BANDIT STUMP GRINDERS

OPERATING & PARTS MANUAL

MODEL SG-75

Model No: SG-75

Serial No: _____

DEALER:

Name: _____

Address: _____

City/State: _____

Phone No: _____

Delivery Date: _____

Engine Make: _____

Serial No: _____

Clutch Make: _____

Model: _____ S/N _____

ATTENTION:

Depending on what replacement parts you are ordering, we will need the following information:

STUMP GRINDER COMPONENTS	ENGINE COMPONENTS
Serial Number	Brand
Model Number of Stump Grinder	Engine Serial Number
	Engine Model Number

Bandit INDUSTRIES, INC.
6750 Millbrook Rd. • Remus, MI 49340 • 1-989-561-2270

MANUFACTURED BY BANDIT INDUSTRIES, INC
PHONE: (989) 561-2270
PHONE: (800) 952-0178 IN USA
FAX: (989) 561-2273 ~ SALES DEPT.
FAX: (989) 561-2962 ~ PARTS/SERVICE
WEBSITE: www.banditchippers.com

CALIFORNIA PROPOSITION 65

⚠ WARNING ⚠ ADVERTENCIA

Breathing diesel engine exhaust exposes you to chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

- **Always start and operate the engine in a well-ventilated area.**
- **If in an enclosed area, vent the exhaust to the outside.**
- **Do not modify or tamper with the exhaust system.**
- **Do not idle the engine except as necessary.**

For more information go to:
www.P65warnings.ca.gov/diesel

Respirar gases de escape de motores diesel le expone a químicos conocidos por el estado de California como causales de cáncer y defectos congénitos u otros daños reproductivos.

- **Siempre encienda y opere el motor en áreas bien ventiladas.**
- **Si está en un área cerrada, ventile escape hacia el exterior.**
- **No modifique ni altere el sistema de escape.**
- **No deje el motor en ralentí a no ser que sea necesario.**

Para mayor información visite:
www.P65warnings.ca.gov/diesel

SPW-46 8/18

⚠ WARNING
⚠ ADVERTENCIA

Cancer and Reproductive Harm

Cáncer y daño reproductivo

www.P65warnings.ca.gov

SPW-47 8/18

WARRANTY VALIDATION FORM (STUMP GRINDER)

IMPORTANT - WARRANTY WILL BE DEEMED NULL AND VOID IF THIS FORM IS NOT FILLED OUT COMPLETELY AND ACCURATELY AND RETURNED TO THE CUSTOMER DATA DEPARTMENT WITHIN 10 DAYS OF EQUIPMENT DELIVERY

Customer Data Department
6750 Millbrook Road
Remus, MI, USA 49340
Phone: (800) 952-0178 in USA
Phone: (989) 561-2270
Fax: (989) 561-2273
Website: www.banditchippers.com

PURCHASER / OWNER INFORMATION:

Company Name _____ Contact Name _____

Mailing/Street Address _____ City _____

State _____ Zip Code _____ Country _____ Telephone Number (__) _____

E-mail _____ Machine Model No. _____ Date Put Into Service _____

Machine Serial No. _____ Machine Work Order No. _____ Machine Hours _____

Engine Make _____ Engine Serial No. _____ Machine Color _____

DEALER / SELLER INFORMATION:

Dealer/Seller Name _____ Contact Name _____

Mailing/Street Address _____ City _____

State _____ Zip Code _____ Country _____ Telephone Number (__) _____

1. _____ The customer has received instruction and fully understands all operational, safety and maintenance requirements of the equipment.

2. _____ The customer has received instruction and fully understands that everyone within 100 feet of the machine must wear proper personal safety equipment including hard hat, face shield, safety glass, gloves, ear protection and/or other items per OSHA and ANSI requirements.

3. _____ The customer has received instruction and fully understands the equipment maintenance schedules and procedures. The customer understands that it is their responsibility to perform scheduled maintenance that includes periodic relief valve adjustments, retightening all fasteners as needed, periodic cleaning of flow divider, clutch and belt adjustments, and other items.

4. _____ The customer has received instruction and fully understands not to reach near the cutter head with hands or feet or to be located near debris field with engine running.

5. _____ The customer has received instruction and fully understands that the operators must always be located within easy reach of all control and shut down devices.

6. _____ The customer has received instruction and fully understands to not start grinding a stump without checking for power lines, water lines, sewer lines, phone lines, etc.

7. _____ The customer has received instruction and fully understands the purpose of and how to operate the shut down/shut-off devices, and will not attempt to override any safety devices or guards.

8. _____ The customer has received instruction and fully understands that before performing any maintenance on the machine the ignition key must be removed, the cables must be completely disconnected from the battery, the cutter head must have come to a complete stop, and the cutter head lock must be installed. The customer understands they must allow the necessary time for the cutter head to come to a complete stop before opening the cutter head guard or start any maintenance or service procedures. If applicable the customer has received instruction and fully understands the purpose of the beltshield inspection hole and that they are never to attempt any maintenance or service procedures until visually confirming the belts have come to a complete stop.

9. _____ The customer has received instruction and fully understands the machine is not to be operated without the factory approved cutter head guard in place, the machine is not to be operated with any type of make shift cutter head guard, and the machine is not to be operated under any circumstances with the cutter guard open or unsecured.

10. _____ The customer has reviewed and fully understands limited warranty, and all written and visual instructions.

11. _____ The customer has received instruction and fully understands that warranty will not apply if the machine is operated with replacement parts or equipment not manufactured or recommended by Bandit Industries, Inc.

12. _____ The customer has received, been advised, and understands the manuals, and the Safety/Service video supplied with the grinder. A video is supplied for equipment models as available.

13. _____ All Danger, Warning and Operational decals are properly displayed on equipment and fully understood by customer.

14. _____ The customer has been instructed, understands, and agrees that all potential operators must: See the supplied video, be instructed on all the Danger, Warning and Operational decals, read the manual and follow the procedures.

I have inspected this equipment and find it in correct working condition. To the best of my knowledge, the customer and his/her personnel are aware of, and agree to the above procedures.

Signed: _____ **Date:** _____

(Dealer Representative)

The equipment has been thoroughly checked by the above named dealer representative, and I am satisfied with his/her instructions. I have also read, understand, and agree to reverse side of page.

Signed: _____ **Date:** _____

(Customer)

TO BE RETURNED AFTER THIRTY (30) DAYS OF OPERATION

DATE PURCHASE: _____

MODEL: _____

SERIAL NUMBER: _____

DEALER NAME: _____

_____

Please return to: Customer Data Department
6750 Millbrook Road
Remus, MI 49340

Phone: (800) 952-0178 in USA
Phone: (989) 561-2270
Fax: (989) 561-2273
Website:www.banditchippers.com

STUMP GRINDER QUALITY REPORT

All of the employees that build your equipment strive to manufacturer the **very best quality** product on the market. We would appreciate your efforts in letting us know how we are doing.

We would like you to operate your machine for thirty (30) days and then fill out this questionnaire and mail it to us. This will help us to keep producing a good product and improving our products through your recommendations.

1. Did your machine perform to your expectations? _____
2. Was the machine delivered on schedule? _____
3. Was the paint color and finish to your satisfaction? _____
4. Was machine equipment as ordered? _____
5. Did all welds appear to be high quality? _____
6. Was the overall machine to your liking? _____
7. What problems have you experienced? _____
8. Have any components regularly loosened that caused problems? _____
9. Does the hydraulic system seem to have adequate power? _____
10. Is the machine manufactured to accommodate service in an adequate manner? If not, please explain:
    _____
11. General comments and/or suggestions: _____
    _____
    _____
12. Would you like to be contacted concerning more of our equipment? _____

YOUR COMPANY: _____

NAME: _____

ADDRESS: _____

CITY: _____

STATE & ZIP: _____

PHONE: (____) _____

E-MAIL: _____

TABLE OF CONTENTS

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 proceeded 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 ensure 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 with any questions.

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.

TYPICAL SERIAL NUMBER AND/OR WORK ORDER NUMBER LOCATIONS

1. Serial Number behind pump on left side.
2. Work Order Number on track frame.

NOTICE

The engine information is located on the engine block.

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 adults who have been properly trained and are physically capable of operating the machine safely. Never allow minors to operate this machine. Never operate any machine while under the influence of drugs or alcohol. Never operate equipment that is in need of repair or adjustment. Keep children, bystanders and animals clear of working area.

There must be at least two qualified and trained operators at the work site. They must be positioned in safe working locations, following safety procedures and instructions, and aware of each others whereabouts. There must, also, be at least two people on site during maintenance and service procedures in case an accident should occur.

⚠DANGER

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

⚠DANGER

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

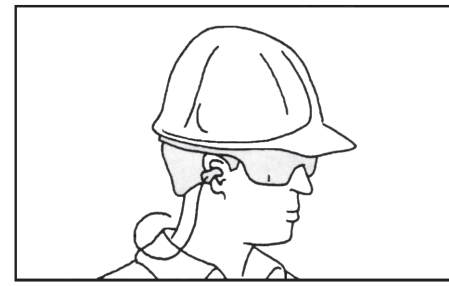
⚠WARNING

Operators **must** at all times be located within easy reach of all control 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. 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 (PPE) and follow all safety standards per ANSI and OSHA instructions. Examples of PPE equipment: hard hat, face shield, safety glasses, gloves, ear protection, etc. Always keep a fully charged fire extinguisher with the machine while operating or servicing the machine.



⚠WARNING

WEAR EYE & PERSONAL PROTECTION EQUIPMENT

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

SAFETY PROCEDURES

⚠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 cutter teeth bolts, etc. for torque and fit.

Most of the nuts used on the Bandit Grinder are self locking. After a nut or bolt has been removed five times, it should be replaced to ensure proper tightness. This is especially critical on the cutter tooth bolts!

After the engine is started, let the grinder wheel 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.

⚠WARNING

It is very important after you have operated a new machine for approximately an hour to shut down the machine and recheck all hydraulic fittings. Relieve all pressures and retighten as needed.

DO NOT GO NEAR HYDRAULIC LEAKS! High pressure oil easily punctures skin causing serious injury, gangrene, or death. Avoid burns from fluid. Hot fluid under pressure can cause severe burns. DO NOT use fingers or skin to check for leaks. Lower load or relieve hydraulic pressure before loosening fittings. Relieve all pressure in the system before disconnecting the lines, hoses, or performing other work. Use a piece of cardboard to find leaks. Never use your bare hands. Allow system to cool down to ambient temperature before opening any coolant or hydraulic oil system.

In cold weather situations let your hydraulic system idle for approximately 15 minutes to allow the system to warm up to operating temperature.

⚠WARNING

DO NOT operate this machine unless all hydraulic control devices operate properly. They must function, shift and position smoothly and accurately at all times. Faulty controls can cause personal injury!

⚠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.

⚠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 for diesel engines and 2" (50mm) from the top of the tank for gasoline engines.

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.

⚠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 ensure 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

Before attempting any type of maintenance, disengage clutch or cutter wheel engagement, wait for the cutter wheel to come to a complete stop, position and lock the cutter wheel arm in the transport position, turn off engine, remove the ignition key, make sure the ignition key is in your possession, install the cutter wheel lock pin, wait 2 minutes then disconnect the battery.

ALWAYS install the lock pin into the cutter lock tube before working on the grinder.

Simply slide the lock pin into the cutter wheel lock tube. This is to ensure that the cutter wheel cannot be started while you are working on the grinder. If for some reason the cutter wheel would start to turn, it would simply hit the lock pin.

SAFETY PROCEDURES

⚠DANGER

Do not start the engine with cutter wheel engaged.

NOTICE

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

NOTICE

Engage and disengage cutter wheel at idle. Engaging at high RPM will damage the drive system.

⚠DANGER

Do not work on the machine if the engine is running with the clutch or cutter wheel disengaged. Injury or death may occur if the clutch or cutter wheel was engaged.

Your machine may or may not be equipped with a clutch. If equipped with a clutch, make sure to study the original clutch manufacturer's manual that is provided with the machine and follow its instructions for operation, service, and adjustments. It will be quite costly if a few minutes are not taken daily, weekly, and monthly to keep the clutch serviced as required.

The operator must take care in the engagement and disengagement of the clutch or cutter wheel, engine RPM must always be at idle. After engagement raise engine RPM to full throttle. Engaging and disengaging the clutch or cutter wheel at high engine RPM will quickly and excessively wear out the clutch, belts, or hydraulic components. If equipped, refer to clutch manufacturer's manual for proper service and operation.

⚠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 go near the rotating cutter wheel for any reason. DO NOT go near the cutter wheel while the engine is running or the cutter wheel is coasting to a stop. Contact with a rotating cutter wheel will result in serious bodily injury or death.

⚠DANGER

DO NOT go near or in-line with the debris field of the stump grinder while in operation. While grinding stumps, the chips and portions of the stump fly from the cutter wheel and can cause severe injury.

⚠DANGER

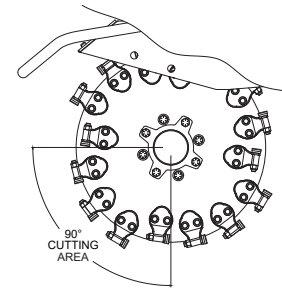
Never grind materials that might contain wires, stones, nails, or other metal objects which may damage the teeth and become dangerous projectiles. Remove all rocks and stones from stump grinding area.

⚠DANGER

DO NOT start to grind a stump unless you are completely sure there are not any utility lines in the area above or below the ground level where you are grinding. Always contact the utility locating service in your area or local utility companies to mark underground utility lines.

⚠DANGER

For optimum performance, the stump should be cut with the portion of the cutter wheel shown below. Never undercut the stump. Undercutting the stump may cause severe kickback, vibration and component damage. Never cut the stump from the top. The cutter wheel will throw debris up and toward the operator, instead of down and under the machine.



⚠DANGER

The stump must be cut as low to the ground as possible to reduce the amount of grinding material and debris in the work area.

If the grinding material starts to interfere with the machine operation, follow the steps below before removing any grinding material. Never remove any grinding material with cutter wheel running. Contact with a rotating cutter wheel will result in serious bodily injury or death.

1. Disengage the cutter wheel.
2. Position the machine away from the stump.
3. Before attempting any type of maintenance, disengage clutch or cutter wheel engagement, wait for the cutter wheel to come to a complete stop, position and lock the cutter wheel in the transport position, turn off engine, remove the ignition key, make sure the ignition key is in your possession, install the cutter wheel lock pin, wait 2 minutes then disconnect the battery.
4. Clear the grinding material away from the stump.
5. Start the machine and reposition it at the stump before engaging the cutter wheel.

SAFETY PROCEDURES

⚠WARNING

Sparks can occur if cutter teeth strike rocks, metal, or other hard objects.

DO NOT use in high or very high fire hazard severity zones.

Operation of this equipment may create sparks that can start fires around dry vegetation. A spark arrester may be required. The operator should contact local fire agencies for laws or regulations relating to fire prevention requirements.

⚠WARNING

Do Not continue to operate the machine if the cutter wheel stalls. Immediately lift cutter wheel out of the stump, dirt, etc. and start again with less bite. Prolonged cutter wheel stall will ruin the drive system, creating extreme heat and possible fire hazard.

⚠WARNING

Before performing maintenance on the machine remove all debris, oil, grease, water, snow, ice, etc. from all machine surfaces.

⚠WARNING

Unless going through a narrow passageway or gate, always keep the dual tires installed or the tracks expanded for machine stability.

⚠WARNING

CLEAN MACHINE OF ALL DEBRIS! DO NOT leave this machine unattended until all potential fire debris is removed, no fire or smoldering exists, and hot spots are cold. The engine creates many hot spots including: exhaust manifold, exhaust, turbo (if equipped), etc. Remove all flammable debris such as wood, chips, leaves, oils, fuels, etc. from engine exhaust, engine turbo (if equipped), beside, around, and under engine, around and under tanks, inside belt shields and guards, inside battery and tool boxes, inside cabinets (if equipped), and anywhere materials collect. ALWAYS keep several type A:B:C fire extinguishers operational and on the job at all times.

⚠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.

⚠DANGER

Keep hands clear of all pinch points.

⚠DANGER

Do not touch hot machine surfaces. The machine surfaces may be hot due to the machine operating recently or the machine setting in the sunlight.

SAFETY PROCEDURES

IF MACHINE IS EQUIPPED WITH A SELF PROPELLED UNDERCARRIAGE

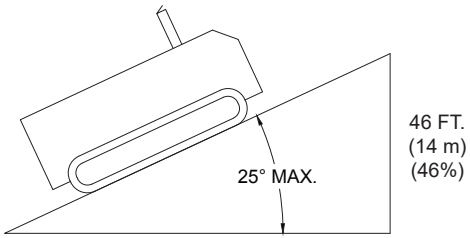
Machines equipped with undercarriage tracks are shipped with a manual from the track manufacturer. Refer to it for service, operation, and safety information.

⚠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 hydraulic system, self propelled undercarriage, and engine are running at maximum performance and good traction is sustained.

Maximum Slope Grade

Ascending or Descending Slope



Side Slope

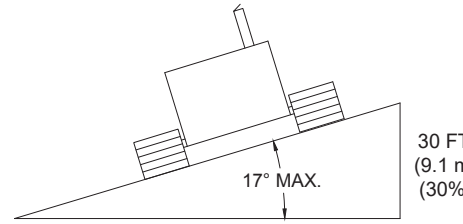


Diagram shows percentage to degree of slope.
Percentage is in vertical feet for every 100 horizontal feet.

