RUT MFG

Owner’s Manual

Compact Equipment Attachments

336-859-0328 | sales@rutmfg.com | rutmfg.com | Denton, North Carolina

TABLE OF CONTENTS

1. ABOUT THE DOCUMENT

1.1 General Information

Correct operation and careful maintenance are essential in order to prevent accidents and damage, keep the machine operational, and maximize performance. You must be familiar with this instruction manual in order to work on and with the machine. The manual must be in the driver's cab of the carrier vehicle at all times.

This instruction manual contains information about the setup and handling of the machine, as well as the regular inspection and maintenance work required. The operator and maintenance personnel must have read and understood this operation manual before operating or working on the machine. Carefully read the section titled “Safety”.

1.2 Explanation of Safety Instructions

When operating the machine, dangers may arise due to both the machine itself and the work environment, e.g., as a result of carrier vehicle movements, the terrain, ground, vegetation, and weathering effects. These dangers can, however, be minimized by behaving correctly and remaining safety-conscious.

This instruction manual points out the potential dangers and provides behavior guidelines to help prevent injuries and damage to property. Read and follow the instructions in the "Safety" section. Warnings must be strictly observed.

---

2. SAFETY

2.1 Personnel Requirements

The machine is operated exclusively by the carrier vehicle driver. The driver controls all the functions from the driver seat. Only qualified and trained personnel may be employed as drivers. The driver must meet the following requirements:

- Of legal age in the country and state where the machine is used.
- They must be physically and mentally capable of carrying out the tasks assigned to them.

- They must have been trained in how to operate the machine by the manufacturer or one of its agents.
- They must not be under the influence of narcotic substances.

The operator must take the appropriate measures and give instructions to ensure that the safety regulations in this instruction manual are observed. The operator must ensure that only those persons who meet the specified requirements are allowed to work on and with the machine. The operator must allocate the responsibilities for the transport, startup, operation, and maintenance of the machine. The operator must instruct the personnel to service and maintain the machine as indicated in the instructions. The operator must provide the required personal protective equipment.

The inspection and maintenance work described in this instruction manual must be performed only by persons who meet the following requirements:

- Of legal age in the country and state where the machine is used.
- Awareness of the dangers that can arise when carrying out technical work inside the machine.
- Training on how to maintain the machine by the manufacturer or one of its agents.
- Persons who perform repair work must have the necessary technical knowledge.

2.2 Basic Accident Prevention Rules

When the attachment is running, there is an acute danger to life due to rotating tools. Body parts can be severed. There is a risk of body parts being pulled in and severed if items of clothing or other objects are caught in the rotor. Trees and shrubbery can fall, and debris lying on the ground can be launched in unexpected directions. The rotor continues to run after the power has been switched off. It can take several minutes for it to come to a standstill.

Do not reach inside the attachment when the carrier vehicle engine is switched on. Avoid the hazard area until the rotor has stopped. In the area surrounding the machine, there is a risk of becoming caught due to the movements of the carrier vehicle or attachment. Do not enter or stand in the hazard area while the machine is switched on. Wear close-fitting protective clothing and safety shoes when carrying out all work on and with the machine.

2.2.1 Before Starting Work

During operation, it is necessary for high levels of force to be transferred between the carrier vehicle and the attachment. The carrier vehicle must be able to carry the load of

the attachment safely. The drive shaft transfers a high level of power at high speeds. The hydraulic hoses are under high pressure. A defective connection between the carrier vehicle and the attachment presents a high risk of accidents.

Only attach the machine to a carrier vehicle that has the required carrying capacity, drive power, and supply power, and whose interface corresponds to the technical specification for the attachment. The carrier vehicle must be equipped with a rear windshield made from safety glass or with a protective grille. There is an increased risk of accidents when attaching the machine to the carrier vehicle and when removing it.

- Attach and remove the attachment on level, firm ground only.
- Secure the carrier vehicle to prevent it rolling away.
- Wear protective clothing, safety shoes, and protective gloves.
- Do not enter the area between the carrier vehicle and the attachment unless both machines have been secured to prevent unexpected movements.
- Machine defects that go undetected or are ignored can result in accidents and subsequent damage. Before starting work, check the operational safety of the machine and make sure of the following:
    - Make sure that all covers are attached.
    - All safety devices are present, in acceptable condition, and functional.
    - Check the condition of the machine, particularly the hydraulic hoses.
    - Do not put the machine into operation if in an unsafe condition.

There is a risk of fatal injury to persons located in the area around the machine. Technical equipment in acceptable condition and caution on the part of the driver are essential for minimizing the dangers. Check the lighting and signaling devices, and make sure that no one is in the hazard area.

2.2.2 While Working

There is a risk of fatal injury to persons located in the area around the machine. Stop and switch off the machine immediately if anyone enters the hazard area. Malfunctions or overloads can cause accidents. The following are indications of technical faults:

- Unusual operating noises.
- Uneven running or vibrations.
- Leaking operating fluids or smoke.
- Unusual values indicated by on-board instruments.
- Fault messages on the on-board information system.
    - Stop operating the machine if faults are indicated. Identify the cause of the fault and rectify it.

2.2.3 When Leaving the Machine

Parking the machine in an unsecured manner can cause it to slide, result in the attachment sinking, and lead to misuse by unauthorized persons.

- Park the machine securely after stopping work.
- Apply the parking brake.
- Lower the attachment to the ground.
- Switch the carrier vehicle engine off.
- Remove the ignition key.

