

XTS-MX3015-RG

OWNER'S MANUAL

MADE IN THE U.S.A.

Rev. 11-9-2022



TABLE OF CONTENTS

Introduction.....	5
Safety	7
Decals.....	12
Pre-Operation.....	14
Installation Instructions.....	15
Operating Instructions.....	16
Bolt Torque Specifications.....	19
Maintenance.....	20
Troubleshooting	25
Specifications.....	26
Parts Section.....	27
Wiring	33
Limited Warranty	35

**READ ENTIRE MANUAL BEFORE
OPERATING EQUIPMENT!**

If you do not understand any section of this manual and/or function of this product please contact your local authorized dealer immediately.



This is the "Safety Alert Symbol" used by this industry. This Symbol is used to warn of possible injury. Be sure to read all warnings carefully. They are included for your safety and for the safety of others working with you.

THIS SYMBOL BY ITSELF OR WITH A WARNING WORD IS USED THROUGHOUT THIS MANUAL TO CALL YOUR ATTENTION TO INSTRUCTIONS INVOLVING YOUR PERSONAL SAFETY OR THE SAFETY OF OTHERS.

FAILURE TO FOLLOW THESE INSTRUCTIONS CAN RESULT IN INJURY OR DEATH.

Introduction to Vail Products®

Thank you for purchasing Vail Products®. Our products have been specifically designed to meet and exceed the standards and requirements our customers demand. They have been field tested under the most severe conditions to provide consistent and reliable service with minimum downtime.

GENERAL INFO

Only minor maintenance (such as cleaning and lubricating) is required to keep your Vail Products® unit in top operating condition. Be sure to observe all maintenance procedures and safety precautions in this manual and on any safety decals located on the product and

BEFORE OPERATION

The primary responsibility for safety with the equipment falls to the operator. Make sure the equipment is operated only by trained individuals that have read and understand this manual. If there is any portion of this manual for function you do not understand, contact your local authorized dealer or the manufacturer to obtain further assistance. Keep this manual available for reference. Provide the manual to any new owners and/or operators.

SERVICE INFO

Use only Vail Products® replacement parts. Substitute parts may not meet the required specifications. Record the model & serial numbers of your unit in this manual. The parts department needs this information to ensure that you receive the correct parts.



Never let anyone operate a Vail Products® unit without reading the "Safety Precautions" and "Operating Instructions" sections of this manual. Always choose hard, level ground to park the vehicle on and set the brake so the unit cannot move.



SAFETY PRECAUTIONS

READ MANUAL PRIOR TO INSTALLATION



Improper installation, operation, or maintenance of this equipment could result in serious injury or death. Operator and maintenance personnel should read this manual, as well as all manuals related to this equipment and the Excavator thoroughly before beginning installation, operation, or maintenance. Always wear proper safety glasses, goggles or a face shield when driving pins in or out, or when any operation causes dust, flying debris or any other hazardous material.

NOTE! FOLLOW ALL SAFETY INSTRUCTIONS IN THIS MANUAL AND THE EXCAVATOR'S MANUAL(S).



READ AND UNDERSTAND ALL SAFETY STATEMENTS

Read all safety decals and safety statements in all manuals prior to operating or working on this equipment. Know and obey all OSHA regulations, local laws, and other professional guidelines for your operation. Know and follow good work practices when assembling, maintaining, repairing, mounting, removing, or operating this equipment.



KNOW YOUR EQUIPMENT

Know your equipment's capabilities, dimensions and operations before operating. Visually inspect your equipment before you start, and never operate equipment that is not in proper working order with all safety devices intact. Check all hardware to ensure it is tight. Make certain that all locking pins, latches and connection devices are properly installed and secured. Remove and replace any damaged, fatigued or excessively worn parts. Make certain all safety decals are in place and are legible. Keep decals clean and replace them if they become worn or illegible.

SAFETY PRECAUTIONS



LOWER OR SUPPORT RAISED EQUIPMENT

Do not work under raised booms without supporting them. Do not use support material made of concrete blocks, logs, buckets, barrels or any other material that could suddenly collapse or shift positions. Make sure support material is solid, not decayed, warped, twisted or tapered. Lower booms to ground level or on blocks. Lower booms and attachments to the ground before leaving the cab or operator's station.

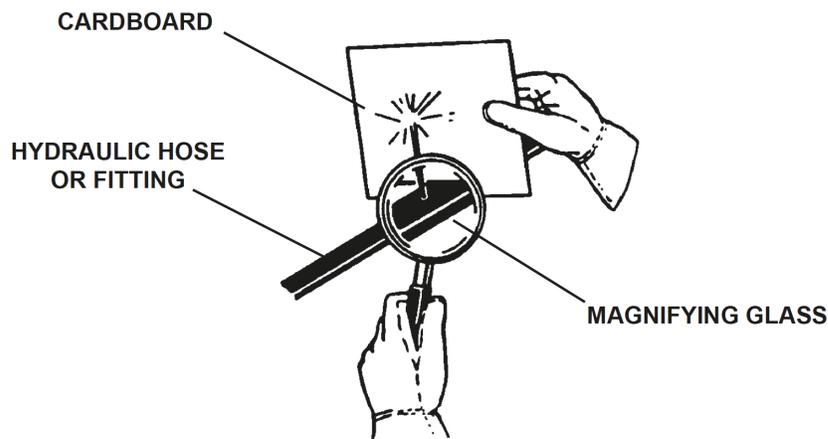


USE CARE WITH HYDRAULIC FLUID PRESSURE

Hydraulic fluid under pressure can penetrate the skin and cause serious injury or death. Hydraulic leaks under pressure may not be visible. Before connecting or disconnecting hydraulic hoses, read your Excavator's operator's manual for detailed instructions on connecting and disconnecting hydraulic hoses or fittings.

- Keep unprotected body parts, such as face, eyes and arms as far away as possible from a suspected leak.
- *If injured by Hydraulic Fluid, seek Medical Attention at once.*
- Wear safety glasses, protective clothing and use a piece of cardboard or wood when searching for hydraulic leaks.

NOTE! DO NOT USE YOUR HANDS! SEE ILLUSTRATION BELOW



SAFETY PRECAUTIONS



DO NOT MODIFY MACHINE OR ATTACHMENTS

Modifications may weaken the integrity of the attachment and may impair the function, safety, life and performance of the attachment. When making repairs, use only the manufacturer's genuine parts, following authorized instructions. Other parts may be substandard in fit and quality. Never modify any ROPS (Roll Over Protection Structure) or FOPS (Falling Object Protective Structure) equipment or device.

NOTE! ANY MODIFICATIONS MUST BE AUTHORIZED IN WRITING BY THE MANUFACTURER.



SAFELY MAINTAIN AND REPAIR EQUIPMENT

- Do not wear loose clothing or any accessories that can catch in moving parts. If you have long hair, cover or secure it so that it does not become entangled in the equipment.
- Work on a level surface in a well lit area.
- Use properly grounded electrical outlets and tools.
- Use the correct tools for the job at hand. Make sure they are in good condition for the task required.
- Wear the protective equipment specified by the tool manufacturer.



SAFELY OPERATE EQUIPMENT

Do not operate equipment until you are completely trained by a qualified operator in how to use the controls, know its capabilities, dimensions and all safety requirements. See your machine's manual for instructions.

- Keep all step plates, grab bars, pedals and controls free of dirt, grease, debris and oil.
- Never allow anyone to be around the equipment when it is operating.
- Do not allow riders on the attachment or the Excavator.
- Do not operate the equipment from anywhere other than the correct operator's position.
- Never leave equipment unattended with the engine running, or with this attachment in a raised position.
- Do not alter or remove any safety feature from the Excavator or this attachment.
- Know your work site safety rules as well as traffic rules and flow. When in doubt on any safety issue, contact your supervisor or safety coordinator for an explanation.

EQUIPMENT SAFETY PRECAUTIONS



KNOW WHERE UTILITIES ARE

Observe overhead electrical and other utility lines. Be sure equipment will clear them. When digging, call your local utilities for location of buried utility lines, gas, water and sewer, as well as any other hazard you may encounter.



EXPOSURE TO RESPIRABLE CRYSTALLINE SILICA DUST ALONG WITH OTHER HAZARDOUS DUSTS MAY CAUSE SERIOUS OR FATAL RESPIRATOR DISEASE.

It is recommended to use dust suppression, dust collection and if necessary personal protective equipment during the operation of any attachment that may cause high levels of dust.



REMOVE PAINT BEFORE WELDING OR HEATING

Hazardous fumes/dust can be generated when paint is heated by welding, soldering or using a torch. Do all work outside or in a well ventilated area and dispose of paint and solvent properly. Remove paint before welding or heating. When sanding or grinding paint, avoid breathing the dust. Wear an approved respirator. Allow fumes to disperse thoroughly before welding or heating.



END OF LIFE DISPOSAL

At the completion of the useful life of the unit, drain all fluids and dismantle by separating the different materials (rubber, steel, plastic, etc.). Follow all federal, state and local regulations for recycling and disposal of the fluid and components.



OPERATING THE ATTACHMENT

- Block off work area from bystanders, livestock, etc. Falling trees or branches can cause severe injury or death.
- Let others know when and where you will be working. Make sure no one is behind the equipment or for several hundred feet in any direction around the equipment when in operation. Never allow anyone to approach the saw when in operation.
- Due to the potential danger of flying debris, it is the owner's responsibility and is "ABSOLUTELY MANDATORY that an IMPACT-RESISTANT, SHATTERPROOF 1/2" THICK POLYCARBONATE FRONT CAB DOOR" be installed on the machine to protect the operator.
- Operate only from the operator's station.
- Do not exceed rated operating capacity of the Excavator.
- Be sure all covers are properly installed before operating unit.
- Do not lift loads in excess of the capacity of the Excavator. Lifting capacity decreases as the load is moved further away from the unit.
- Never try to board or exit equipment while it is running.
- Test all controls before you begin operation.

EQUIPMENT SAFETY PRECAUTIONS



OPERATING THE ATTACHMENT

- When operating on slopes, drive up and down, not across. Avoid steep hillside operation, which could cause the Excavator to overturn.
- Reduce speed when driving over rough terrain, on a slope, or turning to avoid overturning the vehicle.
- An operator must not use drugs or alcohol, which can change his or her alertness or coordination. An operator taking prescription or over-the-counter drugs should seek medical advice on whether or not he or she can safely operate equipment.
- Never leave the attachment unattended when in the raised position. Always make sure the attachment is on the ground, parking brake is engaged, engine is turned off and the keys are removed before exiting the Excavator.



TRANSPORTING THE ATTACHMENT

- Travel only with the attachment in a safe transport position to prevent uncontrolled movement. Drive slowly over rough ground and on slopes.
- When transporting on a trailer: Secure attachment using tie down accessories that are capable of maintaining attachment stability.
- Use extra care when loading or unloading the attachment onto a truck or trailer. Disconnect hydraulic couplers during transporting when installed on Excavator.
- When driving on public roads use safety lights, reflectors, Slow Moving Vehicle signs etc., to prevent accidents. Check local government regulations that may affect you.
- Do not drive close to ditches, excavations, etc., a cave-in could result.
- Do not smoke when refueling the Excavator. Allow room in the fuel tank for expansion. Wipe up any spilled fuel. Secure cap tightly when done.



