



MULCHER

MG SERIES 72" DRUM MULCHER

OWNER'S MANUAL

Important safety and operation instructions inside

Read thoroughly before operating

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PREFACE

Congratulations on the purchase of your new Craig Manufacturing Ltd. product. This manual provides safety, operation, and maintenance information. To keep your product in good condition, please read this manual and follow all recommendations. Failure to do so may invalidate your warranty.

When parts or service are necessary contact Craig at 1-800-565-5007 for genuine Craig Parts. Before using your product, make sure your machine is equipped with all the OEM recommended requirements for your product application.

CRAIG FACTORY ORIGINAL PARTS



The best way to ensure equipment reliability is to use only genuine Craig Manufacturing Ltd. Factory Original Parts. Our parts department can help you not only find the right part for your application but also offers advice and support for the repair. Using aftermarket non-approved parts can alter your product's performance characteristics and may affect your warranty.

To help ensure that correct parts are ordered, please record the serial number of your product. Over time serial tags can become tarnished or difficult to read. Please supply this serial number to your dealership when ordering parts and it will ensure the correct part gets ordered.

Serial: _____

Machine: _____

Model: _____

In-Service Date: _____

Purchased From: _____

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

INTRODUCTION

As the new owner and/or operator of the Craig Mulcher we require you take the time to read this Operator's Manual carefully before commencing work.

FOLLOW THE SAFETY INSTRUCTIONS

- Carefully read all the safety information contained in this manual.
- Make sure all safety decals are securely fitted in the cab.
- Immediately replace any safety decals that are missing or damaged.
- Before starting work make sure you have a copy of this Operator's Manual in the cab and are familiar with all the safety procedures and instructions contained in this manual.

INFORMATION FOR THE USER

The user of the Craig attachment is obliged to ensure that the equipment is always in safe working order in accordance with accident prevention regulations, Occupational Safety and Health regulations or any other official instructions.

ENHANCED WARRANTY FOR ELIGIBLE PRODUCTS

Craig offers an enhanced warranty from 12 months (or 2,000 hours which ever comes first) to 36 months (or 6,000 hours) for **eligible products**. To take advantage of this enhanced warranty the eligible product must be registered within 30 days of receiving the product. You can register your product at the following website:

<https://www.craigattachments.com/product-registration/>

Refer to the contents of this manual to remedy faults and contact Craig at 1-800-565-5007 if you require assistance. Notice that unauthorized modifications to this equipment is prohibited and will void warranty.

SAFETY INSTRUCTIONS



This is an alert symbol. It indicates an imminent or potential hazard. Signal words “DANGER”, “WARNING”, and “CAUTION” qualify this alert symbol into the following categories:



Hazardous situation which, if not avoided, WILL result in death or serious injury



Hazardous situation which, if not avoided, COULD result in death or serious injury



Hazardous situation which, if not avoided, could result in minor or moderate injury

The signal word “**NOTICE**” indicates important information that, if not followed, could result in severe damage to equipment or property.

SAFETY PRECAUTIONS BEFORE OPERATION

The primary responsibility for safety with this product falls to the operator. Make sure the product is operated only by trained individuals that have read and understood this manual. If there is any portion of this manual or function you do not understand, contact your local authorized dealer, or Craig Manufacturing Ltd. Keep this manual available for reference.



DANGER!

Stand clear of rotating drum. If not avoided, will result in death or serious injury.



Thrown object hazard from rotating drum will result in death or serious injury at close range. DO NOT operate near bystanders. Survey work area before operating and check for potential hazards. Block off work area from bystanders, livestock, etc.

SAFETY INSTRUCTIONS



WARNING!



Read Manual Prior to Installation, Operation or Maintenance

Improper installation, operation, and/or maintenance of your Craig Manufacturing Ltd. attachments can cause death or bodily injury, property damage, or damage to your equipment. Read and understand this manual and all labels before operating or doing any work on the equipment. NEVER allow anyone to operate this unit without first reading the safety and operating instructions. Failure to do so may affect your warranty.

Read your machines owner's manual and always be aware of capacities and heights of all materials moved are within the machines stated operational capacity.

Understand All Safety Decals and Statements

Become familiar with and inform users about all safety decals and safety statements in all manuals and on the back of the attachment prior to operating or working on this product. Know and follow all national occupational safety regulations, local laws, and other professional guidelines. As well as all good work practices when working on or with this product. Know your equipment capabilities and operations.

Worn, damaged, or illegible safety decals must be replaced. New safety decals can be ordered from your local dealer.

Inspect all equipment prior to operating and ensure all components are in proper working order. Check hardware for tightness and that all guards and safety devices are in place. Know all decals and check for legibility. Replace anything damaged, worn or missing. Make sure operator cab is clean and free of any distracting objects or spills.

Be aware of overhead or buried utilities. Contact your local utilities to locate any underground lines or other hazards.

Make sure all levers, pedals, switches, or other controls are in neutral position prior to starting the engine.

Before exiting the machine, for any reason, follow the "MANDATORY SHUT DOWN PROCEDURE".

MANDATORY SHUT DOWN PROCEDURE

1. Stop the machine on level ground.
2. Lower the attachment to the ground.
3. Move throttle to the idle position.
4. Disengage all power to the attachment.
5. Apply the brakes.
6. Turn off the engine and remove the key.

Never use your attachment as a work platform or personnel carrier

Never lift, move, or swing an attachment over anyone.

SAFETY INSTRUCTIONS**WARNING!**

Do not use attachment for lifting materials outside of its purpose. This attachment is not a lifting device unless approved for your jurisdiction.

Never perform any work on the attachment unless you are authorized and qualified to do so. Work in pairs. Always read the operator service manuals before any repair is made. Wear proper PPE.

**Personal Protective Equipment (PPE) Required**

Remove ignition key and immobilize the machine during installation, inspection, or service. Always follow safe work practices when installing, servicing, or inspecting your product by wearing

only snug-fitting clothing, removing jewelry, and securing long hair. Wear safety goggles to protect your eyes from hydraulic fluid, sparks, dirt, and dust. Always have a fire extinguisher rated BC on hand for flammable liquid and electrical fires. Lastly, always lift with your legs, and use lifting equipment when applicable.

**CRUSH HAZARD – DO NOT work under or around raised arm or attachment.**

Lower or Support Unstable/Raised Equipment. NEVER trust that the hydraulic system will not fail. ALWAYS lower booms and attachments to the ground before leaving the cab or operator's station. DO NOT work under or around attachments or heavy items not supported by stands, blocks or safety chains. Furthermore, it is important to use chains and/or stands to steady unstable attachments or heavy components that may fall if being disconnected.

Lubricants may contain toxins, cause adverse health effects or be hazardous to the environment. Ensure environmentally safe disposal. Observe all safety labels.

Do Not Alter Attachment

Any alterations to this product could affect the safety and performance of the attachment. When making repairs, use only Craig Manufacturing Ltd. parts, and follow the provided procedures. If the parts and procedures are not used the warranty is void and any alterations may cause the attachment to become unsafe. Any modifications must be authorized in writing by Craig Manufacturing Ltd.

SAFETY INSTRUCTIONS**WARNING!****Skin Injection Hazard**

- Relieve pressure before working on system
- Wear gloves & eye protection
- Detect leaks with wood or cardboard
- NEVER use hands to detect leaks
- Fluid injected in skin must be surgically removed

Hydraulic Safety

Always inspect hydraulic components before operating your product. Replace any damaged or worn parts immediately. Temperature changes can change hydraulic pressure, which allow the cylinders to drop unexpectedly, causing injury or damaging hydraulic components.

Hydraulic fluid under pressure can cause bodily harm. If you suspect a hydraulic leak note the following:

- The high pressure of the hydraulic lines can cause leaks that can puncture flesh. Therefore, it is important to keep uncovered body parts such as face, eyes, and arms away from a suspected leak.
- Flesh injected with hydraulic fluid may develop gangrene or other permanent disabilities. If injured by leaking hydraulic fluid, see a doctor immediately. Hydraulic fluid could have injected into the wound, and it may not be known.
- Before disconnecting hydraulic lines, wait until the fluid cools down. Hot hydraulic fluid can cause severe burns.
- Always wear protective clothing, such as gloves and safety glasses, and use a piece of cardboard when searching for hydraulic leaks. **DO NOT USE YOUR HANDS.**

Never make hydraulic repairs while the system is under pressure. Serious personal injury or death could occur. Never work under a raised attachment. Check the weight of the attachment and use handling equipment of sufficient capacity.

Always tag "DO NOT OPERATE" until all problems are corrected.

