grease fittings.

Operating the Wood Chipper

- The Wood chipper must be firmly seated on a solid, level surface. **DO NOT operate the wood chipper while in a raised position or with flywheel turning.**
- Block the tractor wheels and set the parking brake to prevent the tractor from rolling during operation.
- Clear the area of people and/or animals.
- After attaching the wood chipper and PTO, and before operating, do the following:
- The discharge chute should always be rotated in a safe direction away from the operator and locked in place with the discharge chute locking handle. Never allow bystanders in the area where material is discharged! Serious injury or death can occur.
- Adjust the Deflector to allow the material to be thrown to the desired distance. Never operate the wood chipper without deflector attached.
- Before starting the tractor, make sure animals and people are at a safe distance. Discharged material can cause serious injury.
- Start the tractor and allow the engine to idle with the PTO engaged. Gradually increase the tractor engine RPM until the PTO reaches 540 RPM (not the tractor RPM). The wood chipper is designed to operate at 540 RPM. Lower RPM can cause damage to the wood chipper if material obstructs the feed roller and stops the flywheel. It is best to feed material by the larger end first.
- Prior to inserting material into the wood chipper, inspect material for foreign objects such as nails or screws. Foreign objects can damage the blades and cause premature wear.



Operating Instructions

Operating the Wood Chipper (continued)

- Select only the proper size limbs to feed into the Wood Chipper. Limbs that are too large can cause damage to the machine. Smaller branches can be held together in a bundle and feed at the same time.
- It is recommended to feed brush from the side of the infeed chute rather than the front. Stay at a safe distance when feeding material into the machine to avoid being hit by brush.
- Avoid leaning into the feed chute or placing any parts of your body inside the feed chute when pushing material further into the chute. Use a stick or branch if needed.
- Never use any hand tools to push brush into the machine. Dropping a hand tool into the machine can cause extensive damage to the machine and possibly cause injury to the operator.
- Place the larger end of the branch into the feed chute first and push the branch until it comes in contact with the feed roller. The feed roller will pull the branch in on contact.

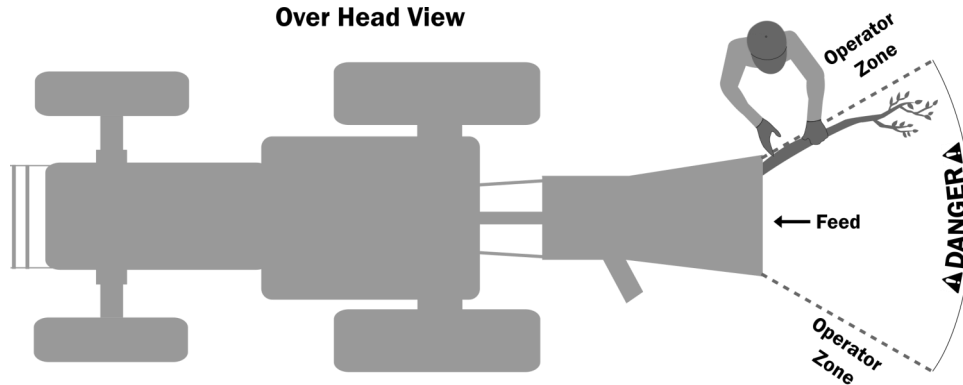
Stopping the Wood Chipper

- Never leave the wood chipper unattended or perform an inspection or service with the PTO engaged and tractor running. Always stop the wood chipper, disengage the PTO and shut off the tractor engine.
- Allow time for the wood chipper to come to a complete stop. The flywheel continues to spin after the wood chipper or tractor engine is off.
- Stop the wood chipper by following these steps:
 1. Place the tractor in the lowest RPM (idle) position.
 2. Disengage the PTO lever and shut off the tractor engine.
 3. Allow sufficient time for the wood chipper to come to a complete stop.

Operating Instructions

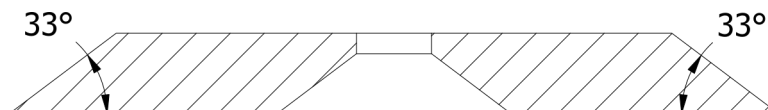


Warning: When operating the wood chipper, always stand in the “Operator Zone” to avoid serious injury or death.



Blade Maintenance

- The blades must be kept sharp for optimal chipping. The BWC Wood Chipper blades are made from high quality tool steel. Our blades are designed to last, however, they will dull over time and require sharpening. Performing regular maintenance will extend the life of the blades and the wood chipper.
- For optimal results:
 - Blades perform better when chipping fresh, green limbs. The moisture content of the material being chipped lubricates the blades and reduces friction extending the life of the blade.
 - Chipping dry material will wear down the cutting edges of the blade much faster than fresh material.
 - Avoid using dirty material as dirt and sand is very abrasive and wears down the blade edges much faster.
 - If at all possible avoid material with foreign objects that can cause premature wear and or damage to the blades.
- The blade's edge must be cut at (Check blades for correct angle) 33 degree angle for optimal performance. Dull or incorrect blade angle can cause damage to the wood chipper and poor chipper performance.
- It is recommended to sharpen the blades every 20-50 hours. Dull blades can cause issues such as:
 - Discharge chute plugged with material
 - Excessive vibration causing damage to bearings
 - Excessive vibration causing damage to flywheel
 - Damaged feed roller shaft



Blade Profile

Operating Instructions



Warning: Never attempt to inspect, remove or replace blades with tractor engine running, PTO engaged, wood chipper flywheel rotating. Serious injury or death can occur!

Blade removal/replacement

- Open the upper flywheel housing by removing the hardware shown in the Fig. 1 below.
 - Slowly lift the upper flywheel housing and rotate it to the LH side of the wood chipper, Fig. 2.
- Note: The upper flywheel housing is heavy and a helper is recommended. Keep bystanders away to prevent injury. Be sure to support the upper flywheel housing to prevent damage to machine.

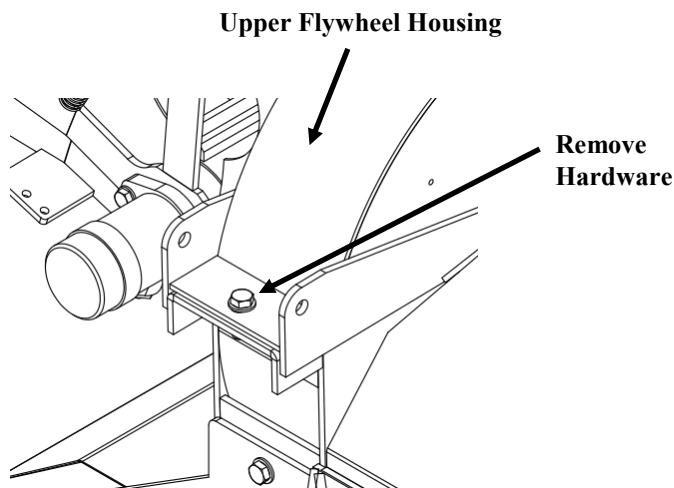


Fig. 1

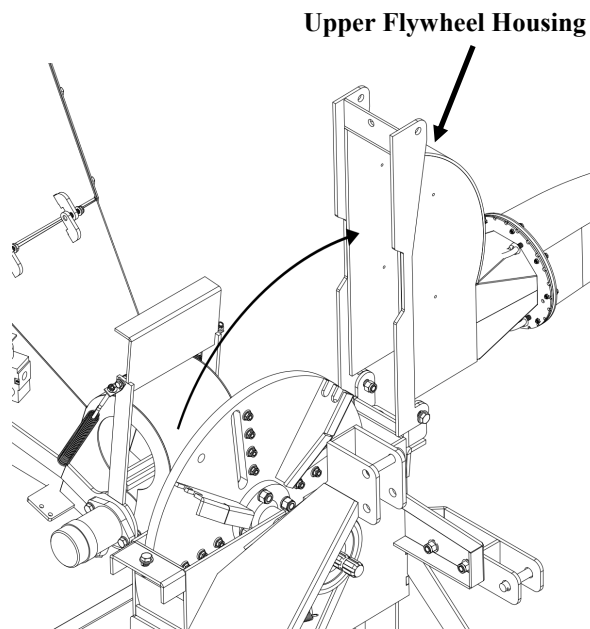
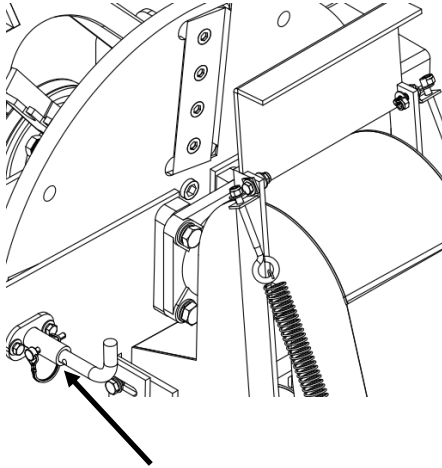


Fig. 2

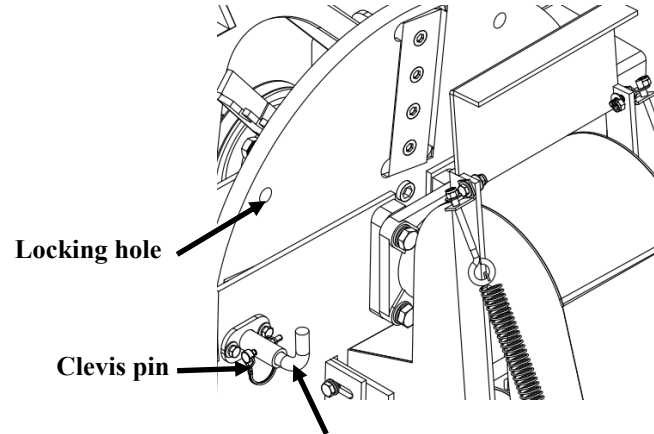
Operating Instructions

Blade removal/replacement

- Position 1: This is the standard position for chipping material. The flywheel spins freely in this position.
- Position 2: The flywheel is locked in place and ready for blade removal.
- With the flywheel exposed, manually rotate the flywheel to one of the four (4) locking holes lines up with flywheel locking pin.

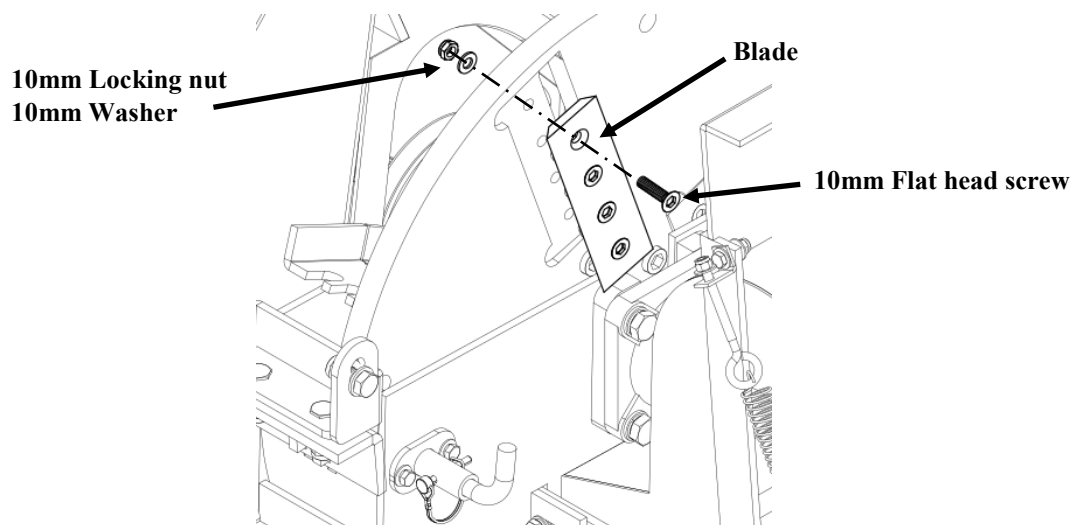


Position 1 - Flywheel turns freely.



Position 2 - Flywheel is locked, preventing rotation of flywheel.

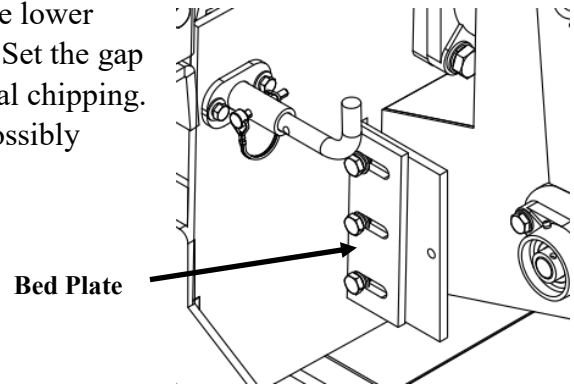
- Remove the clevis pin and push in the flywheel locking pin to lock the flywheel in place. Insert the clevis pin in the flywheel locking pin to prevent flywheel from moving.
- Remove the four (4) Flat head socket screws, washers and nuts from the chipper blade. The blades have with two cutting edges. The first time the blades are removed, they can be reversed to utilize the other sharp edge. **Caution: When removing the blades, be careful not to drop any hardware in the lower flywheel housing! This can cause damage to the wood chipper.** Use a telescoping magnetic pickup tool to retrieve any dropped hardware.
- Torque the 10mm bolts to 40-45 ft lbs when installing the blades. Always replace 10mm locking nuts when changing blades or reversing. Repeat this for the other three (3) blades. Upon replacing the blades, proceed to checking/setting the gap between the blades and bed plate.



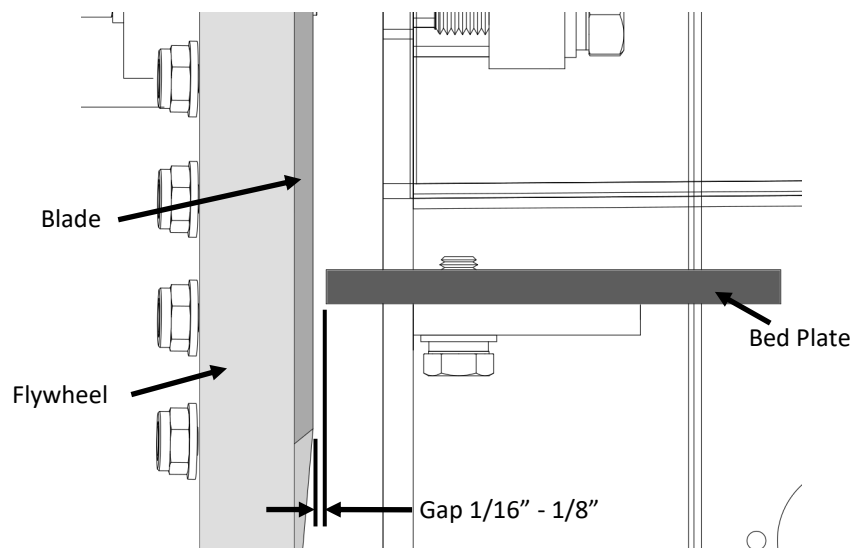
Operating Instructions

Setting the Bed Plate Gap

The Bed Plate (anvil plate) is located on the left hand side of the lower flywheel housing, slightly lower than the flywheel locking pin. Set the gap between the bed plate and blade to $1/16'' - 1/8''$ to obtain optimal chipping. Improper bed plate gap can lead to poor chipping results and possibly clogging of material.