MAINTAINING THE ATTACHMENT

- Before performing maintenance, disengage auxiliary hydraulics, lower the attachment to the ground, turn off the engine, remove the key and apply the brakes. Be sure all rotation has stopped before making any adjustments or repairs.
- Never perform any work on the attachment unless you are authorized and qualified to do so. Always read the operator manual's before any repair is made. After completing maintenance or repair, check for correct functioning of the attachment. If not functioning properly, always tag **"DO NOT OPERATE"** until all problems are corrected.
- If attachment must be left raised for maintenance or any other reason, block the unit securely to prevent accidental release of the lifting mechanism. Serious damage or personal injury could result.
- Worn, damaged, or illegible safety decals must be replaced. New safety decals can be ordered from Vail Products®.
- Never make hydraulic repairs while the system is under pressure. Serious personal injury or death could result.
- Never work under raised attachment.



DANGER! 1/2" THICK SHATTERPROOF CAB DOOR



WARNING! HIGH PRESSURE FLUID



DANGER! THROWN OBJECTS



DANGER! PINCH POINT



DANGER! ROTATING BLADES



DANGER! DO NOT OPERATE



DANGER! STAY CLEAR 300 FEET



DANGER! DO NOT EXIT



SERIAL PLATE



NO STEP



VAIL "V" LOGO



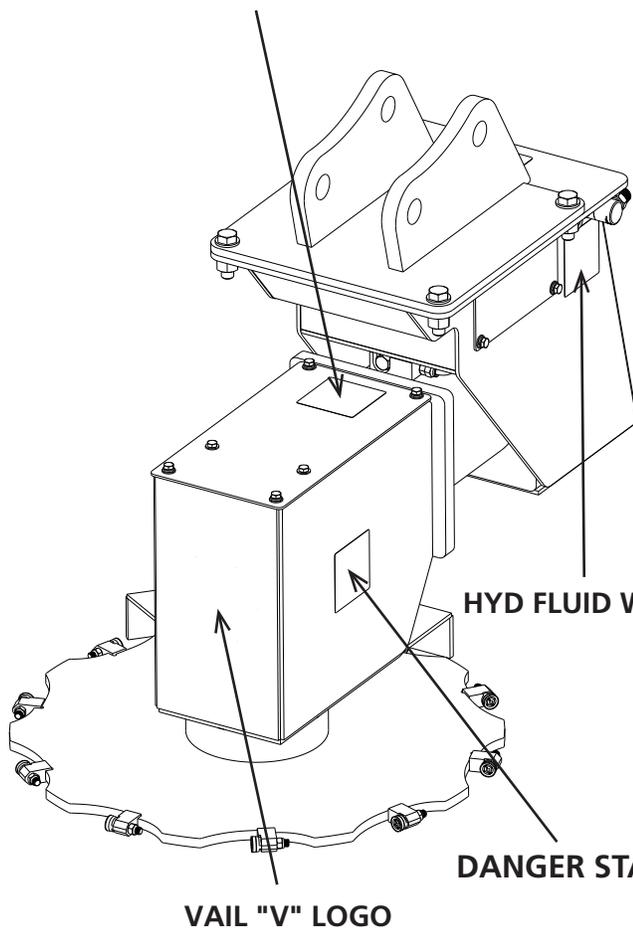
VAIL PRODUCTS® LOGO

DECAL PLACEMENT

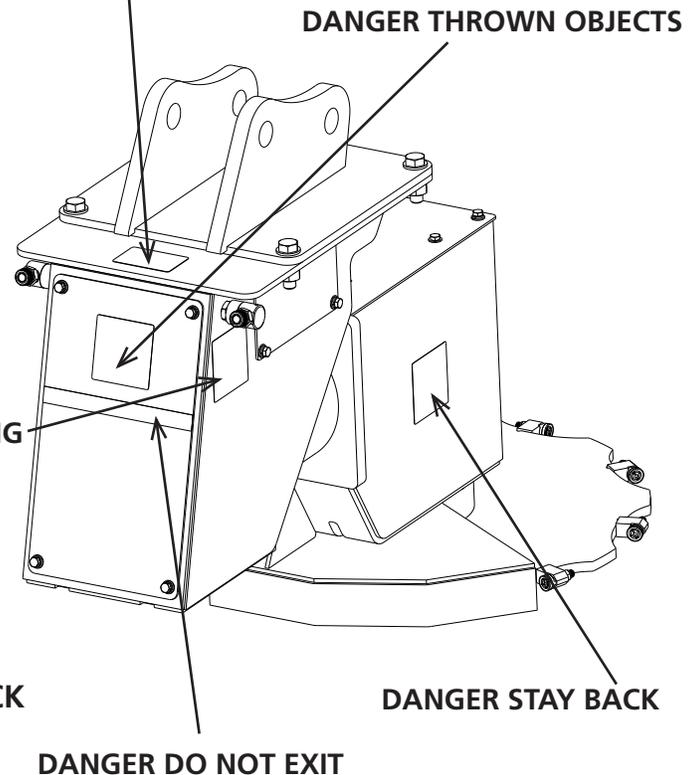
GENERAL INFORMATION

The diagram on this page shows the location of all the decals used on your attachment. Reductions of the actual decals located on the previous page. Use this information to order replacements for lost or damaged decals. Be sure to read all decals before operating the attachment. They contain information you need to know for both safety and unit longevity.

DANGER PINCH POINT



SERIAL PLATE



IMPORTANT: Keep all safety signs clean and legible. Replace all missing, illegible, or damaged safety signs. When replacing parts with safety signs attached, the safety signs must also be replaced.

REPLACING SAFETY SIGNS: Clean the area of application with nonflammable solvent, then wash the same area with soap and water. Allow the surface to fully dry. Remove the backing from the safety sign, exposing the adhesive surface. Apply the safety sign to the position shown in the diagram above and smooth out any bubbles.

GENERAL INFORMATION

Your attachment is operated by the Excavator's auxiliary hydraulics and mounts to the toolbar/quick attach mechanism for easy operator hook-up.

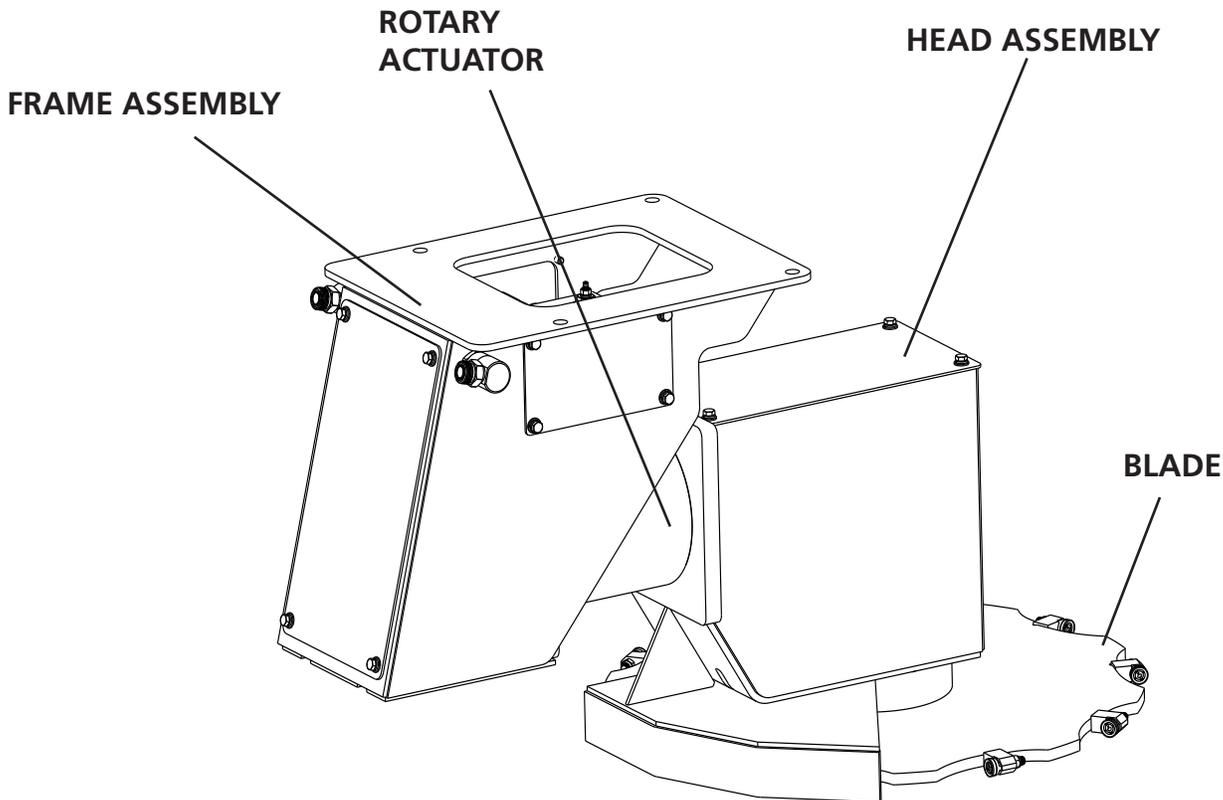
*Your prime mover/loader must have an auxiliary hydraulic system and an **IMPACT-RESISTANT, SHATTERPROOF 1/2" THICK POLYCARBONATE FRONT CAB DOOR** to operate the tree saw.*



TO AVOID SERIOUS PERSONAL INJURY OR DEATH THE Tree Saw MUST NOT BE ATTACHED TO ANY POWER UNIT THAT DOES NOT HAVE AN IMPACT-RESISTANT, SHATTERPROOF 1/2" THICK POLYCARBONATE FRONT CAB DOOR INSTALLED.

NOMENCLATURE

The purpose of this diagram is to acquaint you with the various names of the Tree Saw components. This knowledge will be helpful when reading through this manual or when ordering service parts.



GENERAL INFORMATION

The following instructions will help you to mount your Tree Saw onto your Excavator loader. The Tree Saw is designed for ease of installation. Therefore, if you know how to attach your loader bucket, attaching the Tree Saw should prove no problem. Remember to read all safety warnings, decals and operating instructions before operating the attachment. If there is any portion of this manual that you do not understand, contact your dealer.



TO AVOID SERIOUS PERSONAL INJURY OR DEATH THE Tree Saw MUST NOT BE ATTACHED TO ANY POWER UNIT THAT DOES NOT HAVE AN IMPACT-RESISTANT, SHATTERPROOF 1/2" THICK POLYCARBONATE FRONT CAB DOOR INSTALLED.

ATTACHING TO EXCAVATOR

1. Remove any attachments from the Excavator loader.
2. Following all standard safety practices and the instructions for installing an attachment in your Excavator operator's manual, install the Tree Saw onto your Excavator loader.
3. Place the Excavator loader in non-operation mode and remove the key.
4. After making sure that there is not any foreign matter on the hydraulic couplers, connect the couplers to the auxiliary hydraulic system of your Excavator.