Safe Transport

- Travel only with the attachment in a safe transport position to prevent uncontrolled movement. Drive slowly over rough terrain and slopes.
- When transporting on a trailer, secure attachment using tie downs in recommended locations to maintain attachment stability.
- When driving on public roads use safety lights, reflectors, and slow-moving vehicle signs to prevent accidents. Check local government regulations that may affect you.
- Do not drive close to ditches or excavations, because a cave-in could occur.

SAFETY INSTRUCTIONS**WARNING!**

Keep people back from mulcher 300 feet (100 meters) during operation. Objects can be thrown, resulting in death or serious injury. DO NOT operate in conditions that limit clear visibility less than 300 feet.

Operator cab must be equipped with Lexan armoured windows or equivalent polycarbonate resin thermoplastic.

The attachment can drop trees in unpredictable directions. Make sure there are no power lines, buildings or other objects that may be damaged by falling trees.

DO NOT operate in an area that has not been inspected for foreign obstacles. Remove all obstacles and clearly mark any that cannot be removed. Rocks, metal, construction debris, rope, wire, and other objects can damage rotor and become projectiles.

Avoid slopes that could cause the machine to overturn. Reduce speed on slopes, rough terrain, and when turning.

Replace any worn or removed guards. DO NOT operate with damaged or removed guards.



Flammable material can accumulate in the mulcher compartments on either side of the rotor and near the motor. Remove trapped flammable debris from compartments regularly.

DO NOT use flammable cleaners on mulcher. Use only non-flammable solvents. Most lubricants and hydraulic oil are flammable and must be wiped clean from all potentially hot surfaces.

SAFETY INSTRUCTIONS**CAUTION!****Remove Paint Before Welding or Heating**

When paint is heated by welding, or by using a torch, hazardous fumes/dust can be generated. Therefore, it is important to do all work in a well-ventilated area and dispose of paint and solvent properly. **TURN OFF ENGINE AND DISCONNECT BATTERY PRIOR TO WELDING.** Refer to machine's owner's manual for procedure.

When removing paint:

- It is important to wear an approved respirator when sanding or grinding paint.
- If you use a paint stripper or solvent, remove the stripper with soap and water.
- Remove solvent or paint stripper containers and other flammable material from the welding/heating area.
- Allow fumes to disperse at least 15 minutes before welding or heating.



Surfaces of mulcher components may be hot after operation.

Check mulcher for debris before operating!

Debris could build up in the coupler during use. Make sure the debris is cleared out before operation.

Stop operation if any unusual vibrations are observed and check for loose, missing, or broken teeth. Tremendous vibrations may occur if the rotor becomes unbalanced. **DO NOT** operate with an unbalanced rotor.

NOTICE

Avoid hydraulic motor failure: Run engine at idle to warm hydraulic fluid before operating at full RPM. Rotor speed must not exceed 2300 rpm to prevent premature bearing or belt failure. **DO NOT** exceed 3500 psi operating pressure.



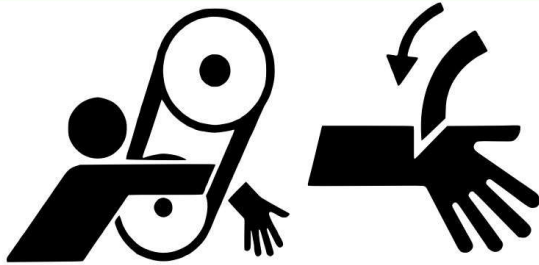
Ensure all oil and grease points are lubricated according to maintenance section of this manual. Proper grease/oil type and amount must be used at appropriate intervals. Too much or too little can cause bearings and seals to overheat.

DECALS

Item	Part #	Description	Quantity
1	490453-XX	Decal, thrown object hazard	1
2	164958-XX	Decal, pinch point hazard	2
3	490467-XX	Decal, crush hazard	1
4	159478-XX	Decal, read owner's manual	1
5	490488-XX	Decal, rotor hazard	1
6	490477-XX	Decal, hot surface	2
7	490476-XX	Decal, flammable material buildup	2
8	490478-XX	Decal, lubrication required	1
9	164953-XX	Decal, grease frequently	4
10	168920-XX	Decal, keep area free of debris	1
11	177749-XX	Decal, do not pressure wash valve	1



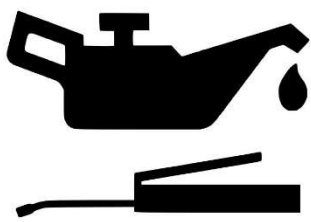
DECALS

! WARNING	
	
ROTOR HAZARD Turn off engine, remove key and relieve pressure prior to removing guards or servicing rotor. 490488-EN	

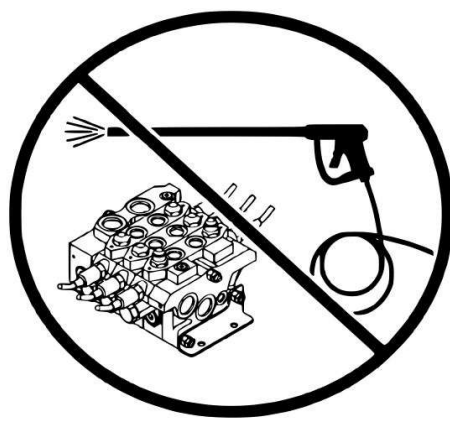
! CAUTION	
	FLAMMABLE MATERIAL BUILDUP Remove trapped flammable debris from compartments regularly. 490476-EN

	! CAUTION HOT SURFACE 490477-EN
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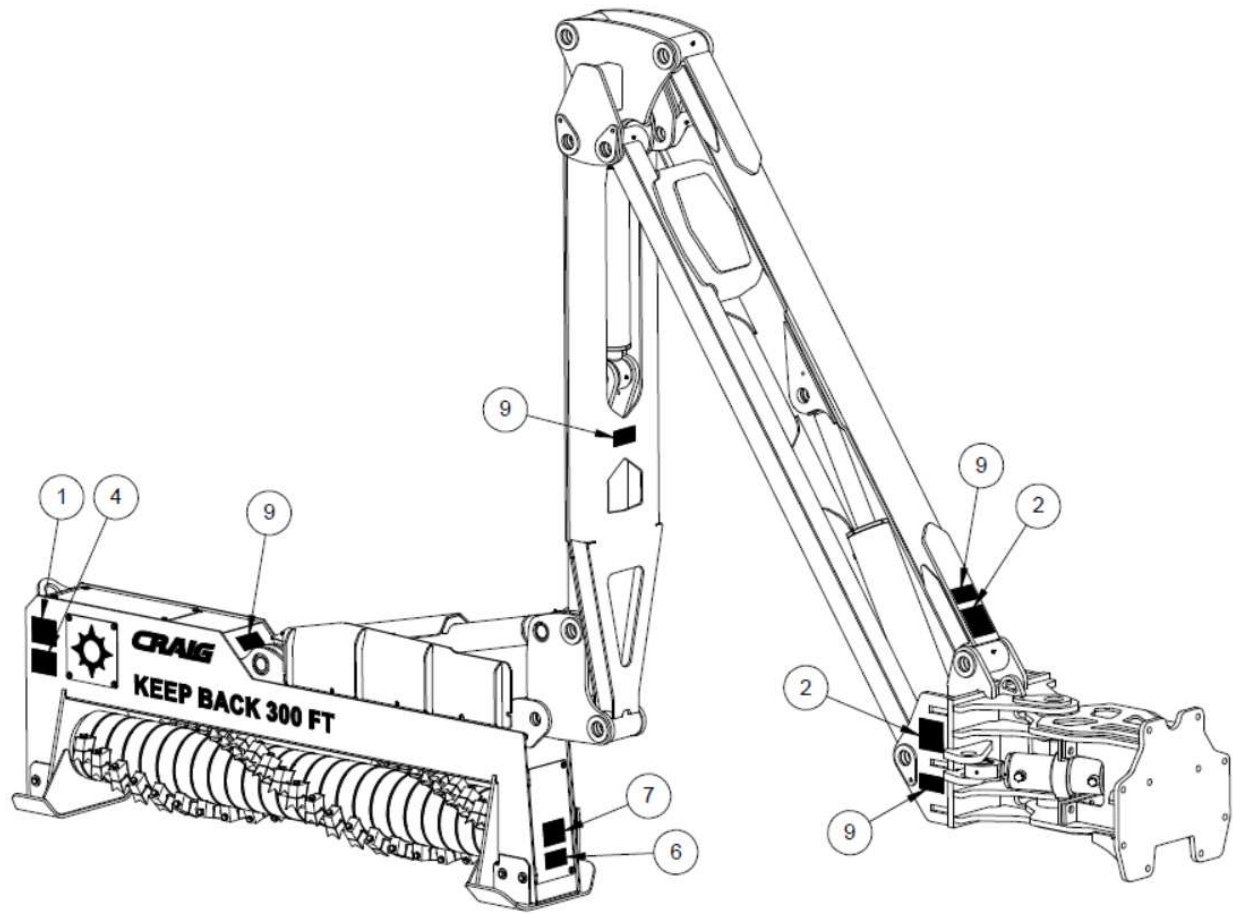
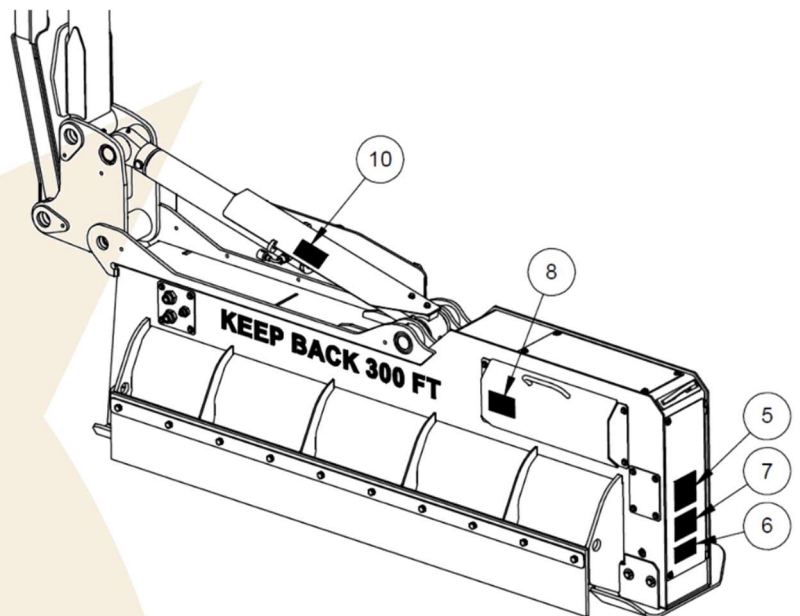
NOTICE	
Keep area around cylinder clean and free of debris. Failure to keep area clear can impede operation or damage equipment. 168920-EN	

