

Operator's Manual & Parts List

Pro-Roll Series

Contour Turf Roller

Serial No. 18PR1001 and up



Pro-Roll 10



Pro-Roll 14

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ISSUE DATE: March, 2018
P.N. 120594

PROGRESSIVE
TURF EQUIPMENT INC.

The Better Built Choice.™

www.progressiveturfequip.com

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Si usted No Lee Ingles, Pida Ayuda a Alguien Que Se Lo Lea
Para Que le Traduzca Las Medidas de Seguridad

INTRODUCTION

Thank you for purchasing a Pro-Roll series roller. This product is designed and manufactured to allow safe and productive maintenance of contoured areas. A well-maintained machine will provide years of reliable service.

FOREWORD

Keep this manual with the roller at all times. This manual is intended as a guide to the safe use and maintenance of the machine, so before you operate this machine, study this manual carefully.

Replace this manual immediately if it becomes lost.

The Pro-Roll series rollers are contour turf grass rollers with a 10 or 14 foot width, and are designed to be pulled by either a suitably sized utility vehicle or utility tractor. These versatile rollers have the ability to maintain both contoured and flat terrain that requires a high quality, finished appearance. Shock absorbers on each roller arm control bounce as the Pro-Roll follows changing ground contours.

Features:

- Five or Seven independent floating rollers
- 10 or 14 foot rolling width with all rollers down or 6 foot width with the outer rollers raised
- The Pro-Roll series features the exclusive Pro Lift-N-Turn™ feature which allows the rollers to be raised for navigating tight turns without scuffing the turf.
- Automatic mechanical locks for transport

Applications:

- Golf course fairways, roughs and bunker surrounds
- Corporate and industrial campuses
- Park lands and recreational areas & sports venues
- Landscaped venues

OSHA Training Requirements (USA)

The following training requirements have been taken from Title 29, Code of Federal Regulations Part 1928.57 (a)(6). www.osha.gov

Operator Instructions: At the time of initial assignment and at least annually thereafter, the employer shall instruct every employee in the safe operation and servicing of all covered equipment with which he is or will be involved, including at least the following safe operating practices.

In other jurisdictions:

It is good practice, following the initial instruction and at least annually thereafter, that the employer instruct every employee in the safe operation and servicing of all covered equipment with which he is or will be involved, including at least the following safe operating practices.

ITEMS INCLUDED WITH PRO-ROLL SERIES ROLLER

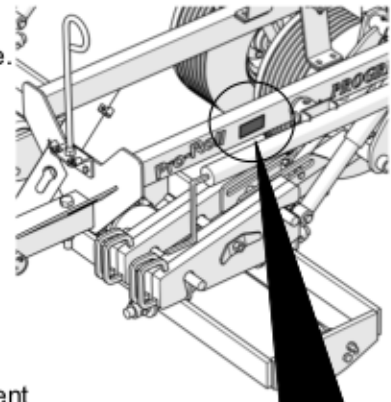
Pro-Roll Operator's Manual & Parts List

SERIAL NUMBER LOCATION

The serial number plate for the machine is located on the left-hand front frame.

For quick reference, record the following information:

Model: _____
Serial Number: _____
Date purchased: _____



PROGRESSIVE TURF EQUIPMENT INC. 137 West William St., Seaforth Ontario Phone: 519-527-1080 Fax: 519-527-2275 Website: www.progressiveturfequip.com	
Product:	
MODEL:	S.N. _____
Made in Canada	

REPLACEMENT PARTS INFORMATION

Use only Genuine Original Equipment Manufacturers (O.E.M.) replacement parts. The use of "will fit" parts may reduce machine performance, void machine warranties and present a safety hazard. Use only Genuine OEM replacement parts.

UNAUTHORIZED MODIFICATION

Modifications to the original design of the Pro-Roll series roller, including the use of unauthorized accessories or non-genuine OEM parts, may affect the reliability of the machine or make it unstable or unsafe to operate and perform as originally designed and intended. Persons or organizations that make unapproved modifications (including operation without provided guards and shields) assume all liability arising from or related to the modification including any adverse affect on the machine.

No modification can be made to the original design or assembly of the Pro-Roll series roller (including any and all attachments, safety or control devices) without the prior written consent of the Progressive Turf Equipment Inc.'s Engineering Manager (see contact information below). Progressive Turf Equipment Inc. retains the right to reject all claims which arise from or are related to unauthorized modifications.

Modifications are officially approved if at least one of the following conditions is met:

- i. The attachment, accessory or part is distributed by Progressive Turf Equipment Inc. and is intended for a Pro-Roll series roller application and installed in an approved manner as described in Progressive Turf Equipment Inc.'s provided instructions; or
- ii. The modification has been approved in writing by the Progressive Turf Equipment Inc.'s Engineering Manager.



No other entity is authorized by Progressive Turf Equipment Inc. to provide such approval.

MISUSE OF EQUIPMENT

It is incumbent upon the user, owner and selling dealer of this equipment along with their respective employees to warn and discourage users about the misuse of the equipment whenever knowledge of misuse becomes known, whether the act has, is or could occur. Such acts include, but not limited to: riding upon, use of non-OEM parts, operation on unstable or dangerous terrain, operating in explosive or fire-hazard areas, modifications that alter the original machine specifications or use other than originally intended, etc.

NOTIFICATION OF UNAUTHORIZED MODIFICATION OR MISUSE

If any person, employee, agent, dealer or distributor becomes aware of any Unauthorized Modification or Misuse of a Pro-Roll series roller, either past or intended, it is the responsibility of that person to ensure that Progressive Turf Equipment Inc.'s Engineering Manager is notified of the occurrence promptly. That person shall provide; the facts of the occurrence, location, machine serial number, name and contact information of the persons involved.

Send correspondence regarding Unauthorized Modification or Misuse to:

Progressive Turf Equipment Inc.
Box 940, 137 West William St.
Seaforth, Ontario, N0K 1W0
Canada
Attn: Engineering Manager

PRODUCT DESIGN

The Pro-Roll series roller has been designed and produced using generally acceptable manufacturing processes as is standard in the industry for the type of equipment that is similar to the machine. As such, the useful life of the machine is ten (10) years from the date of manufacture.

The official language of the manufacturer is English.

No responsibility is assumed for translations in other languages, which do not correspond to the original meaning.

Under our policy of continuous improvement, we reserve the right to change specifications and designs without prior notice. The illustrations shown do not necessarily represent the standard version of product offered by Progressive Turf Equipment Inc.

SPECIFICATIONS

Tow Vehicle Requirement

Size.....	1800 lb (minimum) @ 10mph*
Maximum Hydraulic Pressure	3000 psi
Minimum Required Hydraulic Flow	2 gpm

Machine Specifications

	<u>Pro-Roll 10</u>	<u>Pro-Roll 14</u>
Rolling Width (ft)	10	14
Roller Units		
Number of Roller Units	5	7
Suspension (per roller unit)	4-way floatation /w shock absorbers	
Roller Construction	6 in dia. x 26 in wide, 3/16 in. wall thickness	
Roller Bearings	(2) Flange Bearings /w Ductile Housings	
Roller Floatation	Left & Right Rotation +/- 10° Vertical Movement +/-6 in	
Compaction / Ballast		
Ground Pressure	Without ballast.....	5.8 psi
	With Ballast (4 Weights).....	9.7 psi
Removable Ballast	Individual "suitcase" style weights 4 x 30 lb / roller (Up to 120lb total / roller)	
Turning Radius	0-16 in unrolled circle**	
Hitch	2" Ball Coupler (Standard) Full Floating Draw Bar Clevis (Option)	
Transport Tires	(4) Heavy Duty 18.5 x 8.5 – 8, 4 ply, 5 bolt	
Productivity (acres/hr)	4 mph	4.4..... 6.8
	6 mph	7.3..... 10.2
	8 mph	12.1..... 17
Overall Width	10ft. 8in.	14ft. 7in.
Transport Dimensions	Width	7ft. 7in.
	Height	4ft. 7in. 6ft. 7in.
	Length	9ft. 9in.
Weight	Machine (max)	2100 lb 2750 lb

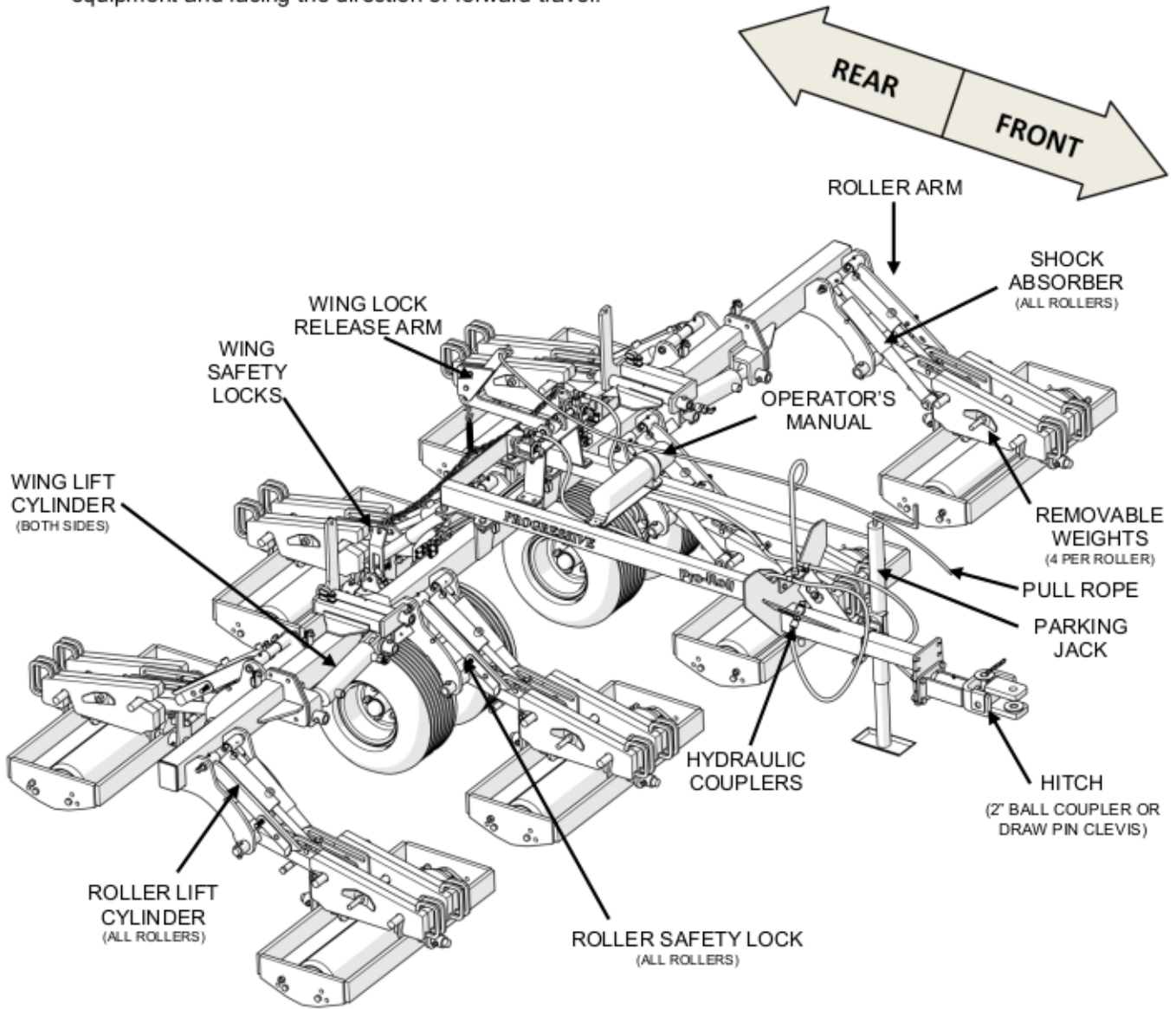
*) Always consult tow vehicle operator's manual for manufacturer's recommended maximum towed attachment weight.

***) Dependent on vehicle hitch arrangement

COMPONENT IDENTIFICATION

NOTES

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



**PRO-ROLL 14
SHOWN**

SAFETY RULES

All towed machines are potentially dangerous; this roller has been designed to minimize the safety risks to the operator, bystanders and property. This section of the Operator's Manual details a number of safety rules pertaining to the operation and maintenance of Progressive Turf Equipment rollers. In order to minimize risks and promote safety at all times, these rules must always be followed and obeyed.

Further safety rules and warning texts are given within the respective sections of this manual.

IMPORTANT! - When it comes to safety, nothing will ever replace a careful operator.

It is imperative that the operator and safety personnel read and understand all of the safety information in this manual before proceeding. Failure to follow the instructions or heed the warnings could result in injury or death.

Proper care is your responsibility.

The manufacturer cannot anticipate every possible circumstance that might involve a hazard. The hazard alerts in this publication and on the product, are therefore not all inclusive. If a tool, procedure, work method, or operating technique not specifically recommended by the manufacturer is used, it is your responsibility to ensure that it is safe for you and others. You should also ensure the machine will not be damaged or made unsafe by the operation, maintenance, or repair procedures you choose. Modifications or adaptations to the machine are not allowed.

Various jurisdictions have specific requirements for work zone safety. Know and adhere to your local requirements. Treat the instructions in this manual as minimum requirements for safe operation.

SAFETY ALERT SYMBOL

This symbol appears at various points in the manual together with a signal word and warning text. It means – Be alert! Your safety is involved. This symbol is used throughout the manual to call attention to areas in which carelessness or failure to follow specific procedures may result in personal injury or component damage / malfunction or both.

HAZARD SERIOUSNESS LEVEL

The following signal words are found throughout the manual together with the safety alert symbol to indicate the seriousness level of identified hazards. Their selection is based on the consequence of human interaction with a hazard.

DANGER! – Hazards or unsafe practices which WILL result in severe personal injury or death.

WARNING! – Hazards or unsafe practices that COULD result in severe personal injury or death.

CAUTION! – Hazards or unsafe practices that COULD result in minor personal injury or product or property damage



 **DANGER!**

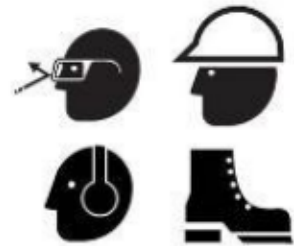
 **WARNING!**

 **CAUTION!**

GENERAL SAFETY PRECAUTIONS

WARNING!

- The operator of this machine must have sufficient knowledge and instructions in the care and operation of this roller and the power unit being used before he / she uses the machine. Do not allow unauthorized persons or children to operate the machine. Do not allow riders on the machine.
- It is the obligation of the operator to make sure that all guards and shields are in place on the machine. Safety decals must be in place and be readable – accidents may otherwise occur. Contact your dealer or the manufacturer for replacement manuals or decals.
- Never use a machine that does not have an operator's manual available. Learn and understand the safety signs and symbols on the machine and the operator instructions before you begin to use the machine.
- Wear personal protective equipment. Know and use the protective equipment that is to be worn when operating or servicing the machine. Hard hats, protective glasses and face shields, protective shoes, gloves, reflector type vests, and ear protection are types of equipment that may be required on your worksite. Prolonged exposure to loud noise can cause hearing damage.
- Never operate a roller while under the influence of drugs or alcohol. These make reflexes slow and put you and others in grave danger. Always make sure you have full concentration while rolling.
- Adhere strictly to all regulations at the worksite pertaining to the operation of this equipment.
- Be prepared for emergencies. Have a first aid kit, fire extinguisher and emergency contact information available at the work site.



