

NEW HOLLAND POWERSTAR 120 TWIN ROTARY

Current as of 02/12/2020



PARTS LISTING WITH MOUNTING AND OPERATING INSTRUCTIONS



Tiger Corporation

3301 N. Louise Ave. Sioux Falls, SD 57107 1-800-843-6849 1-605-336-7900 www.tigermowers.com

TO THE OWNER / OPERATOR / DEALER

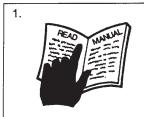
All implements with moving parts are potentially hazardous. There is no substitute for a cautious, safe-minded operator who recognizes the potential hazards and follows reasonable safety practices. The manufacturer has designed this implement to be used with all its safety equipment properly attached to minimize the chance of accidents.

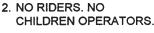
BEFORE YOU START!! Read the safety messages on the implement and shown in this manual. Observe the rules of safety and use common sense!

READ AND UNDERSTAND THIS MANUAL! Non-English speaking operators will need to GET THE MANUAL TRANSLATED as needed!



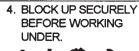
FAILING TO FOLLOW SAFETY MESSAGES AND OPERATING INSTRUCTIONS CAN CAUSE SERIOUS BODILY INJURY OR EVEN DEATH TO OPERATOR AND OTHERS IN THE AREA.













- 1. Study and understand Operator's Manuals, Safety Decals, and Instructional Decals for tractor and implement to prevent misuse, abuse, and accidents. Practice before operating in a confined area or near passersby.

 Learn how to stop engine suddenly in an emergency. Be alert for passersby and especially children
- 2. Allow no children on or near folding mower or tractor. Allow no riders on tractor or implement. Falling off may cause serious injury or death from being run over by tractor or mower or contact with rotating blades.
- 3. Operate only with tractor having Roll-Over Protective Structure (ROPS) and with seat belt securely fastened to prevent injury and possible death from falling off or tractor overturn.
 Personal Protective Equipment such as Hard Hat, Safety Glasses, Safety Shoes, & Ear Plugs are recommended.
- 4. Block up or support raised machine and all lifted components securely before putting hands or feet under or working underneath any lifted component to prevent crushing injury or death from sudden dropping or inadvertent operation of controls. Make certain area is clear before lowering or folding
- 5. Before transporting, put Lift Lever in detent or full-lift position. Install Transport Safety Devices securely on folding mowers.
 Put Booms securely in Transport Rest.
 Folding and Boom Mowers have raised center of gravity. Slow down when turning and on hillsides.
- 6. Make certain that SMV sign, warning lights, and reflectors are clearly visible. Follow local traffic codes.
- 7. Never operate with Cutting Head or Folding Section raised if passersby, bystanders, or traffic are in the area to reduce possibility of injury or death from objects thrown by Blades under Guards or mower structure.
- 8. Before dismounting, secure implement in transport position or lower to ground.
 Put tractor in park or set brake, disengage PTO, stop engine, remove key, and wait until noise of rotation has ceased to prevent crushing by entanglement in rotating parts which could cause injury or death.
 Never mount or dismount a moving vehicle. Crushing from runover may cause serious injury or death.



6. USE SMV, LIGHTS, & REFLECTORS.



7. DO NOT OPERATE WITH CUTTER OR WING RAISED.



8. DO NOT MOUNT OR DISMOUNT WHILE



Warranty Information: Read and understand the complete Warranty Statement found in this manual. Fill out the Warranty Registration form in full and return it within 90 days. Make certain the Serial Number of the machine is recorded on the Warranty Card, and form that you retain.

FORWARD

This manual contains information about many features of the Tiger mowing and roadside maintenance equipment. Some of these include: Safety precautions, Assembly instructions, Operations, Maintenance and Parts. This manual will also assist you in the proper break-in, daily care, and troubleshooting of your new mower.

We recommend that you read carefully the entire manual before operating the unit. Also, time spent in becoming fully acquainted with its performance features, adjustments, and maintenance schedules will be repaid in a long and satisfactory life of the equipment.

Troubleshooting - Please, before you call, help us to help you!

Please look at the equipment to observe what is happening, then:

- Classify the problem
 - Hydraulic, electrical or mechanical Read the trouble shooting section
 - Tractor or Truck chassis Contact vehicle dealer

•	If unable to correct the problem yourself, contact your local Tiger Dealer after
	gathering:
	Machine model

Serial numberDealer name

• Detailed information about the problem including results of troubleshooting

Attention Owner / Operator / Dealer: It is your obligation to read, and understand, the warranty information section located at the back of this manual denoting that the purchaser understands the safety issues relating to this machine and has received and will read a copy of this manual.

If at any time, you have a service problem with your Tiger mower, Contact your local dealer for service and parts needed.

MANUFACTURED BY:	DISTRIBUTED BY:		
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This symbol means: CAUTION – YOUR SAFETY IS AT RISK!

When you see this symbol, read and follow the associated instructions carefully or personal injury or damage may result.

Tiger is a registered trademark.



SAFETY	
	SAFETY SECTION
Twin Rtry Safety Section 1-1	

General Safety Instructions and Practices

A safe and careful operator is the best operator. Safety is of primary importance to the manufacturer and should be to the owner / operator. Most accidents can be avoided by being aware of your equipment, your surroundings, and observing certain precautions. The first section of this manual includes a list of Safety Messages that, if followed, will help protect the operator and bystanders from injury or death. Read and understand these Safety Messages before assembling, operating or servicing this mower. This equipment should only be operated by those persons who have read the Manual, who are responsible and trained, and who know how to do so safely and responsibly.



The Safety Alert Symbol combined with a Signal Word, as seen below, is used throughout this manual and on decals which are attached to the equipment. The Safety Alert Symbol means: "ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!" The symbol and signal word are intended to warn the owner / operator of impending hazards and the degree of possible injury when operating this equipment.

Practice all usual and customary safe working precautions and above all -- remember safety is up to <u>YOU</u>! Only <u>YOU</u> can prevent serious injury or death from unsafe practices.



Indicates an imminently hazardous situation that, if not avoided, WILL result in DEATH OR VERY SERIOUS INJURY.



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, MAY result in MINOR INJURY.



Identifies special instructions or procedures that, if not strictly observed, could result in damage to, or destruction of the machine, attachments or the environment.

NOTE: Identifies points of particular interest for more efficient or convienient operation or repair. (SG-1)

<u>READ, UNDERSTAND</u>, and <u>FOLLOW</u> the following Safety Messages. Serious injury or death may occur unless care is taken to follow the warnings and instructions stated in the Safety Messages. Always use good common sense to avoid hazards. (SG-2)



PELIGRO!



Si no lee Ingles, pida ayuda a alguien que si lo lea para que le traduzca las medidas de seguridad. (SG-3)



i LEA EL INSTRUCTIVO!

DANGER!



Never operate the Tractor or Implement until you have read and completely understand this Manual, the Tractor Operator's Manual, and each of the Safety Messages found in the Manual or on the Tractor and Implement. Learn how to stop the tractor engine suddenly in an emergency. Never allow inexperienced or untrained personnel to operate the Tractor and Implement without supervision. Make sure the operator has fully read and understands the manuals prior to operation. (SG-4)



WARNING!



Always maintain the safety decals in good readable condition. <u>If the decals are missing, damaged, or unreadable, obtain and install replacement decals immediately.</u> (SG-5)

WARNING!



Make certain that the "Slow Moving Vehicle" (SMV) sign is installed in such a way as to be clearly visible and legible. When transporting the Equipment use the Tractor flashing warning lights and follow all local traffic regulations. $_{\rm (SG-6)}$



WARNING!



Operate this Equipment only with a Tractor equipped with an approved roll-over-protective system (ROPS). Always wear seat belts. Serious injury or even death could result from falling off the tractor--particularly during a turnover when the operator could be pinned under the ROPS. (SG-7)



WARNING!



Do not modify or alter this Implement. Do not permit anyone to modify or alter this Implement, any of its components or any Implement function. (SG-8)

DANGER!



BEFORE leaving the tractor seat, always engage the brake and/or set the tractor transmission in parking gear, disengage the PTO, stop the engine, remove the key, and wait for all moving parts to stop. Place the tractor shift lever into a low range or parking gear to prevent the tractor from rolling. Never dismount a Tractor that is moving or while the engine is running. Operate the Tractor controls from the tractor seat only.

ENGINE PTO

STOP

DANGER!



Never allow children or other persons to ride on the Tractor or Implement. Falling off can result in serious injury or death.

(SG-10)



DANGER!



Never allow children to operate or ride on the Tractor or Implement.

(SG-11)



WARNING!



Do not mount the tractor while the tractor is moving. Mount the tractor only when the tractor and all moving parts are completely stopped.



DANGER!



Start tractor only when properly seated in the tractor seat. Starting a tractor in gear can result in injury or death. Read the tractor operators manual for proper starting instructions. $_{(SG-13)}$



DANGER!



Never work under the Implement, the framework, or any lifted component unless the Implement is securely supported or blocked up to prevent sudden or inadvertent falling which could cause serious injury or even death. (SG-14)



DANGER!



Do not operate this Equipment with hydraulic oil leaking. Oil is expensive and its presence could present a hazard. Do not check for leaks with your hand! Use a piece of heavy paper or cardboard. Highpressure oil streams from breaks in the line could penetrate the skin and cause tissue damage including gangrene. If oil does penetrate the skin, have the injury treated immediately by a physician knowledgeable and skilled in this procedure. $_{\rm (SG-15)}$



WARNING!



The operator and all support personnel should wear hard hats, safety shoes, safety glasses, and proper hearing protection at all times for protection from injury including injury from items thrown by the equipment.

(SG-16)







CAUTION!



PROLONGED EXPOSURE TO LOUD NOISE MAY CAUSE PERMANENT HEARING LOSS! Tractors with or without an Implement attached can often be noisy enough to cause permanent hearing loss. We recommend that you always wear hearing protection if the noise in the operator's position exceeds 80db. Noise over 85db over an extended period of time will cause severe hearing loss. Noise over 90db adjacent to the operator over an extended period of time will cause permanent or total hearing loss. *Note:* Hearing loss from loud noise [from tractors, chain saws, radios, and other such sources close to the ear] is cumulative over a lifetime without hope of natural recovery. (SG-17)



WARNING!



Transport only at safe speeds. Serious accidents and injuries can result from operating this equipment at unsafe speeds. Understand the Tractor and Implement and how it handles before transporting on streets and highways. Make sure the Tractor steering and brakes are in good condition and operate properly.



Before transporting the Tractor and Implement, determine the safe transport speeds for you and the equipment. Make sure you abide by the following rules:

- 1. Test the tractor at a slow speed and increase the speed slowly.

 Apply the brakes smoothly to determine the stopping characteristics of the Tractor and Implement. As you increase the speed of the Tractor the stopping distance increases. Determine the maximum safe transport speed for you and this equipment.
- 2. Test the equipment at a slow speed in turns. Increase the speed through the turn only after you determine that it is safe to operate at a higher speed. Use extreme care and reduce your speed when turning sharply to prevent the tractor and implement from turning over. Determine the maximum safe turning speed for you and this equipment before operating on roads or uneven ground.



3. Only transport the Tractor and Implement at the speeds that you have determined are safe and which allow you to properly control the equipment.

Be aware of the operating conditions. Do not operate the Tractor with weak or faulty brakes. When operating down a hill or on wet or rain slick roads, the braking distance increases: use extreme care and reduce your speed. When operating in traffic always use the Tractor's flashing warning lights and reduce your speed. Be aware of traffic around you and watch out for the other guy. (SG-19)

Twin Rtry Safety Section 1-5

WARNING!



Never attempt to lubricate, adjust, or remove material from the Implement while it is in motion or while tractor engine is running. Make sure the tractor engine is **OFF** before working on the Implement.

(SG-20)



WARNING!



Periodically inspect all moving parts for wear and replace when necessary with authorized service parts. Look for loose fasteners, worn or broken parts, and leaky or loose fittings. Make sure all pins are properly secured. Serious injury may occur from not maintaining this machine in good working order. (SG-21)



WARNING!



Always read carefully and comply fully with the manufacturers instructions when handling oil, solvents, cleansers, and any other chemical agent. $_{(SG-22)}$



DANGER!



Never run the tractor engine in a closed building or without adequate ventilation. The exhaust fumes can be hazardous to your health.

(SG-23)

DANGER!



KEEP AWAY FROM ROTATING ELEMENTS to prevent entanglement and possible serious injury or death. (SG-24)



DANGER!



Never allow children to play on or around Tractor or Implement. Children can slip or fall off the Equipment and be injured or killed. Children can cause the Implement to shift or fall crushing themselves or others. (SG-25)

DANGER!



NEVER use drugs or alcohol immediately before or while operating the Tractor and Implement. Drugs and alcohol will affect an operator's alertness and coordination and therefore affect the operator's ability to operate the equipment safely. Before operating the Tractor or Implement, an operator on prescription or over-the-counter medication must consult a medical professional regarding any side effects of the medication that would hinder their ability to operate the Equipment safely. **NEVER** knowingly allow anyone to operate this equipment when their alertness or coordination is impaired. Serious injury or death to the operator or others could result if the operator is under the influence of drugs or alcohol. (SG-27)



DANGER!



Operate the Tractor and/or Implement controls only while properly seated in the Tractor seat with the seat belt securely fastened around you. Inadvertent movement of the Tractor or Implement may cause serious injury or death. (SG-29)

WARNING!



Mow only in conditions where you have clear visibility in daylight or with adequate artificial lighting. Never mow in darkness or foggy conditions where you cannot clearly see at least 100 yards in front and to the sides of the tractor and mower. Make sure that you can clearly see and identify passersby, steep slopes, ditches, drop-offs, overhead obstructions, power lines, debris and foreign objects. If you are unable to clearly see this type of items discontinue mowing. (SGM-1)

DANGER!



There are obvious and hidden potential hazards in the operation of this Mower. REMEMBER! This machine is often operated in heavy brush and in heavy weeds. The Blades of this Mower can throw objects if shields are not properly installed and maintained. Serious injury or even death may occur unless care is taken to insure the safety of the operator, bystanders, or passersby in the area. Do not operate this machine with anyone in the immediate area. Stop mowing if anyone is within 100 yards of mower. (SGM-2)



DANGER!



All Safety Shields, Guards and Safety devices including (but not limited to) - the Deflectors, Steel Guards, Gearbox Shields, PTO integral shields, and Retractable Door Shields should be used and maintained in good working condition. All safety devices should be inspected carefully at least daily for missing or broken components. Missing, broken, or worn items must be replaced at once to reduce the possibility of injury or death from thrown objects, entanglement, or blade contact. (SGM-3)

DANGER!



The rotating parts of this machine have been designed and tested for rugged use. However, the blades could fail upon impact with heavy, solid objects such as metal guard rails and concrete structures. Such impact could cause the broken objects to be thrown outward at very high velocities. To reduce the possibility of property damage, serious injury, or even death, never allow the cutting blades to contact such obstacles. (SGMI-4)

WARNING!



Extreme care should be taken when operating near loose objects such as gravel, rocks, wire, and other debris. Inspect the area before mowing. Foreign objects should be removed from the site to prevent machine damage and/or bodily injury or even death. Any objects that cannot be removed must be clearly marked and carefully avoided by the operator. Stop mowing immediately if blades strike a foreign object. Repair all damage and make certain rotor or blade carrier is balanced before resuming mowing. (SGM-5)



WARNING!



Many varied objects, such as wire, cable, rope, or chains, can become entangled in the operating parts of the mower head. These items could then swing outside the housing at greater velocities than the blades. Such a situation is extremely hazardous and could result in serious injury or even death. Inspect the cutting area for such objects before mowing. Remove any like object from the site. Never allow the cutting blades to contact such items. (SGM-6)

WARNING!



Mow at the speed that you can safely operate and control the tractor and mower. Safe mowing speed depends on terrain condition and grass type, density, and height of cut. Normal ground speed range is from 0 to 5 mph. Use slow mowing speeds when operating on or near steep slopes, ditches, drop-offs, overhead obstructions, power lines, or when debris and foreign objects are to be avoided. (SGM-7)

WARNING!



Avoid mowing in reverse direction when possible. Check to make sure there are no persons behind the mower and use extreme care when mowing in reverse. Mow only at a slow ground speed where you can safely operate and control the tractor and mower. Never mow an area that you have not inspected and removed debris or foreign material. (SGM-8)

WARNING!



Do not put hands or feet under mower decks. Blade Contact can result serious injury or even death. Stay away until all motion has stopped and the decks are securely blocked up. $_{\rm (SGM-9)}$



DANGER!



Replace bent or broken blade with new blades. NEVER ATTEMPT TO STRAIGHTEN OR WELD ON BLADES SINCE THIS WILL LIKELY CRACK OR OTHERWISE DAMAGE THE BLADE WITH SUBSEQUENT FAILURE AND POSSIBLE SERIOUS INJURY FROM THROWN BLADES. (SGM-10)

WARNING!



Do not mow with two machines in the same area except with Cab tractors with the windows closed. (SGM-11)

DANGER!



Rotary Mowers are capable under adverse conditions of throwing objects for great distances (100 yards or more) and causing serious injury or death. Follow safety messages carefully.

STOP MOWING IF PASSERSBY ARE WITHIN 100 YARDS UNLESS:

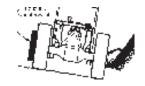
- -Front and Rear Deflectors are installed and in good, working condition;
- -Mower Head is running close to and parallel to the ground without exposed Blades;
- -Passersby are outside the existing thrown-object zone;
- -All areas have been thoroughly inspected and all foreign material such as rocks, cans, glass, and general debris has been removed.

NOTE: Where there are grass and weeds high enough to hide debris that could be struck by the blades, the area should be: inspected and large debris removed, mowed at an intermediate height, inspected closely with any remaining debris being removed, and mowed again at desired final height. (SFM-6)

WARNING!



Each Rear Wheel must have a minimum of 1,000 pounds contact with the surface to prevent lateral instability and possible tip-over which could result in serious bodily injury or even death. Widen the wheel tread and add weights if needed. Refer to the mounting instructions or call Customer Service if you need assistance with Counterweight Procedure. (SFL-3)



WARNING!



Do not operate Mower if excessive vibration exists. Shut down PTO and the Tractor engine. Inspect the Mower to determine the source of the vibration. If Mower blades are missing or damaged replace them immediately. Do not operate the mower until the blades have been replaced and the Mower operates smoothly. Operating the Mower with excessive vibration can result in component failure and broken objects to be thrown outward at very high velocities. To reduce the possibility of property damage, serious injury, or even death, never allow the Mower to be operated with blades missing. (SFL-4)

WARNING!



Do not let the Blades turn when the Mower Deck is raised for any reason, including clearance or for turning. Raising the Mower deck exposes the Cutting Blades which creates a potentially serious hazard and could cause serious injury or even death from objects thrown from the Blades. (SRM-7)



WARNING!