⚠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 damage 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

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

⚠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

DO NOT entangle feet or hands in undercarriage travel system.

EQUIPMENT SPECIFICATIONS

Approximate Dimensions & Weights

(Dimensions & weights will vary depending on Engine and Equipment options)

Model SG-75			
Height		81” (2.1 m)	
Length		134” (3.4 m)	
Width	Tracks Extended	55” (1.4 m)	
	Chip Pan Folded Out	74 1/2” (1.9 m)	
	Tracks In	35” (0.9 m)	
Weight		4680 lbs. (2120 kg)	
Cutter Wheel Height		31” (0.8 m)	
Cutter Wheel Depth		23” (0.6 m)	
Cutter Wheel Diameter		Green Wheel	27” (0.5 m)
		Revolution Wheel	27” (0.5 m)
Number of Teeth		Green Wheel	32
		Revolution Wheel	44

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.

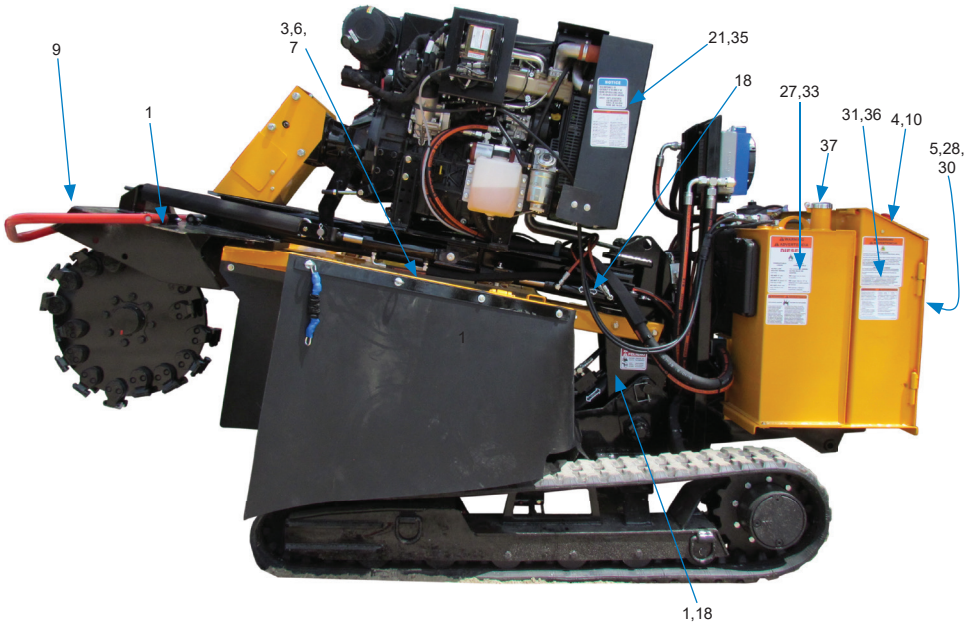
It is very important that all decals remain in place and in good condition on your machine. Please follow the care and instructions given below:

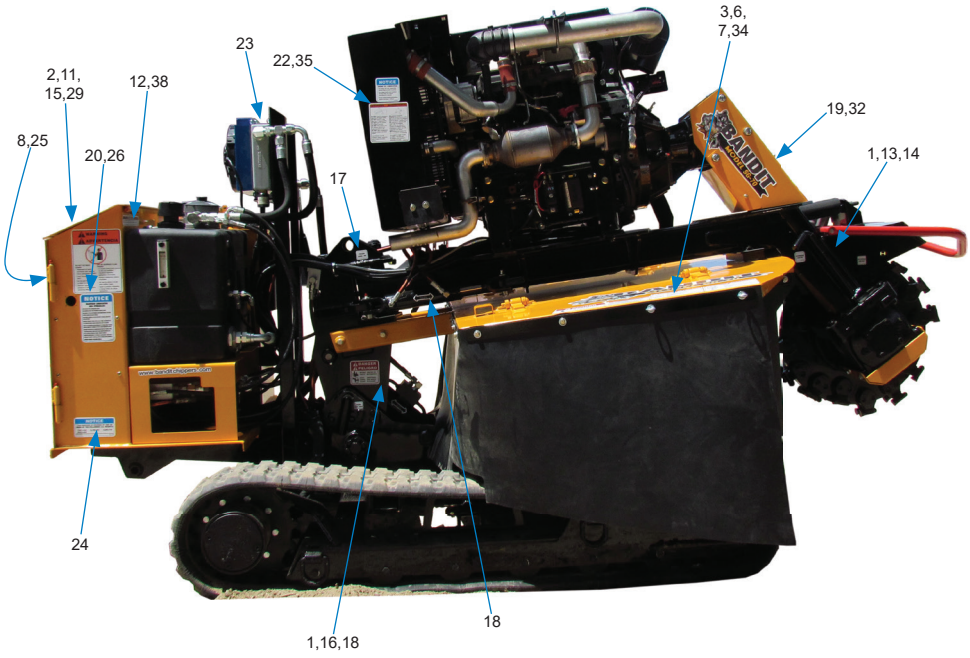
1. You should use soap and water to keep your decals clean. Never use mineral spirits or any other abrasive cleaners.
2. Immediately replace any missing or damaged decals. The location the decal is going to be applied to must be clean and dry, and at least 40°F (5°C) before applying decal.
3. When the 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. Send translated decals required to Bandit Industries, Inc.

EXAMPLES:

DECAL LOCATIONS

Decal locations may vary, these are general locations.





DECAL LOCATIONS

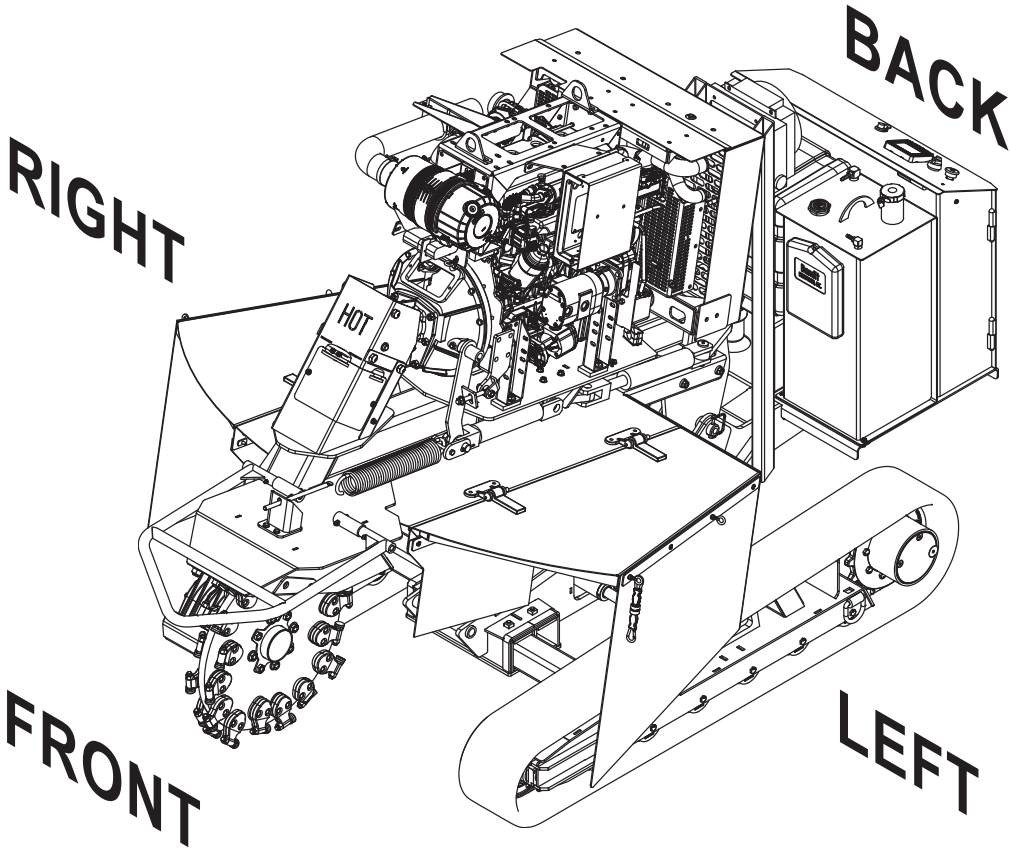
Modifications and/or additions of decals to this list will happen.
Consult machine dealer or manufacturer for most current decal package.

#	Decal	Description
1	SPD-02	Moving Parts...
2	SPD-19	Do Not Entangle Feet... Minimum 10ft Away...
3	SPD-20	Flying Objects Stand Clear...
4	SPD-22	Emergency Shut Down Only
5	SPD-30	Do Not Sit, Stand, Lay, Climb...
6	SPD-35	Extreme Caution...Non-Level Surface
7	SPD-36	...Debris Field...
8	SPD-39	Do Not Operate...
9	SPD-63	Do Not Go Near Cutter Wheel...
10	SPD-69	Do Not Start to Grind...
11	ID-67	Bandit Industries Inc...USA
12	INST-53	Hydraulic Oil...Hydrex XV
13	INST-73	Cutterhead Lock Hole
14	INST-74	Cutterhead Lock Pin
15	INST-101	Canada Engine Decal
16	INST-111	Frame Lock Hole
17	INST-112	Frame Lock Pin
18	INST-393	Grease Weekly - Double Arrow
19	INST-435	Gear Box Maintenance...
20	N-02	Maintain Lubrication...
21	SPN-06	Decal Maintenance...
22	N-33	Engine Oil Lubrication... Break-In

#	Decal	Description
23	N-55	Oil Cooler Fan
24	N-71	Patents...
25	N-89	Tracks...Fully Extended...
26	SPW-01	Do Not Go Near Oil Leaks...
27	SPW-02	Diesel Fuel Only
28	SPW-04	Frozen Battery Can Explode
29	SPW-08	Wear Personal Protection...
30	SPW-09	...Go Slow Around Corners...
31	SPW-28	...Fire Hazard...
32	SPW-29	...Cutter Wheel Stall...
33	SPW-31	Explosion Hazard...
34	SPW-32	...Tether Cord...
35	SPW-43	Do Not Attempt...Slope More Than...
36	SPW-46	Proposition 65...Diesel Fumes...
37	OL-312	Diesel Only
38	OL-313	Hydraulic Fluid Only
39	**900-8900-34**	**Basic Safety Decal Kit Spanish/English**
40	**900-8900-37**	**Basic Safety Decal Kit English Only**
41	**900-8916-39**	**Bandit Model SG-75 Logo Decal Kit**

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

MACHINE ORIENTATION REFERENCE



EMERGENCY STOP (E-STOP)

⚠DANGER

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

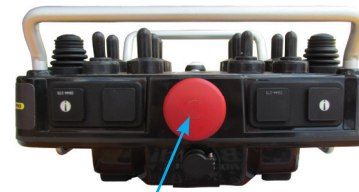
NOTICE

If the emergency stop (e-stop) button is pushed the entire machine will shut down. The cutter wheel will not stop immediately, it will coast to a stop.

⚠DANGER

DO NOT go near the rotating cutter wheel for any reason. DO NOT go near the cutter wheel while the engine is running or the cutter wheel is coasting to a stop. Contact with a rotating cutter wheel will result in serious bodily injury or death.

Emergency stop on the machine



Emergency stop on the remote

Emergency stop on the tether

ENGINE OPERATING SPEEDS

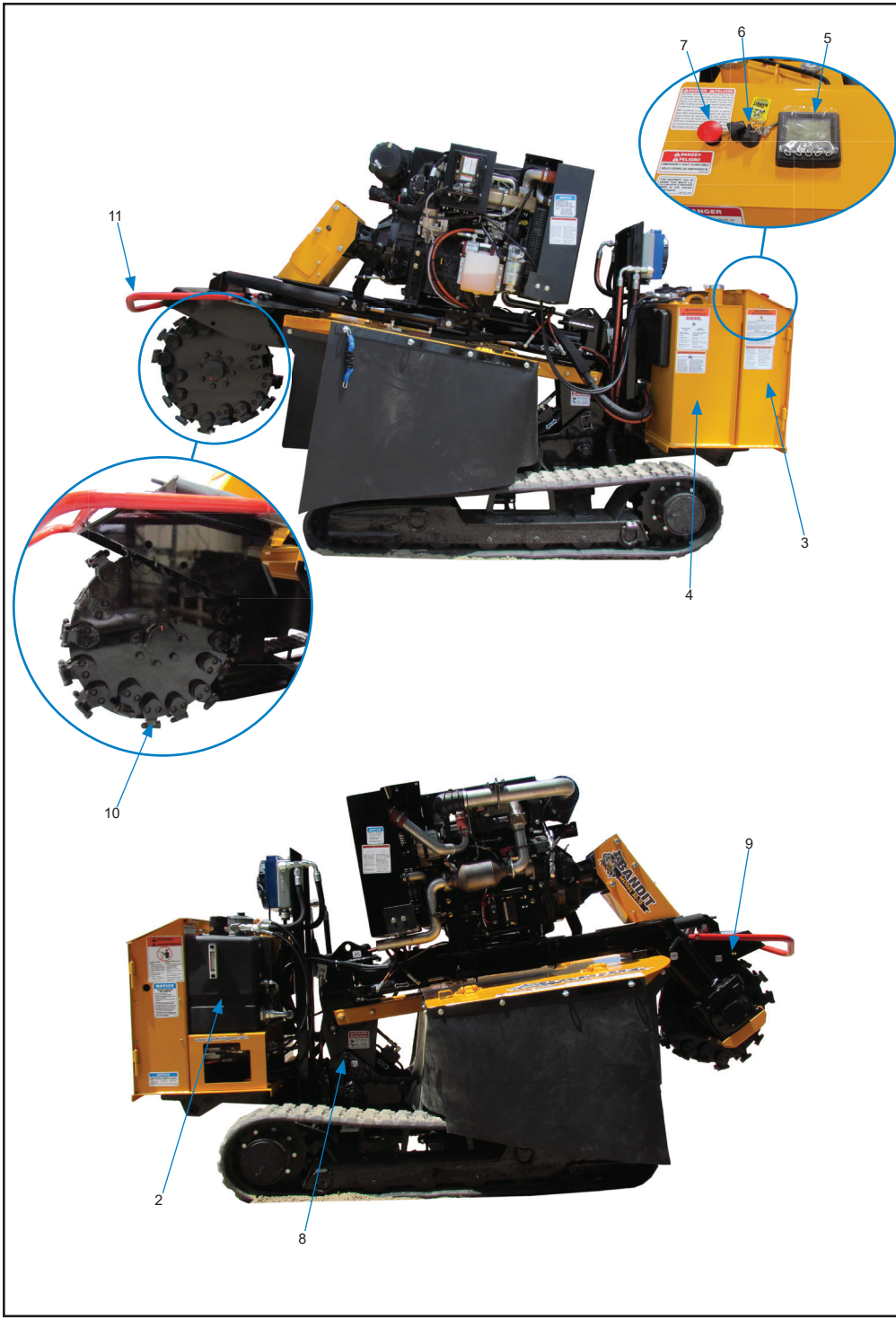
NOTICE Refer to the Completion/Check Sheet, that is shipped with the machine for the correct engine rpm. If needed, contact your local dealer or Bandit Industries.

