

TABLE OF CONTENTS




	PAGES
INTRODUCTION & WARRANTY	2
SERIAL NUMBER LOCATION	6
SAFETY PROCEDURES	7
EQUIPMENT SPECIFICATIONS	13
DECALS	14
CONTROLS.....	17
TRANSPORTATION PROCEDURES	19
MAINTENANCE	21
CHIPPER SECTION	33
LUBRICATION & COOLANT.....	36
REPLACEMENT PARTS SECTION	37
INFEED HOPPER COMPONENTS	38
CHIPPER COMPONENTS	40
CHIPPER KNIFE & HARDWARE	42
ANVIL & HARDWARE	43
FRAME & ACCESSORY COMPONENTS	44
PTO COMPONENTS	48
SERVICE RECORD	50

NOTICE

ANY PART, PORTION, DESIGN, NUMBER, SPECIFICATION, AND/OR DIMENSION IN THIS MANUAL IS SUBJECT TO CHANGE WITHOUT NOTICE BY THE MANUFACTURER.

INTRODUCTION

The purpose of this manual is to provide the user with specifications and procedures for the operation, maintenance and repair of this BANDIT product. As with any piece of equipment, safety should always be a constant thought while the machine is being operated, serviced or stored. In order to highlight this consideration, the material which addresses safety is preceded by the following signal words:

Signal Word	Likelihood of Occurrence	Degree of Potential Injury or Damage
 DANGER	Will occur if warning is ignored	Severe
 WARNING	Can occur if warning is ignored	Severe
 CAUTION	Will or can occur if warning is ignored	Minor to Severe
NOTICE	Important, but not hazard related	Minor

The equipment is designed and manufactured in accordance with the latest product industry standards. This alone does not prevent injury. It is the operator's responsibility to use good judgement and follow the warnings and instructions as indicated in this manual, on the machine and follow all safety standards per ANSI and OSHA instructions.

WARNING

Improper use of the product can result in severe personal injury. Personnel using the equipment must be qualified, trained and familiar with the operating procedures as defined in this manual, prior to operating the product.

WARNING

It is the responsibility of the owner or employer to insure that the operator is trained and practices safe operation while using and servicing the machine. It is also the owner's responsibility to provide and follow a regularly scheduled preventative maintenance and repair program on the product, using only factory approved replacement parts. Any unapproved repairs or modifications may not only damage the machine and its performance, but could result in severe personal injury. Unapproved repairs or modifications will void warranty and eliminate manufacturer of any liability claims. Consult the equipment manufacturer!!!

Each machine is shipped with a manual, a customer's check sheet on the product, and any available parts & service manuals on component parts not produced by this manufacturer. Additional copies of these manuals and check sheets can be purchased from the manufacturer, or through the dealer. Engine parts, service and maintenance manuals **MUST** be purchased through the engine manufacturer or their dealer.

NOTICE

The producer of this Bandit product reserves the right to make any modifications or revisions to the design or specifications of its machine without advance notice. The producer also reserves the right to change machine and part prices as needed without advance notice.

BANDIT INDUSTRIES, INC.

EXPLANATION OF LIMITED WARRANTY

The manufacturer will not reimburse the customer or dealer labor costs incurred for installing “bolt-on” or “slip-on” items, such as hydraulic pumps and motors, control valves, flow dividers, belts, sheaves, etc. The manufacturer will provide replacement parts to the customer for defective parts during the warranty period. **Defective parts must be returned to Bandit Industries, Inc.** It will be the customer’s responsibility to install the replacement parts unless arrangements are made with the selling dealer.

The manufacturer will not reimburse travel costs to servicing dealer unless prior approval has been obtained from the manufacturer. It is the customer’s responsibility to deliver the machine to dealer’s service facility, unless other arrangements have been agreed to between selling dealer and customer.

The manufacturer may elect, at its discretion, to reimburse reasonable labor costs to customer or dealer for major defect repairs. Diagnostic labor and overtime labor will not be covered under warranty. Prior approval must be obtained from Bandit Industries, Inc.

There are several forms that must be completely filled out and returned to us in reference to our portion of warranty. Read and understand the Bandit Limited Warranty responsibilities. Some components on your machine are covered by their respective manufacturers and cannot be handled through Bandit Industries as stated in Warranty Section of this manual.

Use this manual to help you resolve what and where your problem is, in most cases you can fix it easily. If you still have problems, work through the dealer you purchased the machine through, or contact Bandit Industries direct if needed.

Make sure the following forms are used, for us as well as you, to keep track of service and pending warranty request. It is our company policy that all parts shipped out will be invoiced until the possible warranty parts are returned with a Warranty Claim Form completed for consideration.

Make sure the Warranty Validation Form is completed and sent in to us as soon as you receive the Bandit. This will activate our warranty responsibilities.

If Warranty Validation Form is not on file, all Warranty consideration is null and void.

NOTICE

Prior to delivery to final owner and during storage, this machine must be serviced and lubricated to avoid damage that will not be covered under warranty, see “Lubrication & Coolant” page.

Also, damage or premature failure of equipment components because of incorrect or incomplete service and maintenance by the equipment owner will not be covered under warranty.

All controls, safety devices, guards, and shields must be correctly operational and securely in place at all times during equipment operation.

Bandit

BANDIT INDUSTRIES INC. LIMITED WARRANTY (989) 561-2270

Bandit Industries Inc., also referred to as “Manufacturer” warrants this new product to be free of defects in workmanship and material for a period of 1 year or 2000 operating hours, whichever ever comes first.

This warranty takes effect upon delivery to the original retail purchaser. The manufacturer at its option will replace or repair at a point designated by the manufacturer, any parts which appear to have been defective in material or workmanship. The manufacturer is not responsible for labor, consequential damages, traveling or down time expenses.

This warranty and any possible liability of Bandit Industries Inc., is expressly in lieu of any other warranties, expressed or implied, including but not limited to, any implied warranty or merchantability of fitness for a particular purpose and of any noncontractual liabilities including product liabilities based upon negligence or strict liability. Bandit Industries Inc., will not be liable for consequential damages resulting from breach of warranty.

All parties involved agree that the Owner’s Sole and Exclusive Remedy against the Manufacturer, whether in contract or arising out of this warranty, instructions, representations, or defects shall only be for the replacement or repair of defective parts as provided herein. In no event or circumstances shall the Manufacturer’s liability exceed the purchase price of the machine. The buyer also agrees that no other remedy (including but not limited to consequential or incidental loss) shall be available to him or her.

It is absolutely necessary to return the Warranty Validation Form, completely and accurately filled out, and notify Bandit Industries Inc., in writing within ten (10) days from the date of purchase to validate this warranty. If Warranty Validation Form is not on file, all Warranty Consideration is NULL AND VOID.

This warranty will not apply if the Bandit Chipper is not operated with replacement parts or equipment not manufactured or recommended by Bandit Industries, Inc.

This warranty will not apply if the Bandit Chipper is not operated in a manner recommended by the manufacturer. The following examples would void the warranty:

1. The completed Warranty Validation Form is not on file.
2. The Bandit Chipper has been abused, or not serviced properly.
3. Repairs or attempted repairs made without prior written authorization.
4. Repairs made due to normal wear are not warrantable.
5. The Chipper was involved in, or damaged by an accident.
6. The Chipper was damaged from any type of foreign material.

The owner is responsible for all scheduled maintenance as explained in the Operators Manuals. Negligence of proper maintenance or any other negligence, accident or fire; nor with failure to adjust, tighten, or replace wear items included but not limited to items such as knives, knife anvil, belts, lubrication fluids, bearings, filters, hydraulic components, loose nuts or bolts, etc. may void warranty.

All components and parts being returned to Bandit Industries for warranty consideration must be complete and assembled when delivered. Hydraulic components and parts must be returned assembled with all fluid ports capped or plugged and free of foreign contamination, or warranty will not be considered.

INTRODUCTION & WARRANTY

BANDIT INDUSTRIES, INC. LIMITED WARRANTY (989) 561-2270

NOTICE This warranty applies only to new and unused equipment or parts thereof manufactured by Bandit Industries Inc. and is void if the machine is operated with replacement parts or equipment not manufactured or recommended by Bandit Industries Inc.

All other components are warranted by their respective manufacturers (i.e. engines, axles, hydraulic pumps and motors, clutches, tires, batteries, etc.) Any machines used for lease or rental purposes warranty is limited to 90 days from the first day of initial service.

NOTICE Clutch maintenance and adjustments and engine maintenance (air filter maintenance, oil changes, oil filter maintenance, etc.) are important to your machine. Refer to the clutch or engine manual for the maintenance schedule. Failure to perform the clutch or engine maintenance will void the warranty with the respective manufacturer, Bandit Industries Inc. does not warranty these components!

CONTINENTAL U.S. INFORMATION PHONE NUMBERS FOR ACCESSORIES (NOT COVERED UNDER PRODUCT WARRANTY PROGRAM)

Briggs & Stratton (Vanguard) Engines	1-414-259-5333	PGL Auto Clutch	1-800-551-2938
Caterpillar Engines (Thru 275Hp)	1-800-551-2938	PT Tech Clutch	1-330-414-3172
Caterpillar Engines (300Hp & Up)	1-866-228-2111	NACD, Rockford Clutch	1-800-383-9204
Continental Engines	1-800-726-8870	Twin Disc Clutch	1-262-638-4000
Cummins Engines	1-248-573-1592	Electronic Solutions	1-866-736-6839
Deutz, Lombardini Engines	1-800-445-5273	I.E.C. (formerly E.S.I.)	1-815-985-0383
Ford, Hatz Engines	1-800-726-8870	L.O.R. MFG.	1-866-644-8622
GM, Perkins Engines	1-800-551-2938	Miratron Inc.	1-866-285-0132
Honda Engines	1-734-453-6258	Omnex Radios	1-419-294-4985
John Deere Engines	1-888-803-9175	Dexter Axles	1-574-295-7888
Kohler Engines	1-800-854-9273	Tires	1-989-463-4088
Kubota Engines	1-800-457-7056	Caterpillar Tracks	1-309-636-1100
Robin Engines	1-248-399-0002	Chermack Tracks	1-715-458-2655
Wisconsin Engines	1-800-726-8870	Petro-Canada Hydrex XV	1-888-284-4572
Interstate Batteries	1-800-331-2000		

(Phone numbers for outside the continental U.S. can be supplied from your phone directory or local Bandit dealer.)

In order to process any warranty claims, it is the owner's responsibility to report the claims promptly to the Manufacturer, or our authorized dealer from whom the equipment was purchased.

It is necessary to include the following information on any and all requests for warranty:

- 1) Warranty Claim Form, obtained from Bandit Industries or it's dealers, completely and accurately filled out.
- 2) Dealer from whom purchased.
- 3) Date of delivery.
- 4) Serial number of unit.
- 5) Model number of unit.
- 6) Engine make and serial number.
- 7) Length of time in use (hours on machine).
- 8) Date of Failure.
- 9) Nature of Failure.

Bandit Industries Inc., reserves the right to alter, improve, revise or modify any parts or products with the altered, improved, revised or modified parts or products. They also may change design, specifications, or part prices without advance notice.

Bandit Industries Inc., is NOT responsible for updating or upgrading completed machines with design changes that are made after it's production.

Bandit Industries Inc., expects the Customer/Owner to bring their machine to the Dealer/Manufacturer for Warranty Repairs. The Manufacturer DOES NOT pay Dealers or Customers for bringing their machine in for repair. Nor does the Manufacturer furnish loaner machines while the unit is being repaired.

Bandit

TYPICAL CHIPPER SERIAL NUMBER AND/OR WORK ORDER NUMBER LOCATIONS






- 1. S/N on frame
- 2. W/O # on frame

NOTICE The engine information is located on the engine block. The clutch information is located on the clutch plate (if equipped).

SAFETY PROCEDURES

DANGER

The words  Danger,  Warning,  Caution, and Notice are used on the safety decals and throughout this manual, to make you aware of the safety procedures. These procedures are very important, read and obey them.

YOUR SAFETY IS VERY IMPORTANT TO US!

This machine is equipped with safety decals, guards and designs for your protection.

Don't ever take the machine for granted, always be cautious and careful when operating your equipment.

Read and follow all the instructions in your manual thoroughly. Your safety is dependent on your knowledge of how to operate and maintain this machine. You may obtain additional copies of this manual from your Bandit Dealer.

Before operating machine, you must have all potential operators; read and understand manuals and decals, watch the video and follow the recommendations.

Regardless of how hard a manufacturer tries to produce a safe machine, accidents still happen. Normally accidents are caused by people making mistakes. They do not read the manual, they ignore warning decals or do not use lockouts provided for their safety. This normally happens after the person has become accustomed to the machinery. In the initial start up and operation of the machinery, they are cautious, they are very careful because they do not understand the machine.

This equipment is intended for use by personnel who are experienced with similar equipment. Always operate safely. There should be at least two qualified and trained operators at the work site. They should be positioned in safe working locations, following safety procedures and instructions, and aware of each others whereabouts. There should, also, be at least two people on site during maintenance and service procedures in case an accident should occur. Never operate any machine while under the influence of drugs or alcohol.

Keep children, bystanders and animals clear of working area. Never operate equipment that is in need of repair or adjustment.

DANGER

Before starting the machine, take a minute to check a few things. The machine should be in an area restricted from people passing by. This area around the machine must be free of all objects that can obstruct your movement when working with the machine. The machine should be checked for loose tools or foreign objects, especially in the infeed hopper area. All tools not in use should be secured in a tool box.

WARNING

Operators **must** at all times be located within easy reach of all controls and shut-off devices when the unit is running. They must be attentive and prepared to activate the devices.

DANGER

Torn or loose clothing is more likely to get caught in moving machinery parts or tree branches. Keep such items as long hair, shirt sleeves, and shirt tails properly contained. Avoid wearing necklaces, rings, watches, and especially neckties while operating this machinery. Make sure the machine is in excellent condition, and all the guards are in place, tight and secure.

Wear all personal protection equipment and follow all safety standards per ANSI and OSHA instructions. Examples of equipment: hard hat, face shield, safety glasses, gloves, ear protection, etc. Do not wear gauntlet or secured fit gloves. Always keep a fully charged fire extinguisher with the machine while operating or servicing the machine.



CALIFORNIA

Proposition 65 Warning

Diesel engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects, and other reproductive harm.

Bandit

SAFETY PROCEDURES

DANGER

Always block the tires while the machine is in use for operational stabilization.

DANGER

Pay attention to the direction of the discharge chute before chipping. Never stand in front of the chipper discharge chute. Never direct the chute towards anyone or anything that could cause an accident or problems. Always stop chipping and warn anyone that comes near the discharge area. Failure to do this could result in severe injury. Wood chips flying out of the discharge chute can be very dangerous!

DANGER

NEVER sit, stand, lay, climb or ride anywhere on this machine while it is running, operating, or in transit. You will be injured.

WARNING

It is very important after you have operated a new machine for approximately an hour to shut down the machine and recheck all nuts and bolts. It is normal for nuts and bolts to loosen once on a new piece of machinery. If you tighten them now, there is a good possibility they won't loosen again. Certain nuts and bolts should be checked periodically such as anvil and knife nuts and bolts, etc. for torque and fit.

Most of the nuts used on the machine are self locking. After a nut or bolt has been removed five times, it should be replaced to insure proper tightness. This is especially critical on the chipper knife nuts and bolts!

After the engine is started, let the chipper disc/drum turn at the lowest RPM's possible. Listen for any type of noise that is foreign. Any steel on steel noise is foreign. If you hear a noise, stop the engine, find the problem and fix it.

DANGER

DO NOT operate this machine indoors! Exhaust fumes can be fatal. Never refuel while the machine is running. Never refuel in the shop or building. Always refuel in a well ventilated area, away from sparks or open flames, DO NOT SMOKE. Extinguish all smoking materials. Wipe up all spilled fuel before restarting the engine. Do not fill above 1/2" (12.7mm) from top of tank.

To obtain the most from your machine, for the least amount of cost, it is a good practice to set up and follow a scheduled preventative maintenance program. It will eliminate many possible problems and down time.

DANGER

Never reach into the infeed hopper area of the machine, there is never any reason to. There is absolutely no reason to work inside of the infeed hopper. If there are short pieces, or leaves and twigs, just leave them until feeding longer pieces. While the long pieces are feeding, simply toss the short pieces on top of them. The longer pieces will take them on into the machine.

A wooden push paddle has been provided to assist in feeding smaller material. It is the owner's and operator's responsibility to use and keep a wooden push paddle with the machine and to also secure it when transporting the machine. DO NOT use any body parts or any steel devices inside the infeed hopper area.

NOTICE

Do not attempt to start the engine or engage the engine PTO (power-take-off) system on this machine if the chipper disc/drum is jammed or frozen in place. If you do, you will damage or ruin the drive belts and/or the PTO which will not be covered under warranty and will cost you down time and money.