2.2.4 Other Safety Practices

The noise level at the machinist's ear depends on the carrier vehicle. The values may be above 80 dB(A) during work. Please pay attention to the following in order to counteract this load:

- Operate the machine only if all covers are attached.
- Keep the doors and windows of the carrier vehicle driver's cab closed.
- If in doubt, wear hearing protection.

Working in a forest environment poses an increased fire hazard. Flammable material can accumulate on hot surfaces and become mixed with flammable substances such as oils. Be sure to take the following precautions:

- Clean the machine regularly.
- Remove dust, woodchips, residual wood, and dirt at short intervals.
- Make sure that no flammable operating fluids escape.
- Remove any excess lubricants.
- Do not use flammable solvents to clean the machine.
- Store cleaning rags in fire-resistant containers.

If a fire does occur, however, proceed as follows:

- Immediate action:
    - Switch the carrier vehicle engine off.
    - Leave the immediate hazard area.
- Firefighting:
    - Try to extinguish the fire if it is possible to do so without putting yourself at risk. Take precautions to prevent the fire from spreading to the surrounding area.
    - If you cannot get the fire under control, seek assistance.

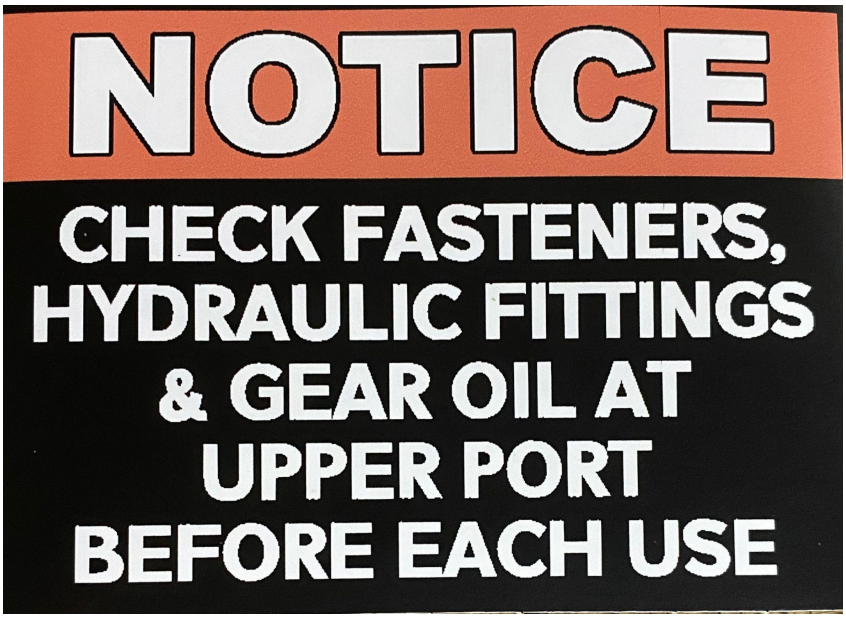
2.3 Hazard Area

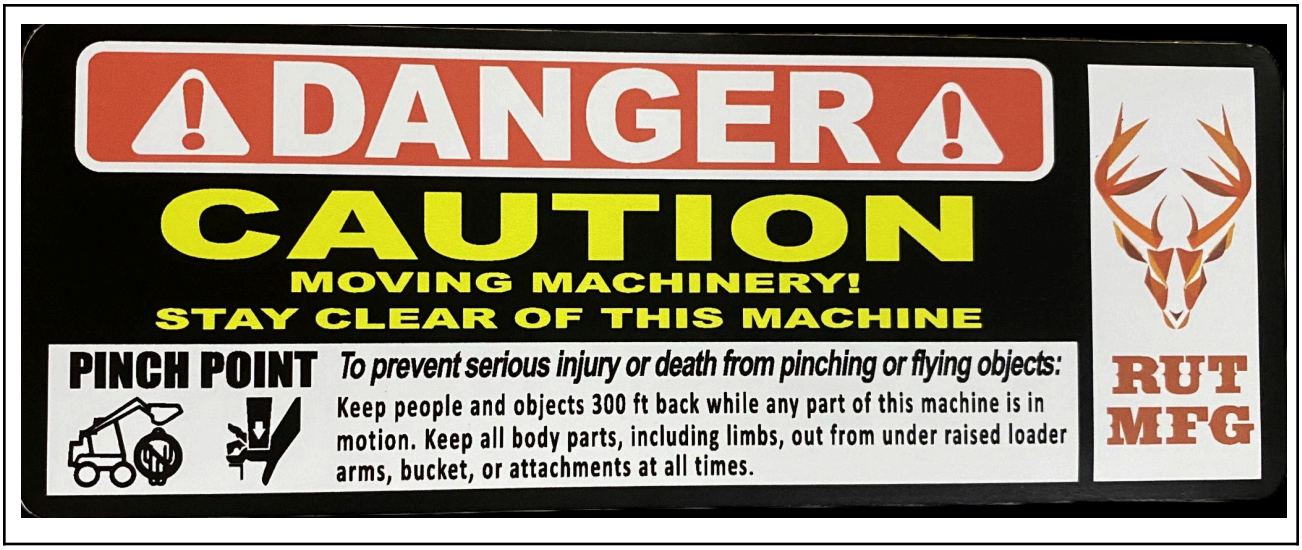
The hazard area refers to the space around the attachment and carrier vehicle, extending out to 300 feet in all directions. There is a risk of fatal injury to persons located in the area around the machine. When the rotor is running, there is a risk of being pulled into the rotor and parts of the body being severed due to entanglement in branches.