Some Current Engine Types	Maximum RPM
Kohler KFI25E401 - 74Hp	2600

COMPONENTS

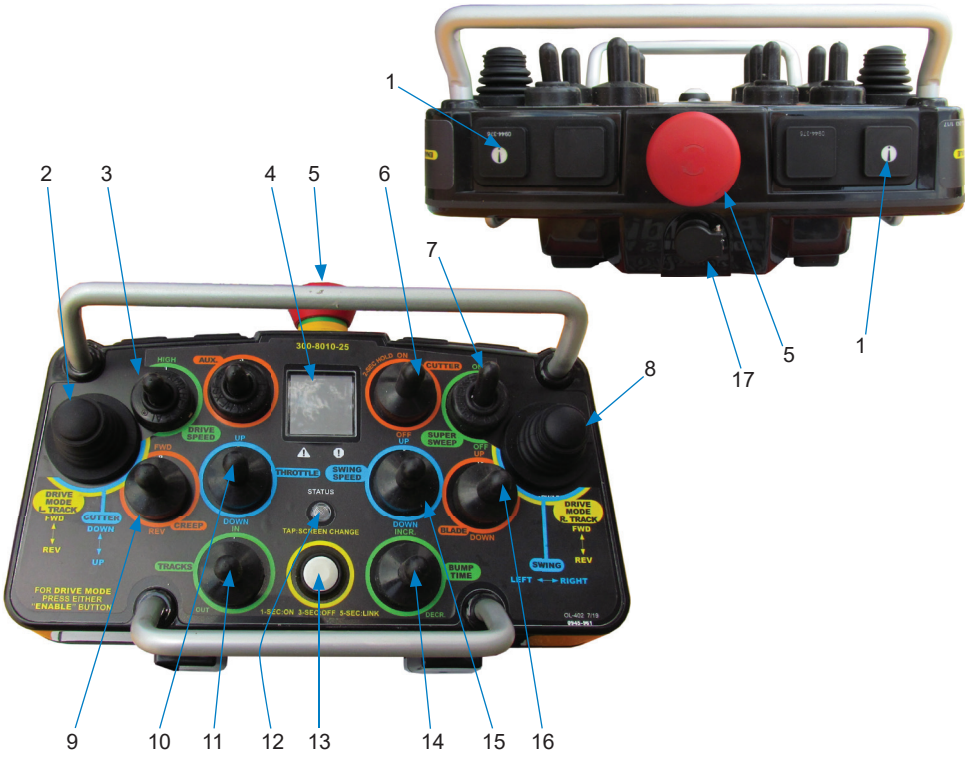
Basic Location of Components		
#	Description	Location
1	Machine Control Functions	Remote/Tether
2	Hydraulic Tank	On the right side of the machine, towards the back
3	Control Box	Back of the machine
4	Fuel Tank	On the left side of the machine, towards the back
5	Power Display	On the Control Box (see #2)
6	Ignition Switch	On the Control Box (see #2)
7	Emergency Stop	On the Control Box (see #2)
8	Frame Lock Pin Hole	In the middle of the machine, towards the back
9	Cutter Wheel Lock Pin Hole	Near the cutter wheel
10	Cutter Wheel Teeth	On the cutter wheel
11	Cutter Wheel Bar	Around the cutter wheel

CONTROLS & COMPONENTS

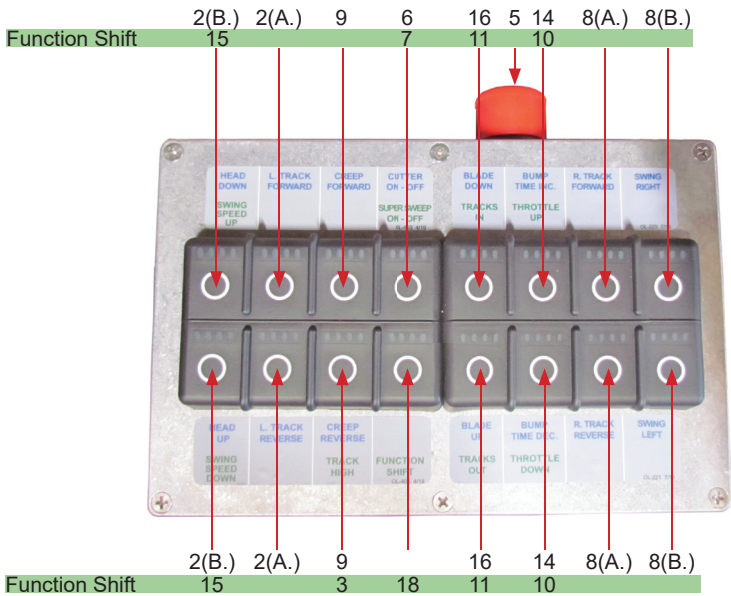


CONTROLS - REMOTE / TETHER

REMOTE



TETHER CONTROL



CONTROL OPERATING PROCEDURES - REMOTE

1. **Enable Buttons (Remote Only):** To activate “Drive Mode” one or both of these buttons must be pressed. They are located on the very top of the remote on either side.
2. A. **Left Track (Drive Mode):** Before tracking the machine make sure one or both “Enable Buttons” are pressed, then either push the joystick forward or pull the joystick backward to move the left track on the machine in forward or reverse.
   B. **Head Up / Down (Grind Mode):** To move the cutter wheel up or down, push the joystick either forward for down, and backwards for up.
3. **Drive Speed High / Low:** To put the drive speed in high for moving the machine longer distances, push the switch up. To put the drive speed in low for mor precise movements or while grinding, pull the switch down.
4. **Display Screen:** Displays the engine RPM and number of hours the engine has been on.
5. **Emergency Stop:** Shuts off the power to the engine and the hydraulic valves. The emergency stop must be in the run position on the remote or tether for the engine to start.
6. **Cutter Head On / Off:** Before turning the cutter wheel on or off the engine must be at low idle. To turn the cutter wheel on push the switch up and hold for 2 seconds. To turn the cutter wheel off pull the switch down.
7. **Super Sweep On / Off:** To turn the super sweep on, push the switch up. To turn the super sweep off, pull the switch down. The super sweep function will slow the swing speed when the cutter wheel is losing RPM.
8. A. **Right Track (Drive Mode):** Before tracking the machine make sure one or both “Enable Buttons” are pressed, then either push the joystick forward or pull the joystick backward to move the right track on the machine in forward or reverse.
   B. **Swing Left / Right (Grind Mode):** To swing the cutter wheel to the left, move the joystick to the left. To swing the cutter wheel to the right, move the joystick to the right.
9. **Creep Forward / Reverse:** Creep will move the machine slower in either the forward or reverse direction. To move the machine slowly forward, push the switch up. To move the machine slowly in reverse, pull the switch down.
10. **Throttle Up / Down:** To increase the engine throttle, push the switch up. To decrease the engine throttle pull the switch down.
11. **Tracks In / Out:** Before expanding or retracting the tracks, be sure to idle the machine up. To retract the tracks in to fit through a gate or small space, push the switch up. To expand the tracks for operation, pull the switch down. The tracks must be expanded unless moving through a gate or other small space.
12. **Status Light (Remote Only):** If the remote is connected the light will be flashing.
13. **Remote On / Off / Link Button (Remote Only):** Press the button for one second to turn the remote on. Press and hold the button for three seconds to turn the remote off. Press and hold the button for five seconds to link the remote to the machine.
14. **Bump Time Increase / Decrease:** To increase the bump time, push the switch up. To decrease the bump time, pull the switch down.
15. **Swing Speed Up / Down:** To increase the cutter wheel swing speed, push the switch up. To decrease the cutter wheel swing speed, pull the switch down.
16. **Blade Up / Down (Optional):** To move the blade up, push the switch up. To move the blade down, pull the switch down.
17. **Charging Port (Remote Only):** To charge the remote use the provided charging cable.
18. **Function Shift (Tether Only):** Hold this button to use any of the functions on the bottom of the decals.

MACHINE OPERATION

⚠DANGER

Do not start to grind a stump unless you are completely sure there are not any utility lines in the area above or below the ground level where you are grinding. Always contact the utility locating service in your area or local utility companies to mark underground utility lines.

⚠DANGER

Keep clear of cutting wheel, moving machine parts and grinder debris field.

1. Before starting the machine check all fluids, and follow all daily maintenance procedures.
2. Make sure the frame lock pin and cutter wheel lock pin are not in their lock pin holes.
3. Make sure the remote is linked properly to the machine.
4. Start the engine.
5. Test the following controls to make sure they function properly.
   a. Swing Left/Right (if equipped with the Super Sweep option the engine must be at full idle)
   b. Cutter Wheel Up/Down
   c. Travel Forward/Reverse
6. Make sure the machine is at low idle.
7. Engage the cutter wheel.
8. Throttle the machine up to ensure the cutter wheel rotate properly (if the cutter wheel does not rotates properly shut the machine down and diagnose the issue).
9. Throttle the machine down.
10. Disengage the cutter wheel.
11. Throttle the machine up.
12. Move the machine to the first stump.
13. Raise the cutter wheel above the stump.
14. Swing the cutter wheel all the way to the left and to the right to ensure there are no obstructions.
15. Make sure the cutter wheel is positioned on the right side of the stump.
16. Throttle the machine down.
17. Engage the cutter wheel.

⚠WARNING

Wear all personal protective equipment per ANSI, OSHA and manuals.

NOTICE

The stump must be cut as low to the ground as possible to reduce the amount of grinding material, debris, and lessen the chance of flying debris in the work area.

18. Throttle the machine up.
19. Lower the cutter wheel to the stump and make a few light passes at the stump to get a feel for the cutting action.
20. Gradually increase the cutting action and work away at the stump by swinging the cutter wheel left-to-right-to-left through the stump in a side-to-side motion. The cutting actions should be smooth and effortless. If it is not either back the machine up or lift the cutter wheel up to take a smaller bite.
21. Continue cutting the stump by adjusting the cutter wheel progressively lower until the stump is cut well below ground level.
22. Raise the cutter wheel above the ground.
23. Swing the cutter wheel back to the right side of the stump.
24. Move the machine closer to the stump for the next series of passes and continue cutting.
25. Repeat steps 21 through 25 until the stump has been fully removed.
26. If working with a large stump, you may need to reposition the machine in order to fully remove the stump.
27. Repeat steps 10 through 27 until all required stumps are removed.
28. When all stumps are removed, return the cutter wheel to the center position
29. Insert the frame lock pin in the frame lock hole.
30. Load the machine according to the instructions in the Transportation Procedures.

MACHINE OPERATION

⚠DANGER

The stump must be cut as low to the ground as possible to reduce the amount of grinding material and debris in the work area.

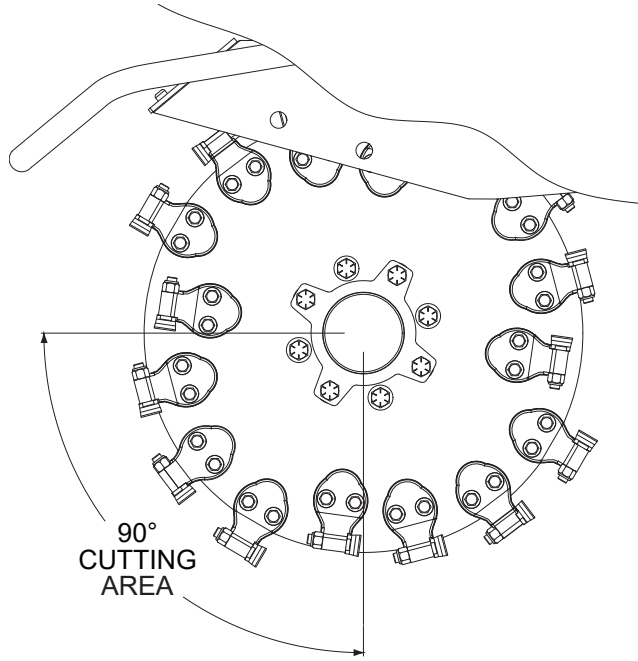
If the grinding material starts to interfere with the machine operation, follow the steps below before removing any grinding material. Never remove any grinding material with cutter wheel running. Contact with a rotating cutter wheel will result in serious bodily injury or death.

1. Disengage the cutter wheel.
2. Position the machine away from the stump.
3. Before attempting any type of maintenance, disengage clutch or cutter wheel engagement, wait for the cutter wheel to come to a complete stop, position and lock the cutter wheel in the transport position, turn off engine, remove the ignition key, make sure the ignition key is in your possession, install the cutter wheel lock pin, wait 2 minutes then disconnect the battery.
4. Clear the grinding material away from the stump.
5. Start the machine and reposition it at the stump before engaging the cutter wheel.

CUTTING AREA

⚠DANGER

For optimum performance, the stump should be cut with the portion of the cutter wheel shown below. Never undercut the stump. Undercutting the stump may cause severe kickback, vibration and component damage. Never cut the stump from the top. The cutter wheel will throw debris up and toward the operator, instead of down and under the machine.



LOADING & UNLOADING

⚠WARNING

BEFORE LOADING OR UNLOADING THE MACHINE, INSPECT AND CONFIRM THE FOLLOWING STEPS: When loading or unloading the self-propelled 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. The only person in the area should be the one that is operating the machine controls, and they should be very experienced with the controls on this machine.
6. If you are on streets, roads or public areas, position the warning cones etc, per your company's safety policy.
7. Install the cutter wheel lock pin if not installed.
8. Check and make sure the frame lock pin is installed correctly. If the frame lock pin is not installed correctly, start up the machine and raise or lower the frame until the frame lock holes line up and install the frame lock pin.
9. Load or unload the machine on or off the trailer.
10. Follow the trailer manufacturer's recommendations for the amount of weight on the tongue or hitch according to the total machine package weight to correctly position the machine on the trailer bed.
11. 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.
12. With the engine and the machine at as low of speed as possible, move the machine toward the ramp system. Make sure the alignment is correct throughout the travel and the cutter wheel clears obstacles as it is going up or down the ramp system.
13. Properly secure the equipment and the area to avoid any possible accidents or dangers.
14. The trailer should be constructed with appropriate chain down positions for the specific sized machine. You must have binders that will withstand the strain of the machine trying to move while it is being transported.
15. The loading ramps or loading gate of the trailer must be constructed to withstand the weight and forces involved in loading and unloading the machine.

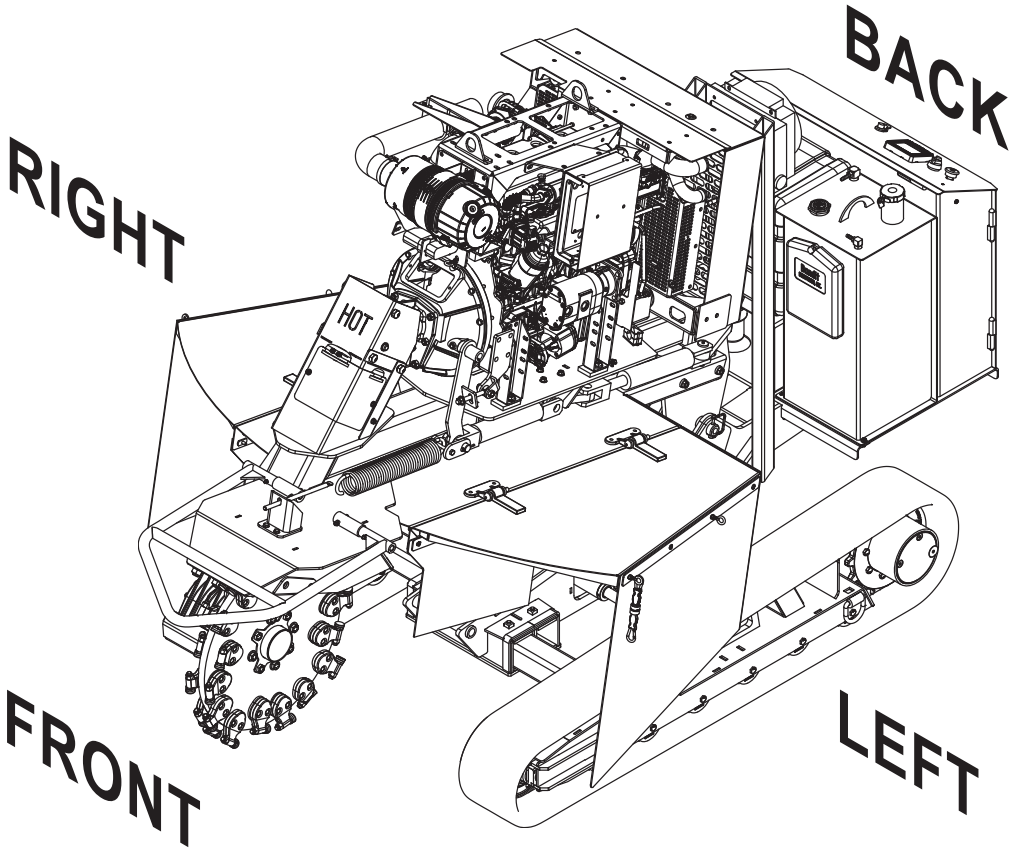
TRANSPORTATION PROCEDURES

⚠WARNING

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

1. The trailer must have a cargo weight rating capacity for the weight of the stump grinder. The combined weight of the trailer and the stump grinder can not exceed the load capacity of the tires, axles, hitch coupler system or the GVWR (Gross Vehicle Weight Rating) of the trailer.
2. The towing vehicle must be rated for and have the towing capabilities to haul the stump grinder package (includes the stump grinder and a trailer). The towing vehicle must be mechanically sound and capable of handling the towing job.
3. The hitch on the towing vehicle and the coupler on the trailer must match in size, type, and needed capacity.
4. Make sure 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.
5. The safety chains must have the correct capacity for the equipment being towed.
6. The safety chains are crossed under the coupler/hitch then securely attached to the towing vehicle. The safety chains are long enough to not restrict the turning movement, but short enough to not drag on the road.
7. The electrical plug-in on the towing vehicle and the trailer must be 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.
8. The break-away actuator (if equipped) that is installed on the trailer correctly works and is appropriately attached to the towing vehicle.
9. All lights and brakes on the trailer must correctly function when activated by the systems in the towing vehicle.
10. The tires must be checked for cuts or damaged rims, air pressure is correct, and the axle lug nuts have been checked for correct torque (refer to trailer manual).
11. When the stump grinder is on the trailer, the trailer must have the right load capacity, with the stump grinder positioned on the trailer for the correct weight distribution (follow the trailer manufacturer's recommendations for the amount of weight on the tongue or hitch according to the total stump grinder package weight), the stump grinder brakes, if equipped, are locked, the cutter wheel is raised off the trailer bed with the lock pin installed, and the stump grinder is securely bound down to the trailer bed per your States binding requirements.
12. Any loose debris, tools or parts must be cleared off or are put away.
13. Make sure to 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, vise, etc.
14. Make sure the load ramps are securely stored for transport.
15. Make sure the stump grinder's engine is not running, the ignition key is in your possession, and all controls are stored correctly and locked in place for transport.
16. The stump grinder 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.
17. The stump grinder package is now ready for transport. Make sure to obey all local regulation and laws regarding the transporting of this type of stump grinder.
18. Do not drive too fast for road conditions or exceed speed regulations for equipment towing.

MACHINE ORIENTATION REFERENCE



MAINTENANCE

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 or cutter wheel engagement, wait for the cutter wheel to come to a complete stop, position and lock the cutter wheel in the transport position, turn off engine, remove the ignition key, make sure the ignition key is in your possession, install the cutter wheel lock pin, wait 2 minutes then disconnect the battery.

⚠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.

⚠DANGER

Do Not start to grind a stump unless you are completely sure there are not any utility lines in the area above or below the ground level where you are grinding. Always contact the utility locating service in your area or local utility companies to mark underground utility lines.