DANGER

Before attempting any type of maintenance disengage clutch, turn off engine, wait for the chipper drum to come to a complete stop, use extreme care and do not allow the chipper drum to turn, disconnect battery, and make sure the ignition key is in your possession.

DANGER

Never feed any materials that might contain wires, stones, nails, metal objects, or any foreign object which may damage the knives and become dangerous projectiles.

WARNING

This chipper is designed to "HAND FED" only! DO NOT feed wood with any type of knuckle boom loader, front end loader, or mechanical device. It will cause damage to the machine. If this happens, the machine WILL NOT be covered under warranty.

DANGER

Do not operate this chipper without the flexible curtain in the opening of the infeed hopper, per ANSI and OSHA standards. It is provided on this style chipper to reduce material kick back that can cause severe injury.

Bandit

SAFETY PROCEDURES

⚠ DANGER

Avoid moving parts. Keep hands, feet, and clothing away from power driven parts. Keep all guards and shields in place and properly secured.

⚠ DANGER

DO NOT feed vines or vine-like material! DO NOT pile vines or vine-like material in front of the infeed hopper which may cause you to trip or fall! DO NOT allow vines or limbs to become entangled with you or your clothing! DO cut vine-like material into 4 to 5 foot (1.2 to 1.5 meter) length's, away from the chipper area! DO use a wooden pusher paddle when feeding the cut vines into the machine! ALWAYS be in position and prepared to shut down the machine!

⚠ DANGER

DO NOT let the infeed hopper down slam. This will cause damage to the hinge. If the hinge becomes damaged by slamming the infeed hopper, replace the hinge immediately! If the hinge has become damaged, it will cause misalignment of the infeed hopper, the chipper drum may hit the infeed hopper and cause a serious accident! Lubricate the infeed hopper hinge daily.

⚠ WARNING

Never use jumper cables during freezing temperatures. Tow the machine inside and allow the battery time to warm up. If the machine must be started outside, inspect the battery acid for ice formation. Explosion will occur with a frozen battery. If the machine is going to be operated in excessively cold conditions, a larger cold cranking amp battery may be needed to insure proper and prompt starting. Never use jumper cables in a confined or unventilated area. Battery acid fumes are explosive. Battery acid can cause severe burns. Never expose an open flame or spark near the battery. Keep all burning materials away from the battery. When servicing the battery, shield eyes and face, and do not smoke. Service in a well ventilated area.

⚠ DANGER

Never turn the chipper disc/drum by hand, always carefully use a pry bar or wood bar. This will help prevent the person turning the disc/drum from being injured should the disc/drum break loose.

A sight hole in the chipper belt shield has been provided. If chipper belts are moving do not open chipper hood. Do not stick fingers in sight hole.

⚠ DANGER

DO NOT remove the hood bolts until the chipper drum has come to a complete stop. The chipper drum will coast for several minutes after the engine is shut down. Always wait at least several minutes.

DO NOT operate the machine with the chipper hood open under any circumstances.

⚠ DANGER

Chipper knives are sharp and can be dangerous. It is always necessary for your protection to be extra careful and wear proper hand protection when handling knives.

⚠ DANGER

The knives must be securely fastened and torqued in position. If one comes loose or breaks during operation, someone or something may get injured.

⚠ DANGER

Before attempting any type of maintenance disengage clutch, turn off engine, wait for the chipper disc/drum to come to a complete stop, install the disc/drum lock pin, disconnect battery, and make sure the ignition key is in your possession.

ALWAYS install the disc/drum lock pin to prevent inadvertent rotation. On disc chippers insert lock pin through lock pin tube on the belly band under hood rest. On drum chippers insert lock pin through lock pin tube on side of drum housing.

Simply slide the lock pin into the disc/drum lock tube. This is to insure that the chipper disc/drum cannot be started while you are working inside the machine. If for some reason the chipper disc/drum would start to turn, it would simply hit the lock pin.



Bandit

SAFETY PROCEDURES

⚠ WARNING

Always stand to the side of the infeed hopper when inserting material. This will allow you to turn away from the wood, and walk away, without passing through the material. Machines should be fed from curbside (right side) whenever possible. Anytime an operator is near the infeed hopper, they must be within easy reach of control devices.

To increase production, don't waste time watching the material being fed. Once the limbs have started into the machine, you can walk away and get more material.

Always start the larger end (base end) of the log or branch in first.

Keep the engine R.P.M.'s at full throttle whether you are chipping brush or round wood. Lower R.P.M.'s will cause weak throwing power, and can cause plugging in the discharge.

⚠ DANGER

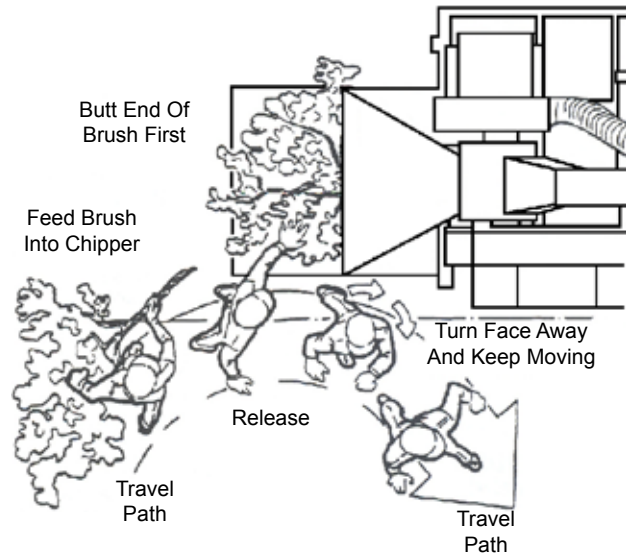
PTO machines must be sitting flat and stable on the ground before operating the machine.

⚠ WARNING

Before you begin to transport your machine follow all of the transportation procedures on pages 19-20. Make sure that the tongue of the machine or trailer has been raised to the proper height and attach securely to the towing vehicle. Once secured to vehicle, locate tongue jack and secure it in the transport position. Always hook safety chains to vehicle by crossing them under the tongue allowing enough slack to avoid binding or dragging the ground when making turns. Check brakes and highway lights make sure that they are all operating properly. Check that the plug terminal functions match the towing vehicle for proper operation. Be sure to check tire pressure before you begin to transport the machine. If machine is equipped with a vise, make sure to secure in place and clamp jaws closed. Close and secure any of the following, if equipped: tool box, battery box, engine cowl doors and side panels, radiator debris screens, inspection doors, cabinet doors, housing covers, tank caps and covers, etc.

⚠ WARNING

For towable machines, use **EXTREME CAUTION** when towing. **DO NOT** tow at high speeds. Use caution when transporting to avoid a roll over because of narrow wheel base.



⚠ WARNING

Check laws and regulations. Know and obey all federal, state, and local laws and regulations that apply to your work situation and the transportation of a machine this size.

NOTICE

The Bandit has only been run for a short time to test proper hydraulic pressures, possible leaks, etc. The fuel tank will be empty. Fuel is provided through a small auxiliary tank for testing. This immensely helps maintain safety in our manufacturing facility and while shipping.

⚠ DANGER

Keep the machine in good condition. Be sure the machine is in good operating condition and that all safety devices, including guards and shields are installed and functioning properly. Visually inspect the machine daily before starting the machine. Refer to the "Daily Start Up & Maintenance". Make no modifications to your equipment unless specifically recommended or requested by Bandit Industries Inc.

NOTICE

Expensive damage to the Bandit will occur if proper preparation is not taken before welding on the machine. Be sure to disconnect both battery cables and the engine ECM (engine control module) before welding. Follow the specific Engine MFG. instructions for proper welding and grounding procedures, before attempting to weld on the machine. If welding on the machine, do not ground the welder through the machine bearings, ground near work to be performed.

Bandit

SAFETY PROCEDURES

DANGER



Must remove ignition key and battery cable, install disc/drum lock before servicing.

- Do not turn disc/drum or engine by hand.
- This is a direct drive chipper without drive disengagement.
- You can sever or injure a body part by an accidental rollover and engine start up.

DANGER

Do not operate this chipper without rubber curtain in opening of infeed, per ANSI & OSHA standards.

It is provided on this style chipper to reduce material kick back that can cause severe injury.



WARNING

- Use **EXTREME CAUTION** when towing.
- DO NOT tow at high speeds.
- Use caution when transporting to avoid a roll over because of narrow wheel base.

WARNING



WEAR EYE & PERSONAL PROTECTION EQUIPMENT

Wear all personal protection equipment and follow all safety standards per ANSI and OSHA instructions.

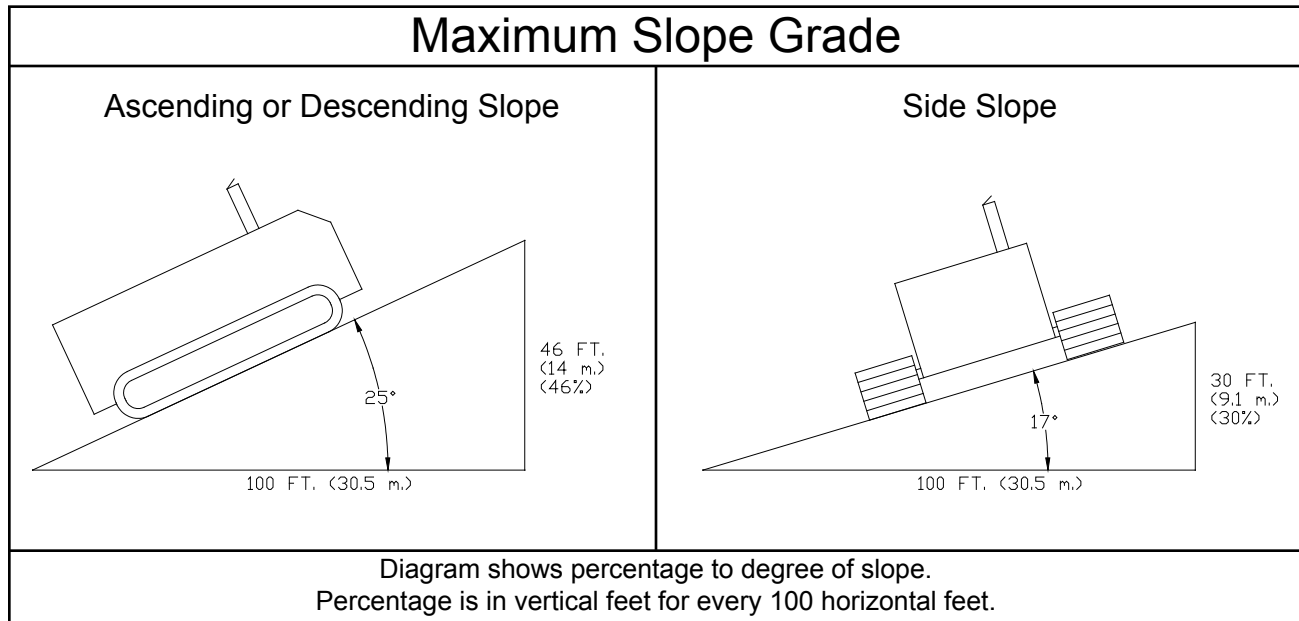
SAFETY PROCEDURES

IF MACHINE IS EQUIPPED WITH A SELF PROPELLED UNDERCARRIAGE

Machines equipped with undercarriage tracks are shipped with a manual from the track manufacturer. Refer to it for service, operation, and safety information.

⚠ WARNING

Do not attempt to operate the machine on an ascending or descending slope of more than 25° or 46% or a side slope of more than 17° or 30%, it is Dangerous and could be Fatal. This is the maximum slope grade the machine can be operated on if the hydraulics, self propelled undercarriage, and engine are running at maximum performance and good traction is sustained.



⚠ WARNING

Any increase from the specified maximum operating angles may cause loss of lubrication function and damage the engine.

⚠ DANGER

The machine should never be parked on a slope at any time. The machine can coast or creep causing equipment and/or personal injury.

⚠ DANGER

Make sure everyone is clear of machine before moving the machine. Stay clear of undercarriage travel system when the machine is moving.

⚠ DANGER

DO NOT entangle feet or hands in undercarriage travel system.

⚠ DANGER

Use **EXTREME CAUTION** when traveling over non-level surface! This machine can tip over or tip backwards on non-level surface. You will cause engine damage, machine damage and possible personal injury!

⚠ DANGER

NEVER sit, stand, lay, climb or ride anywhere on this machine while it is running, operating, or in transit. You will be injured.

Bandit

EQUIPMENT SPECIFICATIONS



Approximate Dimensions & Weights

(Dimensions & weights will vary depending on optional equipment)

Approx.

Weight:	Model 490:	500 lbs. (227 kg)
	Model 490 PTO:	500 lbs. (227 kg)

(Approximate weights depending on engine and equipment options.)

Overall

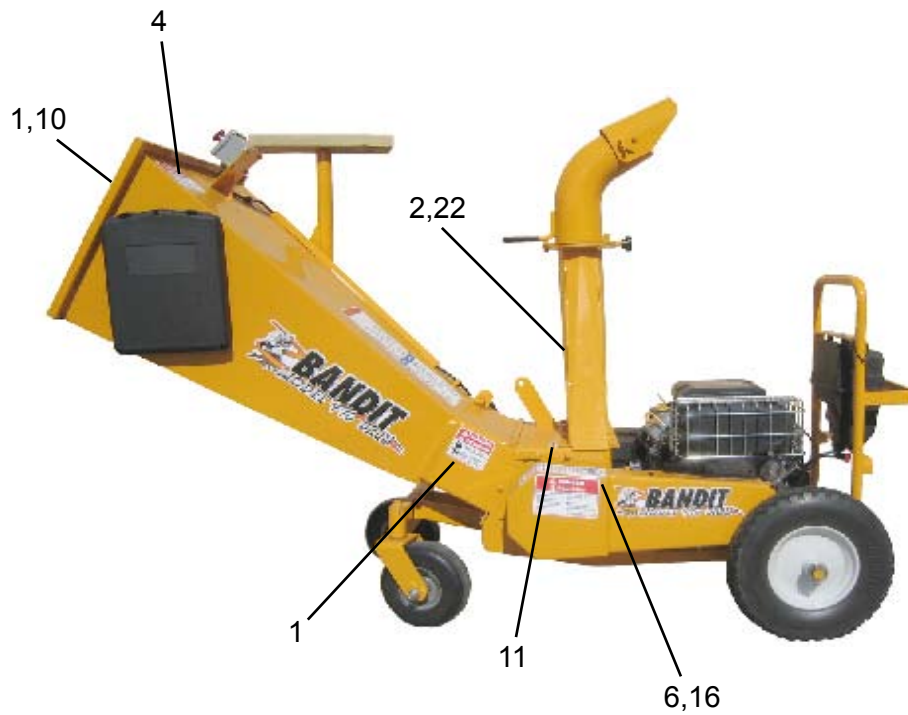
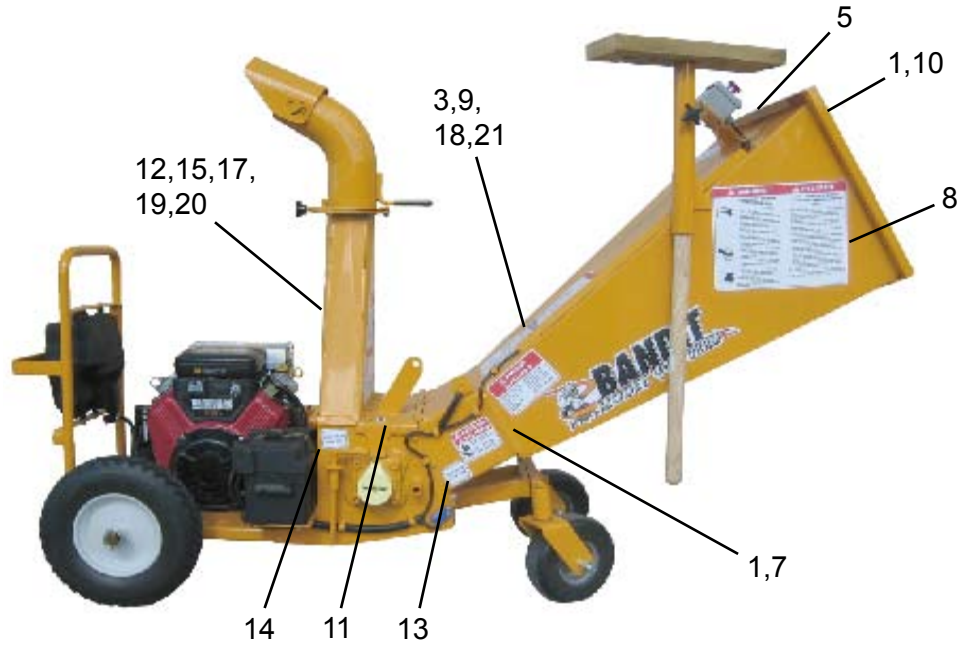
Dimensions:	Model 490:	Height: 57" (1.5 m),	Length: 78" (2.0 m),	Width: 33" (0.9 m)
	Model 490 PTO:	Height: 59" (1.5 m),	Length: 50" (1.3 m),	Width: 34" (0.9 m)

Fuel Tank Capacity: 1.25 Gallons (4.7 Liters)

(Approximate dimension depending on equipment options.)