- Manually rotate the flywheel so that one blade lines up with the bed plate. Take notice of the amount of gap between the bed plate and blade. Repeat this process, one blade at a time to determine which blade is closest to the bed plate. This blade will be used to set the bed plate gap.
- Loosen the three 10mm hex bolts so that bed plate is loose enough to move freely. Adjust the bed plate so that there is a gap of $1/16'' - 1/8''$ between the blade edge. The gap should be even across the entire edge of the blade.
- Once the gap is set, torque the 10mm hex bolts to 40 ft lbs. each.
- Rotate the flywheel by hand to check the gap of each blade. They must be in the range of $1/16'' - 1/8''$ for optimal chipping.
- Close the upper flywheel housing and secure with provided hardware. **Warning: Never operate the wood chipper without guards/shields in place. Serious injury or death can occur!**



Operating Instructions

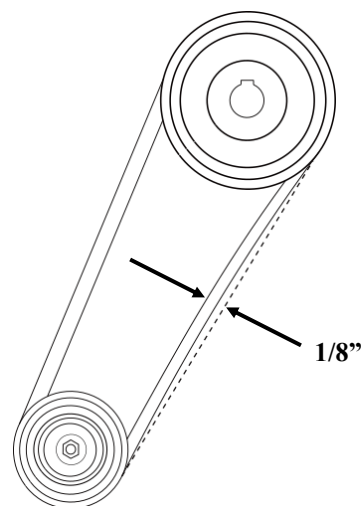
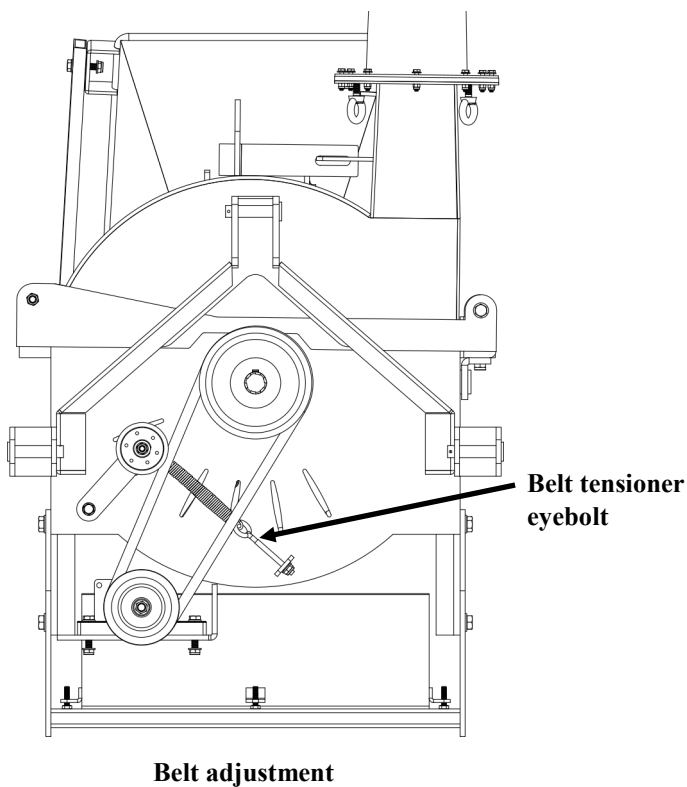
Adjusting Drive Belt Tension

Before operating the wood chipper, check the condition of the drive belt. The belt should be free of cracking and or defects. Replace the belt as needed.

Belts will stretch over time and require adjustment.

Follow these steps when checking the tension of the belt.

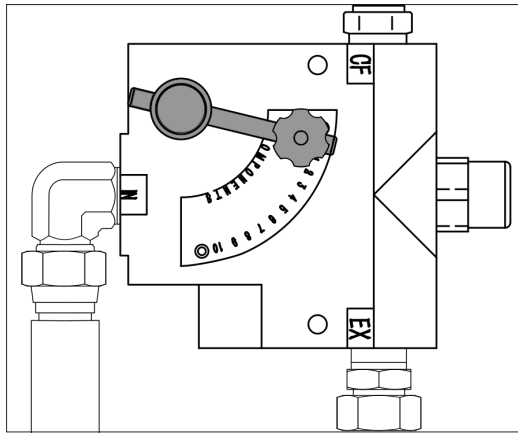
1. If the PTO is attached, disconnect it from the machine. This will allow the rotation of the belt and pulleys.
2. Check the tension by pressing on the belt with your finger. The tension on the belt should be firm with no slack. A loose belt can come off the machine and cause harm to the operator and possible damage to the machine.
3. The belt tension can be adjusted by turning the nut on the idler eyebolt. Increase the pressure on the belt if there is too much play. Decrease the pressure on the belt if it is too tight.
4. The proper amount of belt deflection should be approximately 1/8" as shown below.



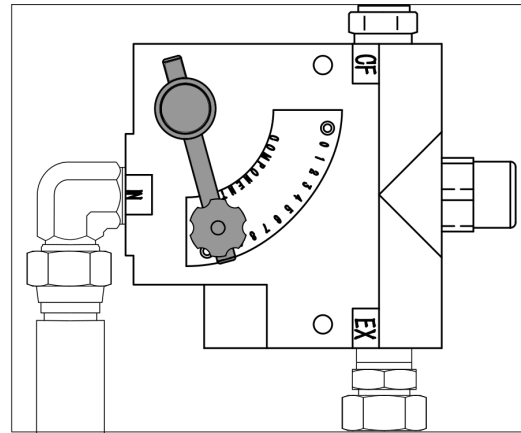
Operating Instructions

Feed Roller Speed Control

The Variable speed control valve is located on the right hand side of the wood chipper feed chute. The speed of the feed roller is controlled by rotating the arm as shown in the images below. In the “0” position the roller will not rotate. The higher the number, the faster the feed roller will rotate with “10” being “full speed”.



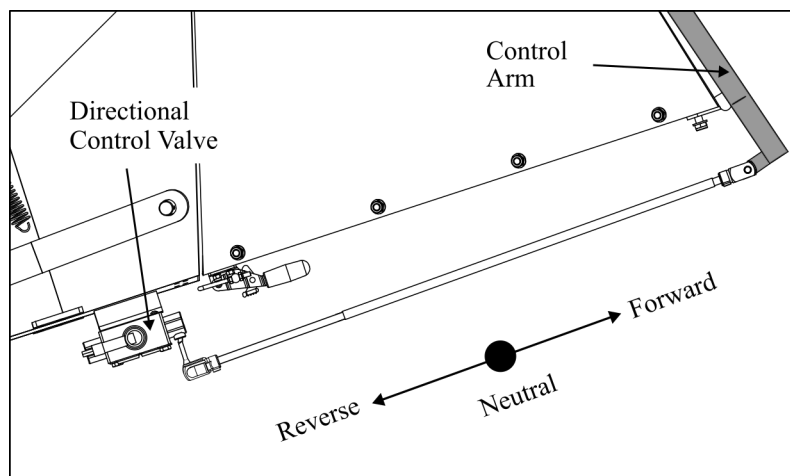
Position “0”



Position “10”

Feed Roller Direction Settings

The feed roller has three different rotation settings: Forward, Neutral and Reverse. The direction of the feed roller is changed by pushing or pulling the Control Arm. In the Forward position, the feed roller pulls branches into the wood chipper; neutral stops the feed roller rotation; and reverse pushes the branches towards the operator and out away from the chipper.



Changing Roller Feed Speed

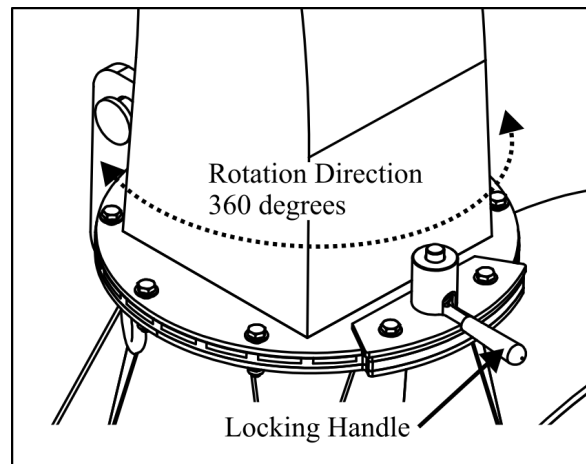
Change the feed roller speed by placing the Control Arm in the *Neutral Position*. The feed roller will stop rotating. Adjust the Variable Speed Control Valve to the desired position/speed. Reengage the Feed Roller by moving the Control Arm.

Operating Instructions

Discharge Chute Adjustment

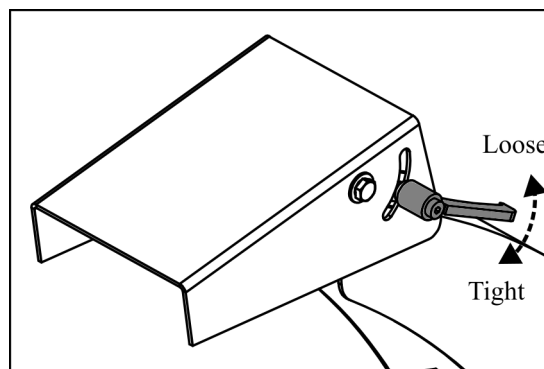
The Discharge Chute can be adjusted to direct the expelled material in a safe direction. **Warning:** Material exists the Discharge Chute at a high rate of speed. Always keep people and animals out of the work area to prevent serious injury or death.

To rotate the Discharge Chute, pull up on the Locking Handle and twist the Discharge Chute clock-wise or counter-clockwise to the desired position. Release the Locking Handle and make sure the chute is locked in place before operating the wood chipper.



Discharge Deflector Adjustment

The Deflector can easily be adjusted to control the distance chips are discharged. Turn the handle counter-clockwise, raise or lower the deflector in the desired position. Tighten the handle by turning it clockwise. Note: It is not necessary to remove the handle, only loose enough to raise or lower the deflector.



Operating Instructions

Hydraulic Fluid

The Hydraulic Fluid reservoir must be filled prior to use. See chart below for capacity and oil type. The hydraulic fluid level should be checked prior to each use. Inspect hydraulic fluid and change as needed. Dispose of used hydraulic fluid properly.

Model	Capacity		Hydraulic Oil
	Gallons (gal)	Liters (L)	
BWC-040-H	5	18.9	ISO 32, ISO 46, AW 32, AW 46
BWC-060-H	5	18.9	
BWC-080-H	5	18.9	

⚠ WARNING




HIGH PRESSURE FLUID HAZARD
 To prevent serious injury or death from high-pressure fluid:

- Relieve pressure on system before repairing or adjusting.
- Wear proper hand and eye protection when searching for leaks. Use wood or cardboard instead of hands.
- Keep all components in good repair.







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Trouble Shooting

Trouble Shooting

Problem	Possible cause	Solution
Brush feed too slow	Feed roller control set too low.	Increase feed roller control to a greater value.
	PTO RPM set too low.	Tractor output RPM must be 540.
	Dull blades.	Reverse blades, sharpen or replace blades.
	Bed plate gap not correct.	Check and set bed plate gap to proper specification.
Material is stringy coming out of machine	Dull blades.	Reverse blades, sharpen or replace blades.
	High content of sap.	Clean blades and bed plate.
Excessive clogging	Dull blades.	Reverse blades, sharpen or replace blades. Clean blades and bed plate.
	Bed gap is incorrect.	Check bed plate gap and adjust to proper specs
	PTO RPM is below 540.	Adjust tractor RPM to 540 output.
Drive belt slipping	Belt tension is set incorrect.	Check belt tension and adjust accordingly.
	Belt worn or old.	Replace belt with OEM replacement belt.
Flywheel bearings making excessive noise	Bearings not sufficiently lubricated.	Apply grease to bearings.
	Worn bearings.	Replace belt with OEM replacement bearings.

Torque Specifications

Torque Specifications for Common Bolt Sizes															
Inches		Bolt Head Identification						Metric		Bolt Head Identification					
															
		Grade 2		Grade 5		Grade 8				Class 5.8		Class 8.8		Class 10.9	
Bolt size (inches)	Thread pitch	N.m	ft-lb	N.m	ft-lb	N.m	ft-lb	Bolt size (metric)	Thread pitch	N.m	ft-lb	N.m	ft-lb	N.m	ft-lb
1/4"	20	7	5	11	8	16	12	M5	0.08	4	3	6	4	9	7
1/4"	28	8	6	13	10	19	14	M6	1	6	4	10	7	15	11
5/16"	18	15	11	24	17	33	25	M8	1.25	16	12	25	18	36	27
5/16"	24	17	13	26	19	37	27	M8	1	17	13	26	19	38	28
3/8"	16	27	20	42	31	59	44	M10	1.5	31	23	48	35	71	52
3/8"	24	31	23	47	35	67	49	M10	1.25	33	24	51	38	75	55
7/16"	14	43	32	67	49	95	70	M10	1	35	26	53	39	78	58
7/16"	20	48	36	75	55	106	78	M12	1.75	54	40	84	62	123	91
1/2"	13	66	48	102	75	144	106	M12	1.5	56	41	87	64	128	94
1/2"	20	75	55	115	85	163	120	M12	1.25	59	44	90	66	133	98
9/16"	12	95	70	147	109	208	154	M14	2	84	62	133	98	195	144
9/16"	18	106	79	164	121	232	171	M14	1.5	94	69	142	105	209	154
5/8"	11	132	97	203	150	287	212	M16	2	131	97	206	152	302	223
5/8"	18	149	110	230	170	325	240	M16	1.5	141	104	218	161	320	236
3/4"	10	233	172	361	266	509	376	M18	2.5	181	133	295	218	421	310
3/4"	16	261	192	403	297	569	420	M18	2	196	145	311	229	443	327
7/8"	9	226	167	582	430	822	606	M18	1.5	203	150	327	241	465	343
7/8"	14	249	184	642	473	906	668	M20	2.5	256	189	415	306	592	437
1"	8	339	250	873	644	1232	909	M20	1.5	288	212	454	335	646	476
1"	12	371	273	955	704	1348	995	M22	2.5	344	254	567	418	807	595
1-1/8"	7	480	354	1077	794	1746	1288	M22	1.5	381	281	613	452	873	644
1-1/8"	12	539	397	1208	891	1958	1445	M24	3	444	327	714	526	1017	750
1-1/4"	7	677	500	1519	1120	2463	1817	M24	2	488	360	769	567	1095	808
1-1/4"	12	750	553	1682	1241	2728	2012	M27	3	656	484	1050	774	1496	1103
1-3/8"	6	888	655	1992	1469	3230	2382	M27	2	719	530	1119	825	1594	1176
1-3/8"	12	1011	746	2268	1673	3677	2712	M30	3.5	906	668	1420	1047	2033	1499
1-1/2"	6	1179	869	2643	1949	4286	3161	M30	2	1000	738	1600	1180	2250	1659
1-1/2"	12	1326	978	2974	2194	4823	3557	M36	4	1534	1131	2482	1830	3535	2607

Notes:

This chart is an approximate estimate of torque values.

Always tighten hardware to these values unless a different torque value or tightening procedure is listed for a specific application.

Fasteners must always be replaced with the same grade as specified in the manual.

Always use the proper tool for tightening hardware: SAE for SAE hardware and Metric for Metric hardware.

Make sure that fastener threads are clean and that you properly start thread engagement.



Wood Chipper

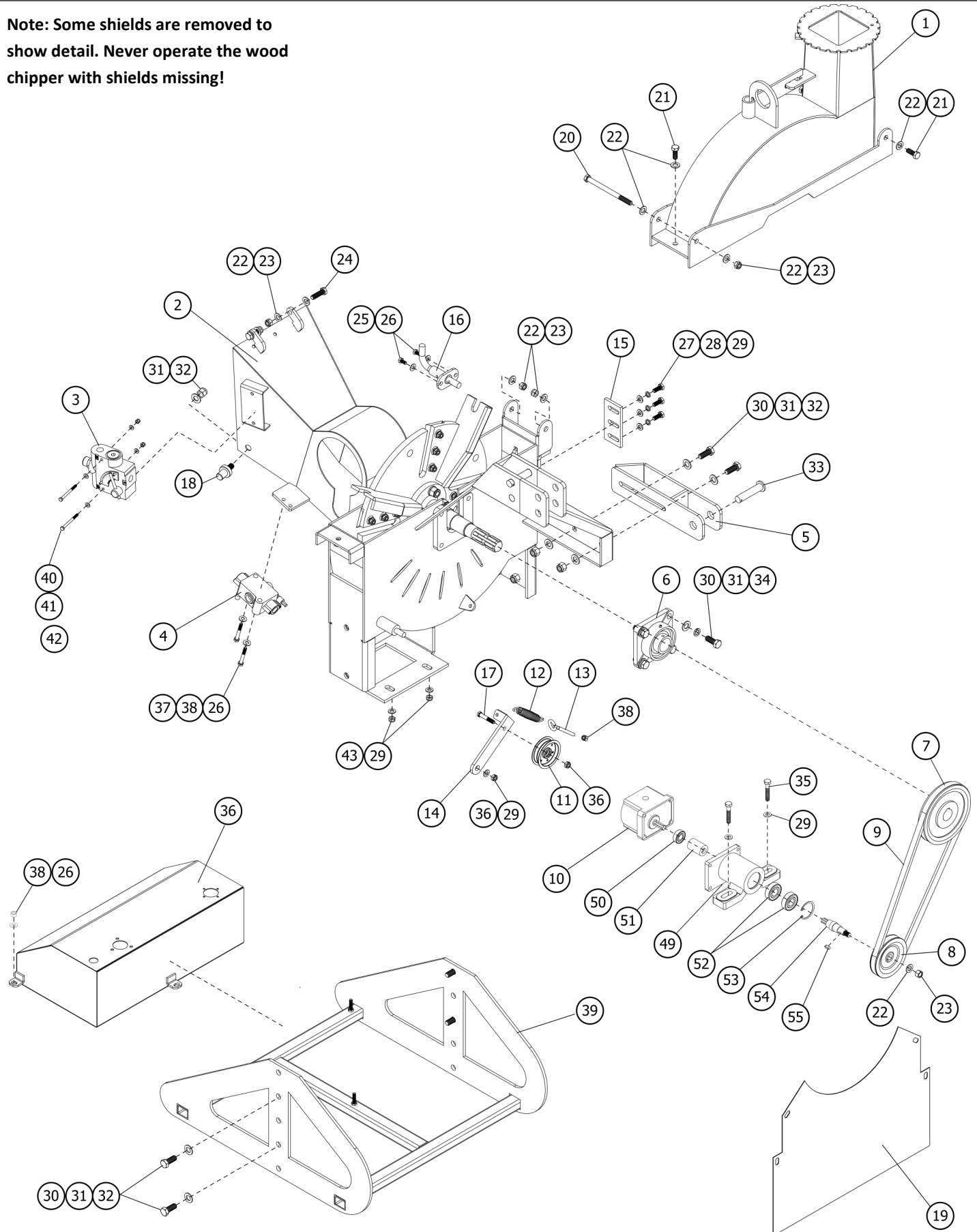
BWC Series - Hydraulic Feed



Parts Manual

Frame BWC-040-H

Note: Some shields are removed to show detail. Never operate the wood chipper with shields missing!