⚠DANGER

Keep hands clear of pinch points.

NOTICE

Consult your engine manual for proper break-in procedures. Various engines require somewhat different procedures.

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 29 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 the cutter wheel and pockets for wear:**
Check for elongated bolt holes, secure welds, torqued bolts, excessive wear, and impact cracks. If a problem is found, contact the grinder manufacturer or an authorized Bandit dealer.

6. **Check condition of cutter teeth, pockets, and hardware:**
Replace or rotate your cutter teeth to keep them sharp. Check the condition of your teeth, pockets, and hardware. Replace if necessary.

7. **Check cutter wheel pocket bolts:**
All cutter wheel pockets bolts must be factory approved. Bolts must be replaced after a maximum of 4-5 rotations/changes to ensure safe clamping ability.
See Torque Chart for proper torque.

8. **Grease bushings:**
Grease lower pivot pin bushings with 1 to 2 shots of EP-2 Lithium type grease. Wipe off excess grease. **Excessive grease will attract dirt.**

9. **Grease cylinder lug pin bushings**:
Grease cylinder lug pin bushings with 1 to 2 shots of EP-2 Lithium type grease. Wipe off excess grease. **Excessive grease will attract dirt.**

DAILY START UP & MAINTENANCE (cont.)

10. Check hydraulic oil level:
The hydraulic oil reservoir tank level should always remain at 7/8 full. Remember to check DAILY to avoid excessive heat build up.

11. 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.

12. 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.

13. Check engine oil and coolant level:
Follow the engine manufacturer manual recommendations for fluid levels. You MUST follow specific engine manufacturer's manual recommendations for radiator coolant, additives, lubrication, correct engine speed, etc.

14. Check radiator, debris screen:
Refer to the engine manufacturer's manual. Thoroughly clean radiator fins at least once a day or more in excessive conditions. Make sure debris is not packed between fins. Use compressed air and/or pressurized water (soap may also be needed) to clean the radiator, depending on the level and type of debris. If pressurized water is used, be careful not to turn the debris hard and pack solid between the radiator fins. Make sure to clean the radiator in the correct direction depending on if the cooling fan is a sucker or a pusher; do not propel the debris into the radiator with compressed air or pressurized water. A partially plugged radiator will not allow the engine to cool properly. Keep the compressed air or pressurized water a safe distance from the radiator fins so they are not damaged. Visually inspect the radiator fins and make sure they are not bent or closed off, repair or replace as needed. Clean cooling fan, shroud on air cooled engines, and the debris screen (if so equipped). Improper service, maintenance, or neglect will cause overheating problems and/or engine failure.

15. Check oil cooler:
Thoroughly clean cooler fins at least once a day or more in excessive conditions. Make sure debris is not packed between fins. Use compressed air and/or pressurized water (soap may also be needed) to clean the oil cooler, depending on the level and type of debris. If pressurized water is used, be careful not to turn the debris hard and pack solid between the cooler fins. Make sure to clean the cooler in the correct direction; do not propel the debris into the cooler with compressed air or pressurized water. Keep the compressed air or pressurized water a safe distance from the cooler fins so they are not damaged. Visually inspect the cooler fins and make sure they are not bent or closed off, repair or replace as needed.

16. Check air cleaner and precleaner:
Clean or replace element following engine manual recommendations. Also, check and clean the vacuator valve.

17. Check machine controls:
Operate all machine controls and ensure they operate smoothly and shift correctly.

18. Inspect, and adjust tracks:
Check track tension, there must be no slack between the track rollers and the track rubber. For more detailed instructions, see page 35. Also, check tracks for wear, weather checking, and damage. Replace if damaged.

19. Lubricate track expansion assembly:
Apply dry lube to track expansion tubes daily.

20. Check around machine:
Check around the entire machine for tools, cans, saws, etc. All tools not in use should be stored in a tool box.

21. Review all safety procedures on decals, from manual, and from video.

22. 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.

23. Remember to check EVERYTHING on the checklist.

WEEKLY MAINTENANCE

1. 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. cutter wheel guard, control box doors, etc.).

2. Check alternator and fan belts on engine (as applicable):
Adjust and maintain per the engine manufacturer's manual.

MONTHLY MAINTENANCE

1. Check hydraulic function pressures:
Check, reset and maintain all hydraulic function pressure settings to a maximum of the specified PSI (bar). This will give you the best performance from the hydraulic system.

250 HOUR MAINTENANCE

1. Grease drive shaft:
Grease drive shaft with 2 shots of an EP-2 Lithium type grease every 250 hours. Wipe off excessive grease. **Excessive grease will attract dirt.**

3 MONTH MAINTENANCE

1. Change engine gear box oil:
Change engine gear box oil after first 50 hours, then again every 3 months or 600 hours. Use Synthetic SAE 90EP, Spirax S4 G 75W-90, or Traxon 80W/90 gear oil. Engine gear box oil capacity is 54 oz (1.6L).

2. Change cutter wheel gear box oil:
Change cutter wheel gear box oil after 50 hours, then again every 3 months or 600 hours. Use Synthetic SAE 90EP, Spirax S4 G 75W-90, or Traxon 80W/90 gear oil. Cutter wheel gear box oil capacity is 84.5 oz (2.5L).

3. Hydraulic oil filter:
Must be replaced after first 10 hours of operation, use a 10 micron filter. After first change replace oil filter every 3 months or 400 hours. Located in the hydraulic tank.

4. High pressure and charge filters:
Must be replaced after FIRST 10 HOURS OF OPERATION. After first change replace high pressure and charge filters every 3 months or 400 hours.

6 MONTH MAINTENANCE

1. Change track motor oil:
Change track motor oil after the first 500 hours, then again every 6 months or 1000 hours with SAE 80W/90 gear oil.

YEARLY MAINTENANCE

1. Fuel tank:
Drain and clean the fuel tank yearly.

2. Hydraulic oil:
Change hydraulic oil and flush the hydraulic reservoir tank.

3. Hydraulic suction screen(s):
Change hydraulic suction screen(s) yearly or every 2000 hours.

BOLT TORQUE CHART

BOLT TORQUE CHART
(THESE TORQUES ARE BASED ON DRY, CLEAN THREADS)

DESCRIPTION	BOLT SIZE	TORQUE (FT.-LBS.)	TORQUE (NM)
Cutter Wheel Revolution Lead Tooth Nut	5/8” - 18 NF	200	271
Cutter Wheel Revolution Side Tooth Nut	5/8” - 18 NF	125	169
Cutter Wheel Green Tooth Pocket Bolts	5/8” - 18 NF	125 - 150	169 - 203
Cutter Wheel Green Tooth Nut	N/A	31 - 43	42 - 58

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

DAILY START UP & MAINTENANCE CHECK LIST

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

		OK	REPAIRED
1.	Check the safety decals and engine gauges, replace if damaged.	☐	☐
2.	Check, maintain, and service all safety equipment for proper operation.	☐	☐
3.	Check entire machine for loose nuts, bolts, and components.	☐	☐
4.	Check all guards to make sure they are tight and securely in place.	☐	☐
5.	Check the condition of the cutter wheel and tooth pockets.	☐	☐
6.	Check the condition of the cutter teeth, pockets, and hardware.	☐	☐
7.	Properly torque cutter wheel pocket bolts.	☐	☐
8.	Grease lower pivot pin bushings with 1 to 2 shots.	☐	☐
9.	Grease cylinder lug pin bushings with 1 to 2 shots.	☐	☐
10.	Check and always maintain hydraulic level at 7/8 full.	☐	☐
11.	Check all hoses, fittings, lines, and tanks for damage and fluid leaks.	☐	☐
12.	Check fuel level. (Running out and repriming is time consuming).	☐	☐
13.	Check engine oil, coolant levels, and correct engine speed. Follow ENGINE MANUFACTURER'S manual specs.	☐	☐
14.	Check radiator and debris screen. Clean as necessary. Clean cooling fan and shroud on air cooled engines.	☐	☐
15.	Check oil cooler. Clean as necessary.	☐	☐
16.	Check air cleaner, precleaner, and vacuator valve. Clean or replace as necessary.	☐	☐
17.	Check machine controls and ensure they operate and shift correctly.	☐	☐
18.	Check track assembly for wear and damage. Repair or replace as necessary.	☐	☐
19.	Lubricate track expansion tubes assembly, apply dry lube.	☐	☐
20.	Check around the entire machine for any foreign objects, tools, cans, saws, etc.	☐	☐
21.	Review all safety procedures on decals, from manual, and from video.	☐	☐
22.	Wear all applicable safety equipment: hard hat, face shield, gloves, eye protection, ear protection, etc.	☐	☐
23.	Remember to check EVERYTHING on the checklist.	☐	☐

WEEKLY CHECK LIST

Every week these checks must be made:

		OK	REPAIRED
1.	Lubricate steel friction areas: pivoting, hinged, sliding, & rotating areas (i.e. cutter wheel guard, control box doors, etc.)	☐	☐
2.	Check alternator and fan belts on engine, adjust, or replace.	☐	☐

MONTHLY CHECK LIST

Every month these checks must be made:

		OK	REPAIRED
1.	Check hydraulic function pressures. Set to specified PSI (bar).	☐	☐

250 HOURS CHECK LIST

Every month these checks must be made:

		OK	REPAIRED
1.	Grease drive shaft with 2 shots.	☐	☐

3 MONTH CHECK LIST

Every three months these checks must be made:

1.	Change engine gear box oil. Gear box oil capacity is 54 oz (1.6L)	☐	☐
2.	Change cutter wheel gear box oil. Gear box oil capacity is 84.5 oz (2.5L)	☐	☐
3.	Replace hydraulic filter(s) after first 10 hours then quarterly or every 400 hours. Located in the hydraulic tank.	☐	☐
4.	Replace high pressure and charge filters after first 10 hours, then quarterly or every 400 hours.	☐	☐

6 MONTH CHECK LIST

Every month these checks must be made:

		OK	REPAIRED
1.	**Change track motor oil after first 500 hours then every 6 months or 1000 hours.**	☐	☐

YEARLY CHECK LIST

Every year these checks must be made:

		OK	REPAIRED
1.	**Drain and clean the fuel tank.**	☐	☐
2.	**Change hydraulic oil and flush the hydraulic tank.**	☐	☐
3.	**Replace hydraulic suction screen(s) annually or every 2000 hours.**	☐	☐

PAINT CARE

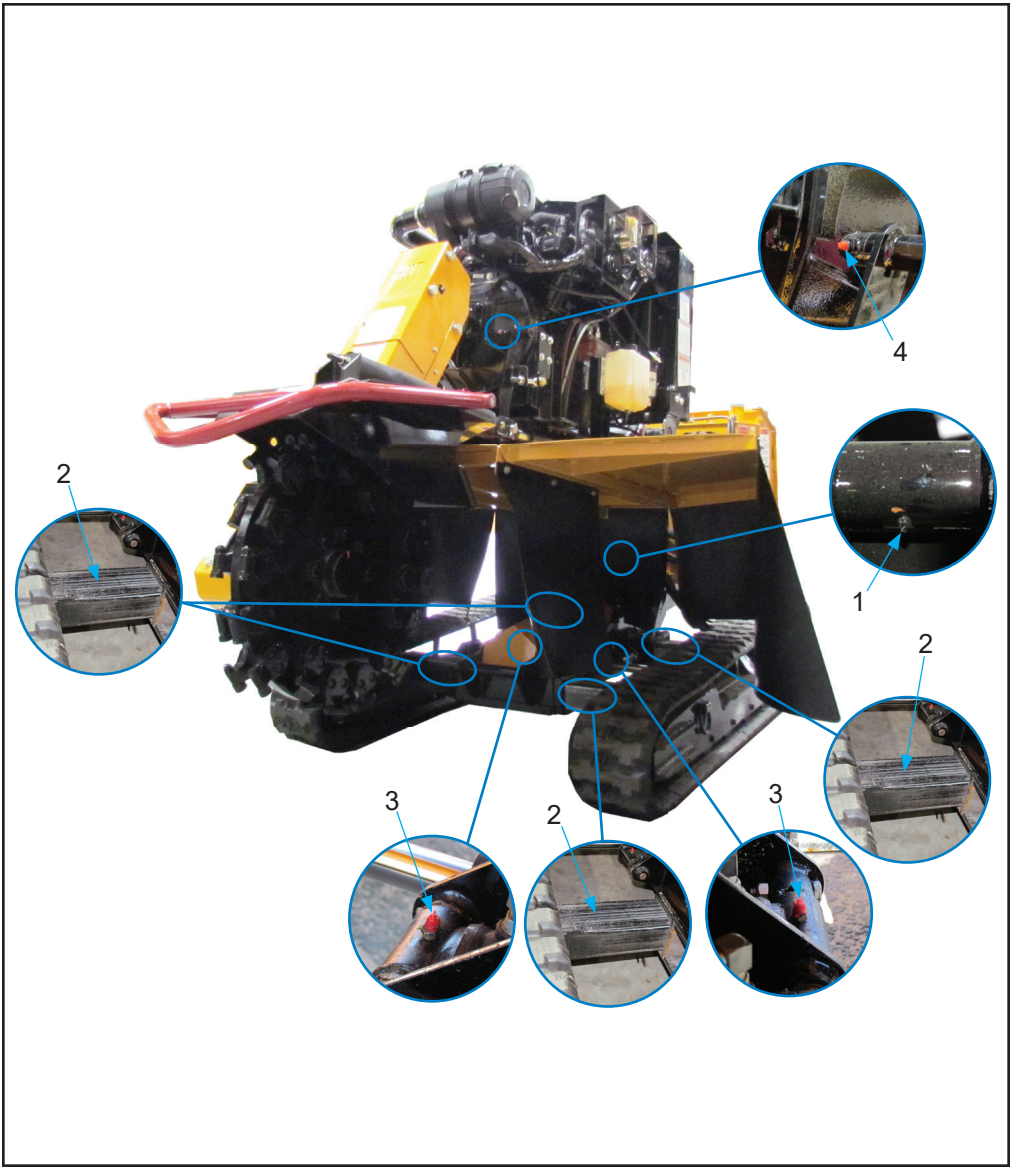
To help keep up the appearance of your Bandit equipment and reduce the possibility of surface rust follow these steps:

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, engine control panel, near chips in the paint, 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 area. This will 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 to prolong the machines paint.

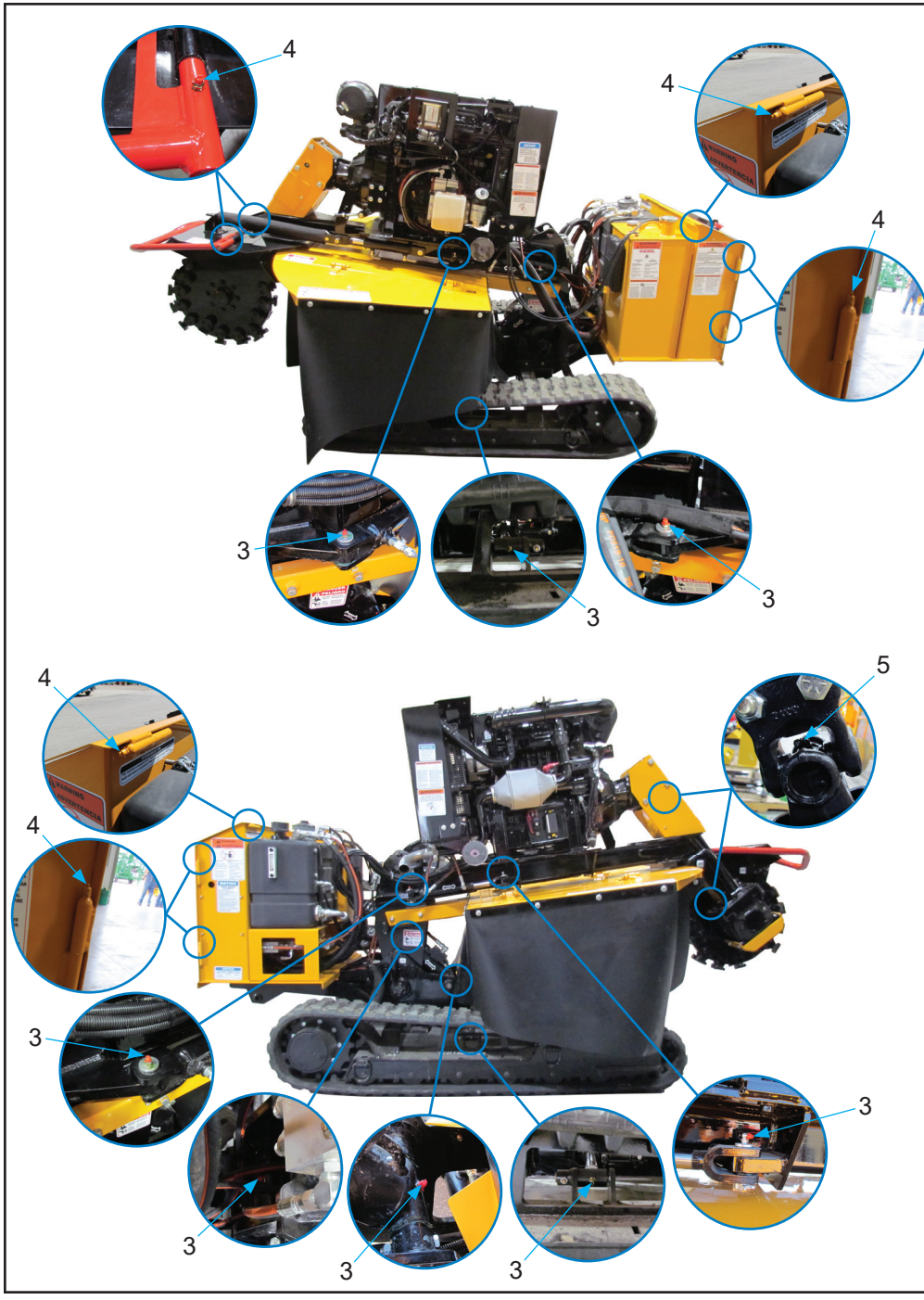
LUBRICATION CHART

		CHECK			
#	DESCRIPTION	DAY	WEEK	MONTH	PROCEDURE
1	Lower Pivot Pin Bushings	X			1 - 2 shots of grease - wipe off excess
2	Track Expansion Assembly	X			Lubricate with dry lube
3	Cylinder Lug Pin Bushings		X		1 - 2 shots of grease - wipe off excess
4	Steel Friction Areas: pivoting, hinged, sliding, rolling		X		Lubricate (i.e. cutter wheel bar, control box doors, etc.)
5	Drive Shaft			250 hrs	1 - 2 shots of grease - wipe off excess



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 Maintenance Section of this manual, or component manufacturer's manual.