DECAL LOCATIONS

Decal locations may vary, these are general locations.



DECAL LOCATIONS

Modifications and/or additions of decals to this list will happen.
Consult machine dealer or manufacturer for most current decal package.

LOCATION	NUMBER	DESCRIPTION
1.	SPD-02	Moving Parts...
2.	SPD-04	Flying Discharge Material...
3.	SPD-13	Must Remove Ignition Key...Direct Drive...
4.	SPD-21	Do Not Operate...Rubber Curtain in Opening...
5.	SPD-22	Emergency Shut Down Only
6.	SPD-28	Do Not Insert Fingers...
7.	SPD-30	Do Not Sit, Stand, Lay, Climb...
8.	SPD-32	Do Not Operate This Machine...
9.	ID-42	Bandit Industries, Inc...USA
10.	INST-04	Arrow
11.	INST-12	Grease Daily (Arrow)
12.	INST-44	California Proposition 65
13.	INST-48	Disc/Drum Lock Tube
14.	INST-49	Disc/Drum Lock Pin
15.	INST-101	Canada Engine Decal
16.	N-03	Service Required Under Beltshield...
17.	SPN-06	Decal Maintenance...
18.	SPN-11	Correct Knife And Hardware...
19.	SPW-03	Gasoline Fuel Only...
20.	SPW-04	Frozen Battery Can Explode...
21.	SPW-06	Do Not Attempt...Slope Of More Than...
22.	SPW-08	Wear Personal Protection...
23.	SPW-20	Use EXTREME CAUTION when towing... (Towable Machines)
24.	900-8901-30	Safety & Logo Decal Kit For Model 490

NOTICE

Some decals are for optional equipment. Decal locations may vary, these are general locations.
If any decals become damaged, replace immediately.

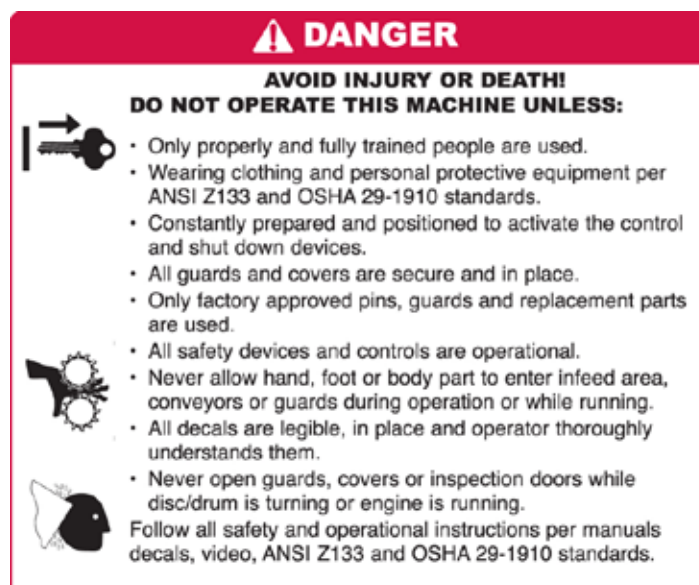
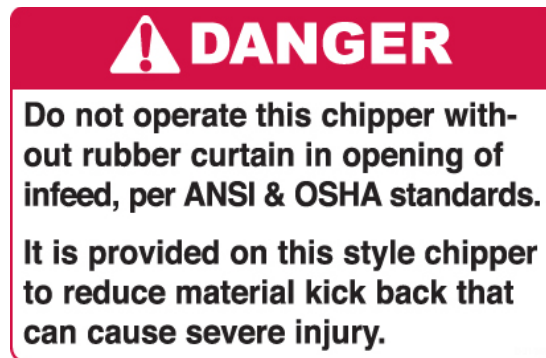
DECALS

Decals located on your Bandit equipment contain useful information to assist you in operating your equipment safely. Some of the decals on your machine and their location are shown in this section.

It is very important that all decals remain in place and in good condition on your machine. Please follow the care and instructions given below:

- 1) You should use soap and water to keep your decals clean. Never use mineral spirits or any other abrasive cleaners.
- 2) Replace immediately any missing or damaged decals. The location the decal is going to be applied to must be clean and dry, and at least 40°F (5°C) before applying decal.
- 3) When the need arises to replace a machine component with a decal attached, be sure and replace the decal.
- 4) Replacement decals are available, and can be purchased from the manufacturer or your Bandit Dealer.
- 5) Peel back about half of the backer paper on the decal. Position it on the flat, dry, clean surface so it is smooth and secure. Peel off the remainder of the backer paper as you continue to stick the decal on the surface.
- 6) Rub decal from the center outward to remove air bubbles and to secure contact.
- 7) Combination English / Spanish decals are typically standard. Other foreign language decals are available and may be purchased. Mail translated decals required to Bandit Industries, Inc.

EXAMPLES:



Bandit

CONTROLS

CONTROLS

Basic Location of Controls and Adjustments

<u>LOCATION SHOWN</u>	<u>NOT SHOWN</u>
<ol style="list-style-type: none"> 1. Infeed Hopper 2. Engine Controls 3. Discharge Flipper 4. Swivel Discharge 5. Wooden Push Paddle 6. Emergency Shut Down Switch 	<p>Knives & Hardware Chipper Belts</p>



ENGINE OPERATING SPEEDS

NOTICE

If your chipper is plugging, it is usually caused by allowing the engine to drop below required R.P.M.'s. Operating the engine at speeds lower than full R.P.M.'s causes your chipper to plug. **Always run the chipper at full engine speed.**

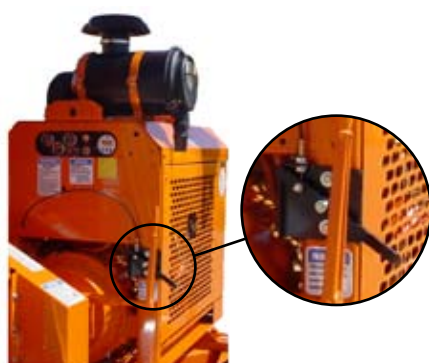
Some Current Engine Types	Maximum RPM
Briggs & Stratton 356447-0066B1 - 18 Hp	3600

CONSULT THE ENGINE MANUFACTURER’S MANUAL FOR SPECIFIC CONTROLS, OPERATION, & MAINTENANCE FOR TYPICAL ENGINES

- 1) **Ignition Switch:**
Turn the ignition switch key clockwise one stop (on position) to turn the electrical system on. The key should remain in the on position while the engine is running. Turn the key fully clockwise (start position) this will start the engine. To shut off the engine, return the key to the off position.
- 2) **On/Off Switch - Push Button Start:**
Some gasoline engines may have a Toggle Switch or an On/Off Switch combined with a push button to start the engine. First turn the On/Off Switch or Toggle Switch to the on position, then depress and hold the Push Button Start until the engine starts, then release the button. To shut off the engine, return the On/Off Switch or Toggle Switch to the off position.
- 3) **Ignition Switch With Preheat:**
The typical diesel engine may have a preheat system to assist in starting the engine during cold weather. To activate the preheat system, continue to hold the ignition key in the preheat position for 15 to 20 seconds, then attempt to start the engine. If the engine fails to start within 15 seconds, return the key to the preheat position, hold 10 seconds, and try starting again.
- 4) **Choke Adjustment (if equipped):**
Some gasoline engines may have a choke adjustment, pull the choke lever out to choke the engine. Push the choke lever in for normal engine operations.
- 5) **Throttle Adjustment (if equipped):**
Some engines may have a knob or a handle for the throttle adjustment. Typically you would pull the knob out, or turn the handle to increase the engine R.P.M.'s. To decrease you would push in the knob or turn the handle the opposite way.
- 6) **“Bandit” Lever Lock Cable Throttle System (if equipped):**
The Bandit throttle system has (2) positions, HIGH and LOW. Engine R.P.M. is controlled by moving the lever from one position to the other.
- 8) **Push Button Or Electric Throttle System (if equipped):**
Some engines may have a push button or electric throttle adjustment. Engine R.P.M. is controlled by pushing a button or switch to raise or lower the R.P.M.
- 9) **Alternator Warning Light:**
This light will glow when the alternator is not charging, or when the ignition switch is turned on and the engine is not running.
- 10) **Oil Pressure Warning Light:**
This light will glow when the oil pressure is to low, or when the ignition switch is turned on and the engine is not running.
- 11) **Engine Temperature Warning Light:**
This light will glow when the engine, or engine coolant, is above normal operating temperature. If this occurs allow the engine temperature to cool down. If the engine is overheating because of a loss of coolant, or a broken fan belt, shut the engine off immediately.

TYPICAL DIESEL ENGINES

TYPICAL GASOLINE ENGINE



BANDIT THROTTLE SYSTEM



PUSH BUTTON OR ELECTRIC THROTTLE SYSTEM



Bandit

TRANSPORTATION PROCEDURES

WARNING

BEFORE TRANSPORTING THE MACHINE, INSPECT AND CONFIRM THE FOLLOWING STEPS:

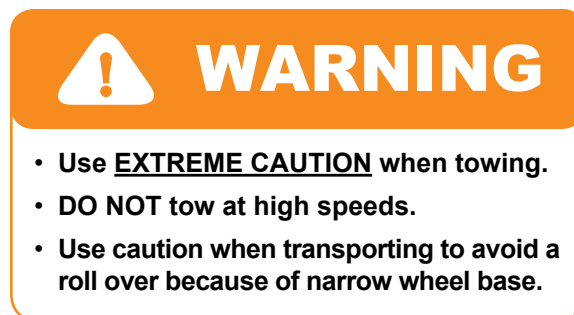
- 1) If engine is running, bring the engine to an idle.
- 2) Turn off engine, wait for the chipper drum to come to a complete stop and you must have the ignition key in your possession.
- 3) Remove all excess debris. Remove any wood or debris which may have collected.
- 4) Return wooden push paddle to the mount and secure for transportation.
- 5) Remove the wheel chocks used.
- 6) If using, the trailer has a cargo weight rating capacity for the weight of the machine. The combined weight of the trailer and the machine can not exceed the load capacity of the tires, axles, hitch coupler system or the GVWR (Gross Vehicle Weight Rating) of the trailer.
- 7) The towing vehicle is rated for and has the towing capabilities to haul the machine package (includes the machine and trailer if used). The towing vehicle must be mechanically sound and capable of handling the towing job.
- 8) The hitch on the towing vehicle and the coupler on the trailer or machine is a perfect match in size, type, and needed capacity.
- 9) Both the towing hitch and the coupler are in good mechanical and wear condition, that they are joined together securely, and the coupler/hitch is locked in place.
- 10) Couple machine or transport trailer to transport vehicle by lowering the machine onto the hitch. Then secure hitch and lock it.
- 11) Place the tongue jack in the transport position.
- 12) The safety chains have the correct capacity for the equipment being towed.
- 13) Attach the safety chains by crossing them under hitch, make sure to allow the proper amount of slack in chains to avoid binding or dragging the ground when making turns.
- 14) The electrical plug-in on the towing vehicle and the trailer are wired for the same functions and they fit securely together. The plug-in wire is long enough to not restrict the turning movement, but short enough to not drag on the road. The trailer must have a lighting system and braking system to match and perform correctly off the towing vehicles system. You must meet the Federal and your States' Department of Transportation Code of Regulations concerning lights, brakes, and highway transit.
- 15) The break-away actuator (if equipped) that is installed on the trailer correctly works and is appropriately attached to the towing vehicle.
- 16) All lights and brakes on the trailer correctly functions when activated by the systems in the towing vehicle.
- 17) Check tires for correct air pressure, cuts, or damaged rims.
- 18) Check lug nuts and retorque if necessary. Check new units before operation, check again after 20-25 miles (32-40 km) and regularly check at least weekly. Refer to trailer manual if using a trailer.
- 19) Inspect and replace any axle dust caps that are damaged or leaking.
- 20) Check wheel bearings and grease or oil axles per axle manufacturer's manual.
- 21) Walk around the machine or trailer to confirm that everything is secure and that there is not anything loose that could fall off during transport. Look under machine or trailer to ensure nothing is dragging. Look down both sides of the machine or trailer for anything sticking out that may become damaged during transport.
- 22) Close and secure any of the following, if equipped: engine cowl doors and side panels, radiator debris screens, inspection doors, housing covers, tanks caps and covers, etc.

Continued on the following page.

TRANSPORTATION PROCEDURES (cont.)

Continued from the previous page.

- 23) If using a trailer, make sure the load ramps or gate are securely stored for transport.
- 24) Make sure the machine's engine is not running, the ignition key is in your possession, and all controls are stored correctly and locked in place for transport.
- 25) The machine or machine package must be hauled level and the towing vehicle must be sized to handle hitch weight and towing weight. The towing vehicle or the combination of towing vehicle and towing package must have enough braking capacity to meet the Federal and your State Department of Transportation requirements.
- 26) The machine or machine package is now ready for transport. Make sure to obey all local regulation and laws regarding the transporting of this type of machine.
- 27) Do not drive too fast for road conditions or exceed speed regulations for equipment towing.



LOADING & UNLOADING MACHINES

⚠ WARNING

BEFORE LOADING OR UNLOADING THE MACHINE INSPECT AND CONFIRM THE FOLLOWING STEPS: When loading or unloading the machine on the trailer, use care and caution. The maneuvering of the equipment must be slow, smooth, and intentional, not fast and jerky.

- 1) Make sure the trailer and towing vehicle are parked on a flat surface. They must be stable on the surface with the brakes locked and/or the wheels chocked to avoid unwanted movement.
- 2) Position the loading ramps or loading gate securely between the trailer and the ground level. Have them located so that they are in line with the tires or tracks of the machine when it moves.
- 3) Remove and store the chains and binders used for transporting.
- 4) Confirm that there are not any obstacles on the trailer bed, around the trailer that may cause restricted movement of the machine or the operator.
- 5) If you are on streets, roads or public areas, position the warning cones etc, per your company's safety policy.
- 6) Align the machine with the trailer bed, and the loading ramps. The only equipment movement should be slowly, straight on or straight off the trailer.
- 7) With the machine at as slow of a speed as possible, move the machine toward the ramp system. Make sure the alignment is correct throughout the travel.
- 8) Properly secure the equipment and the area to avoid any possible accidents or dangers.

MAINTENANCE SECTION

The Bandit is a very simple machine to maintain. If you will follow a regular scheduled preventative maintenance program you should have years of trouble free operation.

⚠ DANGER

Before attempting any type of maintenance disengage clutch, turn off engine, wait for the disc/drum to come to a complete stop, install the disc/drum lock pin, disconnect battery, and make sure the ignition key is in your possession.

⚠ DANGER

Do not let anyone operate or maintain this machine until they have thoroughly read this manual, reviewed the equipment decals, watched the equipment video, and has been properly trained. You can purchase additional Bandit manuals, decals and videos for a nominal fee.

NOTICE

Consult your engine manual for proper break-in procedures. Various engines require somewhat different procedures, but basically the engines need to operate at lower R.P.M.'s and loads for a specific time.

NOTICE

Failure to properly break-in your engine may result in poor bearing and piston ring surfaces.

NOTICE

The Bandit has only been run for a short time to test proper hydraulic pressures, possible leaks, etc. The fuel tank will be empty. Fuel is provided through a small auxiliary tank for testing. This immensely helps maintain safety in our manufacturing facility and while shipping.

NOTICE

Expensive damage to the Bandit will occur if proper preparation is not taken before welding on the machine. Be sure to disconnect both battery cables and the engine ECM (engine control module) before welding. Follow the specific Engine MFG. instructions for proper welding and grounding procedures, before attempting to weld on the machine. If welding on the machine, do not ground the welder through the machine bearings, ground near work to be performed.

DAILY START UP & MAINTENANCE

1) **Check the safety decals and engine gauges:**

Replace any missing or damaged decals and/or engine gauges.

2) **Check all safety equipment:**

Check for proper operation. Repair or replace as needed.

3) **Check entire machine for loose bolts, nuts, parts, or components:**

Check entire machine for any loose parts or components. Check for loose nuts or bolts. Torque, tighten, or replace any of the loose components. See page 26 for specific bolt torques.