Never leave Tractor and Implement unattended while the implement is in the lifted position. Accidental operation of lifting lever or a hydraulic failure may cause sudden drop of unit with injury or death by crushing. To properly park the implement when disconnecting it from the tractor, lower the stand and put the retaining pin securely in place, or put a secure support under the A-Frame. Lower the implement carefully to the ground. Do not put hands or feet under lifted components. (SPT-1)

WARNING!



Be particularly careful when transporting the Implement with the Tractor. Turn curves or go up hills only at a low speed and using a gradual steering angle. Rear mounted implements move the center of gravity to the rear and remove weight from the front wheels. Make certain, by adding front ballast, that at least 20% of the tractor's weight is on the front wheels to prevent rearing up, loss of steering control or Tractor tip-over. Slow down on rough or uneven surfaces to prevent loss of steering control which could result in property damage or possible injury. Do not transport unless 3-Point lift lever is fully raised and in the latched transport position. Dropping implement in transport can cause serious damage to the tractor and/or Implement and possibly cause the operator or others to be injured or killed. (S3PT-2)

WARNING!



The rotating parts of this machine continue to rotate even after the Tractor has been turned off. The operator should remain in his seat for 60 seconds after the brake has been set, the PTO disengaged, the tractor turned off, and all evidence of rotation has ceased. (SBM-5)

"Wait a minute...Save a life!"

DANGER!



There are obvious and hidden potential hazards in the operation of this Implement as in all power-driven or pulled equipment. REMEMBER! This machine is often operated in rough terrain conditions that include tall grass, weeds, gullies, holes, slopes, hidden obstructions and the like. Serious injury or even death may occur unless care is taken to assure the safety of the operator and bystanders in the area. Do not operate this machine with anyone in the immediate area. (SSPT-7)

WARNING!



Relieve hydraulic pressure prior to doing any maintenance or repair work on the Implement. Place the Implement on the ground or securely blocked up, disengage the PTO, and turn off the tractor engine. Push and pull the Remote Cylinder lever in and out several times prior to starting any maintenance or repair work. (S3PT-9)



DANGER!



This Implement is wider than the Tractor. Be careful when operating or transporting this equipment to prevent the Implement from running into or striking sign posts, guard rails, concrete abutments or other solid objects. Such an impact could cause the Implement and Tractor to pivot violently resulting in loss of steering control, serious injury, or even death. Never allow the Implement to contact obstacles. (S3PT-12)

DANGER!



The flail cutter shaft is designed for standard rotation (same rotation as the tractor wheels during forward travel). **Never operate the cutter shaft in the reverse rotation.** Operating this mower in reverse rotation may cause objects to be thrown out the front of the mower head.



WARNING!



Engine Exhaust, some of its constituents, and certain components contain or emit chemicals known to the state of California to cause cancer and birth or other reproductive harm.

WARNING!



Battery posts, terminals and related accessories contain lead and lead compounds, chemicals known to the state of California to cause cancer and birth or other reproductive harm. **Wash hands after handling!**

Tiger mowers use balanced and matched system components for blade carriers, blades, cuttershafts, knives, knife hangers, rollers, drive-train components and bearings. These parts are made and tested to Tiger specifications. Non-genuine "will fit" parts do not consistently meet these specifications. The use of "will fit" parts may reduce mower performance, void mower warranties and present a safety hazard. Use genuine Tiger mower parts for economy and safety.



In addition to the design and configuration of this Implement, including Safety Signs and Safety Equipment, hazard control and accident prevention are dependent upon the awareness, concern, prudence, and proper training of personnel involved in the operation, transport, maintenance, and storage of the machine. Refer also to Safety Messages and operation instruction in each of the appropriate sections of the Tractor and Equipment Manuals. Pay close attention to the Safety Signs affixed to the Tractor and Equipment. (SG-18)

DO NOT LUBRICATE WITH AUTOMATIC GREASE GUN. GREASE WITH HAND GREASE GUN ONLY.

P/N22839

PART NO. LOCATION

22839 MOWER DECK



22840 INSIDE OF CAB

A WARNING

INSPECT REAR FLAP FREQUENTLY TO BE SURE IT IS IN SAFE WORKING CONDITION. DO NOT OPERATE MOWER WITH FLAP REMOVED OR WORN.

24028

24028 MOWER DECK



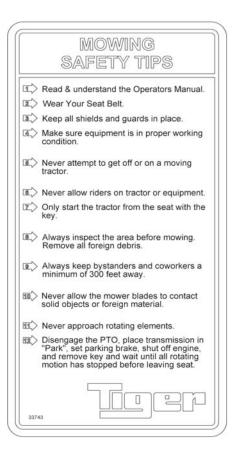
10" x 5.5" 31522 MOWER DECK 18.25" x10" 31523 HYDRAULIC TANK

Twin rtry Safety Section 1-12



PART NO. LOCATION

42350 MOWER DECK



33743 INSIDE OF CAB



42399 MOWER DECK



42400 MOWER DECK

Twin Rtry Safety Section 1-13



PART NO. LOCATION

6T3217 MOWER DECK

FOR SAFE
OPERATION
READ THE
OPERATORS &
MAINTENANCE
MANUAL BEFORE
OPERATING

6T3219 INSIDE OF CAB

6T3220 FRONT PUMP MOUNT



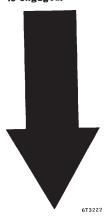
LUBRICATE SPINDLE DAILY OR EVERY 10 HOURS OF USE. WITH MOWER AND TRACTOR OFF, INJECT TWO PUMPS OF TIGER SPINDLE LUBRICANT INTO SPINDLE BEFORE USING.

NOTE: SEE OPERATORS MANUAL FOR SUBSTITUTE LUBRICANT AND MORE DETAILED INSTRUCTIONS.
673221

6T3221 INSIDE OF CAB

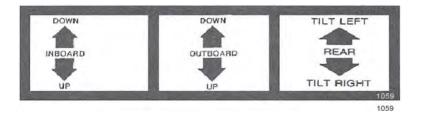


NOTICE: Engine will not start when mower is engaged.



PART NO. **LOCATION**

6T3222 **INSIDE OF CAB**



INSIDE OF CAB



6T3224 MOWER DECK

WARNING

DO NOT OPERATE THIS EQUIPMENT WITH BYSTANDERS IN THE AREA!

ROTARY MOWERS HAVE THE INHERENT ABILITY TO THROW DEBRIS CONSIDERABLE DISTANCES WHEN KNIVES ARE ALLOWED TO STRIKE FOREIGN OBJECTS. OPERATOR CAUTION MUST BE TAKEN OR SERIOUS INJURY CAN RESULT.

6T3230 **INSIDE OF CAB**



DO NOT START OR RUN WITH VALVES CLOSED. (SERIOUS DAMAGE WILL OCCUR)

PART NO. **LOCATION**

6T3233 HYDRAULIC TANK

A CAUTION

CHECK CRANKSHAFT ADAPTER DAILY FOR TIGHTNESS AND GROMMET WEAR

AS SERIOUS DAMAGE TO RADIATOR MAY RESULT FROM IMPROPER MAINTENANCE.

6T3234

6T3234 **INSIDE OF CAB**



6T3236 **MOWER DECK** HYDRAULIC TANK

IT IS RECOMMENDED THAT THE BOLT AND LOCK NUT BE REPLACED WHENEVER BLADES ARE REPLACED. REPLACE THESE ANY TIME THEY ARE DAMAGED OR WORN AS FAILURE TO DO SO CAN LEAD TO BLADES COMING OFF CAUSING SERIOUS INJURY OR DEATH.

IMPORTANT

- WHEN REPLACING BLADES, IT IS RECOMMENDED THAT ALL BLADES BE REPLACED FOR PROPER BALANCE TO AVOID EXCESSIVE VIBRATIONS WHICH CAN DAMAGE SPINDLE ASSEMBLY.

 SEE YOUR OPERATOR'S MANUAL FOR PROPER INSTALLATION INSTRUCTIONS.

 61-3243

6T3243 **INSIDE OF CAB**

PART NO. LOCATION

GREASING INSTRUCTIONS CUTTER SHAFT BEARING

GREASE EVERY 8 HRS. OR DAILY

NOTE: If unusual environmental conditions exist-extreme temperatures, moisture, or contaminants-more frequent lubrication is required.

673249

6T3249A MOWER DECK

GREASING INSTRUCTIONS

GROUND ROLLER BEARING

GREASE EVERY 8 HRS. OR DAILY

NOTE: If unusual environmental conditions exist-extreme temperatures, moisture, or contaminants-more frequent lubrication is required.

6T3261

6T3261 MOWER DECK



DO NOT OPERATE MOWER WITH SAFETY SHIELD REMOVED.

TB1011 MOWER DECK



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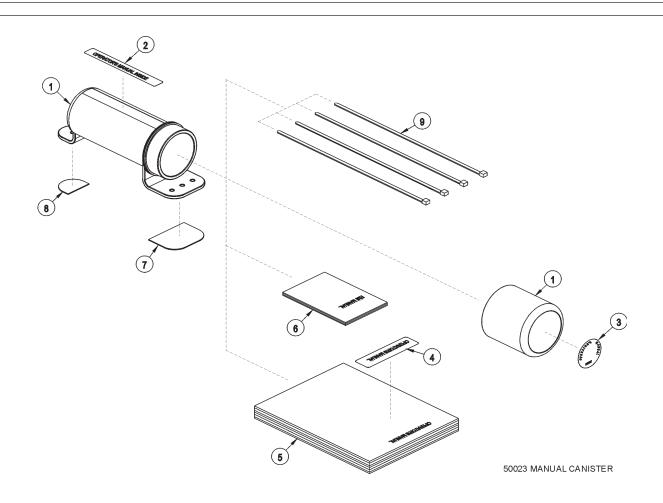
Tiger Corporation

800-843-6849 www.tiger-mowers.com

Description	Application	General Specification	Recommended Lubricant
Tractor Hydraulics	Reservoir	JD-20C	Mobilfluid® 424
Mower Hydraulics Cold Temperatures 0°F Start-up Normal Temperatures 10°F Start-up Normal Temperatures 15°F Start-up High Operating Temperatures Above 90°F Ambient	Reservoir	ISO 46 Anti-Wear/ Low Temp JD-20C ISO 46 Anti-Wear ISO 100 Anti-Wear	Mobil DTE® 15M Mobilfluid® 424 Mobil DTE® 25 Mobil DTE® 18M
Flail Rear Gearbox	Reservoir	PAO Synthetic Extreme Pressure Gear Lube	Mobilube SHC® 75W-90, Mobil 1 Synthetic Gear Lubricant
Cutter Shaft and Ground Roller Shaft (Flail)	Grease Gun	Lithium Complex, NLGI 2 ISO 320	Mobilgrease® CM-S
Drive Shaft Coupler (Rotary and Flail)	Grease Gun	Lithium Complex, NLGI 2 ISO 320	Mobilgrease® CM-S
Boom Swivel, Boom Cylinder Pivots (Rotary and Flail Boom Type)	Grease Gun	Lithium Complex, NLGI 2 ISO 320	Mobilgrease® CM-S
Deck Boom Pivot & Deck Stop Adjustment (Rotary and Flail)	Grease Gun	Lithium Complex, NLGI 2 ISO 320	Mobilgrease® CM-S
Deck Spindle (Rotary)	Grease Gun	Tiger Spindle Lubricant	Mobilith SHC 220

Tiger PN 34852 O

34852 HYDRAULIC TANK



ITEM	PARTNO.	QTY.	DESCRIPTION
1	50023 00776031	AVAIL	MANUAL CANISTER COMPLETE ROUND MANUAL CANISTER
'	33997	1	DECAL, SHEET, MANUAL CANISTER
2		*	DECAL
3		*	DECAL
4		*	DECAL
5	*	AVAIL	SPECIFIC PRODUCT MANUAL
6	33753	1	E M I SAFETY MANUAL
7	34296	1	FRONTADHESIVEPAD
8	34297	1	REAR ADHESIVE PAD
9	6T1823	4	ZIPTIE 14" LONG

NOTE:

The manual canister can be bolted, zip tied or adhered to a variety of surfaces. Locate a protected area within the view of the operator. Then select an installation method and attach the canister. **CAUTION - AVOID DRILLING HOLES INTO UNKNOWN AREAS,** wires and other parts may be located behind these areas. When adhering the canister to a surface, thoroughly clean that surface before installing the canister.

FEDERAL LAWS AND REGULATIONS

This section is intended to explain in broad terms the concept and effect of federal laws and regulations concerning employer and employee equipment operators. This section is not intended as a legal interpretation of the law and should not be considered as such.

Employer-Employee Operator Regulations

U.S. Public Law 91-596 (The Williams-Steiger Occupational and Health Act of 1970) OSHA

This Act Seeks:

"...to assure so far as possible every working man and woman in the nation safe and healthful working conditions and to preserve our human resources..."

DUTIES

Sec. 5 (a) Each employer-

- (1) shall furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees;
- (2) shall comply with occupational safety and health standards promulgated under this Act.
- (b) Each employee shall comply with occupational safety and health standards and all rules, regulations and orders issued pursuant to this Act which are applicable to his own actions and conduct.

OSHA Regulations

OSHA regulations state in part: "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 equipment with which the employee is, or will be involved."

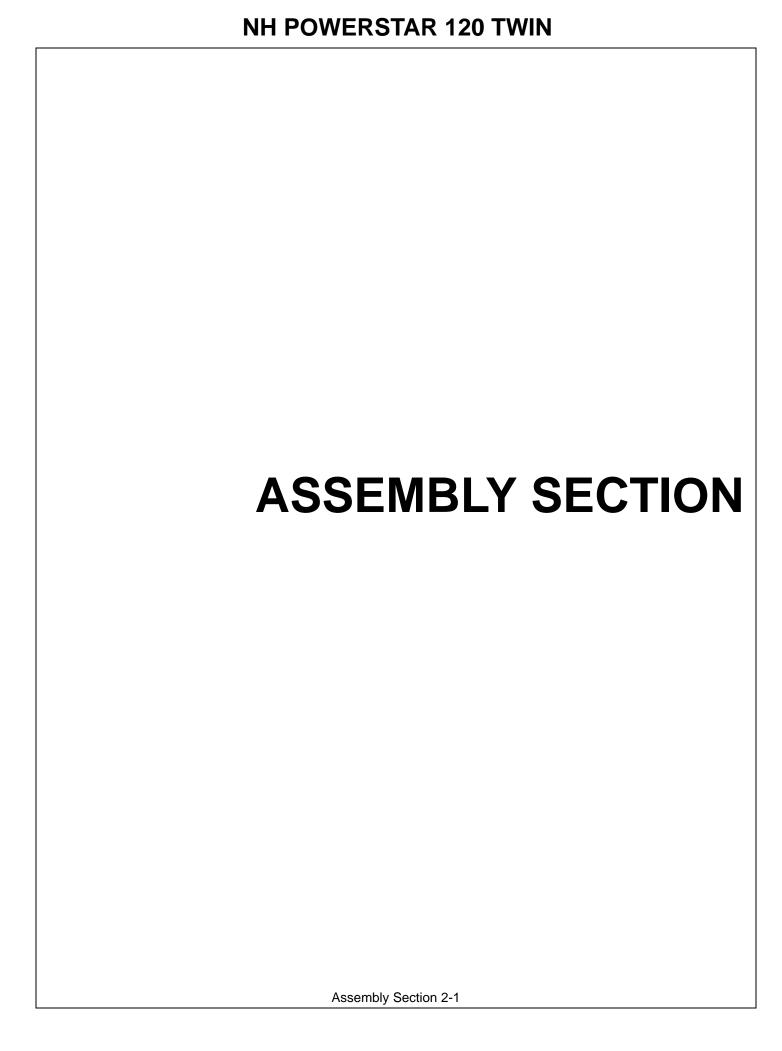
Employer Responsibilities:

To ensure employee safety during Tractor and Implement operation, it is the employer's responsibility to:

- 1. Train the employee in the proper and safe operation of the Tractor and Implement.
- 2. Require that the employee read and fully understand the Tractor and Implement Operator's manual.
- 3. Permit only qualified and properly trained employees to operate the Tractor and Implement.
- 4. Maintain the Tractor and Implement in a safe operational condition and maintain all shields and guards on the equipment.
- 5. Ensure the Tractor is equipped with a functional ROPS and seat belt and require that the employee operator securely fasten the safety belt and operate with the ROPS in the raised position at all times.
- 6. Forbid the employee operator to carry additional riders on the Tractor or Implement.
- 7. Provide the required tools to maintain the Tractor and Implement in a good safe working condition and provide the necessary support devices to secure the equipment safely while performing repairs and service.

Child Labor Under 16 Years of Age

Some regulations specify that no one under the age of 16 may operate power machinery. It is your responsibility to know what these regulations are in your own area or situation. (Refer to U.S. Dept. of Labor, Employment Standard Administration, Wage & Home Division, Child Labor Bulletin #102.)



Before attempting to mount your Tiger mower, it is important to read and understand all of the safety messages in the Safety Section of this manual.

Check complete shipment list against the packing list to make sure there are no shortages. Make certain the tractor model is the appropriate one for the mower received!

▲WARNING

Always use a floor jack, hoist or fork lift to lift and raise heavy parts.

Read and understand the entire Assembly Section instructions before attempting to mount your Tiger mower. Refer to the Parts Section of this manual for detailed illustrations to locate all parts. (ASM-C-0001)

TRACTOR PREPARATION

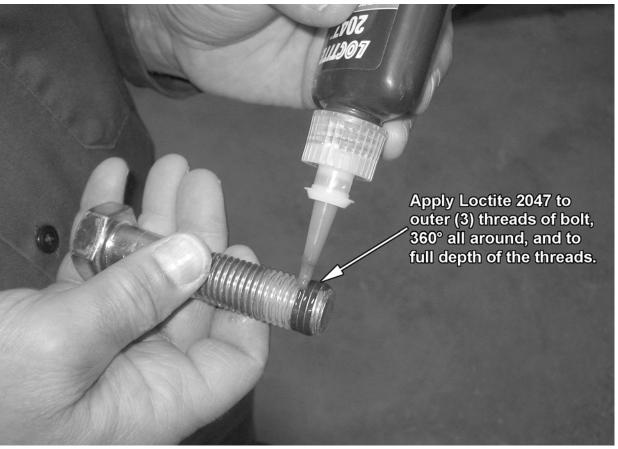
- A. Remove key from ignition.
- B. Remove right hand steps.
- C. Disconnect and remove battery cables and battery.
- D. Remove engine side panels, or raise hood to access front pulley.
- E. Remove plugs from tractor casting where mainframe and pump mount will be attached.
- F. Remove any front weights and weight supports.
- G. Raise the tractor onto jack-stands and remove the right and left rear wheels.

(ASM-C-0024a)



APPLICATION OF LOCTITE 2047 MOWER MAINFRAME MOUNTING BOLTS

All mower mainframe mounting bolts shall be secured utilizing Loctite 2047 and torqued per the Torque Chart in the maintenance section. Shake bottle for 60 seconds before use. To prevent clogging of nozzle, do not allow tip to touch metal surfaces during application. If tip of nozzle becomes clogged, cut off tip as required. If female threads are contaminated or rusty, clean threads by using a thread chaser prior to installation of bolts. Apply thread locker to threads of bolts as shown below. The allowable fixture time is (1) hour maximum. Therefore bolts must be torqued within this time limit. The cure time is 72 hours at room temperature, therefore machine is not to be used in actual application, except for function testing, until the Loctite is allowed to cure.