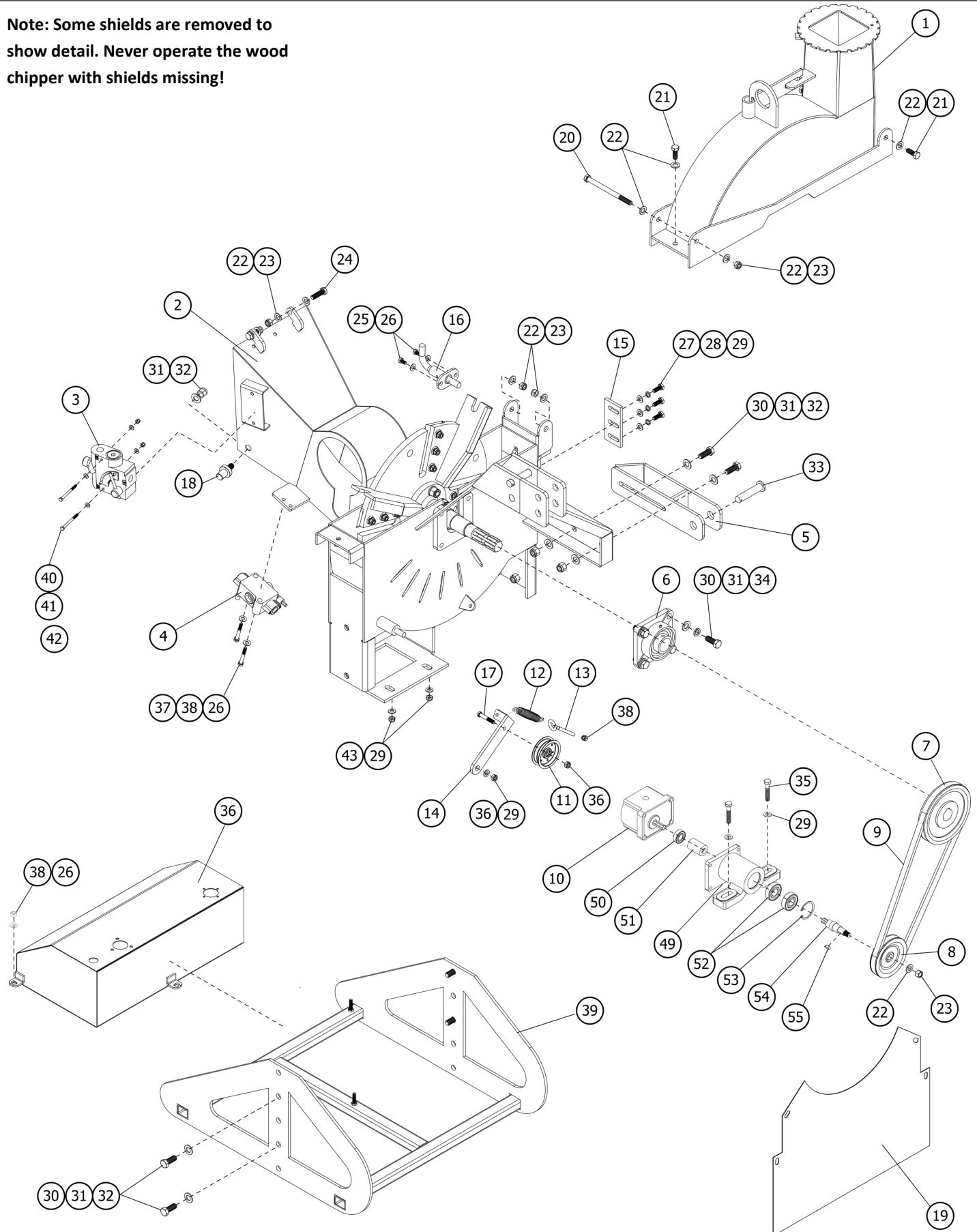


Frame BWC-040-H

Item	Part #	Description	Qty.
1	BWC10001	Upper flywheel housing BWC-040-H	1
2	BWC10000	Lower flywheel housing BWC-040-H	1
3	BWC10010	Variable flow control valve, 1/2 in NPT, 0-16 gal/min	1
4	BWC10011	Directional control valve, 1/2 in NPT, 0-16 gal/min	1
5	BWC10009	Lower hitch mount, Cat. 1 only	2
6	BWC10012	Bearing UCF208	2
7	BWC10013	Pulley, upper BWC-040, BWC-060-H	1
8	BWC10014	Pulley, lower BWC-040, BWC-060-H	1
9	BWC10015	V-belt, BWC-040-H	1
10	BWC10016	Hydraulic gear pump, 10 ml/r, keyed shaft	1
11	BWC10017	Pulley, belt tensioner BWC-040, BWC-060-H	1
12	BWC10018	Spring, belt tensioner BWC-040, BWC-060-H	1
13	BWC10019	Eye bolt, belt tensioner BWC-040, BWC-060-H	1
14	BWC10020	Belt tensioner arm BWC-040-H, BWC-060-H	1
15	BWC10021	Bed plate BWC-040-H	1
16	BWC10024	Flywheel locking pin	1
17	BM1012550	Bolt HH M10-1.25x50	1
18	BWC10025	Pin, roller frame	2
19	BWC10026	Belt shield BWC-040-H	1
20	BM121560	Bolt HH M12-1.5x60	1
21	BM121530	Bolt HH M12-1.5x30	3
22	FW12	Washer flat M12	8
23	LN1215	Nut locking M12-1.5	7
24	BM121540	Bolt HH M12-1.5x40	2
25	BM081016	Bolt HH M08-1.0x16	2
26	FW08	Washer flat M08	2
27	BM1012525	Bolt HH M10-1.25x25	3
28	LW10	Washer lock M10	3
29	FW10	Washer flat M10	3
30	BM141535	Bolt HH M14-1.5x35	4
31	FW14	Washer flat M14	12
32	LN1415	Nut locking M14-1.5	4
33	BWC10027	Hitch pin, lower Cat. 1	2
34	LW14	Washer lock M14	4
35	BM1012555	Bolt HH M10-1.25x55	2
36	BWC10028	Hydraulic fluid reservoir	1
37	BM081060	Bolt HH M08-1.0x60	2
38	LN0810	Nut locking M08-1.0	2
39	BWC10006	Base BWC-040-H	1

Frame BWC-040-H

Note: Some shields are removed to show detail. Never operate the wood chipper with shields missing!

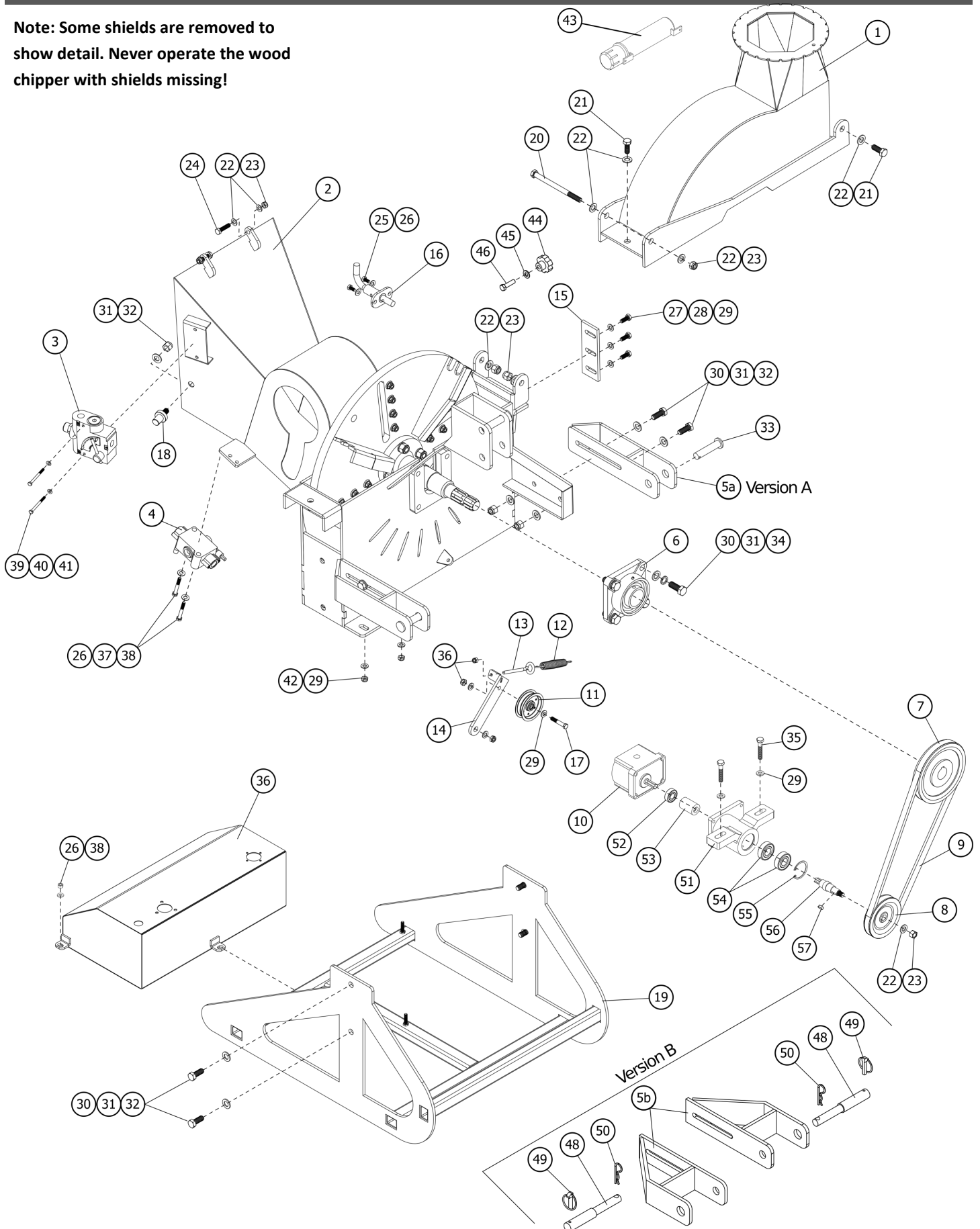


Frame BWC-040-H

Item	Part #	Description	Qty.
40	BM061070	Bolt HH M06-1.0x70	2
41	FW06	Washer flat M06	4
42	LN0610	Nut locking M06-1.0	2
43	LN010125	Nut locking M10-1.25	2
44	MH20000	Manual holder small	1
45	BWC10029	Knob, bed plate	1
46	LW10	Washer, lock M10	1
47	BM101525	Bolt HH M10-1.5x25	1
48	BWC10043	Upper hitch pin	1
49	BWC10268	Bracket for BWC-040H & BWC-060H gear pump	1
50	B6202 2RS	Bearing 6202-2RS	1
51	BWC10269	Shaft coupling	1
52	B6204 2RS	Bearing 6204-2RS	2
53	SRI-47	Snap ring - internal - M47	1
54	BWC10270	Shaft hydraulic pump	1
55	BWC10271	Key - M6 x 16	1

Frame BWC-060-H

Note: Some shields are removed to show detail. Never operate the wood chipper with shields missing!

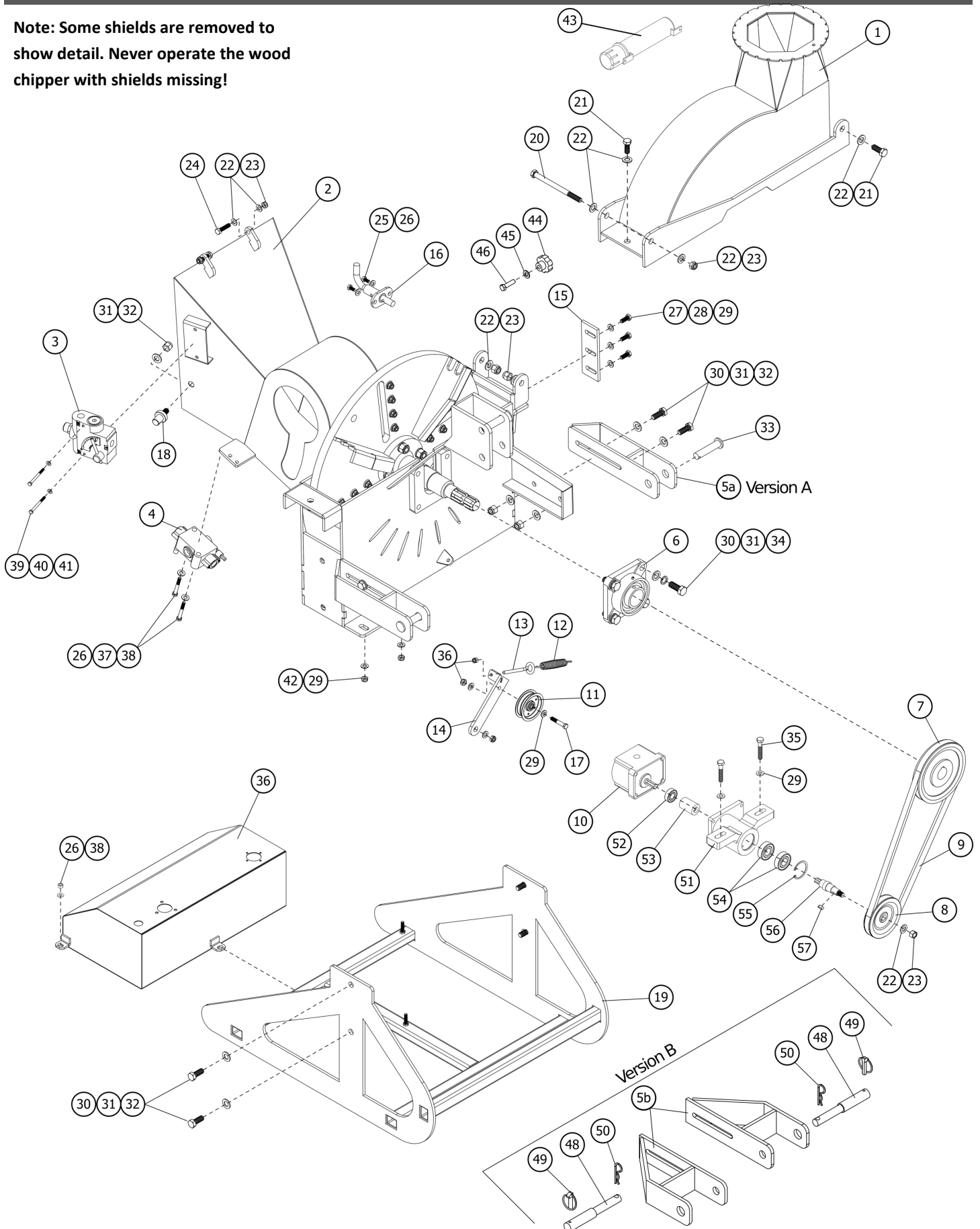


Frame BWC-060-H

Item	Part #	Description	Qty.
1	BWC10003	Upper flywheel housing BWC-060-H	1
2	BWC10002	Lower flywheel housing BWC-060-H	1
3	BWC10010	Variable flow control valve, 1/2 in NPT, 0-16 gal/min	1
4	BWC10011	Directional control valve, 1/2 in NPT, 0-16 gal/min	1
5a	BWC10009	Lower hitch mount, version A Cat. 1 only	2
5b	BWC10122	Lower hitch mount, version B Cat.1/Cat.2 (not used on BWC-040-H)	2
6	BWC10031	Bearing UCF210	2
7	BWC10013	Pulley, upper BWC-040, BWC-060-H	1
8	BWC10014	Pulley, lower BWC-040, BWC-060-H	1
9	BWC10030	V-belt BWC-060-H	1
10	BWC10016	Hydraulic gear pump, 10 ml/r, keyed shaft	1
11	BWC10017	Pulley, belt tensioner BWC-040, BWC-060-H	1
12	BWC10018	Spring, belt tensioner BWC-040, BWC-060-H	1
13	BWC10019	Eye bolt, belt tensioner BWC-040, BWC-060-H	1
14	BWC10020	Belt tensioner arm BWC-040, BWC-060-H	1
15	BWC10022	Bed plate BWC-060-H	1
16	BWC10024	Flywheel locking pin	1
17	BM1012550	Bolt HH M10-1.25x50	1
18	BWC10025	Pin, roller frame	2
19	BWC10007	Base BWC-060-H	1
20	BM121560	Bolt HH M12-1.5x60	1
21	BM121530	Bolt HH M12-1.5x30	3
22	FW12	Washer flat M12	8
23	LN1215	Nut locking M12-1.5	7
24	BM121540	Bolt HH M12-1.5x40	2
25	BM081016	Bolt HH M08-1.0x16	2
26	FW08	Washer flat M08	2
27	BM1012525	Bolt HH M10-1.25x25	3
28	LW10	Washer lock M10	3
29	FW10	Washer flat M10	3
30	BM141535	Bolt HH M14-1.5x35	4
31	FW14	Washer flat M14	12
32	LN1415	Nut locking M14-1.5	4
33	BWC10027	Hitch pin, lower Cat. 1	2
34	LW14	Washer lock M14	4
35	BM1012555	Bolt HH M10-1.25x55	2
36	BWC10028	Hydraulic reservoir	1
37	BM081060	Bolt HH M08-1.0x60	2
38	LN0810	Nut locking M08-1.0	2
39	BM061070	Bolt HH M06-1.0x70	2

Frame BWC-060-H

Note: Some shields are removed to show detail. Never operate the wood chipper with shields missing!