4) **Check all guards:**

Check to make sure all guards are in place and installed correctly. Make sure they are secure.

5) **Check infeed hopper hinge:**

Make sure the infeed hopper hinge operates correctly, and is lubricated. Must replace hinge if damaged.

6) **Checking for foreign objects:**

Before opening the hood make sure the clutch is disengaged, the engine off, battery is disconnected, and also make sure the ignition key is in your possession. Look for any foreign objects inside the chipper housing or in the knife pockets of the drum. Remove any foreign objects found.

7) **Check chipper drum assembly:**

Check the condition of knife bolt threads, secure welds, torqued bolts, excessive wear and impact cracks. If a problem is found contact the chipper manufacturer or an authorized Bandit dealer. Also check the chipper housing at this time. Check the chipper base, belly band, and hoods for wear or damage. Also inspect the chipper bearings.

Bandit

DAILY START UP & MAINTENANCE (cont.)

8) Check chipper drum to turn:

Very carefully, manually with a pry bar or wood bar, turn the chipper drum a full revolution. This is to ensure the anvil and knives have proper clearance. If the chipper drum is jammed with debris or frozen in place, DO NOT attempt to start the engine and engage clutch until the chipper drum rotates freely.

9) Check the condition of your knives, anvil, and attaching hardware:

Grind, file, or replace your knives to keep them sharp. Check the anvil and attaching hardware for the knives and anvil. Replace if necessary.

10) Properly torque the knife mounting hardware:

All knife mounting hardware must be factory approved. Knife mounting hardware must be replaced after maximum of 4-5 knife rotations/changes to insure safe clamping ability.

Torque set, AT ALL TIMES to:

See TORQUE CHART on page 26.

11) Chipper hood is secured:

Make sure chipper hood is installed and torque the chipper hood bolts.

12) Grease chipper bearings daily:

Use an EP-2 Lithium type grease only for chipper bearings. Purge chipper bearings with grease. You can not over grease these bearings. This type of bearing is designed with a relief system that will not allow over greasing. In other words, you can not hurt the bearing seals by pumping in too much grease. Most of the failures related to bearings are diagnosed as "Contamination". Contamination is caused by improper lubrication. Wipe off excess grease.

Excessive grease will attract dirt.

13) Grease jack shaft bearings daily (PTO Machines):

Use an EP-2 Lithium type grease only for jack shaft bearings. If the machine is PTO powered, purge the jack shaft bearings with grease. You can not over grease these bearings. This type of bearing is designed with a relief system that will not allow over greasing. In other words, you can not hurt the bearing seals by pumping in too much grease. Most of the failures related to bearings are diagnosed as "Contamination". Contamination is caused by improper lubrication. Wipe off excess grease. **Excessive grease will attract dirt.**

14) Check / adjust the chipper drive belt tension:

The belts will need to be tightened several times in the first few days of operation. A loose belt will slip and then glaze over. Once they slip you must replace them. See pages 30 - 31 for procedures.

15) Check for any fluid leaks:

Inspect for any oil, fuel, hydraulic oil, or engine coolant leaks. Check all hoses, fittings, lines, and tanks. DO NOT use fingers or skin to check for hydraulic leaks. Repair or replace any damaged or leaking components.

16) Check the fuel level:

Check the fuel level, running out and repriming is time consuming. Do not over fill, and you must leave fuel expansion space in the top of the tank.

17) Check engine oil and coolant level:

Follow the engine manufacturer manual recommendations for fluid levels. You MUST follow specific ENGINE MFG. manual recommendations for radiator coolant, additives, lubrication, correct engine speed, ETC.

18) Check cooling fins, fan, and debris screen:

Thoroughly clean cooling fins on engine at least once a day and twice in excessive conditions. Make sure debris is not packed between fins. Clean cooling fan, shroud on air cooled engines, and the debris screen (if equipped). Improper service, maintenance, or neglect will cause overheating problems and engine failure.

19) Check air cleaner or precleaner:

Clean or replace element following engine manual recommendations.

20) Check tires:

Check tires for wear, weather checking and damage. Replace if damaged.

21) Inspect axle dust caps (Towable Machine):

On towable machines, inspect axle dust caps and replace if damaged or leaking.

22) Check the infeed hopper and around machine:

Check in the infeed hopper for any foreign objects and around the entire machine for tools, cans, saws, etc. All tools not in use should be stored in a tool box.

23) Block the tires:

Before operation block the tires for stability.

24) Check the discharge direction:

Make sure the discharge is pointed in a safe direction and clamped into place.

25) Review all safety procedures on decals, from manual, and from video.**26) Make sure all safety equipment is being worn:**

Make sure you are wearing all of your safety equipment: hard hat, face shield, gloves, eye protection, ear protection, etc. per ANSI and OSHA standards.

27) Remember to check EVERYTHING on the checklist.

Bandit

WEEKLY MAINTENANCE

1) Check anvil clearance, tightness, and wear:

Measure the anvil clearance. The clearance should be .045" (1.1mm) to .065" (1.7mm) from highest knife. Check the anvil hardware, make sure the bolts are at the proper torque. The anvil is a normal wear item, if it is worn you can rotate it to a new working edge. Refer to page 27 for the exact checking of anvil clearance procedure.

2) Check alternator and fan belts on engine:

As applicable adjust and maintain per the engine manufacturer's manual.

3) Check wheel lynch pins, bolts, or lug nuts:

Make sure wheel lynch pins are in place. Keep bolts and lug nuts tight, retorque, replace if needed.

4) Check and retighten tank mount bolts:

Check and retighten the fuel tank mount bolts.

5) Lubricate all steel friction areas:

Lubricate all steel friction areas including, but not limited to pivoting, hinged, sliding, rotating areas on the machine (i.e. castor wheel mount bar, discharge flipper, etc.)

MONTHLY MAINTENANCE

1) Grease castor wheel pivot bushings:

Grease castor wheel pivot bushings with 1 to 2 shots of EP-2 Lithium type grease. Wipe off excess grease. **Excessive grease will attract dirt.**

2) Check discharge and infeed hopper wear:

Check for wear on discharge, infeed hopper, and discharge direction adjustor; build up, repair or replace as needed.

3) Check chipper bearings and chipper sheave:

Check, retighten all bearing bolts, bearing lock collars, and also belt sheave bushings to correct torques.

4) Grease wheel bushings:

Grease wheel bushings with 1 to 2 shots of EP-2 Lithium type grease. Wipe off excess grease. **Excessive grease will attract dirt.**

5) Grease wheel bearings (Towable Machine):

Grease wheel bearings until full with an EP-2 Lithium grease. Wipe off excess grease. **Excessive grease will attract dirt.**

6) Tire air pressure (Towable Machine):

Fill each tire to rated capacity on tire on towable models.

3 MONTH MAINTENANCE

1) Grease discharge swivel plates:

Grease swivel plates for discharge as needed.

YEARLY MAINTENANCE

1) Grease wheel hub bearings (Towable Machine):

Inspect and clean wheel hub bearings, cups, and seals. Replace seals if ever removed. Grease wheel bearing with an EP-2 Lithium type grease. Remove rubber plug and pump grease into E-Z Lube zerk until all of the old grease is pumped out of the dust cap. Wipe off excess grease and replace rubber plug. **Excessive grease will attract dirt.**

DAILY START UP & MAINTENANCE CHECK LIST

Each day before starting your machine these checks must be made:

	O.K.	Repaired
1) Check the safety decals and engine gauges, replace if damaged.	<input type="checkbox"/>	<input type="checkbox"/>
2) Check, maintain, and service all safety equipment for proper operation: pusher tool, etc.	<input type="checkbox"/>	<input type="checkbox"/>
3) Check entire machine for loose nuts, bolts, and components.	<input type="checkbox"/>	<input type="checkbox"/>
4) Check all guards to make sure they are tight and securely in place.	<input type="checkbox"/>	<input type="checkbox"/>
5) Make sure infeed hopper hinge operates correctly, is not damaged, and is lubricated.	<input type="checkbox"/>	<input type="checkbox"/>
6) Open infeed hopper and check for any foreign objects in chipper housing or knife pockets.	<input type="checkbox"/>	<input type="checkbox"/>
7) Check the condition of chipper drum assembly.	<input type="checkbox"/>	<input type="checkbox"/>
8) Carefully rotate the chipper drum with a pry bar or wood bar to insure proper anvil clearance. If chipper drum is jammed with debris or frozen in place, do not attempt to start engine until chipper drum rotates freely.	<input type="checkbox"/>	<input type="checkbox"/>
9) Check the condition of your knives, anvil, and attaching hardware.	<input type="checkbox"/>	<input type="checkbox"/>
10) Properly torque knife mounting hardware.	<input type="checkbox"/>	<input type="checkbox"/>
11) Make sure chipper hood is installed and the bolts are tight.	<input type="checkbox"/>	<input type="checkbox"/>
12) Grease chipper bearings (purge) daily.	<input type="checkbox"/>	<input type="checkbox"/>
13) Grease jack shaft bearings (purge) daily (PTO model only).	<input type="checkbox"/>	<input type="checkbox"/>
14) Check and/or adjust belt tension on chipper.	<input type="checkbox"/>	<input type="checkbox"/>
15) Check all hoses, fittings, lines, and tanks for damage and fluid leaks.	<input type="checkbox"/>	<input type="checkbox"/>
16) Check fuel level. (Running out and repriming is time consuming).	<input type="checkbox"/>	<input type="checkbox"/>
17) Check engine oil, coolant levels, and correct engine speed. Follow ENGINE MANUFACTURER'S manual specs.	<input type="checkbox"/>	<input type="checkbox"/>
18) Check and clean cooling fins, fan, and debris screen.	<input type="checkbox"/>	<input type="checkbox"/>
19) Check air cleaner or precleaner. Clean or replace as necessary.	<input type="checkbox"/>	<input type="checkbox"/>
20) Check condition of the tires.	<input type="checkbox"/>	<input type="checkbox"/>
21) Inspect and replace any axle dust caps that are damaged or leaking (towable model only).	<input type="checkbox"/>	<input type="checkbox"/>
22) Check infeed hopper and around the entire machine for any foreign objects, tools, cans, saws, etc.	<input type="checkbox"/>	<input type="checkbox"/>
23) Block the tires for stability before operation.	<input type="checkbox"/>	<input type="checkbox"/>
24) Make sure discharge is pointed in safe direction and clamped into place.	<input type="checkbox"/>	<input type="checkbox"/>
25) Review all safety procedures on decals, from manual, and from video.	<input type="checkbox"/>	<input type="checkbox"/>
26) Wear all applicable safety equipment: hard hat, face shield, gloves, eye protection, ear protection, etc.	<input type="checkbox"/>	<input type="checkbox"/>
27) Remember to check EVERYTHING on the checklist.	<input type="checkbox"/>	<input type="checkbox"/>



WEEKLY CHECK LIST

- | | O.K. | Repaired |
|---|--------------------------|--------------------------|
| 1) Check anvil clearance, tightness, and wear. | <input type="checkbox"/> | <input type="checkbox"/> |
| 2) Check alternator and fan belts on engine (if equipped). | <input type="checkbox"/> | <input type="checkbox"/> |
| 3) Check wheel lynch pins. Check and retighten wheel lug nuts and bolts. | <input type="checkbox"/> | <input type="checkbox"/> |
| 4) Check and retighten fuel tank mount bolts. | <input type="checkbox"/> | <input type="checkbox"/> |
| 5) Lubricate steel friction areas: pivoting, hinged, sliding, & rotating areas (i.e. castor wheel mount bar, discharge flipper, etc). | <input type="checkbox"/> | <input type="checkbox"/> |

MONTHLY CHECK LIST

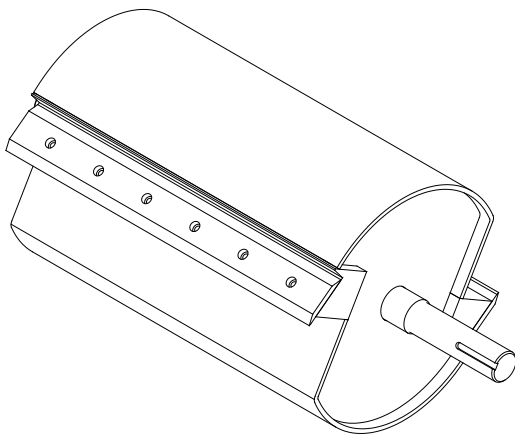
- | | O.K. | Repaired |
|---|--------------------------|--------------------------|
| 1) Grease castor wheel pivot bushings (1 to 2 shots). | <input type="checkbox"/> | <input type="checkbox"/> |
| 2) Check discharge, and infeed hopper for wear. | <input type="checkbox"/> | <input type="checkbox"/> |
| 3) Check, retighten chipper bearing and chipper sheave bolts. | <input type="checkbox"/> | <input type="checkbox"/> |
| 4) Grease wheel bushings (1 to 2 shots). | <input type="checkbox"/> | <input type="checkbox"/> |
| 5) Grease wheel bearings - keep full (towable model only). | <input type="checkbox"/> | <input type="checkbox"/> |
| 6) Check and fill tires to rated pressure (towable model only). | <input type="checkbox"/> | <input type="checkbox"/> |

3 MONTH CHECK LIST

- | | O.K. | Repaired |
|--|--------------------------|--------------------------|
| 1) Grease swivel plates for discharge as needed. | <input type="checkbox"/> | <input type="checkbox"/> |

YEARLY CHECK LIST

- | | O.K. | Repaired |
|--|--------------------------|--------------------------|
| 1) Inspect and clean wheel hub bearings, cups, and seals. Grease wheel hub bearings. Replace seals if ever removed. (towable model only) | <input type="checkbox"/> | <input type="checkbox"/> |



⚠ WARNING

WHEN YOU CHANGE CHIPPER KNIVES

CHECK CHIPPER DRUM ASSEMBLY FOR CONDITION OF KNIFE BOLT THREADS, SECURE WELDS, TORQUED BOLTS, EXCESSIVE WEAR AND IMPACT CRACKS. IF PROBLEM FOUND CONTACT CHIPPER MANUFACTURER, OR AUTHORIZED CHIPPER DEALER.

MAINTENANCE SECTION

BOLT TORQUE CHART			
(THESE TORQUES ARE BASED ON DRY, CLEAN THREADS)			
DESCRIPTION	BOLT SIZE	TORQUE (FT.-LBS.)	TORQUE(Nm)
Chipper Drum Bearing Bolts	1/2" - 13 NC	80 - 90	108 - 122
Drum Bearing Lock Collar	1/4" - 28 NF	15	20
Anvil	3/8" - 16 NC	26 - 30	35 - 40
Knife Bolts	3/8" - 16 NC	28 - 30	38 - 40
Engine Hold Downs	3/8" - 16 NC	33	45
Sheave Bushing "SH"	1/2" - 13 NC	9	12
Sheave Bushing "SK"	1/2" - 13 NC	15	20
Sheave Bushing "SF"	3/8" - 16 NC	30	41
Sheave Bushing "1210"	1/2" - 13 NC	14	19

Before tightening bolts be sure you have the correct size bolt for the correct amount of torque.
Use only factory approved knives and hardware.

<u>BASIC WHEEL TORQUE REQUIREMENTS (per mfg.)</u>	
KEEP LUG NUTS PROPERLY TIGHTENED, CHECK NEW UNIT BEFORE OPERATION, CHECK AGAIN AFTER 20-25 MILES (32-40 km) AND REGULARLY CHECK AT LEAST WEEKLY.	
5 & 6 Lug Hubs (1/2" - 20 Studs)	90 - 120 ft.-lbs. Torque (122 - 163 Nm)
8 Lug Hubs (1/2" - 20 Studs)	90 - 120 ft.-lbs. Torque (122 - 163 Nm)
8 Lug Hubs (9/16" - 18 Studs)	110 - 120 ft.-lbs. Torque (149 - 163 Nm)
8 Lug Hubs (5/8" - 18 Studs)	190 - 210 ft.-lbs. Torque (258 - 285 Nm) (Cone Nut)
8 Lug Hubs (5/8" - 18 Studs)	275 - 325 ft.-lbs. Torque (373 - 441 Nm) (Flange Nut)
10 Lug Hubs (3/4" - 16 Studs)	450 - 500 ft.-lbs. Torque (610 - 678 Nm)
<small>(Consult axle manufacturers manual shipped with each machine for specific axle-stud-wheel combination lug nut torques.)</small>	

PAINT CARE

To help keep up the appearance of your Bandit Equipment and reduce the possibility of surface rust follow these steps:

- 1) The machine should be washed on a regular basis with a non-abrasive mild detergent and then rinsed thoroughly. Do not pressure wash sensitive areas like: decals, gauges, electronic devices, autofeed control, etc.
- 2) If a stone chip, paint scratch, or paint crack occurs - it should be repaired immediately. Simply sand the edges of the damaged paint area, mask off the surrounding area and apply primer and paint to the dry, clean, and warm surface. This will help keep the damaged area from spreading or getting worse.
- 3) If you are unable to sand and mask the area, there are containers of primer and paint available. A small brush can be used to touch up the area.
- 4) Also, primer and most colors of paint are available in aerosol spray cans to simply spray over the effected area after it is cleaned, dry, and warmed. This method is not as reliable as the process in step #2.