The driver's steering maneuvers and environmental conditions can cause unexpected movements of the machine. Objects that become caught in the attachment can fall or be flung out in unexpected directions. It is forbidden to enter or stand in the hazard area while the engine is switched on.

2.4 Graphic Warning Symbols

Ensure that the graphic warning symbols remain undamaged and fully legible. Replace damaged or unrecognizable graphic warning symbols immediately.





2.5 Safety Devices of the Attachment

The housing encases the rotor and the drive up to the work opening of the rotor. The rotor drive is covered by the drive box, which is screwed in place. Make sure that the machine is standing securely.

The working side of the carrier vehicle driver's cab must be protected against trees and branches striking it. We suggest a 12 mm-thick polycarbonate safety glass with an overlap of at least 15 mm. Alternatively, a protective grille can be attached. A safety windscreen is essential as rotary heads or swiveling equipment may lead to incorrect machine operation, causing material that is ejected from the machine to be thrown onto the windscreen.

---

3. ADJUSTMENT OR MOUNTING ON THE CARRIER VEHICLE

3.1 Required Components

The connection for attaching the attachment to the excavator or skid steer must be established using the base plate adapters. The connection to the machine may be screwed or welded onto the base plate. The relevant procedure can be found in the instruction manual for the carrier vehicle. If you have any questions regarding applications, service or maintenance, please contact your local carrier vehicle dealer.

- Wear safety shoes.

- Before entering the area between the carrier vehicle and the attachment, make sure that they are not liable to make unexpected movements.
- Do not walk underneath the raised attachment.
- If movements need to be triggered, do not enter the area between the carrier vehicle and the attachment.

To connect the hydraulic hoses, switch the hydraulic devices on the carrier vehicle to the floating position. Connect the hydraulic lines using the quick couplings.

If the attachment has been exposed to sunlight or high temperatures, the pressure in the hose lines may have risen to a level where the quick couplings cannot be connected. To reduce the pressure, loosen one of the hoses slightly or use a pair of pliers specifically designed for this purpose. Clean up any escaping oil using a pan or cloth.

3.2 Removing the Attachment from the Carrier Vehicle

Detach the carrier vehicle from the attachment plate of the machine and attach the bleeder kit. The relevant procedure can be found in the instruction manual for the carrier vehicle.

To disconnect the hydraulic hose lines, you will need cloths to catch and wipe up escaping hydraulic oil.

- Prerequisites:
  - The machine is parked securely on level solid ground and the attachment is on the ground.
  - The carrier vehicle is switched off and the attachment rotor is at a standstill.
- Procedure:
  - Loosen the quick couplings on the hydraulic hoses for the drive and the post-shredding flap on the carrier vehicle. Use a cloth to clean up any escaping oil.

---

4. DRIVING AND WORKING

4.1 Before Starting Work

Machine defects that go undetected or are ignored can result in accidents and subsequent damage. Before starting a trip, check the operational safety of the machine and make sure of the following:

- Make sure that all covers are correctly attached and in perfect working order.
- Check the machine for visible damage.
- Check the machine for visible leaks. Are there any fluid leaks?
- Check the accessible hydraulic cylinders and hydraulic hoses at the interface between the carrier vehicle and attachment for leaks and to ensure that they are in perfect condition.
- Check the condition of the equipment and the runners of the attachment. Replace worn parts.
- Check the hydraulic fluid level of the carrier vehicle.
- Do not put the machine into operation if in an unsafe condition.

There is a risk of fatal injury to persons located in the area around the machine. Technical equipment in acceptable condition and caution on the part of the driver are essential for minimizing the dangers. Before working, check the safety devices of the carrier vehicle:

- Check the lighting and horn.
- Check that the steering and brake are working effectively.
- Make sure that no one is in the hazard area.

Working in a forest environment poses an increased fire hazard. Flammable material can accumulate on hot surfaces and become mixed with highly flammable substances such as fuels and oils. Make sure that there are no leakages of flammable operating fluids such as fuels and oils.

4.2 While Working

Failure to adapt your driving style and ambient conditions can cause the machine to move unexpectedly. Adapt speed and steering maneuvers to the terrain and visibility conditions. There is a risk of fatal injury to persons located in the area around the machine. Stop and switch off the machine if anyone enters the hazard area.

When working on very densely overgrown terrain, there is a risk of accident from concealed contours in the terrain (for example, sharp drops in the ground) or obstacles (for example, wire fences). Inspect the work area on foot before driving on it with the machine.

Working in a forest environment poses an increased fire hazard. Flammable material can accumulate on hot surfaces and become mixed with highly flammable substances such as fuels and oils.

- Remove dust, woodchips, residual wood, and dirt at short intervals.
- Do not use flammable solvents to clean the machine.
- Store cleaning rags in fire-resistant containers.

Malfunctions or overloads can cause accidents. The following are indications of technical faults:

- Unusual operating noises.
- Uneven running or vibrations.
- Leaking operating fluids or smoke.
- Unusual values given by instruments on the carrier vehicle.
- Fault messages from equipment on the carrier vehicle.
    - Stop operating the machine if faults are indicated.
    - Identify the cause of the fault and rectify it.

4.3 When Leaving the Machine or Performing Maintenance

Parking the machine in an unsecured manner can cause it to slide and result in the attachment sinking. If the engine is left running, there is a risk of machine malfunctions and interference by unauthorized persons.

