

ALITEC™

ROCK WHEEL

RW12

RW18

RW24

Effective Serial Numbers:
63010503

WainRoy

OPERATOR'S MANUAL

TO THE DEALER:

Assembly and proper installation of this product is the responsibility of the WainRoy® dealer. Read manual instructions and safety rules. Make sure all items on the Dealer's Pre-Delivery and Delivery Check Lists in the Operator's Manual are completed before releasing equipment to the owner.

The dealer must complete the Product Registration included in this manual. Both dealer and customer must sign the registration which certifies that all Dealer Check List items have been completed. The dealer is to return the prepaid postage portion to WainRoy, give one copy to the customer, and retain one copy. **Failure to complete and return this card does not diminish customer's warranty rights.**

TO THE OWNER:

Read this manual before operating your WainRoy equipment. The information presented will prepare you to do a better and safer job. Keep this manual handy for ready reference. Require all operators to read this manual carefully and become acquainted with all adjustment and operating procedures before attempting to operate. Replacement manuals can be obtained from your dealer. To locate your nearest dealer, check the Dealer Locator at www.wainroy.com, or in the United States and Canada call 1-800-848-3447.

The equipment you have purchased has been carefully engineered and manufactured to provide dependable and satisfactory use. Like all mechanical products, it will require cleaning and upkeep. Lubricate the unit as specified. Observe all safety information in this manual and safety decals on the equipment.

For service, your authorized WainRoy dealer has trained mechanics, genuine WainRoy service parts, and the necessary tools and equipment to handle all your needs.

Use only genuine WainRoy service parts. Substitute parts will void the warranty and may not meet standards required for safe and satisfactory operation. Record the model number and serial number of your equipment in the spaces provided:

Model: _____ Date of Purchase: _____

Serial Number: (see Safety Decal section for location) _____

Provide this information to your dealer to obtain correct repairs parts.

Through this manual, the term **IMPORTANT** is used to indicate that failure to observe can cause damage to equipment. The terms **CAUTION**, **WARNING**, and **DANGER** are used in conjunction with the Safety-Alert Symbol (a triangle with an exclamation mark) to indicate the degree of hazard for items of personal safety.



This Safety-Alert Symbol indicates a hazard and means **ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!**



Indicates an imminently hazardous situation that, if not avoided, could result in death or serious injury.



Indicates an imminently hazardous situation that, if not avoided, could result in death or serious injury, and includes hazards that are exposed when guards are removed.



Indicates an imminently hazardous situation that, if not avoided, could result in minor or moderate injury.

IMPORTANT

Indicates that failure to observe can cause damage.

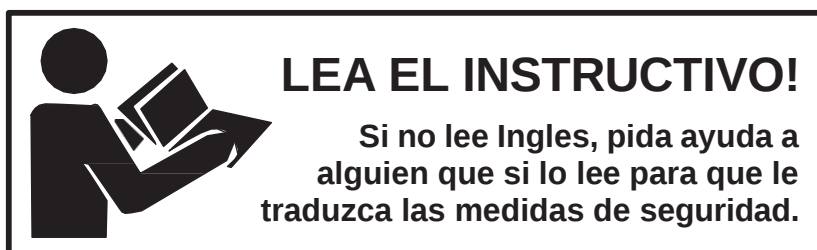
NOTE

Indicates helpful information.

WainRoy

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Este manual del operador debe ser considerada como parte de la máquina. Proveedores de ambas máquinas nuevas y de segunda mano debe asegurarse de que este manual se proporciona con la máquina.

GENERAL INFORMATION



WARNING

■ Some illustrations in this manual show the equipment with safety shields removed to provide a better view. This equipment should never be operated with any necessary safety shielding removed.

The purpose of this manual is to assist you in operating and maintaining your equipment. Read it carefully. It furnishes information and instructions that will help you achieve years of dependable performance. These instructions have been compiled from extensive field experience and engineering data. Some information

may be general in nature due to unknown and varying operating conditions. However, through experience and these instructions, you should be able to develop procedures suitable to your particular situation.

The illustrations and data used in this manual were current at the time of printing, but due to possible inline production changes, your machine may vary slightly in detail. We reserve the right to redesign and change the machines as may be necessary without notification.

Throughout this manual, references are made to right and left directions. These are determined by standing behind the equipment facing the direction of forward travel.

SPECIFICATIONS

	RW12	RW18	RW24
Cutting Width	2.5" (6.4 cm) 4.5" (11.4 cm)	2.5" (6.4 cm) 4.5" (11.4 cm)	2.5" (6.4 cm) 4.5" (11.4 cm) 6.0" (15.3 cm)
Cutting Depth	12" (30.5 cm)	18" (45.7 cm)	24" (61 cm)
Minimum Hydraulic Rating Required	28 Hp (22.4 Kw)	38 Hp (22.4 Kw)	52 Hp (22.4 Kw)
Sideshift Capability	22" (550 mm)	22" (550 mm)	22" (550 mm)
Carbide Picks	32 (2.5") 38 (4.5")	44 (2.5") 48 (4.5")	54 (2.5") 57 (4.5")
Hydraulic Flow Required	24 to 47 gpm (100 to 120 lpm)	26 to 47 gpm (100 to 120 lpm)	30 to 47 gpm (100 to 120 lpm)
Hydraulic Pressure Required	2000 to 3500 (135 to 340 bar)	2500 to 3500 (135 to 340 bar)	3000 to 3500 (135 to 340 bar)
Maximum Cutting Speed	15 ft per min (5m / minute)	15 ft per min (5m / minute)	15 ft per min (5m / minute)
Operating Weight	1600 lbs (725 kg)	1800 lbs (820 kg)	2100 lbs (950 kg)
Planetary Gearbox Capacity	40 oz. (1.2 L)	40 oz. (1.2 L)	40 oz. (1.2 L)
Lubricant	80-90W GL5 Gear Lube	80-90W GL5 Gear Lube	80-90W GL5 Gear Lube



SAFETY RULES

ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!



Safety is a primary concern in the design and manufacture of our products. Unfortunately, our efforts to provide safe equipment can be wiped out by an operator's single careless act.

In addition to the design and configuration of equipment, hazard control and accident prevention are dependent upon the awareness, concern, judgement, and proper training of personnel involved in the operation, transport, maintenance, and storage of equipment.

It has been said, "The best safety device is an informed, careful operator." We ask you to be that kind of operator.

INSTALLATION

■ Hydraulics must be connected as instructed in this manual. Do not substitute parts, modify, or connect in any other way.

■ After connecting hoses, check that all control lever positions function as instructed in the Operator's Manual. Do not put into service until control lever and equipment movements are correct.

OPERATION

■ Safety instructions are important! Read all attachment and power unit manuals; follow all safety rules and safety decal information. (Replacement manuals are available from dealer. To locate your nearest dealer Located at www.wainroy.com, or, in the United States and Canada, call 1-800-848-3447) Failure to follow instructions or safety rules can result in serious injury or death.

■ If you do not understand any part of this manual and need assistance, see your dealer.

■ Know your controls and how to stop engine and attachment quickly in an emergency.

■ Operators must be instructed in and be capable of the safe operation of the equipment, its attachments, and all controls. Do not allow anyone to operate this equipment without proper instructions.

■ Keep hands and body away from pressurized lines. Use paper or cardboard, not hands or other body parts to check for leaks. Wear safety goggles. Hydraulic fluid under pressure can easily penetrate skin and will cause serious injury or death.

■ Make sure that all operating and service personnel know that if hydraulic fluid penetrates skin, it

must be surgically removed as soon as possible by a doctor familiar with this form of injury or gangrene, serious injury, or death will result. **CONTACT A PHYSICIAN IMMEDIATELY IF FLUID ENTERS SKIN OR EYES. DO NOT DELAY.**

■ Never allow children or untrained persons to operate equipment.

PREPARATION

■ Check that all hardware is properly installed. Always tighten to torque chart specifications unless instructed otherwise in this manual.

■ Counterweight ballast may be required for machine stability. Check your power unit manual or contact your dealer.

■ Air in hydraulic systems can cause erratic operation and allows loads or equipment components to drop unexpectedly. When connecting equipment or hoses or performing any hydraulic maintenance, purge any air in hydraulic system by operating all hydraulic functions several times. Do this before putting into service or allowing anyone to approach the equipment.

■ After connecting hoses, check that all control lever positions function as instructed in the Operator's Manual. Do not put into service until control lever and equipment movements are correct.

■ Protective hose sleeves must cover all hydraulic hoses within 20 inches of the operator and be secured onto metal hose fittings. Replace hoses or sleeves if damaged or if protective sleeve cannot be properly positioned or secured.

■ Make sure all hydraulic hoses, fittings, and valves are in good condition and not leaking before starting power unit or using equipment. Check and route hoses carefully to prevent damage. Hoses must not be twisted, bent sharply, kinked, frayed, pinched, or come into contact with any moving parts. Operate moveable components through full operational range to check clearances. Replace any damaged hoses immediately.

■ Always wear relatively tight and belted clothing to avoid entanglement in moving parts. Wear sturdy, rough-soled work shoes and protective equipment for eyes, hair, hands, hearing, and head.

■ Be sure attachment is properly secured, adjusted, and in good operating condition. Coupler lockpins must be fully extended and properly engaged into attachment retaining slots.

(Safety Rules continued on next page)



SAFETY RULES

ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!