It is also reported that some equipment owners polish their machine at least yearly, and keep good mud flaps on their towing trucks.

ANVIL ADJUSTMENT

⚠ DANGER

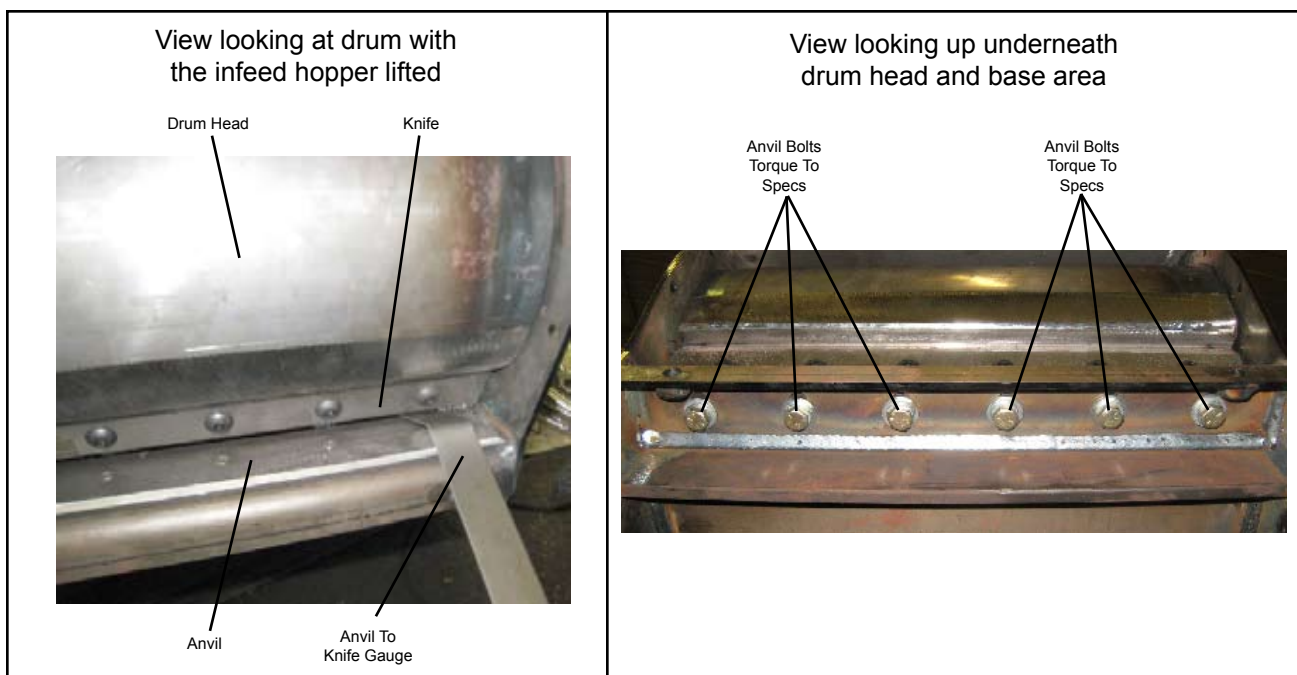
Before attempting any type of maintenance disengage clutch, turn off engine, wait for the disc/drum to come to a complete stop, install the disc/drum lock pin, disconnect battery, and make sure the ignition key is in your possession.

CHECK THE ANVIL TO KNIFE CLEARANCE

1. This clearance should be checked on a weekly basis or as knives are changed. To check the anvil clearance, follow all pre-maintenance shut down procedures. Once all safety procedures are completed the anvil to knife clearance can be checked.
2. In order to check the clearance, lift the infeed hopper and lock into position. Use a feeler gauge or the anvil to knife gauge supplied by Bandit to check the clearance of the first knife to the anvil. Check the clearance at the left and right sides of the knife.
3. Once that knife has been checked, remove the drum lock pin, and very carefully rotate the chipper drum so the other knives can be checked.
4. Once all knives have been checked, adjust the anvil according to the closest knife. The anvil to knife clearance should be .045" (1.1mm) to .065" (1.7mm).
5. Set the closet knife to this distance.

ANVIL ADJUSTMENT PROCEDURE

1. To adjust the anvil, loosen the anvil bolts from underneath the machine.
2. Once the components have been loosened, move the anvil to the correct clearance.
3. Once the knife is set to the correct clearance, .045" (1.1mm) to .065" (1.7mm), retighten all components.
4. Make sure bolts are torqued to their specific bolt torques refer to the Bolt Torque Chart.
5. Carefully rotate the chipper drum to make sure all the knives and hardware clear the anvil.



LUBRICATION CHART

#	DESCRIPTION	CHECK			PROCEDURE
		DAY	WEEK	MONTH	
1	Drum Bearings	X			Purge bearings daily - wipe off excess
2	Jack Shaft Bearings (PTO)	X			Purge bearings daily - wipe off excess
3	Infeed Hopper Hinge	X			Lubricate
4	Steel Friction Areas: pivoting, hinged, sliding, rolling		X		Lubricate (i.e. castor wheel mount bar, discharge flipper, etc)
5	Castor Wheel Pivot Bushings			X	1 to 2 shots of grease - wipe off excess
6	Wheel Bushings			X	1 to 2 shots of grease - wipe off excess
7	Wheel Bearings (Towable)			X	Grease until full - wipe off excess
8	Discharge Swivel Plates			3 Months	Grease as needed
9	Wheel Bearings (Towable)			Yearly	Purge yearly - wipe off excess



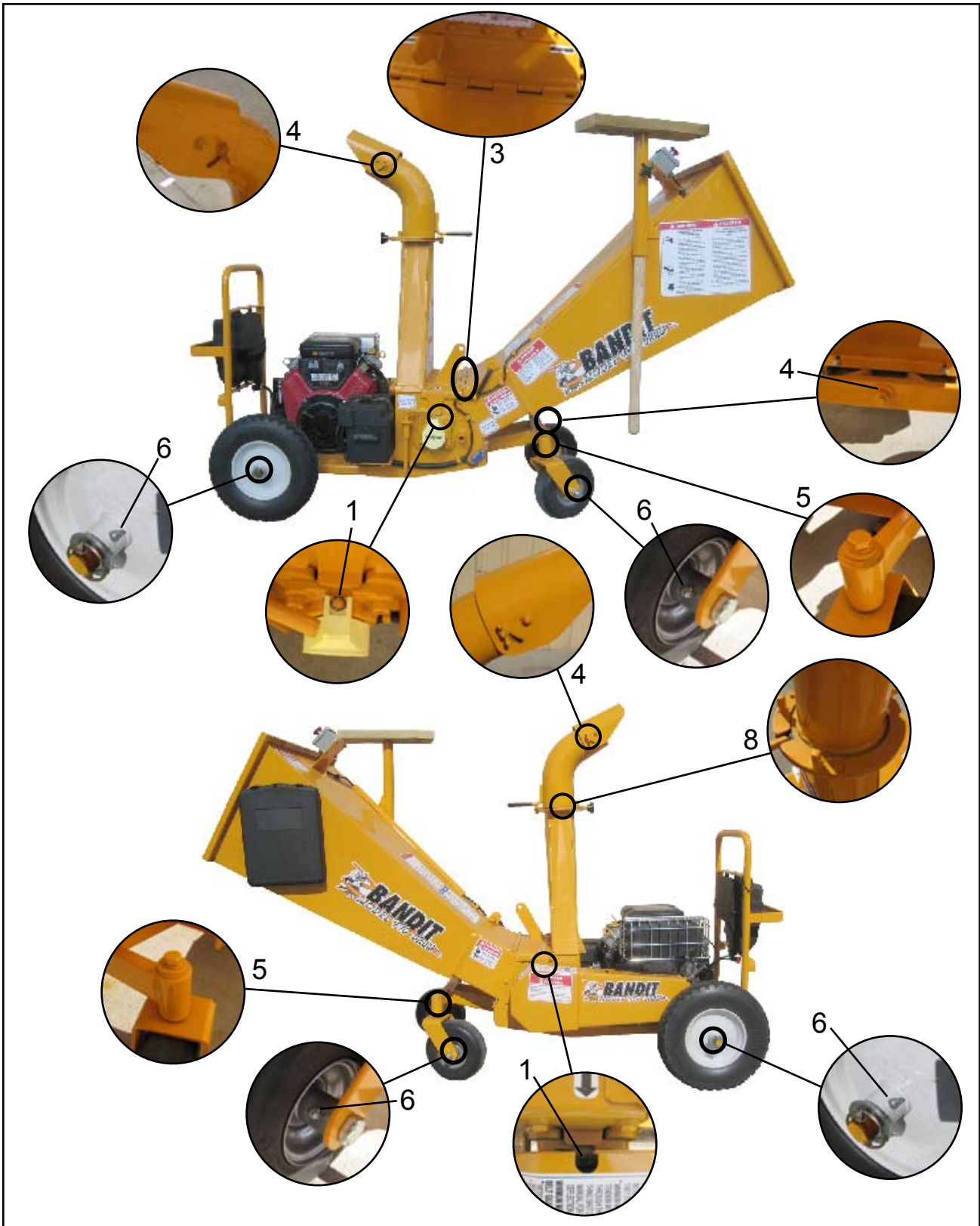
A right angle grease fitting may need to be used to grease some of the lubrication points. This type of grease fitting can be obtained from most local automotive parts stores.



NOTICE Use as a reference only, locations may vary depending on options or component manufacturer. Lubrication point instructions are described on the machine, in the Lubrication & Coolant Section and Maintenance Section of this manual, or component manufacturer's manual.

Bandit

LUBRICATION CHART



NOTICE Use as a reference only, locations may vary depending on options or component manufacturer. Lubrication point instructions are described on the machine, in the Lubrication & Coolant Section and Maintenance Section of this manual, or component manufacturer's manual.



BELT TENSION

GENERAL RULES FOR TENSIONING

1. Check tensioning during the first 2 through 48 hours of run-in operation especially.
2. Over tensioning or under tensioning shortens belt and bearing life.
3. Keep belts free from foreign materials that may cause the belt to slip.
4. Make V-drive inspection on a periodic basis. Never use belt dressing as this will damage the belt and cause early failure.
5. Belts should never be forced over the sheave. Allow enough room for belts to slip on.
6. Always make sure sheaves are aligned properly.

TENSIONING PROCEDURE

Main Drive Belts

Follow all pre-maintenance shut down procedures. Locate the center of the belt span between the sheaves. Push or pull on the belt until the belt has deflected 1/4" (6.4 mm). Record the push or pull force. The force should be 8 to 9 lbs./belt (3.6 to 4.1 kg/belt) for an engine powered machine or 7 to 8 lbs./belt (3.2 to 3.6 kg/belt) for a PTO machine. Adjust the belt tension if the force falls outside of this range. If belts are not properly adjusted belts will slip, glaze over, and be ruined. This is NOT covered by warranty.

- 1) Remove beltshield.
- 2) To adjust the belt tension, loosen the four engine mounting bolts and the jam nuts on the engine adjuster on the fan or front side of the engine.
- 3) Adjust the belt tension with the engine adjuster on the crank shaft end of the engine. If you have to push the engine with the adjuster, the belts will tighten slightly after the engine is realigned.
- 4) Use the engine adjuster on the fan or front side of the engine to realign the engine, so the engine sheave and chipper sheave are aligned. The sheaves can be checked with a string or straight edge.
- 5) Torque the two engine mounting bolts (see Torque Chart for the correct torque) on the opposite side of the engine from the engine adjusters.
- 6) Loosen the jam nuts on the engine adjuster on the fan or front side of the engine.
- 7) Torque the engine mount bolt and then tighten the engine adjuster jam nuts on the fan or front side .
- 8) Hand tighten the remaining engine mount bolt and loosen the engine adjuster jam nut on the crank shaft end half a rotation. Loosen the engine adjuster jam nuts all the way and torque the engine mount bolt.
- 9) Tighten the engine adjuster jam nuts on the crank shaft end.
- 10) Recheck the belt tension and alignment, if readjustment is needed go back to step 2.
- 11) Reinstall beltshield.

NOTICE lbs./belt (kg/belt) is per 1 belt. If equipped with 4 groove poly band belt, lbs./belt (kg/belt) must be multiplied by 4. If equipped with two 3 groove poly band belts, lbs./belt (kg/belt) must be multiplied by 3 for each poly band belt.

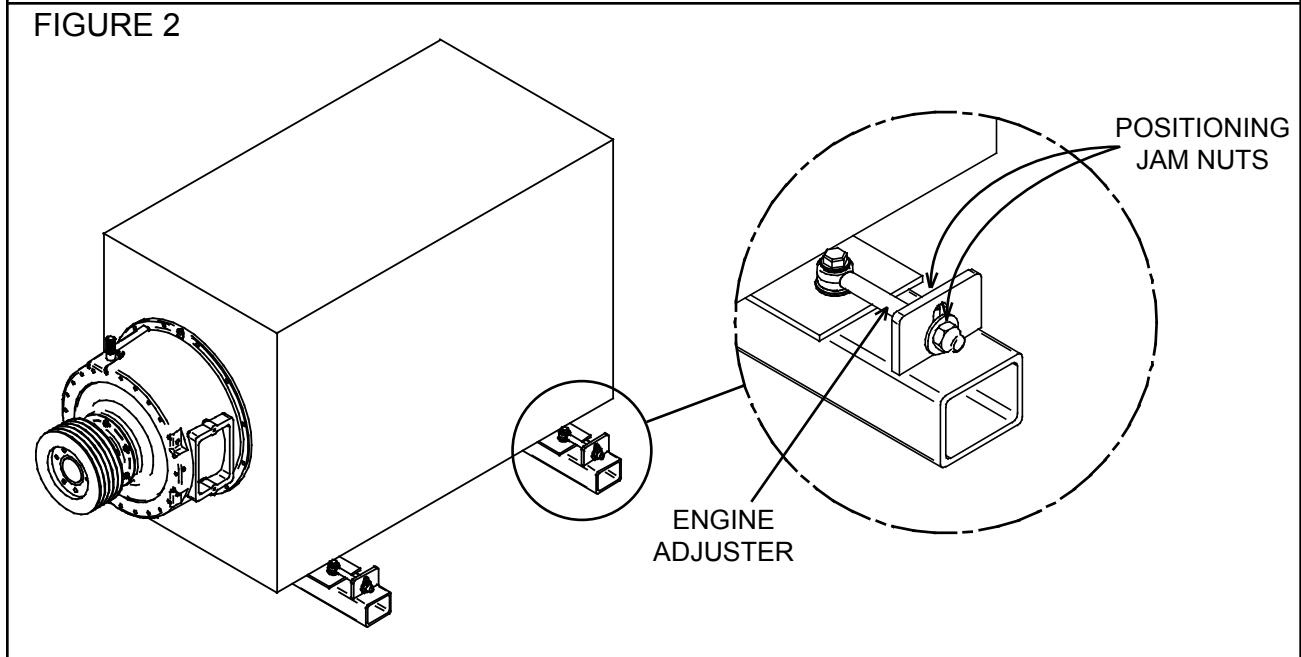
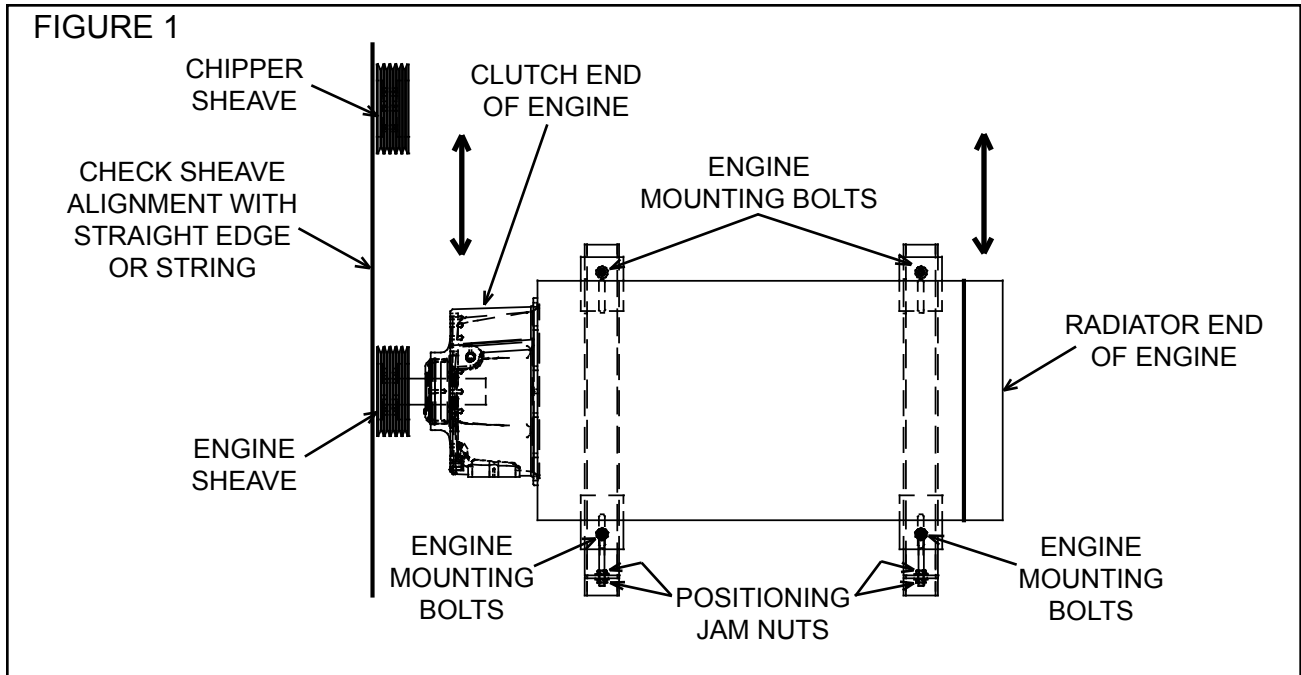
NOTICE It is a good practice to rotate the belts during tensioning. Then recheck deflections. The belts may need to be tightened again.