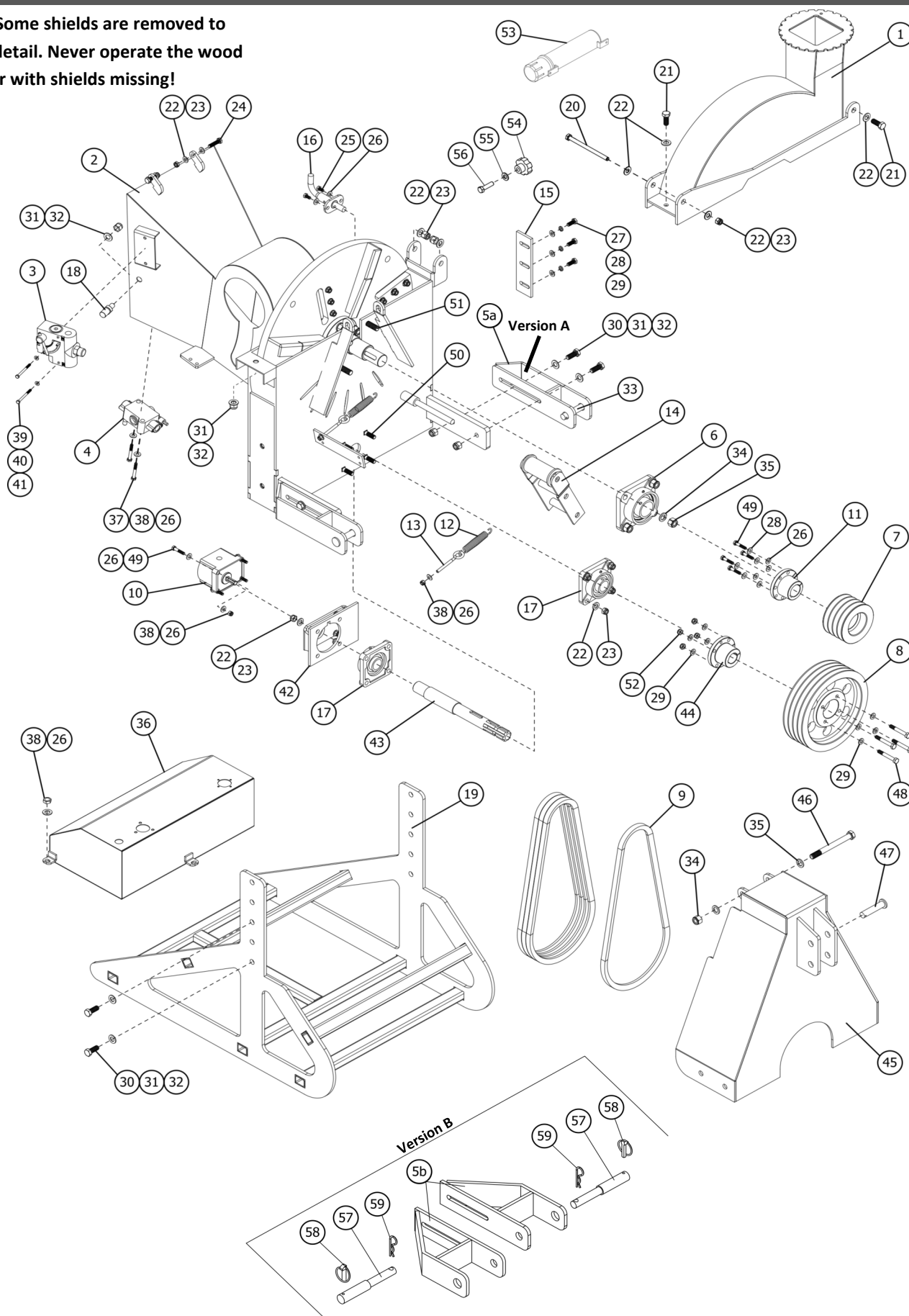


Frame BWC-060-H

Item	Part #	Description	Qty.
40	FW06	Washer flat M06	4
41	LN0610	Nut locking M06-1.0	2
42	LN10125	Nut locking M10-1.25	2
43	MH20000	Manual holder small	1
44	BWC10131	Knob, bed plate	1
45	LW10	Washer, lock M10	1
46	BM101525	Bolt HH M10-1.5x25	1
47	BWC10043	Upper hitch pin	1
48	SA4059	Step pin Cat.1/Cat.2	2
49	LYNPN10	Lynch pin	2
50	RC4	R-clip M4	2
51	BWC10268	Bracket for BWC-040H & BWC-060H gear pump	1
52	B6202 2RS	Bearing 6202-2RS	1
53	BWC10269	Shaft coupling	1
54	B6204 2RS	Bearing 6204-2RS	2
55	SRI-47	Snap ring - internal - M47	1
56	BWC10270	Shaft hydraulic pump	1
57	BWC10271	Key - M6 x 16	1

Frame BWC-080-H

Note: Some shields are removed to show detail. Never operate the wood chipper with shields missing!

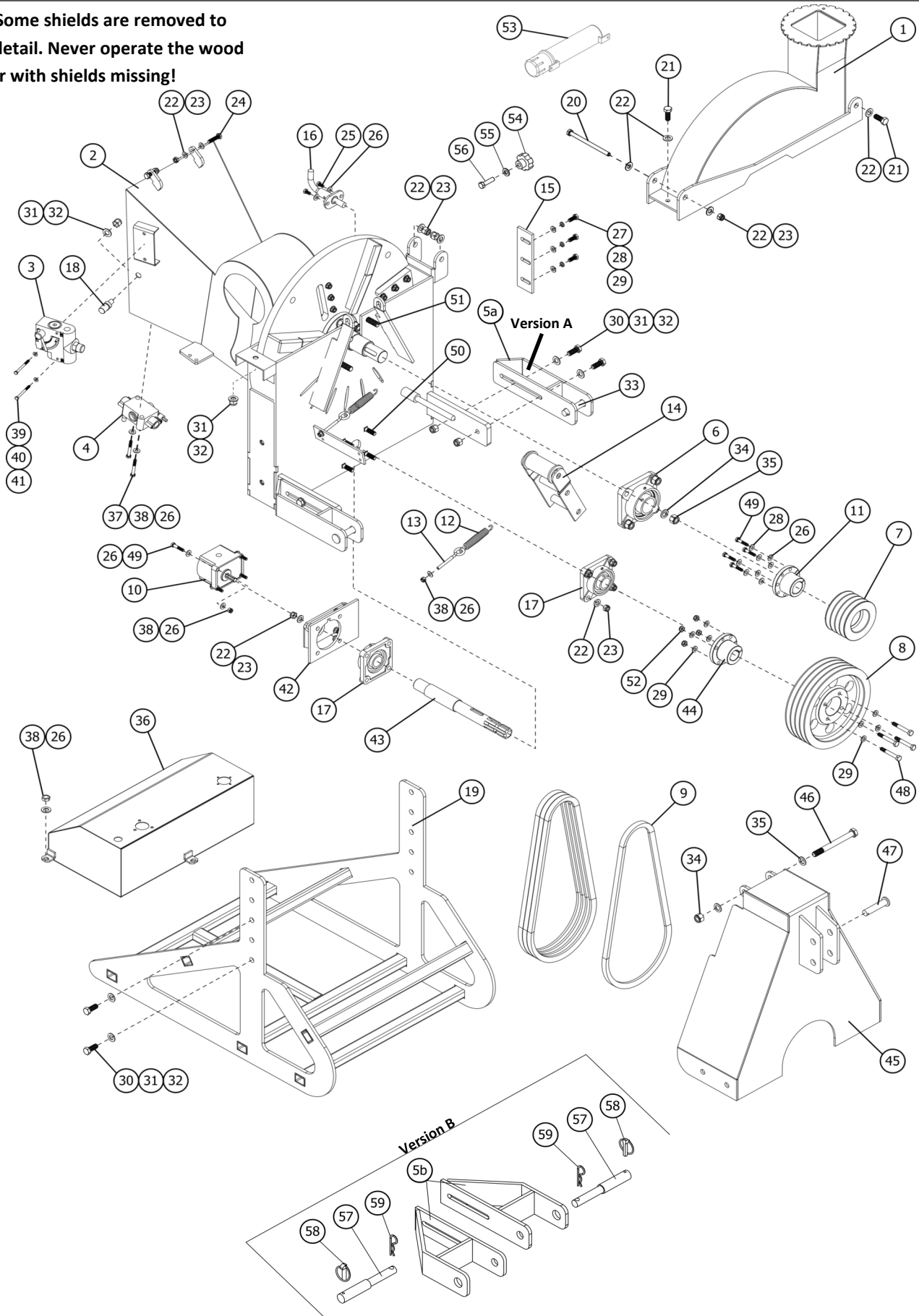


Frame BWC-080-H

Item	Part #	Description	Qty.
1	BWC10005	Upper flywheel housing BWC-080-H	1
2	BWC10004	Lower flywheel housing BWC-080-H	1
3	BWC10010	Variable flow control valve, 1/2 in NPT, 0-16 gal/min	1
4	BWC10011	Directional control valve, 1/2 in NPT, 0-16 gal/min	1
5a	BWC10009	Lower hitch mount, Cat.1 only	2
5b	BWC10122	Lower hitch mount, Cat.1/Cat.2 (not used on BWC-040-H)	2
6	BWC10031	Bearing UCF210	2
7	BWC10032	Pulley, upper BWC-080-H	1
8	BWC10033	Pulley, lower BWC-080-H	1
9	BWC10034	V-belt - BWC-080-H	4
10	BWC10035	Hydraulic gear pump, 10 ml/r, keyed shaft	1
11	BWC10036	Sleeve, upper pulley - BWC-080-H	1
12	BWC10018	Spring, belt tensioner BWC-040, BWC-060-H	2
13	BWC10019	Eye bolt, idler arm	2
14	BWC10037	Belt tensioner arm BWC-080-H	1
15	BWC10023	Bed plate BWC-080-H	1
16	BWC10024	Flywheel locking pin	1
17	BWC10038	Bearing UCFU207	2
18	BWC10025	Pin, roller frame	2
19	BWC10008	Base BWC-080-H	1
20	BM121560	Bolt HH M12-1.5x60	1
21	BM121530	Bolt HH M12-1.5x30	3
22	FW12	Washer flat M12	19
23	LN1215	Nut locking M12-1.5	12
24	BM121540	Bolt HH M12-1.5x40	2
25	BM081016	Bolt HH M08-1.0x16	2
26	FW08	Washer flat M08	2
27	BM1012525	Bolt HH M10-1.25x25	3
28	LW10	Washer lock M10	3
29	FW10	Washer flat M10	3
30	BM141535	Bolt HH M14-1.5x35	4
31	FW14	Washer flat M14	12
32	LN1415	Nut locking M14-1.5	4
33	BWC10027	Hitch pin, lower Cat. 1	2
34	FW16	Washer flat M16	4
35	LN1620	Nut locking M16-2.0	2
36	BWC10028	Hydraulic fluid reservoir	1
37	BM081060	Bolt HH M08-1.0x60	2
38	LN0810	Nut locking M08-1.0	2
39	BM061070	Bolt HH M06-1.0x70	2

Frame BWC-080-H

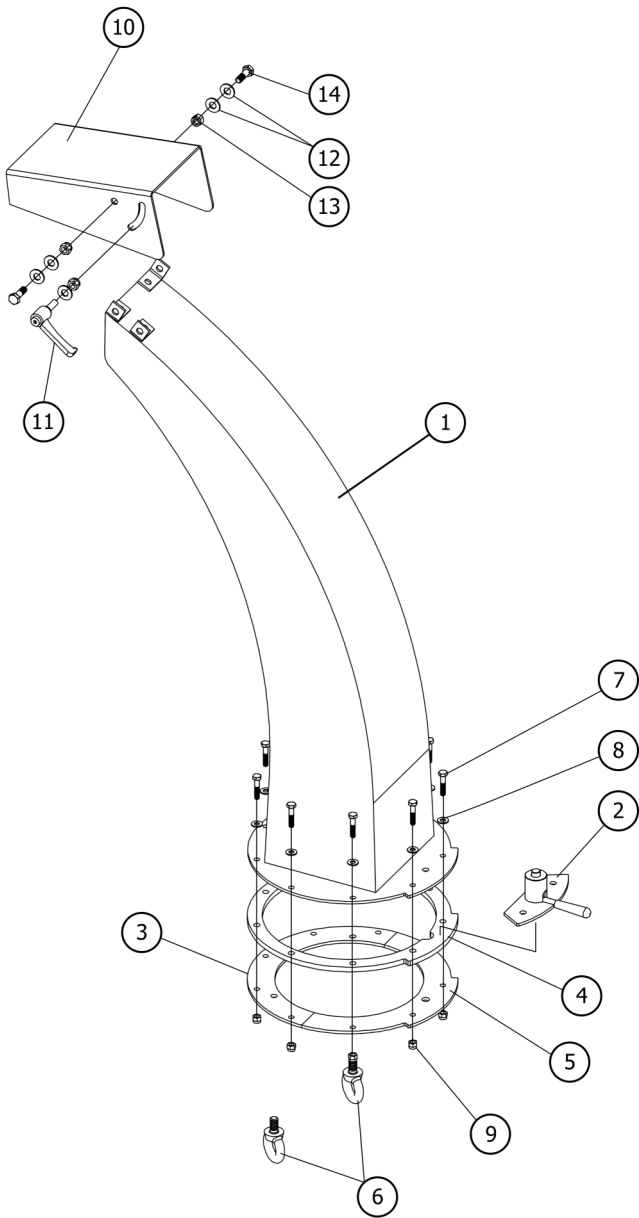
Note: Some shields are removed to show detail. Never operate the wood chipper with shields missing!