- Park the machine securely after stopping work.
- Lower the attachment to the ground.
- Always switch the engine off, even when stopping work for a short period of time.
- Remove the ignition key.

When the attachment is running, there is an acute danger to life due to rotating tools. Body parts can be severed. There is a risk of body parts being pulled in and severed if items of clothing or other objects are caught up in the rotor. Trees and shrubbery can fall and mulch lying on the ground can be launched in unexpected directions. The rotor continues to run after the power has been switched off. It can take several minutes for it to come to a standstill.

- Do not reach inside the attachment when the engine is switched on.
- Avoid the hazard area until the rotor has stopped.
- Do not enter or stand in the hazard area while the machine is switched on.

Do not walk underneath the attachment when working on it in the raised position. Support the attachment. There is a danger of being crushed between the attachment

and carrier due to unexpected machine movements. Park the machine securely, preferably on level solid ground, before performing any work.

- Apply the parking brake.
- When working on uneven terrain, also secure the machine with wedges.
- Even when the rotor is at a standstill, there is a danger that the equipment will cause cuts and bruises due to trapped mulch.
- Wear protective gloves.

When performing land clearance work in areas of dense vegetation, there is a risk of driving into foreign objects, such as wires or manhole covers, which can obstruct the rotor. You must exercise particular caution when rectifying faults of this nature.

- Switch the rotor off immediately.
- Move the machine free.
- Park the machine on level and solid ground if possible.
- Apply the parking brake.
- Switch off the engine.

4.4 Driving on Roads or Terrain

Before using public paths and roads, make sure that the machine complies with the local authorization requirements for road transport.

- Lift the attachment. Lock the operating lever to lower the machine.
- When using the machine on public paths and roads, always observe the local road transport regulations.
- Please note that, when attached, the attachment affects the driving characteristics of the carrier vehicle.
- Adjust the vehicle speed and handling to the road conditions, and to the traffic and environmental conditions.

Raise the attachment even when you are only performing driving maneuvers. Drive slowly and carefully when visibility is poor. Dense ground vegetation in the work area can conceal hazardous obstacles. Do not drive into objects that could become entwined in the rotor; for example wire fences or ropes.

- As far as possible, drive straight up and down slopes.
- Avoid sudden changes in direction when driving on uneven terrain, and up or down or across a slope.
- Drive over slippery slopes at constant speed, or accelerate slightly. Braking can cause the machine to slide.
- Since descents are more difficult to manage than ascents, drive up a slope only if you can drive down safely again or if you know an alternative downward route.

- Take particular care when driving downhill! Drive down slopes slowly, and as far as possible from a standstill. Even small obstacles can be hazardous.
- Never depress the clutch or change gear on gradients.
- When the vehicle slips sideways: Turn uphill and accelerate. Do not turn downhill!

4.5 Proper Usage Tips

When using your cutter make sure that you are running at full throttle. When trying to cut grass with a skid steer cutter you will need to ease into the material and then back drag to clean the cutter out and stop it from clogging up. Give the cutter time to speed up before trying to cut with it. Without giving the cutter time to reach peak rpm’s you will bog down when you hit any material. If your cutter comes with a third hydraulic line, this is the case drain. This cutter will have to have that case drain line hooked up when running or you will blow the motor. When operating an Excavator Mini Mulcher or Tree Slayer, you must run your machine in “Hammer Mode”. Without doing this it will blow the motor on the cutter. When using your cutter keep an eye out for wires and vines. We have taken what measures we could to protect the output shafts of the bearing housings from vines and wires, but it isn’t foolproof. You will still need to keep an eye out to make sure nothing gets wrapped up around that shaft and blows the seal out.

4.6 Annihilator Disc Mulcher Usage Guides

The key to running the Annihilator Disc Mulcher is high RPM speed without the excess of pressure. Let the momentum of the heavy mulching disc do the work. A good operating pressure is between 1,700 and 2,500 PSI. If you’re in thin material and your PSI is low, you can approach with more speed and aggression. On most skid steers, hydraulic pressure is set between 3,000 and 3,600 PSI. When you start getting into this range on the mulcher, back out of the material and let your mulcher spin back up. As the speed increases you should notice a drop in PSI on the mulchers pressure gauge. I have found it is best to run the Annihilator in Detent mode on your hydraulics. Your speed setting should either be in “Turtle” or “Creep”.

When trying to take out a 4” diameter tree, approach with the right side of the mulcher where the chute is located. Go into the tree with the mulcher flat. Once you get into the tree and make the initial cut, tilt the mulcher back to feed the tree into it.

When cutting into a tree or stump, speed is your friend. If you go into the tree slowly, you will most likely cause the mulcher to bog down. When you go through it quickly, it allows the momentum of the mulching disc to perform properly and make the cut. To

back drag, keep the mulcher on the ground with the heel elevated to leave finer/smaller debris left over on the job site.

It will take several hours of trial and error to perfect this method of operation. Be patient and don’t approach larger material until you are comfortable and confident in running the unit without stalling.

---

5. MAINTENANCE

5.1 General Notes

The machine is subjected to extreme loads and ambient conditions while in operation. It is therefore essential that you comply with the specified inspection and maintenance intervals in order to prevent damage to the machine. Have any defects rectified as soon as you identify them. If you operate the machine with damaged equipment, you risk consequent damage to the machine and putting yourself and others at risk.