DO NOT IGNORE THIS MAINTENANCE RULE!

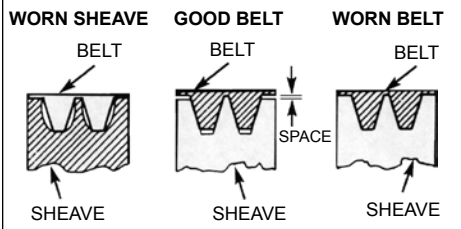
New belts stretch very soon and must be adjusted several times in the first few hours of operation. Adjust after one hour of operation, then every four hours until the belts quit stretching.

Failure to do this will cause the belts to burn and fly off. **THIS FAILURE IS NOT COVERED BY WARRANTY!**

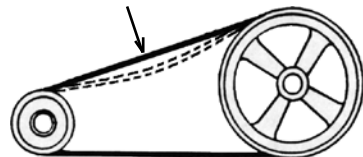
BELT TENSION



Worn or misaligned belts and sheaves in the power train causes belt slippage, thus power loss. Keep the power train working for you, not against you, by checking for needed adjustment or replacement.



Main Drive belts maximum of 1/4" deflection with 8 to 9 lbs. of force for engine powered machine or 7 to 8 lbs. of force for PTO machine.



MAINTENANCE

PROCEDURE FOR UNPLUGGING YOUR CHIPPER

If your chipper is plugging, it is usually caused by allowing the engine to drop below required R.P.M.'s. Operating the engine at speeds lower than full R.P.M.'s causes your chipper to plug. **Always run the chipper at full engine speed.** Dull chipper knives also contribute to chipper plugging. Dull knives can create slivers and chunks, causing the engine to lug excessively. Both of the aforementioned conditions cause a plugging situation.

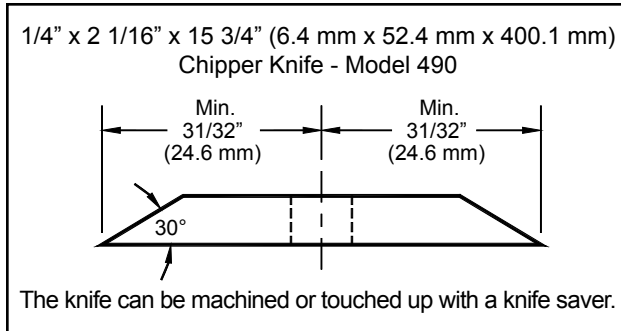
STEPS TO FOLLOW WHEN UNPLUGGING YOUR CHIPPER

1. Before attempting any type of maintenance turn off engine, wait for the drum to come to a complete stop, install the drum lock pin, disconnect battery, and make sure the ignition key is in your possession.
2. Make sure the chipper drum is **NOT** turning and then unbolt and remove the the chipper hood.
3. Unbolt the infeed hopper, lift the infeed hopper, and lock in the up position.
3. Using gloved hands and some type of raking tool, dig the chips out of the chipper housing.
4. If the discharge chute is plugged, use a raking tool to pull the majority of chips out of the open outlet end of the chute. Then, remove the chute. If used properly, a hoist can be used to assist in the removal of the chute.
5. Never allow one person to turn the chipper drum when someone else is working inside the chipper housing. More than likely, the chipper drum will turn hard then loosen causing it to turn faster. If another person is anywhere near the chipper drum, they may be injured.
6. Never turn the chipper drum by hand. Always use a pry bar or wood bar. This will prevent the person turning the drum from being injured should the drum break loose.
7. Reinstall the discharge chute, mount securely and point it in a safe direction away from anything.
8. Never leave the chipper hood off and try to start the engine to let the chipper drum blow chips out of the housing, this is very hard on the engine of the chipper and may cause damage. Also, the flying debris is very dangerous. An exposed chipper drum turning very fast creates an unsafe condition. In other words, **DO NOT** start the chipper with the hood removed or open because it is just too dangerous.
9. Once the drum turns freely, put the chipper hood back into position and bolt it, start engine, properly bring the throttle to full speed. Insert a small branch into the chipper drum. If the chips discharge properly, the chipper is clear and normal operation may resume.

CHIPPER SECTION

Knives should be replaced in sets. These sets are determined by the amount of resharpener done to the knives. It should be reinstalled with another knife of comparable usage. It helps to keep the disc/drum balanced, and it helps maintain chip quality.

NEVER allow these knives to wear beyond absolute specified minimum distance from the center line of bolt.



⚠ DANGER

Chipper knives are sharp and can be dangerous. It is always necessary for your protection to be extra careful and wear proper hand protection when handling knives.

⚠ DANGER

The knives must be securely fastened and torqued in position. If one comes loose or breaks during operation, someone or something may get injured.

TROUBLE SHOOTING CHIPPER PROBLEMS

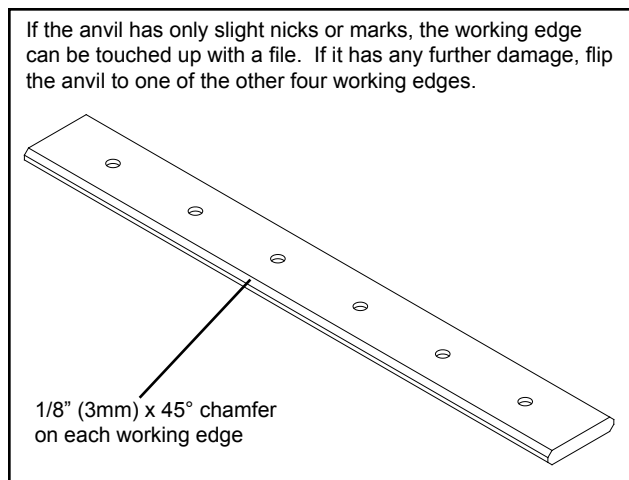
- 1) **Chipper Makes Poor Quality Chips or Does Not Feed Properly.**
 - A. Knives have lost their edge. File, grind or replace knives. **DO NOT** operate the Bandit with dull knives.
 - B. Knife anvil worn or needs adjustment. Rotate, repair or replace (see below).
 - C. Chipper drum is not operating properly.
 - D. The throat/base opening is a high-wear area. The feed plate anvil takes much of this wear but other areas wear as well. Attention must be paid to any areas where outer, noncutting edges of chipper knife are exposed. These areas must be built up with weld to maintain the original integrity.
 - E. Knives are at the wrong angle. Knives must be ground at a 30° to 30 1/2° angle.
 - F. Material being chipped is very small, dry or rotting. This type of material does not produce good chip quality.

- 3) **Discharge Plugs or Does Not Throw Chips Properly.**
 - A. Lugging engine on large material - keep engine RPM up.
 - B. Knives are dull or worn to minimum size.
 - C. Obstruction in discharge chute. Patches welded into the chute can cause obstruction of chip flow. Anything causing an obstruction will cause the chute to plug.
 - D. Chipping rotting material that has little substance can also plug the discharge chute.
- 4) **Chipper Bearings Running Too Hot.**
 - A. Improper lubrication - purge bearings once a day with EP-2 Lithium type grease.
 - B. Chipper drum operating at too high RPM's. **DO NOT** exceed recommended RPM's.
 - C. Bearings worn out (REPLACE).
 - D. Bearing lock collar is loose.

- 2) **Chipper Knife Hits Anvil.**
 - A. Check the anvil clearance at both sides of the knife by using a feeler gauge, the clearance should be approximately .045" to .065" (1.1 to 1.7 mm) from the highest knife.
 - B. Check the chipper bearing bolts for tightness (SEE TORQUE CHART).

⚠ DANGER

Make sure the knife bolt heads clear the anvil anytime the chipper knives are changed/flipped or if the anvil has been adjusted.



Bandit

KNIFE GRINDING AND FILING

Only Bandit knives and hardware are recommended for use in your Bandit chippers. Only then can you be assured of a quality product that fits and performs the best to the standards of excellence that is expected from the Bandit chipper.

Chipper knives **MUST** be kept sharp at all times for the ultimate chipper and knife performance. The main cause of poor cutting performance is dull knives.

Dull Knives Cause:

- Excessive waste of engine horsepower
- Bad quality chips; chunks, slivers, etc.
- Excessive strain on knives and mounting hardware
- Excessive strain on chipper disc/drum bearings and total machine
- Excessive chipping vibration damaging the machine
- Excessive strain on drives, PTO's, engines, etc.
- Increase the probability of the discharge plugging and decreases the throwing distance
- Loss of time and money

The Dulling Of Chipper Knives Is Caused By:

- Poor quality knives
- Improper anvil to knife clearance
- Force feeding wood faster than chipper will accept
- Dirt, grit, or foreign material on the wood
- Chipper knives ground at wrong angle
- Improper care of knives and knife hardware

These are just a few factors, there are other situations that can lead to the dulling of chipper knives.

NOTICE

Many times a chipper knives cutting edge/point can be brought back to a good edge with a #10 Flat Bastard Mill File. This can reduce the amount of regrinding.

Typical Knife Grinding Angles:

"Bolt-In" Knives = 30° to 30 1/2° Angle

Knives should be replaced in sets. These sets are determined by the amount of resharping done to the knives (knife width). Regrinding knives reduces the width of the knife. Knife replacement should be done in sets of the same width knives. That will reduce chipping vibration and increase chipping performance.

NOTICE

- Keep knives sharp.
- Keep knife angle correct when grinding.
- Do not over grind so knife is narrower than allowed width, or you will pack wood and break knives.
- Use correct knife size, knife quality, knife mounting hardware, and torque knife mounting hardware to the specified torque.
- Replace knife mounting hardware after (5) times of tightening.

CAUTION

Do not grind the knives in a direction which produces a radius, or hollow grind, on the surface of the knife. Strength and life of the cutting edge is reduced.

- For maximum chipper efficiency, the original cutting angle must be maintained when the knives are sharpened. The knives should be machine ground to produce a flat, straight edge.
- Do not sharpen the knives with a hand held power grinder. The knife angle can't be held and heat will distort the metal.
- Sharpening techniques should be the same as those employed for any high carbon steel cutting edge. Use a coolant and exercise care not to draw temper or crack the cutting edges by excessive heating.
- Knives may be sharpened repeatedly as long as their original width is not reduced to less than the specified minimum width. If a knife measures less than the specified minimum width after sharpening, it must be discarded.
- Inspect the knives after grinding to ensure the knives are free of cracks.
- Maintain spare sharpened knives to avoid downtime for knife sharpening.

NOTICE

USE CORRECT KNIFE AND HARDWARE

DO NOT use a size or style chipper knife, bolt or nut other than factory approved for this chipper - see manual.

DO NOT over torque or under torque knife bolts and nuts - see manual.

DO NOT resharpen knife more than minimum width - see manual.

DO NOT use a knife bolt or nut which has been tightened over (5) times - replace.



DO NOT improperly install the knife nuts. Flat surface of nut goes toward the chipper disc.

KNIFE CHANGING PROCEDURE

DANGER

Before attempting any type of maintenance disengage clutch, turn off engine, wait for the disc/drum to come to a complete stop, install the disc/drum lock pin, disconnect battery, and make sure the ignition key is in your possession.

DANGER

The knives must be securely fastened and torqued in position. If one comes loose or breaks during operation, someone or something may get injured.

DANGER

Chipper knives are sharp and can be dangerous. It is always necessary for your protection to be extra careful and wear proper hand protection when handling knives. Before changing knives make sure all shut down procedures are followed.

DANGER

Make sure the knife bolt heads clear the anvil anytime the chipper knives are changed/flipped or if the anvil has been adjusted.

Only Bandit knives and hardware are recommended for use in your Bandit chippers. Only then can you be assured of a quality product that fits and performs the best to the standards of excellence that is expected from the Bandit chipper.

1. Before attempting any type of maintenance turn off engine, wait for the drum to come to a complete stop, install the drum lock pin, disconnect battery, and make sure the ignition key is in your possession.
2. Remove the bolts from the bottom of the infeed hopper.
3. Carefully lift the infeed hopper and use the spring lock to hold the infeed hopper up. Do not let the infeed hopper down slam. This will cause damage to the hinge. If the hinge becomes damaged by slamming the infeed hopper, replace the hinge immediately! If the hinge has become damaged, it will cause misalignment, the chipper drum may hit the infeed hopper and cause a serious accident!
4. Changing the chipper knives is a two person job. One person, using a wooden block, holds the chipper knife in place while the other person removes the chipper knife hardware. Remove all of the knives in each pocket. Typically a 7/32" hex wrench or hex bit socket is required to change or torque the knife hardware.
5. Once the knives have been removed, inspect the knife pocket. Check for secure welds, excessive wear, impact cracks, and the condition of the knife bolt threads. If a problem is found, contact your local dealer or Bandit Industries.
6. Clean out the knife pocket at this time. Remove all debris from the pocket and knife bolt holes.
7. Sharpen, rotate, or replace the chipper knife. Knives should be professionally ground, maintaining angle and dimensional specifications. Knives should be replaced in sets. These sets are determined by the amount of resharpening done to the knives. It should be reinstalled with another knife of comparable usage. It helps to keep the drum balanced, and it helps maintain chip quality. Do not allow the knives to wear beyond the absolute minimum specified distance from the center line of the bolt hole. Reinstall the chipper knives. Make sure to properly torque the knife hardware, see Bolt Torque Chart. Knife mounting hardware must be replaced after maximum of 4 - 5 knife rotations/changes to insure safe clamping ability. All knives and knife mounting hardware must be factory approved.
8. Remove the drum lock pin. Very carefully, manually with a bar, turn the chipper drum to the next knife pocket. Reinstall the drum lock pin.
9. Repeat steps 6 through 10, for each knife pocket.
10. Once the knives have been changed or rotated, check the anvil clearance. Make sure the clearance is maintained to the specified distance from the highest knife. Do Not under any circumstance attempt to rotate the chipper drum while someone is inside the infeed hopper. They may become seriously injured, Do Not Do This!
11. Close the infeed hopper and reinstall the bolts for the infeed hopper..

Bandit

LUBRICATION & COOLANT

1) Engine:

Follow original equipment manufacturer's requirements for both changing oils and filters, refer to engine manual specifications.

2) Engine Coolant:

Refer to engine manufacturer's manual specifications.

3) Infeed Hopper Hinge:

Make sure the infeed hopper hinge operates correctly, and is lubricated daily. Must replace hinge if damaged.

4) Steel Friction Areas:

Lubricate all steel friction areas including, but not limited to pivoting, hinged, sliding, and rotating areas weekly. (i.e. castor wheel mount bar, discharge flipper, etc.)

5) Discharge Swivel:

Grease swivel plates for discharge every 3 months or as needed.

6) Chipper Bearings:

Use an EP-2 Lithium type grease only for all bearings. Purge chipper bearings daily with grease you can not over grease these bearings. The bearings are designed with a relief system that will not allow over greasing. In other words, you can not hurt the bearing seals by pumping in too much grease. Wipe off excess grease.

Excessive grease will attract dirt.

Most of the failures related to bearings are diagnosed as "Contamination". Contamination is caused by improper lubrication.