(Safety Rules continued from previous page)

- Power unit must be equipped with ROPS and seat belt/operator restraint. Keep seat belt/operator restraint securely fastened/engaged. Falling off power unit can result in death from being run over or crushed. Keep ROPS systems in place at all times.
- Make sure all safety decals are installed. Replace if damaged. (See Safety Decals section for location.)
- Make sure shields and guards are properly installed and in good condition. Replace if damaged.
- Inspect and clear area of stones, branches, or other hard objects that might be thrown, causing injury or damage.

OPERATION

- Improper operation can cause the machine to tip or roll over and cause injury or death.
 - Keep power unit lift arms and attachment as low as possible.
 - Do not travel or turn with power unit lift arms and attachment raised.
 - Turn only on level ground.
 - Go up and down slopes, not across them.
 - Keep the heavy end of the machine uphill.
 - Do not overload the machine.
- Never use attachment to carry loads that exceed the rated operating capacity or other specifications of the power unit. Check your power unit manual or see your dealer for rated operating capacity. Exceeding this capacity can cause machine to tip, roll over, or present other hazards that can cause injury or death.
- Do not allow bystanders in the area when operating, attaching, removing, assembling, or servicing equipment.
- Consult local utilities before digging. Know location and depth of all underground cables, pipelines, and other hazards in working area and avoid contact.
- Contact with high voltage, overhead power lines, underground cables, gas lines, and other hazards can cause serious injury or death from electrocution, explosion, or fire.
- Keep bystanders away from equipment.
- Do not operate or transport equipment while under the influence of alcohol or drugs.

- Operate only in daylight or good artificial light.
- Keep hands, feet, hair, and clothing away from equipment while engine is running. Stay clear of all moving parts.
- Always comply with all state and local lighting and marking requirements.
- Do not allow riders. Do not lift or carry anybody on the power unit or attachments.
- Always sit in power unit seat when operating controls or starting engine. Securely fasten seat belt/operator restraint, place transmission in park or neutral, engage brake and ensure all other controls are disengaged before starting power unit engine.
- Look down and to the rear and make sure area is clear before operating in reverse.
- Use extreme care when working close to fences, ditches, other obstructions, or on hillsides.
- Do not operate on steep slopes.
- Do not stop, start, or change directions suddenly on slopes.
- Use extreme care and reduce ground speed on slopes and rough terrain.
- Watch for hidden hazards on the terrain during operation.
- Stop power unit and implement immediately upon striking an obstruction. Dismount power unit, using proper procedure. Inspect and repair any damage before resuming operation.
- **NEVER GO UNDERNEATH EQUIPMENT.** Never place any part of the body underneath equipment or between moveable parts even when the engine has been turned off. Hydraulic system leak-down, hydraulic system failures, mechanical failures, or movement of control levers can cause equipment to drop or rotate unexpectedly and cause severe injury or death.
 - Service work does not require going underneath implement.
 - Read Operator's Manual for service instructions or have service performed by a qualified dealer.
- Leak down or failure of mechanical or hydraulic system can cause equipment to drop.
- Before making any adjustments on attachment, stop engine and engage parking brake. Never adjust or work on attachment while the power unit or attachment is running.

SAFETY RULES



ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!



■ Before leaving operator's seat, lower lift arms and put attachment on the ground. Engage brake, stop engine, remove key, and remove seat belt.

MAINTENANCE

■ Before leaving operator's seat, lower lift arms and put attachment on the ground. Engage brake, stop engine, remove key, and remove seat belt.

■ **NEVER GO UNDERNEATH EQUIPMENT.** Never place any part of the body underneath equipment or between moveable parts even when the engine has been turned off. Hydraulic system leak-down, hydraulic system failures, mechanical failures, or movement of control levers can cause equipment to drop or rotate unexpectedly and cause severe injury or death.

- Service work does not require going underneath implement.
- Read Operator's Manual for service instructions or have service performed by a qualified dealer.

■ Do not modify or alter or permit anyone else to modify or alter the equipment or any of its components in any way.

■ Your dealer can supply original equipment hydraulic accessories and repair parts. Substitute parts may not meet original equipment specifications and may be dangerous.

■ When removing front wheel pins, be sure to support the front of the depth skid to prevent hands or feet from being crushed.

■ Always wear relatively tight and belted clothing to avoid entanglement in moving parts. Wear sturdy, rough-soled work shoes and protective equipment for eyes, hair, hands, hearing, and head.

■ Do not allow bystanders in the area when operating, attaching, removing, assembling, or servicing equipment.

■ Be sure attachment is properly secured, adjusted, and in good operating condition. Coupler lockpins must be fully extended and properly engaged into attachment retaining slots.

■ Never perform service or maintenance with engine running.

■ Keep all persons away from operator control area while performing adjustments, service, or maintenance.

■ Tighten all bolts, nuts and screws to torque chart specifications. Check that all cotter pins are installed securely to ensure equipment is in a safe condition before putting unit into service.

■ Make sure all safety decals are installed. Replace if damaged. (See Safety Decals section for location.)

■ Make sure shields and guards are properly installed and in good condition. Replace if damaged.

■ Do not disconnect hydraulic lines until all system pressure is relieved. Lower unit to ground, stop engine, and operate all hydraulic control levers.

■ Leak down or failure of mechanical or hydraulic system can cause equipment to drop.

STORAGE

■ Follow manual instructions for storage.

■ Keep children and bystanders away from storage area.

SAFETY & INSTRUCTIONAL DECALS



ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!



Replace Immediately If Damaged!

BE CAREFUL!

Use a clean, damp cloth to clean safety decals.

Avoid spraying too close to decals when using a pressure washer; high-pressure water can enter through very small scratches or under edges of decals causing them to peel or come off.

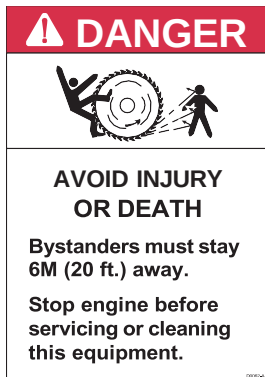
See page 14 for locations.

Serial Number Plate

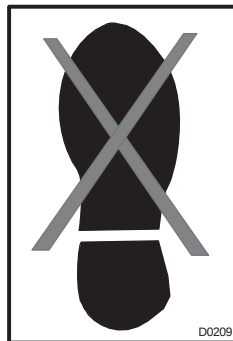


Replacement safety decals can be ordered free from your WainRoy dealer. To locate your nearest dealer, check the Dealer Locator at www.wainroy.com, or in the United States and Canada call 1-800-848-3447.

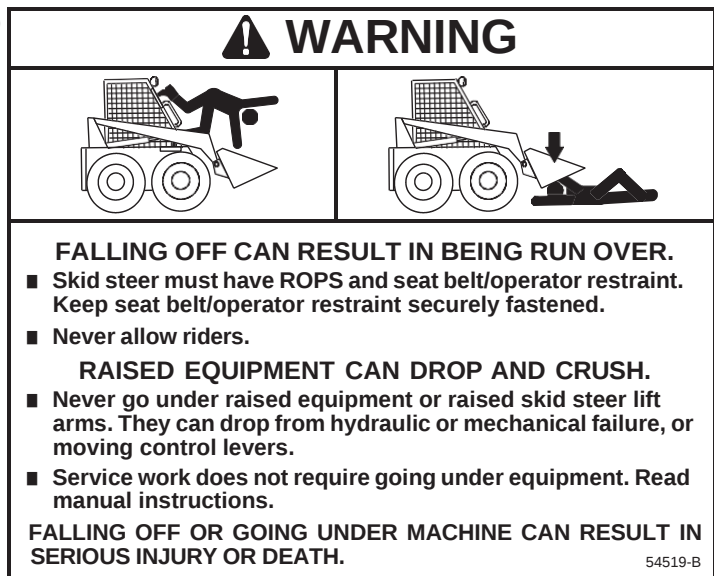
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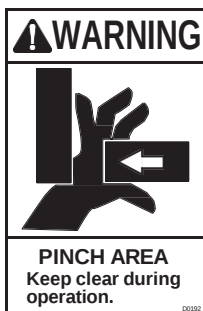
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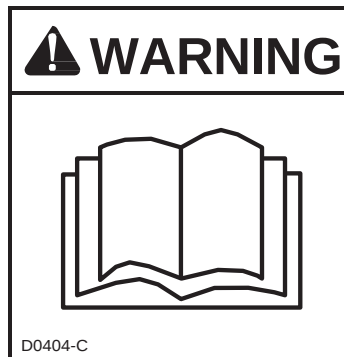
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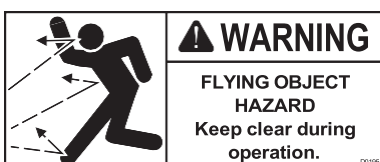
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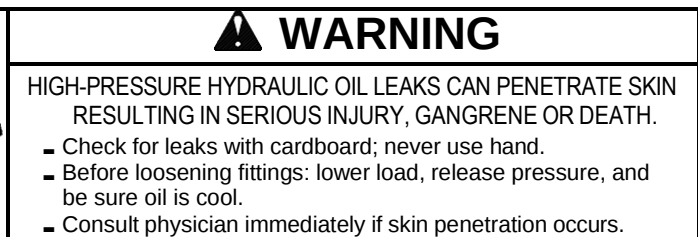
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SETUP

Although the WainRoy attachment is supplied fully assembled, some simple checks should be performed before operation begins.