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 Maintenance Section of this manual, or component manufacturer's manual.

CUTTER WHEEL MAINTENANCE

⚠DANGER

Before attempting any type of maintenance, disengage clutch or cutter wheel engagement, wait for the cutter wheel to come to a complete stop, position and lock the cutter wheel in the transport position, turn off engine, remove the ignition key, make sure the ignition key is in your possession, disconnect the battery, and install the cutter wheel lock pin.

⚠DANGER

DO NOT go near the rotating cutter head for any reason. DO NOT go near the cutter head while the engine is running or the cutter head is coasting to a stop. Contact with a rotating cutter head will result in serious bodily injury or death.

⚠DANGER

Never use hand on cutter wheel to hold in place while changing teeth. Be sure to remove locking pin before operating the machine.

⚠DANGER

DO NOT operate machine with extremely worn or broken teeth.

⚠WARNING

DO NOT operate machine without a full set of teeth. Operating the machine without a full set of teeth can cause excessive vibration and premature bearing failure.

⚠WARNING

Use only original equipment manufacturer's teeth. The use of any other aftermarket teeth may cause damage or premature failure to the drive train.

NOTICE

A locking pin is provided to hold the cutter wheel in position during tooth removal and reinstallation. Locking pin will only lock on outer teeth.

GREEN TEETH MAINTENANCE

See Page 48 for Cutter Wheel Setup & Part Numbers

Inspect pockets, teeth and bolts for damage and replace as required.

When replacing pockets, always replace new pockets across from each other (180°) in order to prevent vibration.

Replacement teeth must be carbide tipped and of like design as provided with the machine.

Use anti-seize on threads to help prevent bolts from "freezing up" in cutter wheel pockets.

When replacing complete set of teeth, be sure to duplicate original factory tooth arrangement, with the carbide tip facing the cutter wheel rotation. Typically a 5/8" socket and a 3/4" socket are required to change or torque the teeth. See page 29 for torque specifications.

NEW RIVER "REVOLUTION" MAINTENANCE

See Page 49 for Cutter Wheel Setup & Part Numbers

Inspect pockets, teeth and bolts for damage and replace as required.

When replacing pockets, always replace new pockets across from each other (180°) in order to prevent vibration.

Replacement teeth must be carbide tipped and of like design as provided with the machine.

To make sure the correct tooth pattern is used, make sure a pocket with a locator pin is used on a station with a locator pin hole. Use the pockets without the locator pin on a station without the locator pin hole.

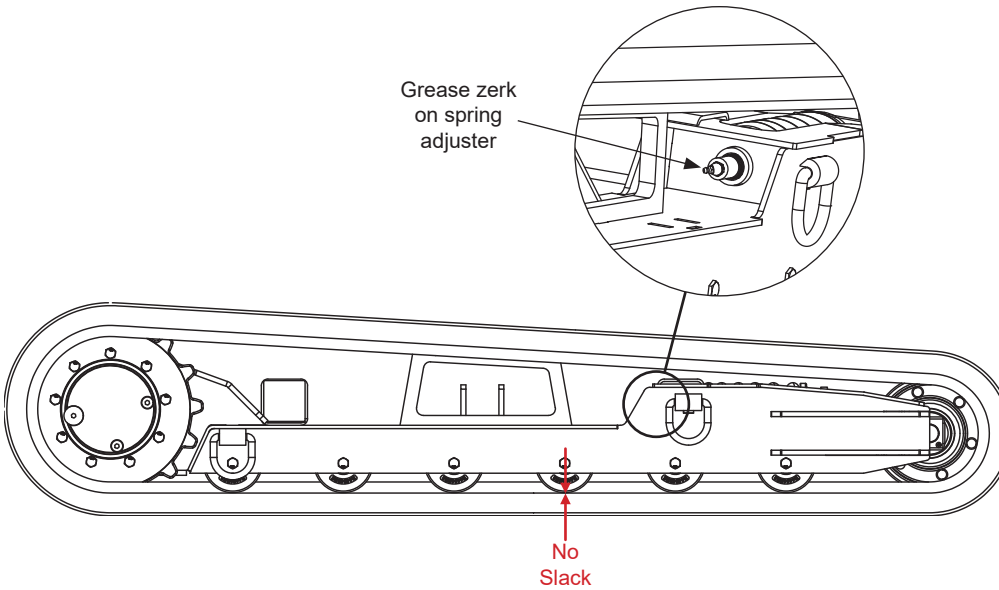
When replacing complete set of teeth, be sure to duplicate original factory tooth arrangement, with the carbide tip facing the cutter wheel rotation. Typically a 15/16" socket is required to change or torque the teeth. See page 29 for torque specifications.

TRACK ADJUSTMENT

⚠DANGER

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

Proper track maintenance includes monitoring the tension of the rubber track. To check the tension, lift the track off of the ground so the rubber can sag freely (See below picture). Tension is checked by measuring the slack between the track rollers and the lowest sagging area of the track rubber. When correctly adjusted, there must be no slack. To tighten the track: pump grease into the zerk on the spring adjuster to tighten the front idler until there is no slack, then pump once more. To loosen the track: relieve the pressure from the spring adjuster by removing the grease zerk to obtain the correct amount of slack.



CLUTCH ADJUSTMENT

⚠DANGER

Before attempting any type of maintenance, disengage clutch or cutter wheel engagement, wait for the cutter wheel to come to a complete stop, position and lock the cutter wheel in the transport position, turn off engine, remove the ignition key, make sure the ignition key is in your possession, disconnect the battery, and install the cutter wheel lock pin.

⚠DANGER

DO NOT go near the rotating cutter wheel for any reason. DO NOT go near the cutter wheel while the engine is running or the cutter wheel is coasting to a stop. Contact with a rotating cutter wheel will result in serious bodily injury or death.

CLUTCH ADJUSTMENT PROCEDURE IF THE CUTTER WHEEL ROTATES WHEN THE CLUTCH IS DISENGAGED

1. Follow all pre maintenance shut down procedures.
2. Remove the drive shaft access cover.
3. Remove the two bolts and locknuts from the drive shaft (see Figure 1).
4. Push the drive shaft off of the engine gear box.
5. Adjust the tension on the clutch extension spring as needed so the clutch engagement arm remains snug against the disengage adjuster stop (see Figure 3).
6. Start the engine.
7. Engage the clutch at low idle.
8. Disengage the clutch.
9. Throttle the machine up.
10. Check the output shaft on the engine gear box. If the output shaft is still rotating when the clutch is disengaged, adjust the locknut on the clutch arm adjustment eyebolt. Turn the lock nut counter-clockwise until the output shaft stops rotating. If the output shaft is not rotating when the clutch is disengaged, skip to step 16.
11. Readjust the tension on the clutch extension spring so the clutch engagement arm remains snug against the disengage adjuster stop.
12. Throttle the machine down.
13. Engage the clutch at low idle. Ensure the output shaft is rotating.
14. Disengage the clutch and ensure the output shaft no longer rotates.
15. If it is still rotating repeat steps 11 - 14.
16. If it is no longer rotating, follow all pre maintenance shut down procedures.
17. Place the drive shaft back on the output shaft on the engine gear box and install the bolts and lock nuts.
18. Reinstall the drive shaft access cover.

Figure 1

(Drive Shaft Access Cover Removed)

Figure 2

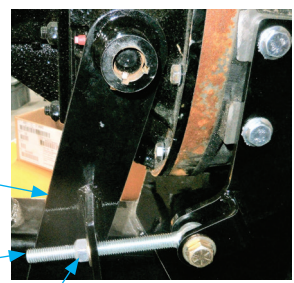


Figure 3

TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	SOLUTION
Engine will not start (See Engine Mfg. manual for further information)	Loose ground cable.	Clean and tighten.
	Loose hot cable.	Clean and tighten.
	Dead battery.	Recharge or replace.
	Batteries in remote are dead.	Replace.
	Emergency stop is activated.	Pull or twist the emergency stop to deactivate.
Cutter wheel does not engage	Tracks are not fully extended.	Extend tracks fully.
Cutter wheel vibration.	Tooth missing.	Replace missing teeth.
	Pocket out of balance. Do not mix new and worn out teeth.	Always replace pockets in pairs across from each other.
	Improper tooth arrangement. Do not mix new and worn out teeth.	Install correctly with like pairs of teeth directly across from each other.
Cutter wheel throwing teeth	Bad pocket.	Replace pocket.
	Dirt in pocket.	Clean pocket and replace teeth. Always replace pockets in pairs across from each other.
Breaking teeth	Operator hitting rocks.	Avoid rocks, stones, etc.
Cutter wheel stops turning	Debris wedged around cutter wheel	Clean out debris
Machine will not respond to remote	Weak or dead batteries.	Replace.
	Remote not turned on before starting the machine engine.	Turn off engine, turn remote power on and then restart the engine.
	Machine is out of range of the remote.	Move closer and make sure there are no obstructions between the operator and machine.
	Broken or damaged antenna.	Replace.
	Remote power switch is turned off.	Shut down and restart the machine
Cutter wheel rotates when the clutch is disengaged	Clutch engagement not adjusted correctly	Adjust the clutch (See page 36)

HYDRAULICS

WARNING

DO NOT GO NEAR LEAKS!

- Pressured oil easily punctures skin causing injury, gangrene or death.
- Seek immediate medical care.
- Do not use finger or skin to check for leaks.
- Remove hydraulic pressure or load before loosening fittings.
- Hydraulic components and oil may be hot. Allow sufficient time to cool.
- Avoid burns from fluid. Hot fluid under pressure can cause severe burns.

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DANGER

DO NOT go near the rotating cutter wheel for any reason. **DO NOT** go near the cutter wheel while the engine is running or the cutter wheel is coasting to a stop. Contact with a rotating cutter wheel will result in serious bodily injury or death.

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HYDRAULICS

⚠DANGER

Before attempting any type of maintenance, disengage clutch or cutter wheel engagement, wait for the cutter wheel to come to a complete stop, position and lock the cutter wheel in the transport position, turn off engine, remove the ignition key, make sure the ignition key is in your possession, install the cutter wheel lock pin, wait 2 minutes then disconnect the battery.

⚠WARNING

It is very important after you have operated a new machine for approximately an hour to shut down the machine and recheck all hydraulic fittings. Relieve all pressure and retighten as needed.

DO NOT GO NEAR HYDRAULIC LEAKS! High pressure oil easily punctures skin causing serious injury, gangrene, or death. Avoid burns from fluid. Hot fluid under pressure can cause severe burns. DO NOT use fingers or skin to check for leaks. Lower load or relieve hydraulic pressure before loosening fittings. Relieve all pressure in the system before disconnecting the lines, hoses, or performing other work. Use a piece of cardboard to find leaks. Never use your bare hands. Allow system to cool down to ambient temperature before opening any coolant or hydraulic oil system.

In cold weather situations let your hydraulic system idle for approximately 15 minutes to allow the system to warm up to operating temperature.

⚠WARNING

DO NOT operate this machine unless all hydraulic control devices operate properly. They must function, shift and position smoothly and accurately at all times. Faulty controls can cause personal injury!

NOTICE

Some equipment and components such as fluid engagement clutch's (PTO's) have their own lubrication requirements. Consult their manufactures manual for that information.

NOTICE

Do not under any circumstances over-set relief pressures, it will cause damage to component and hydraulic parts.

NOTICE

These typical hydraulic flows and relief pressure settings are with the engine at full RPM. All settings are subject to change.

⚠CAUTION

After the initial start-up of the machine and after any replacement of hydraulic components, fittings and hoses must be re-checked for leaks and clearances.

NOTICE

When returning hydraulic components for warranty make sure to box up all warranted parts to avoid additional damage while shipping. **Do not disassemble any hydraulic components which are to be warranted.** Anything which has been disassembled or tampered with will not be warranted. Items being returned must be clean. All hydraulic components must have all hosing ports plugged. Failure to plug ports will allow debris to enter components which will void warranty.

HYDRAULICS

⚠WARNING

It is very important after you have operated a new machine for approximately an hour to shut down the machine and recheck all hydraulic fittings. Relieve all pressure and retighten as needed.

DO NOT GO NEAR HYDRAULIC LEAKS! High pressure oil easily punctures skin causing serious injury, gangrene, or death. Avoid burns from fluid. Hot fluid under pressure can cause severe burns. DO NOT use fingers or skin to check for leaks. Lower load or relieve hydraulic pressure before loosening fittings. Relieve all pressure in the system before disconnecting the lines, hoses, or performing other work. Use a piece of cardboard to find leaks. Never use your bare hands. Allow system to cool down to ambient temperature before opening any coolant or hydraulic oil system.

In cold weather situations let your hydraulic system idle for approximately 15 minutes to allow the system to warm up to operating temperature.

⚠WARNING

DO NOT operate this machine unless all hydraulic control devices operate properly. They must function, shift and position smoothly and accurately at all times. Faulty controls can cause personal injury!

HYDRAULIC FLUID REQUIREMENTS

This machine is equipped with “Petro-Canada Hydrex XV” hydraulic fluid. It is recommended to replace with the same. “Petro-Canada Hydrex XV” is an all season hydraulic fluid. This is a premium performance, long life anti-wear, hydraulic fluid, designed for all season use in heavy duty hydraulic systems. “Petro-Canada Hydrex XV” allows year round use under wide extremes of temperature. It allows the hydraulic system to start at temperatures as low as -40°C/-40°F, under no load conditions and it improves lubrication of hydraulic components at high operating temperatures. It will also help protect against hydraulic failures during the wide temperature swings of spring and fall. To find the closest “Petro-Canada Hydrex XV” dealer call 1-866-335-3369, press 1 for English, then 1 for lubricants, then press 2 for new customer. Or go to “lubricants.petro-canada.com” and click on “Contact Us” then click “Request A Quote” to find your nearest Petro-Canada dealer.

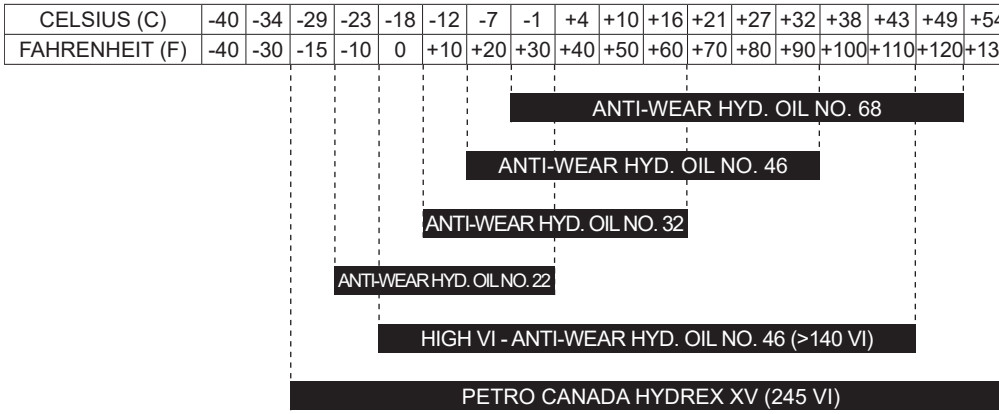
Multi Viscosity motor oils are not recommended to mix with “Petro-Canada Hydrex XV” hydraulic oil. AW oils may mix with “Petro-Canada Hydrex XV” hydraulic oil. The following are specifications and authorizations of compatible oils. Only a high quality anti-wear (AW) hydraulic oil containing foam, corrosion, rust and oxidation inhibitors should be used. This viscosity grade depends on the oil temperature in service, based on the climate and operating conditions.

	Hydrex XV	ISO 22, AW	ISO 32, AW	ISO 46, AW	ISO 68, AW	ISO 100, AW
Viscosity Index	>235	>95	>95	>95	>95	>95
Flash Point	>240°C/464°F	>200°C/395°F	>210°C/410°F	>220°C/430°F	>220°C/430°F	>240°C/464°F
Oxidations Stability (ASTM D0943)	>9,000 Hours	>3,000 Hours	>3,000 Hours	>3,000 Hours	>3,000 Hours	>3,000 Hours
Cold Start-up, No Load, Max	-40°C/-40°F	-34°C/-29°F	-26°C/-14°F	19°C/-3°F	-9°C/16°F	-4°C/24°F

HYDRAULICS

Alternative hydraulic oils are available, but they do not equal the performance or longevity of the “Hydrex XV” oil. Consult the following information supplied by the oil distributor.