Especially important is proper lubrication when the chipper is setting idle. The bearings must be fully purged when shut down. Then the bearings must be again fully purged each thirty (30) days and the machine allowed to run for approximately 10 minutes. Then fully purged again before the machine is put back into operation. Failure to do this will ruin the bearings. Bearings corrode when the machine is setting idle.

The second largest cause of bearing failure is operating them at high speeds when the grease is cold. This causes the bearing race to turn on the shaft. Naturally this ruins the bearing as well as the shaft. Allow the bearings to turn at slower speeds for at least five minutes. Also check the bearing lock collar set screws or bearing locknut for tightness each 30 days. Loose set screws or locknut allows the race to turn on the shaft. Failed bearings diagnosed as contamination or cold starts at high speed are not covered by warranty of the bearing manufacturer.

7) Jack Shaft Bearings (PTO Machines):

Use an EP-2 Lithium type grease only for all bearings. If the machine is PTO powered, purge jack shaft bearings daily with grease you can not over grease these bearings. The bearings are designed with a relief system that will not allow over greasing. In other words, you can not hurt the bearing seals by pumping in too much grease. Wipe off excess grease. **Excessive grease will attract dirt.**

8) Castor Wheel Pivot Bushings:

Grease castor wheel pivot bushings with 1 to 2 shots of an EP-2 Lithium type grease monthly. Wipe off excess grease. **Excessive grease will attract dirt.**

9) Wheel Bushings:

Grease wheel bushings with 1 to 2 shots of an EP-2 Lithium type grease monthly. Wipe off excess grease. **Excessive grease will attract dirt.**

10) Wheel Bearings (Towable Machines):

On towable machines, grease wheel bearings until full with an EP-2 Lithium type grease monthly. Yearly, inspect and clean wheel hub bearings, cups, and seals. Replace seals if ever removed. Grease wheel bearing with an EP-2 Lithium type grease. Remove rubber plug and pump grease into E-Z Lube zerk until all of the old grease is pumped out of the dust cap. Wipe off excess grease. **Excessive grease will attract dirt.**

REPLACEMENT PARTS SECTION

Depending on what replacement parts you are ordering
the following information will be needed:

CHIPPER COMPONENTS

Serial Number
Model Number of Chipper

ENGINE COMPONENTS

Brand
Engine Serial Number
Engine Spec. Number

CLUTCH COMPONENTS

Brand
Serial Number
Assembly Number of Clutch

NOTICE

When ordering any replacement parts you should have the serial number (S/N) and model of the machine to ensure that you receive the correct replacement part. See page 6 for typical serial number & work order number locations.

NOTICE

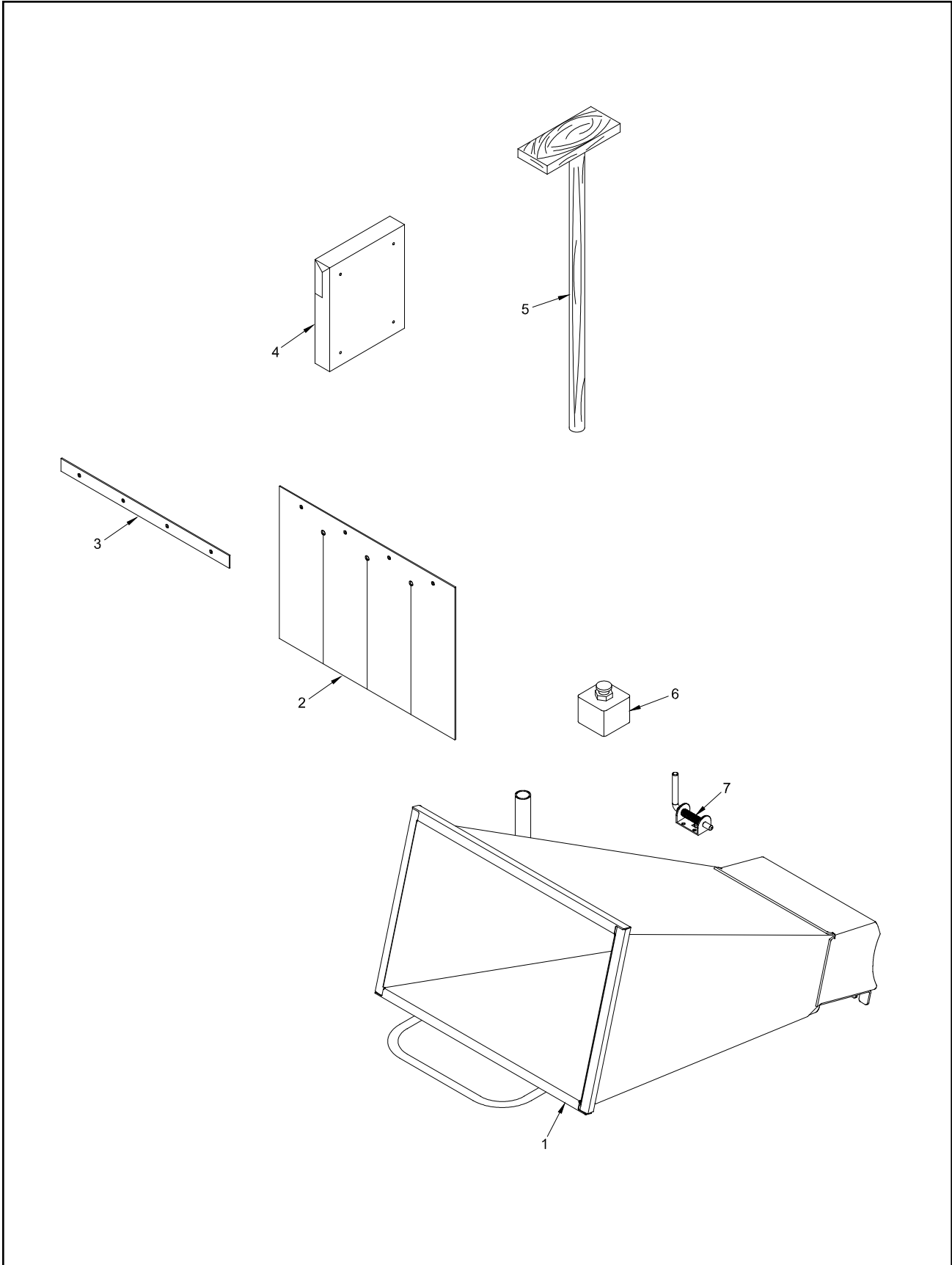
All nuts, bolts, washers, and many other components can be ordered by physical description.

NOTICE

Some of the components shown in this section are for optional equipment and may not apply to every machine.

NOTICE

Bandit Industries Inc. reserves the right to make changes in models, size, design, installations and applications on any part without notification.

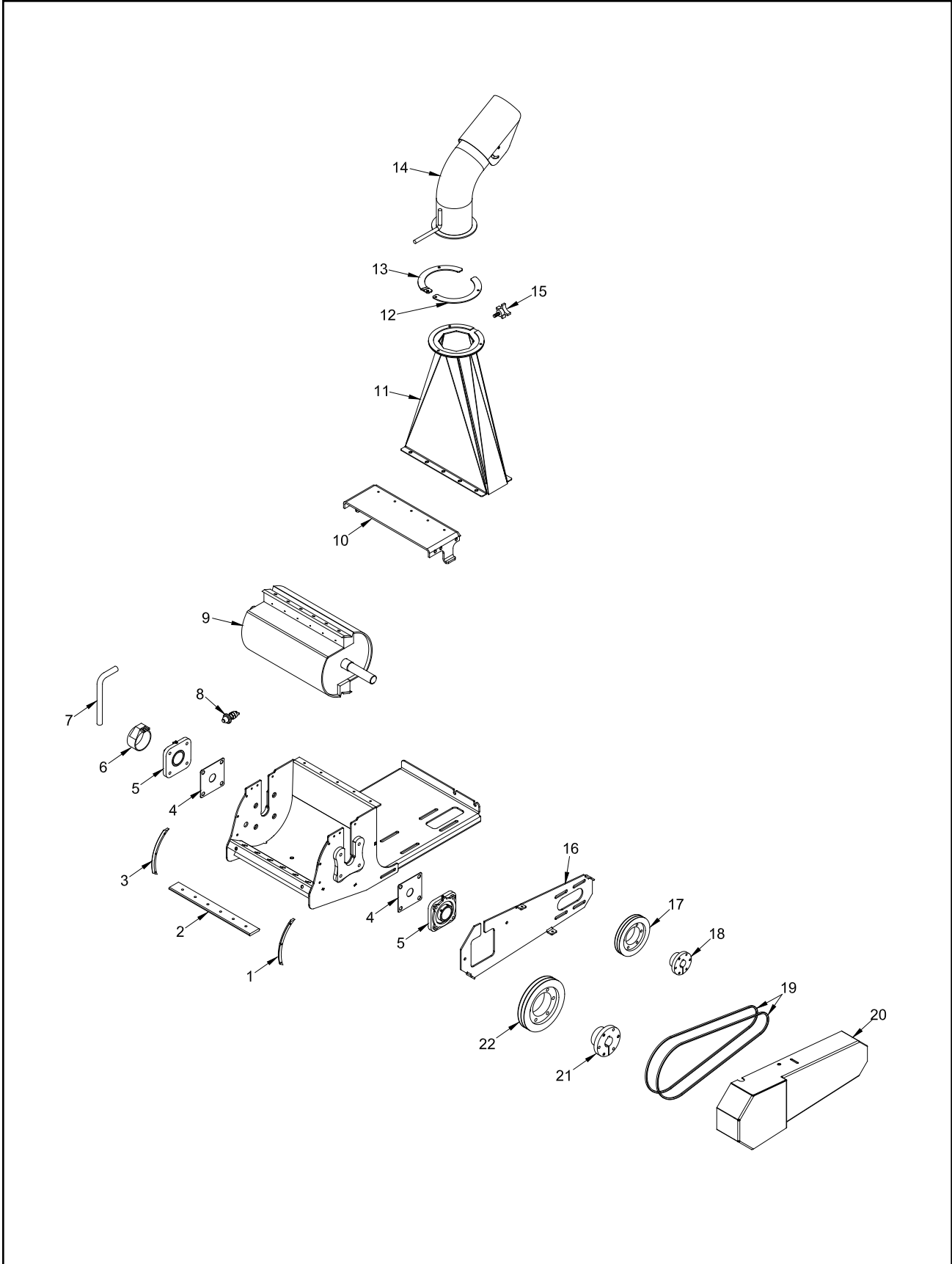


NOTICE Parts may not be exactly as shown.

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LOCATION	PART NUMBER	DESCRIPTION
1.	932-2000-03	Infeed Hopper Assembly
2.	900-7901-54	Rubber Infeed Hopper Curtain
3.	932-3000-45	Mount Strap For Infeed Hopper Curtain
4.	900-9902-72	Manual Holder
5 a.	980-0507-42	Wooden Push Paddle (Modified To 17" Wide)
b.	900-4914-18	Plastic Knob For Push Paddle Mount (Not Shown)
6 a.	900-2905-41	Contact Block Only For Rear Engine Shut Down Switch
b.	900-2901-03	Red Push Button Assembly For Rear Engine Shut Down Switch
c.	900-2901-06	Box For Rear Engine Shut Down Switch
7 a.	900-4901-83	Spring Lock Pin
b.	900-7900-93	Rubber Cap For Spring Lock

NOTICE Nuts, bolts, washers, and all other components can be ordered by physical description.



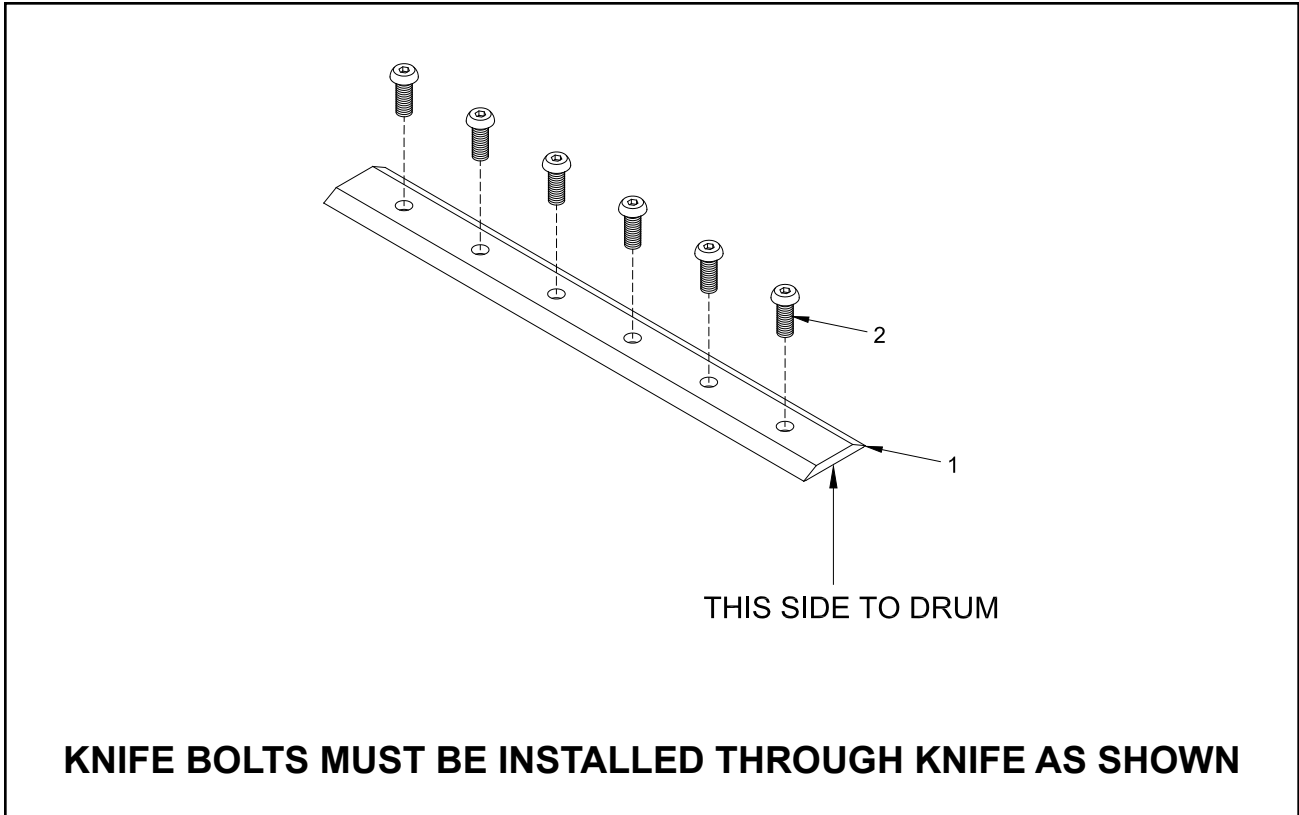
NOTICE Parts may not be exactly as shown.

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LOCATION	PART NUMBER	DESCRIPTION
1.	932-3000-09	Drum Scrapper - Right Side
2.	See Page ??	Anvil
3.	932-3000-10	Drum Scrapper - Left Side
4.	932-3000-26	Bearing Backer Plate
5 a.	900-1916-52	Chipper Drum Bearing
b.	900-4912-37	Bearing Bolt (1/2"-13NC x 1" SHCS)
6.	900-1916-70	Bearing Cover
7.	626-300068	Drum Head Lock Pin
8.	900-2921-55	Infeed Hopper Limit Switch
9 a.	932-2000-02	Chipper Drum Head Assembly
b.	932-2000-10	Chipper Drum Head Assembly - PTO
c.	See Page ??	Chipper Knife & Hardware
10.	932-3000-11	Top Base Cover
11.	932-2000-04	Transition Assembly
12.	932-3000-21	Top Discharge Clamp
13.	932-3000-22	Top Discharge Clamp
14 a.	932-2000-05	Discharge Assembly
b.	932-3000-24	Flipper Only
c.	900-7900-93	Rubber Cap (Not Shown)
15.	900-4915-76	Discharge Lock Knob
16.	932-3000-40	Beltshield Back
17.	**	Engine Sheave
18.	**	Engine Sheave Bushing
19.	**	Chipper Belt
20 a.	932-2000-07	Beltshield Assembly (Includes #16)
b.	932-2000-11	Beltshield Assembly - PTO
21.	**	Chipper Sheave Bushing
22.	**	Chipper Sheave

**** Components vary with engine options order by physical description or machine S/N.**

NOTICE Nuts, bolts, washers, and all other components can be ordered by physical description.