SAFETY DECALS

The safety decals existing on the attachment should be clearly readable and always followed. The location and description of the decals is shown in the exploded diagram on page 14. Copies of the decals are shown in "Safety Decals" section.

LUBRICATION

All attachment joint grease fittings should be greased until grease flows out of the joint.

NOTICE

■ Type of lubrication should be 80-90W gear lube, with an EP (extreme pressure) rating of GL-5 minimum.

HOSES / FITTINGS

Hydraulic fittings are used to connect all attachment hoses. All fittings should be tight and free of hydraulic leaks. Hoses must be free of crimps or cuts that might result in leakage. Check your attachment before operation to make sure all hose routings are kink-free and allow for maximum movement of all extended, lift/lower, and/or swing motion required during normal operation.

WIRE HARNESS

The wiring harness to the electro hydraulic valve block should be routed to prevent catching or pinching when sideshifting or lowering the wheel fully into the ground. Ensure the wiring harness is routed under the sideshift frame top angle into the loader cab to prevent tripping when entering or exiting the loader.

WHEEL ASSEMBLY

For proper operation, wheel picks must be installed in every holder on the wheel.

OPERATION

A careful operator is the best protection against accidents. Most accidents involving operators of industrial equipment are caused by failure to observe basic safety precautions. Familiarize yourself with the safety precautions listed below.

SAFETY PRECAUTIONS

Accidents are preventable with your help.

WARNING

■ Before operating this equipment, the following safety information should be read and understood. In addition, each individual working with the equipment should be familiar with the safety precautions.

Exercise extreme caution when hitching and removing the attachment, operating with other workers present, and servicing the unit.

WainRoy always makes the operator's safety a priority when designing machinery. Exposed moving parts are guarded whenever possible for safety. However, not all moving parts can be shielded in order to ensure proper operation. The operator's manual and the safety decals on the machine, provide important safety information and should be observed closely. If safety decals become difficult to read, replace them immediately (see "Safety Decals").

MANDATORY SAFETY SHUTDOWN PROCEDURE

Before cleaning, adjusting, lubricating, or servicing this unit, always follow the mandatory safety shutdown procedure:

1. Move the skid steer loader propulsion control lever to the "neutral" position.
2. Shut off the attachment by shutting off the auxiliary hydraulic output.
3. Lower the loader lift arms completely and roll the attachment forward so it is securely resting on firm ground or the shop floor.
4. Engage the loader parking brake.
5. Move the loader throttle to the slow idle position, shut the engine off, and remove the ignition key.
6. Keep the key with you at all times when working on the unit so no one can start the engine without your knowledge.

WARNING

■ Failure to follow the procedures before cleaning, adjusting, lubricating, or servicing this unit could lead to serious injury or death.

OPERATION

WARNING

■ The following precautions must be observed for the safety of the operator and/or service personnel.

- Never crawl under raised loader arms.
- Never use your hands as escaping fluid under pressure can penetrate the skin causing serious injury. If hydraulic fluid does penetrate the skin, seek immediate medical attention by a doctor familiar with this type of injury or gangrene may result.

■ Never allow hands or feet near any working part of the attachment unless the mandatory safety shutdown procedure has been completed.

1. Read and observe all safety information and decals on the skid steer loader and attachment before operating the unit. (See Safety Decals). In addition, familiarize yourself with all loader safety devices and check daily that they are functioning properly.
2. Refer to the safety section of your skid loader operator's manual and observe all safety recommendations set forth in that manual.
3. When loading, keep attachment as low to ramps and trailer as possible.
4. Always lower the loader arms fully before leaving the skid steer seat.
5. Be sure to raise the attachment totally off the ground before sideshifting.
6. Carefully inspect all hydraulic hoses and connections on a routine basis. Always use a piece of cardboard when searching for leaks.
7. Be sure to exercise the mandatory safety shutdown procedure, before proceeding with any work on the attachment.

The rock wheel is a hydraulically powered attachment intended for cutting asphalt or concrete surfaces. The performance of the attachment can vary greatly depending upon how it is used and operated. There-

fore, the recommended operating procedures contained within this manual should be followed at all times for maximum productivity.

Prior to operating the attachment, read this entire manual. Follow all safety guidelines in this manual and safety decals on the unit. Make sure that all guards, shields, and decals are in place and in good condition prior to operation.

As noted in the Specifications Section, the attachment requires a minimum hydraulic supply of 25 gallons per minute. (100 liters per minute) at 2000 psi (135 bar).

NOTICE

■ **Insufficient hydraulic power will result in poor performance. Check auxiliary high flow per factory specifications.**

ATTACHING TO LOADER

To attach the unit to the loader, start the loader engine and rotate the couplers out. Pull both coupler levers up to the vertical position. Move the machine forward and pick up the attachment. Rotate the attachment back and push both coupler levers completely down. Make sure the two wedges are completely down and engaged. See operating instructions in the loader manual.

In attaching the unit to the skid steer, ensure that all hydraulic hoses are coupled securely to the quick couplers. Five hoses are to be connected; motor pressure, motor return, motor case drain, and two high flow hydraulic hoses.

NOTICE

■ **All hoses should be free of kinks, cuts, or abrasions for safe operation.**

TO OPERATE

1. Engage the hydraulic power, set the depth arm to the proper depth setting and lower the rock wheel slowly.
2. Actuate the bucket cylinder function for rollout until the wheel depth pad comes in contact with the pavement surface.
3. Before advancing the host vehicle, allow the wheel to operate until it reaches the desired depth.

NOTICE

■ **For most effective operation, the majority of the weight of the unit should be placed on the rock wheel with the loader arms fully lowered.**

■ **Operating the rock wheel with the loader arms in the float position will result in excessive vibration and should be avoided.**

4. With front depth control arm and pad set for acceptable cutting depth, the loader function should be used for lifting or lowering during rock wheel operation.
5. Excessive ground speed will stall wheel rotation. The hydraulic relief valve on the skid steer will prevent damage from occurring by diverting all flow from the wheel motor and the rotation of the rock wheel will stop. When this occurs, simply stop or slightly reverse the forward drive of the host vehicle. For maximum productivity, the rock wheel should always be operated at full engine throttle to ensure that full hydraulic horsepower is available to the cutting wheel.

NOTICE

■ **The bucket cylinder function should never be used to lift the wheel when it is stalled due to the existence of secondary reliefs on some host vehicle bucket cylinders.**

SIDESHIFT OPERATION

The two auxiliary hoses when connected to the auxiliary hydraulics of the skid steer, provide hydraulic power necessary for depth and sideshift operations. To operate the sideshift control, set the options switch to “sideshift” and actuate auxiliary control. The rock wheel will freely shift on the sideshift rods. In the event that the direction of travel does not correspond with the side of the auxiliary control, simply switch the sideshift hoses.

HYDRAULIC DEPTH CONTROL

To operate the hydraulic depth control, set the options switch to “depth” and actuate the auxiliary hydraulics to achieve the desired depth.

SERVICE

Proper service of the attachment will result in longer life and the more productive and cost effective operation. There are two basic categories of service required, pick/holder replacement and component lubrication. For proper operation, the picks should be checked and lubricated daily to ensure that they can freely rotate in their holders.

WARNING

- Before performing any maintenance on the unit, perform the mandatory safety shutdown procedure.

PICK / HOLDER REPLACEMENT

As regular use takes place, normal wear of the carbide picks will occur with the outer most picks wearing first. The pick tool included with the rock wheel should be used to remove the picks from the cast holders. In the event the pick tool is not available, any hardened punch or tool allowing access to the bottom of the holders can be used.

NOTICE

- Welder must be grounded directly to drum during pick holder replacement or severe bearing damage will result.

WARNING

- Never drive the pick in by striking directly on the end of the pick as this can cause the pick to chip and cause injury or create small stress fractures in the pick resulting in premature wear.

A length of pipe with a 3/4 - 1 inch inside diameter can be placed over the pick to protect it from a direct hit. Striking a small piece of wood placed on the pick to absorb the shock will prevent damage.

WARNING

- Always wear safety glasses when performing this operation. Hardened tools and picks can shatter causing injury.

The factory installed carbide pick chosen for use is a general purpose pick as the rock wheel is basically used for concrete and asphalt cutting applications. Specify B1050S.

To prevent the picks from seizing in the holders, the picks should be sprayed with diesel fuel at the end of each day. This will break down the asphalt build up in the holders and prevent premature wear by allowing the picks to rotate in the holders.

If the pick remains in the holder beyond its intended replacement point, it reduces the cutting performance and will not protect the holder. Inspect the cutting wheel every half hour of operation. Check the picks and holders for wear. If the picks are worn enough to indicate slight holder wear, replace the picks.

WHEEL HARDFACING

As the wheel is used, it will be necessary to hardface the wear points on the wheel and holders. This process is required on a repetitive basis. The warranty policy will not cover damage to the wheel or holders due to negligence.

LUBRICATION

Lubricate the grease points daily on all wheels as well as both sideshift rods and the depth arm.

The lubricant in the gear case of the planetary must be changed within the first 50 hours of operation. Thereafter, the lubricant need only be changed once per year or every 1000 hours whichever occurs first.

NOTICE

- Type of lubricant should be EP90W gear lube, with an EP (extreme pressure) rating of GL-5 minimum.

The lubricant can be changed by removing the drain plug located on the bottom of the planetary gear box. Allow lubricant to drain. Remove level plug, 90° from drain plug. Refill until oil is at level plug (approximately 40 oz.).

BOLT TORQUE

Re-torque all wheel bolts after five (5) hours of operation to 175 ±5 lbs-ft.