DETACHING FROM EXCAVATOR

1. On firm, level ground, lower the attachment to the ground, ensure the parking brake is engaged, engine is turned off and the keys are removed.
2. Follow your Excavator operator's manual to relieve pressure in the hydraulic lines.
3. Disconnect couplers and either connect them together or install dust caps and plugs to prevent contaminants from entering the hydraulic system. Store hoses on attachment, off the ground.
4. Follow you Excavator operator's manual for detaching (removing) an attachment.

GENERAL INFORMATION

The Tree Saw attaches to the toolbar (or quick-attach) mechanism of your Excavator loader. Due to this arrangement, thorough knowledge of the Excavator's controls is necessary for safe machine operation. Read and understand your Excavator operator's manual for information regarding Excavator operation before attempting to use the Tree Saw. Follow all installation instructions for the proper installation of the unit onto your Excavator before attempting to operate your Tree Saw.

OPERATING TIPS

Continuous rotation of the blades is required during operation to prevent overheating of the hydraulic system. If the Tree Saw stalls, disengage auxiliary hydraulics, and remove saw from debris before restarting.

Blade rotation is maintained by operating the attachment at pressures below relief valve settings. Overheating of the hydraulic system is caused if hydraulic oil is repeatedly forced over the relief valve



ROTATING BLADE HAZARD! STAY BACK!

OBJECTS CAN BE THROWN!

DO NOT OPERATE NEAR BYSTANDERS.

DO NOT PLACE HANDS OR FEET UNDER DECK WHILE IN OPERATION OR WITH ENGINE RUNNING.

Due to the potential danger of flying debris, it is the owner's responsibility and is "ABSOLUTELY MANDATORY that an IMPACT-RESISTANT, SHATTERPROOF 1/2" THICK POLYCARBONATE FRONT CAB DOOR" be installed on the machine to protect the operator.

STORAGE

The following storage procedure will help you to keep your Tree Saw in top condition. It will also help you get off to a good start the next time your saw is needed. We therefore strongly recommend that you take the extra time to follow these procedures whenever your unit will not be used for an extended period of time.

- Clean the unit thoroughly, removing all mud, dirt, and grease.
- Replace blades. Replace all blades at the same time and do not try to weld or straighten damaged blades; loss of integrity may result.
- Inspect for visible signs of wear, breakage, or damage. Order any parts required, and make the necessary repairs to avoid delays when starting next season.
- Tighten all loose nuts, bolts and hydraulic connections.
- Check the drive bearing housing for proper lubricant level.
- Seal hydraulic system from contaminants and secure all hydraulic hoses off the ground to help prevent damage.
- Replace decals if damaged, or in unreadable condition.
- Apply a rust-preventive spray to all moving parts.
- Store the unit in a dry and protected place. Leaving the unit outside will materially shorten its life.
- Touch up all unpainted and exposed areas with paint, to prevent rust.

NOTE! PURCHASE ONLY MANUFACTURER APPROVED REPLACEMENT PARTS.

REMOVING FROM STORAGE

- Remove all protective coverings.
- Check hydraulic hoses for deterioration, and replace if necessary.
- Check all nuts and bolts for proper tightness, especially those securing the motor, bearing housing and blades.



VERIFY THAT ALL TIE DOWN ACCESSORIES (CHAINS, SLINGS, ROPES, SHACKLES AND ETC.) ARE CAPABLE OF MAINTAINING ATTACHMENT STABILITY DURING TRANSPORTING AND ARE ATTACHED IN SUCH A WAY TO PREVENT UNINTENDED DISENGAGEMENT OR SHIFTING OF THE UNIT. FAILURE TO DO SO COULD RESULT IN SERIOUS PERSONAL INJURY OR DEATH.

TRANSPORTING

Follow all local government regulations that may apply along with recommended tie down points and any equipment safety precautions at the front of this handbook when transporting your attachment.

GENERAL INFORMATION

The Tree Saw attaches to the toolbar/quick-attach mechanism of your Excavator. Due to this arrangement, thorough knowledge of the skid-steer controls is necessary for machine operation. Read and understand your Excavator operator's manual for information regarding excavator operation before attempting to use the Tree Saw. Follow all installation instructions for the proper installation of the unit onto your Excavator before attempting to operate your Tree Saw.

OPERATING TIPS

Continuous rotation of the blade is required during operation to prevent overheating of the hydraulic system. If the blade stalls, disengage auxiliary hydraulics, and remove saw from debris before restarting. Blade rotation is maintained by operating the attachment at pressures below relief valve settings. Overheating of the hydraulic system is caused if hydraulic oil is repeatedly forced over the relief valve setting on either the Excavator or Tree Saw (whichever is less).

GENERAL INFORMATION

Felling

1. Felling of standing trees requires care and planning. Be aware of wind, slopes, leaning stems, and other factors that may indicate the probable direction that the tree will fall once cut. Even with careful observation, the tree may fall in any direction, so it is important to use a machine with proper ROPS/FOPS protection and to be very vigilant when felling.
2. Start the hydraulic flow to spin the blade. Approach the tree slowly and "sneak into the cut" only applying more cutting force once the blade is already cutting wood. It is often preferable to progress through the cut by rotating the machine rather than driving forward, but field conditions will dictate which to use. As the cut gets deeper listen to the sound of the saw to anticipate if the blade is becoming pinched. If the saw begins to slow down, ease off on the cutting force or back out of the tree and cut from another direction.
3. As the cut nears completion, be aware of the direction that the tree is falling and be prepared to respond.

NOTE! DO NOT USE THE TREE SAW AS A PUSHBAR.

Trimming

Branches may be trimmed by rotating the saw head and proceeding to trim. Be aware that the saw dust will be propelled in a certain direction depending upon which way the head is rotated and what part of the blade is used to cut the branch. Plan your cut to avoid spraying saw dust on the machine. Also be aware of the falling branch and do not position the machine under the branch where it will be struck.

Cross Cutting

Once the tree is on the ground, it may be sectioned into manageable logs or rounds by cross-cutting. Approach perpendicular to the stem, with the head rotated to one side, proceed to cross-cut. Care should be taken to avoid spraying saw dust on the machine, and to avoid driving the blade into the ground. The teeth on the blade will generally stand up to dirt and mud, but rocks or other hard objects will chip the inserts.

Ripping

Trees on the ground may also be ripped along their length if the machine can straddle the log without contact. Rotate the head to one side, approach the stem from the end, and proceed to cut. Rip cutting will produce very long and stringy chips of wood, and care should be taken to avoid spraying chips on the machine.

Bolt Torque Specifications 19

GENERAL TORQUE SPECIFICATION TABLES

Use the following charts when determining bolt torque specifications when special torques are not given. Always use grade 5 or better when replacing bolts.

SAE BOLT TORQUE SPECIFICATIONS

NOTE: The following torque values are for use with extreme pressure lubricants, plating or hard washer applications. Increase torque 15% when using hardware that is un-plated and either dry or lubricated with engine oil.

BOLT SIZE		SAE GRADE 5 TORQUE				SAE GRADE 8 TORQUE				Bolt head identification marks as per grade. NOTE: Manufacturing marks will vary.
		Pounds Feet		Newton-Meters		Pounds Feet		Newton-Meters		
Inches	Millimeters	UNC	UNF	UNC	UNF	UNC	UNF	UNC	UNF	
1/4	6.35	8	9	11	12	10	13	14	18	GRADE 2 
5/16	7.94	14	17	19	23	20	25	27	34	
3/8	9.53	30	36	41	49	38	46	52	62	
7/16	11.11	46	54	62	73	60	71	81	96	
1/2	12.70	68	82	92	111	94	112	127	152	
9/16	14.29	94	112	127	152	136	163	184	221	GRADE 5 
5/8	15.88	128	153	174	207	187	224	254	304	
3/4	19.05	230	275	312	373	323	395	438	536	
7/8	22.23	340	408	461	553	510	612	691	830	
1	25.40	493	592	668	803	765	918	1037	1245	
1-1/8	25.58	680	478	922	1014	1088	1224	1475	1660	
1-1/4	31.75	952	1054	1291	1429	1547	1700	2097	2305	GRADE 8 
1-3/8	34.93	1241	1428	1683	1936	2023	2312	2743	3135	
1-1/2	38.10	1649	1870	2236	2535	2686	3026	3642	4103	

GENERAL INFORMATION

Regular maintenance is the key to long equipment life and safe operation. Maintenance requirements have been reduced to an absolute minimum. However, it is very important that these maintenance functions be performed as described.



To avoid serious injury. Lower the Tree Saw to the ground, set the parking brake, stop the Excavator engine, and remove the key. Disconnect the hydraulic couplers. If unit *must* be left raised for maintenance, block the unit securely to prevent accidental release of the lifting mechanism.

PROCEDURE	DAILY	40 HOURS	1200 HOURS
Check Excavator loader hydraulic system to ensure an adequate level of hydraulic oil.	•		
Check mounting hardware on blade and tighten if necessary. See Bolt Torque Specifications.	•		
Check all other hardware and tighten, if necessary. See Bolt Torque Specifications.	•		
Check hydraulic system for hydraulic oil leaks.	•		
Check cutting inserts for damage and replace or sharpen as needed.	•		
Check all safety guards and ensure that all devices are installed correctly.	•		
Check for missing or illegible Safety / Warning decals.	•		
Check oil level in drive bearing housing and add if necessary.		•	
Change oil in drive bearing housing.			•

Oil Cleanliness Requirements

IMPORTANT: All hydraulic fluid shall be filtered before use in product to obtain the ISO cleanliness standard of 20/18/15. Unless explicitly specified otherwise.



Escaping fluid under pressure can have sufficient force to penetrate the skin, causing serious personal injury. Fluid escaping from a very small hole can be nearly invisible.

Use a piece of cardboard or wood to search for suspected leaks. See Page 8 of this manual.

If injured by hydraulic fluid, seek a Doctor's care immediately!



To avoid serious injury. Lower the Tree Saw to the ground, set the parking brake, stop the Excavator engine, and remove the key. Disconnect the hydraulic couplers.