(ASM-C-LOCTITE MNT BOLTS)



ADJUSTING REAR WHEELS

Raise rear of tractor onto jack-stands. **Follow the instructions in the tractor owner's manual for adjusting tires and rims** to 72" center for side mounted mowers and 79.8" for boom mowers. NOTE: This may require switching the wheels to opposite sides of tractor. Also take note of any width restrictions when transporting by trailer. (For ease of installation, it is best to leave the rear wheels removed during installation of the mower.) (ASM-NH-0051)

BATTERY RELOCATION

To allow installation of the Tiger mower, the battery needs to be relocated to the new battery box located on the Tiger mainframe. Before installing mainframe, remove the battery by removing the cables and hardware. Remove battery box. Cut away the bottom of the battery box. See the Tractor Mount page in the Parts Section for additional information. (ASM-NH-0113 T 4 90)









FRONT PUMP MOUNTING

Before installing the pump mounting bracket it will be necessary to cut holes in the front frame and hood to allow installation of the pump driveshaft (see photos below for location of holes).

Install the pump mounting bracket on the front of the tractor with capscrews and washers as shown in the Parts Section illustration. DO NOT tighten fasteners at this time.

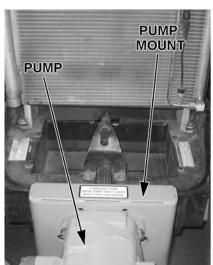
Thread the pump driveshaft into the crankshaft adapter. The end with the splines should match up with the coupler.

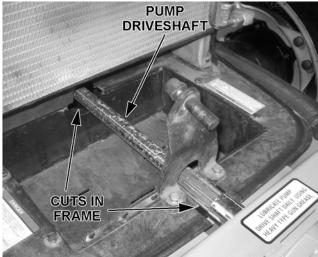
Slide the splined driveshaft coupler onto the pump driveshaft. Install the pump onto the mounting bracket. NOTE: The shaft is offset to one direction, the pump should be installed with the offset side on top. Install hardware for securing pump to the pump mount, DO NOT tighten.

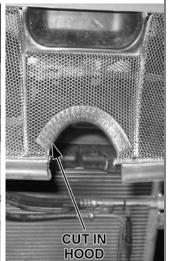
Align pump so that splined coupling can be moved back and forth by hand. Tighten pump mounting bolts in succession, rechecking for spline coupling movement. Remove the pump mounting bracket bolts one at a time and apply a thread locking agent. Tighten these bolts in succession, again checking for free movement in the driveshaft. After all bolts are torqued, the end play on the driveshaft should be 1/16" to 1/8", and the coupler should move freely with hand pressure. If end play is less than 1/16", grind the end of the shaft to achieve the proper end play. If there is more than 1/4" of end play, return the shaft with specifications for a longer shaft.

Note: The driveshaft coupler needs to be checked for free play in four positions: 0°, 90°, 180°, and 270°. This can be done by turning the engine over with a pipe wrench on the coupler.

CAUTION: DO NOT START THE TRACTOR UNTIL ALL HOSES ARE ATTACHED, TANK IS FILLED WITH PROPER OIL AND BALL VALVES ARE OPEN! STARTING AT THIS TIME WILL CAUSE SERIOUS DAMAGE TO THE PUMP. (ASM-NH-0024 T4 85)









POLYCARBONATE SAFETY WINDOW

For additional safety the right side window can be replaced, or protected with a polycarbonate window. This should be done before mounting the mainframe. The right side steps must also be removed before starting (save hardware). *Note: After removing the right side door and window, it is suggested that the control stand and switchbox be installed in the cab before the polycarbonate door and window are installed.*

- 1. Disconnect gas shock at door. Remove the right side cab door/window glass from tractor cab by removing hinge pins.
- 2. Remove existing hardware, door handle and bar handle and save. Discard factory glass door.
- 3. Place small bead of adhesive seal in the bottom of the trim lock bubble seal.
- 4. Install trim lock bubble seal on polycarbonate starting at the center bottom horizontal portion.
- 5. Install existing hardware removed from glass door on the polycarbonate.
- 6. Install the polycarbonate assembly in the cab with existing and supplied hardware.
- 7. Assemble the lower bracket and tighten the hardware saved from the right hand steps to secure the polycarbonate.
- 8. Assemble the upper bracket clamp in the upper front corner by the mirror.
- 9. Adjust the clamp to achieve a secure hold. (ASM-NH-0101 T4 85)







COOLER MOUNTING

Mount the cooler mounting brackets on the top right side of the bumper hydraulic tank. Locate bolt plates on the top of the tank and secure the appropriate cooler bracket to the tank with the hardware provided. Attach the screen and cooler to the brackets. Refer to the Parts Section to connect the hoses to the cooler. (ASM-JD-0006a)





HYDRAULIC TANK INSTALLATION

Install the tank mounting brackets with the hardware provided, as shown in the Parts Section. DO NOT tighten. Using a hoist or lift, raise the tank into position. Line up the holes on the tank with the holes on the mounting brackets and install the hardware. Once all mounting hardware is in place and secured, tighten the capscrews.

The pressure gauge is installed in the filter assembly with a street elbow. The breather cap is screwed into the bung hole in the front of the bumper tank. (ASM-JDT3F-0002a)





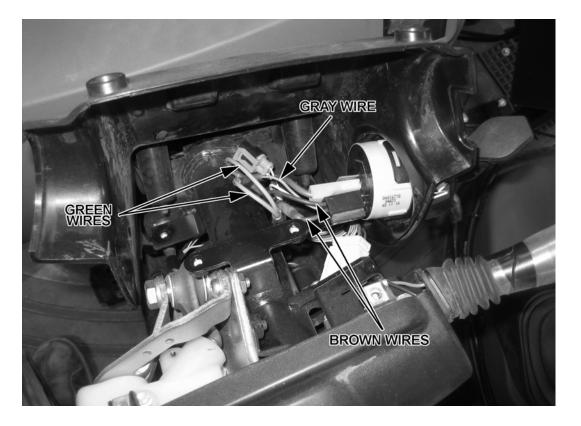
HANGER FRAME

MOUNTING BRACKET

SWITCHBOX WIRING

The switchbox is to be secured to the cable control bracket as shown in the Parts Section. The wires from the switchbox need to be connected with the proper wires located behind the front console of the tractor. Cut the gray wire behind the console and attach one of the green wires from the switchbox to each cut end of the gray wire using butt connectors (#06510141). Cut one of the brown wires. Connect one end of the brown wire and the red wire from the switchbox to one end of a butt connector and the other half of the cut brown wire to the other end.

(ASM-NH-0121 T4 90 T4B

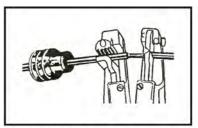


WEATHER-PACK / METRI-PACK ASSEMBLY

These instructions apply to both Weather-Pack and Metri-Pack connectors.

NOTE: Use the specific tool for the type of connector you are assembling.

(ASM-C-0009)



1. Apply seal to cable, before stripping insulation.



2. Align seal with cable insulation.



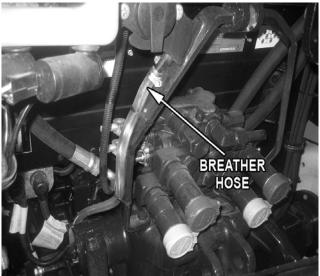
3. Put terminal in crimping tool, then position wire and seal in place.

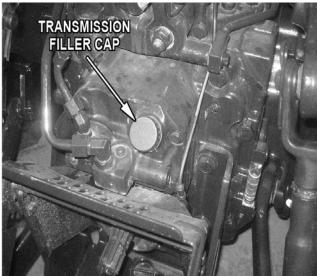


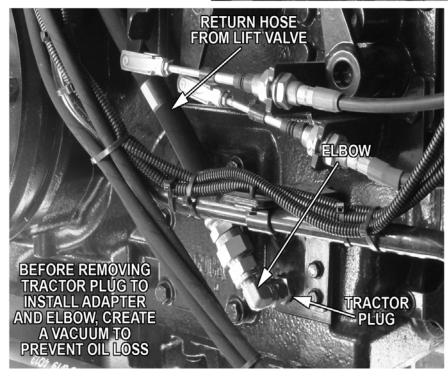
4. Crimp and visually inspect for a good crimp before installing in connector body.

RETURN TO TRACTOR PORT INSTALLATION

The return hose from the lift valve goes to the tractor transmission sump port. To prevent oil loss when the return hose, tee and adapter are installed, a vacuum should be created before the plug is removed from the tractor port. Begin by disconnecting the breather hose on the rear of the tractor. Place a 3/8" bolt in the end of the hose to create a temporary seal. Remove the transmission filler cap from the rear of the tractor. Place a small vacuum hose, such as from a small Shop Vac, over the transmission filler port. Leave a little air space around the filler port to prevent oil from being sucked into the vacuum hose. Enough vacuum should be created to prevent leakage from the tractor port. When the tee and hoses are attached to the tractor port, remove the vacuum and re-attach the breather hose and transmission filler cap. (ASM-NH PS120 TWIN return port install









MANUAL SWITCHBOX MOUNTING

The switchbox is to be secured to the front of the manual control bracket. An additional support extends from the cable control stand to the curved bar on the front of the tractor cab. Refer to the Parts Section for assembly and components needed. (ASM-NH-0139 T4 85)

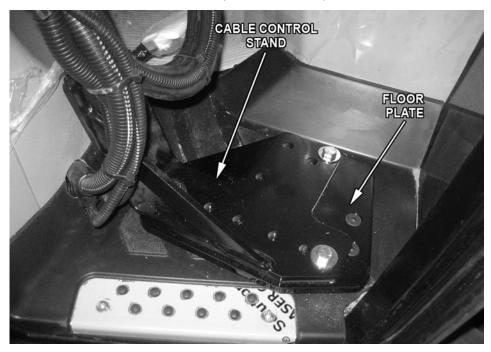




CABLE CONTROL STAND

Place the beveled edge of the support bracket 3/4" in parallel to the door. Locate the support bracket approximately 6-1/2" from the fender wall to the formed edge of the bracket. A floor plate is to be installed under the cable control stand (See Parts Section). Be sure that the location of the stand will allow clearance between the cable control handles and all existing interior levers, etc. Also, watch out for wiring and brackets underneath the cab when placing the bracket for drilling.

Using the support bracket as a template, mark and drill the 3 holes and secure with capscrews and nuts noted in the Parts Section. (ASM-NH-0105D PS120)





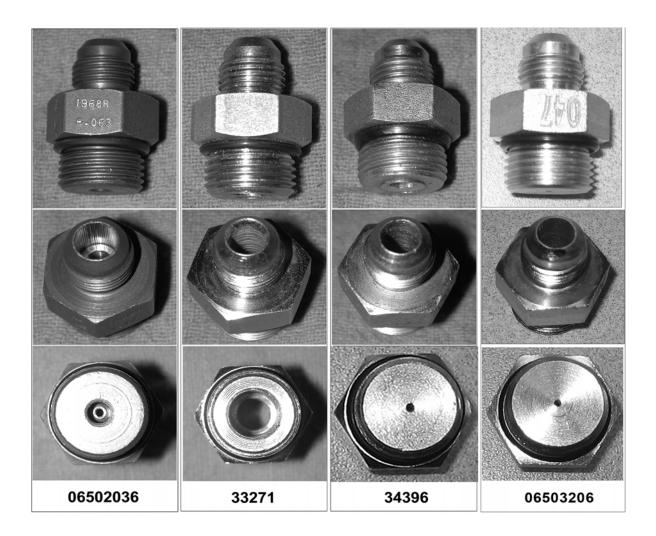
LIFT VALVE CABLE/WIRE ROUTING

Secure cables and wires from the control stand with zip ties and route along the floor past the right side of the driver's seat to the rear of the cab. The bottom right corner of the rear window contains a rubber grommet. This can be cut in a crosshair pattern to allow the cables to pass through to the outside of the cab. Wrap the cables with split hose where they will pass through the window. Apply RTV sealer around individual cables and split hose on both the inside and outside of the window for a watertight seal. (ASM-NH-0109a)



NOTE ON HUSCO CONTROL VALVES

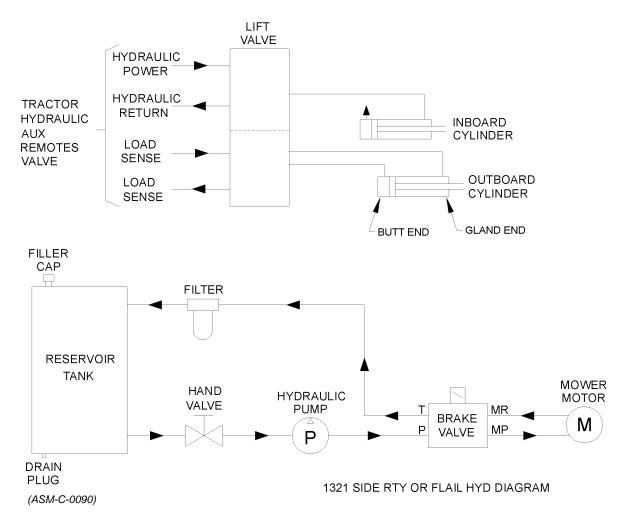
Manual, cable controlled (Husco control valve) boom mowers require check valves with integral restricting orifice (#06502036) installed in the control valve work ports that are connected to the gland ends of the main and secondary boom cylinders. This check valve allows oil to free flow into the gland end of the main and secondary boom cylinders, but restricts flow out of the cylinder, thereby providing proper boom control. This check valve, #06502036 (Vendor #1968R-.063) is similar in appearance to hose adapter #33271; adapter #34396, with.06 orifice; and adapter 06503206, with .047 orifice. These components can be identified as shown below, and are to be installed per Parts Section for the lift valve. (ASM-HUSCO-0001)



AXLE BRACE MOUNTING

Position the right axle brace under the tractor right hand side. Raise the brace up to the matching mounting holes in the mainframe and rear axle housing. Note that both right and left (if applicable) axle braces are installed on outside edge of the mainframe. Install the axle brace with capscrews, washers and nuts as shown in the mainframe Parts Section. Apply Loc-Tite to the threads and torque to the values noted in the torque chart located in the Maintenance Section of this manual. (ASM-NH-0033)

SIDE MOWER HYDRAULIC DIAGRAM



FILLING HYDRAULIC RESERVOIR

Refer to the Maintenance Section for filling specifications and hydraulic oil requirements.

NOTE: Starting or running your Tiger mower before filling reservoir will cause serious damage to the hydraulic pump.

(ASM-C-0004hydro resrv)



INSTALLING O-RING FITTINGS

Installing straight, 45° and 90° O-rings requires that the O-ring and washer be up against the swivel body. Insert the swivel and turn in until the swivel is pointed in the desired direction and O-ring contact is made. Hold swivel in set direction with a wrench and turn the O-ring nut away from the swivel body and carefully tighten. (ASM-C-0056)

INSTALLING NATIONAL PIPE FITTINGS

Whenever installing a pipe fitting, wrap the threads clockwise (looking at the end) with teflon tape. In this way, the tape will be tightened when installed. NOTE: It is not necessary to tape Oring fittings, or those installed in swivels. (ASM-C-0088)

GENERAL HOSE INSTALLATION

Refer to the Parts Section for detailed information about hoses and fittings for this application. (ASM-C-0011)

SOLENOID BRAKE VALVE

Install a solenoid valve on the right riser plate of the mainframe with the supplied hardware as shown in the Parts Section in this manual. While installing the fittings to the brake valve, the electical coil on the spool may have to be removed to make room. When reinstalling the coil, it is important to use no more than 5 ft. lbs. (or 60in. lbs.) torque. **WARNING: OVER TORQUE TO THE COIL WILL RESULT IN HYDRAULIC FAILURE OF SPOOL.** (ASM-C-0106)

TEMPERATURE GAUGE MOUNTING (OPTIONAL)

Mount the temperature gauge where it is clearly visible to the operator. Attach the green (-) wire from the negative post on the gauge to a grounded bolt on the tractor frame. Remove paint if needed to make a good ground. Remove the pipe plug from the side of the hydraulic reservoir and install the temperature sensor using thread sealing tape. Run the white wire from the (s) sensor post of the gauge to the temperature sensor on the hydraulic reservoir tank. (ASM-C-0051)



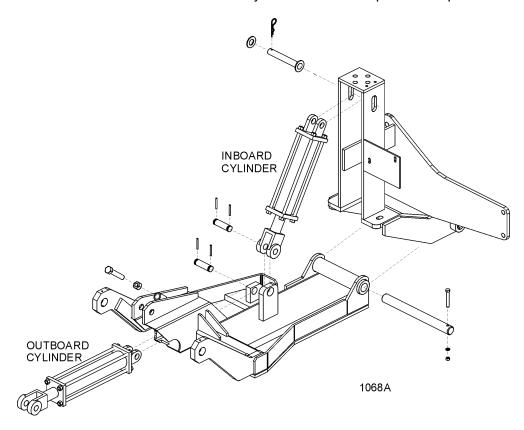
COMBO LIFT DRAFT BEAM INSTALLATION

Install ½" O-ring breather into butt port of inboard cylinder. Install fittings in the rod end of the cylinder according to the diagram in the Common Parts Section. These fittings should be positioned to face the butt end of the cylinder.

Next turn the clevis onto the rod of the cylinder until it is tight against the shoulder and lock into place with locking bolt on clevis.

The inboard cylinder can now be installed into the mainframe mast with the pin, flatwashers and R-clips as shown below. Use teflon tape on all fitting and hose connections.

Install all fittings in the outboard cylinder and adjust to point toward the butt end of the cylinder. Attach the hoses as specified in the Parts Section. Slide the cylinder into the draft beam from the outside of the draft beam and attach cylinder with clevis pin and rollpins.



DRAFT BEAM MOUNTING

Pull the inboard cylinder piston rod down to the extreme extended position. Slide the draft beam under the cylinder, and align clevis hole with draft beam hole nearest to the tractor. Install pin and secure with rollplins.

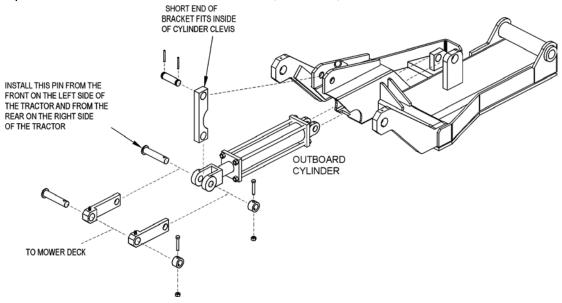
Using inboard cylinder as a pivot point, slide draft beam under tractor and install draft beam pin. Align hole in draft beam pin with holes in mainframe boss and install capscrew, lockwasher and hex nut. (ASM-SIDE MNTS-0001)



MOWER MOUNTING

Check that all grease zerks have been installed in the draft beams pivot arm, left linkage arm, right linkage arm, and cylinder mounting ears.