Frame BWC-080-H

Item	Part #	Description	Qty.
40	FW06	Washer flat M06	4
41	LNLM0610	Nut locking M06-1.0	4
42	BWC10039	Bracket for BWC-080H gear pump	1
43	BWC10040	Spindle, lower	1
44	BWC10041	Sleeve, lower pulley BWC-080-H	1
45	BWC10042	Belt shield, BWC-080-H	1
46	BM1620160	Bolt HH M16-2.0x160	1
47	BWC10043	Hitch pin, upper	1
48	BM1012570	Bolt HH M10-1.25x70	4
49	BM081040	Bolt HH M08-1.00x40	4
50	CBM121545	Bolt carriage M12-1.5x45	8
51	BWC10044	Screw flat head slotted M16-2.0x40	8
52	NM10125	Nut locking M10-1.25	4
53	MH20000	Manual holder small	1
54	BWC10029	Knob, bed plate	1
55	LW10	Washer, lock M10	1
56	BM101525	Bolt HH M10-1.5x25	1
57	SA4059	Step pin Cat.1/Cat.2	2
58	LYNPN10	Lynch pin	2
59	RC4	R-clip M4	2

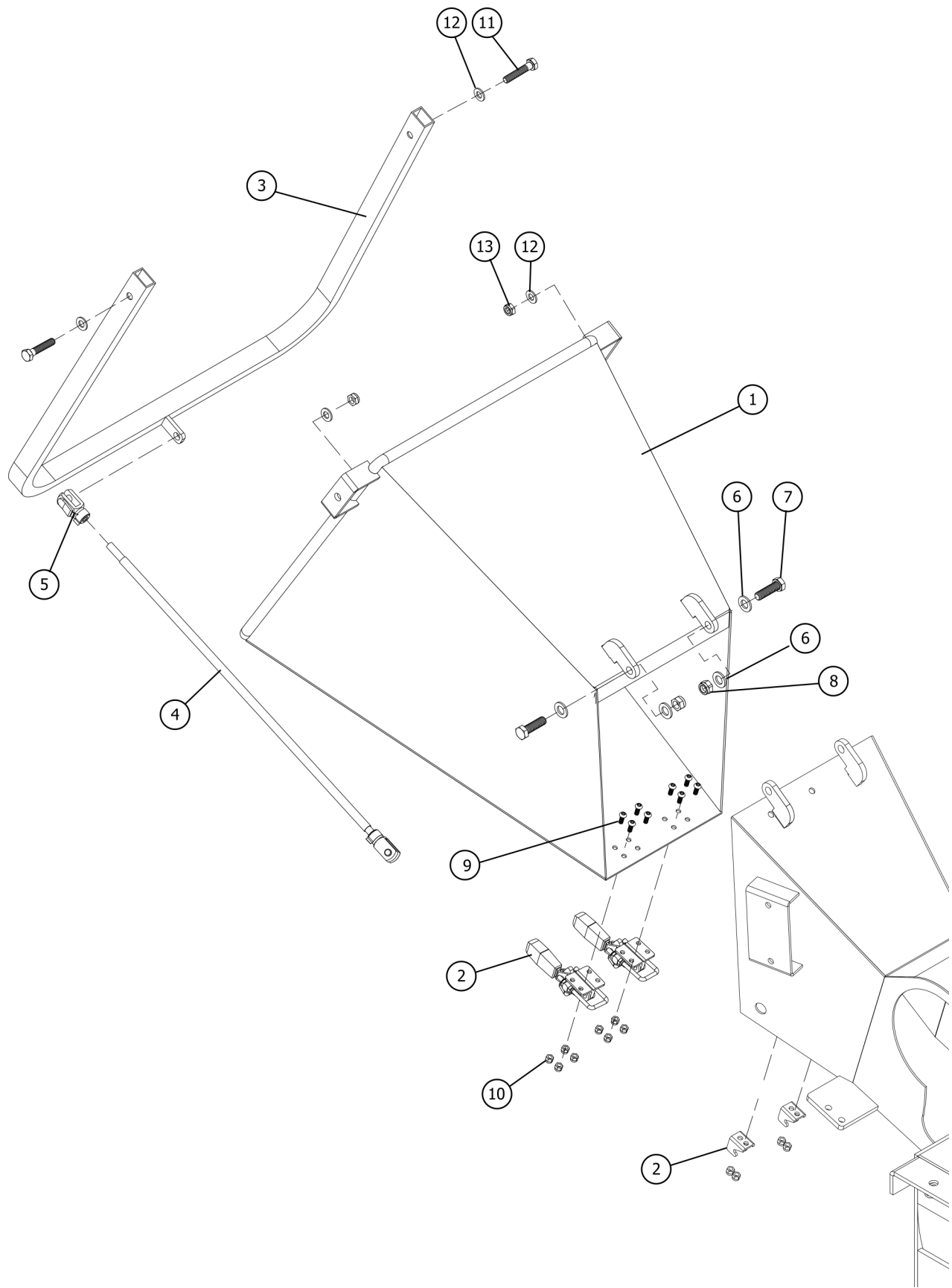
Discharge Chute BWC-040-H, 060-H, 080-H



Discharge Chute BWC-040-H, 060-H, 080-H

Item	Part #	Description	Qty.
1	BWC10045	Discharge chute	1
2	BWC10046	Locking handle, discharge chute	1
3	BWC10047	Lower retainer plate, discharge chute	1
4	BWC10048	Upper retainer plate, discharge chute	1
5	BWC10049	Lower retainer plate, w/handle mount	1
6	BWC10050	Eye bolt, discharge chute	2
7	BM061030	Bolt HH M06-1.0x30	9
8	FW06	Flat washer M06	9
9	LN0610	Locking nut M06-1.0	9
10	BWC10051	Deflector, discharge chute	1
11	BWC10052	Handle, deflector	1
12	FW08	Flat washer M08	5
13	LN08125	Locking nut M08-1.25	3
14	BM0812525	Bolt HH M08-1.25x25	2

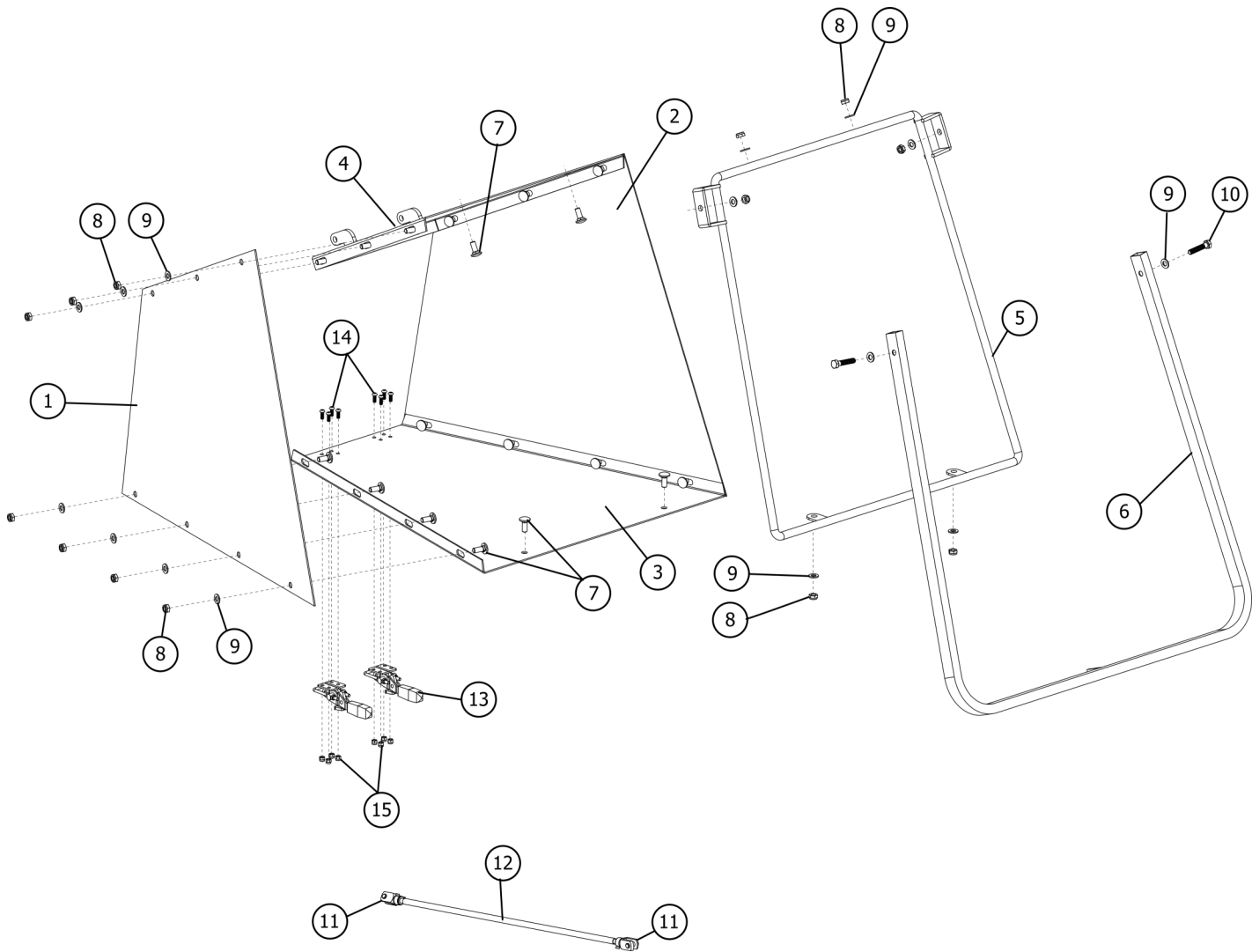
Feed Chute BWC-040-H



Feed Chute BWC-040-H

Item	Part #	Description	Qty.
1	BWC10053	Feed chute BWC-040-H	1
2	BWC10054	Toggle clamp (includes draw arm and latch plate)	2
3	BWC10055	Control arm BWC-040-H	1
4	BWC10056	Control arm rod M10-1.5x603	1
5	BWC10057	Clevis rod end	2
6	FW12	Flat washer M12	4
7	BM1212540	Bolt HH M12-1.25x40	2
8	LN12125	Locking nut M12-1.25	2
9	BWC10058	Button head screw M06-1.0x16	8
10	LN10610	Locking nut M06-1.0	8
11	BM101550	Bolt HH M10-1.5x50	2
12	FW10	Flat washer M10	4
13	LN1015	Locking nut M10-1.5	2

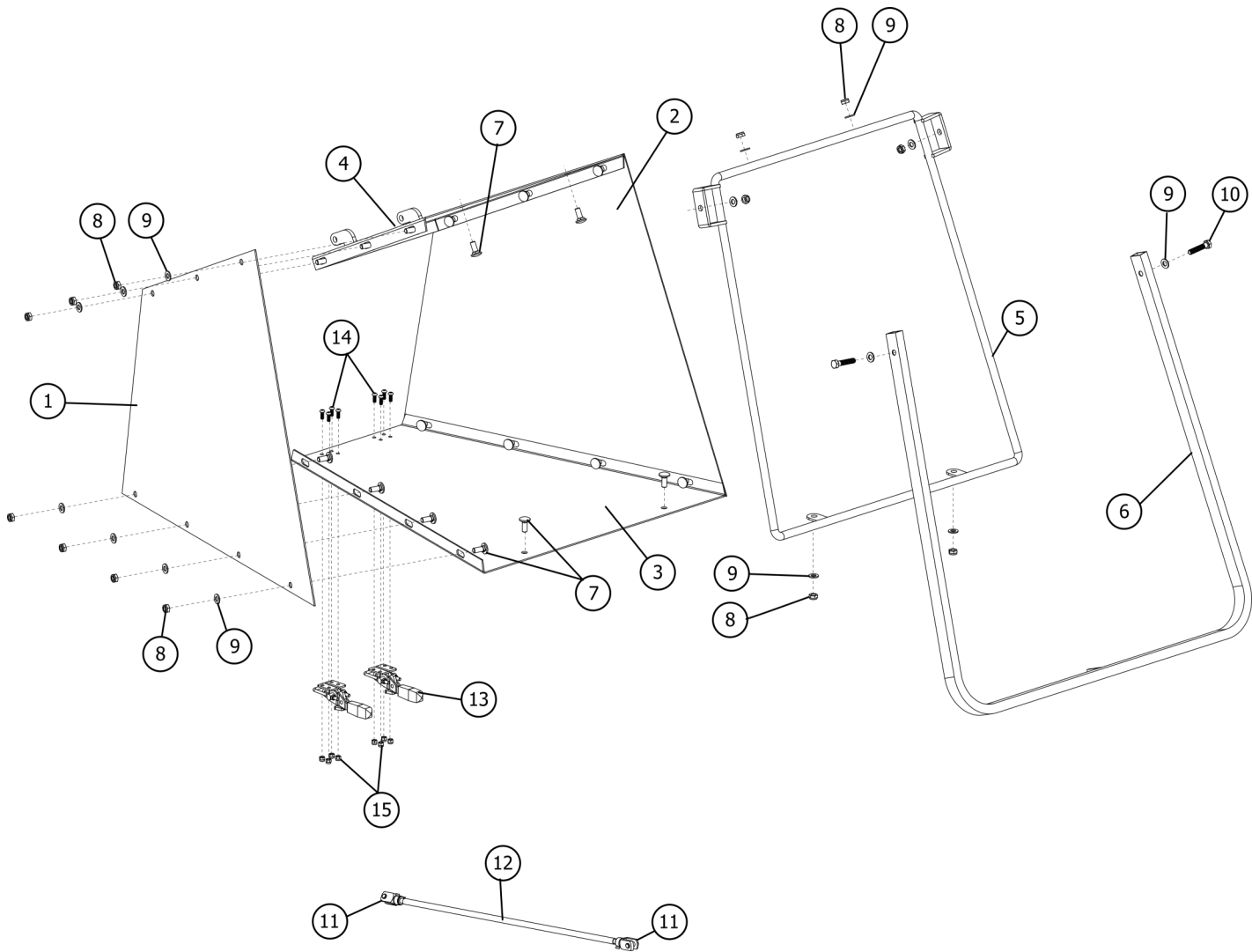
Feed Chute BWC-060-H



Feed Chute BWC-060-H

Item	Part #	Description	Qty.
1	BWC10059	Side panel, LH feed chute BWC-060-H	1
2	BWC10060	Side panel, RH feed chute BWC-060-H	1
3	BWC10061	Bottom panel, feed chute BWC-060-H	1
4	BWC10062	Top panel, feed chute BWC-060-H	1
5	BWC10063	Control arm mount BWC-060-H	1
6	BWC10064	Control arm BWC-060-H	1
7	CBM101525	Carriage bolt M10-1.5x25	18
8	LNM1015	Locking nut M10-1.5	20
9	FW10	Flat washer M10	22
10	BM101550	Bolt HH M10-1.5x50	2
11	BWC10065	Clevis rod end	1
12	BWC10066	Control arm rod M10-1.5x685	1
13	BWC10068	Toggle clamp complete (includes draw arm and latch plate)	2
14	BWC10058	Button head hex drive screw M06-1.0x16	8
15	NM0610	Locking nut M06-1.0	8

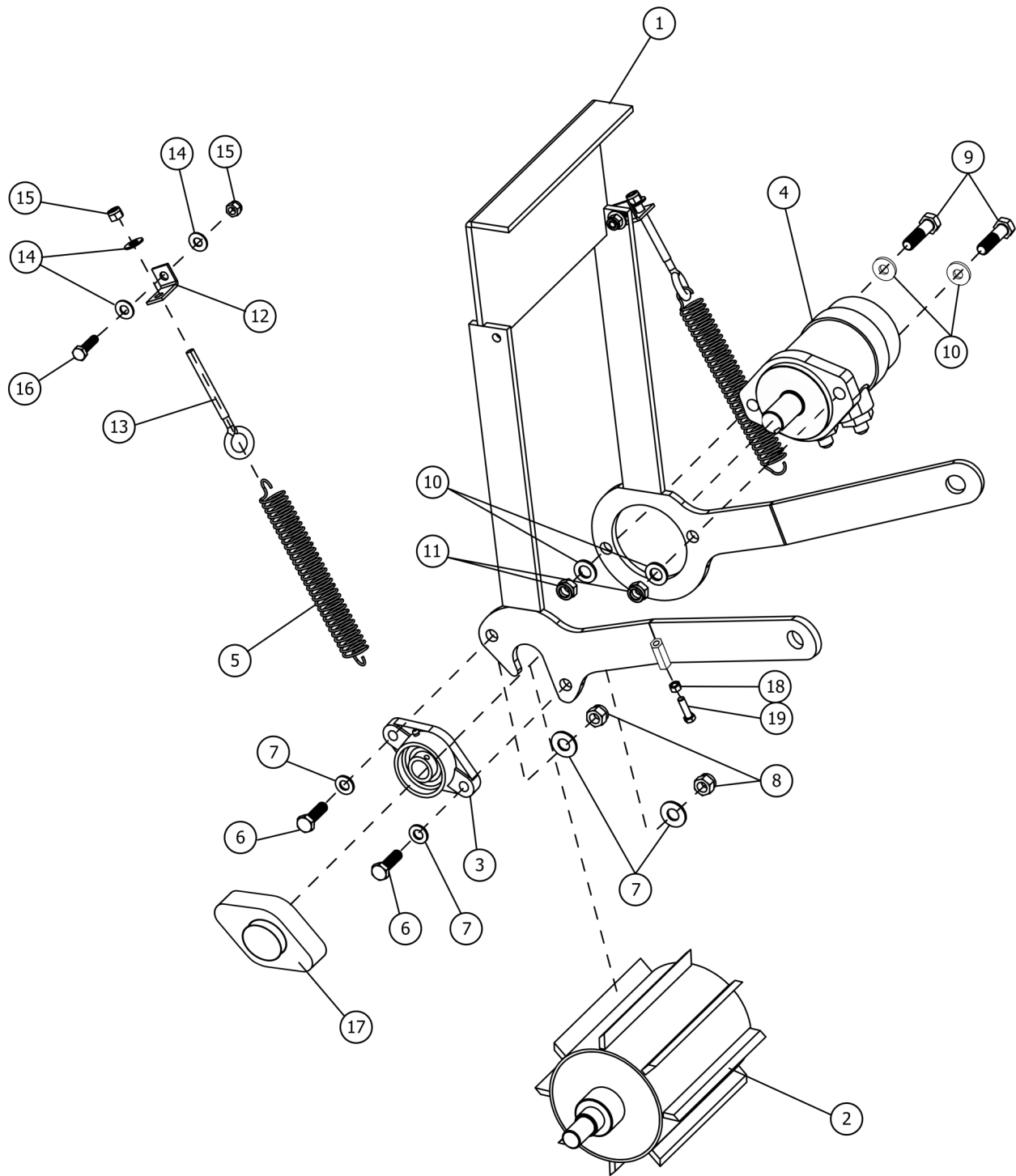
Feed Chute BWC-080-H



Feed Chute BWC-080-H

Item	Part #	Description	Qty.
1	BWC10059	Side panel, LH feed chute BWC-060-H	1
2	BWC10060	Side panel, RH feed chute BWC-060-H	1
3	BWC10061	Bottom panel, feed chute BWC-060-H	1
4	BWC10062	Top panel, feed chute BWC-060-H	1
5	BWC10063	Control arm mount BWC-060-H	1
6	BWC10064	Control arm BWC-060-H	1
7	CBM101525	Carriage bolt M10-1.5x25	18
8	LM1015	Locking nut M10-1.5	20
9	FW10	Flat washer M10	22
10	BM101550	Bolt HH M10-1.5x50	2
11	BWC10065	Clevis rod end	1
12	BWC10066	Control arm rod M10-1.5x685	1
13	BWC10068	Toggle clamp complete (includes draw arm and latch plate)	2
14	BWC10058	Button head hex drive screw M06-1.0x16	8
15	NM0610	Locking nut M06-1.0	8