This section describes the inspection and maintenance work that you must perform on a regular basis. It involves simple tasks that can be performed by persons who meet the following requirements:

- Of legal age in the country and state where the machine is used.
- At least basic technical knowledge.
- Awareness of the dangers that can arise when carrying out technical work inside the machine.
- Training on how to maintain the machine by the manufacturer or one of its agents.

Selected maintenance work is also described. Persons who perform this work must have the necessary technical knowledge. This requirement is specified for the work involved in each case.

All the work described here can be performed without the need to remove the attachment from the carrier vehicle. This is particularly true of lubrication work as well as regular inspection and maintenance work. This work is described for cases where the equipment is attached. In cases where removing equipment is recommended in order to carry out repair work, this information is specified.

5.1.1 Spare parts

Spare parts must be compatible and at least meet the specifications of the original parts. We recommend only using genuine spare parts. The warranty is valid only if genuine spare parts are used.

To avoid errors and incorrect items being supplied, always state your name and invoice number when making orders or raising technical queries. Please keep the invoice and invoice number on hand for future reference.

If you have any questions regarding applications, service or maintenance, please contact Rut Manufacturing directly.

5.1.2 Advanced Work and Operating Fluids

Advanced repairs, welding work as well as work on all safety-critical parts of the machine may only be performed in an authorized workshop. Supply settings (hydraulic system pressure levels and the like) may only be changed with the permission of the manufacturer.

Used operating fluids (greases, oils, cleaning agents, and solvents), oil-soaked auxiliary equipment (cleaning cloths), and dirt mixed with operating fluids from the machine will harm the environment and are therefore hazardous waste. Never let liquids that endanger groundwater seep into the soil or sewage system. Observe the local environmental protection regulations when disposing of these operating fluids.

5.1.3 Care During Maintenance Work

During all work, avoid using force. The force used must be limited to the amount necessary, for example the torque required to loosen or establish connections. Loose screw connections must be tightened immediately.

Replace damaged connecting elements such as screws and nuts with damaged heads or threads. A locking screw corresponding to the original must always be used. Elastic or deformed securing elements, such as safety plates, spring washers, and cotter pins, must not be reused and must be replaced.

5.2 Safety Instructions for Maintenance

When the engine is running, the machine poses dangers that can result in serious injuries or death. In the area surrounding the machine, there is a risk of becoming caught due to the movements of the carrier vehicle or the attachment.

Perform work on the machine – cleaning, refilling operating fluids, inspection, and maintenance – when the engine is switched off.

- Switch off the engine.Remove the ignition key.
- Wait until the engine and assemblies have cooled down.
- Stay at a safe distance if the engine has to be started and the machine moved.
- The machine can start to slide if parked on uneven terrain.
- Park the machine securely, preferably on level solid ground, before performing any work.
    - Apply the parking brake.
    - If working on uneven terrain, also secure the machine with chocks.

When removed from the carrier vehicle, the attachment may slide or tip over. Park the attachment on level, firm ground. There is a risk of crushing at the rotor and at moving parts.

There is a danger of being cut by equipment and sharp-edged machine parts.
Wear protective gloves. Do not work with bare hands.

Raised loads can fall. Always use load lifting gear with sufficient load-carrying capacity for lifting and transporting heavy loads. Carefully fasten and secure the load lifting gear. Do not walk under suspended loads.

Fluids escaping under pressure – compressed air, water, and steam – can damage eyes and skin. Steam causes burns. Never point a compressed air or water or steam jet at anyone.

Splinters are thrown around when the machine is blown out with compressed air. Wear safety glasses.

Oil – especially used oil – and chemical cleaning aids and solvents irritate the skin. These fluids can damage the skin of some people.

- Protect your hands with gloves or a special cream.
- Follow the statutory safety regulations.
- Oil escaping at high pressure can penetrate the skin.
- Consult a doctor immediately.

5.2.1 Working on the Attachment and Drive Train

When the attachment is running, there is an acute danger to life due to rotating tools. Body parts can be severed. There is a risk of body parts being pulled in and severed if

items of clothing or other objects are caught up in the rotor. Trees and shrubbery can fall and mulch lying on the ground can be launched in unexpected directions.

- The rotor continues to run after the power has been switched off. It can take several minutes for it to come to a standstill.
- Do not reach inside the attachment when the engine is switched on.
- Avoid the hazard area until the rotor has stopped.

The bearings become very hot during operation and are slow to cool down once the drive has been switched off. Liquid media such as oils can still cause burns even once the container surfaces appear to have cooled down.

- Allow parts to cool down below 122°F (50°C) before accessing them.
- Carefully check the temperature of the parts with your hand.

5.2.2 Hydraulics

The hose lines are under high levels of pressure that can reach up to 5,801 psi. Hoses that are not in perfect condition can rupture. Escaping oil can penetrate the skin. The system reaches high temperatures during operation.

- Wear protective clothing, gloves, and safety glasses.
- Check that the hydraulic hose lines are in acceptable condition before working near them.
- Do not adjust valves.
- Let oil cool off before draining.
- Before loosening connections, depressurize the hydraulic circuit.
- Have repairs to the hydraulics carried out by a specialized workshop only.

5.2.3 Welding Work

Improper welding work can result in accidents and serious damage to the machine.

- Have welding work performed by authorized, specialist personnel only.
- Observe the fire safety regulations.
- Protect nearby components, particularly components made of non-metallic materials, by using heat shields made of flame-resistant and insulating material.
- Before performing any welding work near lubricating or hydraulic systems, drain these systems and evacuate all gas by blowing them out with inert gas.
- Prepare electrical welding work as follows:
- Disconnect the cables from the negative terminal of the batteries.
- Disconnect the alternator.
- Connect the ground terminal near the welding point.