NOTICE	
	Lubrication required, refer to owner's manual 490478-EN

NOTICE	
	
Grease frequently 164953-EN	

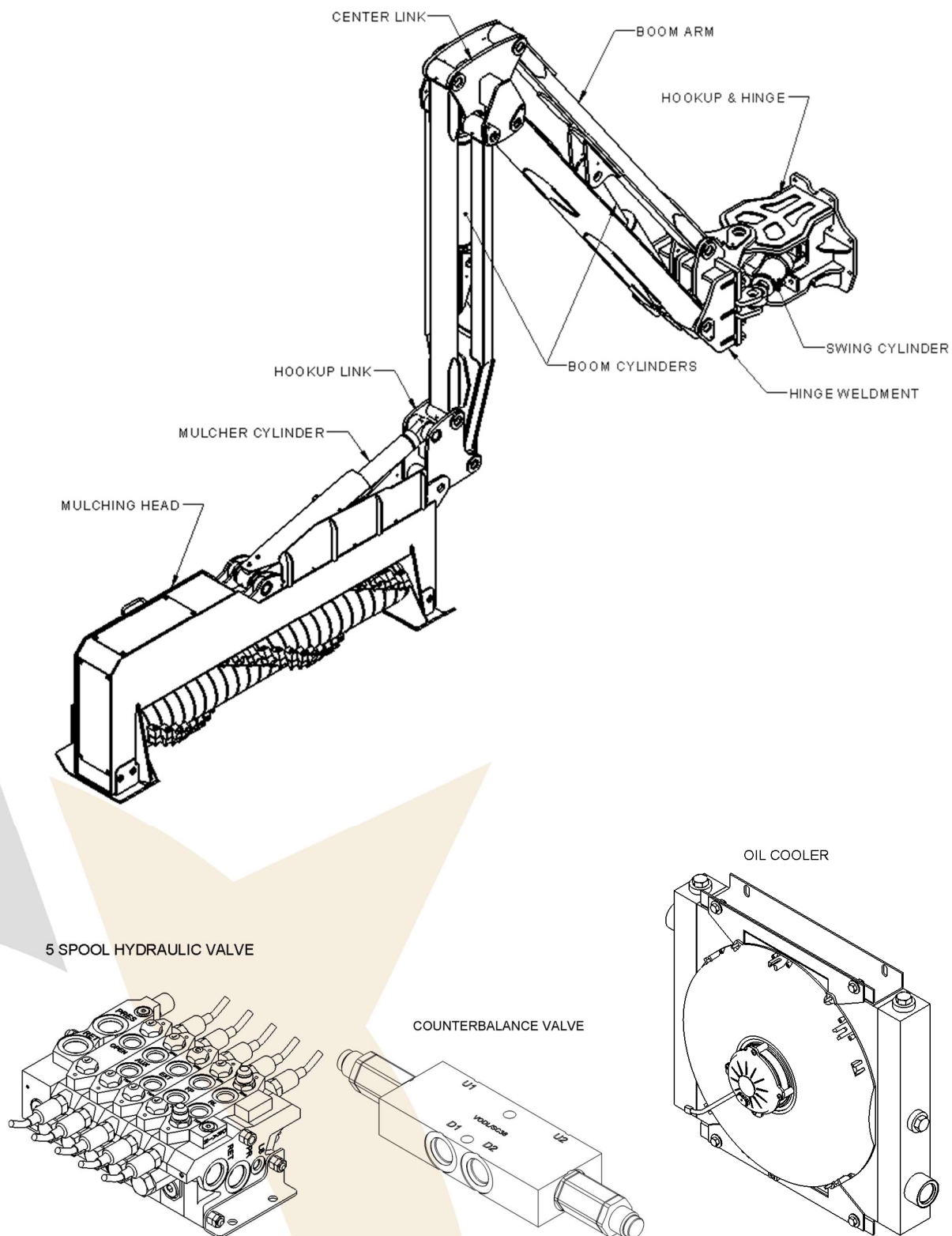
NOTICE	
	
DO NOT pressure-wash valve. 177749-EN	

DECALS

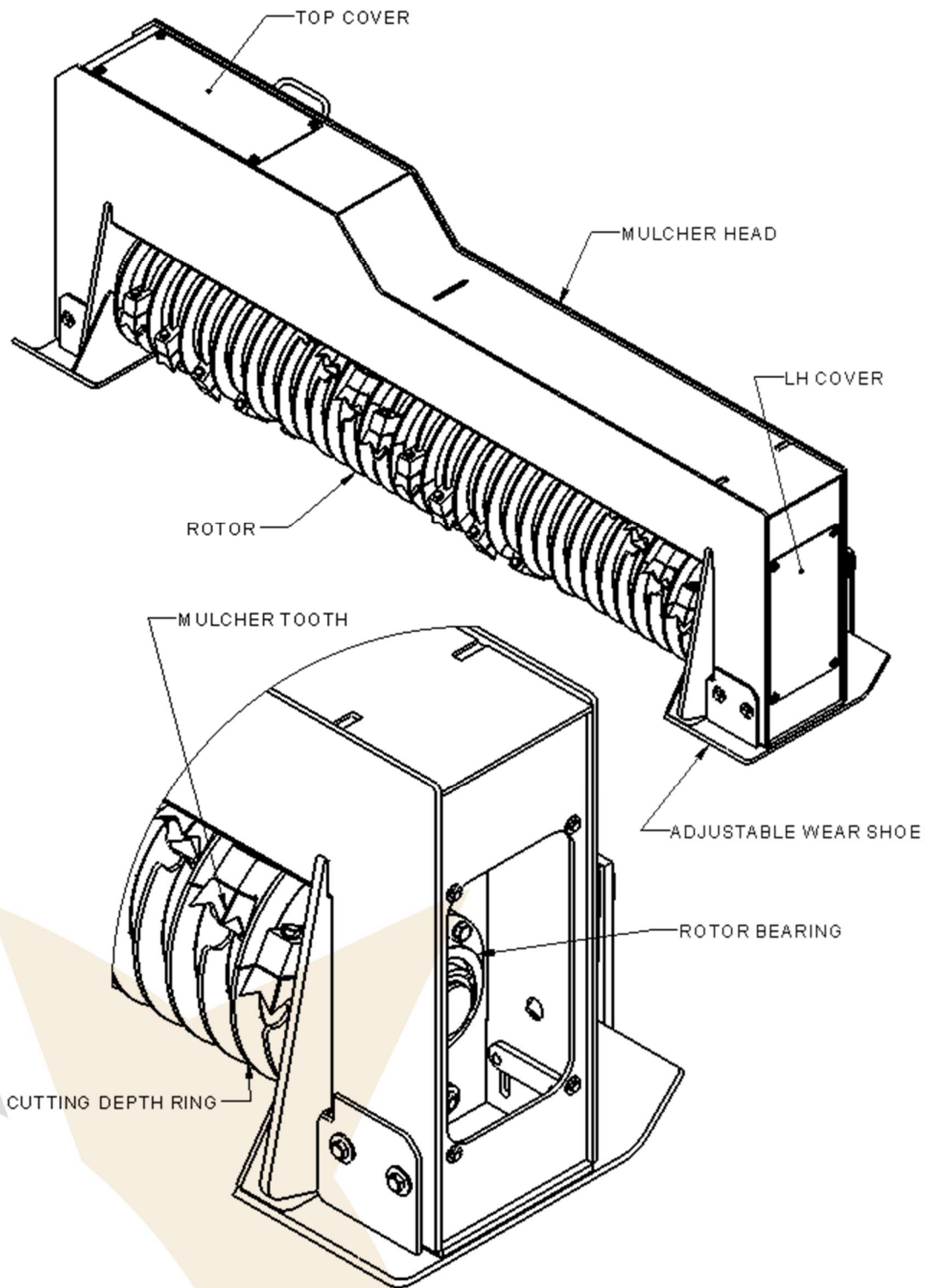


INSTALLATION INSTRUCTIONS

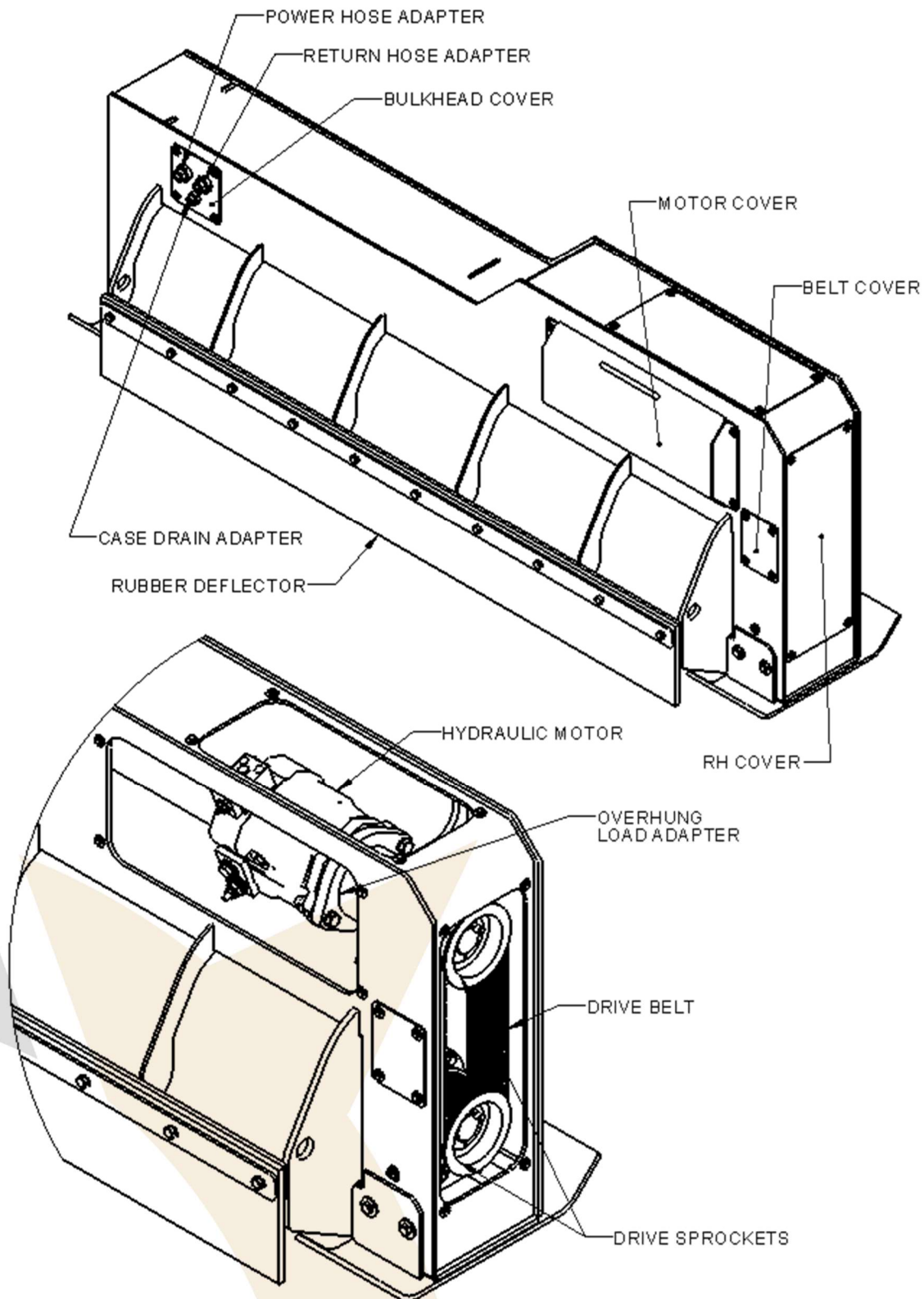
NOMENCLATURE



INSTALLATION INSTRUCTIONS



INSTALLATION INSTRUCTIONS



INSTALLATION INSTRUCTIONS

LUBRICATION

The attachment must be properly lubricated at installation. Refer to maintenance section for important details.

MOTOR DISPLACEMENT

The hydraulic motor is variable displacement between 20-75 CC. The minimum displacement must be adjusted to limit the maximum