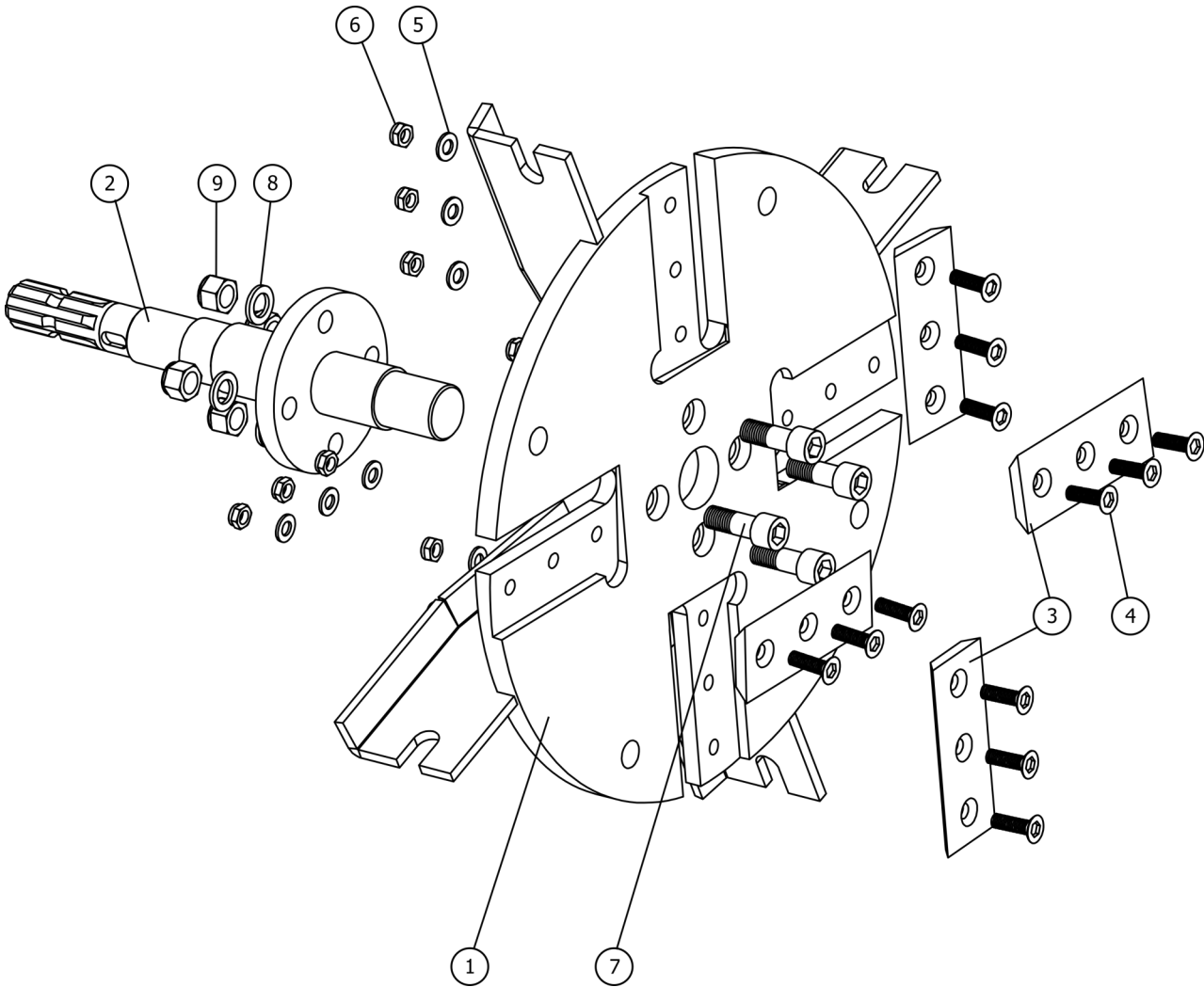
Feed Roller BWC-040-H, 060-H, 080-H



Feed Roller BWC-040-H, 060-H, 080-H

Item	Part #	Description	Qty.
1	BWC10069	Feed roller frame	1
2	BWC10070	Feed Roller	1
3	BWC10071	Bearing	1
4	BWC10072	Hydraulic motor	1
5	BWC10121	Feed roller pull spring	2
6	BM1012535	Bolt HH M10-1.25x35	2
7	FW10	Flat washer M10	4
8	LM10125	Locking nut M10-1.25	2
9	BM1212545	Bolt HH M12-1.25x45	2
10	FW12	Flat washer M12	4
11	LM12125	Locking nut M12-1.25	2
12	BWC10073	Spring tensioner mount	2
13	BWC10074	Eye bolt, roller frame	2
14	FW08	Flat washer M08	6
15	LM08125	Locking nut M08-1.25	4
16	BM0812530	Bolt HH M08-1.25x30	2
17	BWC10075	Bearing cover - feed roller	1
18	NM1215	Nut HH M12-1.5	2
19	BM121565	Bolt HH M12-1.5x65	2

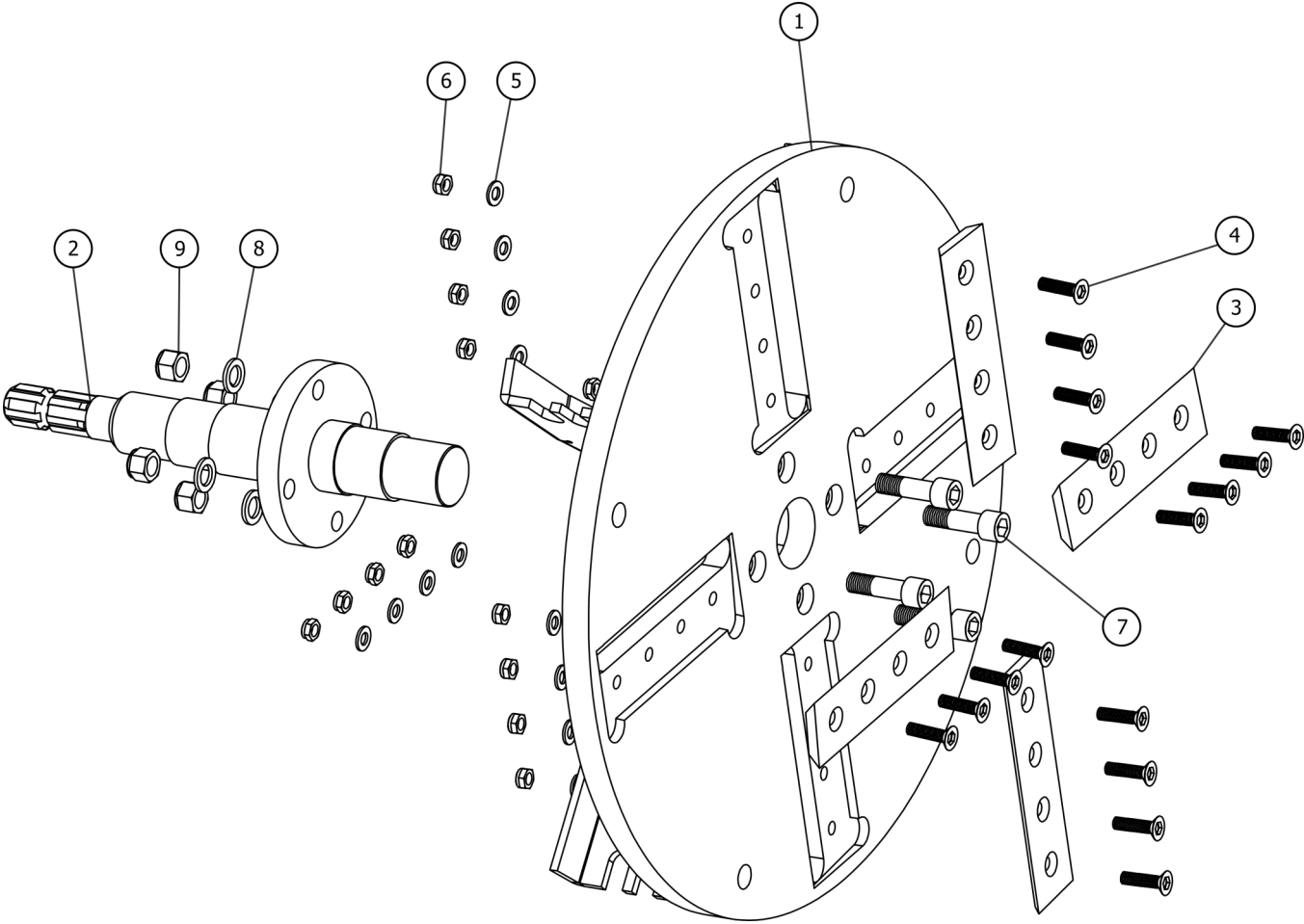
Flywheel BWC-040-H



Flywheel BWC-040-H

Item	Part #	Description	Qty.
1	BWC10076	Flywheel BWC-040-H	1
2	BWC10077	Flywheel shaft BWC-040-H	1
3	BWC10078	Chipper blade 0.472	4
4	SSM101535	Socket screw M10-1.5x35 C10.9	12
5	LW10	Lock washer M10	12
6	LN1015	Self locking nut M10-1.5	12
7	SSM162045	Socket screw M16-2.0x45	4
8	FW16	Flat washer M16	4
9	LN1620	Self locking nut M16-2.0	4

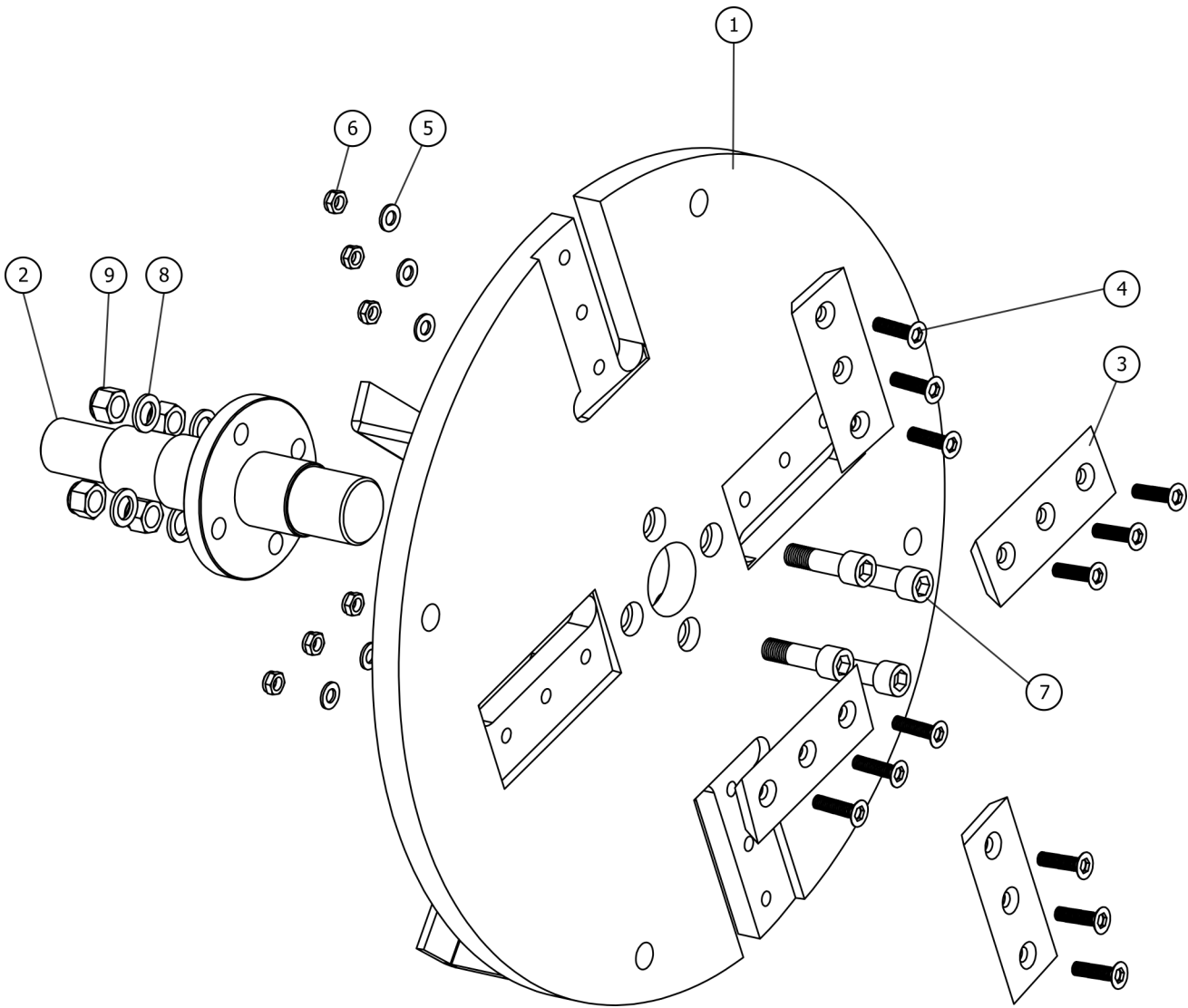
Flywheel BWC-060-H



Flywheel BWC-060-H

Item	Part #	Description	Qty.
1	BWC10079	Flywheel BWC-060-H	1
2	BWC10080	Flywheel shaft BWC-060-H	1
3	BWC10081	Chipper blade 0.688	4
4	SSM101535	Socket screw M10-1.5x35 C10.9	16
5	LW10	Lock washer M10	16
6	LN1015	Self locking nut M10-1.5	16
7	SSM162055	Socket screw M16-2.0x55	4
8	FW16	Flat washer M16	4
9	LN1620	Self locking nut M16-2.0	4