5.3 Operating Fluids

Maintenance on these cutters couldn't be any more simple. The bearing housing is an oil bath bearing housing filled with 80-90W gear oil. That means there are no grease points on the cutter. You can keep an eye on your oil level with the plugs on the top of the bearing housing. The only additional required maintenance is to keep an eye on the bolts and make sure they stay tight after every use. We take what measures we can to ensure this, but anything experiencing repeated vibrations will loosen over time.

If possible, use the products specified by Rut Manufacturing; these have been tested and approved. Products from other manufacturers must have the same specifications as these reference products. If in doubt, contact your operating fluid supplier and provide them with the list of operating fluids used. If you have any questions regarding applications, service or maintenance, please contact Rut Manufacturing directly.

---

6. SELF-HELP

6.1 Troubleshooting

Even when under time pressure, proceed systematically and purposefully. Random, indiscriminate disassembly and changing of the setting values can mean that the original cause of the error can no longer be determined.

- Gain an overview of the product function in the context of the overall system.
- Try to clarify whether the product performed the required function in the overall system before the error occurred.
- Obtain a clear idea about the cause of the error. If necessary, ask the immediate user or machine operator.
- Document the work performed.
- If you were not able to resolve the error, contact us directly at Rut Manufacturing.

	Fault	Possible Cause	Remedial Action
Hydraulics	Unusual sound	Improper fastening of the attached parts.	Check fastening of the hydraulic motor according to the specifications of Services. Observe tightening torques. Fasten attached parts according to the specifications of the coupling or fixture manufacturer.

		Mechanical damage to the hydraulic motor.	Replace hydraulic motor. Contact Service.
	Operating data is not achieved.	Too little volume stream of the hydraulic pump.	Check the function of the hydraulic pump.
		Too little control pressure or set pressure.	Check control pressure or set pressure; contact Service.
		Hydraulic fluid not in the optimal viscosity range.	Use suitable hydraulic fluid. Contact Service.
		Hydraulic motor wear.	Replace hydraulic motor. Contact Service.
		Mechanical damage to the hydraulic motor (e.g., bearing damage).	Replace hydraulic motor. Contact Service.
	The temperature of the hydraulic fluid and housing is too high.	Input temperature at the hydraulic motor too high.	Check the system, e.g., cooler malfunction, too little hydraulic fluid in the tank.
		Malfunction of the pressure regulating valves (e.g., high-pressure relief valve, pressure cut-off, pressure regulator).	Contact Service.
		Malfunction of the flush valve.	Contact Service.
		Hydraulic motor wear.	Replace hydraulic motor. Contact Service.
Rotor	The rotor is obstructed when work starts.	Heavy frost has caused the rotor to become obstructed.	Thaw out the rotor.

	The rotor becomes obstructed during operation.	Foreign objects are obstructing the rotor.	Remove the foreign matter.
	The rotor suddenly becomes heavily imbalanced while running.	One or more items of equipment are damaged.	Replace the equipment.
	The rotor is vibrating.	Bearing damage.	Check the bearing play.

6.2 Customer Service

Phone Number: 336-859-0328
Email: sales@rutmfg.com

If you need to contact the customer service department in the event of a fault, please have the following information ready:

- Invoice number
- Telephone numbers of the contact person and the employee operating the machine.
- Presumed or identified causes of the fault.
- Any measures already taken.

---

7. TAKING OUT OF SERVICE

7.1 Machine Shutdown

Incorrect storage can cause bare metal surfaces to corrode. Moving parts can be damaged as a result.

Preparations for Storage

- Clean the machine thoroughly.
- Remove rust.
- Spray bare parts with corrosion inhibitor oil.
- Grease bare moving parts.

Storage for up to 3 Months

- Store the attachment in as dry a condition as possible, protected from dust and dirt. In all cases, protect the attachment from direct wetness, such as rain or spray water.
- Park the attachment securely.
- Protect the attachment from damage caused by other objects.

Storage for more than 3 Months

- Store the attachment in a roofed, dry, and ventilated space that is not in direct contact with the ground.
- Park the attachment securely.
- Cover the attachment with an air-permeable tarpaulin for protection.
- Protect the attachment from damage caused by other objects.

Removal from Storage

- Clean the machine thoroughly.
- Remove rust.
- Lubricate all lubrication points.

7.2 Disposal of Operating Fluids

Operating fluids such as oils and greases are hazardous to water courses. When disposing of used operating fluids and parts that have come into contact with these fluids, follow the locally applicable legal regulations or wastewater regulations. We recommend clarifying the possible disposal options with the competent local authorities.

The term "waste material" refers to operating fluid residues or operating fluids that have been used. In the context of these instructions, waste material is considered hazardous if it has one or more of the following characteristics:

- Potentially explosive
- Highly flammable and spontaneously inflammable
- Combustible
- Oxidizing
- Toxic or highly toxic
- Irritating or caustic
- Generally harmful to health
- Carcinogenic or possibly carcinogenic
- Mutagenic
- Hazardous to water courses or otherwise damaging

Details of hazardous properties can be found on the safety data sheets of the materials concerned.

7.2.1 Collecting, Packing, and Identifying Waste

Only properly packaged, sealed, and labeled containers and drums, or containers and drums approved by the environmental representative, should be taken to the corresponding disposal site.