WARNING

- Before servicing this unit, the mandatory safety shutdown procedure must be completed. See "Safety Precautions".
- Exercise extreme caution during this operation to prevent tipping of the unit.

WHEEL REMOVAL

1. Attach the rock wheel to the skid loader and move it to a hard, flat surface. Lower the loader arms until the attach frame wheels are firmly in contact with the ground.
2. Extend the depth foot completely.
3. Shut the skid steer engine off and remove the key.

WARNING

■ **Chassis should be used to prevent the wheel from tipping in steps 4.**

4. **2.5" Wheel Only** - Remove the six bolts attaching the wheel to the drive hub.
4. **4.5" Wheel Only** - Loosen the nine bolts mounting the planetary gearbox to the frame. Remove the six bolts attaching the wheel to the drive hub.
5. Remove the nine planetary mounting bolts and slide the gearbox out and down in pilot hole to provide clearance for wheel removal.
6. Enter the loader and sideshift the planetary/cutting wheel assembly to the left to separate the cutting wheel from the planetary gearbox.
7. Slowly and carefully raise the loader arms to elevate the chassis just high enough to provide clearance to roll the wheel out.

WARNING

■ **Chassis should be raised only high enough to allow the wheel to roll under the front of the chassis.**

WARNING

■ **If the cutting wheel becomes lodged between the cutting wheel chassis and the end of the planetary gearbox, do not attempt to dislodge the wheel while in the raised position. Never place hands or any part of your body in, around or under the wheel. The wheel may fall causing serious injury.**

8. Shut off skid steer and remove key.
9. While carefully supporting the wheel, roll it from under the chassis for service.

WARNING

■ **Use extreme caution during this operation to prevent planetary from tipping and falling.**

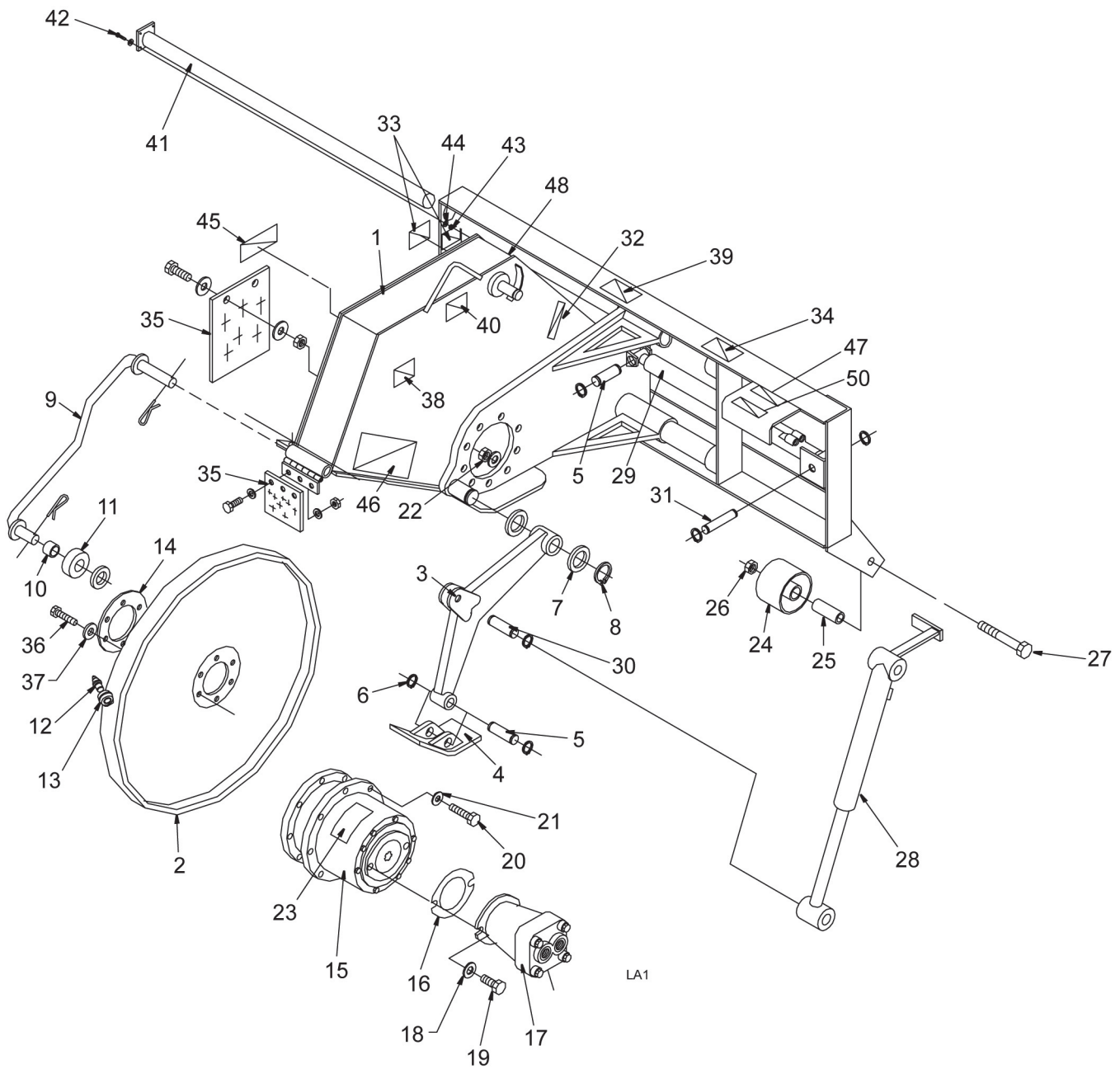
PLANETARY REMOVAL

1. Remove the wheel from the attachment as previously described.
2. Remove the motor by removing the two motor mounting bolts.
3. Fully support the planetary with hoist and remove the nine planetary flange mounting nuts.
4. Carefully slide the planetary from the rock wheel chassis with a hoist or similar device rated for more than 250 lbs. capacity.

SIDESHIFT CYLINDER REMOVAL

1. With the attachment on a level surface, remove both one inch retaining rings from cylinder mounting pins.
2. Disconnect both hydraulic hoses.
3. Remove both cylinder mounting pins.