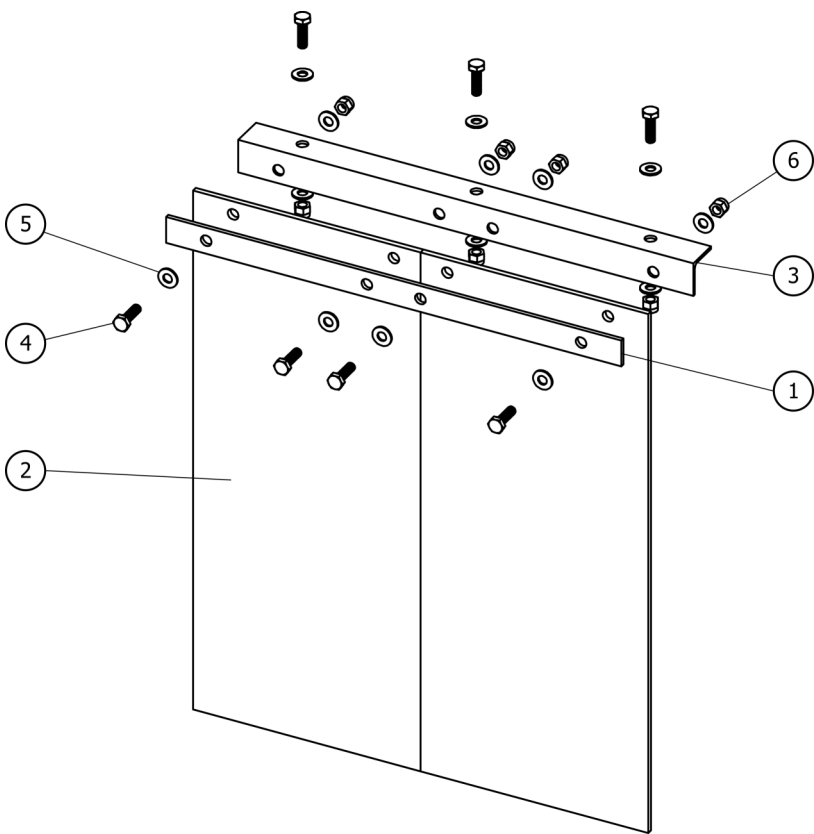
Flywheel BWC-080-H



Flywheel BWC-080-H

Item	Part #	Description	Qty.
1	BWC10082	Flywheel BWC-080-H	1
2	BWC10083	Flywheel shaft BWC-080-H	1
3	BWC10078	Chipper blade 0.472	4
4	SSM101535	Socket screw M10-1.5x35 C10.9	16
5	LW10	Lock washer M10	16
6	LN1015	Self locking nut M10-1.5	16
7	SSM162055	Socket screw M16-2.0x55	4
8	FW16	Flat washer M16	4
9	LN1620	Self locking nut M16-2.0	4

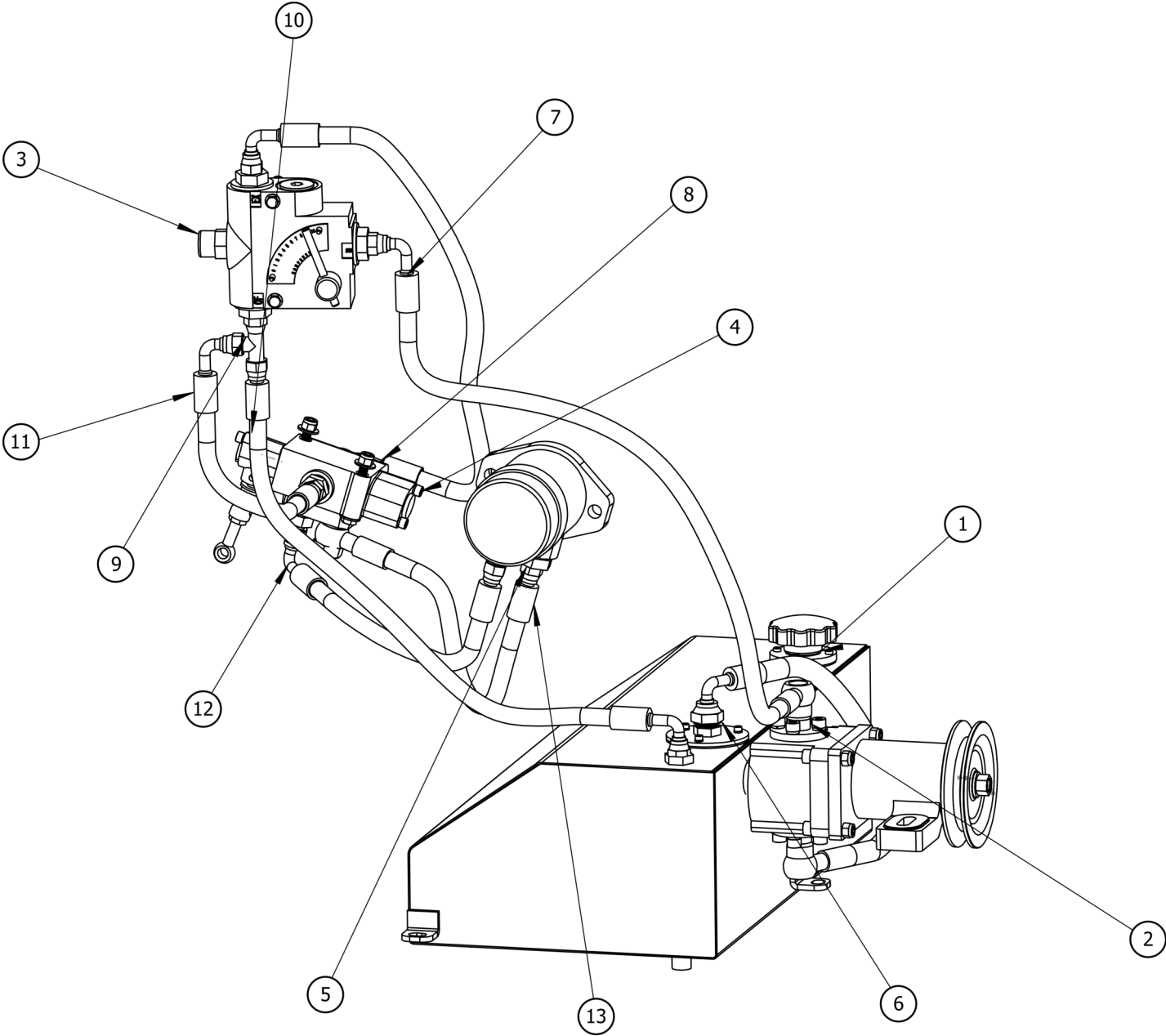
Curtain BWC-040-H, 060-H, 080-H



Curtain BWC-040-H, 060-H, 080-H

Item	Part #	Description	Qty.
1	BWC10084	Curtain bar	1
2	BWC10085	Curtain	2
3	BWC10086	Curtain angle	1
4	BM061020	Bolt M06-1.0x20	7
5	FW06	Flat washer	14
6	LN0610	Locking nut M06-1.0	7

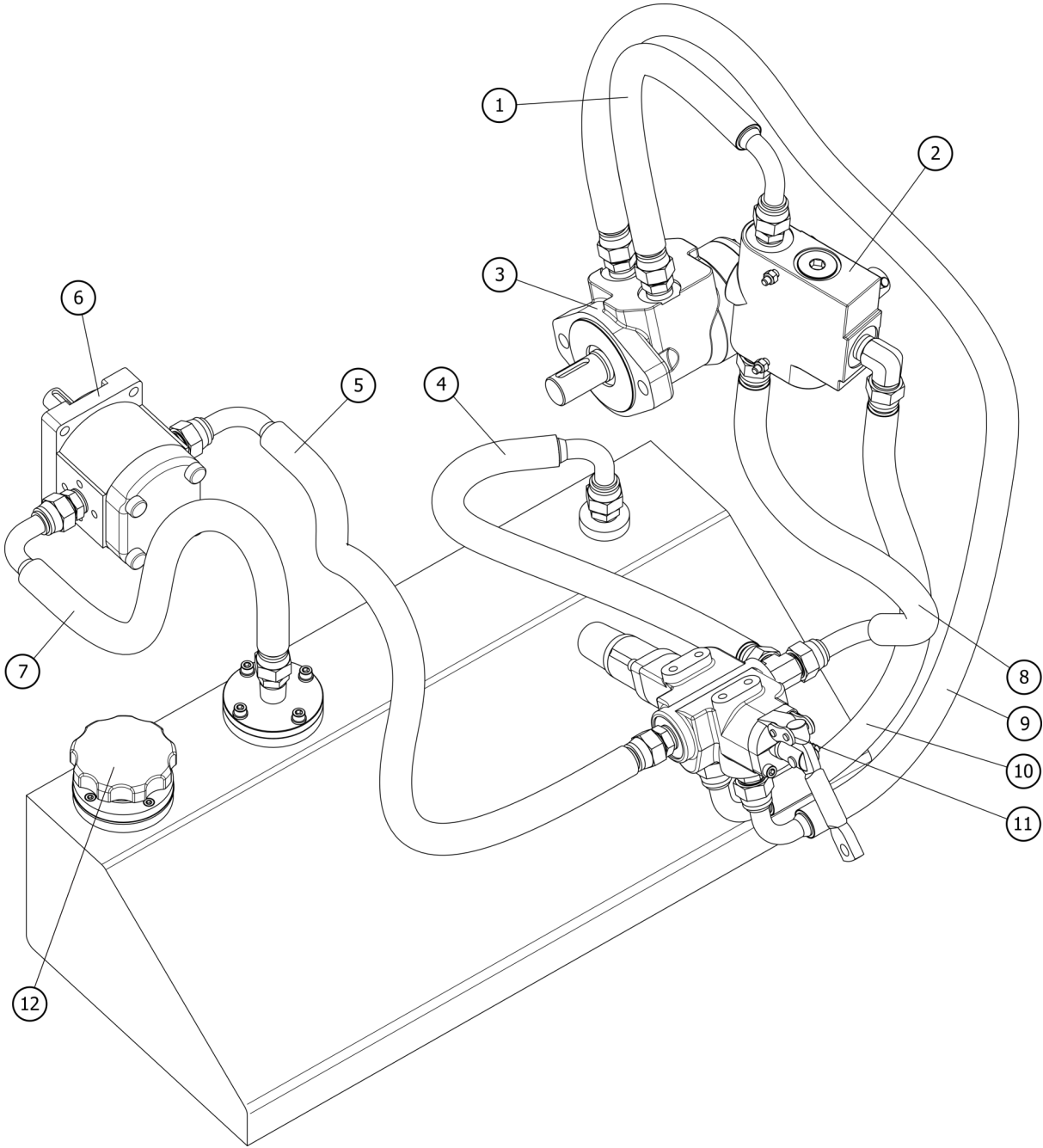
Hydraulic Assembly BWC-040-H, 060-H



Hydraulic Assembly BWC-040-H, 060-H

Item	Part #	Description	Qty.
1	BWC10028	Hydraulic fluid reservoir	1
2	BWC10016	Hydraulic gear pump, 10 ml/r, keyed shaft	1
3	BWC10010	Variable flow control valve, 1/2 in NPT, 0-16 gal/min	1
4	BWC10011	Directional control valve, 1/2 in NPT, 0-16 gal/min	1
5	BWC10072	Hydraulic motor	1
6	BWC10260	Pump inlet hose	1
7	BWC10261	Pump outlet hose	1
8	BWC10262	Control valve inlet hose	1
9	BWC10263	Hydraulic tee	1
10	BWC10264	Oil return hose	1
11	BWC10265	Control valve outlet hose	1
12	BWC10266	Motor inlet hose	1
13	BWC10767	Motor flowline hose	1

Hydraulic Assembly BWC-080-H

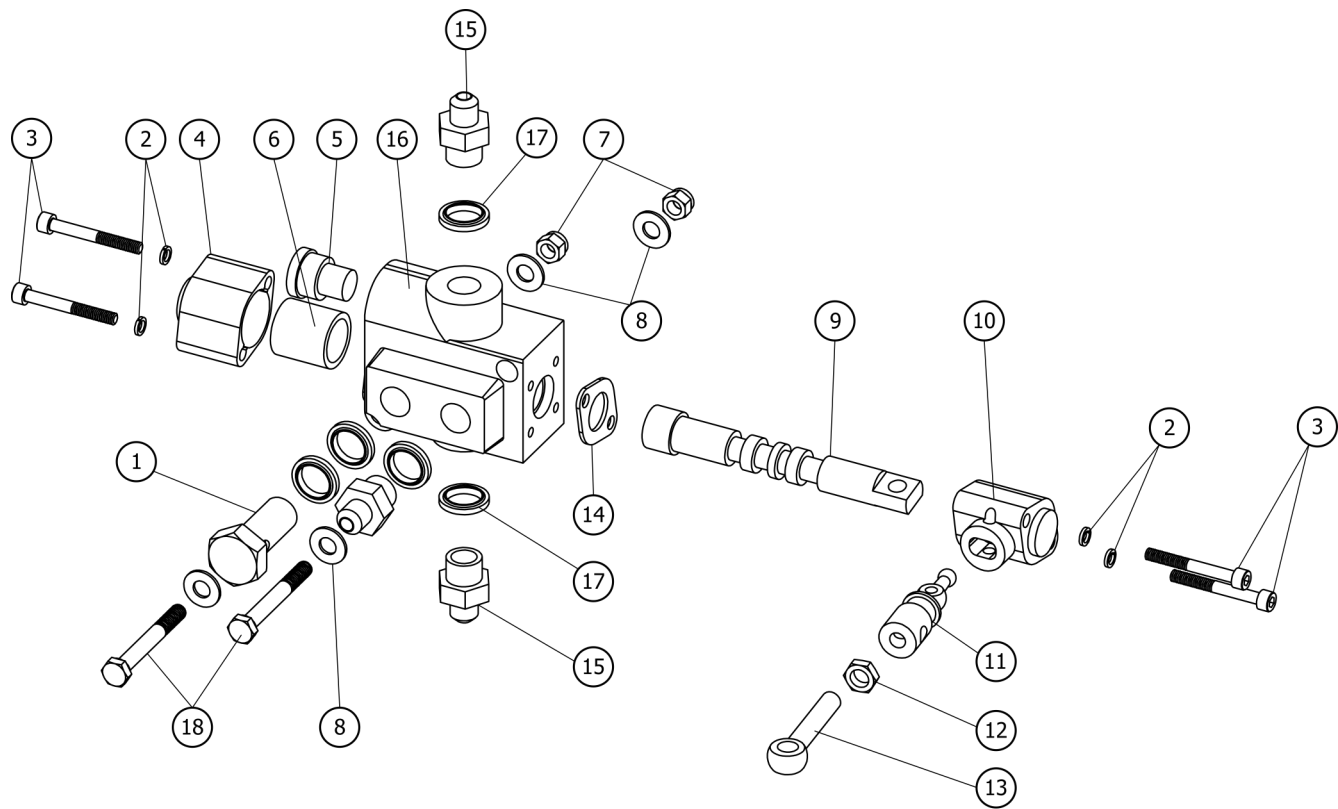


Hydraulic Assembly BWC-080-H

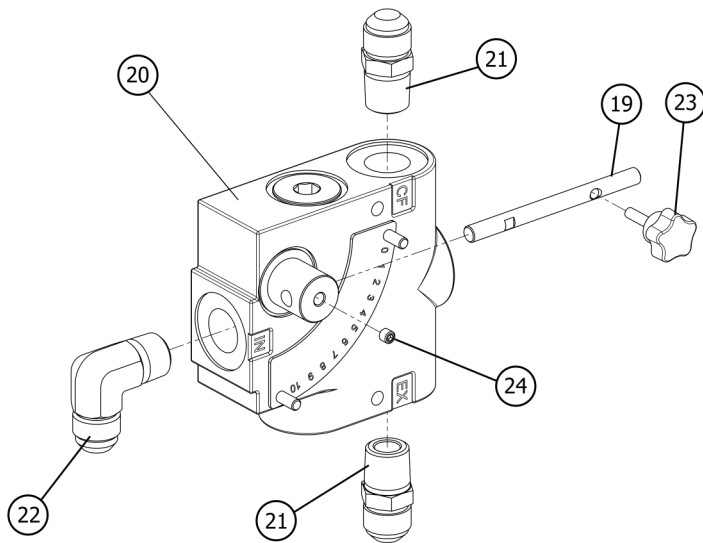
Item	Part #	Description	Qty.
1	BWC10087	Hydraulic hose assembly, STR and ELB fittings, 350mm LG (<i>BWC-040/060H</i>)	1
	BWC10188	Hydraulic hose assembly, STR and ELB fittings, 500mm LG (<i>BWC-080H</i>)	1
2	BWC10089	Variable flow control valve, 1/2in NPT, 0-16 gal/min	1
3	BWC10090	Hydraulic motor, CW, 154cc [9.4 in ³ /rev], 2-hole in NPT aligned ports, 25mm SFT	1
4	BWC10091	Hydraulic hose assembly, STR and ELB fittings, 500mm LG	1
5	BWC10092	Hydraulic hose assembly, STR and ELB fittings, 800mm LG (<i>BWC-040/060H</i>)	1
	BWC10093	Hydraulic hose assembly, STR and ELB fittings, 500mm LG (<i>BWC-080H</i>)	
6	BWC10016	Hydraulic gear pump, 10 mL/r, keyed shaft (<i>BWC-040/060H</i>)	1
	BWC10035	Hydraulic gear pump, 10 mL/r, splined shaft (<i>BWC-080H</i>)	
7	BWC10096	Hydraulic hose assembly, STR and ELB fittings, 500mm LG (<i>BWC-040/060H</i>)	1
	BWC10097	Hydraulic hose assembly, STR and ELB fittings, 350mm LG (<i>BWC-080H</i>)	
8	BWC10098	Hydraulic hose assembly, STR and ELB fittings, 350mm LG	1
9	BWC10099	Hydraulic hose assembly, STR and ELB fittings, 1450mm LG	1
10	BWC10100	Hydraulic hose assembly, STR and ELB fittings, 600mm LG	1
11	BWC10101	Directional control valve, 1/2 NPT	1
12	BWC10243	Hydraulic reservoir cap	1