POWER UNIT SAFETY

WARNING!

- The operator must have sufficient knowledge in the care and operation of the power unit (tow vehicle) before connecting power unit to roller. Read and understand power unit operator's manual before connecting roller.
- Power unit must be equipped with ROPS and seat belt. Foldable ROPS must be secured in the upright position. Follow recommendations of power unit manufacturer. Seat belt must be worn at all times.

OPERATING EQUIPMENT SAFELY

WARNING!

- Never allow persons to stand between power unit and roller while backing power unit up to hitch the roller.
- Before hitching roller to power unit, place transmission in neutral, set park brake, and turn engine off. Remove the ignition key.
- Tall grass can hide obstacles. Carefully walk the entire area to be rolled beforehand. Look for debris, rocks, tree limbs etc. that will damage the roller. Identify objects that cannot be removed.
- Ensure that no bystanders are within 10 ft of roller when wing transport locks are released.
- Keep all bystanders well away from the machine when it is operating. Always maintain a safe operating distance from personnel, other equipment, or vehicles.
- Never tamper with safety devices or operate the roller with them removed. Check proper operation regularly.
- Always place all controls in neutral, turn power unit off, set parking brake, and remove key before dismounting, for any reason.
- Turn power unit off upon striking any object. Inspect roller and repair any damage before continuing.
- Use extreme care when operating on uneven terrain.
- Reduce speed when operating on slopes during wet conditions, especially when making sharp turns.
- Do not use the roller in limited visibility (e.g. at dusk, in fog, heavy rain etc.). Roll only in daylight or good artificial light.
- Ensure wing and roller safety locks are securely engaged before transporting roller with wings in raised position.
- Roller is not intended for transport on public roadways.
- Before disconnecting from power unit, always lower equipment to the ground, place controls in neutral, set park brake, turn engine off, and wait for all moving parts to stop. Relieve hydraulic pressure per power unit manufacturer's instructions.
- Ensure roller tongue jack is securely fastened to roller frame with supplied pin before removing hitch draw pin.



MAINTENANCE SAFETY PRECAUTIONS

WARNING!

- Never make adjustments or repairs with the engine running. Always engage parking brake, turn engine off, lower wings to cutting position and relieve hydraulic pressure before performing any maintenance.
- Observe and perform proper lock-out procedures for power unit if attached to roller during service.

- Keep nuts and bolts tight, at the proper torque. Check that all cotter pins are properly installed. Keep equipment in good condition.
- Keep roller free of grass, leaves, or other debris build-up.
- Never work on raised roller units without safety locks in place.
- Periodically check condition of safety devices, guards, and deflectors. Replace only with manufacturer's recommended parts.
- Check to make sure hydraulic hoses are not worn or damaged, and are routed to avoid chafing.
- Immediately replace any hydraulic hose that shows signs of swelling, wear, leaks or damage so it does not burst.
- Do not use your hand to check for hydraulic oil leaks. Use a piece of cardboard instead. Hydraulic fluid escaping under pressure can penetrate the skin causing serious injury. If skin penetration occurs, seek medical attention immediately. Relieve all pressure before disconnecting hoses.
- Do not bend or strike hydraulic lines, tubes or hoses, or reinstall them in a bent or damaged condition.
- Inspect tires daily for wear or damage. Check tire pressures weekly with an accurate pressure gauge. Do not inflate tires beyond 35 psi.
- Mounting and dismounting tires from rims can be dangerous and should be performed by trained personnel using correct tools, equipment and procedures.
- Do not support the machine on cinder blocks, hollow tiles or other members that may fail under continuous load.
- Never perform service on a machine that is supported solely by a jack. Always ensure proper blocking is placed to support load during service.



WELDING / GRINDING WORK PRECAUTIONS

IMPORTANT! A fire extinguisher should be easily accessible during all welding work.

Welding repairs are to be performed by a trained welder with proper service instructions. Know the material to be welded and select the correct welding procedure and materials (electrodes, rods, wire) that will provide a weld metal strength equivalent to the parent material.

Move the machine to a clean, safe area before welding, grinding or using a cutting torch on it. This type of work should only be done in a clean area and not in places that contain combustible liquids, such as fuel tanks, hydraulic pipes or similar.

Connect arc welder ground as close as possible to work area.

Work with extra care when welding, grinding or torch cutting near flammable objects.

WORKING ON PAINTED SURFACES

Heated paint gives off poisonous gases. Therefore, paint must be removed from an area with a radius of at least 4 in (10 cm) before carrying out welding, grinding, or gas cutting. In addition to the health hazard, the weld will be of inferior quality and strength if the paint is not removed.

Methods and precautionary measures when removing paint:

Blasting – use respiratory protective equipment and protective goggles.

Paint remover or other chemicals – use a portable air extractor, respiratory protective equipment, and protective gloves.

Grinding – use a portable air extractor, respiratory protective equipment, and protective gloves and goggles.



WORKING ON GALVANIZED / PLATED SURFACES

Only qualified welders should attempt a weld repair on galvanized or plated components. Proper pre-welding surface preparation is required.

Always ensure proper ventilation, wear proper respiratory protective equipment and avoid direct contact with smoke emitted from welding process.

HYDRAULIC SYSTEM SERVICE PRECAUTIONS



WARNING!

Risk of personal injury! Wear safety glasses and use protective gloves.

Relieve all trapped pressure before performing any service to the hydraulic system. Pressure can be maintained in the hydraulic circuits long after the power source and pump have been shut down.

When servicing any hydraulic component of the roller ensure that all rollers and wings are in their lowered position and all hydraulic pressure is relieved.

Tighten all connections before applying pressure.

It is important that each person who comes in contact with the machine be alert to any faults.

Follow these basic precautions:

- Never adjust a pressure relief valve or other pressure-limiting device to a higher pressure than specified.
- Check to make sure hydraulic hoses are not worn or damaged, and are routed to avoid chafing.
- When connecting roller to tow vehicle ensure hydraulic hoses have sufficient slack for negotiating turns and uneven terrain.
- Immediately replace any hydraulic hose that shows signs of swelling, wear, leaks or damage so it does not burst.
- Do not use your hand to check for hydraulic oil leaks. Use a piece of cardboard instead. Hydraulic fluid escaping under pressure can penetrate the skin causing serious injury. If skin penetration occurs, seek medical attention immediately. Relieve all pressure before disconnecting hoses.



- Do not bend or strike high-pressure lines, tubes or hoses, or reinstall them in a bent or damaged condition.

HYDRAULIC OIL HANDLING PRECAUTIONS

Oils can irritate and damage the eyes, throat, and sensitive skin. Avoid contact.

Petroleum based oils are hazardous to the environment. Take special care not to spill or discharge these fluids. Use approved containers and methods to handle and dispose of them.

Use an authorized disposal and recycling company.



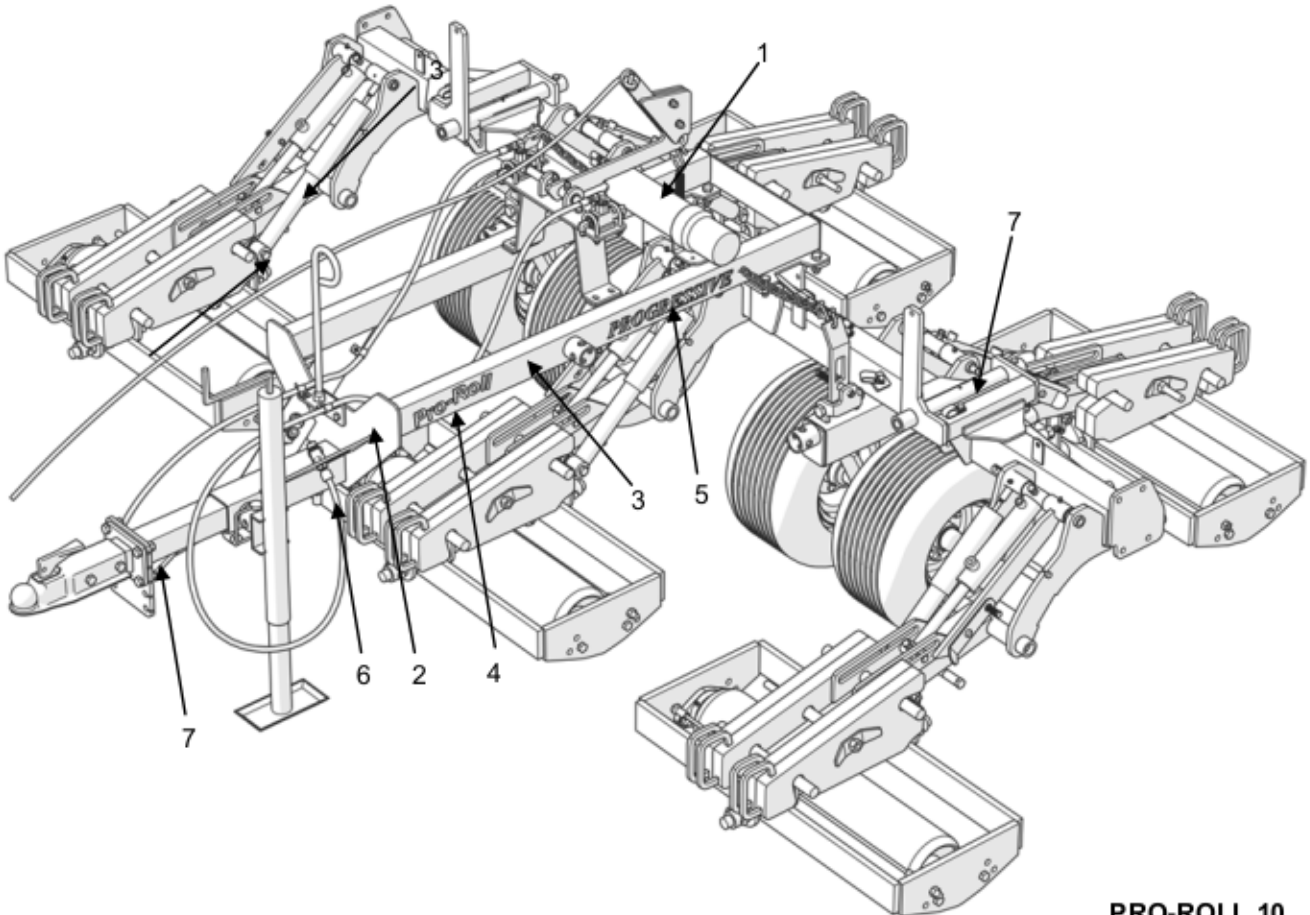
SAFETY DECALS



If decals become faded, damaged, or lost, replace immediately. Order Decal Kit, Part # 670150.

No	Description	Qty
1	DANGER – READ MANUAL	1
2	COMPANY NAME	1
3	SERIAL PLATE	
4	ROLLER MODEL	1

No	Description	Qty
5	PROGRESSIVE DECAL	1
6	WING BALL VALVE OPERATION	2
7	TIE-DOWN PROVISION	3
8	GREASE POINT	



**PRO-ROLL 10
SHOWN**

DECAL LISTING



No. 1 - 209172



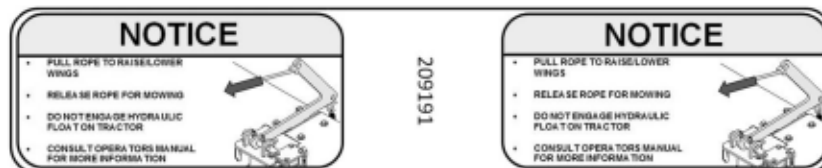
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Pro-Roll

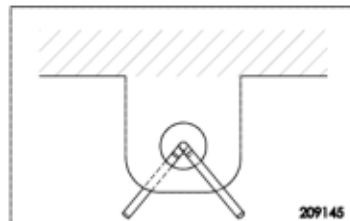
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PROGRESSIVE

No. 5 - 209103



No. 6 - 209191



No. 7 - 209145



No. 8 - 521014

ASSEMBLY INSTRUCTIONS

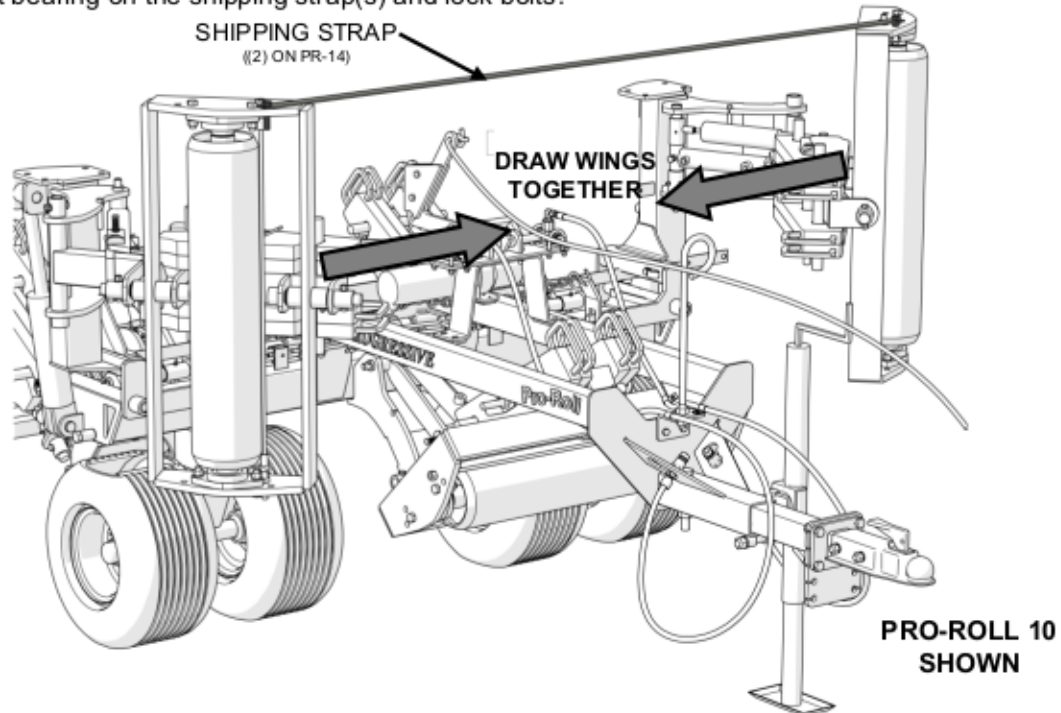


CAUTION!