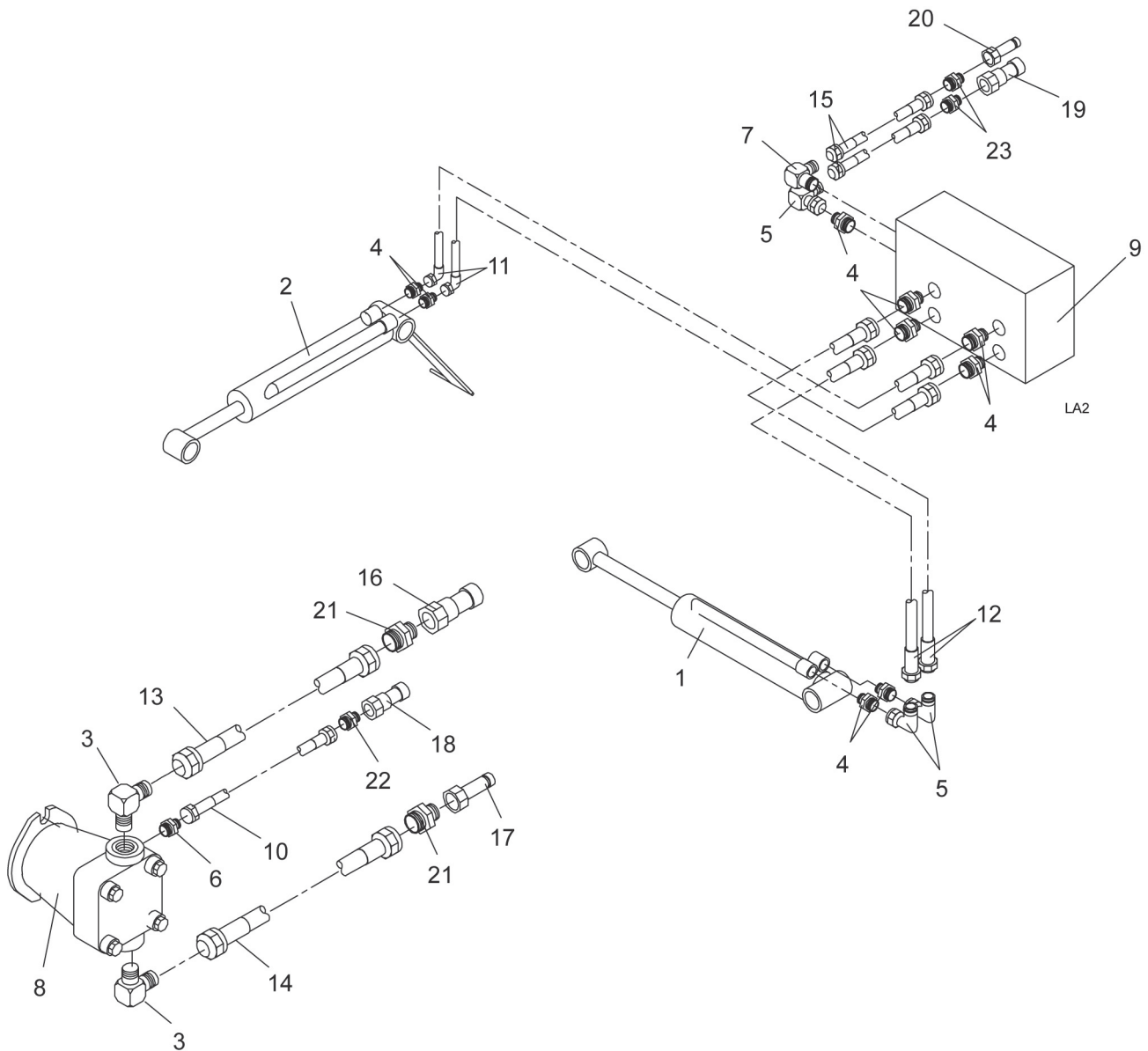
MAIN ASSEMBLY



MAIN ASSEMBLY

REF	PART	DESCRIPTION	REF	PART	DESCRIPTION
1	105626	Chassis RW12	15	HC054	Auburn shaft seal (S/N 6324 & above RW12/18) (S/N 30039 & above RW24)
1	105628	Chassis RW18	15	HC054	Auburn shaft seal (S/N 6324 & above RW12/18) (S/N 30039 & above RW24)
1	105630	Chassis RW24	15	S01000875	Auburn seal & brg kit (S/N 6324 & above RW12/18) (S/N 30039 & above RW24)
2	-----	Cutting wheel, 2.5" RW12 (includes picks)	16	M0009	Motor gasket
2	-----	Cutting wheel, 4.5" RW12 (includes picks)	17	HC551	Motor, M44-13 Tooth Sauer-Danfoss (S/N 6324 and above RW12/18) (S/N 30039 and above RW24)
2	-----	Cutting wheel, 2.5" RW18 (includes picks)	17	HC550	Motor, M44-15 Tooth Sauer-Danfoss (Used on earlier models) (S/N 6323 and prior RW12/18) (S/N 30038 and prior RW24)
2	-----	Cutting wheel, 3.5" RW18 (includes picks)	17	S0100013	Shaft seal
2	-----	Cutting wheel, 4.5" RW18 (includes picks)	18	57816	Motor mounting washer
2	-----	Cutting wheel, 2.5" RW24 (includes picks)	19	21666	Motor mounting bolt
2	-----	Cutting wheel 4.5" RW24 (includes picks)	20	B0901	Planetary mounting bolt
3	06019	Depth control arm RW12	21	B0920	Planetary mounting washer
3	06546	Depth control arm RW18	22	B0915	Planetary mounting nut
3	100775	Depth control arm RW24	23	D0042	Planetary lube decal
4	100219	Foot pad	24	100604	Wheel
5	T1033	Foot pad, sideshift cyl. pin	25	101218	Wheel bushing
6	M0003	1" Snap ring	26	34279	Nut, wheel
7	BB090	Spacer / washer	27	B1609	Bolt, wheel
8	M0042	Snap ring	28	C1401A1	Depth cylinder RW12
9	6531	Guide arm	28	C2201A1	Depth cylinder RW18/24
10	T1006	Guide wheel bushing	29	C2201	Side shift cylinder
11	T1005	Guide wheel	30	T1028-1	Depth arm pin
12	1024801	Carbide tooth, RW12 2.5" (32)	31	T1035-1	Cylinder mounting pin
		Carbide tooth, RW12 4.5" (38)	32	D0051	Decal, depth RW12/18
		Carbide tooth, RW18 2.5" (44)	32	D0105	Decal, depth RW24
		Carbide tooth, RW18 4.5" (44)	33	D0192	Decal, pinch point
		Carbide tooth, RW24 2.5" (54)	34	D0404	Decal, read manual
		Carbide tooth, RW24 4.5" (57)	35	M0039	Flap
12	B1050C	Carbide tooth, concrete	36	B1004	Bolt, wheel mounting
12	B1050X	Carbide tooth, concrete w/studded retainer	37	B1021	Washer, wheel mounting
13	P0313	Pick holder	38	D0011	Decal RW12
14	101086	Disc spacer	38	D0010	Decal RW18
15	1011278	Planetary, Auburn 6 33.8:1 (S/N 6324 & above RW12/18) (S/N 30039 & above RW24)	38	D0245	Decal RW24
15	HC159	Gearbox, Fairfield (S/N 6323 & prior RW12/18)(S/N 30038 & prior RW24)	39	D0323	Decal, case drain
15	S0100033	Gearbox, Fairfield boot seal (S/N 6323 & prior RW12/18) (S/N 30038 & prior RW24)	40	D0158	Decal, lift point
15	S0100009	Gearbox, Fairfield oil seal (S/N 6323 & prior RW12/18) (S/N 30038 & prior RW24)	41	105303	Slider bar
			42	58428	Bolt, 3/8" x 1-3/4 - 16 GR8 plt
			43	B0618	Nut, 3/8" - 16 GR8 Stover lock
			44	21757	Washer, 3/8" flat SAE plt
			45	D0099	Decal, pick maintenance
			46	D0062	Decal, bystanders stay away
			47	19924	Decal, high pressure
			48	54519	Decal, skid steer crush
			49	M0007	Pick tool
			50	D0209	Decal, no step