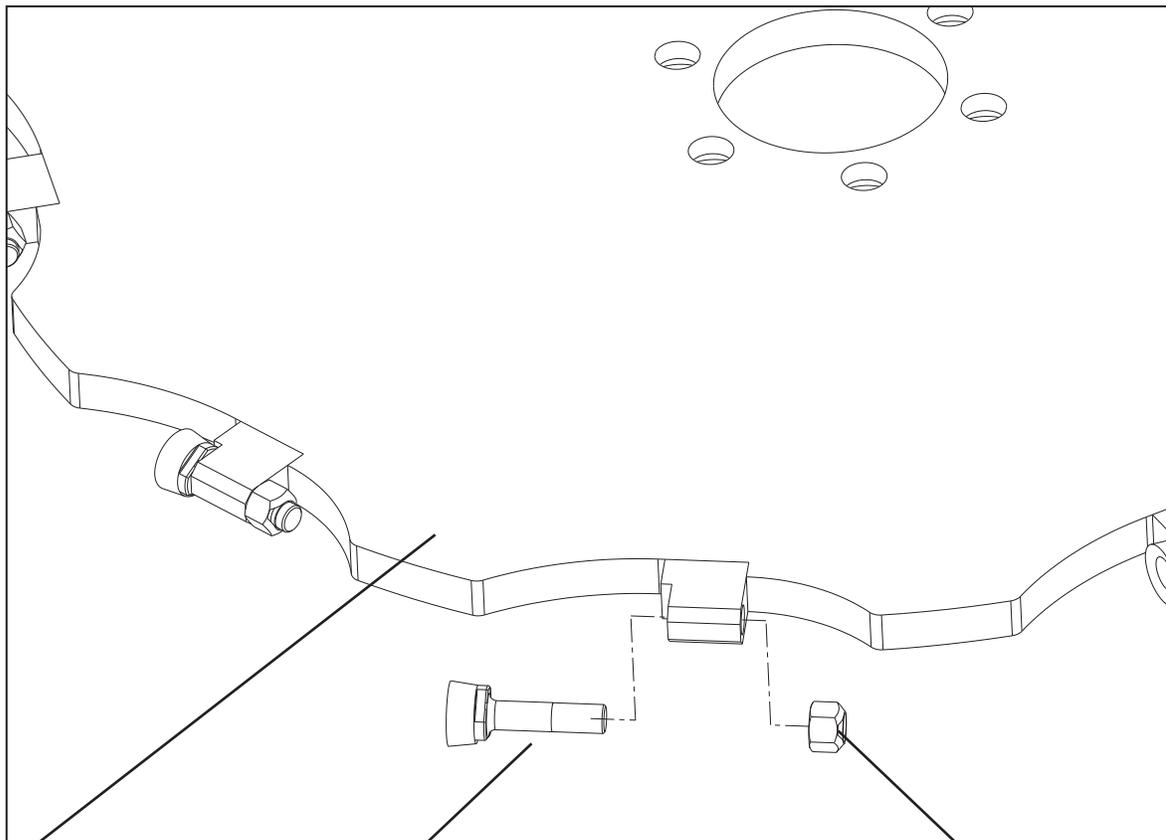
If unit *must* be left raised for maintenance, block the unit securely to prevent accidental release of the lifting mechanism.

REPLACING SAW INSERTS

The inserts should be inspected regularly (every 8 hours) to ensure they are not broken and are tightened correctly and intact.

1. With hydraulic couplers disconnected, remove the old insert.
2. Clean all dirt and debris from the face of the mounting block.

NOTE! FAILURE TO CLEAN THE FACE OF THE MOUNTING BLOCK MAY RESULT IN BREAKING A NEW INSERT WHEN THE RETAINING SCREW IS TIGHTENED.



BLADE ASSEMBLY

REPLACEABLE
INSERT

RETAINING
NUT

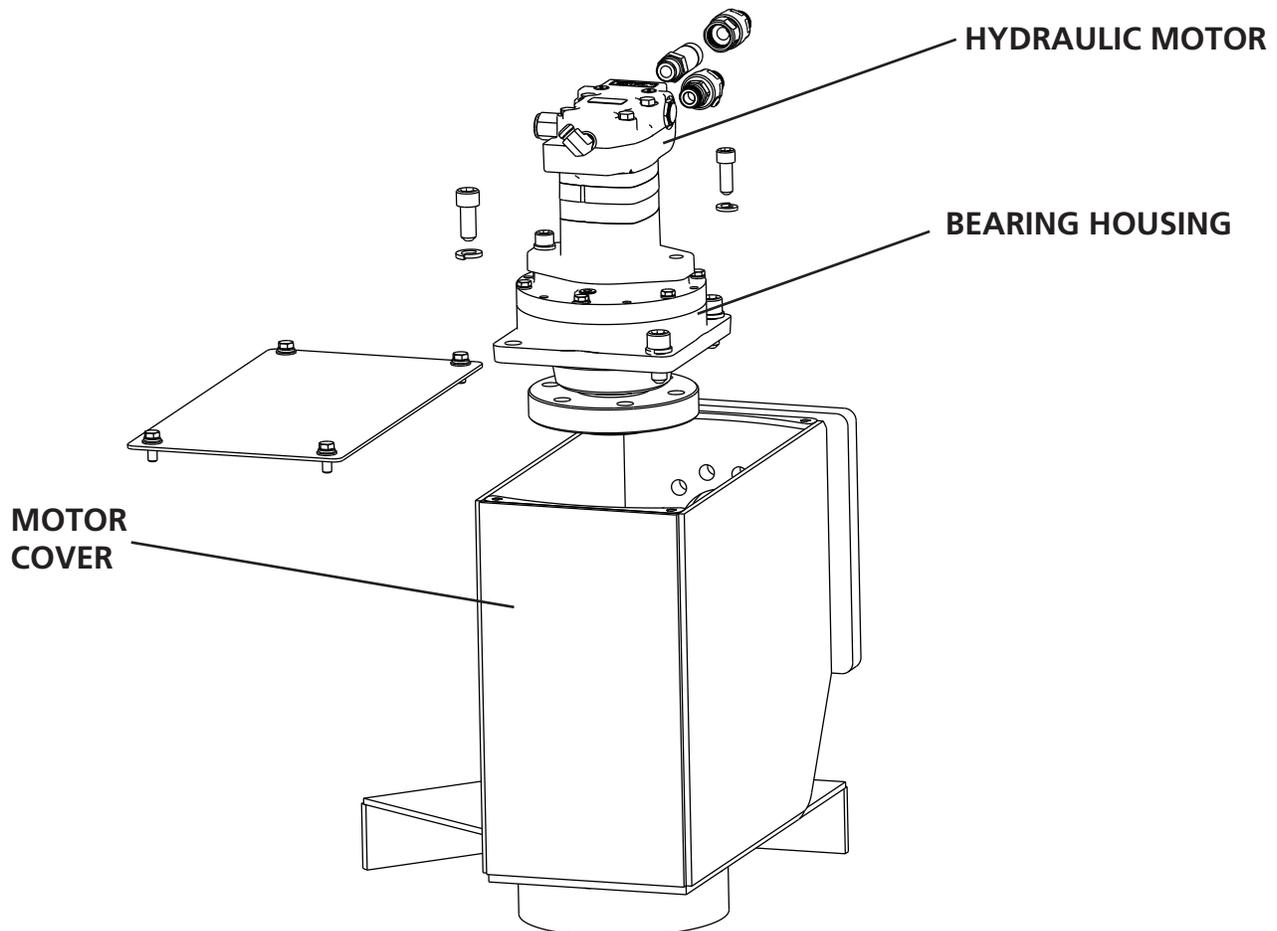
REPLACING HYDRAULIC MOTOR

When replacing the hydraulic motor the unit should be setting firmly on the ground with the hydraulic couplers disconnected. **Be sure all rotation has stopped before making any adjustments or repairs.**

NOTE! FIELD REPLACEMENT OF THE INTERNAL MOTOR SEALS VOIDS WARRANTY.

1. Remove motor cover. (Four cap screws.)
2. Disconnect hoses from motor. (Mark orientation.)
3. Remove the socket cap screws holding the motor to the drive bearing housing, and remove the motor. Check motor seal (O-ring) for damage and replace if required.
4. Install the new motor with O-ring onto the drive bearing housing using the existing hardware. Torque to specifications. See Bolt Torque Specifications.
5. Re-install motor cover using existing hardware and torque to specification. See Bolt Torque Specifications.
6. Reconnect hoses to motor.

NOTE! IF COUPLERS WERE NOT DISCONNECTED PRIOR TO REMOVING THE MOTOR, OIL WILL DRAIN FROM THE EXCAVATOR CAUSING EXTENSIVE OIL LOSS.



REPLACING DRIVE BEARING HOUSING

When replacing the drive bearing housing, the unit must be detached from the Excavator in a clean, open location.



BE SURE ALL ROTATION HAS STOPPED BEFORE MAKING ANY ADJUSTMENTS OR REPAIRS.

1. Remove the motor cover. (Four cap screws.)
2. Disconnect hoses from motor. (Mark orientation.)
3. Remove the socket cap screws holding the motor to the drive bearing housing and remove the motor. Check motor seal (O-ring) for damage and replace if required.
4. Remove the blade. (Six flat socket cap screws)
5. Remove the socket cap screws holding the drive bearing to the head assembly, and remove the drive bearing.

REPLACING DRIVE BEARING HOUSING

6. Remove the fill plug from the top of the new bearing housing and fill with a mild extreme pressure lubricant API-GL-5, No. 80 or 90 weight gear lubricant. Replace fill plug.
7. Install the new drive bearing using existing hardware and torque to specifications. See Bolt Torque Specifications.
8. Install the motor and O-ring onto the drive bearing housing using the existing hardware and torque to specifications. See Bolt Torque Specifications, page 29 of this manual.
9. Re-install hydraulic hoses to motor. Ensure they are in the same position as they were prior to removal.
10. Re-install blade using existing hardware and torque to specifications. See Bolt Torque Specifications.
11. Re-install motor cover using existing hardware and torque to specification. See Bolt Torque Specifications.

Follow the installation procedure for attaching the unit onto your Excavator.