Using a clevis pin and roll pins, connect the pivot arm to clevis on draft beam. NOTE: Make sure the longer distance between the cutout and the end of the pivot arm is closest to the draft beam pivot ears on the center tube as shown in the diagram below. Also make sure the cutout on the pivot arm faces into tube of draft beam. (ASM-C-0077)



Slide other end of pivot arm with short distance between the cutout and the end of the pivot arm, into the cylinder clevis. Next, line up the holes of the left and right lift linkage arms outside of the cylinder clevis holes. Connect with linkage pin, shims (as required), boss, capscrew, lockwasher and hex nut as shown.

To connect the bonnet to the draft beam, slide the extension arms of the draft beam between the mounting ears on the inner end of the bonnet. Line up the holes and secure with swivel pin, capscrew, lockwasher, and hex nut (both sides). See Parts Section illustration.

Next, slide the left and right linkage arms up to the slotted ear on the side of the deck. Secure with linkage pin, shims, boss, capscrew, lockwasher and hex nut. See illustration in Parts Section.

LIFT CONTROL FEEDLINES

Hose lengths will vary between tractor applications such as cab and non-cab units. See the Parts Section that pertains to your tractor for hose applications.

Install a hose from the bottom or inner valve port (behind cab for cab units, on stand for non-cab units) to the restrictor on the inboard cylinder gland.

Install a hose from the upper or outer valve port to the restrictor on the outboard cylinder butt. See Parts Section for part numbers and hose routing illustrations. (ASM-C-0093)



DECK / MOTOR FEEDLINE

Install the 1" hoses from the motor to the solenoid valve. Refer to the Parts Section for detailed information about hoses and fittings for this application.

Install split hoses around hydraulic hoses where they contact sharp edges, or any other edges that may rub hoses.

Be sure that all grease zerks are installed in the draft beam pin bosses. Grease all areas of the draft beam according to the instructions in the Maintenance Section. Re-check all fittings for tightness.

Fill hydraulic tank with fluid as recommended in the Maintenance Section. **BE SURE TO OPEN THE BALL VALVES.** Start the tractor and operate the inboard cylinder through the entire stroke and the outboard cylinder through the bottom ¾ stroke repeatedly to clear the lines of air. **DO NOT** run outboard cylinder out to full stroke until stop bolt has been adjusted!

Check for oil leaks at all fittings and connections using a piece of paper or cardboard. If a leak is found, you must shut down the tractor and set the cutter head on the ground. Before attempting to fix the leak, you must actuate the lift valve handles several times to relieve any pressure in the lines. **DO NOT USE HANDS TO CHECK FOR FLUID LEAKS!**

Raise the three point hitch and check the tractor internal hydraulics, fill to proper level if needed. (ASM-C-0079)

STOP BOLT ADJUSTMENT

Extend the outboard cylinder all the way out. Adjust the stop adjustment bolt (located on the top of the draft beam) out until it is up against the bonnet. Lock the bolt down with the ¾" hex nut.

NOTE: When the outboard cylinder is fully extended, the bonnet or deck should either be up against the stop, or if travel locks are installed, it should be up against the travel lock. It may be necessary to use either external or internal slugs on the cylinder to get the correct stroke. If the cutter head is against the stop and the cylinder has stroke remaining, serious damage will occur. (ASM-SIDE MNTS-0003)



FINAL PREPARATION FOR OPERATION

Place operator's safety and operation decals on the steering column and side console where they are clearly visible to the operator. These decals should be understood by each operator of the machine in conjunction with the Safety and Operation Sections of this book. The decals are to be maintained in good condition as a reminder to the operator, and should be replaced if damaged.

All bosses, pins and pivot points will need to be greased as instructed in the Maintenance Section of this manual. The hydraulic reservoir can also be filled with the recommended fluid (see Maintenance Section) and the filter installed in the top of the tank. Double check all fittings and fasteners BEFORE starting tractor. Also secure any loose hoses together with zip ties and wrap with split hoses where friction may occur on the hoses.



BEFORE starting or operating the tractor you must read and understand the Safety and Operation Sections of this manual completely.

BE SURE THE BALL VALVES ARE OPEN! Start tractor and allow instruments to stabilize. Using a piece of paper or cardboard as noted in the Safety and Maintenance Sections, check all fittings and connections for hydraulic leaks.

If a leak is found, you must shut down the tractor and set the cutter on the ground. Before attempting to fix the leak, you must actuate the lift valve handles several times to relieve any pressure in the lines.

Before operating the mower, the cutter head and boom should be slowly moved throughout the full range of motion. Watch for any condition that would cause pinching or excess stress on the hoses. The steering and front axle travel should also be carefully moved through their full range of motion. If any condition occurs in which the hoses contact the tires, the steering and / or front axle travel may need to be limited as described in the tractor operator's manual. This should also be done if the tires rub, or are extremely close to any other part of the mower, such as the hydraulic tank or draft beam. This may include adding shims or adjusting stop bolts in the tractor front to solve the problem. While checking motion, you should also check that the control circuits are connected according to the operator's decal for the valve handles.

MOWER TESTING

Take the tractor to a place free of loose objects on the ground. Operate the cylinders through their full range of motion again, to clear the lines of air. Follow the instructions in the Operation Section to operate the mower. Vibration of the mower should be minimal at all times. After a 5 minute test run, the knife bolts should be retorqued, and retorqued once again after the first few hours of operation.

If any parts of this Assembly Section, or any other section of this manual are not clearly understood you must contact your dealer or the address on the front of this manual for assistance! (ASM-C-0010)





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VY OD ÁÜU VOTÜŸ

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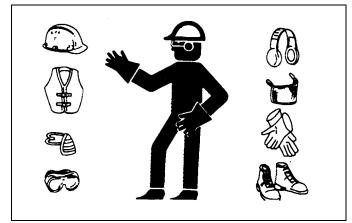
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VY OÞÁÜU VOEÜŸ

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AWARNING

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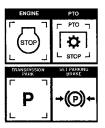


VY OÞÁÜU VOEÜŸ

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AWARNING

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VY OÞÁÜU VOEÜŸ

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AWARNING



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AWARNING

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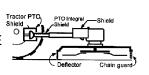




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VY OÞÁÜU VOTÜŸ

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AWARNING





VY OÞÁÜU VOEÜŸ

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NOTE: The mower Operator's Manual and affixed Decals contain important instructions on the safe and proper use of the mower. Maintain these important safety features on the mower in good condition to ensure the information is available to the operator at all times.

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 & ^ È



AWARNING

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AWARNING

VY OÞÁÜU VOEÜŸ

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- ″Ò}•`¦^Áãcãj*ÁãeÁj¦[]^¦|^Á&[}}^&c^å
- "Q•]^8o/8{} åãã}}Á,-Áà*• @}*• ÞÁÓPS-R-0100_A



AWARNING

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VY OÞÁÜU VOTÜŸ

U] ^ lædi} AÛ^&di} AHËG

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- ″ Q.•]^&oÁ, (]Äå¦ãç^Á;@eedÈ



ÁOPS-R-215

AWARNING

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AWARNING

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VY OÞÁÜU VOEÜŸ

U]^\aeaa[} AÛ^&ca[} AHËH

ÜU VOEÜ ŸÁP ÒŒÖÁŒ ÙÚ ÒÔ VOU Þ

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Q•] ^8c/\$c@ÁS[} åããã[} Áj Áså^8\Á\ãåÁ Q! ^•Ásè) åÁœetå, æt^ÈÓPS-R-216

AWARNING

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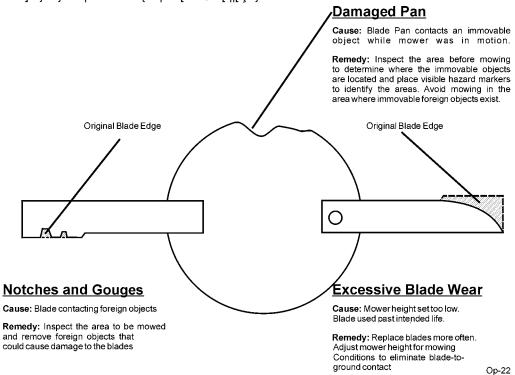


VY OÞÁÜU VOEÜŸ

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+" 7 i Hib[7 ca dcbYbh=bqdYWicb

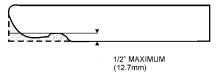
Q•]^&oÁa|æå^Ájæ}åÁa}åÁa|æå^Áæ•^{{ à|^ÁA; | Ás@•Á; ||[¸ã;* kÁ OPS-U-0031



▲ DANG ER

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- Ö^^] ÁT[* * ^ ÁSÞ ÁSŒÞ ÁSÞ | ÆSÐ * OP Á * | ~ æ& * ÁSÐ * ^ Á; | ^ ^ } dÉÁ; |
- Õ[** ^• Á; | Ás@a]] ^a Áse ^ æ Ás Ás@ Ás cca] * Á* å * ^ Áse * ^ Íæ * ^ I Ás@æ) ÁFEGENÇFCEË { { DÁ; | Á V@ Á; æz ^ I āse Á; Ás@ Ár æå 3] * Á* å * ^ Á@æ Ás ^ } ¸ [| } Áse; æê Ás ^ Á; [| ^ Ás@æ) ÁFEGGFCEË { { De



Original Blade Edge

NOTE: Replace Blades in pairs after no more than 1/2" (12.7mm) wear $$O\ p\mbox{--}23$$

VY OÞÁÜU VOEÜŸ

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Q.•]^80ÁÓ|æå^ÁÓ[|0ÁP^æåÁåæáf^Á[¦Á¸^ækÁæ Á[||[¸^åK

Excessive Blade Bolt Wear

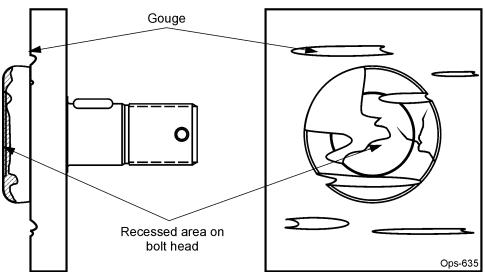
Cause: Blade Bolt contacts a foreign or solid object while Blade is in motion.

Remedy: Inspect the area before mowing to determine where the foreign objects are located and place visible hazard markers to identify the areas where immovable foreign objects exist, and avoid hitting the objects.

Notches and Gouges

Cause: Blade Bolt contacting foreign objects.

Remedy: Inspect area to be mowed and remove foreign objects that could cause damage to the blade bolt.



▲ DANGER

- ″Xãrãa.|^Á&¦æ&∖•Á(¦Á
- QÁs@Á^&^●◆^åÁsd^æÁ;}Áà|æå^Áà[|øÁsÁ;[¦}Á;~Æ;\Á
- ‴ QÁÓ |æå ^ÁÓ [|cÁ@æ Á *[* * ^ Á, ¦Á&@∄]] ^ å Áæ ^ æ È

5 k Umg f Yd `UWY 6 `UXY 6 c `hg k]h 'b Yk 'Vc `hg k \ Yb Yj Yf f Yd `UWJb['h Y 6 `UXYg "ÁOPS-U-0037

VY OÞÁÜU VOEÜŸ

 $U] ^{a}$ $A\hat{U}^{a}$ $A\hat{U}^{b}$ $A\hat{U}^{b}$

Tractor PRE-OPERATION Inspection

	Mower ID#	Make
اعاقالا	Date:	Shift

AWARNING

6 YZcfY'WcbXi Who is in Y']bgdYWho za U_Y'gi fY'h Y'lfUWrcf'Yb []bY']g'c ZZ U``fchUho b Ug'ghcddYX'UbX'h Y'lfUWrcf']g']b'dUf_'k]h 'h Y'dUf_]b ['VfU_Y'Yb [U[YX"AU_Y'gi fY h Y'a ck Yf']g'fYgh]b ['cb'h Y'[fci bX'cf'gYW fYmV'c W_YX'i d'UbX'U``\ mXfUi `]W dfYggi fY\ Ug'VYYb'fY']Yj YX"

Item	Condition at Start of Shift	Specific Comments if not O.K.
The flashing lights function properly		
The SMV Sign is clean and visible		
The tires are in good condition with proper pressure		
The wheel lug bolts are tight		
The tractor brakes are in good condition		
The steering linkage is in good condition		
There are no visible oil leaks		
The hydraulic controls function properly		
The ROPS or ROBS Cab is in good condition		
The seatbelt is in place and in good condition		
The 3-point hitch is in good condition		
The drawbar pins are securely in place		
The PTO master shield is in place		
The engine oil level is full		
The brake fluid level is full		
The power steering fluid level is full		
The fuel level is adequate		
The engine coolant fluid level is full		
The radiator is free of debris		
The air filter is in good condition		

Operator's Signature:

DO NOT OPERATE an UNSAFE TRACTOR or MOWER

VY OD ÁÜU VOTÜŸ

U] ^ | ææāi } ÁÛ^&æāi } ÁHËËË

CD9F5H€B

	Rotary Mower PRE-OI	PERATION Ins	pection	
	Mower ID#	Make		
	Date:	Shift		
ghcdd a ck Y	YWcbXiWijb['h\Y']bgdYWijcbža YX'UbX'h\Y'IfUWrcf']g']b'dUf_' f']g'fYghjb['cb'h\Y'[fcibX'cf'; fY]YjYX"	k]h\ 'h\ Y'dUf_]b['V	fU_Y'Yb[U[YX"AU_Ygi fY'l\ Y
	Table	1:		
	Item	Star	ndition at t of Shift t of Shift	Specific Comments if not O.K.
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ı	n place and legible			
	bolts & pins are tight			
There are no cracks in				
	ers pins are tight			
	or damaged hoses			
	ear of cut grass and debris	114		
_	ors are in place & in good con			
	g nut is tight			
**	d, cracked or bent			
Blade bolts are tight Wheel lug nuts are tight	-1.4			

Operator's Signature:

DO NOT OPERATE an UNSAFE TRACTOR or MOWER

VY OD ÁÜU VOTÜŸ

U]^{acaaaa}}ÁÛ^&caaaa}}ÁHËÈÌ

Transport locks are in good condition

DRIVING THE TRACTOR AND IMPLEMENT

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A DANGER



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VY OÞÁÜU VOEÜŸ

+") 'GHUfhilb['H\ Y'HfUWrcf



A DANGER



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 j ' ^ ç ^ } cÁ; l Áhā ānÁbæ Átæ&d; l Ál; [{ Át' | } ā * ÈÖ ` l ā * }

 j | [¿æbÁs ccā * Ás[} åātā] > • ÉÁ[&k ā * Áræ Áhāā - ^ l ^ } cāæþ

 j | [çãa ^ Á; [Áha ^ } ^ - ānÁsæ) å Ár @ ` lå Á; [oÁh ^ Á • ^ å ÈÁh

OPS-U-0013



VY OÞÁÜU VOEÜŸ

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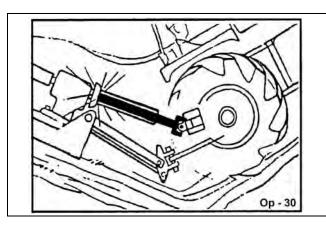


+", '8 f]i]b['l\ Y'HfUWrcf'UbX'=a d'Ya Ybh

\[Áæqc[aå/fiç^\c`\}•Ê&ilāç^Ánc@Ádæ&d[\Ájānc@&æd^ÁæpàáÁæcAeæ^Án]^^å•ÊA•]^&&æd|^Áj@\Aj]^\ææd;*Ajç^\Á[`*@ *\[`}åÊ&k|[••ā;*Ásã&@•Aj\Án|[]^•ÊæpàáÁc\}ā;*Ás[\}^\•ÈÁV\æ&d[\Áj@^|Ad\æ&A]æ&d;*Án@[`åÁs^Ás;&\^æ•^å .@}Á,[\\ā;*Ás}Æs&]&-Aj\Áj&k]ā,^•Aj\Á[`*@Á\[`}åAfÁrÁa*&^Áo@Aj[••āaāācAj-Á-Áa]]ā;*ÈÁ

+"- '7 fcgg]b['8]HW Yg'UbX'GhYYd'=bW]bYg

Y @ } Á& [•• ā] * Á& ãa& @ • Á, ãa @ • c^^] Á& æ} \• Á; |Á'[ā] * Á] • @ æ] ÁB, & |ā] ^ • ÉÁBÁÁS Á] [•• ãa | ^ Ác@ æ Ás @ Ás æ& c[|Á-Ë] [ā] c æ {•Á; æ Ás [cc[{ Á; cÉÁN @ Ás } ^ Á; Ásæ • ã,^Á;] ^ |æ æ] } & æ) Á& æ • ^ Á ^ |ā] * • Ás æ { æ * ^ Á; Ás@ Ás æ& c[|Áse) å Á; [, ^ |È OPS-R-0020 A



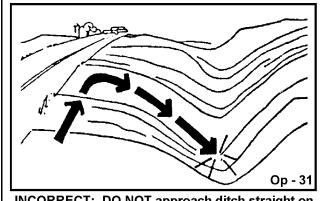
VY OÞÁÜU VOEÜŸ

U] ^ lædi } ÁÙ^&di } ÁHËŒ

<u>+'%\$`</u>

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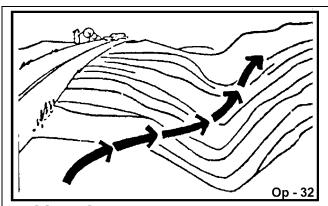
Y@^}Á&~l[••ā]*Án~~&@Án^\¦æā]ÉÁn@^Áā[]|^{^}oÁn@[~|å à^Á'||^Á|[, ^|^åÁ[|ÁæÁ[, ^|Á&^) c^|Á[-Á' |æçãcÂæ) å æåå^åÁkæàåãĉÈÁOPS-R-0021_A



INCORRECT: DO NOT approach ditch straight on

Q\&|a}^•Aaa} åAåaã&@•Aa @|`|åAà^Aaa]] | a&@^åAaa[}*Aa | \$\dag{A} \times \tin \times \times \times \times \times \times \times \times \times] æc@Á, ã|Á^å ~ &^Ác@^Á,[••ãa ājāc Á, Áåæ; æt^ÈÁQÁc@ *¦æåã^}oÁãnÁn[Ánc^^]Ác@ænÁn~&@Áæ)Áæ]]¦[æ&@ ã, &¦^æ•^•Áo@^Á,[••ãa ããc Á, ÁæÁdæ&d;¦Á[||Ë;ç^¦ÉÀ•^|^&c æ) Áæ¢c^¦}æe^Á&¦[••ã]*Ájæe©£Á