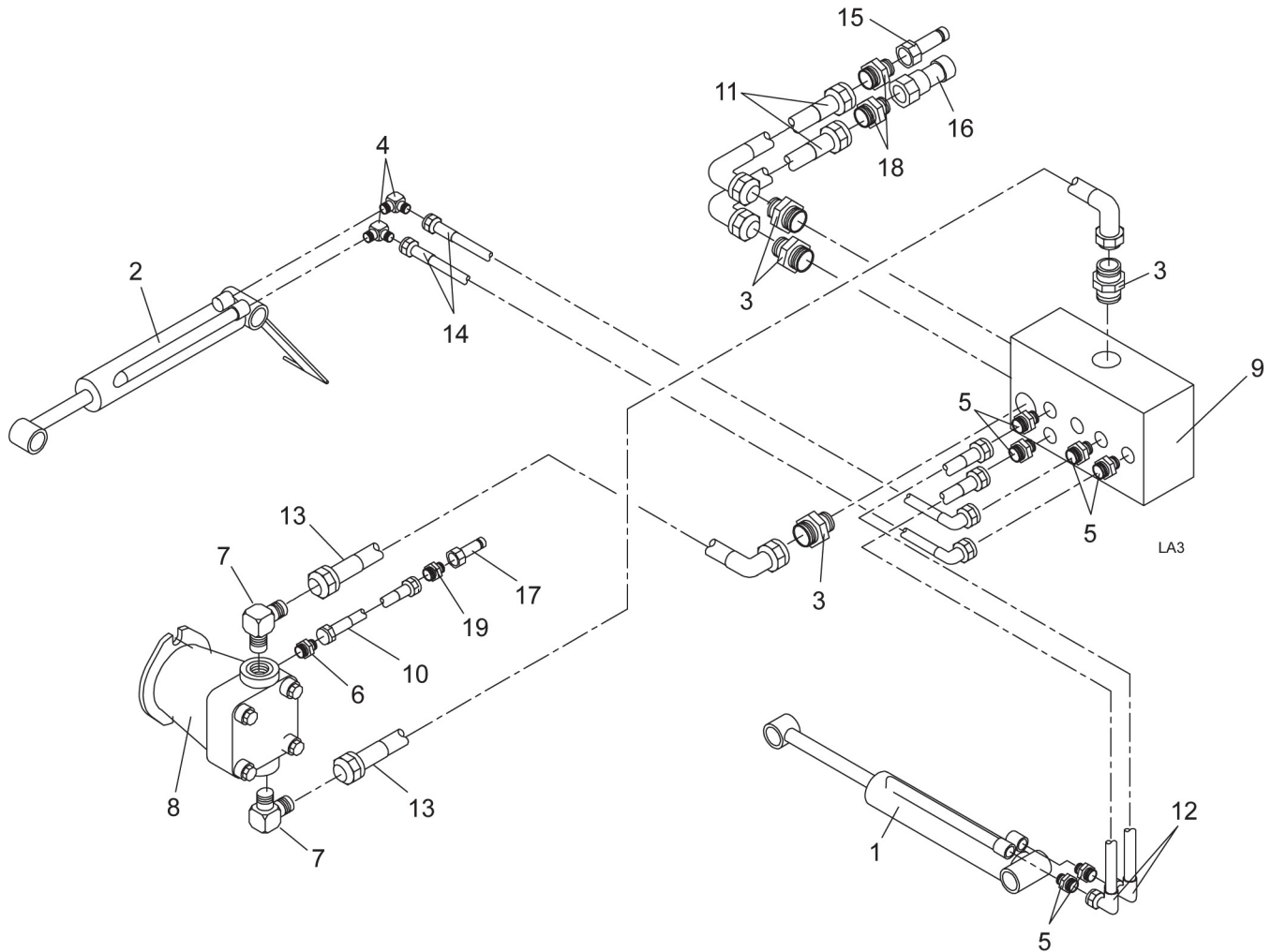
HYDRAULICS - DUAL CIRCUIT



HYDRAULICS - DUAL CIRCUIT

REF	PART	DESCRIPTION	REF	PART	DESCRIPTION
1	C2201	Cylinder, 2 x 22 sideshift	14	H1131	Hose, #12 x 91" 12FLF x 12FLF R12
2	C1401A1	Cylinder, 2 x 14 depth RW12	14	H1014	Hose, #12 x 84" 12FLF x 12FLF R2 (Gehl)
2	C2201A1	Cylinder, 2 x 22 depth RW18	14	H1634	Hose, #12 x 91" 12SLF x 12SLF 5000 psi (Caterpillar)
3	F1001	Fitting, 12OM x 12FLM 90°	15	H1218	Hose, #4 x 82" 6FLF x 6FLF R1
3	F1293	Fitting, 12OM x 12SLM 90° (Caterpillar)	15	H1604	Hose, #6 x 60" 6FLF x 6FLF R1 (Gehl)
4	F1044	Fitting, 6OM x 6FLM	15	H1625	Hose, #4 x 58" 6SLF x 6SLF R1 (Caterpillar)
4	F1407	Fitting, 6OM x 6SLM (Caterpillar)	16	HC344	QD, 3/4" MFF (Gehl)
5	F1057	Fitting, 6FLF x 6FLM 90°	16	HC343	QD, 3/8" MFF (Bobcat)
5	F1387	Fitting, 6FLF x 6SLM 90° (Caterpillar)	16	HC521	QD 3/4 FFF (Caterpillar)
6	F1137	Fitting, 10OM x 6FLM ST	17	HC345	QD 3/4" FFF (Gehl)
6	F1465	Fitting, 10OM x 6SLM ST (Caterpillar)	17	HC344	QD 3/4" MFF (Bobcat)
7	F1071	Fitting, 6OM x 6FLM 90°	17	HC522	QD, 3/4" MFF (Caterpillar)
7	F1327	Fitting, 6OM x 6SLM 90° (Caterpillar)	18	HC346	QD, 1/2" FFF (Gehl)
8	HC550	Motor, Sundstrand M46-3013 (RW12/18 S/N 62991202 and prior) (RW24 S/N 300301102 and prior)	18	HC346	QD, 1/2" FFF (Bobcat)
8	HC550	Motor, Sauer-Danfoss M44	18	1532994	QD, 5/8 FFF (Caterpillar)
8	HC550	Motor, Sauer-Danfoss M44 (Caterpillar)	19	HC344	QD, 3/4" MFF (Gehl)
9	1012113	Valve assembly, 2-stage	19	HC342	QD, 3/8" FFF (Bobcat)
9	HC175	Valve assembly, 2-stage 4-way (Bobcat)	19	1532994	QD, 5/8 FFF (Caterpillar)
10	H1087	Hose, #6 x 93" 6FLF x 6FLF R1	20	HC345	QD, 3/4 FFF (Gehl)
10	H1133	Hose, #6 x 87" 6FLF x 6FLF R1 (Gehl)	20	HC343	QD, 3/8 MFF (Bobcat)
10	H1635	Hose, #8 x 93" 8FLF x 8SLF R1 (Caterpillar)	20	1532995	QD, 5/8" MFF (Caterpillar)
11	H1097	Hose, #4 x 60" 6FLF 90° x 6FLF R1	21	F1306	Fitting, 12OM x 12FLM 45° (Gehl)
11	H1624	Hose, #4 x 60" 6FLF 90° x 6SLF R1 (Caterpillar)	21	F1006	Fitting, 12OM x 12FLM ST (Bobcat)
12	H1044	Hose, #4 x 23" 6FLF x 6FLF R1	21	F1289	Fitting, 12OM x 12SLM ST (Caterpillar)
12	H1609	Hose, #4 x 20" 6SLF 90° x 6SLF R1 (Caterpillar)	22	F1070	Fitting, 8OM x 6FLM ST (Gehl)
13	H1138	Hose, #12 x 91" 12FLF x 12FLF R2	22	F1044	Fitting, 6OM x 6FLM ST (Bobcat)
13	H1014	Hose, #12 x 84" 12FLF x 12FLF R2 (Gehl)	22	F1465	Fitting, 10OM x 6SLM ST (Caterpillar)
13	H1623	Hose, #12 x 91" 12SLF x 12SLF R2 (Caterpillar)	23	F1067	Fitting, 8OM x 6FLM 90° (Gehl)
			23	F1070	Fitting, 8OM x 6FLM ST (Bobcat)
			23	F1465	Fitting, 10OM x 6SLM ST (Caterpillar)

HYDRAULICS - SINGLE CIRCUIT



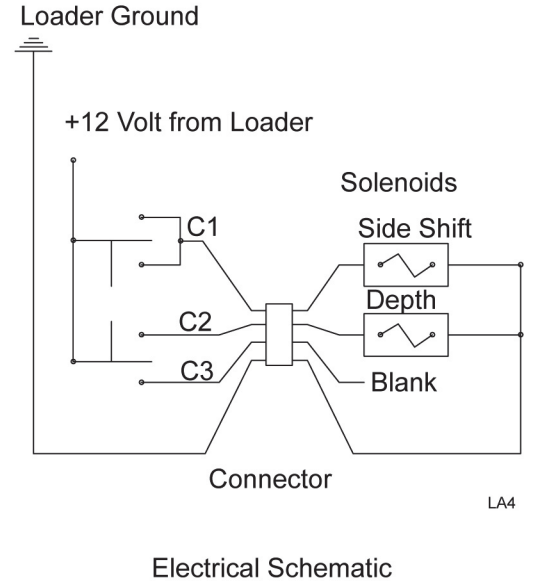
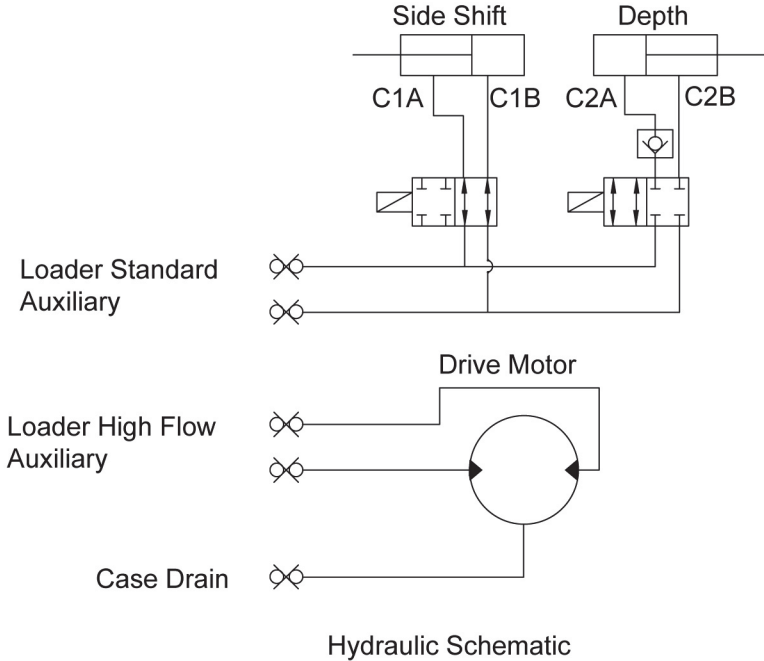
REF	PART	QTY	DESCRIPTION
1	C2201		Cylinder, 2 x 22 sideshift
2	C1401A1		Cylinder, 2 x 14 depth RW12
2	C2201A1		Cylinder, 2 x 22 depth RW18
3	F1289		Fitting 12OM x 12SLM ST
4	F1327		Fitting, 6OM x 6SLM 90°
5	F1407		Fitting, 6OM x 6SLM
6	F1465		Fitting, 10 OM x 6 SLM ST
7	F1293		Fitting, 12 OM x 12 SLM 90°
8	HC550		Motor, Sundstrand M46-3013 (S/N 62991202 and prior RW12/18) (S/N 300301102 and prior RW24)
8	HC550		Motor, Sauer-Danfoss M44 (S/N 300310403)
9	HC552		Valve assembly, 2-stage S/C

REF	PART	QTY	DESCRIPTION
10	H1416		Hose, #6 x 78" 6SLF x 6SLF R1
11	H1464		Hose, #12 x 61" 12SLF 90° x 12SLF 2400 PSI
12	H1609		Hose, #4 x 20" 6SLF 90° x 6SLF R1
13	H1610		Hose, #4 x 48" 12SLF 90° x 12SLF 2400 PSI
14	H1461		Hose, #4 x 67" 6SLF 90° x 6SLF R1
15	HC416		QD, 5/8" F Parker (FNH)
16	HC417		QD, 5/8" M Parker (FNH)
17	HC418		QD, 3/8" M Parker (FNH)
18	F1289		Fitting, 12OM x 12SLM ST (FNH)
19	F1448		Fitting, 8OM x 6SLM ST (FNH)

18 Parts

(Rev. 11/24/2023)
MRW (Rev. 11/24/2023)

HYDRAULIC / ELECTRICAL SCHEMATIC



BOLT TORQUE CHART

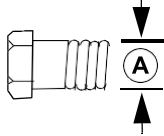
Always tighten hardware to these values unless a different torque value or tightening procedure is listed for a specific application.

Fasteners must always be replaced with the same grade as specified in the manual parts list.

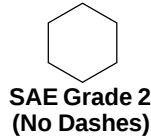
Always use the proper tool for tightening hardware: SAE for SAE hardware and Metric for metric hardware.

Make sure fastener threads are clean and you start thread engagement properly.

All torque values are given to specifications used on hardware defined by SAE J1701 MAR 99 & J1701M JUL 96.