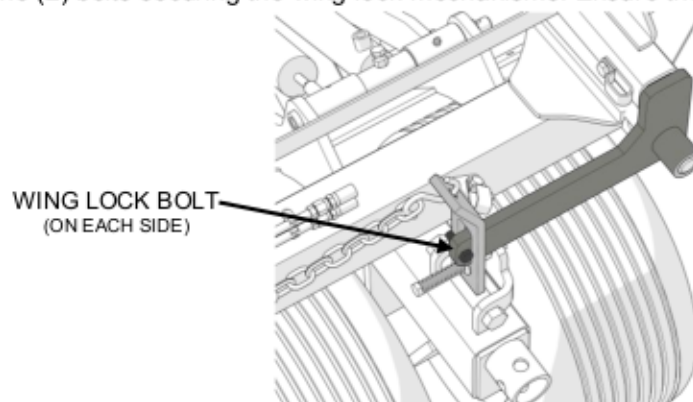
Roller assembly must be completed by a qualified technician using safe work practices and proper tools.

The Pro-Roll series roller is shipped complete with only a few shipping related items requiring removal before use.

1. Using a ratcheting strap or come-along device, draw the (2) wings together to relieve any weight bearing on the shipping strap(s) and lock bolts.



2. Remove the shipping strap(s) connecting the wing rollers. The straps and mounting hardware are not required for use of the machine.
3. Remove the (2) bolts securing the wing lock mechanisms. Ensure the locks remain engaged.



4. Carefully release the ratchet device. The wings may move outward against the locks due to hydraulic pressure loss during transport.

TRANSPORT TIRES

1. Check air pressure in the tires and adjust according to specifications

Transport Tires – 30 PSI

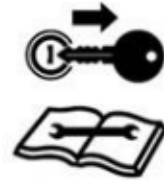
The roller is now ready for pre-delivery inspection and lubrication prior to first use.

ROLLER SETUP FOR OPERATION

WARNING!

Always refer to the tow vehicle operator's manual for specific detailed information regarding operation of equipment.

Always ensure the tow vehicle controls are in the park position, the engine is turned off, the parking brake is engaged and hydraulic pressure to the tow vehicle remote connectors has been relieved when working around tow vehicle during setup procedures.



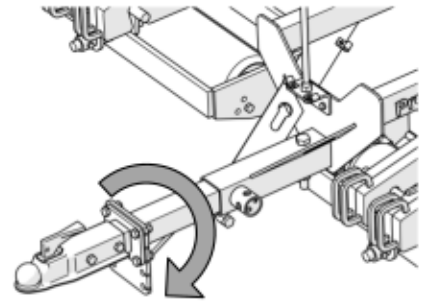
HITCH ADJUSTMENT

For optimum performance of this machine on contours, it is important that the hitch is adjusted so that the tongue is level with the ground when the machine is on a flat surface.

Both the ball coupler & draw pin hitches are adjustable in height to accommodate this.

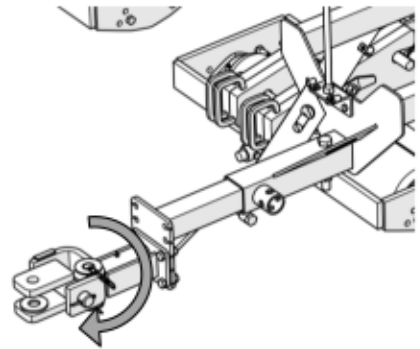
Ball Coupler

- 1) There are (2) available adjustments on the hitch and draw bar. The coupler can be bolted in various positions on the draw bar allowing 3 inches of adjustment in 1.5 inch increment. The draw bar can be flipped to afford an extra 3 inches of adjustment.

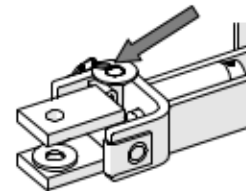


Draw Pin Hitch

- 1) In addition to the 6 inches of adjustment described for the Ball Coupler (above), the draw pin hitch can be adjusted a further 1.5 inches by flipping the pivot mount which bolts to the draw bar.



- 2) To assist in connecting the Pro Roll to the tow vehicle, the provided hitch pin can be temporarily placed in the hitch swivel to hold it level while aligning the hitch. Do not operate roller with the hitch pin in the hitch swivel.



HITCHING THE ROLLER TO THE TOW VEHICLE

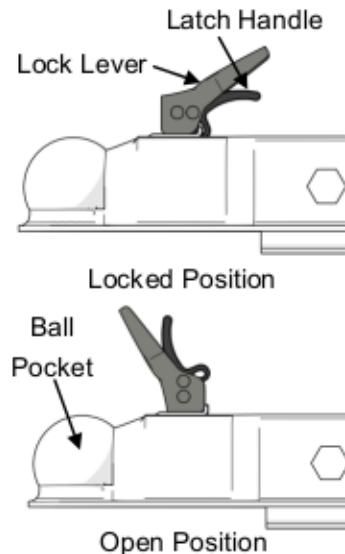
WARNING!

Crushing Hazard between tow vehicle and roller. Never allow anyone to stand between tow vehicle and roller while backing-up to the roller



Ball Coupler

- 1) Open coupler lock by pulling latch handle and raising lock lever. With the lock lever in the vertical position the lock will remain open.
- 2) Position tow vehicle such that the hitch ball is directly below the ball coupler on the roller.
- 3) Lower hitch using parking jack until hitch ball is fully seated in the ball pocket.
- 4) Move lock lever down in to the locked position. Ensure ball lock is engaged (ball clamp is below ball).

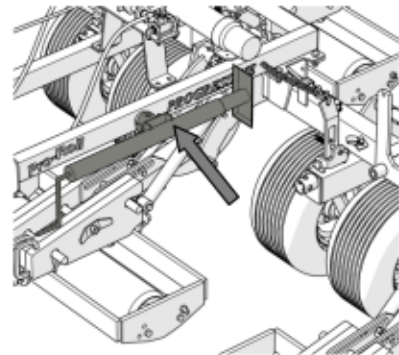


Draw Pin Hitch

- 5) With the draw pin placed in the hitch clevis to prevent the clevis from dropping, back the tow vehicle to the hitch clevis.
- 6) When the draw pin holes are aligned, place the tow vehicle controls in the park position, shut the engine off and engage the parking brake.
- 7) Remove draw pin from the hitch clevis and place in the draw pin hole connecting the roller to the tow vehicle.
- 8) Raise parking jack fully and place in storage position.

STOWING THE JACK

The jack cannot be stowed in the parked position while rolling. A second storage position is provided along the frame of the roller to avoid damage to the jack while rolling (shown at right).



CONNECTING THE HYDRAULICS

- 1) Ensure the tow vehicle controls are in the park position, the engine is turned off, the parking brake is engaged and hydraulic pressure to the tow vehicle remote connectors has been relieved per the tow vehicle operator's manual instructions.
- 2) When connecting the hydraulic couplers to the tow vehicle, be sure that both ends are clean. Dirt in the hydraulic system can block the orifice in the cylinder and cause premature wear of hydraulic components on the roller and tow vehicle.
- 3) Ensure the hoses are free to move, between the tow vehicle and roller. During operation of the roller the distance between the tow vehicle and roller will change while going up and down hills or during turns.

WARNING!

Hydraulic fluid escaping under pressure can penetrate the skin causing serious injury. If skin penetration occurs, seek medical attention immediately.

CONNECTING THE PULL ROPE

The Pro-Roll series roller is equipped with a nylon pull rope that is connected to the wing roller release mechanism, used for locking the two outside wings into transport position.

Connect it to the tow vehicle in a position that is easily accessible to the operator and will release easily if the Pro-Roll should ever become disconnected. Ensure there is sufficient slack between the tow vehicle and roller to allow for proper maneuvering of machine without rope becoming entangled.

SAFETY LOCKS

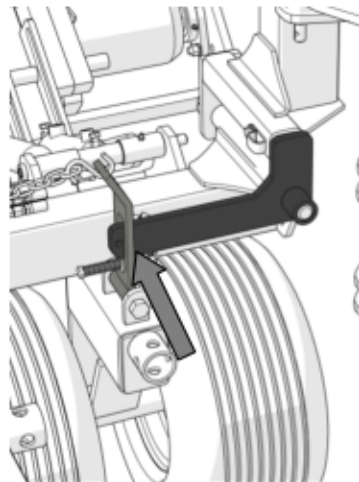
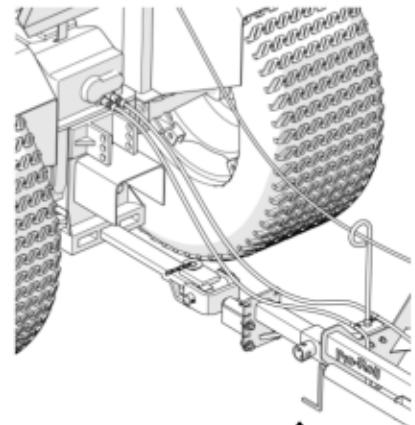
Safety locks are provided on the wings as well as each individual roller to prevent each from lowering in the event of a failure in the hydraulic system.

WING SAFETY LOCK

(2) spring activated wing safety locks are located at the pivot on the main frame, one for each wing. The lock is engaged automatically when the wings are fully raised.

In order to lower the wings:

- 1) Fully raise the wings (they may have settled against the lock during transport or storage).
- 2) From the operator station in the tow vehicle, pull and hold the pull rope to disengage the locks.
- 3) Lower the wings to the working position using the tow vehicle hydraulic control (keeping rope pulled).
- 4) Release the pull rope when the wings are fully lowered.

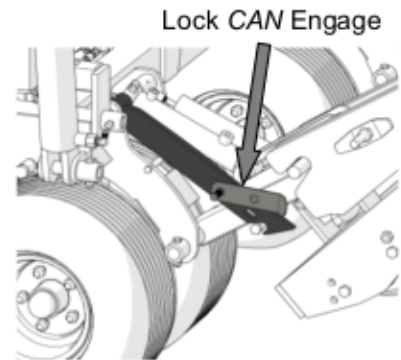


ROLLER ARM SAFETY LOCK

Each roller arm is provided with individual safety locks. These locks have (2) modes of operation:

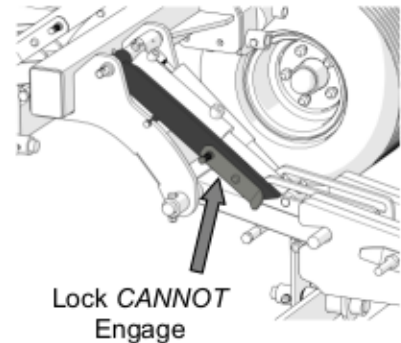
TRANSPORT / SERVICE POSITION

- 1) Ensure the tow vehicle controls are in the park position, the engine is turned off, the parking brake is engaged.
- 2) On each roller, pull the silver coloured rolling position tab and rotate upward until the round pin is above the top of the lock bar.
- 3) When all roller locks have the tab in this position, fully raise roller rollers.
- 4) Locking mechanism will engage automatically preventing rollers from lowering.



ROLLING POSITION

- 1) Fully raise rollers using tow vehicle hydraulics (roller cylinders fully retracted)
- 2) Ensure the tow vehicle controls are in the park position, the engine is turned off, the parking brake is engaged
- 3) On each roller, lift the lock bar, pull the silver coloured rolling position tab and rotate downward until the round pin is engaged in the corresponding hole in the lock bar. (The tab in this position prevents the roller safety lock from engaging during rolling)
- 4) The roller is now ready for rolling operations.



WARNING!

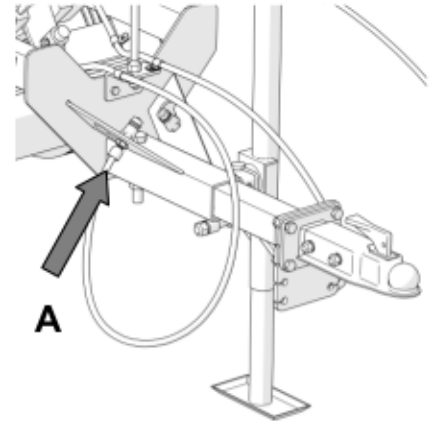
Ensure rolling position tabs are in the Transport / Service position and locks are properly engaged before attempting to transport or service roller.



DISCONNECTING THE ROLLER

The roller can be stored with the wings/rollers in the raised or lowered position. If the wings or rollers are in the raised position, ensure the wing and roller locks are securely engaged before disconnecting the roller from the tow vehicle.

- 1) Place roller on a level surface for storage.
- 2) Ensure that the tow vehicle engine is shut off and the parking brake is engaged.
- 3) Inspect wing / roller safety locks to ensure they are properly engaged (if in the raised position).
- 4) While pulling on the lock release rope; relieve pressure in the hydraulic hoses per tow vehicle manufacturer's instructions (normally cycling the tow vehicle control valve in both directions is sufficient).
- 5) Chock roller transport tires to ensure roller does not move unexpectedly when hitch is disconnected.
- 6) Disconnect pull rope from rear of tow vehicle and hook on the support rod.
- 7) Disconnect hydraulic couplers from tow vehicle & stow in supplied locations in the sides of the tire guard (position A as shown).
- 8) Remove the tongue jack from the storage location and place in the parking position.



Ball Coupler

- 9) Open coupler lock by pulling latch handle and raising lock lever. With the lock lever in the vertical position the lock will remain open.
- 10) Ensuring roller tongue jack is securely fastened to roller frame, raise jack so that the hitch ball is free of the coupler.

Draw Pin Hitch

- 11) Raise the jack sufficiently to remove all roller weight from the tow vehicle drawbar. Ensure roller tongue jack is securely fastened to roller frame with supplied pin before removing hitch draw pin
- 12) Remove supplied draw pin from hitch and stow in the hitch swivel.

LONG-TERM STORAGE

If the roller will not be used for an extended period, certain activities must be performed. See "Long-Term Storage" in the Maintenance section (Page 28).

OPERATING THE ROLLER

DAILY CHECK LIST

- 1) Always wear relatively tight and belted clothing to avoid entanglement in moving parts. Wear sturdy, rough-soled work shoes. Never operate tow vehicle or implements in bare feet, sandals or sneakers. Ensure other required PPE is in good condition.
- 2) Ensure all safety shielding is properly installed and check that all nuts and bolts are secure and pins are properly fastened.
- 3) Inspect all safety decals and ensure they are clean and in legible condition.
- 4) Inspect wing and roller locks and ensure all pivot points and pull mechanisms have free movement and are in good order.
- 5) Ensure roller is properly connected to the tow vehicle, adjusted and in good operating condition.
- 6) Be sure wing release pull rope and hydraulic hoses are properly secured and will not become entangled.
- 7) Tall grass can hide obstacles. Carefully walk the entire area to be rolled beforehand. Look for debris, rocks, tree limbs etc. that will damage the roller. Identify objects that cannot be removed
- 8) Never permit any person other than the operator to ride or board the tow vehicle or Pro-Roll at any time.
- 9) Check that all lubrication points with grease fittings have been lubricated as per schedule (Page 26).