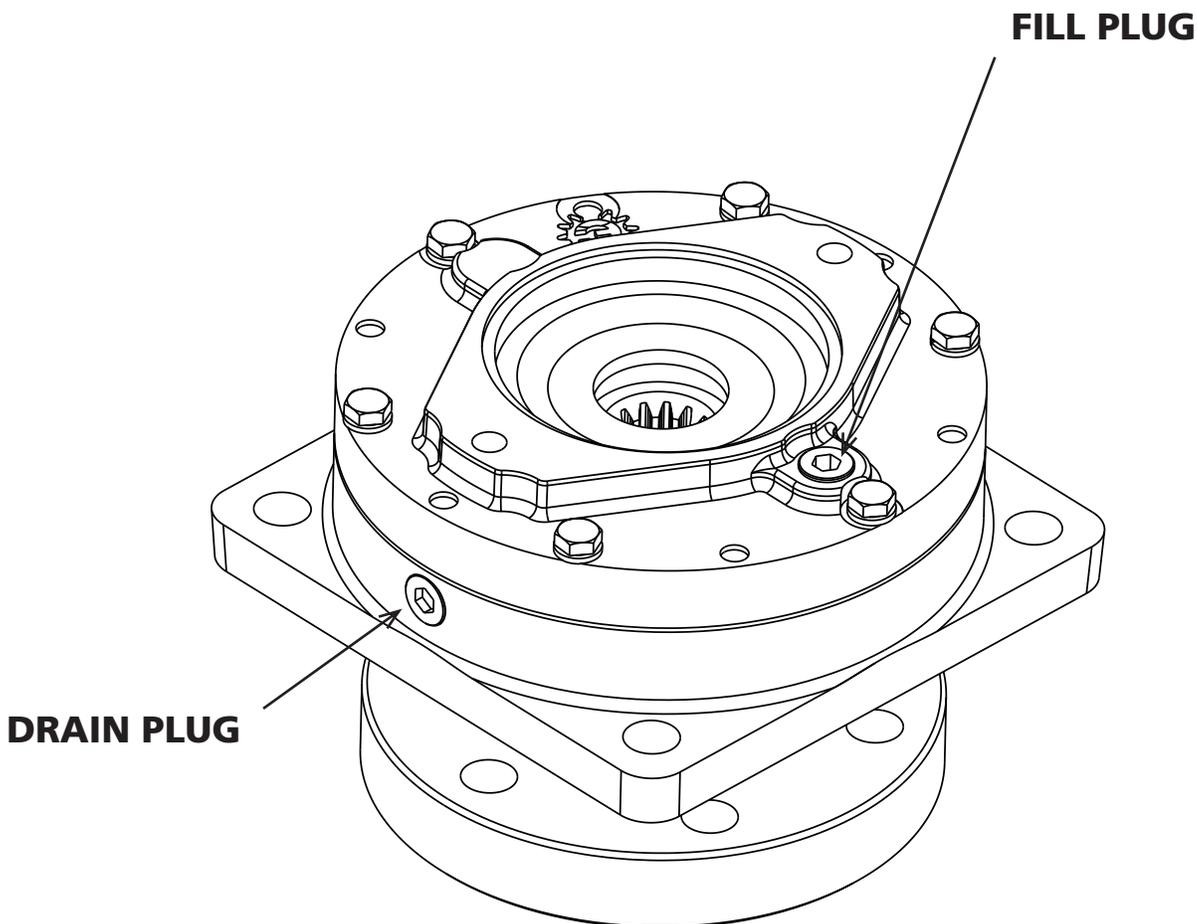
CHANGING OIL IN DRIVE BEARING HOUSING

When changing the oil in the drive bearing housing the unit should be setting firmly on the ground with the hydraulic couplers disconnected. We recommend removing the existing oil with a fluid removal pump.

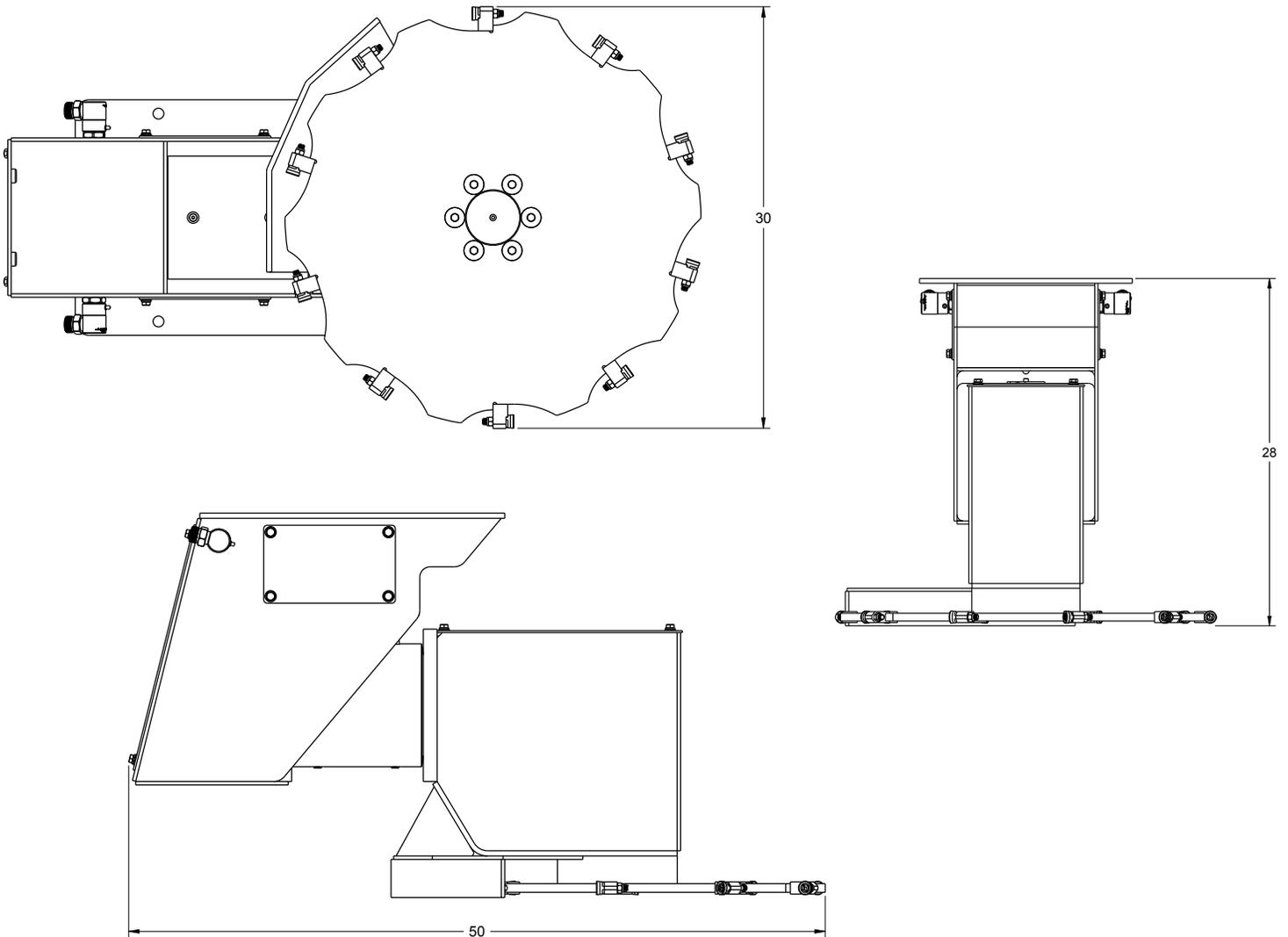
1. Remove one of the plugs in the drive bearing housing and place the extraction hose into the housing so that it reaches the bottom.
2. Place the output hose into an approved container or drum that will hold the waste oil.
3. Following the instructions for your fluid removal pump, remove all oil from the drive bearing housing.
4. Once the oil has been drained from the housing, remove the pump and refill the housing with approximately 20 ounces of a mild extreme pressure lubricant API GL-5, No. 80 or 90 weight gear lubricant.

NOTE: Oil level should be at bottom edge of plug.

5. Replace plug.



PROBLEM	POSSIBLE CAUSE	POSSIBLE REMEDY
BLADE WILL NOT SPIN	No hydraulic flow	Check fluid level in the machine reservoir. Ensure that the machine's auxiliary hydraulic function has been activated.
	Reversed supply lines	Remove the two large hydraulic couplers from the ends of the supply lines, and reinstall them on the opposite hose. Reconnect to machine.
	Relief valve stuck	Remove relief valve cartridge from the valve manifold and inspect.
BEARING FAILURE	No lubricant	Remove the motor from the top of the bearing and check inside the bearing for proper lubricant level. Oil should be approximately 1.5" below the top of the bearing. Fill to this level with SAE 90W gear oil, or replace the bearing assembly if damaged.
SAW TEETH WORN OR BROKEN	Normal operating condition - Teeth are consumable items	Replace the teeth.

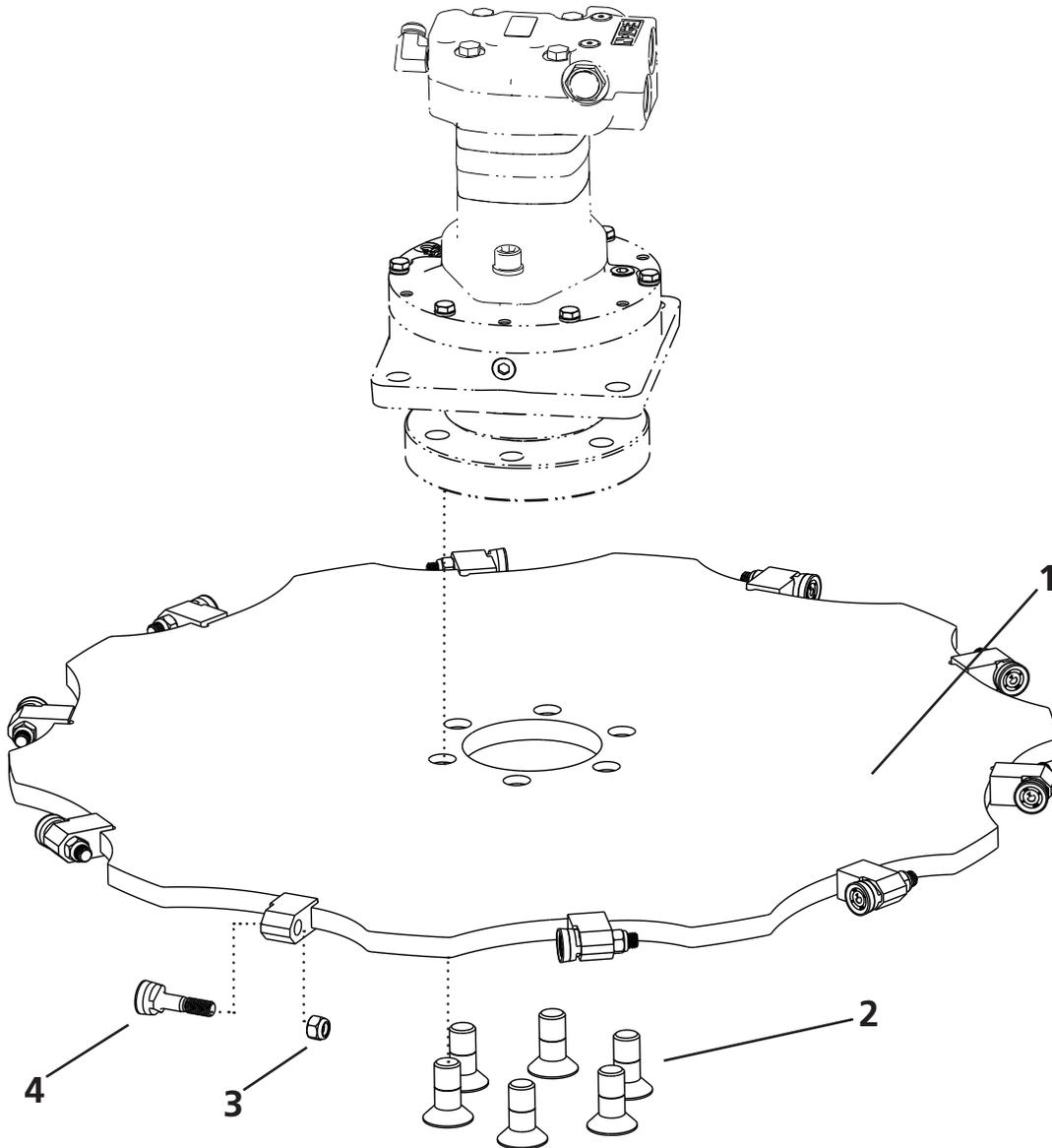


MODEL	XTS-MX-3015-RG
WIDTH	30 in. (762 mm)
LENGTH	50 in (1270 mm)
HEIGHT	27.75 in. (704.85 mm)
WEIGHT	700* lbs. (317.5* kg)
SWATH	30 in. (762 mm)
FLOW	12-20 gpm (20 gpm MAX)
OPERATING MACHINE WEIGHT	9,000-20,000 lbs. (4082-9071 kg)