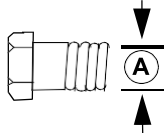
SAE SERIES TORQUE CHART



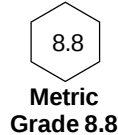
SAE Bolt Head
Identification



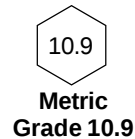
Ⓐ Diameter (Inches)	Wrench Size	MARKING ON HEAD					
		SAE 2		SAE 5		SAE 8	
		lbs-ft	N-m	lbs-ft	N-m	lbs-ft	N-m
1/4"	7/16"	6	8	10	13	14	18
5/16"	1/2"	12	17	19	26	27	37
3/8"	9/16"	23	31	35	47	49	67
7/16"	5/8"	36	48	55	75	78	106
1/2"	3/4"	55	75	85	115	120	163
9/16"	13/16"	78	106	121	164	171	232
5/8"	15/16"	110	149	170	230	240	325
3/4"	1-1/8"	192	261	297	403	420	569
7/8"	1-5/16"	306	416	474	642	669	907
1"	1-1/2"	467	634	722	979	1020	1383



METRIC SERIES TORQUE CHART

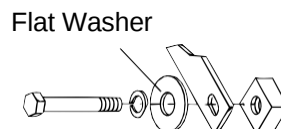
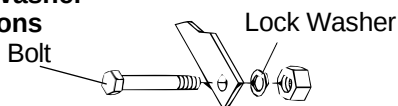


Metric Bolt Head
Identification



Ⓐ Diameter & Thread Pitch (Millimeters)	Wrench Size	COARSE THREAD				FINE THREAD				Ⓐ Diameter & Thread Pitch (Millimeters)
		MARKING ON HEAD				MARKING ON HEAD				
		Metric 8.8		Metric 10.9		Metric 8.8		Metric 10.9		
		N-m	lbs-ft	N-m	lbs-ft	N-m	lbs-ft	N-m	lbs-ft	
6 x 1.0	10 mm	8	6	11	8	8	6	11	8	6 x 1.0
8 x 1.25	13 mm	20	15	27	20	21	16	29	22	8 x 1.0
10 x 1.5	16 mm	39	29	54	40	41	30	57	42	10 x 1.25
12 x 1.75	18 mm	68	50	94	70	75	55	103	76	12 x 1.25
14 x 2.0	21 mm	109	80	151	111	118	87	163	120	14 x 1.5
16 x 2.0	24 mm	169	125	234	173	181	133	250	184	16 x 1.5
18 x 2.5	27 mm	234	172	323	239	263	194	363	268	18 x 1.5
20 x 2.5	30 mm	330	244	457	337	367	270	507	374	20 x 1.5
22 x 2.5	34 mm	451	332	623	460	495	365	684	505	22 x 1.5
24 x 3.0	36 mm	571	421	790	583	623	459	861	635	24 x 2.0
30 x 3.0	46 mm	1175	867	1626	1199	1258	928	1740	1283	30 x 2.0

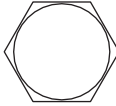
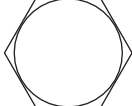
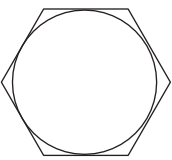
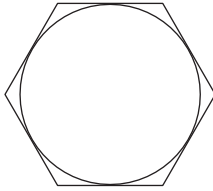
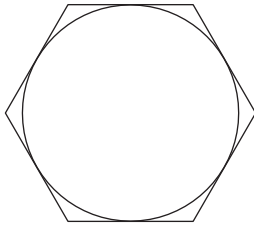
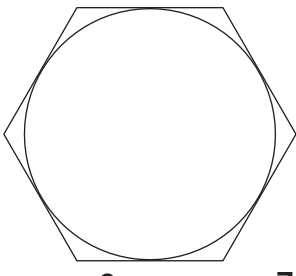
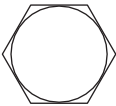
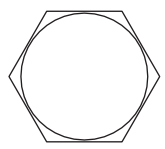
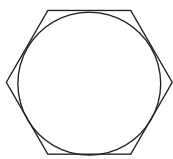
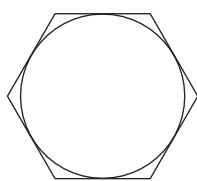
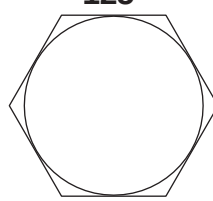
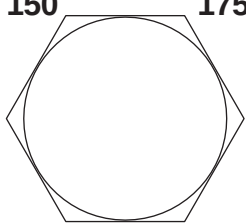
Typical Washer Installations



8/9/00

BOLT SIZE CHART

NOTE: Chart shows bolt thread sizes and corresponding head (wrench) sizes for standard SAE and metric bolts.

SAE Bolt Thread Sizes							
5/16	3/8	1/2	5/8	3/4	7/8		
							
IN	1	2	3	4	5	6	7
MM	25	50	75	100	125	150	175
							
Metric Bolt Thread Sizes							
8MM	10MM	12MM	14MM	16MM	18MM		

ABBREVIATIONS

AG.....Agriculture
ASABEAmerican Society of Agricultural & Biological Engineers (formerly ASAE)
ASAE..... American Society of Agricultural Engineers
ATF..... Automatic Transmission Fluid
BSPP..... British Standard Pipe Parallel
BSPTM..... British Standard Pipe Tapered Male
CV..... Constant Velocity
CCW..... Counter-Clockwise
CW..... Clockwise
F..... Female
FT Full Thread
GA..... Gauge
GR (5, etc.)..... Grade (5, etc.)
HHCS Hex Head Cap Screw
HT Heat-Treated
JIC Joint Industry Council 37° Degree Flare
LH Left Hand
LT..... Left
m..... Meter
mm..... Millimeter
M..... Male

MPa..... Mega Pascal
N..... Newton
NC National Coarse
NF..... National Fine
NPSM.....National Pipe Straight Mechanical
NPT National Pipe Tapered
NPT SWF National Pipe Tapered Swivel Female
ORBM O-Ring Boss - Male
P Pitch
PBY Power-Beyond
psi..... Pounds per Square Inch
PTO Power Take Off
QD Quick Disconnect
RH Right Hand
ROPS.....Roll-Over Protective Structure
RPMRevolutions Per Minute
RT..... Right
SAE Society of Automotive Engineers
UNC..... Unified Coarse
UNF..... Unified Fine
UNS..... Unified Special

QUICK COUPLER KITS

		High-Flow with Auxiliary		High-Flow with No Auxiliary		Low-Flow	
Make		QC Kit	Description	QC Kit	Description	QC Kit	Description
Bobcat		HC356	Flush Face	HC355	Flush Face	HC357	Flush Face
	Vintage					HC243 HC211	Poppet Ag Ball Valve
Case		1013825	Flush Face	HC212	Flush Face	HC279	Flush Face
	Vintage	HC278 HC209	Flush Face Flush Face & Ag Ball Valve			HC211	Ag Ball Valve
Cat		HC538	Flush Face	1014196	Flush Face	1014197	Flush Face
Daewoo		HC209	Flush Face	HC212	Flush Face	HC211	Ag Ball Valve
Gehl		HC398	Flush Face	1014195	Flush Face	HC400	Flush Face
	Vintage			HC305	Poppet & Ag Ball		
John Deere		1014198	Flush Face	1013826	Flush Face	HC310	Flush Face
Komatsu		1013834	Flush Face	1013833	Flush Face	1013835	Flush Face
New Holland		1014199	Flush Face	HC308	Flush Face	HC310	Flush Face
Scat Trak		HC537	Flush Face			HC243	Poppet

QUICK COUPLER KIT COMPONENTS

QC KIT	Includes	Style	Male/Female	Size	Hose End
HC209	HC193	Flush Face	Male	3/4	SAE #12 O-ring
	HC194	Flush Face	Female	3/4	SAE #12 O-ring
	HC195	Ag Ball	Female	1/2	1/2-14 NPT
	HC196	Ag Ball	Male	1/2	1/2-14 NPT
	HC197	Flush Face	Female	1/2	SAE #10 O-ring
HC211	HC195	Ag Ball	Female	1/2	1/2-14 NPT
	HC196	Ag Ball	Male	1/2	1/2-14 NPT
HC212	HC193	Flush Face	Male	3/4	SAE #12 O-ring
	HC194	Flush Face	Female	3/4	SAE #12 O-ring
	HC197	Flush Face	Female	1/2	SAE #10 O-ring
HC278	HC193	Flush Face	Male	3/4	SAE #12 O-ring
	HC194	Flush Face	Female	3/4	SAE #12 O-ring
	HC197	Flush Face	Female	1/2	SAE #10 O-ring
	HC201	Flush Face	Male	1/2	SAE #10 O-ring
HC279	HC197	Flush Face	Female	1/2	SAE #10 O-ring
	HC201	Flush Face	Male	1/2	SAE #10 O-ring