Hydraulic Control Valves BWC-040-H, 060-H, 080-H

Directional Control Valve



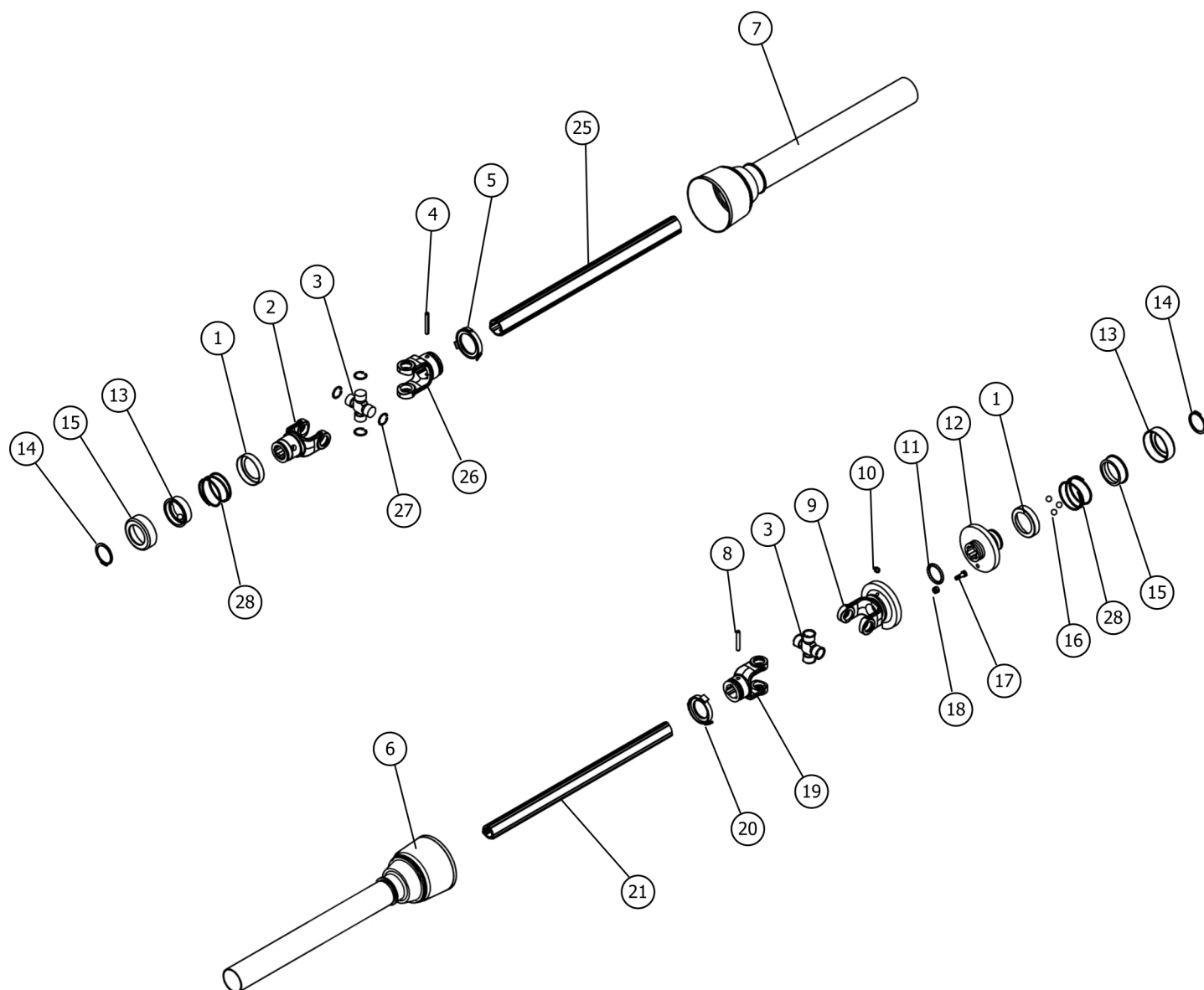
Variable Flow Control Valve



Hydraulic Control Valves BWC-040-H, 060-H, 080-H

Item	Part #	Description	Qty.
1	BWC10244	Hollow bolt M18	1
2	LW06	Washer lock M06	4
3	BWC10245	Hex socket cylindrical screw M6x50	4
4	BWC10246	Control valve cover 1	1
5	BWC10247	Control valve plug	1
6	BWC10248	Control valve sleeve	1
7	BWC10259	Locknut M8	2
8	FW08	Washer flat M08	4
9	BWC10249	Control valve connecting rod	1
10	BWC10250	Control valve cover 2	1
11	BWC10251	Control valve connecting rod	1
12	BWC10252	Nut M10	1
13	BWC10253	Bolt M10x50	1
14	BWC10254	Control valve lock plate	2
15	BWC10255	Control valve adaptor	3
16	BWC10256	Control valve block	1
17	BWC10257	Composite washer 18	5
18	BWC10258	Bolt M8x65	2
19	BWC10120	Lever arm, directional control valve	1
20	BWC10010	Variable control valve, 1/2 in NPT, 0-16 gal/min	1
21	BWC10108	Adaptor 1/2" NPT male to 7/8"-14 UNF female	2
22	BWC10117	Elbow 90 deg. 1/2 NPT to 7/8"-14	1
23	BWC10119	Knob, multi-lobe, 25mm OD, M06-1.0x20	1

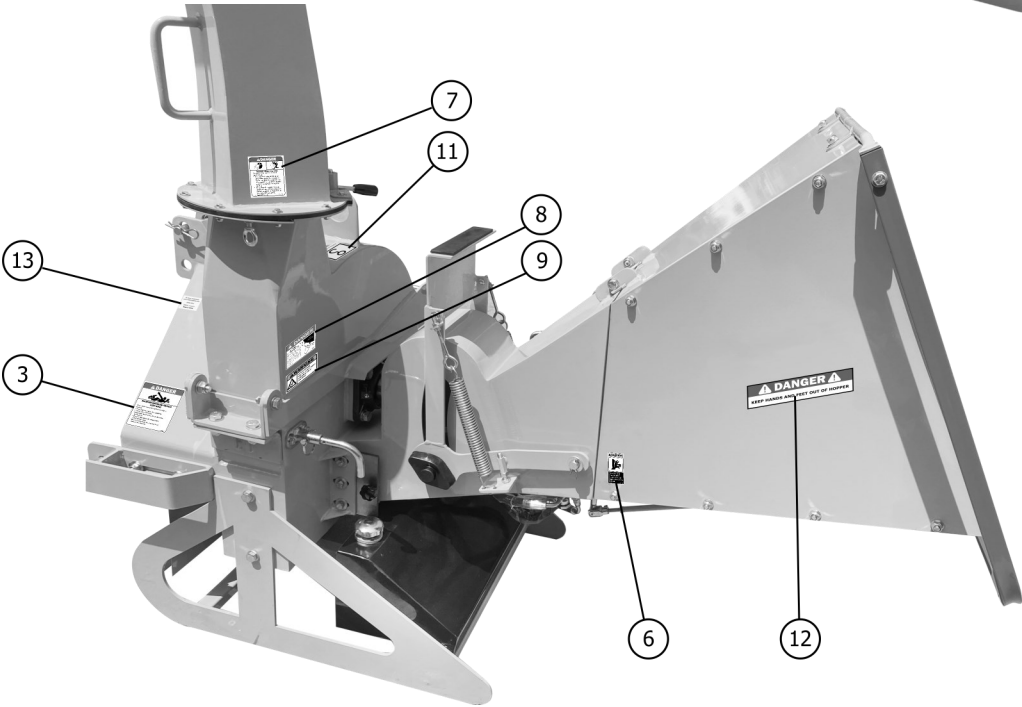
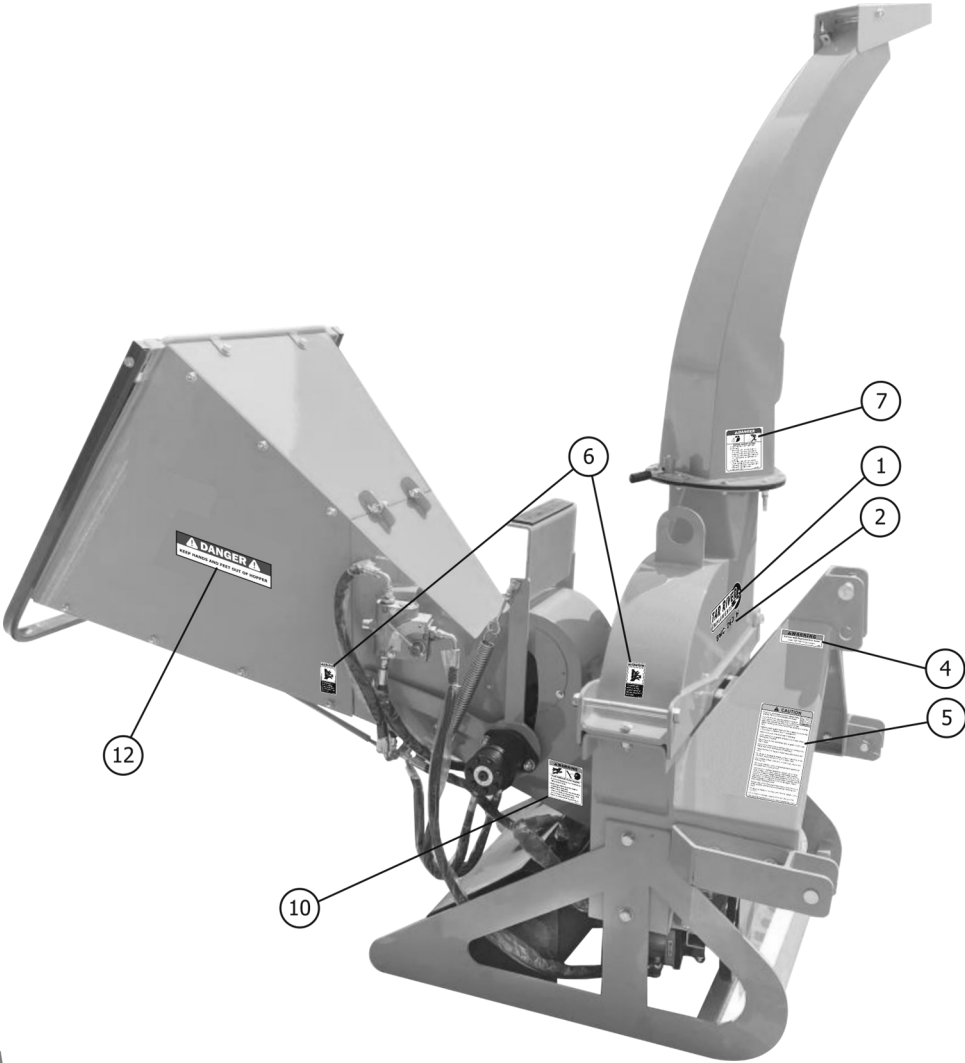
Driveline



Driveline

Item	Part #	Description	Qty.
1	BWC10130	Drive shaft fork cover	2
2	BWC10239	Drive shaft fork	1
3	BWC10132	Cross section bearing	2
4	BWC10133	Elastic cylindrical pin 8x60	1
5	BWC10134	T4 external buckle	1
6	BWC10135	PTO inner tube, BWC (implement end)	1
7	BWC10136	PTO outer tube, BWC (tractor end)	1
8	BWC10137	Elastic cylindrical pin 8x55	1
9	BWC10138	Drive shaft fork 1	1
10	BWC10139	Grease fitting M8x1	1
11	BWC10140	Steel ball 6mm	24
12	BWC10141	Drive shaft fork flange 2	1
13	BWC10142	Drive shaft fork cover 3	2
14	BWC10143	Retaining ring for shaft 50	2
15	BWC10144	Drive shaft fork cover 2	2
16	BWC10145	Steel ball 12.7mm	6
17	BWC10146	Safety bolt M8×25	1
18	BWC10147	Lock nut M8	1
19	BWC10148	Drive shaft fork 3	1
20	BWC10149	T4 inner buckle	1
21	BWC10150	T4-1000 cat face inner tube	1
22			
23			
24			
25	BWC10154	T4-1000 cat face outer tube	1
26	BWC10155	Drive shaft fork 2	1
27	BWC10156	Snap ring	8
28	BWC10157	Drive shaft fork cover spring	2
-	BWC10129	PTO complete, BWC Wood Chipper	1

BWC Decals



BWC Decals

Item	Part #	Description	Qty.
1	D1015	Decal Logo "Tar River" small	1
2	-	Decal Model # "BWC-040-H"	1
	-	Decal Model # "BWC-060-H"	1
	-	Decal Model # "BWC-080-H"	1
3	RT1007	Decal Danger Rotating Driveline	1
4	D960	Decal Warning, "Cancer"	1
5	Z940006	Decal Caution "Read Manual"	1
6	9270112	Decal Caution "Avoid Crushing"	3
7	Z94008	Decal Danger "Thrown Object Hazard"	2
8	Z94007	Decal Danger "Rotating Blades"	1
9	RT1004	Decal Warning "Safety Shield"	1
10	Z94005	Decal Warning "High Pressure Fluid Hazard"	1
11	-	Decal "Lifting Point"	1
12	D1322	Decal Danger "Keep Hands/Feet Out of Hopper"	2
13	-	Decal Serial Tag	1

BWC Decals



1 - D1015 Decal Logo "Tar River"

BWC-040-H
BWC-060-H
BWC-080-H

2 - Decal Model #



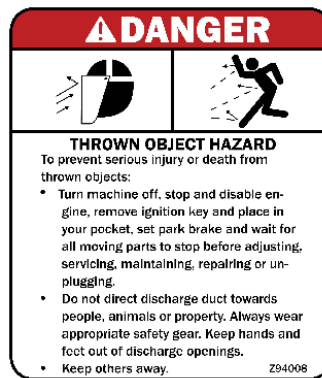
3 - RT1007 Decal Danger Rotating



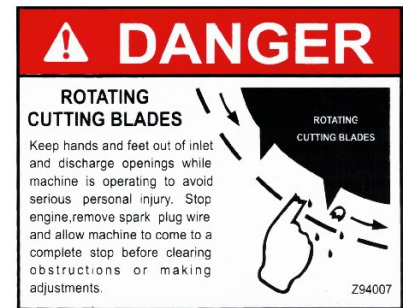
4 - P960 Decal Warning



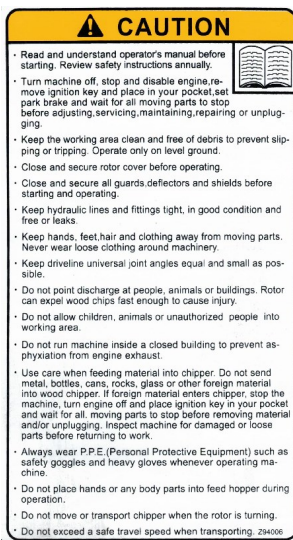
6 - 9270112 Decal Caution "Avoid



7 - Z94008 Decal Danger "Thrown Object Hazard"



8 - Z94007 Decal Danger "Rotating Blades"



5 - Z94006 Decal Caution "Read Manual"



10 - Z94005 Decal Warning "High Pressure"



11 - Z94005 "Lifting point for crane!"



9 - RT1004 Decal Warning "High Pres-



13 - Decal Serial Tag



12 - D1322 Decal Danger "Keep Hands/Feet Out of Hopper"

Warranty

LIMITED WARRANTY

Belco Resources Equipment warrants to the original purchaser of any new piece of machinery from Belco Resources Equipment, purchased from an authorized Belco Resources Equipment 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, ninety (90) days for commercial use from date of retail sale. Warranty for rental purposes is thirty (30) days. The obligation of Belco Resources Equipment 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 Belco Resources Equipment dealer during regular working hours. Belco Resources Equipment reserves the right to inspect any equipment or parts, which are claimed to have been defective in material or workmanship.

This limited warranty does not apply to and excludes wear items such as shear pins, tires, tubes knives, blades or other wear items. Oil or grease is not covered by this warranty.

All obligations of Belco Resources Equipment under this limited warranty shall be terminated if:

- Proper service is not performed on the machine.

- The machine is modified or altered in any way.

- The machine is being used or has been used for purposes other than those for which the machine was intended.

DISCLAIMER OF IMPLIED WARRANTIES & CONSEQUENTIAL DAMAGES

Belco Resources Equipment 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 Belco Resources Equipment; 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.

REGISTRATION

The online Warranty Registration must be completed in order to qualify for coverage on this Limited Warranty. Visit br-equipment.com, click on "Warranty Registration" and completely fill out the form to register the new piece of equipment.



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