RAISING / LOWERING THE WINGS & ROLLERS

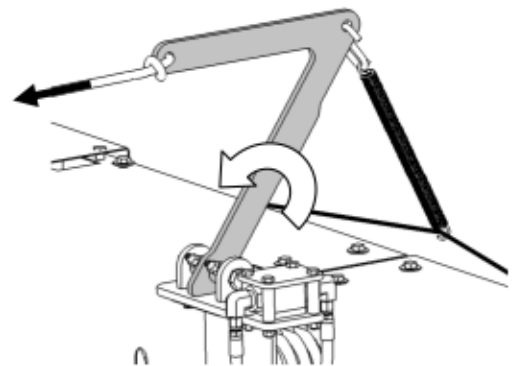
The roller wings and rollers are raised into transport and service position by hydraulic cylinders activated by the tow vehicle remote hydraulic circuit.

Valves are incorporated into the wing hydraulic system to prevent unwanted movement of the wing cylinders during rolling. The valves are controlled at the same time as the wing locks by using the pull rope.

To lower the rollers from the transport position is a 2 stage process:

1. Ensure the roller arm transport locks are engaged (Page 19).
2. Pull the rope (hold in this position until the wings are fully lowered).
3. Place the tow vehicle hydraulic control in the lower position and lower the wings.
4. Release pull rope. Ensure the wing lock release arm returns to the horizontal position

The wings will now be lowered with the roller arms remaining in the raised position.



Wing Raise/Lower Position

To Lower the roller arms:

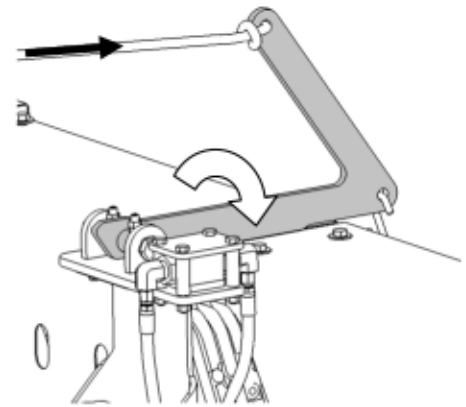
5. Disengage the roller transport locks.
6. Rollers arms can now be lowered to the ground by placing the tow vehicle hydraulic control in the lower position. Continue until roller arm cylinders are fully extended (after rollers have touched the ground).

IMPORTANT – To obtain full floatation of the roller units during operation ensure that the roller arm hydraulic cylinders are fully extended

To raise the wings for transport:

1. Place the tow vehicle hydraulic control in the raise position and raise the roller rollers.
2. Engage roller transport locks.
3. Pull the rope and hold in this position while placing the tow vehicle hydraulic control in the raise position until the wings are fully raised.
4. Release the rope to engage the wing locks for transport (when fully raised). Ensure the wing lock release arm returns to the horizontal position

Note that if the rope is released at any point while raising / lowering the wings, the wings will stop in that position. To continue raising / lowering, simply pull the rope and engage the tow vehicle hydraulic function.



Roller Arm Raise/Lower Position

Pro Lift-N-Turn™ SYSTEM

Your Pro-Roll series is equipped with the Pro Lift-N-Turn™ system. This feature allows the operator to temporarily lift all roller units just off the turf without raising the wings. Utilizing the Pro Lift-N-Turn™ system when rolling near cart paths or other roadways, allows the operator to move from section to section without raising the wings to the full transport position.

The Pro Lift-N-Turn™ system is activated automatically when the wings are lowered with the pull rope released. The operator can temporarily lift the rollers during operation using the tow vehicle hydraulic valve until the roller cylinders are fully retracted. Once the Pro-Roll is again in position to roll, the operator can lower the rollers and continue rolling.

IMPORTANT – To obtain full floatation of the roller units during operation ensure that the roller arm hydraulic cylinders are fully extended

OPERATING ON HILLY TERRAIN

When operating on hilly terrain, proceed with caution and drive carefully. If the tow vehicle has four wheel drive, make sure it is engaged. On two wheel drive tow vehicles equipped with a differential lock, apply while driving straight on the hills; disengage to allow for normal turning.

WARNING!

Use care while turning on hillsides in wet conditions. The weight of the roller behind the tow vehicle may push the tow vehicle unexpectedly. Drive slowly around sand traps, river banks, etc.

STOPPING THE MACHINE IN AN EMERGENCY

All function of the Pro-Roll roller is controlled through the tow vehicle. In the event of an emergency, follow the measures specified by tow vehicle manufacturer as outlined in the tow vehicle operator's manual.

TRANSPORTING THE ROLLER

WARNING!

The Pro-Roll series roller is NOT designed for use on public roadways. Use an appropriate transportation method such as a trailer or float to move Pro-Roll from site to site if required.

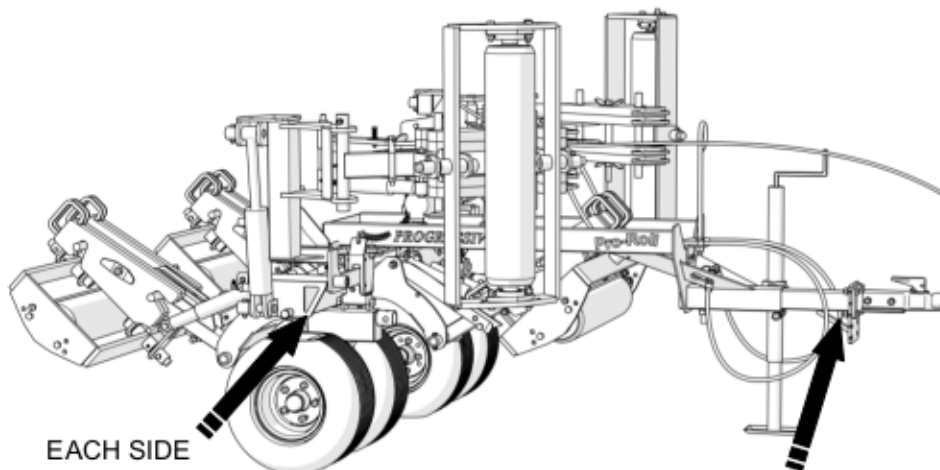
When transporting the Pro-Roll from site to site, ensure the wings and rollers are in the raised position and wing and roller safety locks are engaged.

WARNING!

Use an appropriate sized vehicle to tow the Pro-Roll series roller. Do not tow with vehicles that are less than 1800lb, vehicle handling and braking characteristics will be diminished.

TIE DOWN LOCATIONS

(3) Tie-Down provisions are located on the roller per the diagrams below:



MAINTENANCE

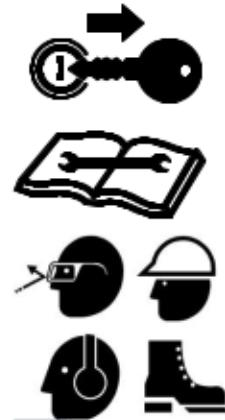
WARNING!

Ensure the tow vehicle controls are in the park position, the engine is turned off, the parking brake is engaged and hydraulic pressure has been relieved before performing service or maintenance.

Perform all maintenance with the wings and roller rollers in the lowered position and the machine on a flat and level surface.

Always use personal protection devices such as protective glasses and face shields, protective shoes, gloves, hard hats, and ear protection when performing service or maintenance functions.

When completing a maintenance or service function, make sure all safety shields are installed before placing roller in service.



		Maintenance Intervals					
		Initial Run - 50h	Daily	40h / Weekly	100h / Monthly	600h / Yearly	Removal from Storage
Grease	Roller Bearings	-	-	X	-	-	X
	Roller Pivots	-	-	X	-	-	X
	Hitch Swivel	-	-	X	-	-	X
	Wing Pivots ¹⁾	-	-	X	-	-	X
	Transport Wheels	-	-	-	X	-	X

Notes:

- 1) Lubrication requirement for pivots varies by application. Actual lubrication interval may vary.

GREASE SPECIFICATIONS

All greases are not compatible. Grease incompatibility will decrease the lubrication ability of the grease, and can cause premature part failure

Recommended Grease Properties

The grease you use for this machine must have these properties:

- NLGI grade 2
- Lithium thickener (NOT LITHIUM COMPLEX)¹
- Kinematic Viscosity at 40°C is no greater than 220 cSt
- Dropping Point Less than 400° F
- General Purpose Grease, Not Heavy Duty
- **No MOLY (molybdenum disulphide) additives in the grease¹**
- **No synthetic grease²**

1) Molybdenum Disulfide (Moly) is an additive used in slow moving, extreme load applications. The particles in the "Moly" will actually increase bearing wear in high speed roller bearing applications. Generally speaking Moly based greases will be grey in colour.

2) If synthetic base oil is used rather than mineral base oil, the grease will be contaminated; the lubrication properties may be lost leading to component damage.

LUBRICATION

PIVOT LOCATIONS: 40h / Weekly

Most pivot locations have grease fittings. These include the wing hinge pivots, some roller pivots (see note), the rotating hitch and the hitch clevis. They should be inspected frequently and lubricated as required.

TRANSPORT HUBS: 100h / Monthly

The transport wheel hubs have greaseable tapered roller bearings. They should be inspected frequently and lubricated as required.

FASTENER INSTALLATION TORQUE

The chart below lists the proper installation torque for fasteners on Progressive Turf Equipment rollers. When bolts are to be tightened or replaced, refer to this chart to determine the proper torque (unless otherwise specified in this manual).

SAE Grade 5 (Imperial) and Class 8.8 (Metric) fasteners are to be used in the assembly of this machine, unless otherwise specified in this manual.

Bolt Grade / Class Identification



SAE Grade 2
(No Dashes)



SAE Grade 5
(3 Dashes)



SAE Grade 8
(6 Dashes)



Class 8.8
(Metric)

Bolt Diameter (in.)	Recommended Torque in Foot Pounds (Newton-Meters)
5/16	21 (28)
3/8	38 (52)
7/16	55 (75)
1/2	85 (115)
9/16	125 (170)
5/8	175 (240)
3/4	300 (410)
Transport Tire Lug Nuts	100 (135)

HYDRAULICS

Hydraulic Oil – Conventional Anti-Wear Tractor-Hydraulic Fluid
 Biodegradable Oils – Consult Factory for compatibility analysis.

WARNING!

Hydraulic fluid escaping under pressure can penetrate the skin. Seek medical attention at once if injured by escaping fluid.

During your daily inspection repair all leaks before they create a major problem. Do not use your hand to check for hydraulic oil leaks. Use a piece of cardboard instead. Hydraulic fluid escaping under pressure can penetrate the skin causing serious injury. If skin penetration occurs, seek medical attention immediately. Relieve all pressure before disconnecting hoses.

When servicing any hydraulic component of the Pro-Roll ensure that all rollers and wings are in their lowered position and all hydraulic pressure is relieved. Pressure can be maintained in the hydraulic circuits long after the power source and pump have been shut down.

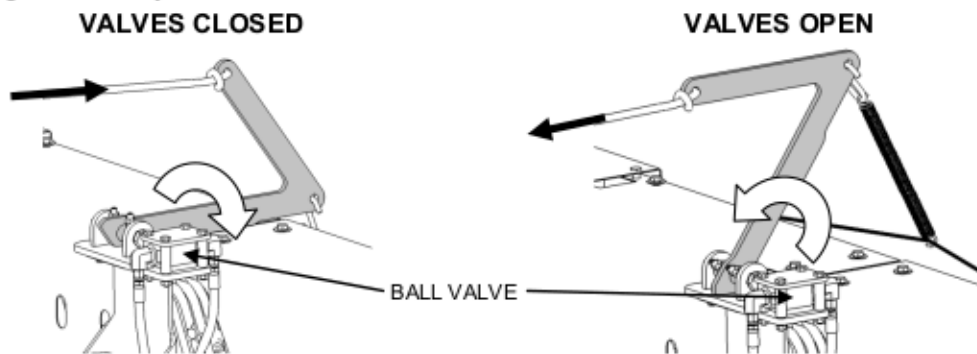
Relieve all pressure before disconnecting hoses or tubes.

Tighten all connections before applying pressure.

When connecting the hydraulic couplers to the tow vehicle, be sure that both coupler ends are clean. Dirt in the hydraulic system can block the orifice in the cylinder ports or cause premature wear & failure of hydraulic components on the roller or tow vehicle.

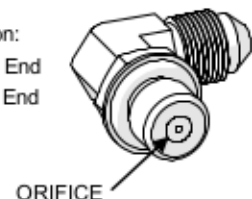
The hydraulic system on the Pro-Roll roller is divided into 2 simple systems; one to operate the roller lift cylinders, the other to operate the wing lift cylinders.

NOTE- Quarter-turn ball valves are located in the cylinder circuits (at the wing lock release arm). These valves are used to isolate the wing lift cylinder and roller lift cylinder circuits to avoid unwanted wing movement during rolling. The valves are automatically closed to the wing cylinders when the wing lock pull rope is released. If the lock release arm fails to return to a horizontal position, the valve may stay open leading to erratic hydraulic function.



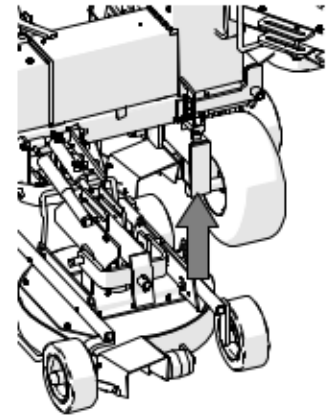
All hydraulic cylinders are equipped with a .040" diameter orifice in one of the elbow connectors. This orifice is present to throttle the cylinder speed to an acceptable level. When repairing the hydraulic system ensure that this orifice elbow is present and free of debris that could block the orifice.

Orifice Location:
 Wings – Base End
 Rollers – Rod End



SUPPORTING MACHINE FOR SERVICE

(2) Points are available to lift the roller off of the ground for servicing the transport tires / wheels / bearings at the base of the axle as shown in the accompanying illustration. Use a bottle or service jack to raise the wheel from the ground and place a wooden block or other suitable support under the rectangular tube.



WARNING!

Do not support the machine on cinder blocks, hollow tiles or other members that may fail under continuous load.

Never perform service on a machine that is supported solely by a jack. Always ensure proper blocking is placed to support load during service.

Transport tires must be changed with the wings in the raised position. Ensure the machine is on a flat, level surface and the wing locks are fully engaged before attempting to lift the machine.



TRANSPORT TIRES

Inspect tires daily for wear or damage. Check tire pressures weekly with an accurate pressure gauge. Do not inflate tires beyond 35 psi.

Recommended transport tire pressure – 30 PSI



WARNING!

Mounting and dismounting tires from rims can be dangerous and should be performed by trained personnel using correct tools, equipment and procedures.