CELSIUS (C)	-40	-34	-29	-23	-18	-12	-7	-1	+4	+10	+16	+21	+27	+32	+38	+43	+49	+54
FAHRENHEIT (F)	-40	-30	-15	-10	0	+10	+20	+30	+40	+50	+60	+70	+80	+90	+100	+110	+120	+130



NOTICE

The above chart is a suggested guide for viscosity of hydraulic fluids at start up ambient temperature. The load, demand, and cleanliness of the equipment will affect actual oil temperatures which can increase dramatically above ambient air temperatures during operation. The actual viscosity needed is based on oil temperature during operation and not air temperature. Compare your fluid specifications with the specifications below to verify compliance.

Based on the varying temperatures of the area where Bandit equipment is used, and the high demand and loads placed on this equipment, Bandit has filled each hydraulic system with Petro-Canada’s Hydrex XV All Season Hydraulic Fluid for maximum protection and performance.

Hydraulic fluids vary in their resistance to oxidation at elevated temperatures, their ability to protect against metal-to-metal contact under increasing temperature, and their ability to separate water from the fluid. Viscosity is temperature dependant. Fluids with high viscosity-index (VI) will thin out slower at higher temperature and thicken slower at colder temperatures allowing a wider operating range. Choose a fluid that has test results in these areas for best results.

When choosing a hydraulic fluid - these maximum and minimum specifications must be met:

Minimum Viscosity during operation = 12 cSt
Maximum No-Load Viscosity at start-up = 2000 cSt

Go to: lubricants.petro-canada.com and click on “Contact Us” then click “Request A Quote” to find your nearest Petro-Canada dealer.

NOTICE

Some component manufacturers require different specific lubrication requirements, such as gear boxes, undercarriage drives, fluid engagement clutches, etc. Refer to the manufacturer’s manual for information.

HYDRAULICS
THE BANDIT HYDRAULIC SYSTEM

The Bandit is equipped with a very efficient, simple hydraulic system. Each component is capable of withstanding a specified PSI (bar) and still operate for a very long time.

If the simple rules mentioned below are followed, the hydraulic components will last for years:

- After you have operated a new machine for approximately an hour shut down the machine and recheck all hydraulic fittings for tightness and leaks.
- Avoid hydraulic pump cavitation. Low oil levels or cold start-ups will cause the hydraulic pump to cavitate. Cavitation will ruin the pump and possibly the entire hydraulic system. Cavitation only has to happen once. This will start the pump on its way to ruin. Allow hydraulic system to turn slowly for several minutes in cold weather in order for hydraulic system to warm up. Cavitation is not covered under warranty.
- Do not increase the relief valve settings beyond specified PSI (bar). This will cause damage to hydraulic components. Do not set any other hydraulic component past it's specified pressure or this will cause damage to the hydraulic components.
- Keep hydraulic oil clean. Dirty oil will cause excessive wear and loss of hydraulic power.
- Replace the hydraulic oil filter(s) after first 10 hours and with each 400 hours of operation or 3 months.

⚠CAUTION

After the initial start-up of the machine and after any replacement of hydraulic components, that fittings and hoses should be re-checked for leaks and clearances.

- Replace hydraulic oil & suction screen(s) at least once yearly. This is also a very good time to flush and clean the tank. Replace hydraulic oil immediately if it is contaminated or looks "milky". See pages 40 - 41 for hydraulic oil requirements.
- If the Bandit's hydraulic system is kept clean and the hydraulic pressures are not increased beyond the specified PSI (bar), the maximum use and life should be received from the Bandit grinder hydraulic system.
- If a problem is encountered, it will more than likely be located in the relief valve or something as simple as belts or clutch slipping, check these first.
- Pressure gauge should be safely stored and installed only when checking pressure. Follow above instructions or this will cause unwarranted damage to the hydraulic components.
- Never close the ball valves on the hydraulic tank suction ports (if equipped) while the machine is running, this will ruin the hydraulic pump and components.
- Some component manufacturers require different specific hydraulic lubrication, such as gear boxes, undercarriage drives, etc. Refer to their manuals and maintenance section of this manual.

⚠WARNING

DO NOT GO NEAR LEAKS!

- Pressured oil easily punctures skin causing injury, gangrene or death.
- Seek immediate medical care.
- Do not use finger or skin to check for leaks.
- Remove hydraulic pressure or load before loosening fittings.
- Hydraulic components and oil may be hot. Allow sufficient time to cool.
- Avoid burns from fluid. Hot fluid under pressure can cause severe burns.

HYDRAULICS

TYPICAL HYDRAULIC RELIEF PRESSURE AND RPM SETTINGS (Approximate, For Reference Only, Engine At Full RPM)

Equipment Model	SG-75
Function Main Relief PSI (bar)	3500 (240)
Cutter Wheel Up / Down Relief PSI (bar)	2540 (175)
Swing Setting PSI (bar)	2540 (175)
Track Extend PSI (bar)	3050 (210)
Track Drive - Left & Right PSI (bar)	3050 (210)
Pilot Pressure PSI (bar)	500 (34)
Cutter Wheel RPM	1050

NOTICE

Do not under any circumstances over-set these relief pressures, it will cause damage to component and hydraulic parts.

NOTICE

These typical hydraulic flows and relief pressure settings are with the engine at full RPM. All settings are subject to change.

NOTICE

If the hydraulic pressures are out of adjustment, contact your local dealer or Bandit Industries, Inc.

CHECKING FUNCTION PRESSURE PROCEDURES

1. Make sure all the controls are in the off position.
2. Install a pressure gauge into the test port, see below.
3. Start engine and adjust engine to full throttle.
4. Engage the control lever or switch so that the cylinder of the function that needs to be checked, bottoms out and then read the pressure gauge.

⚠CAUTION

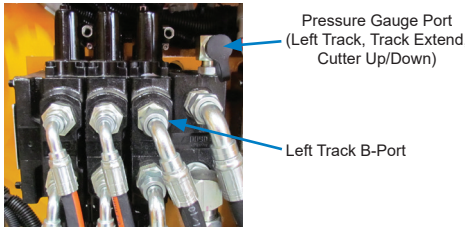
After the initial start-up of the machine and after any replacement of hydraulic components, fittings and hoses should be re-checked for leaks and clearances.

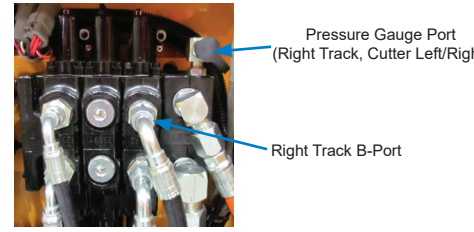
⚠WARNING

With the engine turned off, make sure the hydraulic oil is clean and the hydraulic tank is 7/8 full. After these have been verified, pre-run the machine to warm the hydraulic oil. Make sure to install the pressure gauge correctly.

CHECKING TRACK PRESSURE PROCEDURES

1. Make sure all the controls are in the off position.
2. Place a drip pan below the hydraulic valve.
3. Unhook the Right (or Left) Track B-Port hose and plug it off.
4. Install a pressure gauge into the test port, see below.
5. Start engine and adjust engine to full throttle.
6. Engage the Right (or Left) Track in the forward position and read the pressure gauge.





HYDRAULIC SYSTEM TROUBLESHOOTING

⚠DANGER

Before attempting any type of maintenance, disengage clutch or cutter wheel engagement, wait for the cutter wheel to come to a complete stop, position and lock the cutter wheel in the transport position, turn off engine, remove the ignition key, make sure the ignition key is in your possession, install the cutter wheel lock pin, wait 2 minutes then disconnect the battery.

PROBLEM	POSSIBLE CAUSE	SOLUTION
Hydraulic oil very hot causing system to operate slowly.	Dull Teeth	Replace teeth
	Low oil level	Fill 7/8 minimum
	Worn pump	Replace
	Poor oil quality	Replace
	Damaged hose	Replace
	Oil suction screen or filter plugged	Replace
	Oil cooler plugged	Clean
	Binding	Repair
Hydraulic system loss of power.	Low oil level	Fill 7/8 minimum
	Poor oil quality	Replace
	Bad cylinder	Replace or repair
	Bad pump	Replace
	Bad motor	Replace or repair
	Relief stuck open	Clean or replace
Swing cylinder loss of power.	Bad cylinder	Replace or repair
Cutter wheel swings faster one way than the other way.	Bad cylinder	Replace
Cutter wheel does not stay in up position, creeps down.	Bad cylinder	Repair or replace

NOTICE

In cold weather situations, let the hydraulic system idle for approximately 15 minutes to allow the system to warm up to operating temperature. Running cold oil through the hydrostatic motor can raise the case drain pressures and damage the shaft seals.

NOTICE

When returning hydraulic components for warranty make sure to box up all warranted parts to avoid additional damage while shipping. **Do not disassemble any hydraulic components which are to be warranted.** Anything which has been disassembled or tampered with will not be warranted. Items being returned must be clean. All hydraulic components must have all hosing ports plugged. Failure to plug ports will allow debris to enter components which will void warranty.

REPLACEMENT PARTS SECTION

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

GRINDER COMPONENTS
Serial Number
Model Number of Grinder

ENGINE COMPONENTS
Brand
Engine Serial Number
Engine Spec. Number

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.

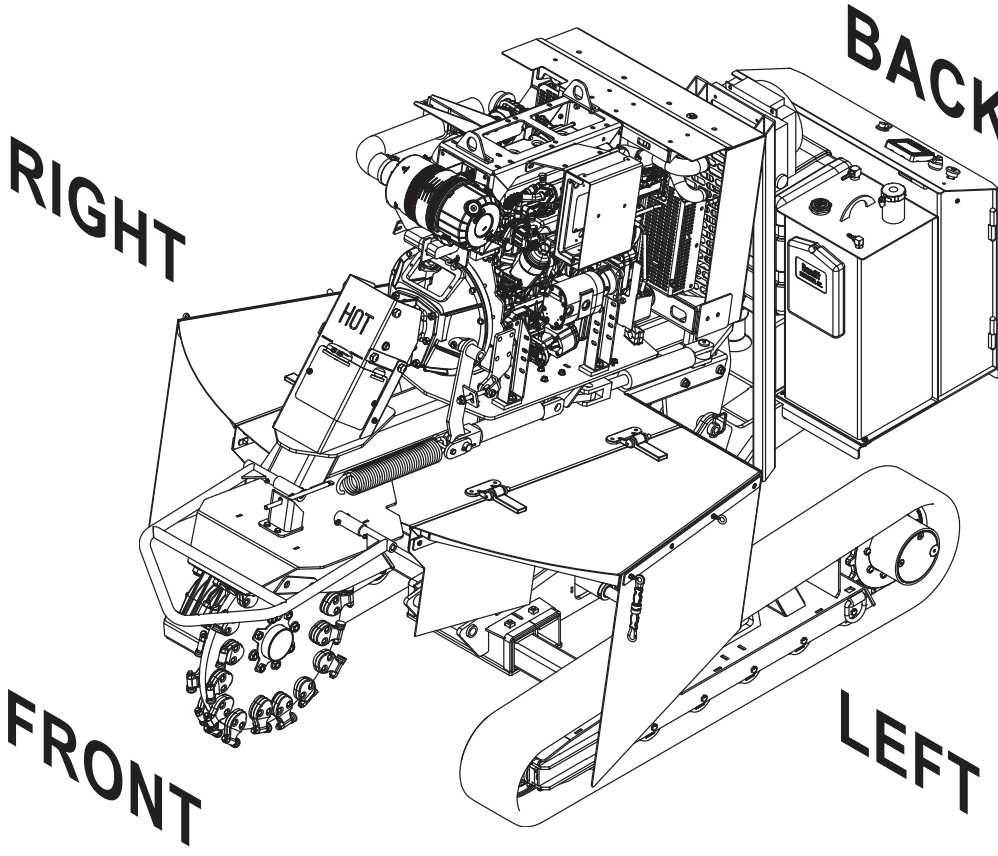
NOTICE

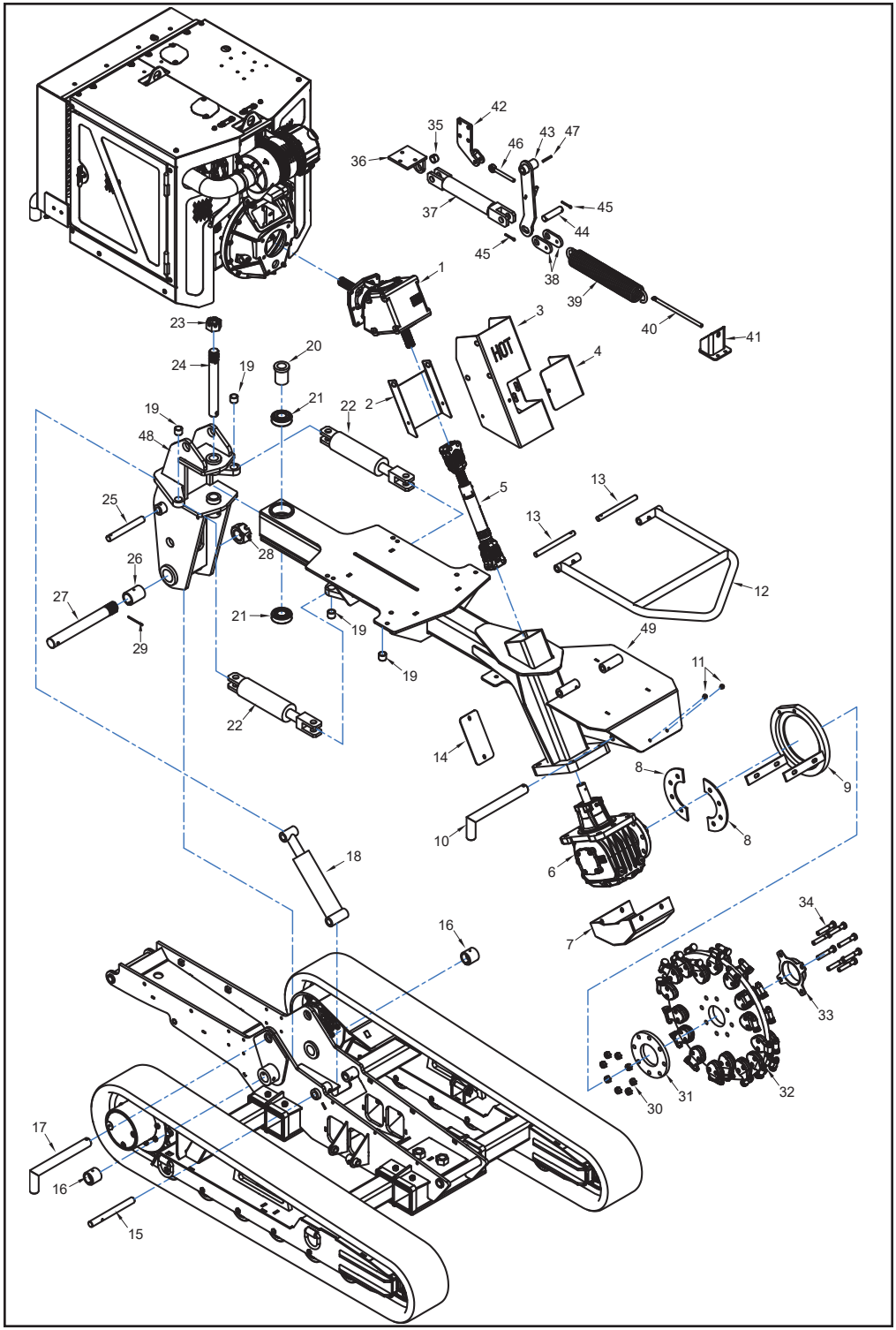
Some of the components shown in this section are for optional equipment and may not apply to every machine.