speed of the motor and achieve the optimal cutting speed of 1800-2100 rpm. Required hydraulic flow is 20-35 GPM.

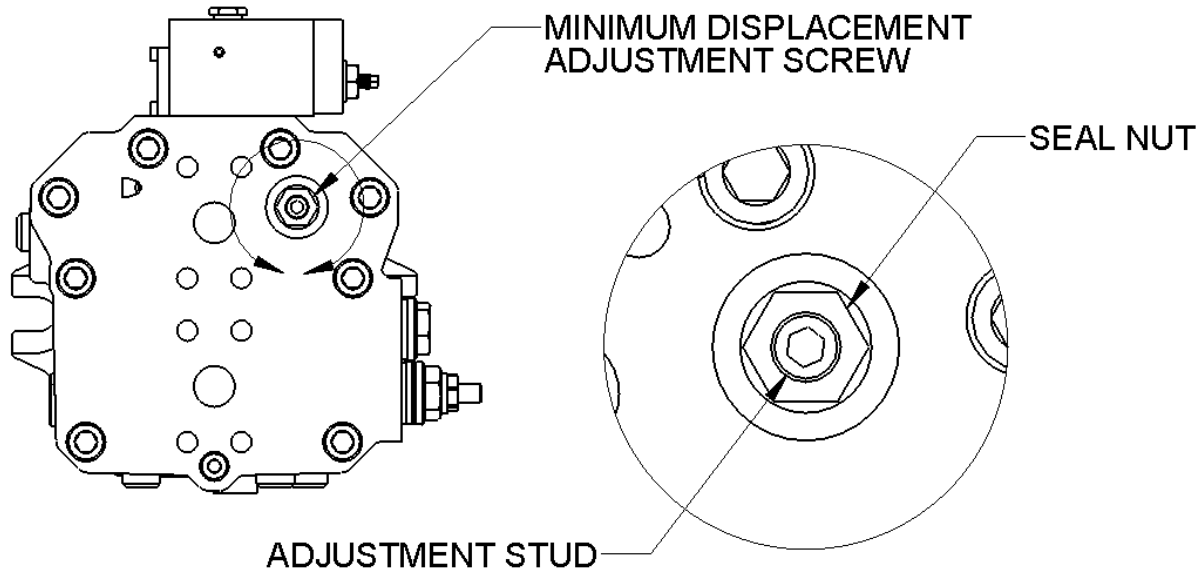
NOTICE

Avoid hydraulic motor failure: Run engine at idle to warm hydraulic fluid before operating at full RPM. Rotor speed must not exceed 2300 rpm to prevent premature bearing or belt failure. Insufficient rotor speed (below 1700 rpm) will greatly reduce the productivity of the machine. DO NOT exceed 2700 psi operating pressure. Case drain line is required, with maximum pressure of 36 psi, and must be unrestricted and routed all the way back to the tank. A kinked or pinched hose may cause the case to be over pressurized.