LONG-TERM STORAGE

If the roller is not to be used for an extended period of time (4 months or longer) it is recommended that the following maintenance steps are followed:

- 1) Thoroughly wash roller, removing all grass clipping residue from roller framework.
- 2) Add grease to all grease points.
- 3) Inspect all roller bearings for smooth operation.
- 4) Inspect rollers & wiper cables.
- 5) Apply rust preventative coating to rollers.

When returning the roller to service after long-term storage:

- 1) Check tightness of all fasteners.
- 2) Add grease to all grease points.
- 3) Ensure all pivot points move freely.
- 4) Remove rust preventative coating from rollers.

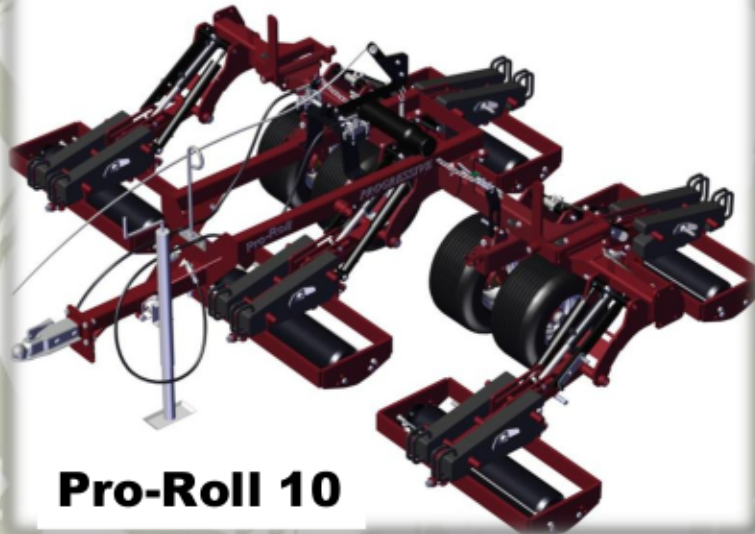
TROUBLE SHOOTING		
PROBLEM	CAUSE	REMEDY
Wing safety locks will not engage	Lock chains too short	Adjust chain length
	Lock springs too loose	Tighten lock springs
Roller arm(s) or wing(s) will not lower.	Orifice in cylinder plugged	Remove orifice and remove obstruction and reassemble (Page 27)
	Roller latch in locked position.	Unlatch roller locks. (Page 19)
	Hydraulic valves not opening	Pull lock release rope to full extent. Check that valve is rotating when rope is pulled. Ensure lock release arm is in horizontal position when rope is released.
Poor Contour Tracking	Roller arm cylinders not fully extended.	Ensure cylinders are fully extended when lowering roller arms. (Page 22) Cylinders will continue to extend after the roller units are on the ground until they are fully extended.

Parts List

Pro-Roll Series

Contour Turf Roller

Serial No. 18PR1001 and up



Pro-Roll 10



Pro-Roll 14



The Better Built Choice.™

PROGRESSIVE TURF EQUIPMENT INC.
137 WEST WILLIAM STREET
SEAFORTH, ONTARIO
CANADA N0K 1W0
TOLL FREE: 800 668-8873
ISSUE DATE: March, 2018
P.N. 120594

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SERIAL NUMBER LOCATION

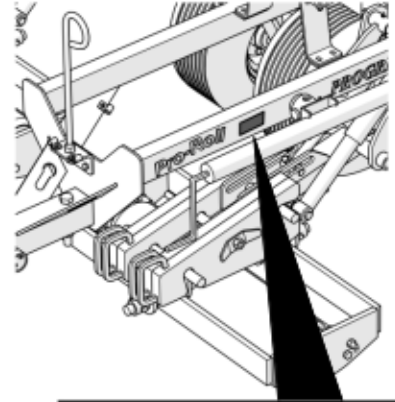
The serial number plate for the machine is located on the left side of the main frame tube at the front

For quick reference, record the following information:

Model: _____

Serial Number: _____

Date purchased: _____



PROGRESSIVE TURF EQUIPMENT INC. 137 West William St., Seaforth Ontario Phone: 519-527-1080 Fax: 519-527-2275 Website: www.progressiveturfequip.com Product: _____ MODEL: _____ Made in Canada S.N. _____	
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PARTS INFORMATION

This Parts List shows parts breakdowns for the PF-120 mowers. Use only Genuine Original Equipment Manufacturers (O.E.M.) replacement parts. The use of "will fit" parts may reduce machine performance, void machine warranties and present a safety hazard. Use Genuine OEM parts.

Progressive Turf Equipment Inc.
 137 West William Street
 Seaforth, Ontario
 Canada
 N0K 1W0
 Phone: 800-668-8873
 Fax: 519-527-2275
 www.progressiveturfequip.com

WARNING!
USE ONLY GENUINE O. E. M. REPLACEMENT PARTS - ESPECIALLY CRITICAL ON THE CUTTING BLADES -

DANGER!
Si No Lee Ingles, Pida Ayuda a Alguien Que Se Lo Lea Para Que le Traduzca Las Medidas de Seguridad

MAINTENANCE

Maintenance should always be performed by a qualified service technician familiar with servicing similar equipment, using good safety and workmanship practices.

Always observe proper lock-out procedures when performing any maintenance work.

Other than maintaining the blade spindles or blades, always lower all decks before performing maintenance. Block and or support machine using equipment designed for the task. When maintaining blades or spindles, always ensure locks are seated correctly in place. When performing hydraulic maintenance, ensure that pressure has been released.



It is imperative that the operator or qualified service technician reads and understands all the safety information in the Operator's Manual before proceeding. Failure to follow the instructions or heed the warnings could result in injury or death.

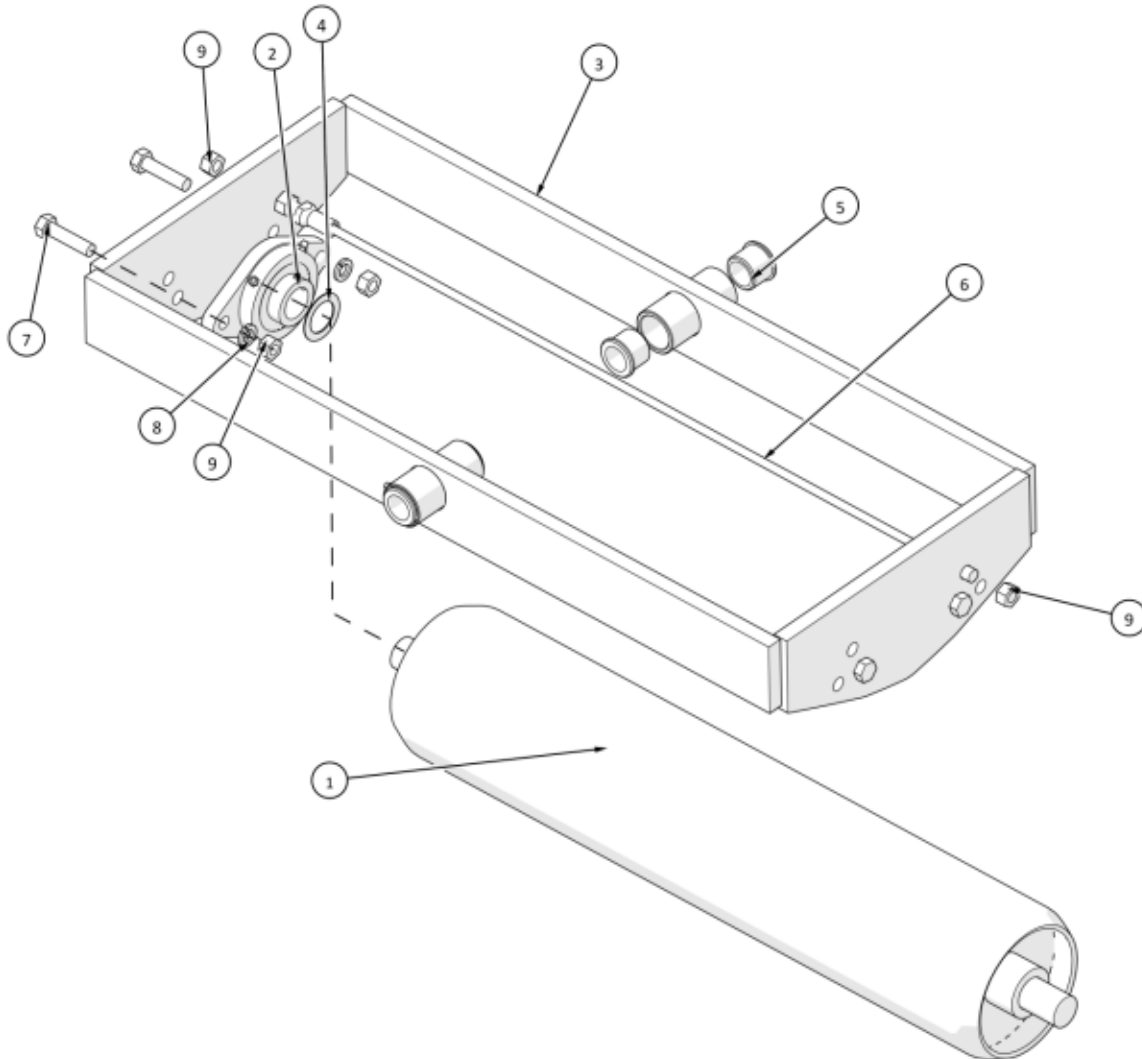
Proper care is your responsibility.

PARTS ORDERING GUIDE

The following instructions are offered to help eliminate needless delay and error in processing purchase orders for the equipment in this manual.

1. The Parts Section is prepared in logical sequence and grouping of parts that belong to the basic machine featured in this manual. Part Numbers and Descriptions are given to help locate the parts and quantities required.
2. The Purchase Order must indicate the Name and Address of the person or organization ordering the parts, who should be charged, and if possible the serial number of the machine for which the parts are being ordered.
3. The purchase order must clearly list the quantity of each part, the complete and correct part number, and the basic name of the part.
4. The manufacturer reserves the right to substitute parts where applicable.
5. Some parts may be unlisted items which are special production items not normally stocked and are subject to special handling. Request a quotation for such parts before sending purchase order.
6. The manufacturer reserves the right to change prices without notice.

1. ROLLER ASSEMBLY

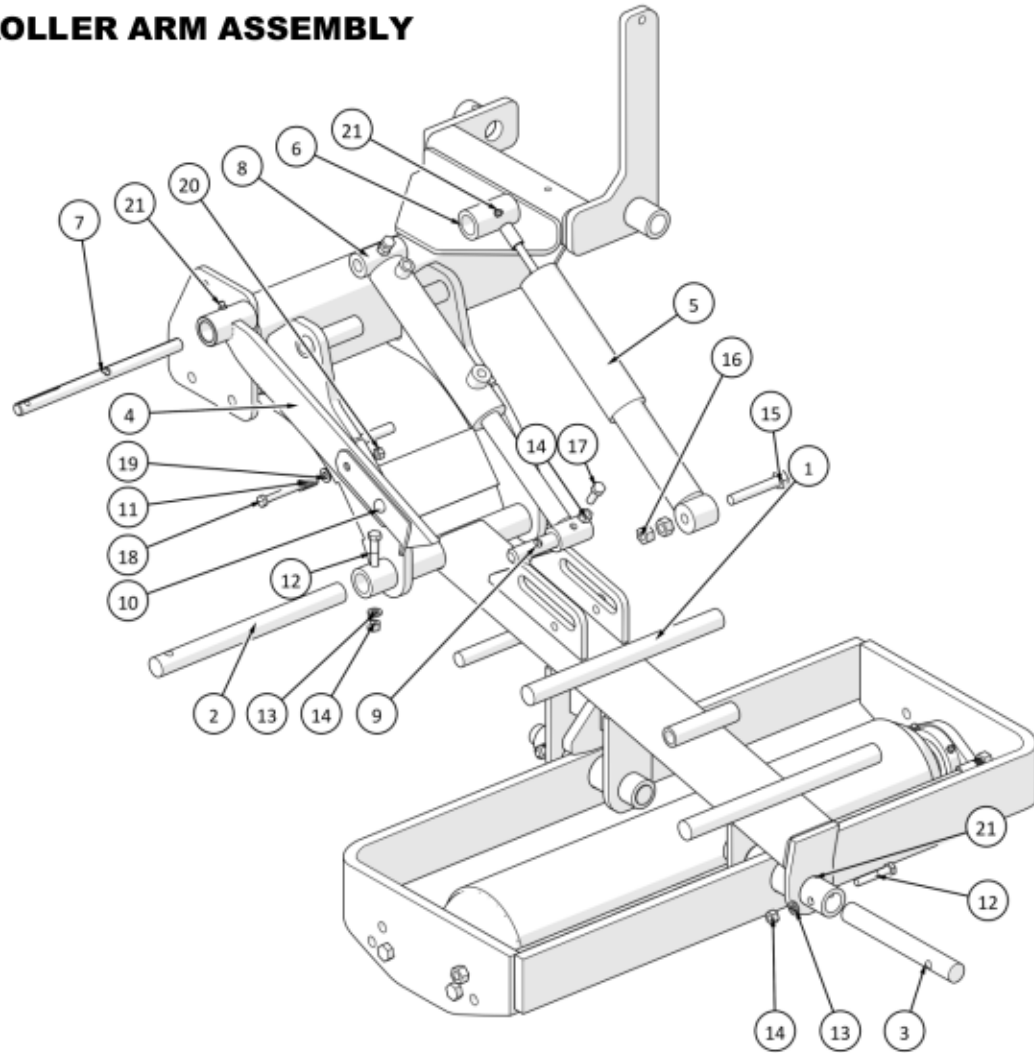


ITEM	PART #	DESCRIPTION	QTY
1	670118	ROLLER - WELDMENT	1
2	213019	2 BOLT FLANGE BEARING	2
3	670014	FRAME - ROLLER PIVOT	1
4	301117	WASHER - 1.250" SHIM	2
5	521818.10	PRESS IN BUSHING - 1" (10PC)	1
6	630134	WIPER CABLE - 31.5	1
7	O.L.	HEX BOLT- 1/2 X 2 NC GR5 PL	4
8	O.L.	LOCK WASHER- 1/2 PL	4
9	O.L.	HEX NUT - 1/2NC GR5 PL	7