*Estimated without coupler

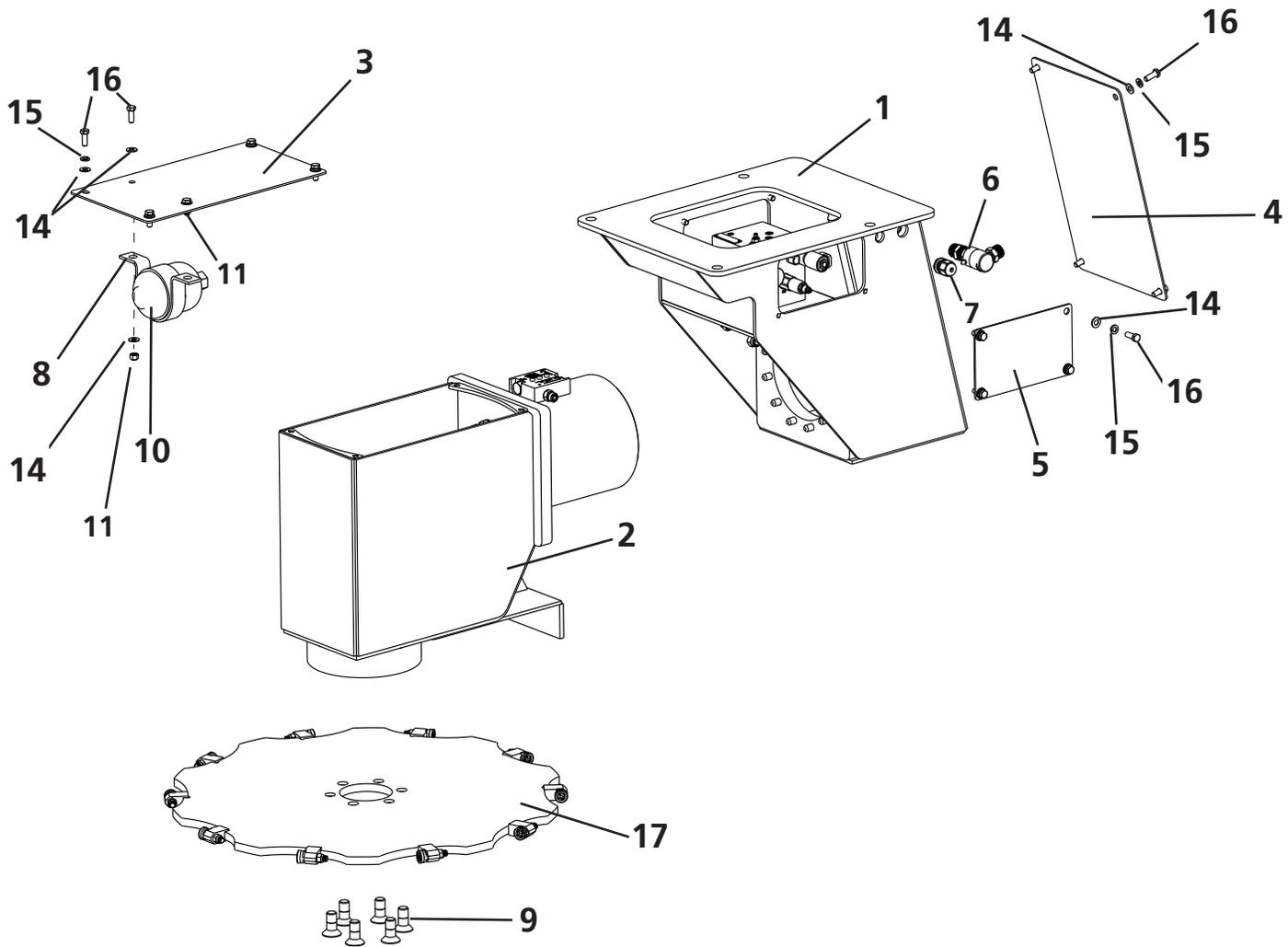
SPECIFICATIONS AND DESIGN ARE SUBJECT TO CHANGE WITHOUT NOTICE AND WITHOUT LIABILITY.

Tree Saw 30" Blade



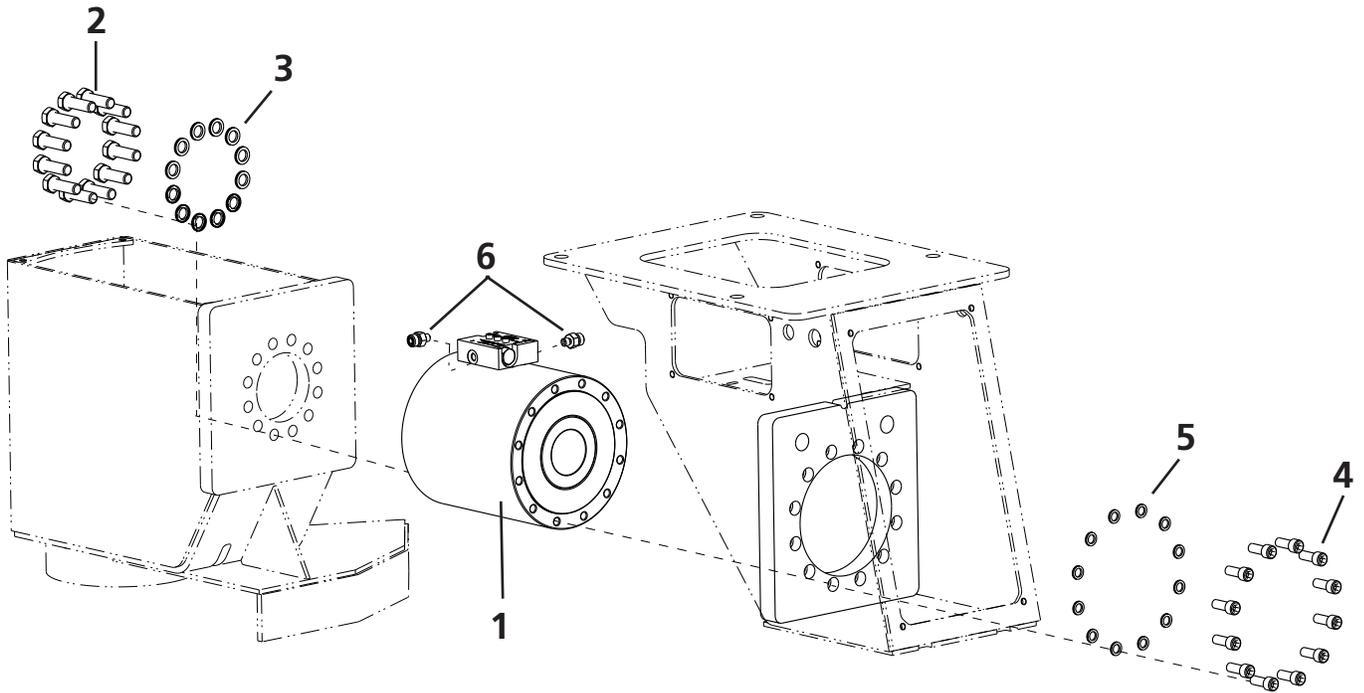
ITEM	PART NUMBER	DESCRIPTION	QTY
1	52030055	Blade Weldment, 5/8" x 30"	1
2	52092500	3/4"UNF x 1-3/4" Flat Socket Cap Screw	6
3	79511980	7/16" NC Lock Nut	10
4	52090305	Cutting Insert, Green Tooth 900 WS	10

Frame Assembly



ITEM	PART NUMBER	DESCRIPTION	QTY
1	52015020	Frame Weldment	1
2	52025020	Head Weldment	1
3	52065020	Motor Cover Plate	1
4	52035020	Rear Cover Plate, Frame	1
5	52036020	Side Cover Plate, Frame	2
6	57795395	Hyd. Live Swivel, 10 ORFS Elbow Bulkhead	2
7	52091520	Wire Grommet	1
8	52037030	Accumulator Bracket	1
9	52092500	3/4"UNF x 1-3/4" Flat Socket Cap Screw	6
10	52037020	Hyd. Accumulator	1
11	51090600	3/8" Lock Nut Gr. C	2
14	51090500	3/8" SAE Flat Washer	20
15	52092950	3/8" Lock Washer	16
16	52093700	3/8" x 1" Hex Cap Screw Gr.5	18
17	52030055	Blade Weldment, 5/8" x 30"	1

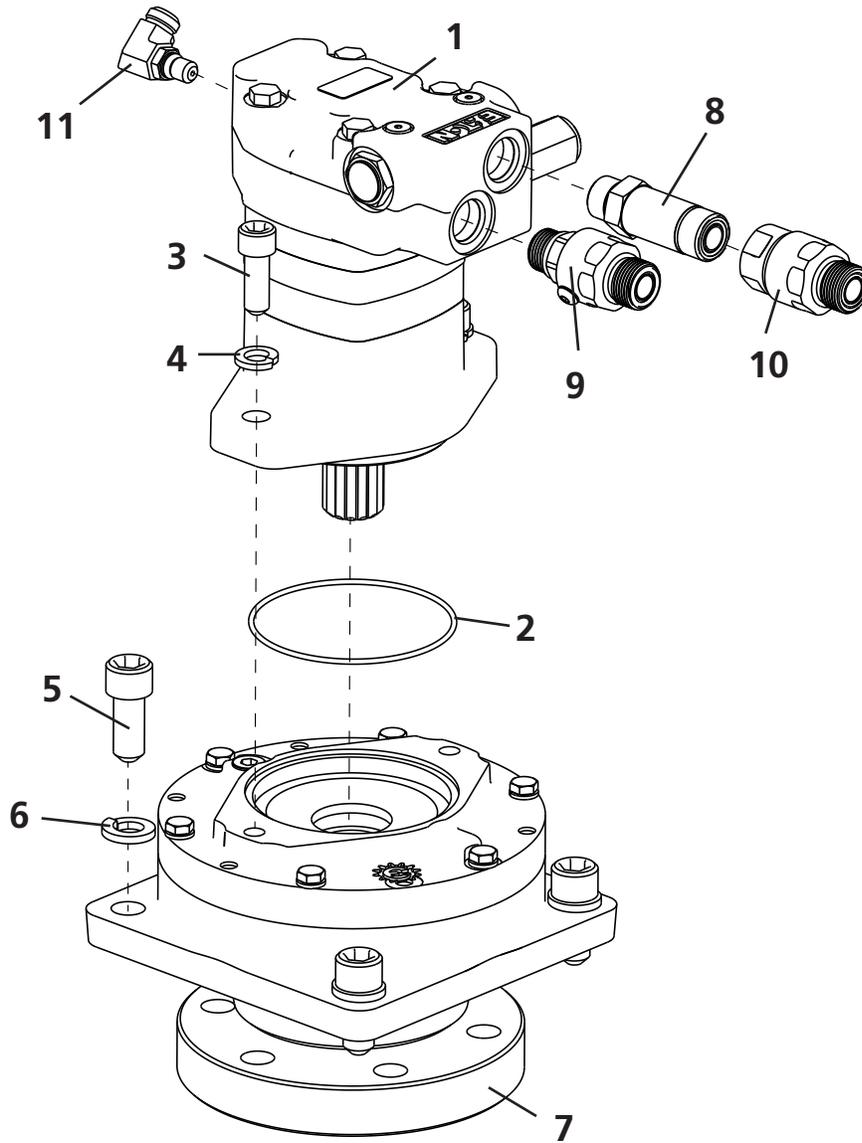
Rotary Actuator Assembly



ITEM	PART NUMBER	DESCRIPTION	QTY
1	52090240	Hydraulic Rotary Actuator, 180° Rotation	1
2	52092740	5/8" x 2" Hex Cap Screw Gr.5	12
3	51090800	5/8" Lock Washer (Nord-Lock)	12
4	52092820	1/2" x 1-3/8" Socket Cap Screw	12
5	52093060	1/2" Lock Washer (Nord-Lock)	12
6	51060700	Hydraulic Adapter, -04 MORB x -06 ORFS	2