As motor displacement increases, torque increases and speed decreases. See chart below for approximate speeds achieved at different flow and displacement settings. It is recommended to check the rotor speed with a tachometer.

	Rotor Speed (rpm)						
Displacement (CC)	20 GPM	23 GPM	25 GPM	28 GPM	30 GPM	32 GPM	35 GPM
35	2050						
40	1800	2070	2250				
45	1600	1840	2000	2240			
50		1650	1800	2010	2160	2300	
55			1630	1830	1960	2090	2290
60				1680	1800	1920	2100
65					1660	1770	1940
70						1640	1800
75							1680

INSTALLATION INSTRUCTIONS



NOTICE

The motor must be completely unloaded when making minimum displacement adjustments. Failure to test the speed in unloaded condition will result in higher than anticipated operating speeds, which may cause serious damage to the equipment. The motor automatically defaults to minimum displacement unless loaded beyond the regulation begin setting. The motor will shift displacement to accommodate the torque requirement.

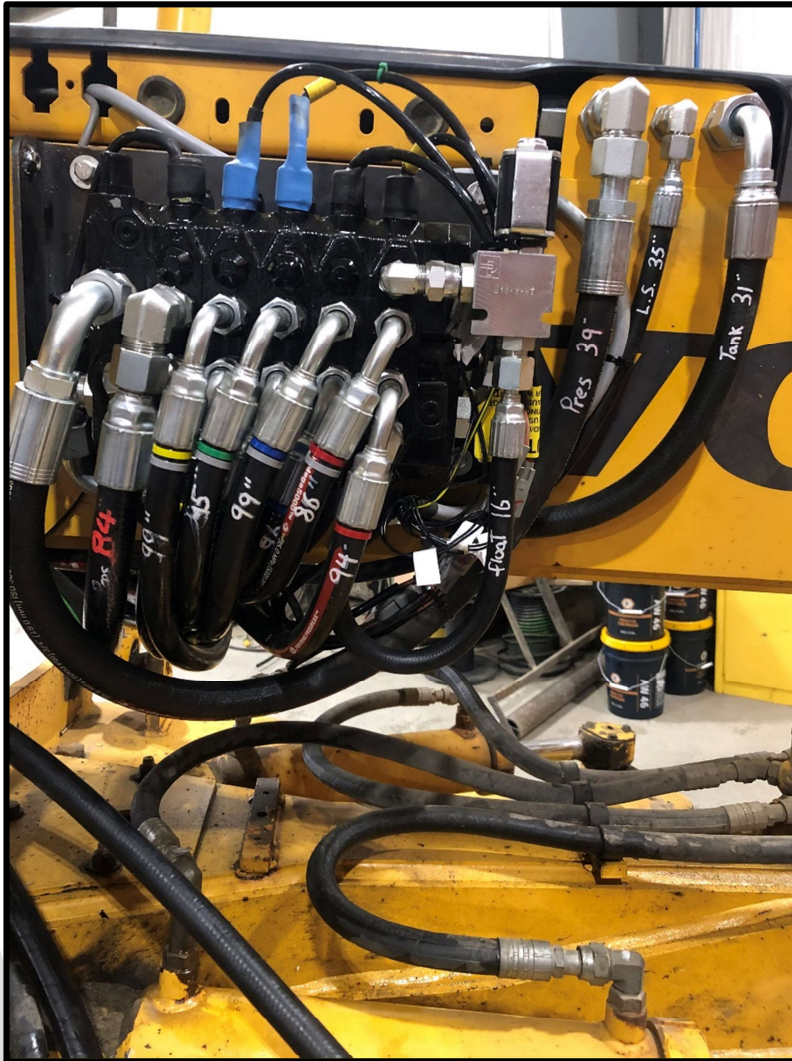
TO ADJUST MINIMUM DISPLACEMENT



1. Ensure that flow nut is set correctly. It comes from the factory at 1/2 turn out. It should be turned out 3 turns more to allow oil flow (you should not need to adjust this again once it has been set).
2. Hold the adjustment stud stationary and loosen the seal nut.
3. Turn the adjustment stud **in** to **increase** minimum displacement or turn it **out** to **decrease** minimum displacement.
4. Hold the adjustment stud stationary and tighten the seal nut to 65 ft-lbs.

INSTALLATION INSTRUCTIONS

5 SPOOL HYDRAULIC VALVE



A 5 spool Hydraulic valve is used to control the function of the Craig Motor Grader Boom and Mulcher. This valve is mounted on the operator's right-hand side of the gooseneck. This valve comes equipped with a float solenoid which is to be used in Wing applications only (not for Mulcher and Boom). It is recommended that the electrical connector that runs to this solenoid be unhooked and capped at the valve. This is to ensure that while the Mulcher and Boom are mounted to the machine, the float solenoid cannot be engaged. By putting the valve in float, hydraulic functions on the Boom and Mulcher will not work correctly, and this may also result in loss of control of the implements.

INSTALLATION INSTRUCTIONS



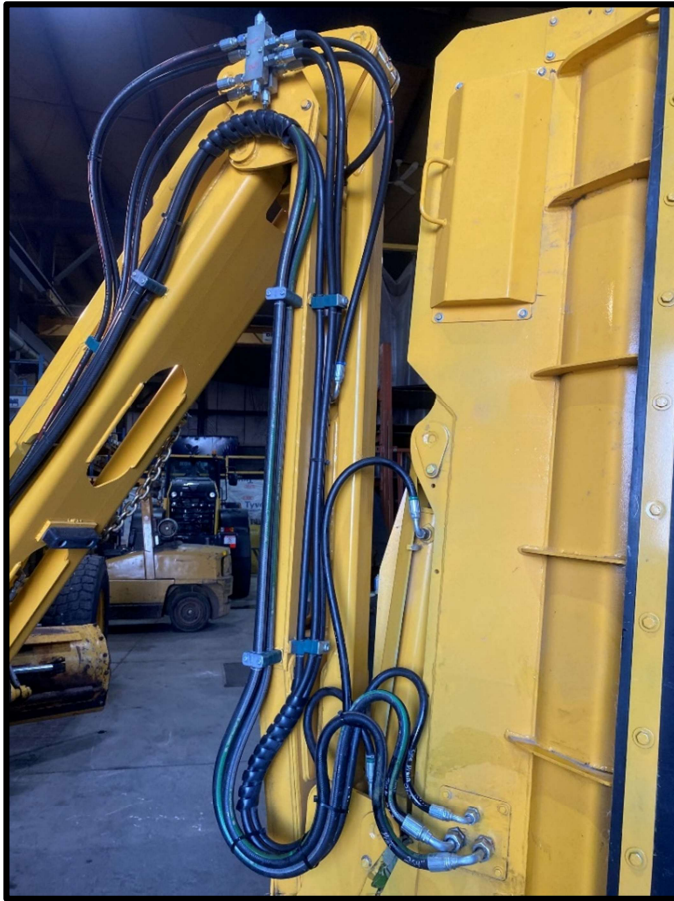
COUNTER-BALANCE VALVES

The Craig Motor Grader Boom utilizes counter-balance valves (load holding valves) to minimize the risk of losing control of the boom due to hydraulic pressure loss. The valves are designed to hold pressure in the hydraulic lines that power the boom's cylinders. If pressure is lost on the machine side of the counter-balance valve, the valve will hold line pressure constant to the cylinder, keeping the implement in the position it was in. These valves also eliminate drifting of the cylinders when the machine is not in use. The valves have an adjustment stud on either side, that can be used to adjust the travel speed of the respective cylinder stroke. Loosen the locking nut, then turn the adjustment stud to achieve the desired speed for each cylinder on both sides (strokes) of the counter-balance valves.



INSTALLATION INSTRUCTIONS

HOSING



To operate the Craig Motor Grader Boom and Mulcher, there are many hydraulic hoses that need to run along the boom itself. These hoses must be securely fastened to the boom using hose clamps wherever possible. Having hoses run along the moving boom may present a risk of having a hose either become pinched or caught on a foreign object during use. Ensure that all hoses are securely fastened to either the boom itself or to a larger group of hoses. Also, along the length of the boom, it is recommended that hose guarding be wrapped around the hoses or bundle of hoses, to prevent the possibility of any hoses chafing or otherwise becoming damaged. It is very important to protect these hoses as damage to them could result in the loss of control of the implement. When fastening hoses to the Boom, it is also very important to ensure that the

hoses are still capable of traveling through the entire range of motion of the implement without becoming too tight or being pinched. This also applies to hydraulic hose fittings, especially on the bulkhead plate of the Mulching head. These hose fittings need to be oriented correctly such that the motion of the Mulching head does not damage them. Make sure that these fittings especially are tightened to the correct specification. Check regularly for leaks or loose fittings during operation.