O.L. - OBTAIN LOCALLY

2. FRAME ASSEMBLY

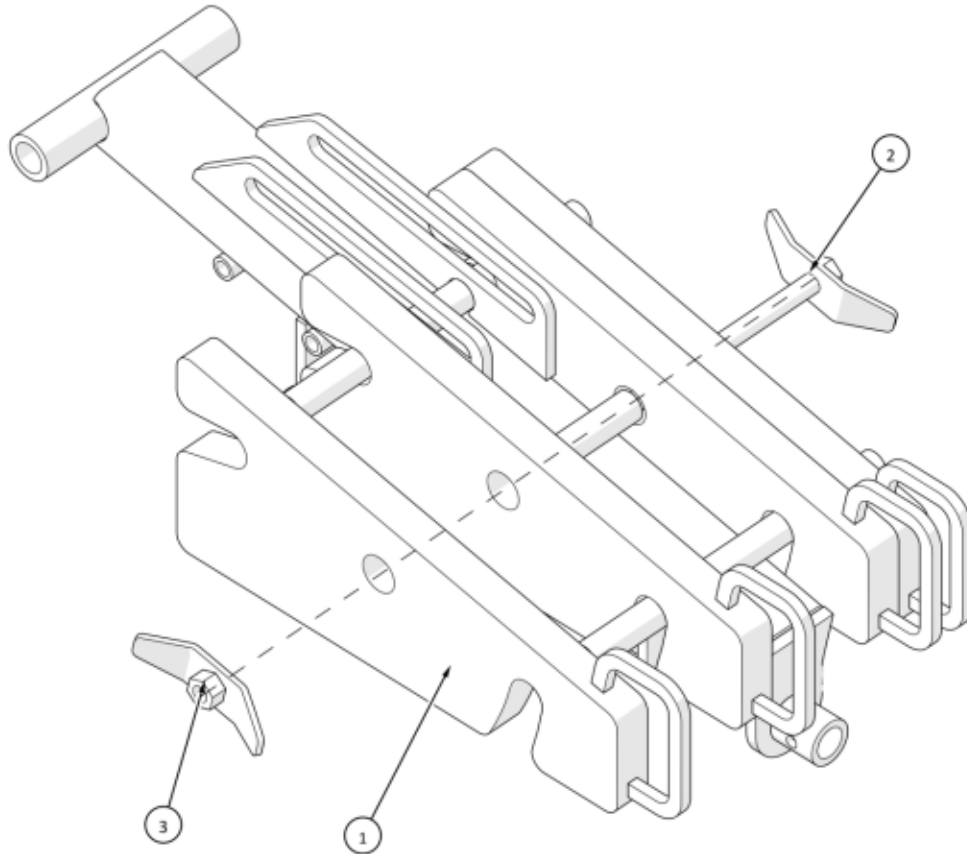
2.1. ROLLER ARM ASSEMBLY



ITEM	PART #	DESCRIPTION	QTY
1	670064	LIFT ARM - WELDMENT	1
2	670049	PIN - 1" X 11.63	1
3	521346	WING DECK PIN - LONG	2
4	670018	LOCK - LIFT ARM - REAR	1
5	219009**	SHOCK ABSORBER	1
6	606526	SHOCK MOUNT BUSHING	1
7	600222	CYLINDER PIN - LONG	1
8	220001	HYD. CYLINDER 1-1/2" X 6"	1
9	600223	CYLINDER PIN - SHORT	1
10	600155	DECK SAFETY LATCH	1
11	214008	DECK LATCH SPRING KIT (5 PCS)	1

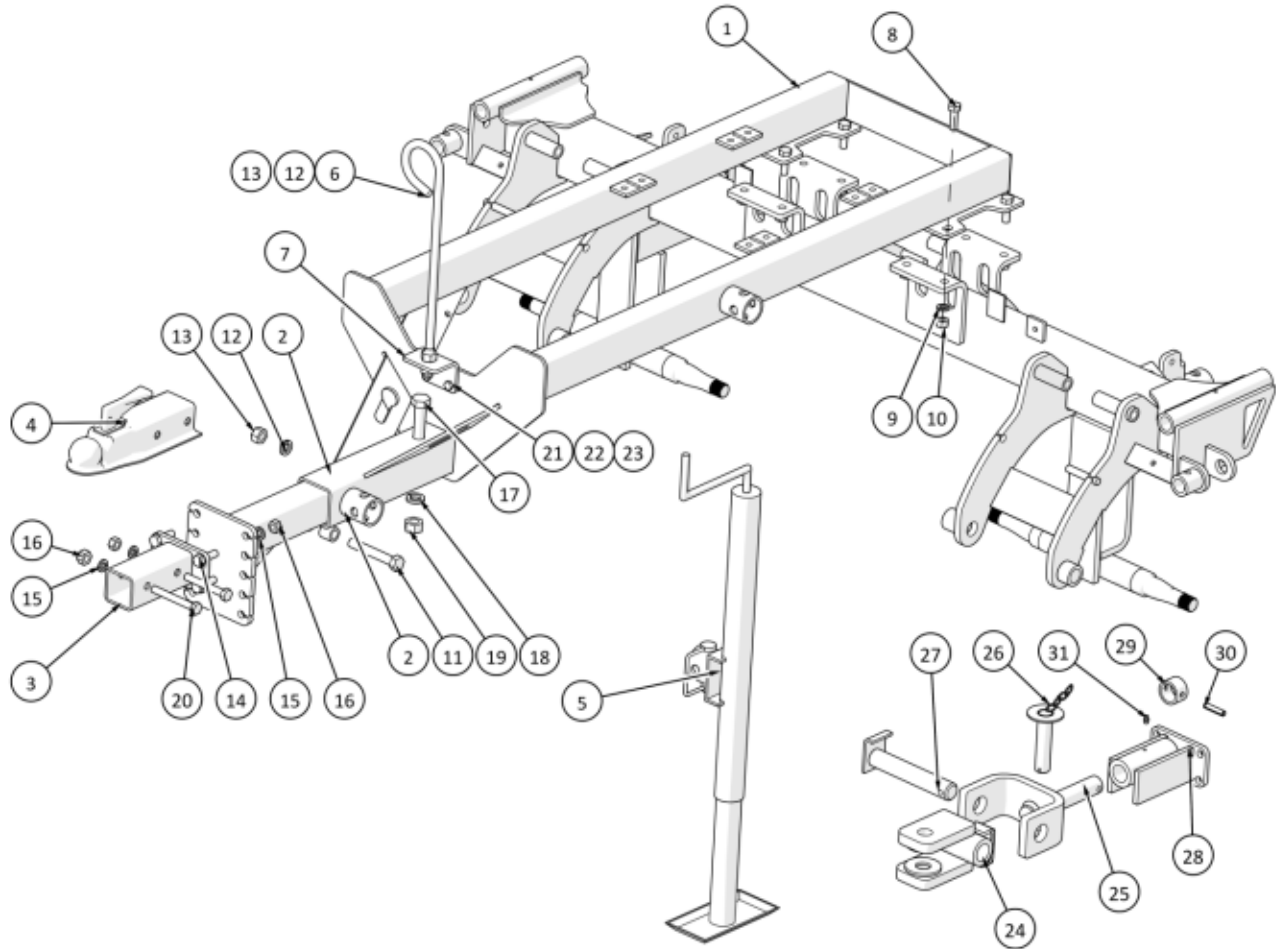
ITEM	PART #	DESCRIPTION	QTY
12	O.L.	HEX BOLT- 3/8 X 2 NC GR5 PL	3
13	O.L.	LOCK WASHER- 3/8 PL	3
14	O.L.	HEX NUT - 3/8NC GR5 PL	5
15	O.L.	HEX BOLT- 1/2 X 3 NC GR5 PL	1
16	O.L.	HEX NUT - 1/2NC GR5 PL	2
17	O.L.	HEX BOLT- 3/8 X 1 NC GR5 PL	2
18	O.L.	HEX BOLT- 5/16 X 2.25 NC GR5 PL	1
19	O.L.	FLAT WASHER- 5/16 PL	1
20	O.L.	HEX NUT - 5/16NC GR5 PL	1
21	O.L.	GREASE FITTING 1/4 - 28	5

O.L. - OBTAIN LOCALLY
 ** - 219009 SHOCK THREADED STEM MUST BE TRIMMED TO 3/4" LG FOR PROPER FUNCTION.

2.2. ROLLER ARM WEIGHTS

ITEM	PART #	DESCRIPTION	QTY
1	670044	WEIGHT - 30LB	4
2	670050	BOLT - WEIGHT RETAINER	1
3	670052	NUT - WEIGHT RETAINER	1

2.3. TONGUE ASSEMBLY

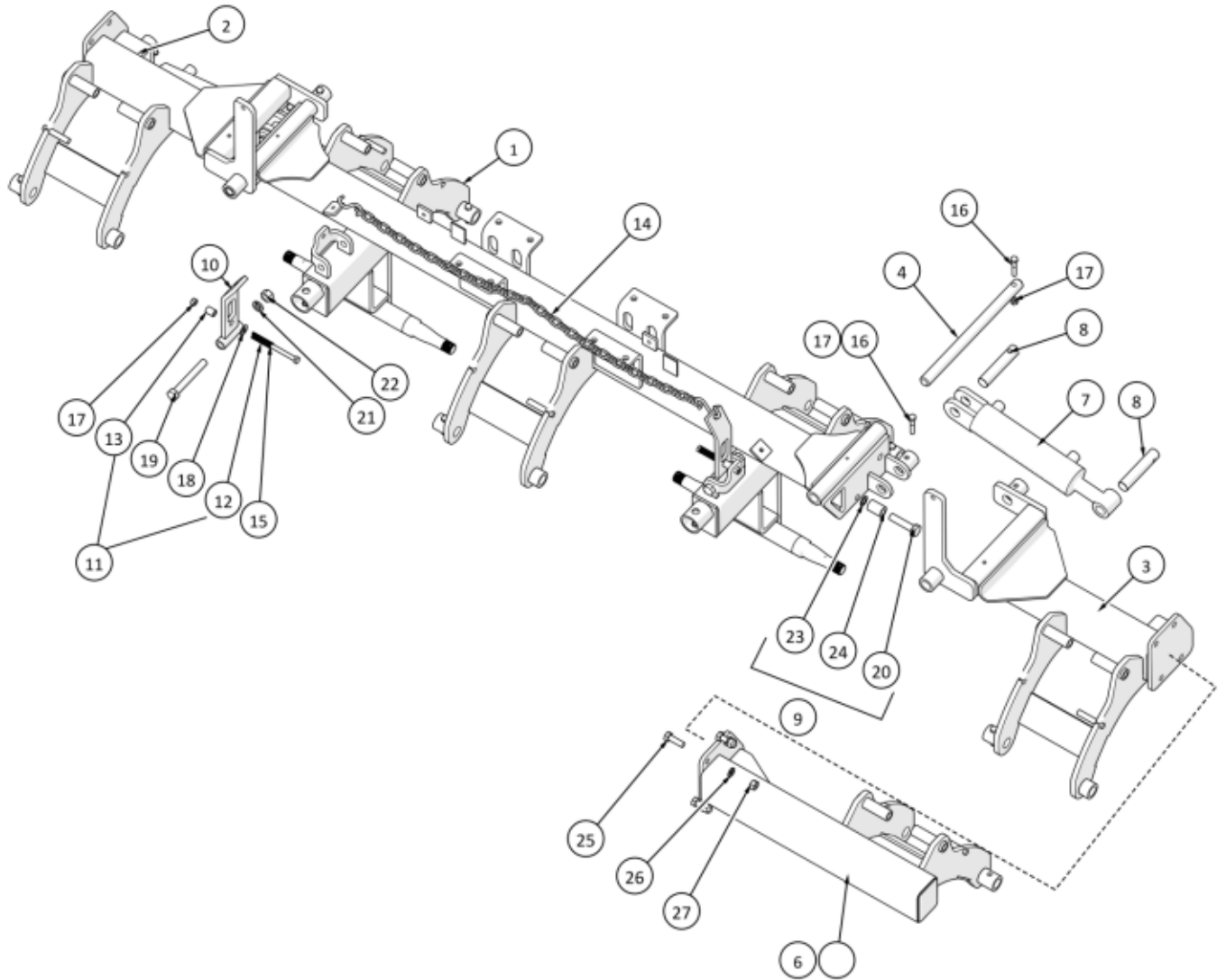


ITEM	PART #	DESCRIPTION	QTY
1	670086	TONGUE - PRO ROLL	1
2	670026	HITCH - WELDMENT	1
3	670048	COUPLER MOUNT	1
4	670169	BALL COUPLER - 2in.	1
5	219001	PARKING JACK	1
6	522413	HOSE SUPPORT /W HARDWARE	1
7	670159	HOSE SUPPORT PLATE	1
8	O.L.	HEX BOLT- 1/2 X 1.5 NC GR5 PL	8
9	O.L.	LOCK WASHER- 1/2 PL	8
10	O.L.	HEX NUT - 1/2NC GR5 PL	8
11	O.L.	HEX BOLT- 5/8 X 4 NC GR5 PL	1
12	O.L.	LOCK WASHER- 5/8 PL	2
13	O.L.	HEX NUT - 5/8NC GR5 PL	3
14	O.L.	HEX BOLT- 1/2 X 1.5 NC GR5 PL	4
15	O.L.	LOCK WASHER- 1/2 PL	6
16	O.L.	HEX NUT - 1/2NC GR5 PL	6

ITEM	PART #	DESCRIPTION	QTY
17	O.L.	HEX BOLT- 3/4 X 3.5 NC GR5 PL	1
18	O.L.	LOCK WASHER- 3/4 PL	1
19	O.L.	HEX NUT - 3/4NC GR5 PL	1
20	O.L.	HEX BOLT- 1/2 X 3.5 NC GR5 PL	2
21	O.L.	HEX BOLT - 3/8 x 1.25 NC GR5 PL	2
22	O.L.	LOCK WASHER- 3/8 PL	2
23	O.L.	HEX NUT - 3/8NC GR5 PL	2
24	600025	HITCH CLEVIS	1
25	600033	CLEVIS PIVOT	1
26	600259	HITCH PIN - 1" W/CHAIN	1
27	600036	CLEVIS PIN	1
28	670098	HITCH CLEVIS PIVOT	1
29	600022	HITCH PIVOT BUSHING	1
30	302603	SPLIT PIN KIT (2 PCS)	1
31	O.L.	GREASE FITTING 1/4 - 28	1