Y @ } A[] ^ | aecā] * Ác@ Ác| ae&c[| Áce) å Á([, ^ | Áce&| [• • •|[]^•Áæ;åÁā;&|ā;^•ÊÁc@[**@Áåãc&@•ÊÁæ;åÁ;c@\; ´}^ç^}Ác^¦¦æājÁs[}åãaā[}•ÉEānÁarÁs[][¦œa)oÁs[Á(æā]œa5] • ~ ~ 3820° } 0460° &\ Áq Át | [* } å Á&| ^ æd æd; & ^ ÈÁÁÓ | ædi ^ Á&[} cæ&c ãc@Ác@^Át¦[ˇ}åÁ;æÂ&æě•^Á;[áþĒÁ;[&\•Áæ)åÁ;c@^; å^à|ãrÁq[Áà^Ác@[¸}Áj~óÁ+|[{Á′}å^¦Ác@^Á;[¸^¦ ¦^• ĭ |cāj * Áāj Áj [•• ãā |^ Áāj bǐ | ˆ Ásc) å Đ | Áj ¦ [] ^ ¦ cˆ Áå æ{ æ* ^ È Õ¦[ˇ}åÁ&[}œæ&oÁæd+•[Á¸¦[åˇ&^•ÁæÁ+^ç^\^Á+@[&\Á|[æå [} Ác@^Á; [¸^¦Áà¦ãç^Áæ) å Áq Ác@^Á; [¸^¦Áà|æå^• ¦^• ĭ |cāj * Áāj Áj [•• ãā |^ Áåaæ(æt ^ Áæ) å Áj ¦^{ æc ¦^ Á¸ ^æ\È OPS-R-0022 A



CORRECT: Approach ditch at an angle

,"CD9F5H+B: H≺9`HF57HCF`5B8`=AD@9A9BH

AWARNING

 $O[A,[oA,[oA,[a.a.]] \land a.a. \land$

AWARNING

 $T[,A_{}]^A_{}A_{}^{}A$

AWARNING

VY OÞÁÜU VOTÜŸ

U]^\aea[} AÛ^&a[} AHËGH

<u>, "%: cfY][b'8 YVf]g'< UnUfXg</u>



FYa cj Y': cfY][b'A UhYf]U

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FUJgY'Ack Yf'cj Yf'gc']X'cV'YWg

<u>. "&`6 mgHJbXYfg#DUggYfgVmiDfYWUih]cbg</u>

 $\begin{array}{l} \text{Cafactian} \bullet \text{ cash} \text{ a}^{+} \text{ is Cash} \text{ is Cash}$

AWARNING



VY OÞÁÜU VOEÜŸ

U] ^ | ææāi } ÁÛ ^ &æāi } ÁHËĞI

AWARNING

A DANGER

Ü[cæt^ÁT[, ^\•Áæd^Á&æd]ææà|^Á;}å^\Áædsc^\•^Á&[}åãæd]}•Á;Āc@[, ā]*
[àb%eo•Á[;|Á;|^ææ%sãææd;&^•ÁQ;H∈€Á^^oÁ;|Á;[¦^DÁæd;åÁ&æč•ā]*Ár^|ā[`•Áā;b`|´ [¦Ás^ææ©ÆÁQ[||[, Áræc^c'Á; ^••æ*^•Á&æd^~`||^È



GHCD'ACK=B; = D5 GG9 FG6 M5 F9 K + R=B" \$\$: YYhI B@ GG.

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Ë [¸ ^¦•Áæ;^Á`}}ā,*Á&|[•^Ág,Áæ;åÁ;ææ;|^|Ág,Áœ;A*;[`}åÁ;ãc@;ŏÁ°¢][•^åÁÓ|æå^•L

ËÚæ••^¦•à^Áad^Áj`o•ãã^Ás@∙Á^¢ã•cãj*Ás@[¸}Ë;àb^&cÁ[}^LÁ

NOTE: Where there are grass and weeds high enough to hide debris that could be struck by the blades, the area should be: inspected and large debris removed, mowed at an intermediate height, inspected, closely with any remaining debris being removed, and mowed again at desired final height. (This will also reduce power required to mow, reduce wear and tear on the Mower drivetrain, spread cut material better, reduce streaking, and make the final cut more uniform). Évit es to

AWARNING



AWARNING



VY OÞÁÜU VOEÜŸ

U]^\aea[} \(\hat{A}\hat{U}^\&a[\) \(\hat{A}\hat{E}\hat{G}\)

, " 'FDA 'UbX'; fci bX'GdYYX

Õ¦[`}åÁr]^^åÁ[¦Á([¸ā,*Á¸ā|Ás^]^}åÁï][}Ác@Á@ā @ĒÁc]^ÊÞæ)åÁs^}•ācÁ;Áç^*^cææā;}Át[Ás^Á&čÈ
Ü^&[{ { ^}å^åÁj}^åÁt[!Ár~æ&a)cÁ; [¸^¦Á^^!-{!{ æ) &^Ær Ás^c,^^}ÁGÁæ)åÁÁ;] @₱ĒÁ] @ÞÉÁJ]^!ææ^Ás@Á; [¸^!
ææÁær Ář||Áææ°åÁÜÚTÁ;Í;æð;ææð;Æs|æå^Ás]^^åÁ;!ÁææNa)Æs*dĚÁÜ^~!Á;Ác@Ásæ&d;IÁ;]^!ææ[!œjÁ;æð;æðá;!Ás@ dæ&d;!Áð;•d`{ ^}cÁ;æð;Aæ}^|Át[lÁc@Ár)*ā¸Aá]^^åÁæ)åÁr^æÁd;Áj![çæã^Ác@Á^`čā^åÁÜÚTÁæ)åÁs^•ā^åÁs^•ā^åÁr![`}å
•]^^åÉÁTæ\$^Ár`; AÁœæÁæÆ;Áj A!æð;Ár,Askæ°åÁr]^^åÁæ°åÁr]^^åÁæ^4;Askæ°åÁr]^^åÆsæ°åÁr]*Aæ*åAr]*Aæ*åAr]*Aæ*åAr]*Aæ*åAr]*Aæ*åÆr]*Aæ*åAr]*Aæ*

Õ¦[ˇ]åÁi]^^åÁaÁæÁæ&æNç^åÁaˆAdæ)•{ã••ā[}Á*^æAÁ^|^&æAj}Aæ]åÁ;[ơÁaˆÁœÁ^}*āj^Aj^Aj^Akæ]*Ái]^\æaāj*Áj^^åÈÁN/@ []^¦æa[¦Á;æÁa^Á^ˇăA^ÁqíÁv¢]^¦ā[^}ơÁ¸ão@Á^ç^¦æÞÁ*^æÁæ)*^Ás[{ àājæaāj}•ÁqíÁa^c^¦{āj^Ás@Áa^•oÁ*^æÁæjå ¦æj*^Á,@a&@Áj¦[çãa^•Ás@Á;[•ơÁa^æAÞÁ,^¦-¡¦{ æj8%Á;[{ Ás@Á;[¸^¦ÁæjåÁ;[•ơÁ~æðæ)}∂Ádæ&q[¦Áj]^¦ææāj}ÈÁŒÞÁœ •^ç^¦ácÁ;Æ&cæj*Ás[}åãāj}•ÁsJ&k^æ^Êb@Á*;[ˇ}åÁs]^^åÁs@*jåÁs^Æa^&a^æ^åÁa^Ás^As}Aæ]*ÆæÁ[¸^¦Á*^æÁs {æájææājÁs@Áj¦[]^¦Áj]^¦ææāj*ÁÜÚTÈÁOPS-R-0025_A

AWARNING

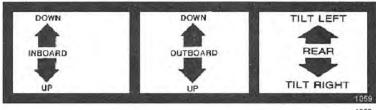
A DANGER

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VY OÞÁÜU VOEÜŸ

ACK9F'@+H

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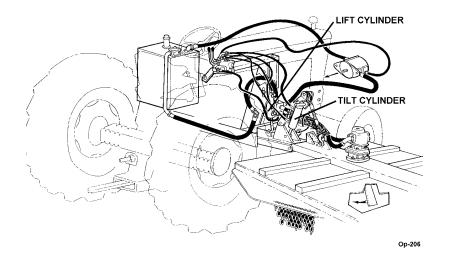
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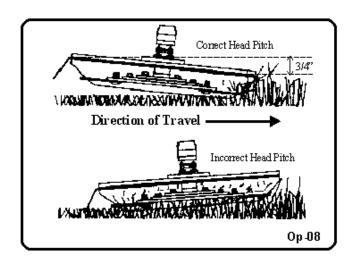
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VY OÞÁÜU VOEÜŸ

U]^{aeaa[} AÛ^&ca[} AÁHĒĞÏ



A95GI F9A9BHC: <958 D+17<

- FÈ ÔWATUY ÒÜÁUØØÁOÞÖÁOŠŠUY ÁÓŠŒÖÒÙÁVUÁÙVUÚÁÜUVŒVŒÕ
- QÈ T [ç^Á; æ&@] ^Á; ÁæÁ;æÉÁ; ç^|Áæ; ^æÁ; &@Áæ ÁæÁ; } &!^c^Á; æà
- HÈ Š[^ ¦Á [^ ¦Á@ æåÁ Á Á ã@ Á^c^, kæÁ & & Á Á @ Á ¦ [` } åÁ ` óÅ [Á [óÁ ^ óÁ æåÁ } Á † | [` } åÈ
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- ÍÈ Ú[•ãā]}Áà|æå^•Át[¸æååÁ+[]ơÁæ)åÁ'^ækÄT^æ*'¦^Ác@Áåãæ)&^Á+[{ Ác@Áà[æt[{ Áç@Áà]•Át]•Át]•Át]•Át]•Át]
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- ÎÈ Ó^}ơÁs |æðå^•ÊÁsæð•ÊÁæð•ĒÁ; |ð | [•^Ás[|ơÁ; ð]Á; æð^Á; ^æº '¦^{ ^}ơÁ•^|^••È

5 @ BA9BH

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O[fāt }{ ^} chí ¦[à |^{ • Ásæ) Ánæ ān Ásn Án^} Ásn Án œù åā] * Ásp Ás@ Á¦[} chí ¦Án^æ hí Ás@ Á; æss@n ^ ÈÁO[fāt } Ás@ Á;[} chéæ) å Án^æb [Ás@ Á; æss@n ^ ÈÁO[fāt } Ás@ Á;[} chéæ) å Án^æ hín å* ^ • Á; Ás@ Án æb Ásān Ásæ) å Ás[{]æh Ás[Ás@ Án ásān Án à do Á; Ás@ Á; [¸ ^ ¦ Q; [、^ | Á@ æsh Án • cā] * Á;} Ás@ Át ¦[ˇ } å DÈ

- "%6 Ug]Willici V`Yg\ cchib['; i]XY'Zcf':]fgh'GhUfHi d"

æbòn/8da8æhá[|^}[aaháyæqç^hás[^•As[oá,[¦\Abas@8\Á,āā]*Éð,[••āa|^Áæĕ|c`As_āa&@£ð,[••āa|^Áæĕ|c`As[|^}[aāÈ à ĐÁUˇ{] Ása Á; æðā]*Á;[ā^Abba@8\Á;¦Á;à•dˇ8cā[}ÁspÁ*8cā[}ÁQ•^Áæð;åÁæð;\Á*8cā[}Áæ••^{à|^Êð&@8\Áæð]{^}oá;~] ઁ{]Áslāç^•@ædÈ

&BÁÔ^|ā, å^;•Á, ā|Á, [cÁæã^ÁÉÉQ •^•Á; [{ Á& |ā, å^;Á§, &; ;;^8d^Á&; }}^8c^åÁ; Áçæç^Áàæ; \ÊÁ; {] Á, [cÁ*]] |ā, *Á; āÈ

VY OÞÁÜU VOEÜŸ

U] ^ | ææa[} ÁÙ ^ &ca[} ÁHĒGÌ

å ÉÁÔ^|āj å^¦Álæãa^•Án|[, |^ÁEÁQQ•^•Án|[{Ásû^|āj å^¦Ásj &[;¦^&d^Ás[}}^&c^åÁq[Áçædç^Ásiæ), ÉÁ, [;\Áj[;oÁn^|ān→Á;}Áçædç^àæa), Án^oÁq[[Á[,ÁEÁn]|æ&8^Áæa,Án^`ĭān^åÈ

^ EÁOTAC \ Á^ æå • ÁB, Á^ å ÁTÄçã 8 [• ãc Á; -Á; āÁ[[ÁQB QÁTÄ, æãcÁ } cāÁ; āÁ@ ææ• Á] Áà^-[\^Á&@ &\ ā; * Áāc \ Á æ* * ^ EÁQÁ æ* * ^ \ \ \ \ æå • ÁB, Á^ å Á\ c^} Áæc \ Á } ãcÆ; ÃQ cŒ&@ } Áāc \ Á; ~ • cÆc \ Á] æ&^ å E

A DANGER

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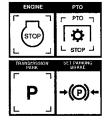


AWARNING

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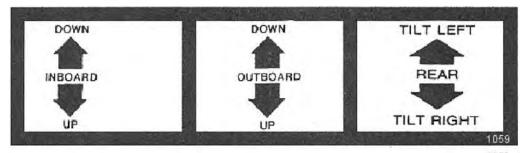
A DANGER

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 $V@\acute{A} \tilde{a}a^{\acute{A}} ([, ^!\acute{A}@ \tilde{a} @\acute{A}a^{\acute{A}} ([, ^!\acute{A}a^{\acute{A}} \tilde{a} @\acute{A}a^{\acute{A}} ([, ^!\acute{A}a^{\acute{A}}a^{\acute{A}} ([, ^!\acute{A}a^{\acute{A}}a^{\acute{A}} ([, ^!\acute{A}a^{\acute{A}}a^{\acute{A}} ([, ^!\acute{A}a^{\acute{A}}a^{\acute{A}} ([, ^!\acute{A}a^{\acute{A}}a^{\acute{A}}a^{\acute{A}} ([, ^!\acute{A}a^{\acute{A}}a^{\acute{A}}a^{\acute{A}}a^{\acute{A}}a^{\acute{A}} ([, ^!\acute{A}a^{\acute{A}a^{\acute{A}}a^{\acute{A}}a^{\acute{A}}a^{\acute{A}}a^{\acute{A}}a^{\acute{A}}a^{\acute{A}}a^{\acute{A}a^{\acute{A}}a^{\acute{A}}a^{\acute{A}a^{\acute{A}}a^{\acute{A}}a^{\acute{A}}a^{\acute{A}a^{\acute{A}}a^{\acute{A}a^{\acute{A}}a^{\acute{A}}a^{\acute{A}a^{\acute{A}}a^{\acute{A}a^{\acute{A}}a^{\acute{A}a^{\acute{A}a}a^{\acute{A}a^{\acute{A}}a^{\acute{A}a^{\acute{A}a}a^{\acute{A}a^{\acute{A}a}a^{\acute{A}a^{\acute{A}a$



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 $V@\dot{A} \wedge ab\dot{A}_{i} [, ^ | \dot{A} @ \dot{a} @ \dot{a}_{i} \dot{A}_{i}] \wedge [| \dot{A}_{i} & \dot{a}_{i} & \dot{A}_{i}] \wedge [| \dot{A}_{i} & \dot{A}_{i} & \dot{A}_{i}] \wedge [| \dot{A}_{i} & \dot{A}_{i} & \dot{A}_{i}] \wedge [| \dot{A}_{i} & \dot{A}_{i} & \dot{A}_{i}] \wedge [| \dot{A}_{i} & \dot{A}_{i} & \dot{A}_{i}] \wedge [| \dot{A}_{i} & \dot{A}_{i} & \dot{A}_{i}] \wedge [| \dot{A}_{i} & \dot{A}_{i} & \dot{A}_{i}] \wedge [| \dot{A}_{i} & \dot{A}_{i} & \dot{A}_{i}] \wedge [| \dot{A}_{i} & \dot{A}_{i} & \dot{A}_{i}] \wedge [| \dot{A}_{i} & \dot{A}_{i} & \dot{A}_{i} & \dot{A}_{i}] \wedge [| \dot{A}_{i} & \dot{A}_{i} & \dot{A}_{i} & \dot{A}_{i}] \wedge [| \dot{A}_{i} & \dot{A}_{i$

VY OÞÁÜU VOEÜŸ

U]^¦æaa[}ÁÛ^&aa[}ÁHËGJ

- " 'CdYfUhlb['h Y'Ack Yf

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Clc[aåÁ[], a* Áŋ Ác@Á^ç^\•^Áå ā^&cā}} Á; @} Á; [••āà|^ÈÁQÀ•āčæcā}) • Á; @\^Ác@Á[], ^\Á; * oÁà^Áàæ&\^åÁ[
æ&&^••Áæ\^æ•Á[Áà^Ás* dÉ(æà^Á*`\^Ás@\^Áa'\Á; Ah]. ^\•[]•Á; \Á; c@\Á; \A; c@\Á; \^â} Áå^à\ä*Áà^@]åÁs@Á; [¸^\Áà^-{\^ { [¸ā]*Ág Á^ç^\•^ÈÁY @} Á; [¸ā]*Ág Á^ç^\•^ÊÁ]. ^\æ&^Ác@Ádæ&d[\Áæ}åÁ; [¸^\ÁææÁæÁ^å* &^åÁ; [¸^\ÁsæÁæÁ^å* &^åÁ; [~^\åÁ]. ^\åÁ[^}•*\Ádæ&d[\Áæ}åÁ; [¸^\Ás[}d[\Æ#Á; ææ]cæaj.^åÈÁOPS-R-0026_A

AWARNING

 $O[A,[oA,[sab,0] \land aab,0] \land aab,0] \land aab,0 \land$

AWARNING

VY OÞÁÜU VOEÜŸ

U]^¦æaā[}Áù\^&aa[}Á\L∐€

⚠ WARNING | Ø[||[¸Ás@•^Á;`ãå^|ā¸^•Áq[Á^å`&^Ás@Áã\Á¸Á*`čā]{ ^}oÁæ)åÁ;¦æ••Áã^• ¸@p^Áj]^¦ææā;*ÉA^¦çã&ā;*Éæè;åÁ^]æāā;*Ás@ÁT[¸^¦Áæè;åÁV¦æ&q[¦K



ËÒ``āļÁs@ ÁV¦æ&d;¦Á,ão@ÁséÁā^Á\¢cāļ*`ãr@\ÁājÁse)Áse&&∧•ãa|^Áfj&ææāj}È

ÉÖ[Á¬[ơÁ,]^¦æe^Ás@•ÁT[、^¦Án;}ÁsæÁV¦æ&kd[¦Á,ão@Áse)Á';å^\¦~¦æ{ ^Án¢@eĕ•oÈ

EÖ[ÁP[ơÁ{[\^Á;¦Á@æç^Ásè;Á;]^}Á;æs ^Á,^æsÁs@ÁT[_^;Ásè;åÁ/;æs&q;¦È

EÖ[ÁÞ[ơÁslāç^Ás]q Ás*;}ā,*Ás^àlārÁ;¦Á;^•@;Ás*;}ơÁsd^æèÈ

ED) • " | ^ Á | a Á&| " c&@ • Á& ^ Á | [] ^ | ^ Áxaå b • c^ å Áf Á | ^ ç^ } cÁ ¢ & ^ • āç^ Á | a] at ^ Áxa å Á | aze^ Á@ azeā * È