HYDRAULIC OIL COOLER

The oil cooler should be installed in a suitable location away from hazardous areas and not blocking the view of the operator.



INSTALLATION INSTRUCTIONS

FASTENERS

The mulcher must be securely attached to the arm and the entire unit secured to the machine. Check all pins for the arm and make sure fasteners/locks are in place. Make sure all bolts are tightened to the proper torque (see chart below).

TORQUE CHART - COURSE THREAD

Nominal Dia. (in.)	Threads per inch	 SAE J429 Grade 5				 SAE J429 Grade 8			
		Clamp Load (lbs.)	Tightening Torque (ft-lbs)			Clamp Load (lbs.)	Tightening Torque (ft-lbs)		
			Lubricated K = 0.15	Thread- locker K = 0.17	Zinc & Dry K = 0.20		Lubricated K = 0.15	Thread- locker K = 0.17	Zinc & Dry K = 0.20
1/4	20	2029	6.3	7.2	8.5	2864	9.0	10.1	11.9
5/16	18	3342	13	15	17	4719	18	21	25
3/8	16	4940	23	26	31	6974	33	37	44
7/16	14	6777	37	42	49	9568	52	59	70
1/2	13	9046	57	64	75	12771	80	90	106
9/16	12	11599	82	92	109	16375	115	130	154
5/8	11	14408	113	128	150	20340	159	180	212
3/4	10	21322	200	227	267	30101	282	320	376
7/8	9	29436	322	365	429	41556	455	515	606
1	8	38616	483	547	644	54517	681	772	909
1 1/4	7	53786	840	952	1121	87220	1363	1545	1817
1 3/8	6	64096	1102	1249	1469	103939	1786	2025	2382
1 1/2	6	77991	1462	1657	1950	126473	2371	2688	3162

OPERATION INSTRUCTIONS

INTENDED USE

The mulcher is intended to cut brush and trees up to 8" diameter. Minimum mulching height is 2" between the ground and cutting teeth. Mulch material traveling slowly in forward or reverse. Use outside of this scope is considered misuse.



Operator and maintenance personnel must be trained and familiar with the entire manual. Re-read the "SAFETY INSTRUCTIONS" and "MULCHER SAFETY" sections. The operator is responsible for safety. If there is any portion of this manual or function you do not understand, contact your local authorized dealer, or Craig Manufacturing Ltd.

PRIOR TO OPERATION

- Survey area for potential hazards such as power lines, buildings or other objects that may be damaged by falling trees. Remove all foreign obstacles such as rocks, metal, construction debris, rope, wire, etc. and clearly mark any that cannot be removed.
- Inspect machine and all equipment prior to use. Refer to "MAINTENANCE" section and perform all periodic inspections and maintenance.
- Adjust the wear shoes on the mulcher to an appropriate height for the terrain to maintain the minimum mulching height. There are 4 bolts for each wear shoe that can be loosened/tightened from the outside to allow height adjustment.
- Block off area from bystanders, livestock, etc.
- Ensure operator cab is clean and free of distracting objects or spills.
- No passengers allowed.
- Make sure all levers, pedals, switches, or other controls are in neutral position prior to starting the engine.

OPERATION



Avoid hydraulic motor failure: Run engine at idle to warm hydraulic fluid before operating at full RPM. Monitor the hydraulic oil temperature during operation. Return to idle if temperature rises too high. Make sure case drain line does not become kinked or pinched. Restriction of this line will cause severe damage to the system. Failure to follow these instructions could void warranty.



Always be aware of your surroundings and stop if you see anything unsafe. Maintain 300 feet (100 meters) between the mulcher and any bystanders.

- Avoid slopes that could cause the machine to overturn. Reduce speed on slopes, rough terrain, and when turning.

OPERATION INSTRUCTIONS

- Allow the rotor to reach full RPM prior to mulching. Operating at speeds too low will greatly reduce the productivity of the machine and may cause the attachment to stall.
- Travel slowly in forward or reverse and monitor operating pressure. Slow down if pressure is too high.

NOTICE

Mulching at very low speeds can cause belt failure.

- When mulching trees, start by cutting as high as possible, then mulch the tree from top to bottom.
- Always be alert for any malfunction. Refer to “TROUBLESHOOTING” section for fault diagnosis and remedy.

**CAUTION**

Stop operation if any unusual vibrations are observed and check for loose, missing, or broken teeth. Tremendous vibrations may occur if the rotor becomes unbalanced. DO NOT operate with an unbalanced rotor.

NOTICE

Shut down the rotor by first idling the engine, waiting for rotor to slow down, then disengage the auxiliary hydraulics. Failure to follow this shut down procedure will cause severe damage to the equipment and could void warranty.

**WARNING**

Before exiting the machine, for any reason, follow the “MANDATORY SHUT DOWN PROCEDURE”. Wait for rotor to come to a complete stop.

TROUBLESHOOTING

Problem	Possible Cause	Remedy
Excessive rotor vibration	Damaged or missing teeth	Replace teeth, check for damage to mounting blocks. If rotor is damaged consult tech support.
	Debris wrapped around rotor	Clean rotor
	Faulty bearing(s)	Replace bearing(s). Refer to maintenance section
Rotor not turning, or rotates slowly	Disconnected hydraulics	Check hose connections
	Hydraulics not engaged	Engage hydraulics. Refer to prime mover operator's manual
	Low hydraulic oil level	Check oil level. Refer to prime mover operator's manual
	Low oil flow	Check flow control
	Oil filter plugged	Replace filter
	Debris jamming rotor	Clean rotor
	Faulty bearing(s)	Replace bearing(s). Refer to maintenance section
	Drive belt failed	Replace belt. See maintenance section
	Hydraulic motor or overhung load adapter damaged	Consult Craig tech support
Noisy drive compartment	Belt damaged or tension incorrect	Refer to maintenance section for drive belt instructions
Hydraulic cylinder not working	Low hydraulic flow from prime mover	Refer to prime mover operator's manual
	Seals damaged	Replace seals. Call Craig tech support
	Rod bent	Replace cylinder
	Blocked or disconnected hoses	Check hoses and connections
	Faulty electrical system	Refer to prime mover operator's manual
Poor cut quality	Teeth worn	Replace teeth
	Rotor too slow	Check rotor speed. Refer to set-up section for flow and motor displacement requirements.
	Travel speed too fast	Reduce travel speed

MAINTENANCE

GENERAL INFORMATION

It is the operator's responsibility to inspect all equipment daily. Regular maintenance is necessary to prolong the life of the equipment, avoid costly shutdowns, and keep things running optimally.

PERIODIC MAINTENANCE TABLE

Procedure	Daily	Every 40 hours	Every 120 hours	Every 500 hours
Inspect all equipment for damage, worn parts, cracked welds, etc. If a crack is found in either the steel structure or welds, the attachment must be removed from the machine and Craig Contacted immediately. <i>Contact Craig Tech Support (1-800-565-5007) for recommended weld procedures.</i>	X			
Hardware - replace missing or damaged bolt/fasteners, tighten as necessary	X			
Check for kinked/pinched or worn hoses. <i>Repair/reroute as necessary</i>	X			
Hydraulic oil - check prime mover for adequate oil levels	X			
Hoses - check for leaks. <i>Repair/tighten as necessary. Refer to torque chart</i>	X			
Decals - replace worn or missing	X			
Teeth - replace worn, damaged or missing. Sharpen, rotate if required	X			
Check guards – replace if damaged or worn	X			
Clean rotor of debris/dirt	X			
Check bearing temperature. Do not exceed 180° F for rotor bearings. Do not exceed 250° F for overhung load adapter. Do not continue to operate if temperature is too high. Be sure correct lubrication procedures are followed and contact Craig for technical support.	X			
Clean mulcher compartments of any flammable material or debris		X		
Check sprockets, belt, bearings for damage		X		
Check drive belt tension (<i>see tension procedure</i>)		first 120 hours	X	
Lubricate pins/bushings for arm	X			
Lubricate rotor bearings. <i>DO NOT over-lubricate, will cause premature bearing failure. 2-3 pumps only</i>		X		
Change oil in overhung load adapter (<i>see instructions</i>)				X

NOTICE: Periodic maintenance intervals are given as a starting point and may need to be adjusted to meet the needs of your specific application.

MAINTENANCE



Operator and maintenance personnel must be trained and familiar with the entire manual. Re-read the “SAFETY INSTRUCTIONS” section and follow the “MANDATORY SHUTDOWN PROCEDURE” prior to doing any work on the machine.