O.L. - OBTAIN LOCALLY

2.4. FRAME ASSEMBLY



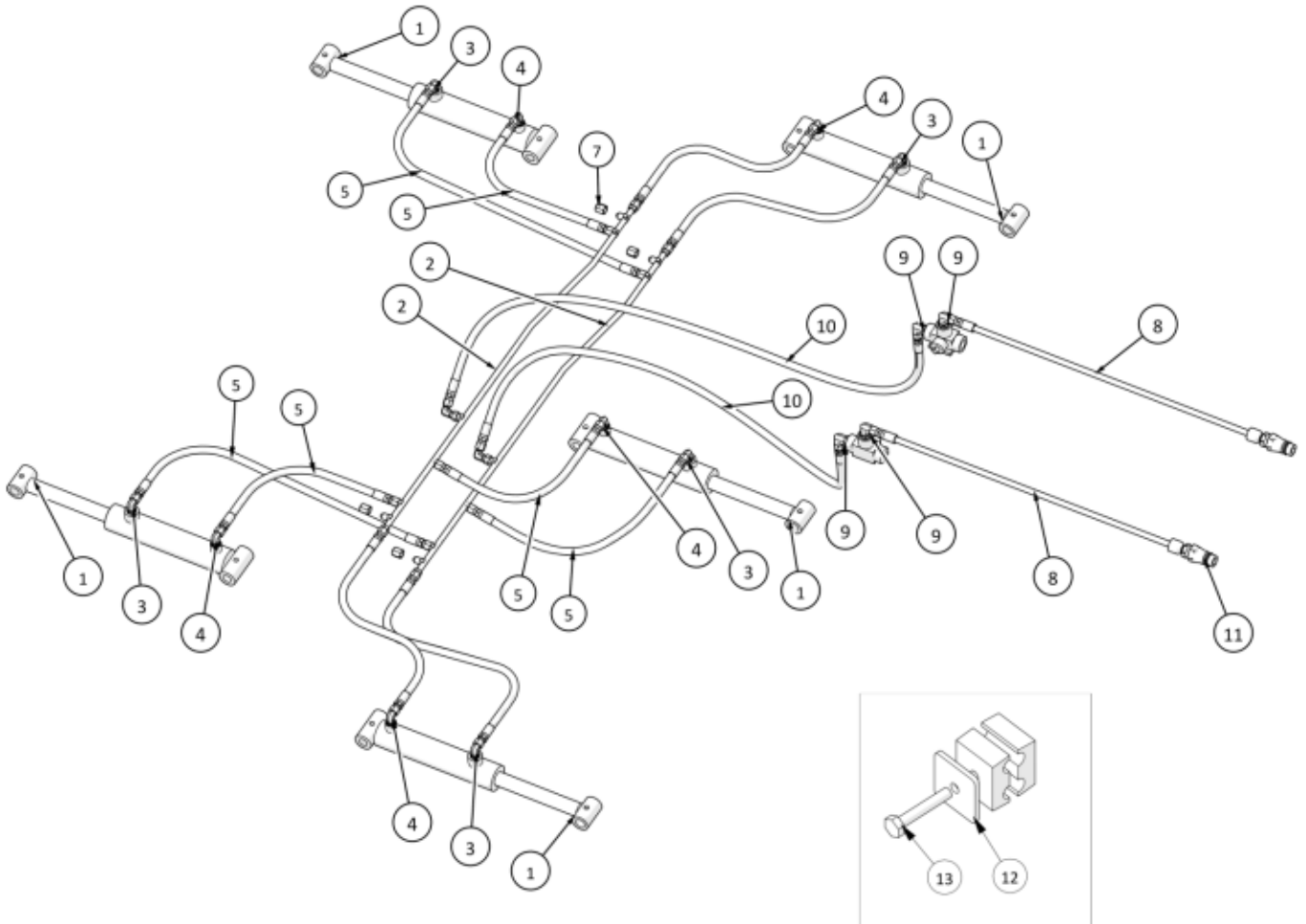
ITEM	PART #	DESCRIPTION	QTY
1	670082	MAIN FRAME	1
2	670074	WING FRAME - LEFT	1
3	670024	WING FRAME - RIGHT	1
4	600221	WING HINGE PIN	2
6	670096	WING EXTENSION - RH	1
7	529225	2-1/2" x 6" HYD CYLINDER	2
8	670163	PIN - 1" X 4 7/8	4
9	600315	WING LEVELLING KIT (LH & RH)	1
10	600173	WING LOCK WELDMENT	2
11	214009	LATCH SPRING KIT (2 SETS)	1
12	SEE ITEM 11	SPRING- 0.080 WING	2
13	SEE ITEM 11	WING LATCH BUSHING	2
14	115003	LOCK RELEASE CHAIN /W SPRING	1
15	O.L.	HEX BOLT- 3/8 X 4 NC GR5 PL	2

ITEM	PART #	DESCRIPTION	QTY
16	O.L.	HEX BOLT- 3/8 X 2 NC GR5 PL	6
17	O.L.	HEX LOCK NUT - 3/8 NC GR5 PL	8
18	O.L.	FLAT WASHER- 3/8 PL	2
19	O.L.	HEX BOLT- 5/8 X 4.5 NC GR5 PL	2
20	SEE ITEM 9	HEX BOLT- 5/8 X 2.5 NC GR5 PL	2
21	O.L.	LOCK WASHER- 5/8 PL	2
22	O.L.	HEX NUT - 5/8NC GR5 PL	2
23	SEE ITEM 9	WASHER - .625 ID X 1 OD SHIM	2
24	SEE ITEM 9	WING LEVELLING BUSHING 1.42"	2
25	O.L.	HEX BOLT- 1/2 X 1.5 NC GR5 PL	4
26	O.L.	LOCK WASHER- 1/2 PL	4
27	O.L.	HEX NUT - 1/2NC GR5 PL	4

O.L. - OBTAIN LOCALLY

3. HYDRAULICS

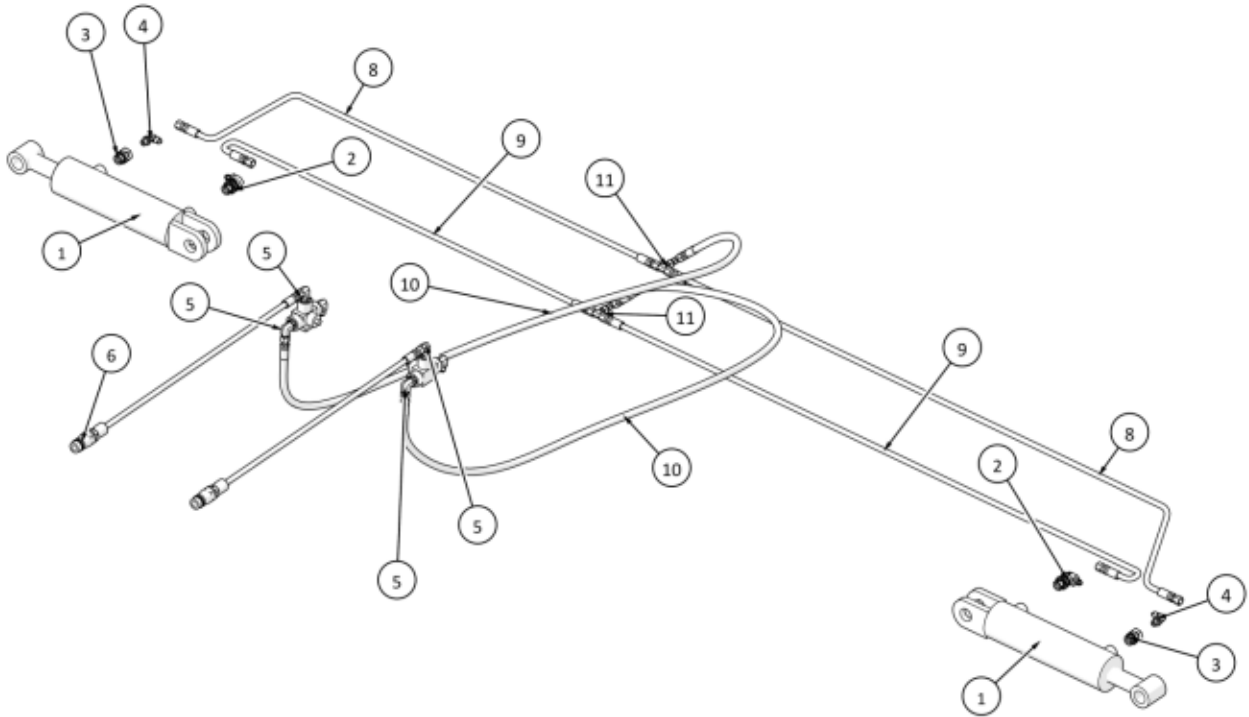
3.1. ROLLER ARM LIFT CIRCUIT – PRO-ROLL 10



ITEM	PART #	DESCRIPTION	QTY
1	220001	HYD. CYLINDER 1-1/2" X 6" - DECK	5
2	229000	HYDRAULIC TUBE MANIFOLD	2
3	222002	ELBOW 90 DEG	5
4	222003	ELBOW 90 DEG RESTRICTOR .040"	5
5	221002	HYDRAULIC HOSE - 1/4" - 19" LG	6
6	210005	HYDRAULIC HOSE - 1/4" - 42-3/4" LG	4
7	221077	-4 JIC CAP	4

ITEM	PART #	DESCRIPTION	QTY
8	221006	HYDRAULIC HOSE - 1/4" - 115" LG.	2
9	221142	ELBOW - -6 ORBM X -4 JICM 90DEG	4
10	221145	HYDRAULIC HOSE - 1/4" - 39.75" LG.	2
11	222006	MALE QUICK DISCONNECT (2 PCS)	1
12	229003	TUBE CLAMP - COMPLETE	2
13	O.L.	HEX BOLT - 1/4 UNC X 1 3/8 PL	2

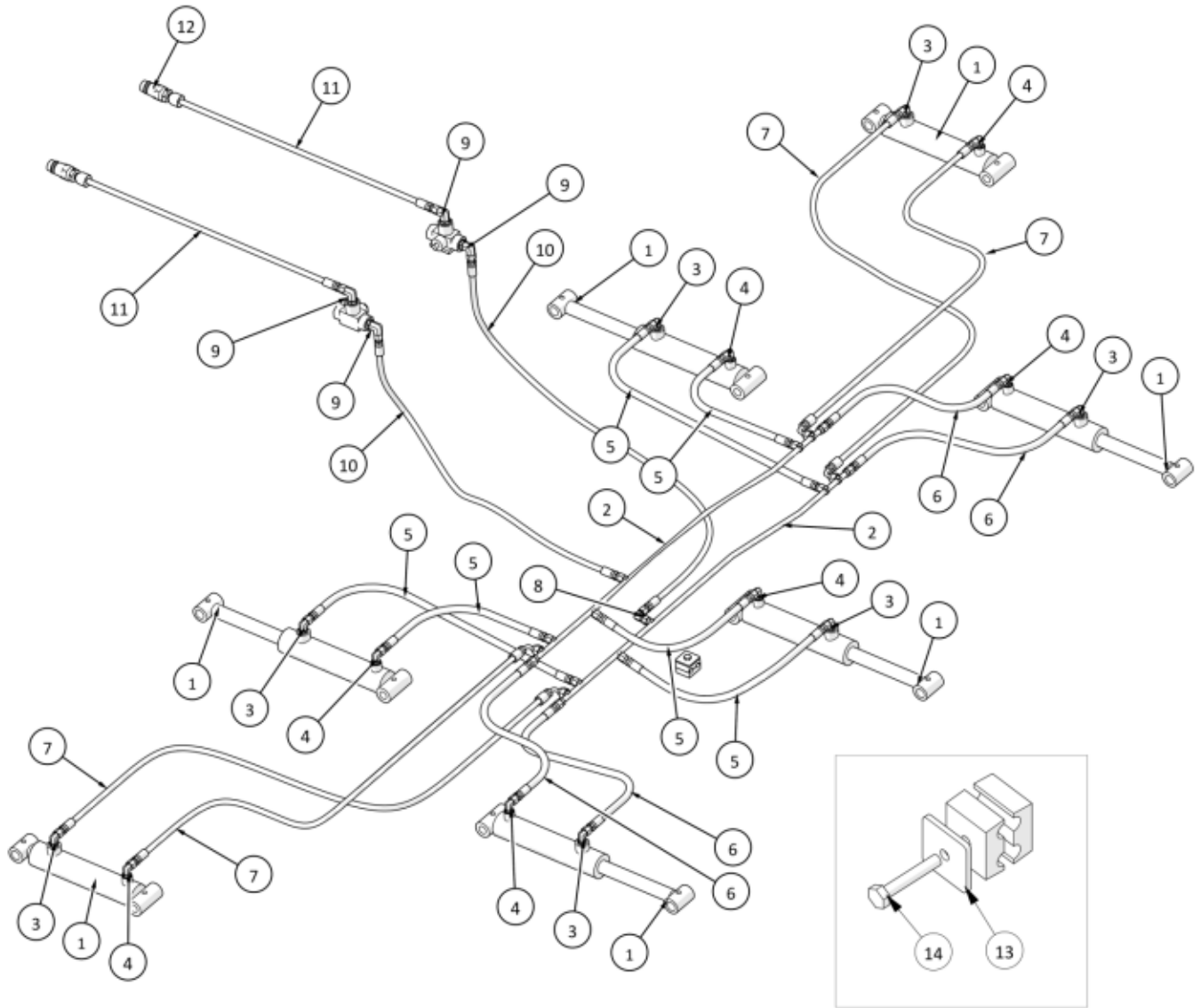
3.2. WING LIFT CIRCUIT - PRO-ROLL 10



ITEM	PART #	DESCRIPTION	QTY
1	529225	2-1/2" x 6" HYD CYLINDER	2
2	222026	ELBOW 90 DEG	2
3	222027	REDUCING BUSHING	2
4	222002	ELBOW 90 DEG	2
5	221142	ELBOW - -6 ORBM X -4 JICM 90DEG	4
6	222001	MALE QUICK DISCONNECT	1

ITEM	PART #	DESCRIPTION	QTY
7	221006	HYDRAULIC HOSE - 1/4" - 115" LG.	2
8	221079	HYDRAULIC HOSE - 1/4" - 49.5" LG.	2
9	221080	HYDRAULIC HOSE - 1/4" - 54" LG.	2
10	221145	HYDRAULIC HOSE - 1/4" - 36 3/4" LG.	2
11	221037	TEE - -4 JICM	2