NOTICE

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

MACHINE ORIENTATION REFERENCE





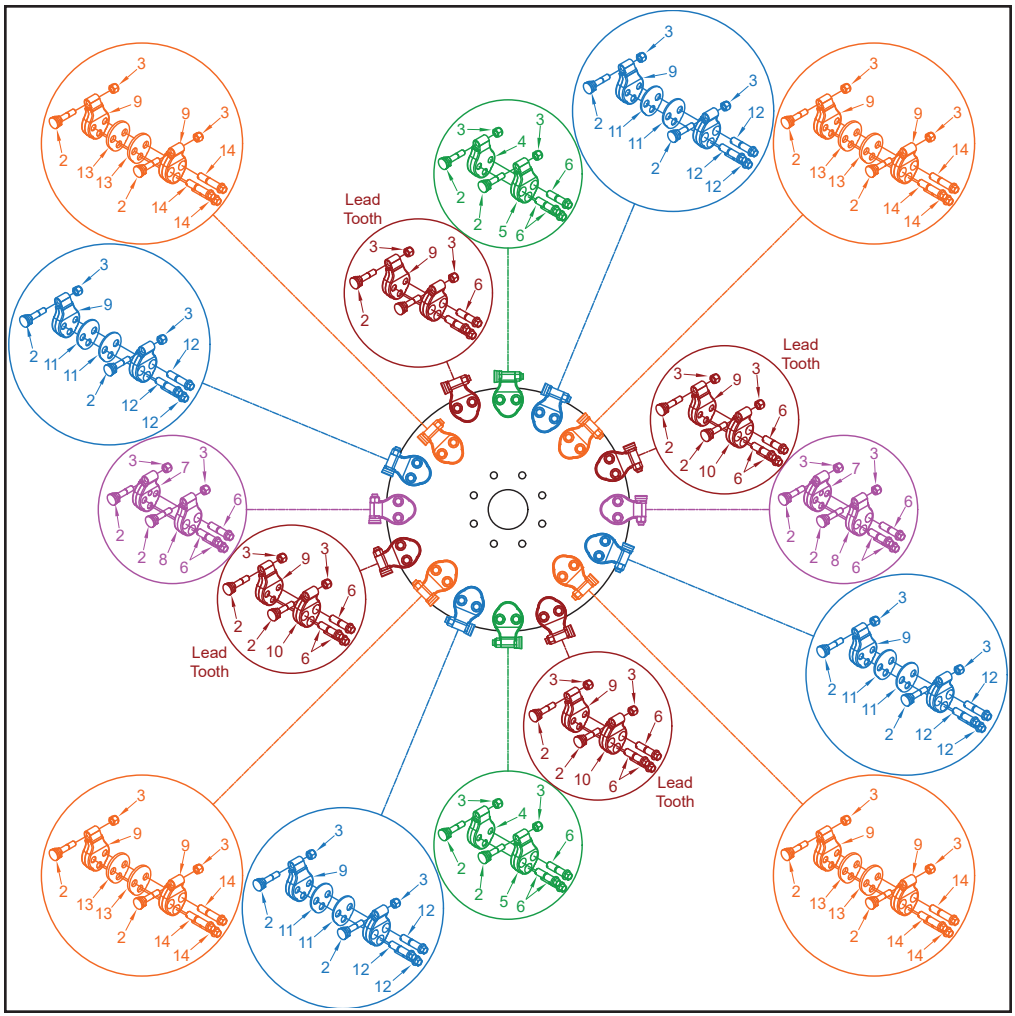
NOTICE Parts may not be exactly as shown.

#	Part Number	Description
1	900-3989-99	Gear Box - Engine
2	203-3001-29	Drive Shaft Cover - Back
3	209-2000-14	Drive Shaft Cover - Front
4	209-3001-88	Drive Shaft Access Cover
5	900-1926-21	Drive Shaft
6	900-3990-00	Gear Box - Cutter Wheel
7	209-2000-22	Gear Box Guard
8	209-3001-06	Wheel Retainer Hub Plate
9	209-2000-34	Wheel Catch (Start 9/19)
	209-2000-21	Wheel Catch (Pre 9/19)
10	209-3001-83	Cutter Wheel Lock Pin
11	900-7901-11	Rubber Bumper
12	209-2000-08	Cutter Wheel Bar
13	209-3000-54	Cutter Wheel Bar Pin
14	209-3001-57	Drive Shaft Access Cover - Bottom
15	209-3000-27	Up / Down Cylinder Pin - Frame
16	900-1926-61	Lower Pivot Pin Bushing - 2 1/4" OD x 1 3/4" ID x 2"
17	209-2000-25	Frame Lock Pin (Pre 9/19)
18	900-3992-77	Up / Down Cylinder
19	900-1902-42	Swing Cylinder Bushing
20	209-3001-24	Pivot Pin Sleeve
21	900-1926-83	Pivot Bearing
22	900-3958-80	Swing Cylinder
	900-3934-20	Swing Cylinder Pin
23	900-4907-23	1 1/2"-6NC Castle Nut
24	209-3000-77	Cutter Wheel Frame Pivot Pin
25	209-3001-14	Up / Down Cylinder Pin - Pivot Assembly
26	900-1926-60	Lower Pivot Pin Bushing - 2 1/4" OD x 1 3/4" ID x 3"

#	Part Number	Description
27	209-3002-28	Lower Pivot Pin (Start 9/19)
	209-3001-16	Lower Pivot Pin (Pre 9/19)
28	900-4925-68	1 3/4"-5NC Castle Nut
29	900-4921-67	3" Cotter Pin
30	900-4903-39	5/8"-11NC Lock Nut
31	209-3001-31	Cutter Wheel Spacer
32	See Pages 48 - 49	Cutter Wheel Assembly
33	209-2000-17	Cutter Wheel Dust Cover
34	900-4906-98	5/8"-11NC x 3 1/2" Bolt
	900-4901-32	5/8" Mill Carb Washer
35	900-1919-35	Clutch Engagement Cylinder Bushing - 1 1/4" OD x 1" ID x 3/4"
36	209-2000-44	Cylinder Base
37	900-3958-80	Clutch Engagement Cylinder
38	209-3003-50	Single Spring Cylinder End
39	900-4926-93	Extension Spring
40	900-4902-02	1/2"-13NC x 10 1/2" Spade Bolt
41	209-2000-46	Front Mount for Clutch Engagement
42	209-2000-45	Clutch Arm Stopper
43	209-2000-43	Clutch Engagement Arm
44	900-3934-20	Cylinder Pin for Clutch Engagement
45	900-4911-75	2" Cotter Pin
46	900-4902-73	Clutch Engagement Adjuster Bolt
47	001-3007-25	Key for Clutch Engagement
48	209-1000-05	Pivot Assembly
	209-2000-10	Pivot Weldment
49	209-1000-06	Upper Frame Assembly
	209-2000-11	Upper Frame Weldment

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

GREEN TEETH CUTTER WHEEL



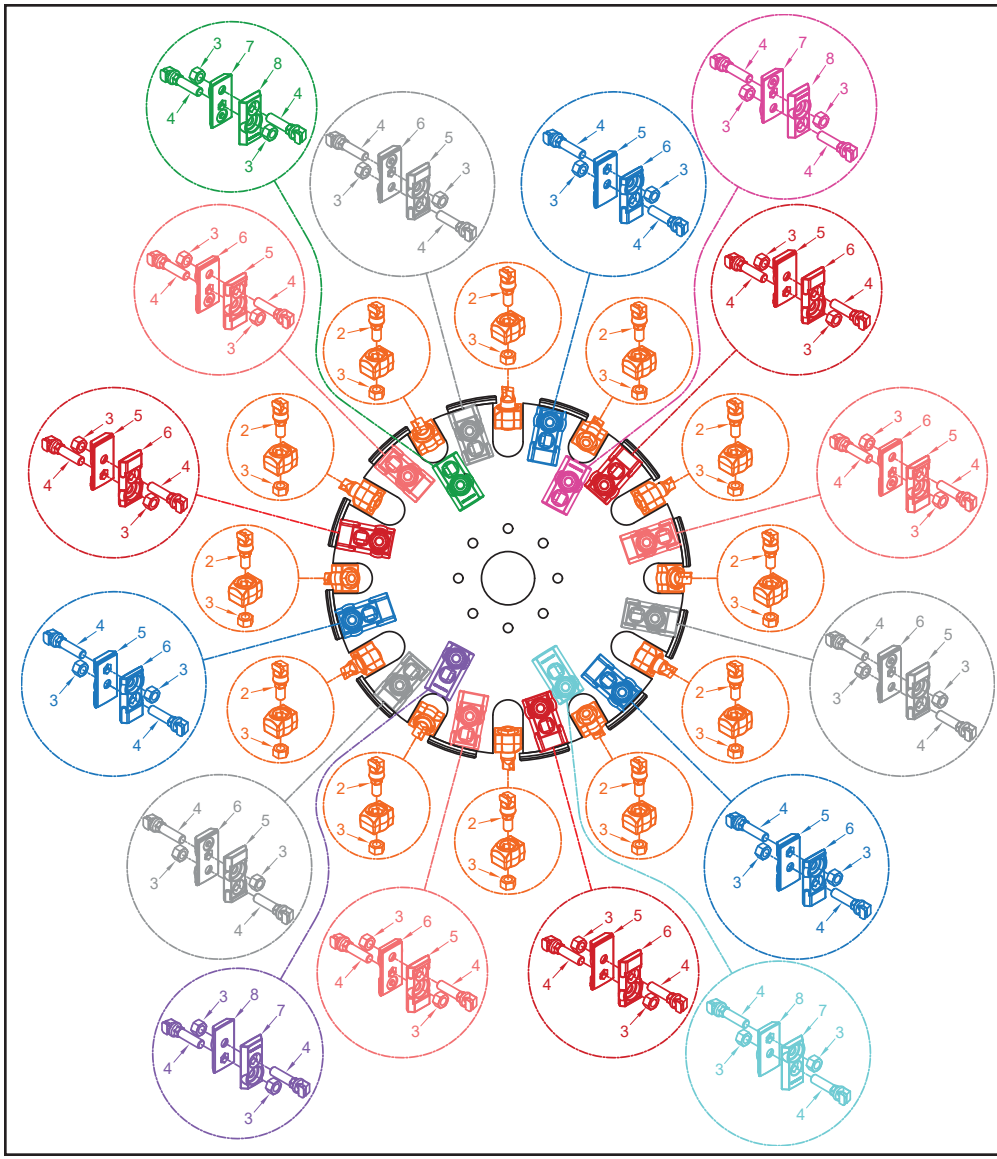
#	Part Number	Description
1	209-1000-16	Green Teeth Cutter Wheel Assembly (Includes 15)
	209-3000-78	Bandit Cutter Wheel Only
2	900-9918-24	WearSharp Tooth
3	900-9918-50	WearSharp Tooth Nut
4	900-9907-36	Threaded Straight Pocket (3-Bolt)
	900-9907-11	Threaded Straight Pocket (2-Bolt)
5	900-9907-37	Counter Bored Reverse Pocket (3-Bolt)
	900-9907-48	Counter Bored Reverse Pocket (2-Bolt)
6	900-9915-96	Pocket Bolt - No Spacer
7	900-9907-38	Threaded Reverse Pocket (3-Bolt)
	900-9907-49	Threaded Reverse Pocket (2-Bolt)
8	900-9907-35	Counter Bored Straight Pocket (3-Bolt)
	900-9907-47	Counter Bored Straight Pocket (2-Bolt)

#	Part Number	Description
9	900-9907-34	Threaded Angle Pocket (3-Bolt)
	900-9907-10	Threaded Angle Pocket (2-Bolt)
10	900-9907-33	Counter Bored Angle Pocket (3-Bolt)
	900-9907-09	Counter Bored Angle Pocket (2-Bolt)
11	900-9943-79	1/8” Spacer (3-Bolt)
	209-3001-28	1/8” Spacer (2-Bolt)
12	900-9910-68	Pocket Bolt - 1/8” Spacer
13	900-9943-80	1/4” Spacer (3-Bolt)
	209-3001-27	1/4” Spacer (2-Bolt)
14	900-9915-97	Pocket Bolt - 1/4” Spacer
15	900-9950-11	3-Bolt Cutter Wheel Tooth Kit (Includes 2 - 14)
	900-9942-91	2-Bolt Cutter Wheel Tooth Kit (Includes 2 - 14)

Torque pocket bolts to 125 - 150 ft.-lbs. (169 - 203 Nm).
Torque tooth nut to 45 - 62 ft.-lbs. (42 - 58 Nm).

NOTICE Parts may not be exactly as shown.

NEW RIVER “REVOLUTION” CUTTER WHEEL

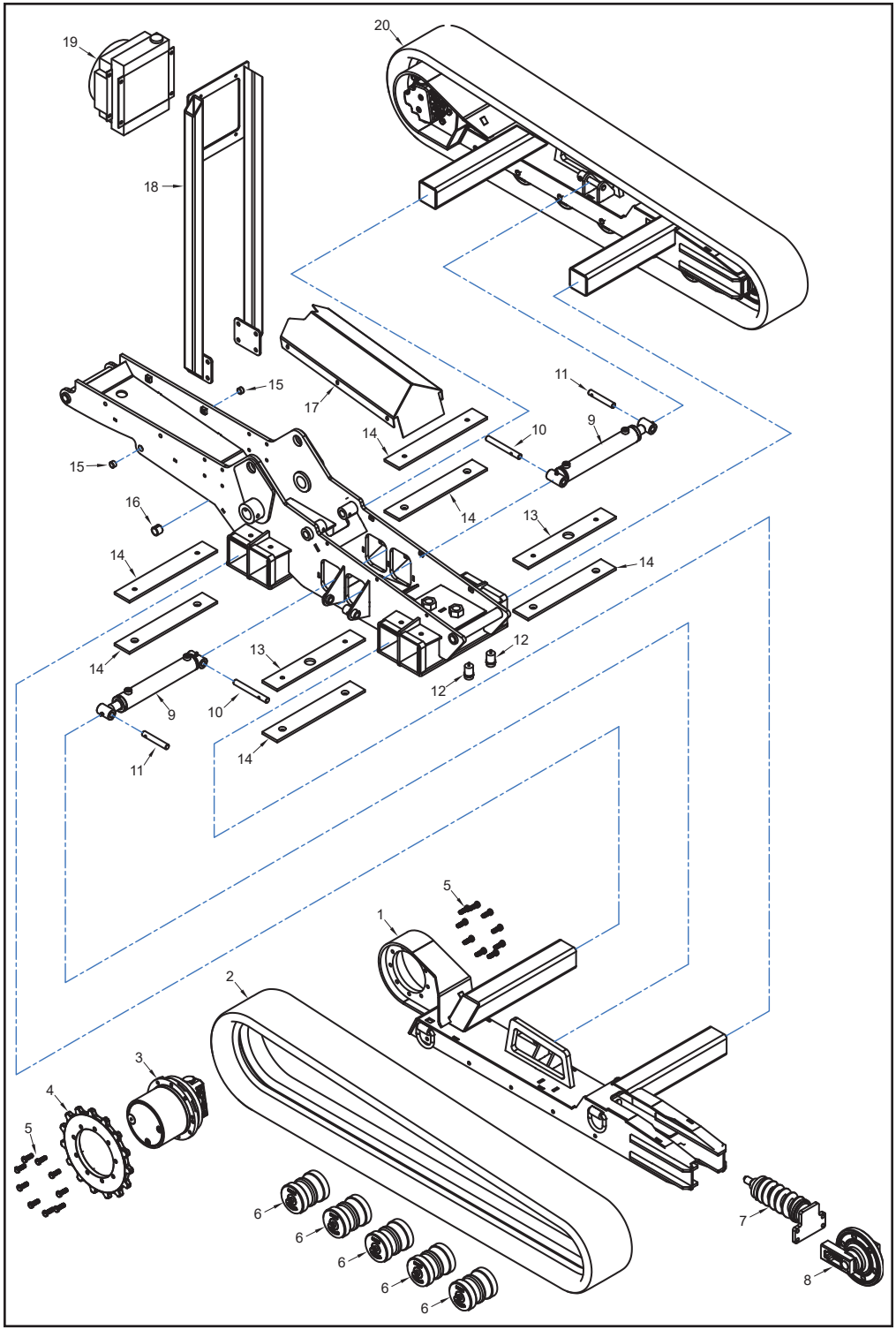


#	Part Number	Description
1	900-9947-51	New River “Revolution” Cutter Wheel
2	900-9912-24	Lead Tooth
3	900-9909-99	Tooth Nut
4	900-9912-23	Side Tooth

#	Part Number	Description
5	900-9933-93	HD Pocket with Locator Pin
6	900-9933-94	HD Pocket without Locator Pin
7	900-9912-25	Pocket with Locator Pin
8	900-9912-26	Pocket without Locator Pin

Torque Lead Teeth to 200 ft.-lbs. (271 Nm)
Torque Side Teeth to 125 ft.-lbs. (169 Nm).

NOTICE Parts may not be exactly as shown.

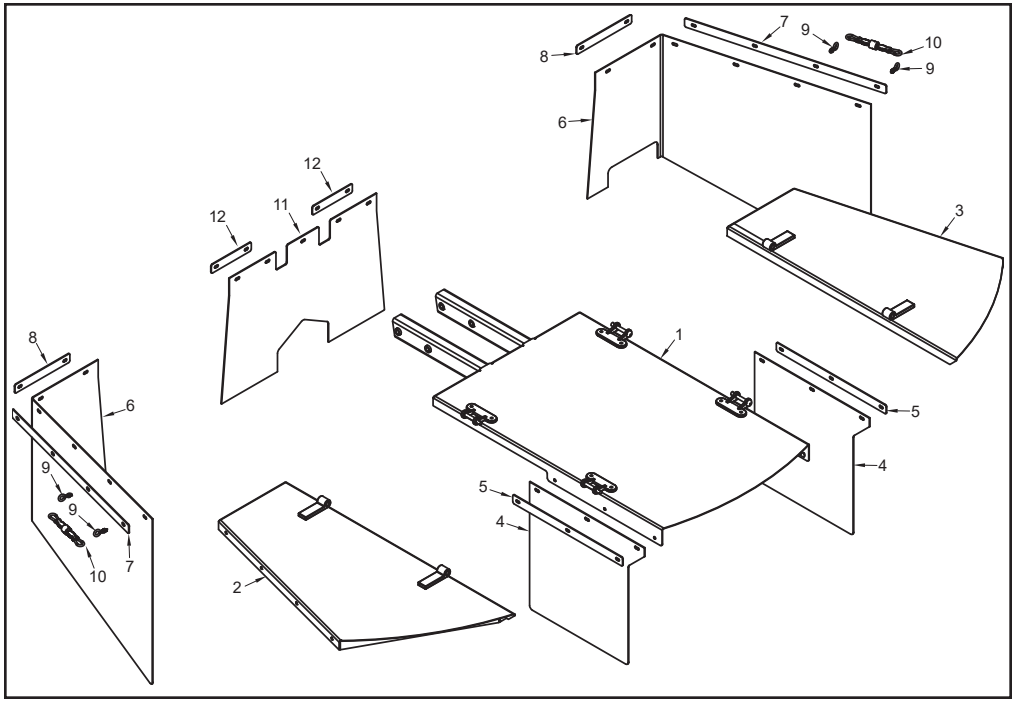


NOTICE Parts may not be exactly as shown.