LUBRICATION – ROTOR BEARINGS

Use NLGI grade 2 lithium grease only. Inadequate grease can lead to high operating temperatures due to inadequate lubrication film thickness. Excessive grease can cause the bearing to overheat due to grease churning. As a starting reference, add grease to rotor bearings every 40 hours (2-3 pumps only). However, it is best to observe the bearing and its temperature and adjust the lubrication as needed. Do not exceed 180° F operating temperature.

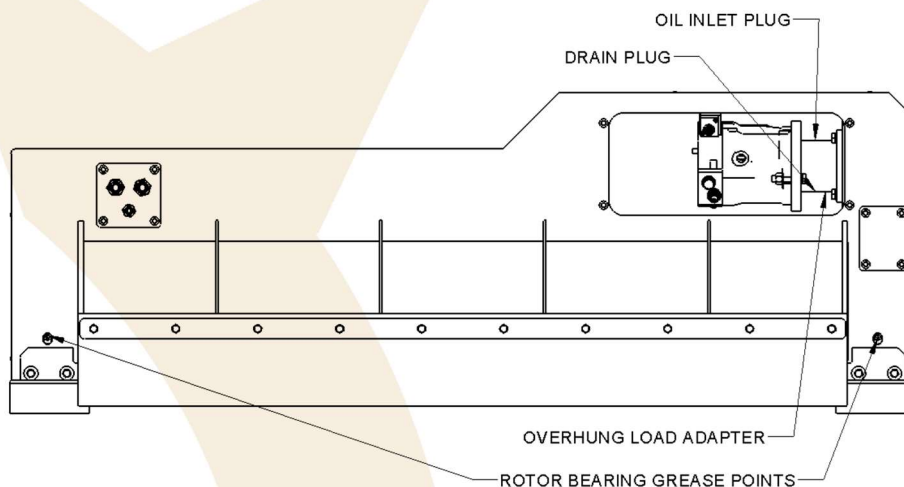
LUBRICATION – OVERHUNG LOAD ADAPTER

Use synthetic ISO 150 gear lube only. Change every 500 hours using 10 oz of oil. DO NOT overfill.



DO NOT use flammable cleaners on mulcher. Use only non-flammable solvents. Most lubricants and hydraulic oil are flammable and must be wiped clean from all potentially hot surfaces.

1. Remove motor cover and top cover for access to overhung load adapter.
2. Drain oil into a container by removing oil inlet plug and drain plug. Check oil quality and amount. Reduce oil change interval if poor quality or too little oil is observed.
3. Replace drain plug and fill with correct amount of oil through vent opening.
4. Replace oil inlet plug.
5. Wipe clean any spilled oil and dispose of all oil in an environmentally safe manner.



MAINTENANCE

DRIVE BELT INSTRUCTIONS

Remove the belt cover plate and RH cover plate for access to the drive belt. Measure tension in the center of the span using belt tension gauge.

For **New Belts**:

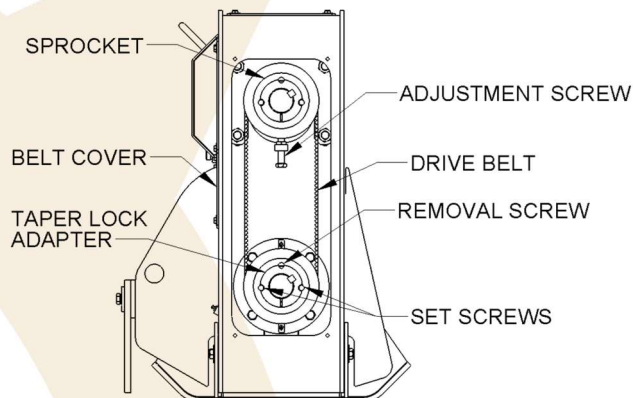
- Min deflection force = 92 lbs.
- Max deflection force = 101 lbs.

For **Used Belts**:

- Min deflection force = 64 lbs.
- Max deflection force = 74 lbs.

To adjust/replace drive belt:

1. Remove top cover plate. Loosen the four bolts for the overhung load adapter and loosen the locknut for the adjustment screw.
2. Back off the adjustment screw to reduce belt tension or remove belt. If not removing belt or sprockets, skip to step 5.
3. If sprocket must be removed – first unscrew the taper lock adapter set screws, then use the removal screw to de-couple the sprocket from the taper lock.
4. Replace belt and re-couple the sprocket and taper lock using set screws. Torque set screws to 70 ft-lbs (dry). Check alignment of sprockets using a straight edge across each sprocket face.
5. Tighten the adjustment screw to increase belt tension.
6. Tighten the four bolts for the overhung load adapter to the proper torque (see torque chart). Check sprocket alignment again.
7. Check tension and tighten locknut for adjustment screw to lock tension.
8. Check drive belt tension using gauge and re-check tension after first 8, 16 hours, and every 40 hours for the first 120 hours. Check all bolts after first 8 hours.



MAINTENANCE

MULCHER TOOTH SHARPENING



Wear a face shield when using a grinder. Refer to “GENERAL SAFETY” section for notes on proper PPE.

Sharpen the 4-point mulcher teeth to increase productivity and longevity of the rotor. Sharpening should be done on the inside cup of the tooth after it has been removed from the rotor. Secure to a bench and use a 4” angle grinder with flap wheel to restore the points of the tooth. When the point is about the size of a pencil eraser it can no longer be restored and must be replaced. Rotate the teeth to maximize longevity.

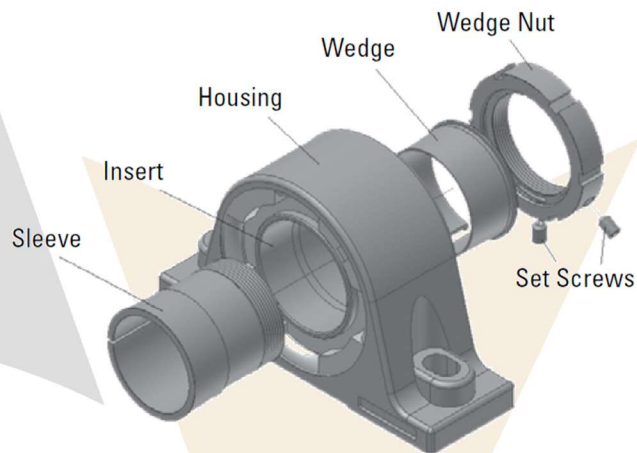
The twin-chisel mulcher teeth (option) can be sharpened while fixed to the rotor. Use a 4” angle grinder with flap wheel to sharpen the outside edge of the tooth. Maintain the same angle as the original edge. When the edge is worn down to the depth gauge or groove on the top of the tooth, rotate or replace the tooth.

REPLACING ROTOR BEARINGS



The rotor must be properly supported when removing the bearings, otherwise it can drop suddenly which could result in serious injury or death. Qualified service technician required.

To access the rotor bearings, remove the LH and RH cover plates. The sprocket must be removed to access the RH rotor bearing. See “DRIVE BELT” section for instructions on removing sprockets.



REMOVAL:

1. Loosen set screws on the wedge nut.
2. Remove the wedge nut by turning counter-clockwise.
3. Remove the flange bolts and pull the bearing out from the shaft.

ROTOR BEARING INSTALLATION

Ensure shaft is clean and free of burrs.

NOTE: One bearing needs to be fixed in its housing and the other bearing needs to allow for expansion (floating). There is a retaining nut in the housing (not the wedge nut) that makes the bearing “fixed” or “floating”. It is set to “floating” by default from the

MAINTENANCE

factory. Install the “fixed” bearing first (sprocket side), then install the “floating” bearing (LH side) with the inner ring centered in the housing.

How to convert bearing from expansion (floating) to fixed:

1. Loosen the nylon-tipped set screw that locks the retaining nut in place.
2. Tighten the retaining nut clockwise until it's tight (it is not possible to overtighten the retaining nut)
3. Tighten the nylon-tipped set screw.

How to convert bearing from fixed to expansion (floating)

1. Make a reference mark on the housing and retaining nut.
2. Loosen the nylon-tipped set screw that locks the retaining nut in place.
3. Loosen the retaining nut by tapping it with a hammer and punch, rotating the retaining nut counterclockwise one complete revolution.
4. Tighten the nylon-tipped set screw.