AWARNING

 $Y @ \} \acute{A} [cæeā] * \acute{A}; æb o \acute{A}eb ^ \acute{A}e$

U } &^ xi, } Aj[&ææāi } ÉAj[¸ ^ ¦ Ás@ Á; [¸ ^ ¦ Ásª^ &\ Ár | ā @d^ Ásæà[ç^ Ás@ Á; ææ^ ¦ ãæþÁi Ás^ Á&` ŒÁ*[Ás@ Á; [¸ ^ ¦ Áså[^ • Á; [ó 4@æç^ Ái; • cæb cÁ` } å^ ¦ ÁsæÁi æå EÁÓ ¦ ā * Ás@ ÁÜ ÚT Á; Ás@ Ád ææði ¦ Á] Ái ÁF G€€Ásæ) å Ár } * æ* ^ Ás@ Ái ãs^ Á; [¸ ^ ¦ ÈÁGÁsæÁ ^ æði [¸ ^ ¦ Ás à ^ ā * Á • ^ å ÉÁsæh [¸ Ás Ás Ái [¸ ^ ¦ ÈÁ A ÉÁsæh [¸ ^ ¦ Ás è * Ás@ ÁÜ úT Ái Ár C ¦ } Ái Ár G€€Ás ^ ¡ ¦ ^ Ár } * æ* ā] * Ás@ Á\ æði [¸ ^ ¦ È

V@Á[cæł^Á; [¸^!Áŝ^&\Ár@ˇ|åÁæł¸æê•Ás^Ásæł}ā³åÁææ@!ÁsœæþÁs¦æť*^åÁ;}Ác@Á\ãāÁ@^^•Á¸@}Á; [¸ā;*Á;}Ác@ *![ˇ}åÈÖ!æť*ā;*Ác@Á[cæł^Á; [¸^!Á@æå•Ásæě•^•ÁæþÁr¢d^{ ^Árāñ^Á[æåÁ;}Ác@Átæsæť!Á^•*|cā;*Ág}Á;|^{ æč!^ cā^Á, ^æÈŒQÁæþ•[Ásæě•^•Ár¢&^••ā;^Á@!•^][¸^!Ás[}•ˇ{]cā[}ÁæþåÁs¦ææcææþ]Ás^&;^æ*^•Ás|æå^Áē^EÖ!æť*ā;*Ás@ !^æÁ; [¸^!Ásæð,Áæþ•[Ásæě•^Ásæé æť^ÁgÁc@Á[æåÉŪ]&^Ác@Á;æåÉŪ]&^Ás@Á;āææ£Â\āñæææå¸åáÁsææ£B)d[|]ā;*Ác@Á@ã@cæðåÁ;[•āāā;}Á;-Ác@Á;āå^Á;[cæ²^Á; [¸^!ÉŒóÁ;ā]Ás^Áræe^ÁgÁ;[-Ææð;]cÁtjáÁs^Áræe
& cāj*É

 $Y @ \} \& caj * & caj$

V[Ár}• `¦^ÁæÁs|^æ) Ás` ŒÁr} * ∄ ^Á;] ^^åÁr @[`|åÁs^Á; æði æði, ^åÁæÁæ]] ¦[¢ā; ææ'|^Árì €€ËCG€€ÁÜÚT ÈÁGÁc@ Áslæ&c; ¦
• |[¸•Ár••Ác@æ) Árì €€ÁÜÚT ÉÁr @áAí; Ás@Á, ^¢cÁ[¸^¦Ár^æ) ÉÖÜUÁÞUVÁ ðár Ás@Ásl* c&@Ác@áÁ; ∄JÁsæě•^Á; ¦^{ æč ¦^ &|`c&@Áæði; ¦^ÈÁH\Y'Yb[]bY'g\ci`X'bchVY'cdYfUhYX'UhUbmihja Y'UhiacfY'h\Ub'&(\$\$`FDA`cb`h\Y'hfUWhcf HUW\caYhYf"

8 C ˙ B C HÁ • ^ Áτ ¢ &^ • • ᾶς^ Á[¦ &^ Á, @ } Á] [• ᾶᾶĮ } ą̄ * Á&ˇ ασą̄ * Á@ æἀ Áξι qǐ Á@ æçˆ Áὰ ¦ æġ &@ • Á; ¦ Áτ { æþ Áτ č {] • ÁÇG+ å ãæṭ ^ α^ ¦ ΦĚÖæṭ æ⁵ ^ Áṭ Ás@^ Á` } ᾶσᡬ; æĉ Á^• ˇ |ΦĚΦΑ΄Κα Áὰ^• ο Áṭ Ár ο Ó ο@ Á&ˇ α° ¦ Á@ æἀ Áπλω ærÁæ; æĉ +Áτ |[¸ | ˆ Ásæ Á@ æçˆ Á&ˇ ασạ̄ * Lý à• È

VY OÞÁÜU VOEÜŸ

U] ^ | aecā[} ÁÛ ^ &cā[} ÁHËHF

AWARNING

GÁàˆ•œa)å^¦•Áæa]]¦[æa&@Á¸ão@a,Á⊹H∈€Á^^cÁ¸@ǎp^Á;[¸^¦ÁæaÁa,Á;]^¦ææāi;}Êácˇ¦}Á;[¸^¦Á¸ão&@ %ЫØØ+Áā;{^åãææ^|^ÂÁŒeċ¦Ár@cå[¸}ÊÁ,^ç^¦Áp^æç^Ás@o,Ádæ&d;¦Á;¦Áæa|[¸Áሕœa)å^¦•ÁqíÁæa]]¦[æ&@ ¸ão@a,Á\$\$:ZZYYhÁ;-Ás@Á;}ãcÁ;}cālÁæa|Á;[cā[;}Árd[]•Á&[{]|/c°|°È

Y @ }Á^ } & [` } c^ ¦ā; *ÁæÁç^ ¦^Ár^ç^ ¦^Á& [} å ã āā; }Á; @ & @ & @ & e ^ • Ác@ Ád æ & { ¦Á; Ár cæ | É & å a^ } *æ *^Á; [; ^ ¦É + cæ ¦ Ó d æ & d; ¦Ê |æ ā ^Ác@ Á; [; ^ ¦Á¦ [{Ác@ Á&` CÉÀÙ @ OÁd æ & d; lÁ; ~Áæ) å Á§, •] ^ & OÁc@ Á; [; ^ ¦É + kæ å ^ Áæ à Á å ã · \Á; lÁå æ ; æ * ^Áæ ^ ; l^ ^ } *æ *ā; *Á; [; ^ ¦Áæ *æā; È

5 ZâYf 'h\ Y'Z̞fghiXUmicZcdYfUl-jcbz̈U``Vc`hgig\ci`X'VY'W\YW_YX'UbX'hj[\hYbYX'gYWifY'm'\V@ Á @`|åÁs^Ás[}^]^{ā[å&æ)|^Ág[Ár}•`\^Ás@ Ás[|o Ás[Ár]cÁs^&[{^Ár][•^Áæ)åÁsæ•^Ásæ•^Ásæé *^Ásæá æ*^Ág[Ás@ Ásæáç lá;lá;lá;lí,^¦Œá;lás/b';^Ág Ás@ []^\æ[¦È

Y @} Á[´Á^cÁṭ ÁœÁ›} åÁ; ÁæÁ; æ•ÊÁ|ã @|^Áæã^^Áœ { [^ |ÁÇCË +DÁà^{ |^ Ác |} ā * EÁÞ^ç^|Áæã^^Ác@ { [, ^ |Á›} cã^|^ Á, @p^Ác@Áa|æå^•Áæ4^Ác |} ā * EÁÁÞ^ç^|Á; { [, ^ |Á; *•CÁà^Áæã^^áÁæã @|Ác@æ; ÁFG-Á+[{ Á*|[* } å |^c^|ÊÁ; æãóÁ[|Áæ|Á; [, ^ |Á| cæcā] } Áţ Á&[{ ^Áţ Áæ &[{] |^c^Ár (] Áà^-{ |^ A; || &^^å a; *Áţ Áæã^^Ác@ { [, ^ |ÉÁÞÒXÒÜÁæã^^Ác@Á; [, ^ |•Á; @p^Ác@Áa|æå^• æ^Ác |} ā *È

OPS-R-0027_A



AWARNING

 $\ddot{O}[\dot{A}_{\parallel}[cA_{\parallel}^{A} \land bC] \dot{A}C] = \dot{A}C \wedge \dot{A$



VY OÞÁÜU VOEÜŸ

U]^¦ædai}ÂÛ^&dai}ÁHËHG



V@}Á[, ^\Ás@ Á; [, ^\Á[Ás@ Ás^•ā^åA@ â @ Áse}å { [, Ás@ Ás^*^cæēā]}ÁseÁ^&[}åÁsā,^ĒÁSÁ,[••ãa|^Ê •^|^&oÁsÁ; [, ā, *Á, æec^\}Ás@æÁsÁ,ÁseÁsÁ)€Ás^*\^Ásè,*\^Ásè,*\^ d,Ás@ Áā•cÁ,æ••Á[Á^å*&^Á;d^æàā,*Á;\ÁseÁ;[\^ *}ã[\{ÁsčdĚÁÓOPS-R-0044



 $\begin{array}{l} \text{Uceê } \widehat{\text{Asd}} \land |\text{cAsa}) \, \stackrel{\circ}{\text{a}} \, \stackrel{\circ}{\text{A}} \, & \text{cass.} @ \land |\text{cAsa}| \wedge \bullet \, \text{EAsa}) \, \stackrel{\circ}{\text{a}} \, \stackrel{\circ}{\text{A}} \, & \text{cass.} |\text{cAsa}| \wedge \bullet \, \text{Asa}) \, \stackrel{\circ}{\text{a}} \, \stackrel{\circ}{\text{A}} \, & \text{cass.} |\text{cAsa}| \wedge \bullet \, \text{Asa}) \, \stackrel{\circ}{\text{a}} \, \stackrel{\circ}{\text{A}} \, & \text{cass.} |\text{cAsa}| \wedge \bullet \, \text{Asa}) \, \stackrel{\circ}{\text{a}} \, \stackrel{\circ}{\text{A}} \, & \text{cass.} |\text{cAsa}| \wedge \bullet \, \text{Asa}) \, \stackrel{\circ}{\text{Asa}} \, & \text{cass.} |\text{cAsa}| \wedge \, \bullet \, \text{cass.} |\text{cAsa}| \wedge \, \bullet \, \text{cass.} |\text{cAsa}| \, & \text{cass.} |\text{cAsa}| \wedge \, \bullet \, \text{cass.} |\text{cAsa}| \, & \text{cass.} |\text{cAsa}| \wedge \, \bullet \, \text{cass.} |\text{cAsa}| \, & \text{cass.} |\text{cAsa}| \wedge \, \bullet \, \text{cass.} |\text{cAsa}| \, & \text{cass.} |\text{cAs$



 $\ddot{O}[\dot{A}_{1}][\dot{A}_{1}][\dot{A}_{1}][\dot{A}_{1}][\dot{A}_{2}][\dot{A}_{3}][\dot{A}_{3}][\dot{A}_{4}][\dot{A}_{3}][\dot{A}_{4}][\dot{A}_{3}][\dot{A}_{4}][\dot{A}_{3}][\dot{A}_{4}][\dot{A}_{5}$

VY OÞÁÜU VOEÜŸ

U] ^ | aea[a | AÛ ^ &ca[a | A h IÏ | H

FchUfm7i hhyf

V@ÁÜ[æh^ÁÔ`æā*ÁP^æåÁã*Áæ c^åÁq Á&`c

ç^*^œaāi}Á`]Áq ÁG-ÁşiÁsiãee(^c^¦È

" Úàb & & Ác À å Át Áà ^ Ác@[, } Á; ` cÁ+[{ Á` } å ^ LÁc@ @ æ Áā Ác@ ^ Áaā ^ &cā; } Á[- Æ;]æ å ^ Á+[cæ ā; } Áæ) å d; æ å Ác@ Á æ å ^ å Ac Å å * ^ Æ; Ác@ Á* @[` å ÈÁCE; [ãa & ` cæ; * Á ¸ ãc@ Ác@ Á@ æ å Ácāc ^ å Ácæ Áæ) * | ^ Ác@æ [àb & f Á; [` | å Á à ^ Ác@[, } Á d; æ å * Ác@ Á } ãc [] ^ Læ [LÁ;] • ãaā; } È

´ Y @ } Å{ [¸ ā, * Á[¦ Á{ ັ | & @a, * ÉÁ à ^ Á] æb æb | &æb ^ ~ | Ás@ænÁs@ ¦ ^ Áseb ^ Á; [Ásî • cæ) å ^ ¦ • Á; l Áse) ā æb• ¸ão@ÁæAF€€Á`æb å • ÉÁÖ^ à lã Ác° } å • Ác[Å Å Á Í ˇ cÁsec * ¦ ^ænÁ•] ^ ^ å Áæ) å Á&æ) Áā, bੱ ¦ ^ Á[¦ Á^ç^ } Á&æě • ^

å^æn@È

OPS-B- 0039_A



AWARNING

 $\begin{array}{l} T\text{ as} ^{\hat{}} A_{y} \text{ ash } A_{y} \text{ ash } 8c\theta \text{ EA*} & @Ase \text{ } A_{y} \text{ ash } A_{y$

A DANGER

VY OÞÁÜU VOEÜŸ

 $U] ^{\text{laga}} \hat{A}U^{\text{log}} \hat{A}U^{\text{log}} \hat{A}U^{\text{log}}$

- "('G\ i H1b['8 ck b'h\ Y'=a d`Ya Ybh

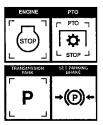


Úæl\Ác@^Áclæ&c[¦Á[}ÁæÁ|^ç^|Án`¦~æ&^ÉÄ[|æ&^Ác@^ dæ)•{ã•ā[}Áā[Á]æl\Á[¦Á^`dækAæ)åÁæ]]|^Ác@^

] æ\ ā * Áa\ æ\ ^ÊA[, ^\ Ás@ Ásæcæ&@ å Æq] |^{ ^} cÁq Ás@ Á*\[` } å ÊÁ* @ cÁa[, } Ás@ Á*\ * ā} ^ÊA^{ [ç^ Ás@ Á.^^ ÊÁs} å Á, æãóÁq \ æ\ Á [[cqā } Áq Ás[{ ^Áq ÁsæÁq }] |^c^ Ár q] Ás ^£| ^Ár ¢ācā, * Ás@ Ád æ&d; \ ÈÁOPS-U-0016_A

A DANGER

OOZUUOA/ 寒毒* 為愛為は器。(!A^無田典; æ・A^め。外。為'尋*為! 益、為) å即!A^ccc@ Áは器。(!Áは母)・{ ã・漬} Á身 Á; 益、身* Á*^ 盘。(是) 着。 * A* * A** *



%5"8=G7CBB97H+B; H<9'ACK9F': FCA'H<9'HF57HCF

W•^Án¢d^{ ^Á&æd^Áq[Á^^]Á^^Óæd;åÁ@æd;å•Ád;[{Á`}å^¦Áo@•Á;[¸^¦Áæd;åÁ&d^æd;Á;Āæd;^Ád;ā;&@Á;[ā;o•È OPS-R-0030_A

VY OÞÁÜU VOEÜŸ

U] ^ læða[} ÁÙ ^ & cá[} Á l 🗒 l

A DANGER

A DANGER

%"ACK9F'GHCF5: 9

 $\begin{array}{l} \text{Co} \hat{\textbf{A}} \hat{\textbf{A}} \wedge \& [\ \{\ ^\} \& ^ \mathring{\textbf{A}} \wedge \& \hat{\textbf{A}} \otimes \hat{\textbf{A}}$

Úl[]^¦|^Á;|^]æðaj*Áæ)åÁn•[¦aj*Ác@Á;[¸^¦ÁæxÁc@Án}åÁ;Ác@Án^æe[}ÆniÁs&iãaa8ædÁ[Á;æājææājāj*ÁæniÁæð]]^æðæ)&^ æ)åÁg[Á@|]Án}•`¦^Á^æð•ÁjÁán]^}åææi|^Án^¦çæ&rÈÁv@Á;||[¸aj*Áæd^Án`**^•cnåÁn[¦æ*^Á;![&nå`¦^•K

″ V@;¦[`*@`Á&|^æ)Áæ||Ás^à|ãrÁ[~Ác@:Á([¸^¦Á([]¦^ç^}cÁåæ(æ**^Á-¦[{Á¦[coā]*Á*¦æ••Áæ)å •cæ)åā]*Á;æe^¦È

Š`àla8æe^Áæ|Á, [¸^lÁtl^æ•^Á, [ā]c•Áæ)åÁāl/Á,āl |^ç^|•Áæ•Áå^æāp^åÁājÁœ.Á;æājc^}æ)æ,&^Á^&æāj}È

"Ûq !^Áq@ Áq [^ | Ásp Ásæá&|^áa) ÉÁs !^Áj |æás^Á, ão@Ás@ { [^ \ A@ * ā] * Á\^• cā, * Á•^&* !^|^Á[} Áa |[&\•Á[! æá*] * Á\^ç^|È

ÁOPS-R-214



A DANGER



VY OÞÁÜU VOEÜŸ

 $U] ^{l} aeca[] AÛ ^ &ca[] AHEHÎ$

%"HF5BGDCFHB; H<9 HF57HCF 5B8 = AD@A9BH

Q@\^}of@e ædå•fi_fi_]^\æaā;*Ás@ Átæ&c[\Áæ;åfi]|^{ ^}ofæ;åAc@ fi[••āafācfi_fi_Aæ&&&å^}o Aæb^fi_off^-offa^@}å

@}Á[`Áājā@fi[\]ā;*ÁsjÁæ;Áæ;Aæb;Aæb;Aæb;Aæb;Aæb;Aæfi]^\æa[\fi_`•ofa\{]|[^fi[[åhŏå*^{ ^}ofæ;Ai]^\æaāi}]
|\æ&&a&\•fi_@}Ai]*Ac@Aiæ&c[\Áæ;åAa]|^{ ^}ofa\copa;Ai]^\æaāi}
|\æ&a&&\•fi_@}Aiæ;•][\ofa;*Ás@Aiæ&c[\Áæ;åAā]|^{ ^}ofa\copa;^^}fi_&ææāi}*EÁO^Á•ā;*Ái[[åhŏå*^{ ^}ofa;^]^\æaāi}
-[||[¸ā;*Ásæ^Atæ;•][\ofa;!&^å`\^•Êfs@fi_=•āafācfi_Aæ&&āa^}ofa;^@\$\Ai[çā;*Áa^c,^^}fi_&ææāi}*Aa^c,^^}fi_&ææāi}*Ai\copa;^*Ai\c

 〇个-{ | ^ Át æ) •] [| cā * Áx@ Át æ&q | Áæ) å Å; [¸ ^ | 莊編| ^ Áx@

 dæ&q | Ár) * ā ^ Áæ) å Á; ææ Át ææ Át [¸ ^ | Á; [çā * Á; æð • q Á&[{ ^ Át ÁæÁ&[{] | ^ c ^ A q]] À ÊÁ ææ ^ Ác@ Á; [¸ ^ | Át [cæ) •] [| có@ å @ÌÈÁOPS-R-0033_A



AWARNING

 $\begin{array}{l} T \stackrel{.}{\Rightarrow} ^{A}8^{A_1} \stackrel{.}{\Rightarrow} AG \stackrel{.$



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HF5BGDCFH+B; IB89F'H<9'IB+HBG'CKB'DCK9F

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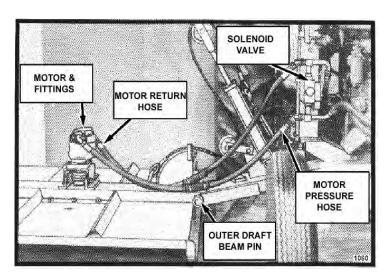
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AWARNING

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AWARNING





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NOTE: Refer to repair parts section on valve bank settings on individual relief cartridges.