QUICK COUPLER KIT COMPONENTS

QC KIT	Includes	Style	Male/Female	Size	Hose End
HC308	HC416	Flush Face	Female	5/8	SAE #12 O-ring
	HC417	Flush Face	Male	5/8	SAE #12 O-ring
	HC418	Flush Face	Male	3/8	SAE #8 O-ring
HC310	HC414	Flush Face	Male	1/2	SAE #12 O-ring
	HC415	Flush Face	Female	1/2	SAE #12 O-ring
HC355	HC344	Flush Face	Male	12 mm	SAE #12 O-ring
	HC345	Flush Face	Female	12 mm	SAE #12 O-ring
	HC346	Flush Face	Female	9 mm	SAE #8 O-ring
HC356	HC342	Flush Face	Female	7 mm	SAE #6 O-ring
	HC343	Flush Face	Male	7 mm	SAE #6 O-ring
	HC344	Flush Face	Male	12 mm	SAE #12 O-ring
	HC345	Flush Face	Female	12 mm	SAE #12 O-ring
	HC346	Flush Face	Female	9 mm	SAE #8 O-ring
HC357	HC344	Flush Face	Male	12 mm	SAE #12 O-ring
	HC345	Flush Face	Female	12 mm	SAE #12 O-ring
HC398	HC344	Flush Face	Male	12 mm	SAE #12 O-ring
	HC345	Flush Face	Female	12 mm	SAE #12 O-ring
	HC346	Flush Face	Female	9 mm	SAE #8 O-ring
HC400	HC344	Flush Face	Male	12 mm	SAE #12 O-ring
	HC345	Flush Face	Female	12 mm	SAE #12 O-ring
HC537	HC415	Flush Face	Female	1/2	SAE #12 O-ring
	HC416	Flush Face	Female	5/8	SAE #12 O-ring
	HC417	Flush Face	Male	5/8	SAE #12 O-ring
	HC418	Flush Face	Male	3/8	SAE #8 O-ring
HC538	HC521	Flush Face	Female	16 mm	SAE #12 O-ring
	HC522	Flush Face	Male	16 mm	SAE #12 O-ring
	1532994	Flush Face	Female	3/4	SAE #12 O-ring
	1532995	Flush Face	Male	3/4	SAE #12 O-ring
	1532997	Flush Face	Female	1/2	SAE #8 O-ring
1013825	HC417	Flush Face	Male	5/8	SAE #12 O-ring
	HC418	Flush Face	Male	3/8	SAE #8 O-ring
	HC545	Flush Face	Female	5/8	SAE #12 O-ring
	HC546	Flush Face	Female	1/2	SAE #10 O-ring
	HC547	Flush Face	Male	1/2	SAE #10 O-ring
1013826	HC343	Flush Face	Male	7 mm	SAE #6 O-ring
	HC521	Flush Face	Female	16 mm	SAE #12 O-ring
	HC522	Flush Face	Male	16 mm	SAE #12 O-ring
1013833	HC415	Flush Face	Female	1/2	SAE #12 O-ring
	HC521	Flush Face	Female	16 mm	SAE #12 O-ring
	HC522	Flush Face	Male	16 mm	SAE #12 O-ring

QUICK COUPLER KIT COMPONENTS

QC KIT	Includes	Style	Male/Female	Size	Hose End
1013834	HC414	Flush Face	Male	1/2	SAE #12 O-ring
	HC415	Flush Face	Female	1/2	SAE #12 O-ring
	HC521	Flush Face	Female	16 mm	SAE #12 O-ring
	HC522	Flush Face	Male	16 mm	SAE #12 O-ring
1013835	46058	Flush Face	M/F Set	3/4	SAE #12 O-ring
1014195	HC344	Flush Face	Male	12 mm	SAE #12 O-ring
	HC345	Flush Face	Female	12 mm	SAE #12 O-ring
	HC346	Flush Face	Female	9 mm	SAE #8 O-ring
1014196	HC521	Flush Face	Female	16 mm	SAE #12 O-ring
	HC522	Flush Face	Male	16 mm	SAE #12 O-ring
	1532997	Flush Face	Female	1/2	SAE #8 O-ring
1014197	1532994	Flush Face	Female	3/4	SAE #12 O-ring
	1532997	Flush Face	Female	1/2	SAE #8 O-ring
1014198	HC343	Flush Face	Male	7 mm	SAE #6 O-ring
	HC414	Flush Face	Male	1/2	SAE #12 O-ring
	HC415	Flush Face	Female	1/2	SAE #12 O-ring
	HC521	Flush Face	Female	16 mm	SAE #12 O-ring
	HC522	Flush Face	Male	16 mm	SAE #12 O-ring
1014199	HC414	Flush Face	Male	1/2	SAE #12 O-ring
	HC415	Flush Face	Female	1/2	SAE #12 O-ring
	HC416	Flush Face	Female	5/8	SAE #12 O-ring
	HC417	Flush Face	Male	5/8	SAE #12 O-ring
	HC418	Flush Face	Male	3/8	SAE #8 O-ring

WARRANTY

WARRANTY

WainRoy Construction and Mining Attachments

Please Enter the Information Below and Save it For Future Reference.

Date of Purchase: _____

From (Dealer): _____

Model Number: _____

Serial Number: _____

EPIROC Drilling Tools, LLC; dba: WainRoy construction attachments, warrants this product to be free from defects in material and workmanship. Except as otherwise set forth below, the duration of this Warranty shall be for TWELVE (12) MONTHS COMMENCING ON THE INSTALLATION OF THE PRODUCTS TO THE ORIGINAL PURCHASER or FIFTEEN (15) MONTHS FROM THE ORIGINAL INVOICE DATE or 2000 HOURS OF SERVICE, whichever occurs first. Proof of the in-service date must be provided for claims involving product that originally shipped more than twelve (12) months prior to the date of the claim.

Under no circumstances will this Warranty apply if the product, in the good faith opinion of WainRoy construction attachments, has been subjected to improper operations, improper maintenance, misuse, or an accident. This Warranty does not apply if the product has been materially modified or repaired by someone other than WainRoy, a WainRoy authorized dealer or distributor, and/or WainRoy authorized service center. This Warranty does not cover normal wear or tear, or normal maintenance items. This warranty also does not cover repairs made with parts other than those obtainable through WainRoy.

This Warranty is extended solely to the original purchaser of the product. Should such original purchaser sell or otherwise transfer this product to a third party, this Warranty does not transfer to the third-party purchaser in any way. There are no third-party beneficiaries of this Warranty.

WainRoy makes no warranty, express or implied, with respect to engines, batteries, tires, or other parts or accessories not manufactured by WainRoy. Warranties for these items, if any, are provided separately by their respective manufacturers.

WainRoy's obligation under this Warranty is limited to, at WainRoy's option, the repair or replacement, free of charge, of the product if WainRoy, in its sole discretion, deems it to be defective or in noncompliance with this Warranty. The product must be returned to WainRoy with proof of purchase within thirty (30) days after such defect or noncompliance is discovered or should have been discovered, routed through the dealer and distributor from whom the purchase was made, transportation charges prepaid. WainRoy shall complete such repair or replacement within a reasonable time after WainRoy receives the product. THERE ARE NO OTHER REMEDIES UNDER THIS WARRANTY. THE REMEDY OF REPAIR OR REPLACEMENT IS THE SOLE AND EXCLUSIVE REMEDY UNDER THIS WARRANTY.

THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE OF THIS WARRANTY. WainRoy MAKES NO OTHER WARRANTY, EXPRESS OR IMPLIED, AND WainRoy SPECIFICALLY DISCLAIMS ANY IMPLIED WARRANTY OF MERCHANTABILITY AND/OR ANY IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE.

WainRoy shall not be liable for any incidental or consequential losses, damages or expenses, arising directly or indirectly from the product, whether such claim is based upon breach of contract, breach of warranty, negligence, strict liability in tort, or any other legal theory. Without limiting the generality of the foregoing, WainRoy specifically disclaims any damages relating to (i) lost profits, business, revenue, or goodwill; (ii) any expense or loss incurred for labor, supplies, substitute machinery, or rental; or (iii) any other type of damage to property or economic loss.

This Warranty is subject to any existing conditions of supply, which may directly affect WainRoy's ability to obtain materials or manufacture replacement parts.

No agent, representative, dealer, distributor, service person, or employee of any company, including without limitation, WainRoy, its authorized dealers, distributors, and service centers, is authorized to alter, modify or enlarge this Warranty.

Answers to any questions regarding Warranty service and locations may be obtained by contacting:

Epiroc Drilling Tools LLC: doing business as WainRoy
1962 Queenland Dr.
Mosinee, WI 54455
Tel: 800-848-3447

The logo for WainRoy, featuring the brand name in a stylized, italicized, red font.

Examples of Common, Non-Covered Claims

1. The owner and operator are responsible for maintaining weld integrity on attachments subject to weld erosion from ongoing contact with soils, rocks, and other materials. Different materials have differing abrasive characteristics that will erode the structural welds of ground-engaging attachments at differing rates. Structural failures may occur as a result of excessive weld erosion. The owner and operator are responsible for maintaining necessary weld sizes and re-welding eroded welds with industry-approved procedures. WainRoy will not accept warranty claims for weld erosion or structural failures of the attachment as a result of weld erosion.
2. Attachments are used extensively in ground-engaging operations and, as a result, the teeth, tooth holders, cutting edges, bucket edges, ripper shanks, and other portions of the attachment are subject to abrasion and resulting wear. WainRoy will not accept warranty claims for wear of components or wear of areas of the attachment subject to ground-engaging wear.
3. The owner and operator are responsible for examining the attachment for any weld or structural cracking. Any such cracking caused by a defect in materials or workmanship by WainRoy will be covered under the WainRoy Warranty Policy. If the owner or operator continues to operate the attachment after weld cracking or structural cracking is visible or should have reasonably been visible, and as a result of continued operation, additional damage to the attachment results, WainRoy will not accept responsibility for the additional damage caused to other welds or to the attachment structure.
4. Materially modifying WainRoy attachments may result in premature failures of the attachment. WainRoy will not accept warranty claims on attachments that have been misapplied. For instance, using a general purpose excavator bucket in an application requiring a heavy or severe duty bucket or using the excavator bucket as a "jack hammer" to break concrete or as a "tamper" to drive rock or beams are considered misapplications.