Installation on shaft:

1. Ensure shaft is clean and free of burrs.
2. Remove wedge assembly from the sleeve by unscrewing the wedge nut.
3. Clean oil off the sleeve and wedge.
4. Apply a thin oil film to the shaft only.
5. Slide the sleeve, non-threaded end first, into position on the shaft.
6. Slide the mounted bearing into place over the sleeve.
7. Loosely install the mounted bearing mounting bolts and check for misalignment (up to 1.5° acceptable).
8. Seat the sleeve as best as possible into the mounted unit.
9. Tighten the wedge assembly by turning the wedge nut clockwise until tight (please note that it is designed to prevent overtightening)
10. Tighten both the wedge nut and sleeve nut set screws alternately.
11. Install the mounted bearing mounting bolts and check for misalignment (up to 1.5° acceptable). The bolts need to be alternately torqued securely. Refer to torque chart.

NOTICE

Make sure that the rotor can turn easily after installing the bearings. If the rotor is difficult to turn this may indicate that there is not enough clearance between the rollers result in zero grease-film thickness. Operating with zero grease-film thickness will rapidly cause the bearings to overheat, leading to premature failure. Check that the bearings are aligned correctly. When installing the taper lock sleeve, make sure that there is a gap between the sleeve and the shaft shelf. Zero-gap prior to tightening the flange bolts will cause the sleeve to overtighten with the bearing.

MAINTENANCE

TECHNICAL SUPPORT

If you have followed the maintenance instructions contained in this manual you should have years of trouble-free operation from your Craig attachment. Should you encounter any issue or have any questions about your attachment please contact us at 1-800-565-5007 and ask for technical support.

READING PRODUCT TAG

Craig Manufacturing Ltd. stamps a blue serial tag onto every attachment. The tag is often located on the rear of the attachment in the upper left corner. The information contained on this tag will be required for parts and support. Craig serial numbers begin with a "T" followed by the year then month of construction. For example, T1203 would denote the year 2012 and 03 the month of March.

STORAGE



Disconnection from the machine and installation must be done by a qualified technician. NEVER trust that the hydraulic system will not fail. ALWAYS lower booms and attachments to the ground before leaving the cab or operator's station. DO NOT work under or around attachments or heavy items not supported by stands, blocks or safety chains. Furthermore, it is important to use chains and/or stands to steady unstable attachments or heavy components that may fall if being disconnected.

END OF SEASON

- Clean equipment thoroughly
- Inspect for damage and order any replacement parts.
- Tighten all hardware and make sure there are no loose connections. Refer to torque chart.
- Paint all replacement parts.
- Paint any bare surfaces to prevent rust.
- Lubricate all pins/bushings. Refer to "MAINTENANCE" section for lubrication requirements of rotor bearings and overhung load adapter.
- Coat exposed portions of cylinder rods with grease.
- Seal hydraulic system from contaminants.
- Secure all hoses in a manner that prevents potential damage during transport.
- Replace any illegible or missing decals.
- Store unit inside a clean, dry area to prolong life.

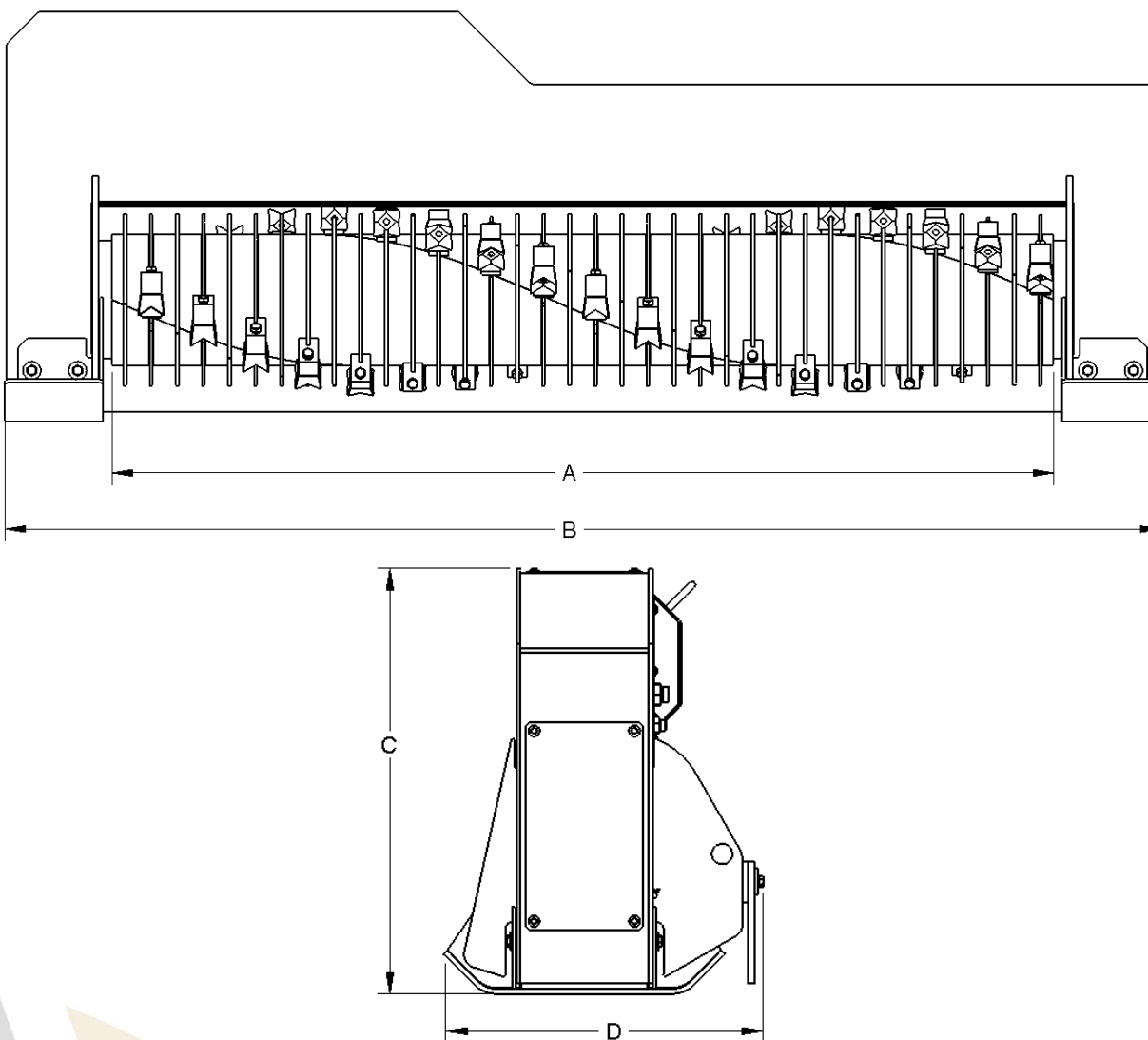
BEGINNING OF SEASON

- Review entire operator's manual.
- Clean equipment



DO NOT use flammable cleaners on mulcher. Use only non-flammable solvents. Most lubricants and hydraulic oil are flammable and must be wiped clean from all potentially hot surfaces.

- If stored for longer than 2 months, change oil in overhung load adapter. Refer to "MAINTENANCE" section.
- Install any replacement parts.
- Secure all fasteners. Refer to torque chart.
- Check hydraulic hoses for damage and replace as necessary.
- Replace missing or illegible decals.
- Refer to "SET-UP" and "INSTALLATION" sections for important information.
- Fully understand this manual and the prime mover operator's manual and take proper precautions prior to testing.

SPECIFICATIONS

DESCRIPTION	469580-00
A Cutting Width	72"
B Overall Width	83"
C Overall Height	31"
D Overall Depth	23"
Hydraulic Flow	25-35 GPM
Operating Pressure	2500-3500 psi

DESCRIPTION	469580-00
Weight	1385 lbs
Rotor Speed	1700-2300 rpm
Rotor Diameter	14.6"
Number of Teeth	48
Cutting Material Diameter	8"
Motor Displacement	20-75 CC

PARTS

To provide you with the most UP-TO-DATE part information, parts diagrams for this attachment have been moved to our Portal website. Please use these diagrams and parts lists to locate your replacement parts.

<https://portal.craigattachments.com/>

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

To facilitate parts ordering when contacting any of our branches, please have the product serial number or product part number for your attachment ready to ensure that you receive the correct parts for your attachment.

The product serial number and product part number for your attachment should be recorded in the space provided in this manual. This information may be obtained from the serial number identification plate located on your attachment.

NOTE: Most parts orders (in stock) received by 12:00pm (Atlantic Standard Time) can be shipped the same day or following business day.

WARRANTY

To provide you with the most UP-TO-DATE warranty information, warranty procedures, technical documents, product terms, and product registration, please go to our website at:

<https://www.craigattachments.com/>

NOTES

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and extend across the width of the page. In the bottom-left corner, there is a decorative graphic element consisting of overlapping geometric shapes in light grey and pale yellow. The overall appearance is that of a clean, unused page from a notebook or a template for writing.

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