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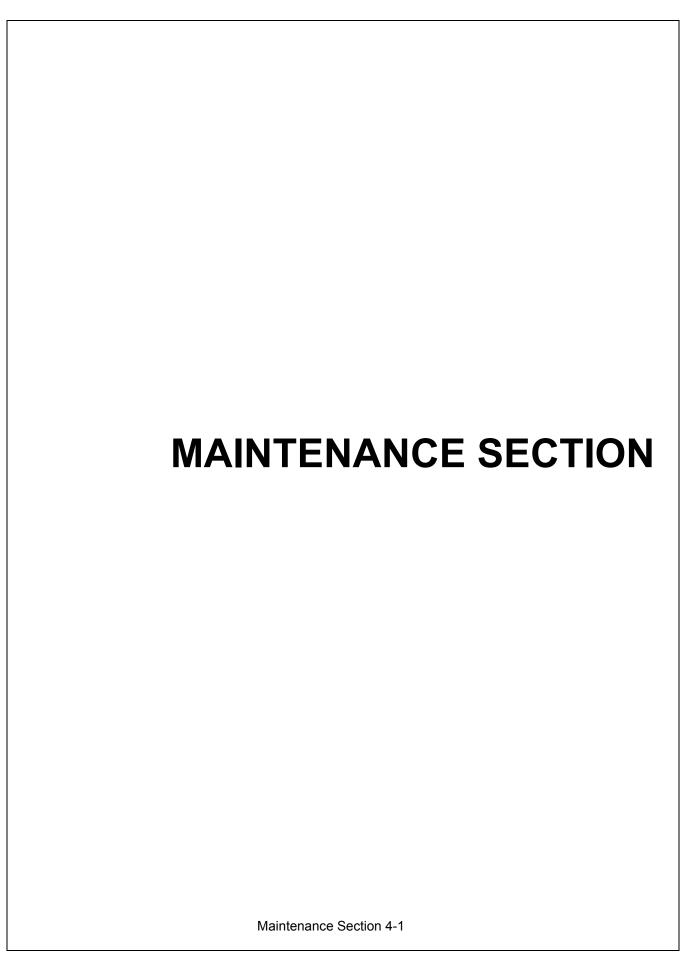
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GENERAL INSTRUCTIONS

Tiger Mowers are designed for high performance and rugged durability, yet with simplified maintenance. The purpose of this section of the manual is to help the operator in the regular servicing of the mower. Regular maintenance at the intervals mentioned will result in the maximum efficiency and long life of the Tiger Mower.

When you purchase a Tiger Mower you also acquire another valuable asset, Tiger's parts organization. Our rapid and efficient service has guaranteed the customer satisfaction for many years. Tiger parts keep up with the demands for efficiency, safety and endurance expected of the Tiger Mower.

MAINTENANCE PRECAUTIONS

- Be sure end of grease gun and zerks are clean before using. Debris injected into bearings, etc. with grease will cause immediate damage.
- DO NOT use a power grease gun to lubricate bearings. These require very small and exact amounts of lubrication. Refer to the detailed maintenance section for specific lubrication instructions. DO NOT overgrease bearings.
- Lexan windows should be washed with mild soap or detergent and lukewarm water, using a soft clean sponge or soft cloth. DO NOT use abrasive or alkaline cleaners or metal scrapers on lexan windows!
- Be alert to maintenance indicators such as the in-tank filter pressure gauge, hydraulic reservoir sight gauge, etc. Take the required action to correct any problems immediately.
- Release of energy from pressurized systems may cause inadvertent actuation of cylinders, or sudden release of compressed springs. Before disconnecting any hoses relieve pressure by shutting tractor off, setting cutter on ground and actuating lift valve handles.



DO NOT use hands to check fo r suspected leaks in hydraulic hoses! Hydr aulic fluid escaping under pressure can have sufficient force to penetrate skin and cause serious injury. If fluid is injected into skin, it must be surgically removed w ithin a few hours or gangrene may result. Use a small piece of wood or cardboard, not hands, to search for pin hose leaks. Be sure all connections are tight and hoses and lines are not damaged before applying pressure.

BREAK IN PERIOD

In addition to following the break-in instructions for your particular tractor, the in-tank hydraulic fluid filter should be replaced after the first 50 hours of service. The reafter the filter should be replaced every 500 hours, or yearly, whichever comes first.

Re-torque wheel lugs after first five hours of operation and periodically thereafter. See torque specifications listed in the tractor's service manual for your particular model. Wheel lugs must always be re-torqued whenever a wheel is removed and reinstalled.



Never work under the Implement, the fr amework, or any lif ted component unless the Implement is securely supported or blocked up to prevent sudden or inadvertent falling which could cause serious injury or even death. (SG-14)



TWIN ROTARY



Do not modify or alter this Implement. Do not permit anyone to modify or alter this Implement, any of its components or any Implement function. (SG-8)

AWARNING

Relieve hydraulic pressure prior to doing any maintenance or repair work on the Implement. Place the Mower Head on the ground or securely supported on blocks or stands, disengage the PTO, and turn off the engine. Push and pull the control Levers or Joystick several times to relieve pressure prior to starting any maintenance or repair work. (SBM-6)

A DANGER

Always disconnect the wire leads from the mower pump solenoid before performing service on the Tractor or Mower. Use caution when working on the Tractor or Mower. Tractor engine must be stopped

before working on Mower or Tractor. The Mower Blades could inadvertently be turned on without warning and cause immediate dismemberment, injury or death. (SBM-12a)



REGULAR MAINTENANCE

The intervals at which regular servicing should be done are based on hours of operation. Use the tractors hour meter to determine when regular servicing is required.

Daily or Every 8 Hours

ITEM	SERVICE	COMMENTS
Drive Shaft Yoke, U-Joint & Stub Shaft	Grease	Grease as instructed in detailed Maintenance Section
Pump Drive Shaft	Check and Lube	Insure drive shaft end play
Crankshaft Adapter	Check rubber grommets	Replace grommets if damaged or missing
Pivot Points	Lubricate	Inject grease until it appears at end
Hydraulic Fittings	Check for leaks	Tighten when needed. Do Not use hands to che ck for leaks. See Maintenance Precautions
Spindle mounting bolts (spindle to deck)	Check	3/4" x 2" torque to 331ft. lbs.
TWIN ROTARY	Maintenance Section	4-3
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ITEM	SERVICE	COMMENTS
Disk mounting bolts (disk to spindle)	Check	5/8" X 1-3/4" bolt torque to 204 dry or 184 oiled ft. lbs.
Main Frame and Deck	Check	Retorque bolts to torque specifications in this section
Hydraulic Fluid Level	Check	Add if required per fluid recommendations

WEEKLY OR EVERY 40 HOURS

ITEM	SERVICE	COMMENTS
Rotary Spindle	Lubricate	Grease as instructed in detailed Maintenance Section

WEEKLY OR EVERY 50 HOURS

ITEM	SERVICE	COMMENTS
In Tank Hydraulic Fluid Filter (10 micron filter)	Change	Change after first 50 hours only then every 500 hours or yearly
In-Line High Pressure Filter (10 micron filter)	Change	Change after first 50 hours only then every 500 hours or yearly

TWIN ROTARY

MONTHLY OR EVERY 150 HOURS

ITEM	SERVICE	COMMENTS		
Hydraulic Fluid Level	Check	Add as needed		
Hydraulic Tank Breather	Clean/Check/Replace	Clean or replace Element as required		
Rear Tire Type 480/80R38 18.4-34 18.4-38	Max P.S.I . 29 26 26			

YEARLY OR EVERY 500 HOURS

ITEM	SERVICE		COMMENTS
Spindle Grease	Change		
Motor to Spindle Spline Grease	Change		
Hydraulic Tank Fluid	Change		
In Tank Hydraulic Fluid Filter (10 micron filter)	Change		
In-Line HP Filter (10 micron filter)	Change	or	Change when indicated by restriction indicator.
Hydraulic Tank Breather	Change		

TWIN ROTARY

TROUBLESHOOTING	 3	
SYMPTOMS	CAUSE	REMEDY
Vibration	Loose Bolts	Check all bolts and tighten to recommended torque specifications in this section
	Cutter assembly	 a. Check for damaged blades, disc, unbalanced or cutter shaft.
		b. Replace if needed.
		c. Check for wire, rope, etc. en tangled in the cutter assembly
Mower will not lift	Hydraulic Fluid Low Leaks in line Faulty relief valve	Check and refill Hyd Fluid Tighten or replace fittings and hoses Check pressure in line. Line pressure in Control Valve should be at least 2500 P.S.I.
	Kinked or blocked	Clean or replace lines
	Faulty cylinder	Inspect, repair or replace cylinder
Oil Temperature rises	Low oil level above 200°F Kinked/blocked hoses Worn pump/motor	Bring oil to proper level. Inspect / Repair / Replace Disable and Repair
Mower will not start or run	Blown fuse	Check fuse between mower switch and ignition / replace
	Ball valves closed Low oil level Line leak	Make sure valves are open Check Hyd. tank and fill Check all fittings and lines, re-tighten or replace
	Electronic solenoid faulty	a. Without the tractor running, turn the mower switch to on. A low audible click is not heard if the solenoid is engaging the solenoid spool. If click is not heard, leave switch in on position and with a screwdriver or other steel object, touch the small nut on the end of the solenoid. If the metallic object is not attracted to the nut, check the fuse and wiring for an open circuit. If the o bject is a ttracted but no "click" is heard, replace the solenoid.
TWIN ROTARY	Maintenance Section 4	-6

		b. Remove the four bolts holding the small block to the main block. Lift and remove small block being careful not to damage O- rings/filter.
		c. Clean filter and re-install.
		d. Remove large nut on side of large valve block. Remove spring, and use needle nose vise grip to pull spool from block. Check block and spool for contaminants and scratches. Clean parts or replace if scratched.
Mower turns slowly or not at all	Contaminants restricting spool movement in valve body	Remove large nut on side of large valve block. Remove spring, and use needle nose vise grip to pull spool from block. Check block and spool for contaminants and scratches.
		Clean parts or replace if scratched.
	Suction lines obstructed	Check for kinks or obstruction in suction hose.
	Low oil level	Check Hyd. tank level and fill.
Pump will not work	Excessive wear on internal parts	Disassemble and repair.
Motor will not work	Excessive wear on internal parts	Disassemble and repair

NOTE: If flow meter is available, check pressure and flow volume for all suspected hydraulic problems.

If the solution to your problem cannot be found in this section, call the Technical Service representative at the number shown on the front cover of this manual.

TWIN ROTARY

TORQUE SPECIFICATIONS

				T	orque	for St	andard	Faste	ners				
Nominal Dia.	1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1)	Grade 2	0	>	Grade 5	(3)		Grade 8	0		Grade 9
Dia.	per	Tig	htening Tor	que	Tic	htening To	rque	Tig	htening Tor	que	Tig	htening Tor	que
	TACH.		Dry Plated			Dry Plated		Lubed	Dry Plated		Lubed	Dry Plated	Dry plain
(in.)		K= 0.15	K=0.17	K = 0.20	K = 0.15	K = 0.17	K = 0.20	K = 0.15	K = 0.17	K = 0.20	K=0.15	K=0.17	K = 0.20
					Uni	fied Coa	rse Threa	ad Series					
1/4	20	49 in-lbs	59 in-lbs	66 in-lbs	76 in-lbs	86 in-lbs	101 in-lbs	107 in-lbs	122 in-lbs	143 in-lbs	126 in-lbs	143 in-lbs	168 in-lbs
5/16	18	101	122	135	157	178	209	221	251	295	259	294	346
3/8	16	15 ft-lbs	16 ft-lbs	20 ft-lbs	23 ft-lbs	26 ft-lbs	31 ft-lbs	33 ft-lbs	37 ft-lbs	44 ft-lbs	38 ft-lbs	43 ft-lbs	51 ft-lbs
7/16	14	24	29	32	37	42	49	52	59	70	61	70	82
1/2	13	37	44	49	57	64	75	80	90	106	94	106	125
9/16	12	53	63	70	82	92	109	115	130	154	135	153	180
5/8	11	73	87	97	113	128	150	159	.180	212	186	211	248
3/4	10	129	155	172	200	227	267	282	320	376	331	375	441
7/8	9	125	150	167	322	365	429	455	515	606	533	604	710
1	8	187	225	250	483	547	644	681	772	909	799	905	1065
1 1/8	7	266	319	354	596	675	794	966	1095	1288	1132	1283	1510
1 1/4	7	375	450	500	840	952	1121	1363	1545	1817	1597	1810	2130
11/2	6	652	783	869	1462	1657	1950	2371	2688	3162	2779	3150	3706
						Fine T	nread Se	ries					
1/4	28	56 lin-lbs	68 lin-lbs	75 lin-lbs	87 lin-lbs		31,500		139 in-lbs	Idea lie the	Tara Iso Hea	Incolling the	Ago Livilla
5/16	24	112	135	150	174	197	231	245	278	327	287	325	383
3/8	24	17 A-lbs	20 ft-lbs	23 ft-lbs		30 ft-lbs	35 A-lbs	37 ft-lbs	42 ft-lbs	49 ft-lbs	43 ft-lbs	49 ft-lbs	58 ft-lbs
7/16	20	27	32	36	41	47	55	58	56	78	68	78	91
1/2	20	41	49	55	64	72	85	90	102	120	105	120	141
9/16	18	59	71	78	91	103	121	128	146	171	151	171	201
5/8	18	82	99	110	127	144	170	180	204	240	211	239	281
3/4	16	144	173	192	223	253	297	315	357	420	369	418	492
7/8	14	138	165	184	355	403	474	502	568	669	588	666	784
1	14	210	252	280	542	614	722	765	867	1020	896	1016	1195
1 1/8	12	298	357	397	668	757	890	1083	1227	1444	1269	1439	1693
1 1/4	12	415	498	553	930	1055	1241	1509	1710	2012	1768	2004	2358
1 1/2	12	734	880	978	1645	1865	2194	2668	3024	3557	3127	3544	4169

Torque values for 1/4 and S/16-in series are in inch-pounds. All other torque values are in foot-pounds. K = 0.15 for "lubricated" conditions Torque values calculated from formula T=KDF, where

K = 0.17 for zinc plated and dry conditions K = 0.20 for plain and dry conditions

F = Clamp Load.

			Class 4,6			Class 8.8			Class 10,		Class 12.9		
			<	4.6		10	8.8)		(10.9)		12.9
Nominal	Pitch	Tigl	tening To	rque	Tig	htening Tor	que	Tig	htening To	rque	Tightening Torque		
		Lubed	Dry Plated	Dry plain	Lubed	Dry Plated	Dry plain	Lubed Dry Plated Dry plain			Lubed Dry plain		
Dia.		K = 0.15	K = 0.17	K = 0.20	K=0.15	K = 0.17	K = 0.20	K = 0.15	K = 0.17	K = 0.20	K = 0.15	K = 0,20	
(mm)		(ft-lbs)	(ft-lbs)	(ft-lbs)	(ft-lbs)	(ft-lbs)	(ft-lbs)	(ft-lbs)	(ft-lbs)	(ft-lbs)	(ft-lbs)	(ft-lbs)	
3	0.5	0.28	0.32	0.38	0.73	0.82	0.97	1.0	1.2	1.4	1.2	1.6	
3.5	0.6	0.44	0.50	0.59	1.1	1.3	1.5	1.6	1.9	2.2	1.9	2.5	
4	0.7	0.66	0.74	0.87	1.7	1.9	2.3	2.4	2.7	3.2	2.8	3.8	
5	0.8	1.3	1.5	1.8	3.4	3.9	4.5	4.9	5.5	6.5	5.7	7.6	
6	-1	2.3	2.6	3.0	5.8	6.6	7.7	8.3	9.4	-11	9.7	13	
6	1,25	2.1	2.3	2,7	5,3	6.0	7.0	7.6	8.6	10	8.8	12	
7	1	3.8	4.3	5,0	9.7	11	13	14	16	19	16	22	
- 8	1	5.9	6.8	7.8	15	17	20	22	24	29	25	34	
- 8	1.25	5.5	6.2	7.3	14	16	19	20	23	27	24	31	
10	1.25	.11	13	15	29	33	39	42	48	56	49	66	
10	1.5		12	14	28	32	37	40	45	53	47	62	
12	1.25	21	23	28	53	60	71	76	86	101	89	119	
12	1.5	20	22	26	51	58	68	73	82	97	85	113	
12	1.75	19	21	25	49	55	65	70	79	93	81	108	
14	1.25	26	29	34	66	75	89	95	108	127	111	148	
14	1.5	28	32	37	72	82	96	103	117	138	121	161	
14	2	30	34	40	78	88	184	111	126	148	130	173	
16	1.5	- 50	57	67	129	146	171	184	208	245	215	287	
16	2	47	53	62	121	137	161	173	196	230	202	269	
18	1.5	73	82	97	187	212	249	268	303	357	313	417	
18	2.5	85	73	86	167	189	222	239	270	318	279	372	
20	1.5	101	115	135	270	306	360	374	424	498	437	583	
20	2.5	91	104	122	236	267	314	337	382	449	394	525	
clamp lo	ad calc	culated as	75% of th	ne proof lo	ad for spe	cified bolts	K = 0.15 f	or "lubrica	ated" cond	itions	D = Nomir	nal Diamete	
All torqu	e value	es are list	ed in foat-	pounds			K = 0.17 f	or zinc pl	sted, dry o	conditions	F = Clamp	Load	

TWIN ROTARY

LUBRICATION RECOMMENDATIONS

DESCRIPTION	APPLICATION	GENERAL SPECIFICATION	RECOMMENDED MOBIL LUBRICANT
Tractor Hydraulics	Reservoir	JD-20C MF M1135, M1141 FNHM2C134D (FNH201)	Mobilfluid® 424
Mower Hydraulics Cold Temperature Normal Temperatu		ISO 46 Anti-Wear-Low Temp JD-20C MF M1135, M1141 FNH M2C134D (FNH201)	Mobil DTE 15M Mobilfluid 424
Normal Temperatu High Operating Te		ISO 46 Anti-Wear ISO 100 Anti-Wear	Mobil DTE 25 Mobil DTE 18M
Drive Shaft Coupler	Grease Gun	Lithium-Complex Extreme Pressure NLGI 2 - ISO 320	Mobilgrease CM-S
Drive Shaft Yoke, U-joint & Stub Shaft	Grease Gun	Lithium-Complex Extreme Pressure NLGI 2 - ISO 320	Mobilgrease CM-S
Deck Spindle (Rotary)	Grease Gun	Tiger Part Spindle Lubricant Part Number 06540000	Mobilith SHC 220
Motor Spline			Moly 52

TWIN ROTARY

POLYCARBONATE CARE & MAINTENANCE

The proprietary UV and Abrasion Resistant surface coating on SHIELDS SUPERCOATED polycarbonate significantly improves performance. Periodic cleaning using proper procedures and compatible cleaners are recommended to prolong service life. Tiger Corp. polycarbonate is SUPERCOATED on both sides.