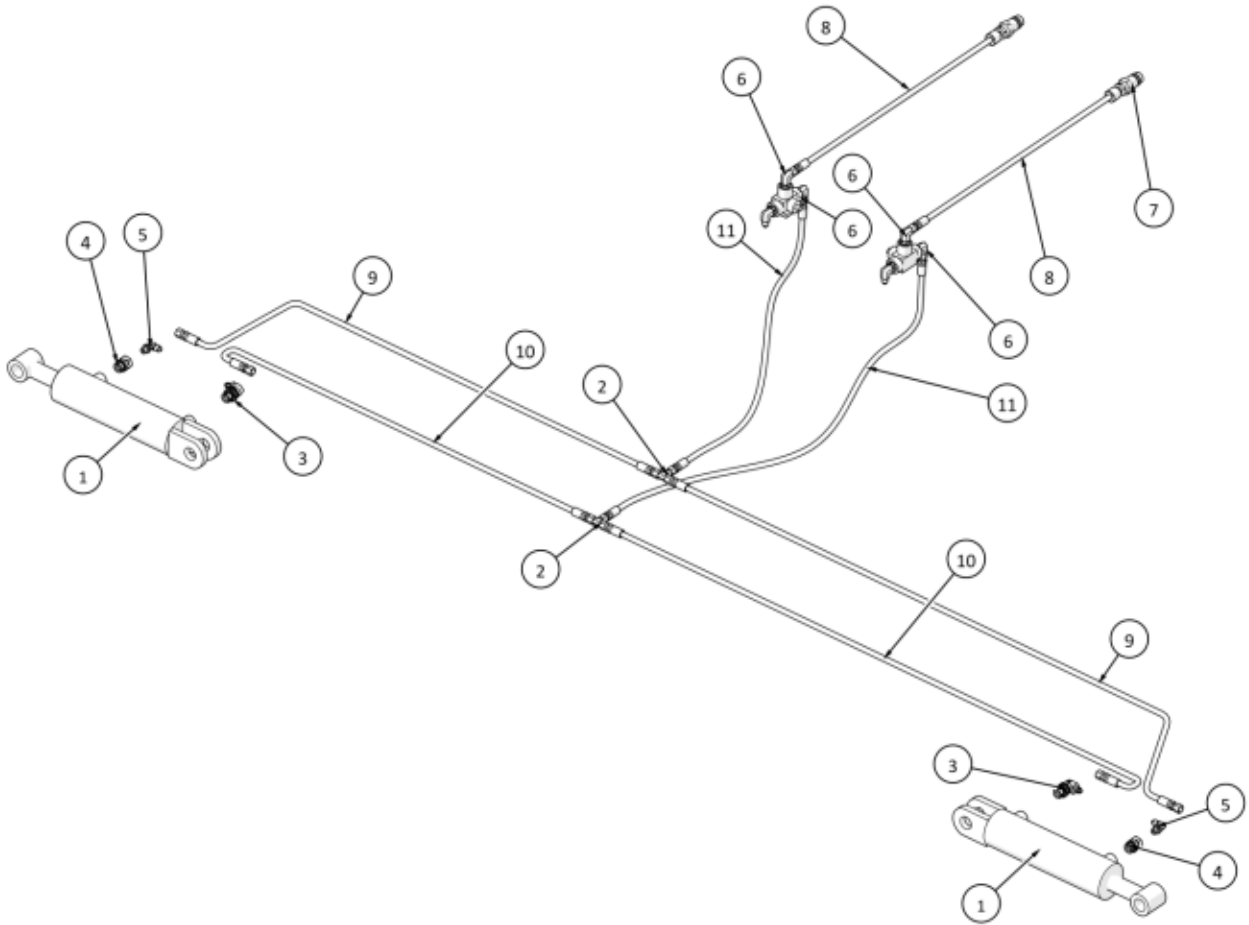
3.3. ROLLER ARM LIFT CIRCUIT - PRO-ROLL 14



ITEM	PART #	DESCRIPTION	QTY
1	220001	HYD. CYLINDER 1-1/2" X 6" - DECK	7
2	229000	HYDRAULIC TUBE MANIFOLD	2
3	222002	ELBOW 90 DEG	7
4	222003	ELBOW 90 DEG RESTRICTOR .040"	7
5	221002	HYDRAULIC HOSE - 1/4" - 19" LG	6
6	210005	HYDRAULIC HOSE - 1/4" - 42-3/4" LG	4
7	221143	HYDRAULIC HOSE - 1/4" - 66" LG.	4
8	221128	ELBOW - -4 JIC SWIVEL	1

ITEM	PART #	DESCRIPTION	QTY
9	221142	ELBOW - -6 ORBM X -4 JICM 90DEG	4
10	221002	HYDRAULIC HOSE - 1/4" - 19" LG.	2
11	221006	HYDRAULIC HOSE - 1/4" - 115" LG.	2
12	222006	MALE QUICK DISCONNECT (2 PCS)	1
13	229003	TUBE CLAMP - COMPLETE	2
14	O.L.	HEX BOLT - 1/4 UNC X 1 3/8 PL	2

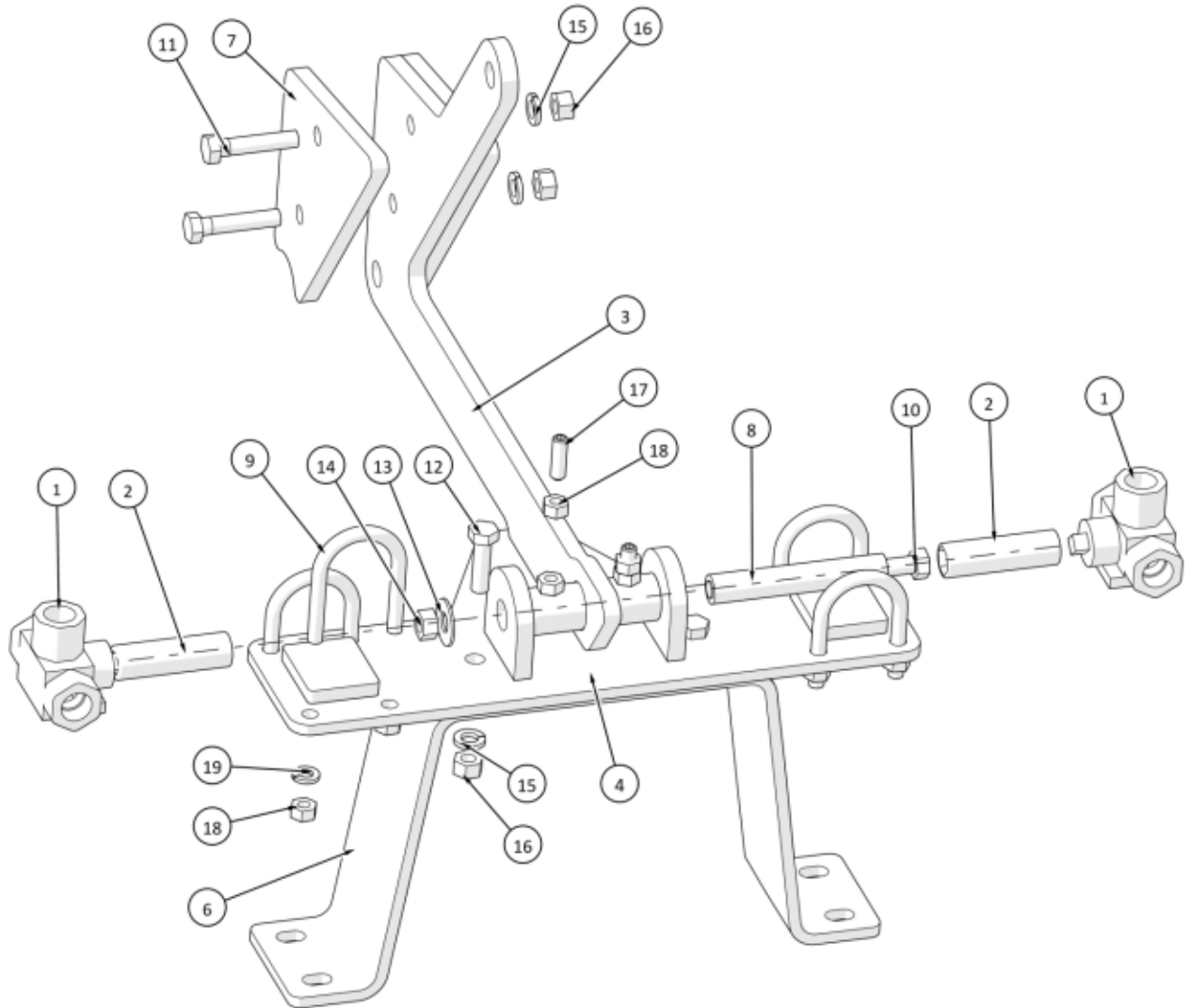
3.4. WING LIFT CIRCUIT - PRO-ROLL 14



ITEM	PART #	DESCRIPTION	QTY
1	529225	2-1/2" x 6" HYD CYLINDER	2
2	221037	TEE - -4 JICM	2
3	222026	ELBOW 90 DEG	2
4	222027	REDUCING BUSHING	2
5	222002	ELBOW 90 DEG	2
6	221142	ELBOW - -6 ORBM X -4 JICM 90DEG	4

ITEM	PART #	DESCRIPTION	QTY
7	222001	MALE QUICK DISCONNECT	1
8	221006	HYDRAULIC HOSE - 1/4" - 115" LG.	2
9	221079	HYDRAULIC HOSE - 1/4" - 49.5" LG.	2
10	221080	HYDRAULIC HOSE - 1/4" - 54" LG.	2
11	221002	HYDRAULIC HOSE - 1/4" - 19" LG.	2

3.5. AUTO VALVE ASSEMBLY



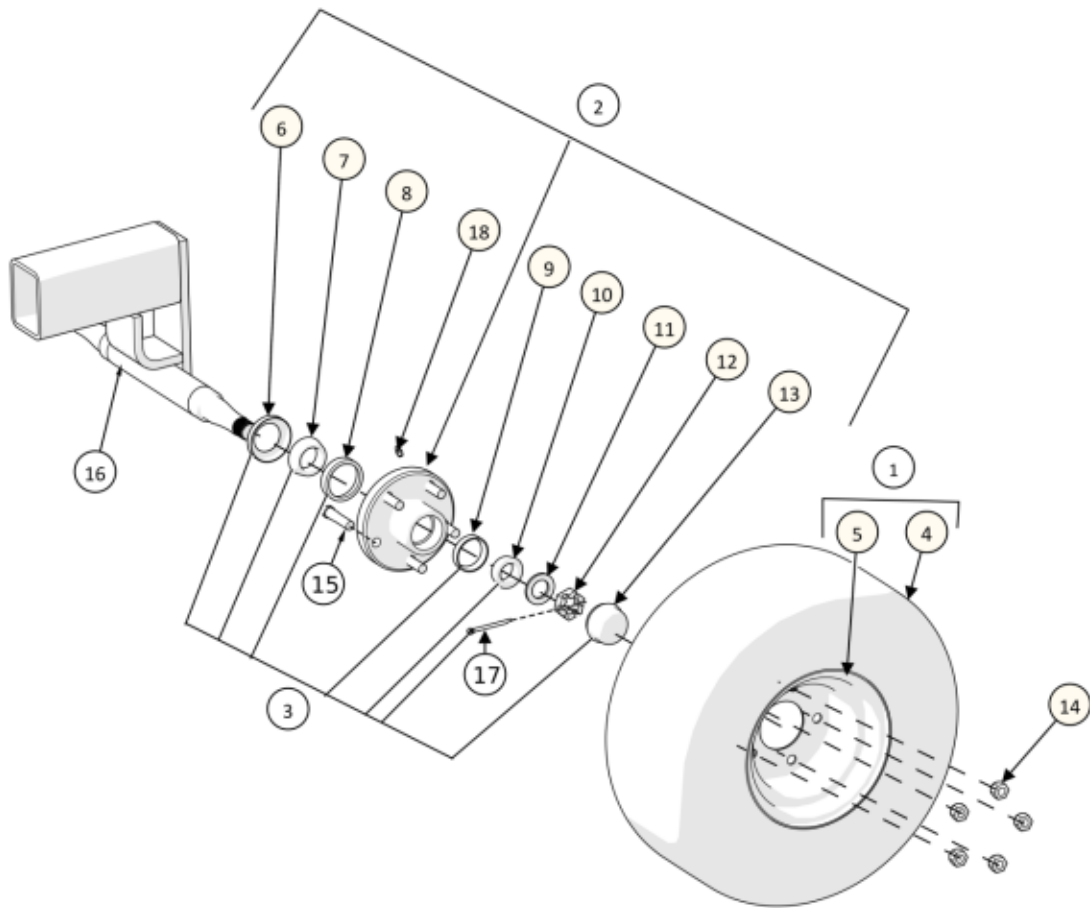
ITEM	PART #	DESCRIPTION	QTY
1	222025	3 WAY VALVE - -6 ORB	2
2	600605	COUPLER - 14MM HEX - 3/8 SQ.	2
3	670056	LEVER - WING LOCK	1
4	670054	MOUNT - WING LOCK ASSY.	1
5	670183	PLATE - LOCK HANDLE	1
6	670173	BRACKET - VALVE MOUNT	1
7	670183	PLATE - LOCK HANDLE	1
8	600607	BUSHING-.63 ODX.12WALLX3.81LG	1
9	521071	U BOLT - 1" PIPE	4
10	O.L.	HEX BOLT 3/8 X 4.5 GR5 PL	1

ITEM	PART #	DESCRIPTION	QTY
11	O.L.	HEX BOLT- 3/8 X 1.75 NC GR5 PL	2
12	O.L.	HEX BOLT - 3/8 x 1.25 NC GR5 PL	2
13	O.L.	FLAT WASHER- 3/8 PL	1
14	O.L.	HEX LOCK NUT - 3/8 NC GR5 PL	1
15	O.L.	LOCK WASHER- 3/8 PL	4
16	O.L.	HEX NUT - 3/8NC GR5 PL	4
17	O.L.	SET SCREW - 5/16 NC X 1 PLT	2
18	O.L.	HEX NUT - 5/16NC GR5 PL	10
19	O.L.	LOCK WASHER- 5/16 PL	8

O.L. - OBTAIN LOCALLY

4. WHEEL ASSEMBLIES

4.1. WHEEL ASSEMBLIES



ITEM	PART #	DESCRIPTION	QTY
1	521028	TIRE & RIM - 18-9.50 X 8	1
2	521328	HUB ASSEMBLY - COMPLETE	1
3	230028	WHEEL BEARING KIT	1
4	521052	TIRE - 18-9.50 X 8	1
5	521398	WHEEL 8 X 7	1
6	521741	BEARING GREASE SEAL	1
7	-	BEARING CONE - INNER	1
8	-	BEARING CUP - INNER	1
9	-	BEARING CUP - OUTER	1
10	-	BEARING CONE - OUTER	1

ITEM	PART #	DESCRIPTION	QTY
11	521746	WASHER (2 PC KIT)	1
12	521747	CASTLE NUT (2 PC KIT)	1
13	521748	DUST CAP	1
14	521327	WHEEL NUT KIT (5 PCS)	1
15	521755	WHEEL STUD KIT (5 PCS)	1
16	230031	SPINDLE - 1 3/4 DOUBLE	1
17	O.L.	3/16 X 1-1/2" COTTER PIN	1
18	O.L.	GREASE FITTING 1/4 - 28	1

O.L. - OBTAIN LOCALLY

5. SAFETY

5.1. DECALS

670150
PRO-ROLL DECAL KIT
 (INCLUDES FOLLOWING DECALS)



209172
 DECAL – GENERAL SAFETY



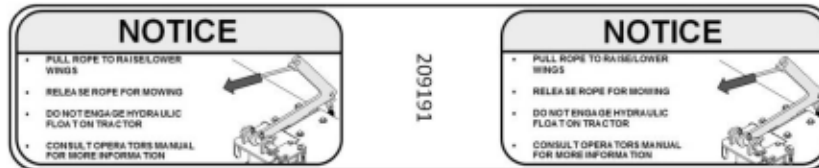
521817
 DECAL - PROGRESSIVE TURF



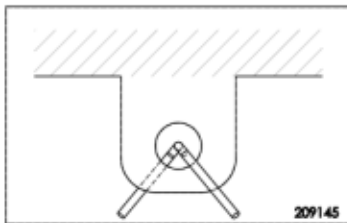
209198
 DECAL – PRO-ROLL



209103
 DECAL - PROGRESSIVE



209191
 DECAL – AUTO VALVE



209145
 DECAL – TIE DOWN POINT



521014
 DECAL – GREASE GUN

6. NOTES