- Never mix different wastes together. Mixing waste material generally makes recycling impossible and is prohibited.
- PCB-based synthetic oils and oil substitutes containing halogen must be kept separate from other used oils.
- Pack the waste so that it cannot leak or evaporate and can be transported safely.
- Remove old content details and supplier labels from containers and drums, or make them illegible.
- Rinse containers and drums before filling them with waste. The only permitted exceptions to this are where the original containers and drums contained the same material as the waste material.
- Before transportation, packages, containers, and drums should be identified, in a clearly legible and weather-resistant form, with the following details:
    - Source of danger
    - Name, designation of content, hazard category and sub-class number
    - Sender (name, signature, and department)
    - Date

7.3 Scrapping

Dispose of all the machine components and accessories in accordance with the locally applicable regulations. If you have any questions, please contact customer service. If you have any questions regarding applications, service or maintenance, please contact your local dealer.

---

8. FREQUENTLY ASKED QUESTIONS

Why does my cutter make a loud noise when starting and stopping?

When starting and stopping, the cutter can make an extremely loud noise. This is nothing to be worried about. All it is is the hydraulic oil running through the relief valves.

That noise that you hear is the relief valves fluttering open and shut and it is completely normal.

Why does my excavator cutter slow down when I track?

On an excavator, everything pulls from the same hydraulic pump. When making any kind of movement that requires the use of hydraulic power, especially tracking, it will pull fluid from the cutter and direct it towards the movement you are making. This will starve the cutter of oil and cause it to slow down.

What do I do if my cutter is turning slow or in the wrong direction?

If your cutter is running slow or in the wrong direction, this could be due to several things. First, make sure you are running at full throttle to give the cutter your full amount of auxiliary flow. If it is still slow, you will want to check your PSI and make sure it isn't turned down. If your cutter is turning in the wrong direction this can be due to the relief valves being backwards. It's about a 50/50 chance of getting this right on your cutter since every machine can be plumbed differently. Depending on how your cutter is set up it could be as simple as swapping two relief valves or even swapping the two couplers on the end of the hoses. The best way to get to the bottom of this would be to give us a call at 336-859-0328 since every cutter is built differently.

Can I run the cutter in reverse, or are any of the blade bolts reverse-threaded?

The cutter is not designed to run in reverse. While the blades are sharp on both sides—except for those on our skid steer brush mower, which are made to be flipped—they are not intended for reverse operation. Additionally, the blades and blade holder bolts are not reverse-threaded. They're secured with red Loctite to keep them from coming loose, so you'll need to apply heat to remove them safely.

---

9. PRODUCT SPECIFICATIONS

Excavator Brush Mower

- 2 Blade Cutting System
- 3/16" Deck Thickness
- ⅝" AR400 Steel Blades
- Direct Drive unit
- Rated to cut up to 2" diameter material
- Motor and Bearing Housing are paired up to match the flow on your machine
- Can be built for 10-25 Gallons Per Minute
- Vine guard
- Blade holder bolts(allen head) ¾" hex allen total 6
- Motor bolts 2 or 4 depending on what motor you have
- 1/2" Couplers set
- 1/2" Machine Hose- length depends on what machine it was made for
- Blade Bolts total 2 Need 2 9/16" Socket to remove

Brush Eliminator

- 2 Blade Cutting System
- Direct Drive unit
- Motor and Bearing Housing are paired to match the flow of your machine
- ¼" Deck Thickness
- ⅝" AR400 Steel Blades
- Rated to cut up to 4" diameter material
- Protective motor cover
- ⅛" Square tubing reinforcements
- Can be built for 10-25 Gallons Per Minute
- Vine guard
- Blade holder bolts(allen head) ¾" hex allen total 6
- Motor bolts 2 or 4 depending on what motor you have
- 1/2" Couplers set
- 1/2" Machine Hose- length depends on what machine it was made for
- Blade Bolts total 2 Need 2 9/16" Socket to remove

Tree Slayer

- 3 Blade cutting system 9” long, ⅝” thick
- Available carbide tipped mulching teeth add-on total 9
- Direct drive unit
- Motor and Bearing housing are paired to match the flow of your machine
- ¼” Deck thickness
- ⅝” AR400 Steel Blades
- Rated to cut up to 6” diameter material
- Protective Motor Cover
- Square Tubing Reinforcements
- Can be built for 10-60 Gallons Per Minute
- Serrated Edge on the back of the cutter
- Vine guard
- Blade holder bolts(allen head) ¾” hex allen total 6
- Motor bolts 2 or 4 depending on what motor you have
- 1/2" Couplers set
- 1/2" Machine Hose- length depends on what machine it was made for
- Blade Bolts total 3 Need 2 9/16" Socket to remove

Excavator Mini Mulcher

- Direct drive unit
- 1”X1” Quadco Outside Mulching Teeth total 6
- 2”X2” Quadco Outside Mulching Teeth total 6- 36”,42”,48”
- Tooth holder comes with hardware total 6
- Carbide tipped bottom mulching teeth- 28" QTY22, 36", QTY32, 42" QTY36
- Motor and bearing housing are paired to match the flow of your machine
- ¼” Deck thickness
- Rated to cut up to 7” diameter material
- Protective motor cover
- Square tubing reinforcements
- Can be built for 10-20 Gallons per minute
- Serrated edge on the back of the cutter
- Vine guard
- Blade holder bolts(allen head) ¾” hex allen total 6
- Motor bolts 2 or 4 depending on what motor you have
- 1/2" Couplers set
- 1/2" Machine Hose- length depends on what machine it was made for