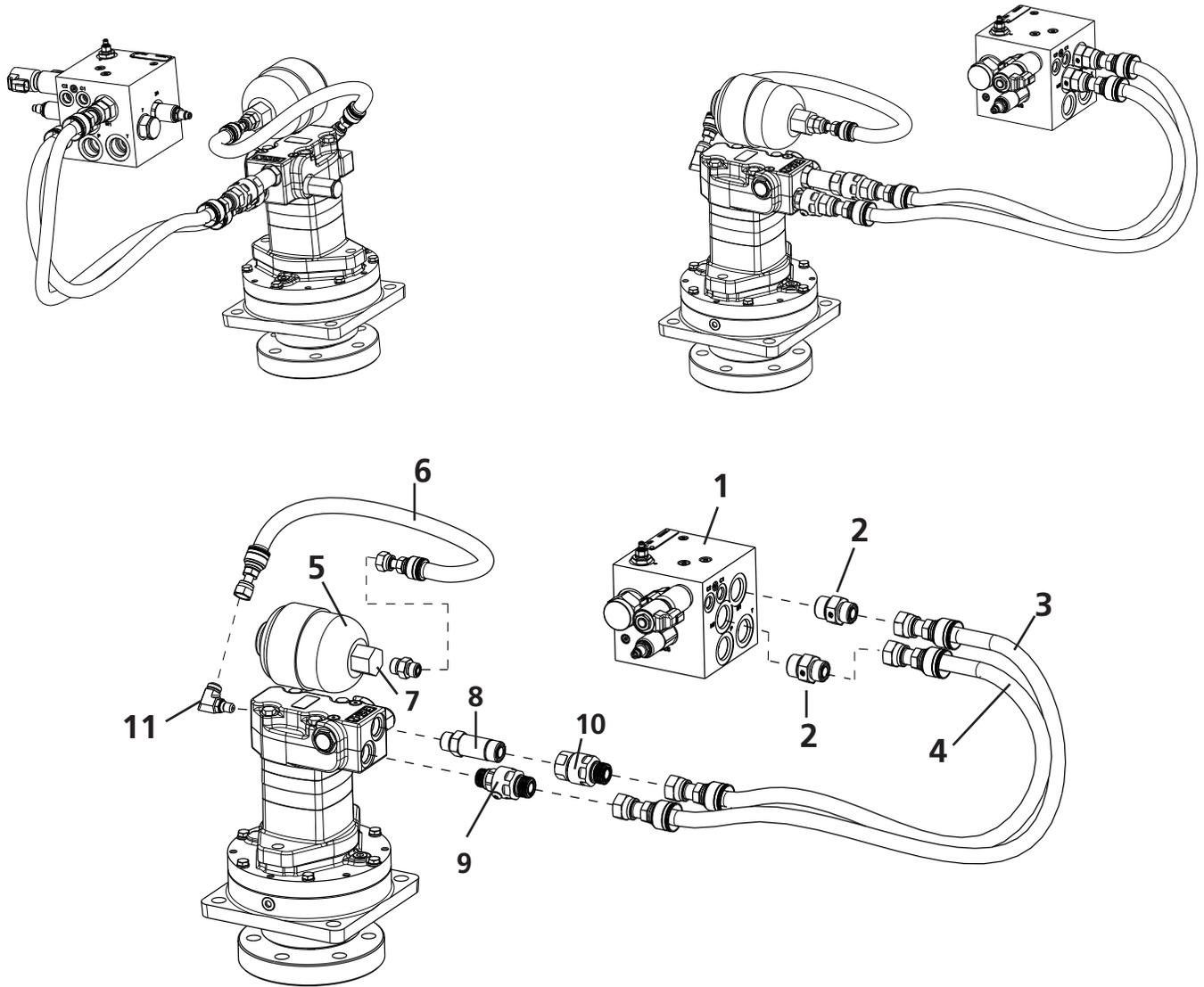
Parts Section

Motor and Bearing Assembly



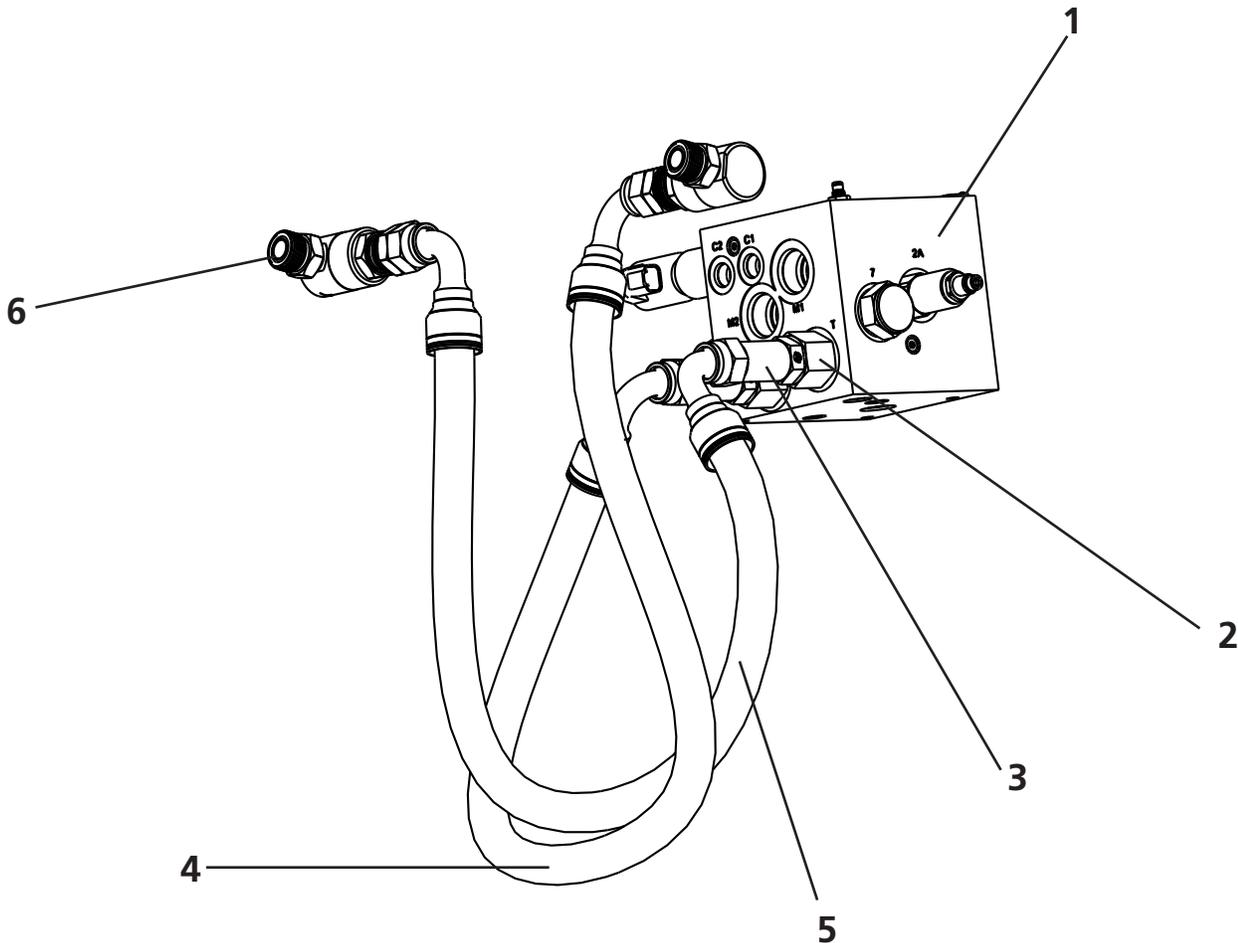
ITEM	PART NUMBER	DESCRIPTION	QTY
1	51424300	Hydraulic Motor (12-20 gpm - 20 gpm MAX)	1
2	51424400	O-Ring (Under Motor), B Mount 9452K192	1
3	52092820	1/2" NC x 1 3/8" Socket Cap Screw	2
4	79513320	1/2" Lock Washer	2
5	52093100	5/8" x 1 1/2" Socket Cap Screw	4
6	52093000	5/8" Lock Washer	4
7	51424500	Drive Bearing, B Mount	1
8	51424710	Hyd. Adapter, 10 MORB x 10 ORFS Long	1
9	57795380	Hyd. Live Swivel, 10 MB x 10 ORFS	1
10	57795390	Hyd. Live Swivel, 10 FORFS x 10 MORFS	1
11	52090760	Hyd. Adapter, Elbow 04 MORB x 06 ORFS	1

Motor Circuit Hose Assembly



ITEM	PART NUMBER	DESCRIPTION	QTY
1	52090225	Hyd. Manifold Block, Mini-Ex	1
2	51424720	Hyd. Adapter, 12 MORB x 10 ORFS	2
3	52096710	Hose Assy., 5/8" x 38" Lower Motor to M1	1
4	52096705	Hose Assy., 5/8" x 34" Lower Motor to M2	1
5	52037020	Hyd. Accumulator	1
6	52096505	Hose Assy., 3/8" x 24" Accumulator to Motor Drain	1
7	51060715	Hyd. Adapter, 8 MORB x 6 ORFS	1
8	51424710	Hyd. Adapter, 10 MORB x 10 ORFS Long	1
9	57795380	Hyd. Live Swivel, 10 MORB x 10 ORFS	1
10	57795390	Hyd. Live Swivel, 10 FORFS x 10 MORFS	1
11	52090760	Hyd. Adapter, Elbow 04 MORB x 06 ORFS	1