Part Numbers For Model 490 Knives

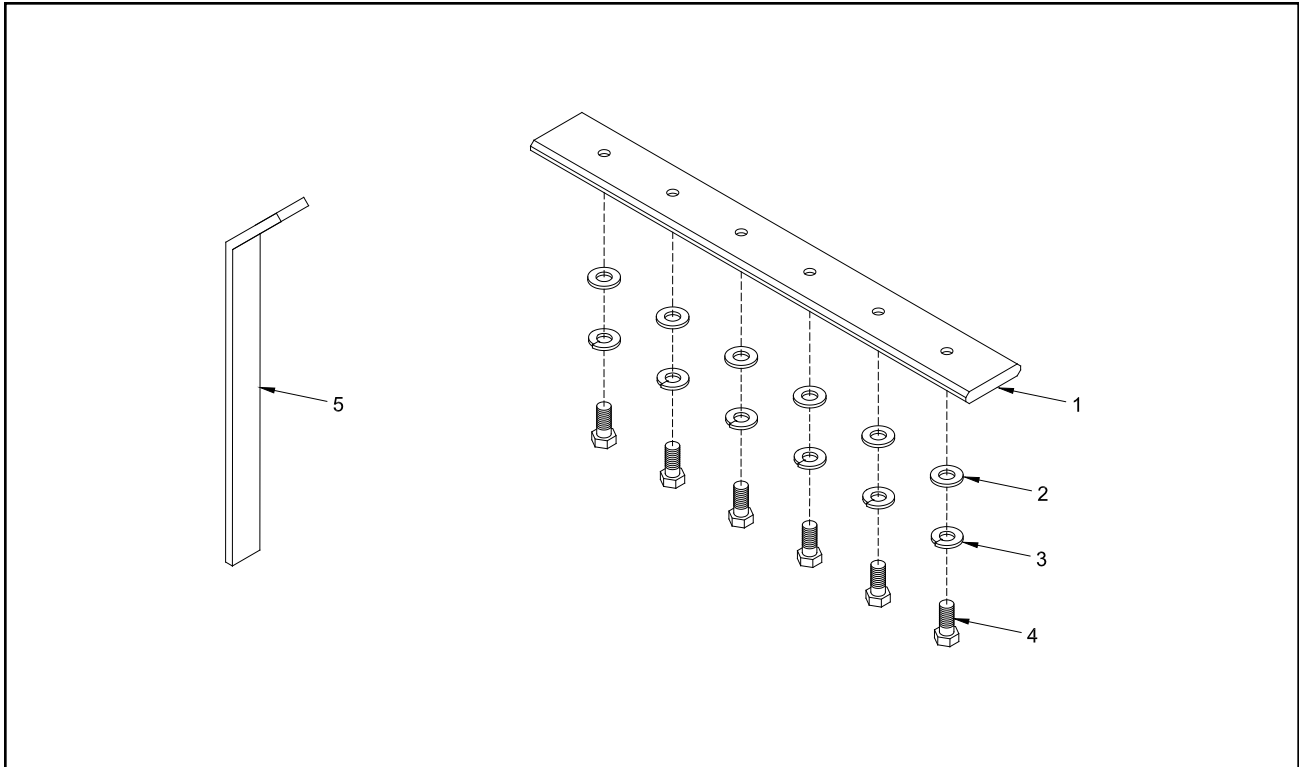
LOCATION	PART NUMBER	DESCRIPTION
1.	900-9908-62	1/4" x 2 1/16" x 15 3/4" Chipper Knife
2.	900-4915-61	3/8"-16NC x 1" BHCS Knife Bolt

NOTICE Torque Knife Bolts to 28 - 30 ft.-lbs. (38 - 40 Nm)

Part Numbers For Miscellaneous Knife Parts

LOCATION	PART NUMBER	DESCRIPTION
3.	900-9901-68	Knife Saver Kit (Not Shown)
4.	900-9901-65	File For Knife Saver Kit Only (Not Shown)
5.	900-9901-63	Replacement Blades For Knife Saver (Not Shown)

NOTICE Parts may not be exactly as shown.

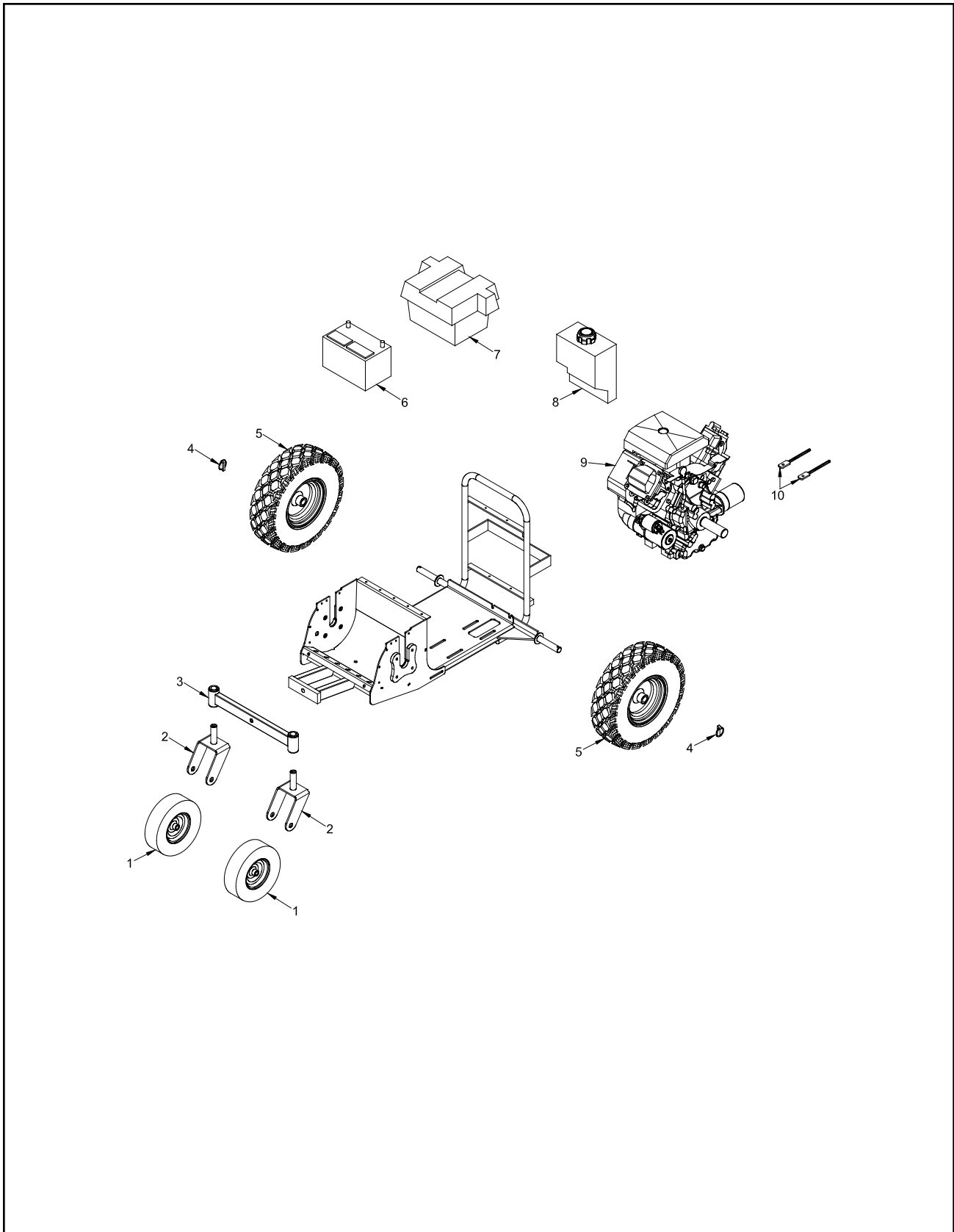


LOCATION	PART NUMBER	DESCRIPTION
1.	932-3000-05	Anvil Only
2.	900-4906-65	3/8" Flat Washer
3.	900-4906-62	3/8" Lock Washer
4.	900-4906-54	3/8"-16NC x 3/4" Hex Head Bolt
5.	981-1006-16	Anvil Gauge
6.	932-2000-08	Anvil & Hardware Kit (Includes 1 - 4)

NOTICE Torque Anvil Bolts to 26 - 30 ft.-lbs. (36 - 40 Nm)

NOTICE Parts may not be exactly as shown.

MANUAL PUSH



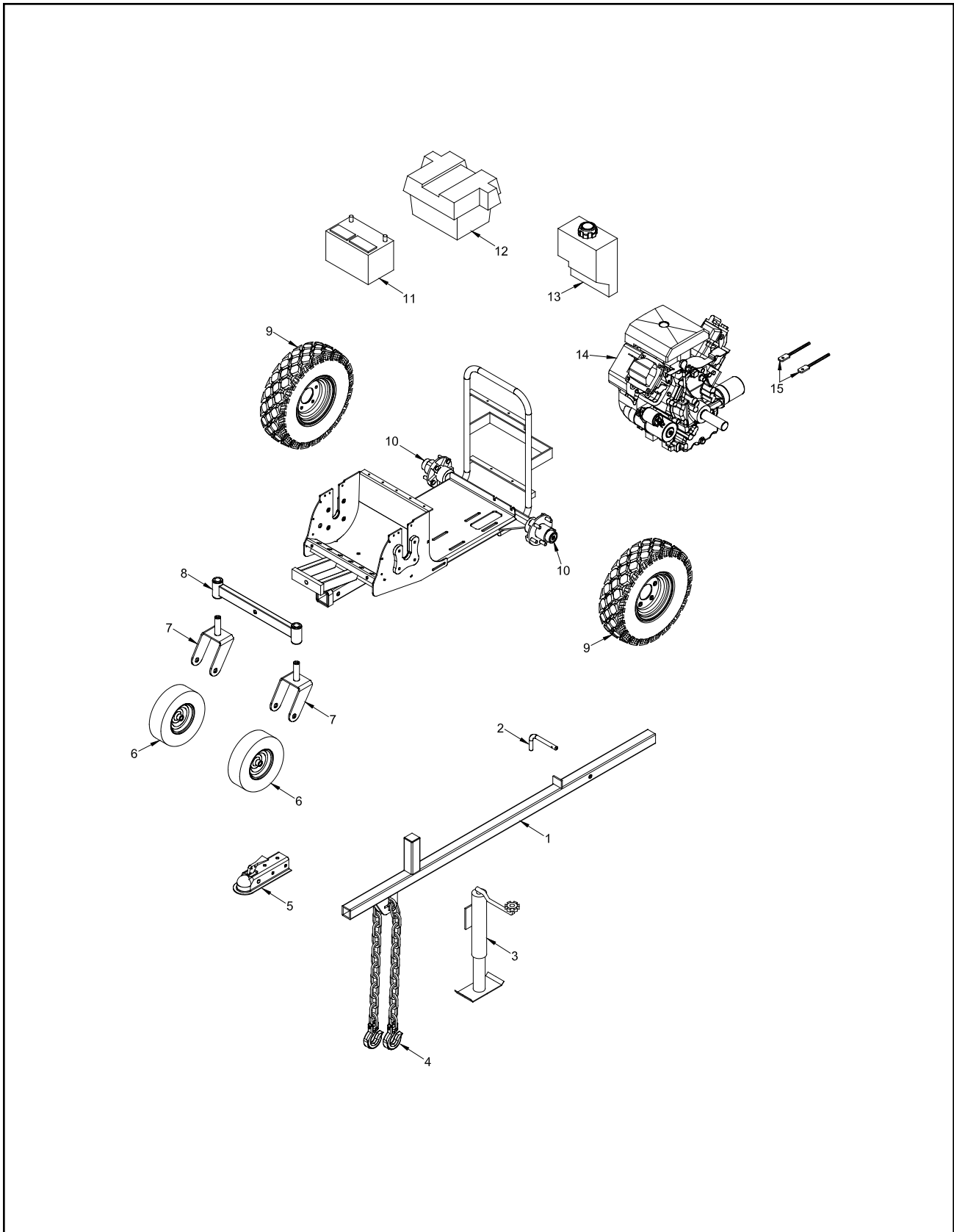
NOTICE Parts may not be exactly as shown.

Bandit

LOCATION	PART NUMBER	DESCRIPTION
1.	900-5909-82	9" x 3.50"-4" Flat Free Smooth Tire
2.	932-2000-17	Single Castor Wheel Mount
3 a.	932-2000-18	Mount Bar For Castor Wheels
b.	900-4915-50	Nylon Bushing
4.	900-4915-71	1/4" Lynch Pin
5.	900-5909-81	4.80"/4.00"-8" (15.75" O.D.) Flat Free Knobby Tire
6.	900-6911-34	340 CCA Battery
7.	900-7901-35	Plastic Battery Box for 340 CCA Battery
8 a.	900-6913-94	1.25 Gallon Fuel Tank With Cap
b.	900-3907-67	Tank Cap Only
c.	900-6913-96	Fuel Tank Shut Off
d.	900-6913-95	Grommet For Fuel tank
9 a.	900-6914-01	Tiny Tach
b.	900-6914-02	Muffler
c.	900-6914-03	Muffler Guard
10.	--	Engine Adjuster

NOTICE Nuts, bolts, washers, and all other components can be ordered by physical description.

TOWABLE



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Bandit

LOCATION	PART NUMBER	DESCRIPTION
1.	932-2000-15	Tongue Tube Assembly
2.	900-4908-00	Hitch Pin & Clip
3.	900-5910-19	Tongue Jack
4 a.	900-4912-36	Safety Chain With Hooks & Spring Latches
b.	900-4913-11	Hook For Safety Chain
5.	900-5904-67	2" Ball Coupler
6.	900-5909-82	9" x 3.50"-4" Flat Free Smooth Tire
7.	932-2000-17	Single Castor Wheel Mount
8 a.	932-2000-18	Mount Bar For Castor Wheels
b.	900-4915-50	Nylon Bushing
9.	900-5910-10	480 x 8" Tire And 5-Bolt Rim
10 a.	900-5905-37	Axle Spindle & Hub
b.	021-041-01	Grease Cap For Hub
c.	085-001-00	Rubber Plug For Grease Cap
d.	031-031-02	Inner & Outer Bearing For Hub
e.	031-031-01	Inner & Outer Bearing Cup For Hub
f.	010-060-00	Inner & Outer Seal For Hub
g.	900-5905-97	1/2"-20NF Stud Only
11.	900-6911-34	340 CCA Battery
12.	900-7901-35	Plastic Battery Box for 340 CCA Battery
13 a.	900-6913-94	1.25 Gallon Fuel Tank With Cap
b.	900-3907-67	Tank Cap Only
c.	900-6913-96	Fuel Tank Shut Off
d.	900-6913-95	Grommet For Fuel tank
14 a.	900-6914-01	Tiny Tach
b.	900-6914-02	Muffler
c.	900-6914-03	Muffler Guard
15.	--	Engine Adjuster

NOTICE Nuts, bolts, washers, and all other components can be ordered by physical description.

PTO COMPONENTS



NOTICE Parts may not be exactly as shown.

Bandit

LOCATION	PART NUMBER	DESCRIPTION
1 a.	900-1903-25	6 Spline Adaptor - 1 3/8" Dia. Shaft To 1 3/8" Dia. 6 Spline
b.	980-0113-54	21 Spline Adaptor - 1 3/8" Dia. Shaft To 1 3/8" Dia. 21 Spline
2.	932-3000-64	PTO Jack Shaft - 1 3/8" Diameter
3 a.	900-1901-96	PTO Jack Shaft Bearing - 1 3/8" Diameter
b.	900-4903-17	1/2"-13NC x 2 1/2" Hex Head Bolt (Bearing Bolt - Adjuster Side)
c.	900-4900-74	1/2"-13NC x 2" Hex Head Bolt (Bearing Bolt - Non Adjuster Side)
d.	900-4906-86	1/2" Lock Washer
e.	900-4906-88	1/2" Flat Washer
f.	900-4906-82	1/2" Hex Nut
4.	900-4902-29	Jack Shaft Adjuster
5.	932-3000-68	Jack Shaft Cover Plate
6.	**	PTO Sheave
7.	**	PTO Sheave Bushing
8.	932-2000-11	Beltshield Assembly - PTO
9.	**	Chipper Belt
10.	**	Chipper Sheave Bushing
11.	**	Chipper Sheave
12 a.	932-2000-10	Chipper Drum Head Assembly - PTO
b.	See Page ??	Chipper Knife & Hardware
13 a.	900-4902-41	Bottom Lift Pin - 7/8"
b.	900-4902-38	7/16" Lynch Pin
14 a.	900-4902-39	Top Lift Pin - 3/4"
b.	900-4902-38	7/16" Lynch Pin
15.	900-6902-20	Yoke For Slip Clutch - 1 3/8" Diameter Shaft
16.	900-6902-21	Clutch Pack For Slip Clutch

**** Components vary with engine options order by physical description or machine S/N.**

NOTICE Nuts, bolts, washers, and all other components can be ordered by physical description.