#	Part Number	Description
1	209-1000-02	Right Track Assembly (Includes 2 - 8, 11)
	209-2000-04	Right Track Assembly
2	900-5916-50	Rubber Track
3	900-5916-49	Track Motor
4	900-5916-48	Track Motor Sprocket
5	900-4922-16	Bolt for Track Motor - M12 x 1.75 x 35 MM
6	900-5916-46	Track Rollers
7	900-5917-54	Tensioner Assembly
8	900-5917-42	Front Idler Assembly
9	900-3992-78	Track Carrier Extension Cylinder
10	209-3000-26	Track Carrier Extension Cylinder Pin
11	204-3001-60	Track Carrier Extension Cylinder Pin - Rod End

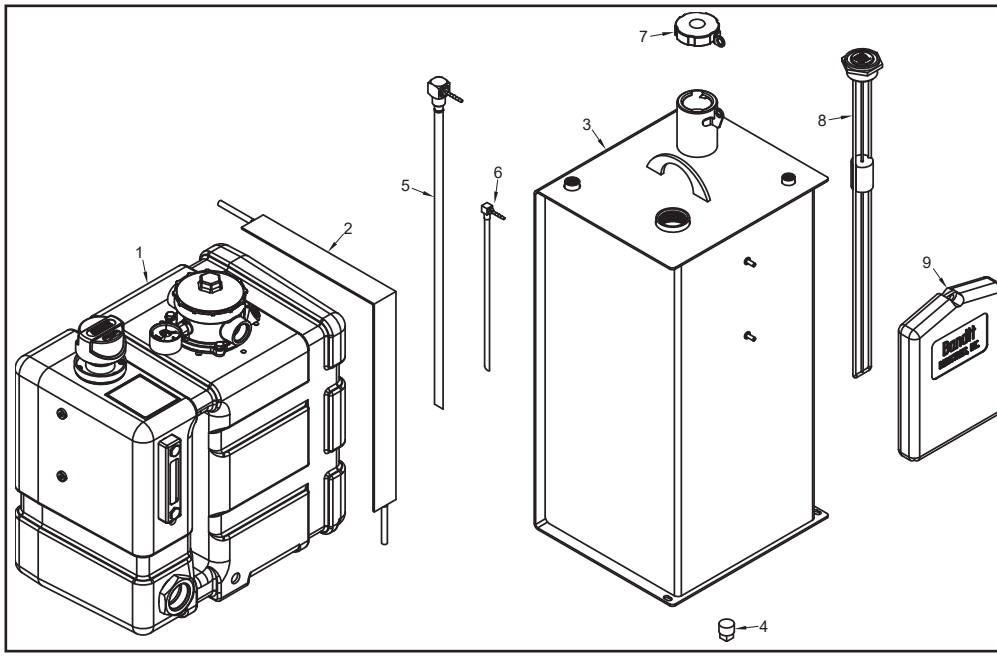
#	Part Number	Description
12	900-2934-16	Track Carrier Proximity Sensor
13	209-3002-03	Track Slide Sleeve Lining - With Sensor Mount
14	209-3002-02	Track Slide Sleeve Lining
15	900-1927-63	Grading Blade Bushing - 3/4” ID x 7/8” OD x 1/2”
16	900-1902-42	Grading Blade Cylinder Bushing - 1” ID x 1 1/4” OD x 1”
17	209-2000-19	Track Base Cover
18	209-2000-33	Hydraulic Oil Cooler Mount
19	900-3953-06	Hydraulic Oil Cooler
20	209-1000-01	Left Track Assembly (Includes 2 - 8, 11)
	209-2000-03	Left Track Weldment

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



#	Part Number	Description
1	209-2000-09	Middle Chip Pan Weldment
2	209-2000-13	Right Chip Pan Weldment
3	209-2000-12	Left Chip Pan Weldment
4	209-3001-85	Chip Curtain - Middle Front
5	209-3002-12	Chip Pan Strap - Middle Front
6	209-3001-01	Chip Curtain - Left & Right Side
7	209-3002-09	Chip Pan Strap - Left & Right Side

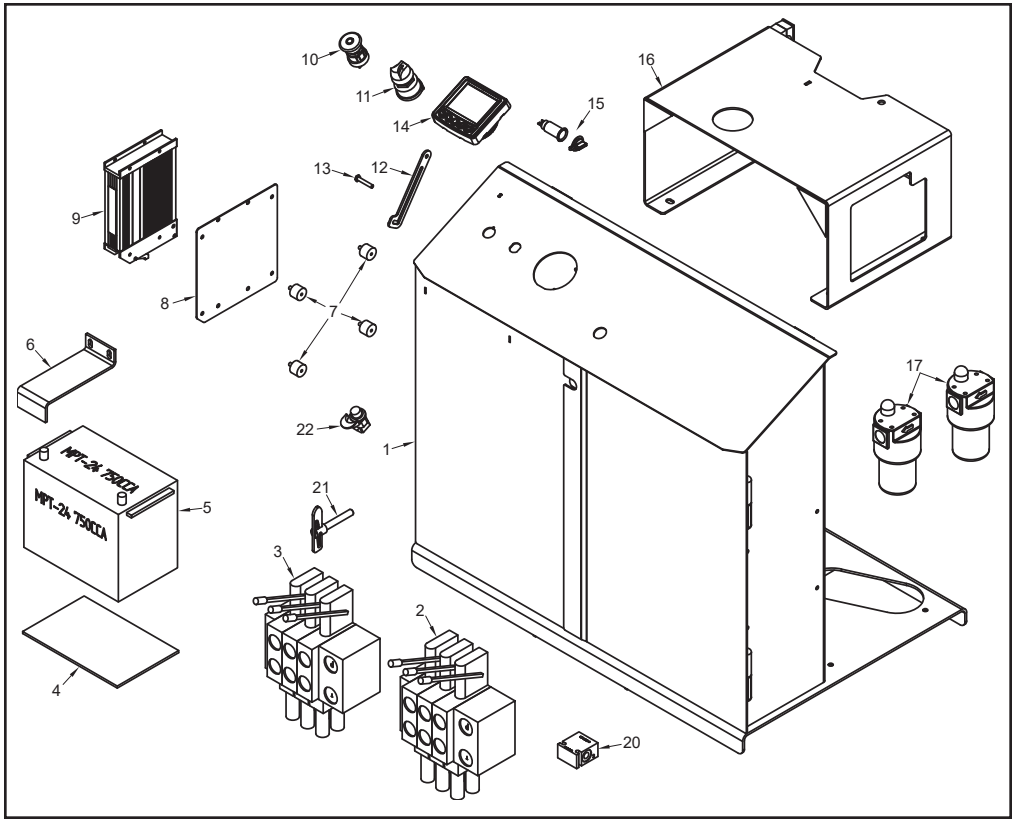
#	Part Number	Description
8	209-3002-10	Chip Pan Strap - Left & Right Side Back
9	900-4926-99	Eye Bolt
10	900-4927-00	Chip Pan Bungee
11	209-3001-02	Chip Curtain - Middle Back
12	209-3002-11	Chip Pan Strap - Middle Back



#	Part Number	Description
1	900-3990-31	Hydraulic Tank Assembly
	3990-31-01	Sight Gauge
	3990-31-02	Suction Strainer
	3990-31-03	Drain Plug
	3990-31-04	In Tank Filter
	3990-31-05	Fill Cap
	3990-31-06	Filter Element
2	900-3990-32	Hydraulic Tank Strap
3	209-1000-08	Fuel Tank Assembly (Includes 4 - 8)
	209-2000-01	Fuel Tank Weldment

#	Part Number	Description
4	900-3922-60	Magnetic Drain Plug
5	900-3926-84	Drop Pipe - 1/2” NPT x 3/8” NPT
	900-3931-53	Barbed Fitting - 3/8” NPT to 5/16” NPT
6	900-3909-00	Drop Tube - 3/8” NPT x 1/4” NPT
	900-3909-02	Barbed Fitting - 1/4” to 1/4”
7	900-3988-07	Fuel Cap
8	900-2903-95	Rochester Sight Gauge - 24”
9	900-9910-28	Manual Holder

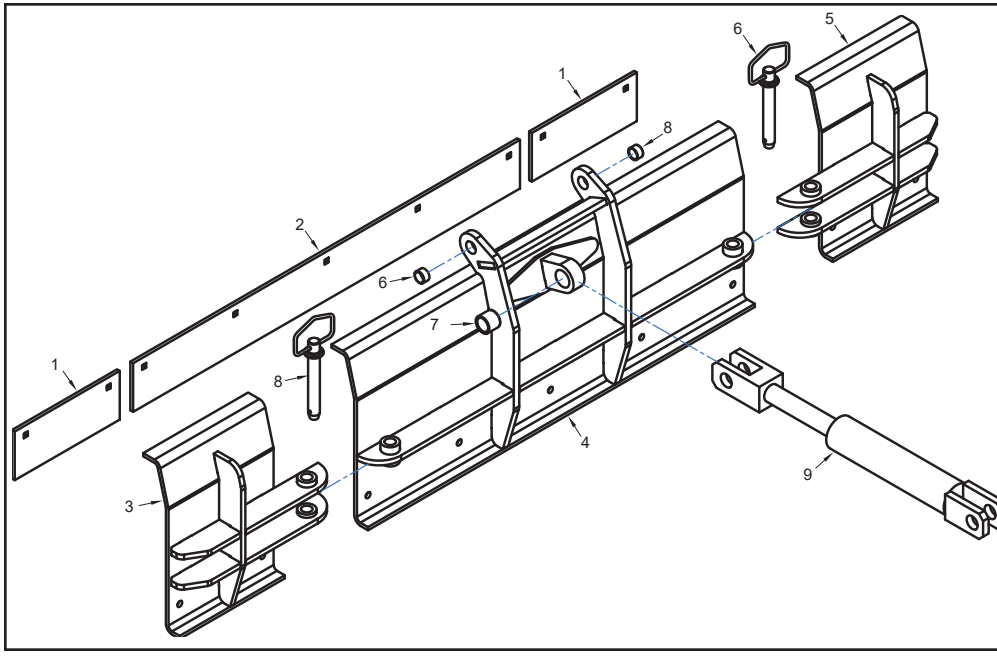
NOTICE Parts may not be exactly as shown.



#	Part Number	Description
1	209-1000-00	Control Box, Fuel Tank, & Hydraulic Tank Assembly (Includes 2 - 16)
	209-2000-00	Control Box Weldment
2	900-3996-55	Right Track 3-Bank Valve (Start 9/19)
	900-3989-48	Right Track 3-Bank Valve (Pre 9/19)
3	900-3995-62	Left Track 3-Bank Valve (Start 9/19)
	900-3989-49	Left Track 3-Bank Valve (Pre 9/19)
4	204-3002-68	Battery Pad
5	900-6969-11	Battery
6	992-3001-27	Battery Strap
7	900-7901-42	Rubber Isolator
8	992-1000-97	Remote Control Receiver Mount

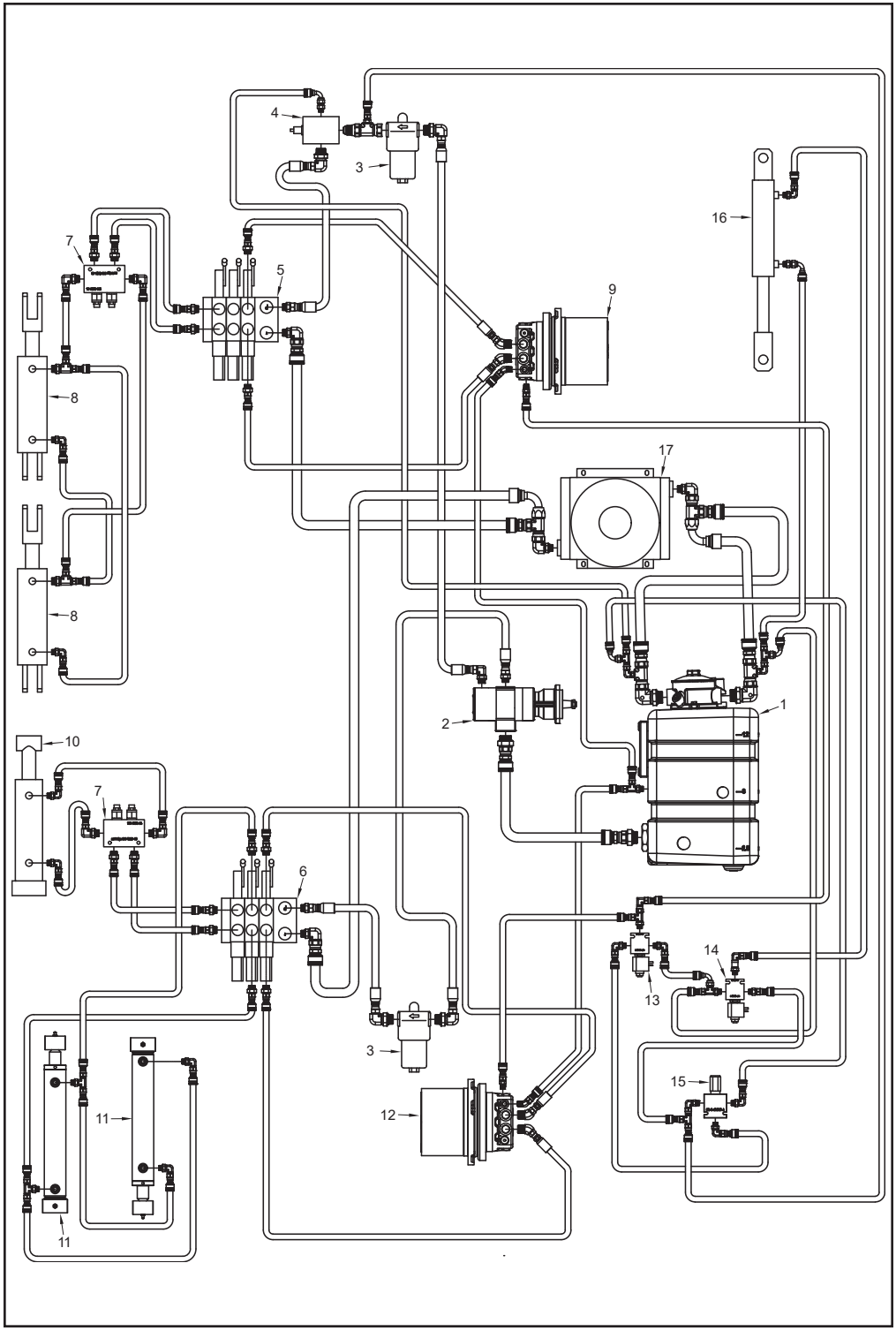
#	Part Number	Description
9	300-8008-83	Remote Control Receiver
10	900-2931-47	Emergency Stop
11	900-2927-91	Ignition Switch
12	209-3002-07	Control Box Latch
13	900-4926-75	Drop Latch Bolt Keeper
14	300-8008-84	PV380 Display
15	900-2914-53	12v Power Port
	900-2914-54	Power Port Cap
16	209-2000-20	Hydraulic Tank Mount
17	900-3991-58	In-Line Filter
18	900-3994-64	Sequence Valve (Not Shown)
19	900-3994-12	Reducing Valve (Not Shown) (Pre 9/19)
20	900-3935-35	2-Speed Block (Pre 9/19)
21	900-4921-44	Drop Lock Latch
22	900-9944-04	Lock Latch

NOTICE Parts may not be exactly as shown.



#	Part Number	Description
1	209-3003-68	Wing Wear Bar
2	991-3001-40	Blade Wear Bar
3	209-2000-56	Right Wing Grading Blade
4	209-2000-55	Center Grading Blade
5	209-2000-57	Left Wing Grading Blade

#	Part Number	Description
6	900-4916-87	Grading Blade Pin
7	900-1902-42	Cylinder Bushing
8	900-1927-63	Grading Blade Bushing - 3/4” ID x 7/8” OD x 1/2”
9	900-3958-80	Grading Blade Cylinder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#	Part Number	Description
1	See Page 53	Hydraulic Tank
2	900-3989-50	Hydraulic Pump
3	900-3991-58	High Pressure Filter
4	900-3994-64	Sequence Block
5	900-3989-48	Right Valve Bank
6	900-3989-49	Left Valve Bank
7	900-3956-84	Dual Counter Balance Valve
8	900-3958-80	Swing Cylinder
9	900-5916-49	Right Track Motor
10	900-3992-77	Up / Down Cylinder
11	900-3992-78	Track Extension Cylinder
12	900-5916-49	Left Track Motor

#	Part Number	Description
13	900-3935-35	2-Speed Block
	900-3952-82	Solenoid Only
	900-3952-81	Cartridge Only
14	900-3935-35	Clutch Engagement Block (Pre 9/19)
	900-3952-82	Solenoid Only (Pre 9/19)
	900-3952-81	Cartridge Only (Pre 9/19)
15	900-3994-12	Reducing Valve (Pre 9/19)
16	900-3958-80	Hydraulic Clutch Engagement (Pre 9/19)
17	900-3953-06	Oil Cooler
	900-3965-78	Oil Cooler - Fan Only
	900-3966-18	Oil Cooler - Thermostat

SERVICE RECORD

DATE	DESCRIPTION	AMOUNT