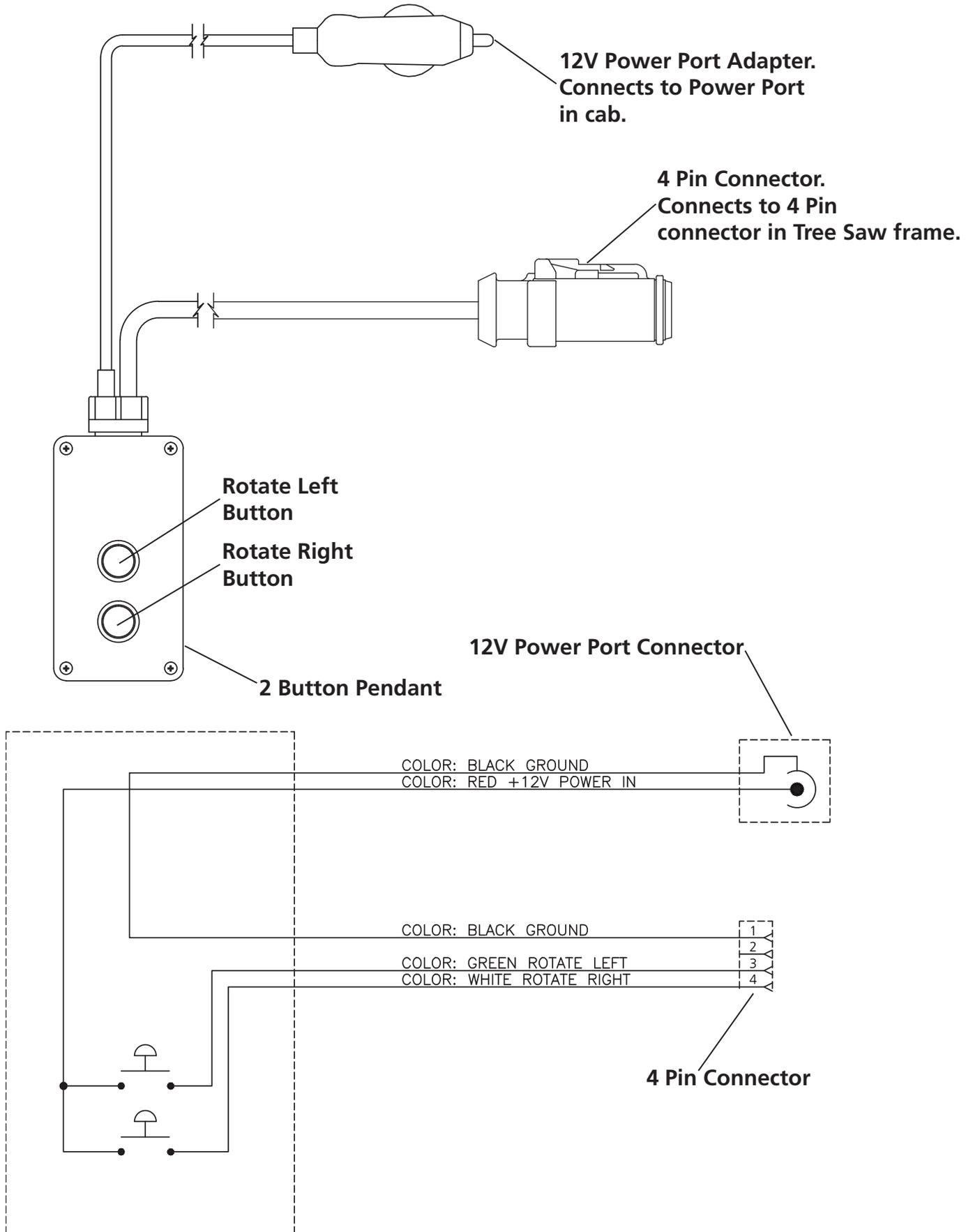
Supply Circuit Hose Assembly



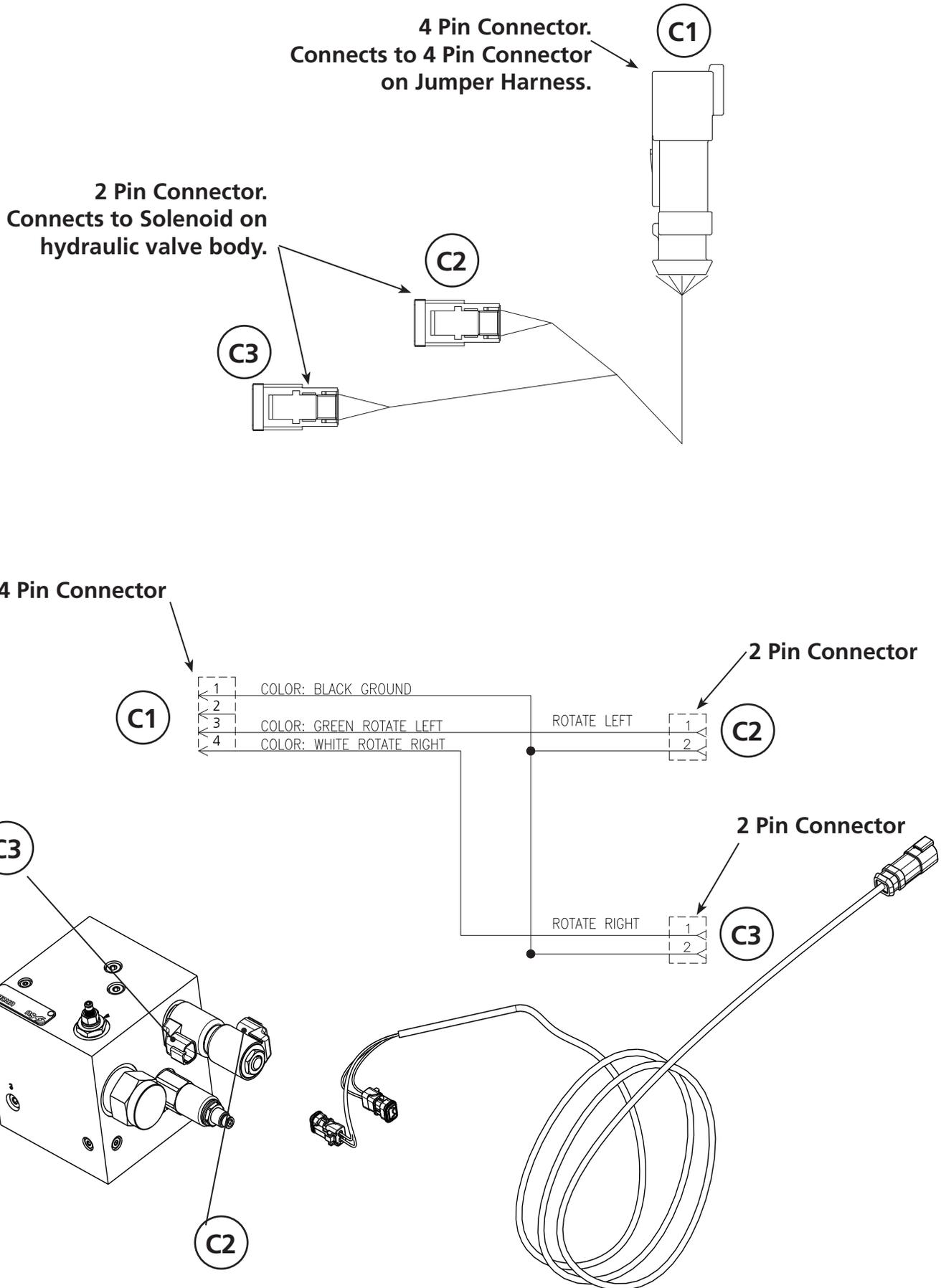
ITEM	PART NUMBER	DESCRIPTION	QTY
1	52090225	Hyd. Manifold Block, Mini-Ex	1
2	51424730	Hyd. Adapter, 12 MORB x 10 FORB	2
3	51424710	Hyd. Adapter, 10 MORB x 10 ORFS Long	2
4	52096720	Hose Assy., 5/8" x 34" Right Swivel to Manifold P	1
5	52096715	Hose Assy., 5/8" x 32.5" Left Swivel to Manifold T	1
6	57795395	Hyd. Live Swivel, 10 ORFS Elbow Bulkhead	2

Wiring Diagram

Mini-Ex 2 Button Pendant - 52992900



Mini-Ex Frame Harness - 52992920



U.S. WARRANTY

Vail Products® equipment are warranted against any defect in material and workmanship for a period of twelve (12) months for hydraulics and thirty six (36) months for structural components from date of shipment when properly installed, maintained and operated within the limits of normal usage. This warranty does not extend to products subject to misuse, neglect, vandalism, accidents or alterations to the original design. Liability, if any, is limited to replacement parts or material found to be defective, that will be furnished free of charge and shipped by transportation of our choice, F.O.B., our shop. No allowance or claim of any nature will be paid resulting from alterations or repairs of the product, including labor, and in no event shall seller be liable for any special, contingent or consequential damages. In all cases, full opportunity is to be given for investigation by seller's representative, before warranty is authorized. No goods shall be returned except by written permission of seller, and returns under any other conditions will not be accepted. Vail Products® will not be responsible for any import taxes or duties imposed by other governments or governmental agencies. SAID WARRANTY IN RESPECT OF REPLACEMENT OF DEFECTIVE PARTS AND ANY SUCH ADDITIONAL WARRANTY OR REPRESENTATION EXPRESSLY MADE A PART HEREOF ARE IN LIEU OF ALL OTHER WARRANTIES EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY FOR FITNESS OF PURPOSE. Where you are a distributor, financing company or similar entity acting for or on behalf of the initial user of the equipment, the warranty is transferable to initial user only. In all other cases the warranty is limited to you and is not transferable. For products not supplied by the seller's licensed manufacturer, it extends to the buyer the warranties of the manufacturer only.

INTERNATIONAL WARRANTY

Vail Products® equipment are warranted against any defect in material and workmanship for a period of six (6) months for hydraulics and twelve (12) months for structural components from date of shipment for products that are properly installed, maintained and operated within the limits of normal usage. This warranty does not extend to products subject to misuse, neglect, vandalism, accidents or alterations to the original design. Liability, if any, is limited to replacement parts or material found to be defective, that will be furnished free of charge and shipped by transportation of our choice, F.O.B., our shop. No allowance or claim of any nature will be paid resulting from alterations or repairs of the product, including labor, and in no event shall seller be liable for any special, contingent or consequential damages. In all cases, full opportunity is to be given for investigation by seller's representative, before warranty is authorized. No goods shall be returned except by written permission of seller, and returns under any other conditions will not be accepted. Vail Products® will not be responsible for any import taxes or duties imposed by other governments or governmental agencies. SAID WARRANTY IN RESPECT OF REPLACEMENT OF DEFECTIVE PARTS AND ANY SUCH ADDITIONAL WARRANTY OR REPRESENTATION EXPRESSLY MADE A PART HEREOF ARE IN LIEU OF ALL OTHER WARRANTIES EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY FOR FITNESS OF PURPOSE. Where you are a distributor, financing company or similar entity acting for or on behalf of the initial user of the equipment, the warranty is transferable to initial user only. In all other cases the warranty is limited to you and is not transferable. For products not supplied by the seller's licensed manufacturer, it extends to the buyer the warranties of the manufacturer only.

OWNER'S MANUAL

MUST STAY WITH PRODUCT