Excavator Auger

- Planetary Drive
- 2” Hex Bit
- Min/Max Flow - 15/30 GPM
- Max Continuous PSI - 3000 PSI
- Max Intermittent PSI - 3500 PSI
- Max Diameter Dirt/Rock - 36”
- Speed Output (15 GPM) - 55 RPM
- Speed Output (20 GPM) - 55 RPM
- Speed Output (15 GPM) - 55 RPM
- Speed Output (15 GPM) - 55 RPM

Skid Steer Brush Mower

- 2 Blade Cutting System
- 3/16” Grade 50 Steel Deck
- ¼” Reinforced Deck Sides
- ½” Straight Push Bar
- 1” Thick Blade Holder
- ½” by 3 5/16” by 17 ⅞” Hardened Steel Blades
- Quick Attach Plate is ⅜” Grade 50 Steel
- Direct Drive unit
- Motor and bearing Housing are paired to match your machine's flow.
- Can be built for 10-27 Gallons Per Minute
- Rated to cut 4” diameter material

Terminator Brush Cutter

- 3 Blade cutting system ⅝” thick, 15 1/4” long, 8” wide
- ¼” Deck Thickness
- ⅝” AR400 Steel Blades
- Blades have a cutting edge on both sides
- Comes with 2 replaceable skid shoes
- Direct Drive Unit
- The motor and bearing housing are paired to match your machine’s flow
- Blade Bolts & Nuts total 3
- ½" machine hoses- length depends on what machine it was made for
- ½" Couplers

- high flow could be either ¾” or ⅝” depending on the machine
- Motor cover
- 3/8" case drain coupler for high flow
- Blade holder bolts(allen head) ⅜” allen Socket total 8
- Motor bolts 2 or 4 depending on what motor you have
- Hose clamp
- Vine Guard
- Can be built for 10-27 Gallons Per Minute
- Rated to cut 6” diameter material
- ¾” Triangle shaped blade holder
- Available in High Flow and Low Flow

Terminator XP

- 60” 3 blades ⅝” thick, 15 1/4” long, 8” wide
- 72”,78” 4 Blade Cutting System ⅝” thick, 15 1/4” long, 8” wide
- Blade Bolts & Nuts total 4 for 72”, 78” total 3 for 60”
- ¼” Deck Thickness
- ⅝” AR400 Steel Blades with a cutting edge on both sides
- Comes with replaceable skid shoes
- Direct Drive Unit
- The motor and bearing housing are matched to the flow of your machine
- Can be built for 17-45 Gallons Per Minute
- Rated to cut 7” diameter material
- Carbide tip mulching teeth with hardware total 60" QTY12, 72" QTY16, 78" QTY20
- 3/4" machine hoses- length depends on what machine it was made for
- high flow could be either ¾” or ⅝” depending on the machine
- Motor cover
- 3/8" case drain coupler
- Blade holder bolts(allen head) ⅜” allen Socket total 8
- Motor bolts 2 or 4 depending on what motor you have
- Hose clamp
- Vine guard

Gladiator

- 60” 3 blades

- Blade Bolts & Nuts total
- 72” 4 Blade Cutting System
- Blade Bolts & Nuts total 4
- Available in High Flow and Low Flow
- Eskridge 132 bearing housing for low flow
- Eskridge 252 bearing housing for high flow
- ⅜” Deck Thickness
- ½” Reinforcement plates on deck sides
- 1” Thick Blade Holder
- Carbide Tipped Mulching Teeth 60" QTY 12, 72" QTY 20
- Replaceable Skid Shoes
- Large Pressure Gauge
- Direct Drive Unit
- Bent Axis Piston Motor
- Motor and bearing housing are matched to your flow
- Can be built for 10-45 Gallons Per Minute
- 3/4" machine hoses- length depends on what machine it was made for
- high flow could be either ¾” or ⅝” depending on the machine
- ½” for standard flow
- Motor cover
- 3/8" case drain coupler
- Blade holder bolts(allen head) ⅜” allen Socket total 8
- Motor bolts 2 or 4 depending on what motor you have
- Hose clamp
- Vine guard

Annihilator

- Direct Drive unit
- Driven by bent axis piston motor
- 2” Quadco Mulching Teeth 48" QTY 24, 60" QTY 36
- 1” Thick Blade Holder
- Cuts up to 14” Diameter Material
- Large Pressure Gauge
- Can be Built for 17-50 Gallons Per Minute
- Motor and bearing housing are paired to match the flow of your machine.
- ⅜” Deck Thickness
- Replaceable Skid Shoes
- 1” Thick Push Bar

- ⅜” Protective Motor Housing
- Small top and bottom tooth holder total 48" QTY 18, 60" QTY 30
- Large Tooth Holder Outside Disc total 6
- 1/2" Couplers for low flow, high flow could be either ¾” or ⅝” depending on the machine
- Vine Guard

Skid Steer Auger

- Planetary Drive
- 2” Hex Bit
- Min/Max Flow - 15/30 GPM
- Max Continuous PSI - 3000 PSI
- Max Intermittent PSI - 3500 PSI
- Max Diameter Dirt/Rock - 36”
- Speed Output (15 GPM) - 55 RPM
- Speed Output (20 GPM) - 55 RPM
- Speed Output (15 GPM) - 55 RPM
- Speed Output (15 GPM) - 55 RPM