CLEANING THE SUPERCOAT HARD-COAT

- 1. Wash with a mild solution of soap or detergent and lukewarm water.
- 2. Using a soft cloth or sponge, gently wash the sheet to loosen dirt and grime and rinse well with clean water.
- 3. To prevent water spotting, thoroughly dry with chamois or cellulose sponge.
- 4. Avoid the use of abrasive cleaners, squeegees and/or other cleaning implements that may mar or gouge the coating.

CLEANING AGENTS WHICH HAVE BEEN FOUND TO BE COMPATIBLE UNDER LABORATORY CONDITIONS:

Aqueous Solutions of Soaps and Detergents

Windex Top Job Joy Mr. Clean Fantastik Formula 409 Sumalight D12 Brucodecid

Organic Solvents

Butyl Cellosolve Kerosene Hexel, F.O. 554 Naphtha (VM&P Grade)

Neleco-Placer Turco 5042

Alcohols

Methanol Isopropyl

All residual organic solvents should be removed with a secondary rinse.

GRAFFITI REMOVAL

Butyl cellosolve (for removal or paints, marking pen inks, lipstick, etc.) The use of masking tape, adhesive tape or link removal tools work well for lifting off old weathered paints.

To remove labels, stickers, etc., the use of kerosene of VM&P naphtha are generally effective. When the solvent will not penetrate sticker material, apply heat (hair dryer) to soften the adhesive and promote removal.

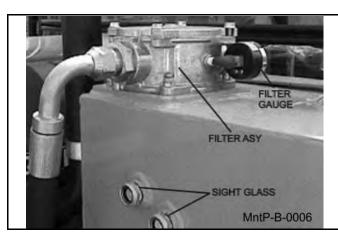
If a material is found to be imcompatible in a short-term test, it will usually be found to be imcompatible in the field. The converse, however, is not always true. Favorable performance is no guarantee that actual end-use conditions have been duplicated. Therefore, these results should be used as a guide only and it is recommended that the user test the products under actual end-use conditions.

TWIN ROTARY Maintenance Section 4-10

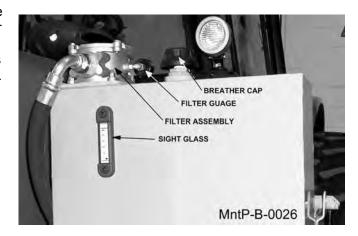
RECOMMENDED FILLING INSTRUCTIONS FOR HYDRAULIC RESERVOIRS

When filling or checking the oil level, the unit should be parked on a level surface., shut **OFF**, and allow sufficient time to cool to ambient temperature. Use caution when removing the pressurized breather. Do n ot place face o ver opening when removing breather.

If your reserv oir has two sight glasses: The reservoir should be filled to the top of the lower sight glass on the side of the tank. Do not over-fill. The reservoir has been over-filled when oil is visible in the upper sight glass. If tank has too much oil, the excess may be expelled through the pressurized breather.



If your reservoir has one sight glass/temperature gage: The reservoir should be filled to the center of the sight glass on the side of the tank. Do not over-fill. If the tank has too much oil, the excess may be expelled through the pressurized breather.



REPLACING IN-TANK HYDRAULIC FILTER

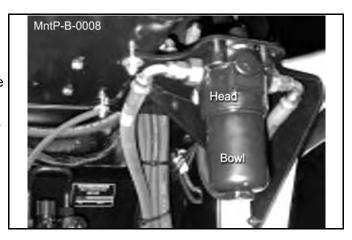
Loosen the four bolts on the top cover of the filter housing. Turn cover counter-clockwise until cover is free. Remove and replace filter. Replace top cover and cover bolts in opposite order as removed.



TWIN ROTARY

REPLACING HIGH PRESSURE HYDRAULIC FILTER ELEMENT

Ensure system has been shut down and depressurized. Locate High Pressure Filter housing. Confirm that the new element matches the element p/n on the filter mo del tag. *Example: V3.0510-06 (world line 100, HD049 model)*. Locate the bottom of the High Pressure Bowl, and using the appropriate spanner wrench or ratchet, turn in a counterclockwise rotation, (looking at the bottom of the bowl) to remove the bowl from the head. The first couple rotations will seem tight as the o-ring passes the sealing flats. Once the o-ring has cleared the sealing flats the bowl should spin freely. Taking care not to drop the bowl, finish removing the bowl from the head.

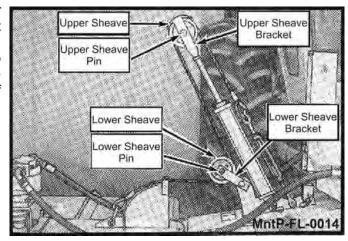


WARNING: Bowl will be full of oil! Pour the oil from the bowl into a container. This oil should be considered contaminated due to the outside-in flow direction through the element. Clean the inside of the bowl if "dirt" is present. Remove the old element from the filter head by pulling with a rotation motion. Dispose of the used element properly. Remove the new element from the packaging. Using your finger, dab and lubricate the o-ring in the top of the new element with oil. Install the new element into and on the mounting boss within the head. Ensure that the element is fully seated on the boss. Clean and inspect the o-ring that is affixed in the bowl and lubricate with oil. Using a clockwise rotation, screw the bowl back into the head, ensuring that the bowl has not been cross-threaded into the head. Continue to tighten the bowl into the head, using the spanner wrench or ratchet. The rotation of the bowl will be come tighter once the o-ring engages the sealing flats. Once the bowl has bottomed out, back-off the bowl by 1/6 tur n. This ensures that the o-ring is seated properly within the sealing flats. Element change out and re-assembly is now complete. Start the machine and inspect the filter area checking that there is no oil leaking from the filter assembly. The element should first be replaced at 50 hours of operation, then yearly (500 hours) or when indicated by restriction indicator.

TWIN ROTARY

GREASING THE UPPER AND LOWER SHEAVES

Locate the grease zerks on the ends of the upper and lower sheave pins as sho wn below. Inject Lithium-Complex Extreme Pressure grease conforming to NLGI2-ISO 320 specifications into each pin until it protrudes from the ends. These should also be greased daily or for every 8 hours of service.



TIGHTENING BLADE BOLTS AND DISK BOLTS

After every 8 hours of operation or daily, the knife bolts and disk bolts should be tightened as follows:

Knife Mounting Bolts (3 ea.) torque to 800 oiled ft. lbs.

Disk Mounting Bolts (6 ea.) torque to 204 dry or 184 oiled ft./lbs.

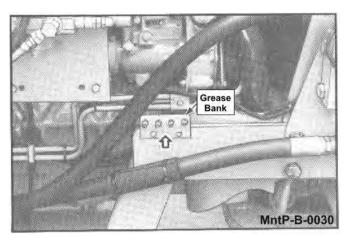


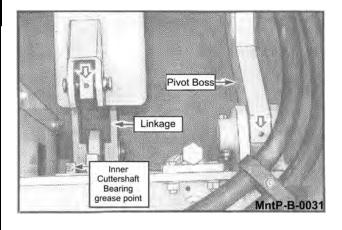
TWIN ROTARY

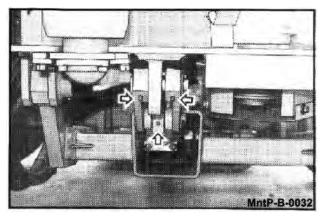
GREASING INNER AND OUTER DRAFT BEAM PIVOT POINTS

Locate the grease zerks on the inner and outer draft beam pivot bosses. Inject Lithium-Complex Extreme Pressure grease conforming to NLGI2-ISO 320 specifications into each zerk until grease protrudes from joints. Gr ease all pivots daily or every 8 hours of service.

With the cutter head lowered, locate the grease zerks on the linkage and pivot bosses. Inject Lithium-Complex Extreme Pressure grease conforming to NLGI2-ISO 320 specifications until it protrudes from the ends. With the cutter head in this position it is also possible to grease the draft beam cylinder anchors and pins. Now raise the cutter head expose the remaining zerks on the deck tilt linkages and on the other end of the cylinder.

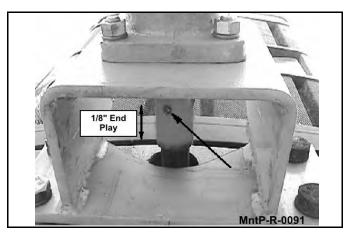






GREASING PUMP DRIVE SHAFT COUPLER

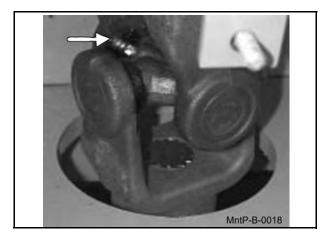
With engine stopped, ensure drive shaft alignment by grasping coupler and sliding back and forth. Coupler should slide freely with approximately 1/8" of end play. If coupler does not slide freely, inspect for loose pump mount bolts, or damaged or loose crank shaft adapter. Inject-Lithium Complex Extreme Pressure grease conforming to NLGI2-ISO 320 specifications into coupler until grease begins to protrude from ends. Grease daily or every 8 hours. Do not over grease.

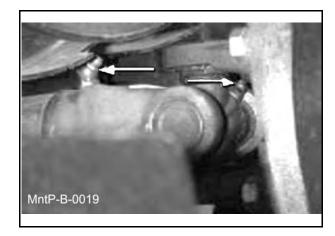


TWIN ROTARY

DRIVE SHAFT YOKE, U-JOINT & STUB SHAFT

With engine stopped, inject Lithium-Complex extreme pressure grease conforming to NLGI2-ISO 320 specifications into universal joints and slip yoke until grease appears at the seal. Grease them daily or every 8 hours.



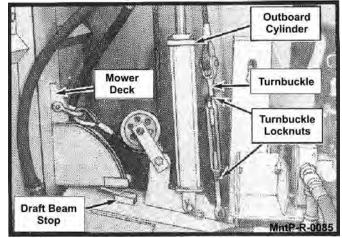


ADJUSTING THE CABLE LIFT

Extend the outboard cylinder until the mower deck touches its stop on the draft beam as shown.

NOTE: Make sure the cable turnbuckle is lo ose enough to allow the cylinder to reach full extension before the head reaches the stop.

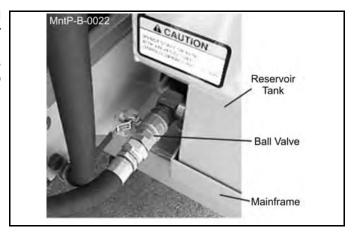
Now hold the head against the stop and tighten the turnbuckle until the cable is tight. Lower and raise the head to check the adjustment. The head should touch its stop at the same time the cylinder reaches full extension. Tighten turnbuckle lock nuts securely after adjustment is complete.



TWIN ROTARY

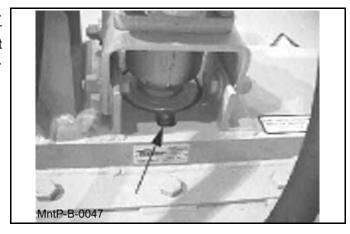
BALL VALVES

The ball valves at the hydraulic reservoir may need to be closed during certain maintenance or repair procedures. THE BALL VALVES MUST BE OPEN (handle parallel with valve) WHEN TRACTOR IS RE-STARTED OR PUMP IS COU PLED TO MOTOR OR PTO! Failure to do so will result in component failure!



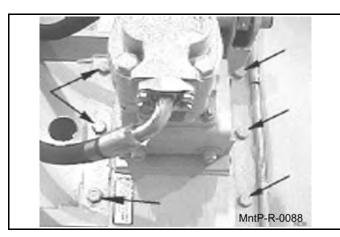
GREASING SPINDLE

Locate grease fitting on inside of deck hou sing. Inject Tiger Spindle Lubricant, part number 06540000 into spindle housing. Fill with lubricant until lubricant weeps out of to p spindle seal. Lubricate spindle weekly or every 40 hours of use.



TIGHTENING SPINDLE BOLTS

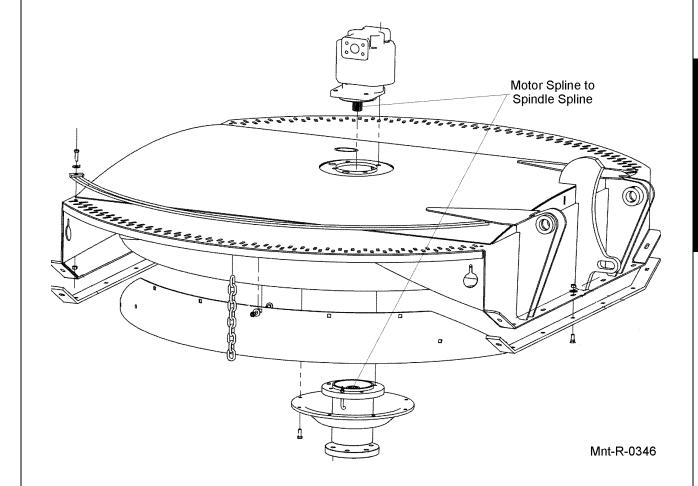
The spindle mounting bolts should be checked and retorqued daily or every 10 hours of service. Torque the (6) bolts shown below to 331 ft. lbs.



TWIN ROTARY

GREASING MOTOR SPLINE TO SPINDLE SPLINE

Locate motor spline and spindle spline on the mower deck. Grease splines with Mobil moly 52. Use about 4 ounces of grease. Change grease yearly or every 500 hours.



TWIN ROTARY

Blades

Check the Blades for cracks and wear and Blade Bolts for tightness, daily. Blades should be replaced when they are worn excessively, bent, deformed, or out of balance.

A CAUTION

Blades should always be replaced in pairs. Blades of different weights can cause serious imbalance and damage to the machine and personnel. When replacing blades, take care to replace the blade bolts, nuts, and washers.

Important

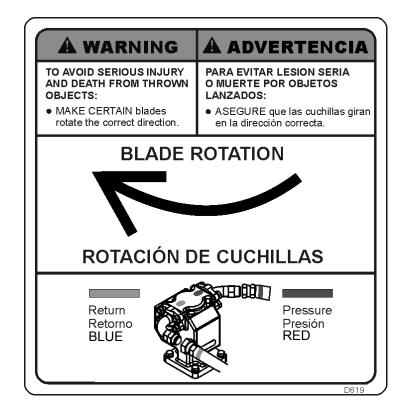
Make sure the mower blades are turning clockwise when looking down from the top of the mower. Follow the color coding on the hydraulic hoses and fittings to make sure the motor and hydaulics hoses are assembled properly. Connect the red hose connection only to red fitting. Connect the blue hose connection only to the blue fitting. The blade rotation on the leading edge of the mower should discharge the cut material away from the tractor and operator.



AWARNING

If the leading edge of the mower blades are rotating backwards they can discharge material toward the operator. If this occurs discontinue mowing immediately and reverse the direction of the motor rotation by correctly installing the motor pressure and return hoses. Contact your dealer or Alamo Industrial for specific information on the hose routing.





TWIN ROTARY

ROTARY KNIFE REPLACEMENT

- 1. Be sure you have a complete matching set of new knives for replacement.
- 2. Remove knives and inspect holes for damage. Also watch for cracks in the disk around the holes.
- 3. Lube threads with anti-seize, motor oil or grease. Install bolts through knife and disk from bottom side of disk. Install new self-locking nuts and torque them to 800 ft. lbs.
- 4. The knives should swing freely to absorb shocks from impact when striking objects.

▲WARNING

WHEN CUTTING HEAVY BRUSH, KNIFE BOLTS SHOULD BE INSPECTED HOURLY AND RETORQUED TO 1070 DRY OR 800 OILED FT./LBS.

REPLACEMENT OF ROTARY DISK

▲ CAUTION

Failure to follow the following warnings and instructions may result in serious injury or damage to the equipment or property!

The bolts that attach the knife mounting disk to the spindle must be grade 8. These 5/8 inch fine thread series bolts are to be torqued according to the chart in this section.

A thread locking agent may be applied to threads of all mounting bolts before they are installed.

Disks must be inspected daily for hairline cracks between spindle mounting bolts or around the knife mounting bolts. These cracks indicate metal fatigue caused by severe abuse. If cracks are present, the disk must be replaced.

Inspect the disk mounting bolts daily when checking tightness of blade mounting bolts. If a disk mounting bolt is loose, it must be removed, threads cleaned, fresh thread locking agent applied, and tightened to proper torque value.

If a knife mounting bolt is loose, the self locking nut must be replaced as a safety precaution. Lubricate threads with anti-seize, grease or motor oil. Place bo Its through knife and disk from bottom side of disk. Install self locking nuts and torque them to 800 ft. lbs.

- 1. **WARNING: The disk alone weights over 100 lbs.** Be sure its weight can be supported before attempting to replace. The use of a lift mechanism will ease replacement.
- 2. Remove the six disk mounting bolts and the disk from the spindle.
- 3. Install new disk and align with mounting bolt holes.
- 4. Apply a thread locking agent to all of the mounting bolts and install the bolts through the disk.

NOTE: Disk bolts must be Grade 8.

- 5. Tighten bolts down and torque to values noted.
- 6. See knife replacement instructions for replacing the knives onto the new disk.

TWIN ROTARY

HEAVY DUTY SPINDLE ASSEMBLY INSTALLATION AND BEARING ADJUSTMENT

AWARNING

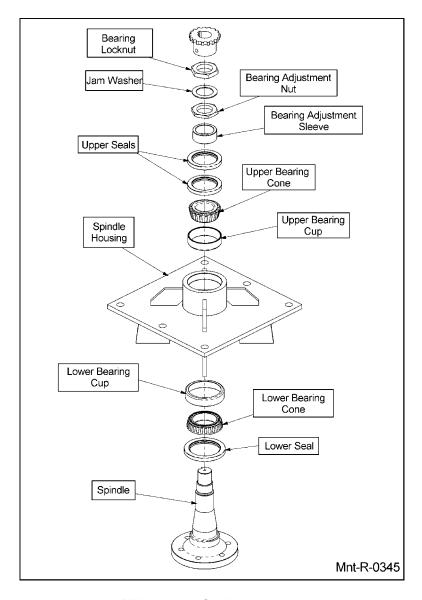
A press MUST be used to in stall bearing cups, bearing cones, and seals. DO NOT use a hammer to install races, bearings, or seals. The parts of assembly may be damaged.

NOTE: The grease zerk and gussets are located on the top side of the spindle housing. Be sure the spindle is assembled correctly.

Be sure to wear eye protection and other protective equipment as needed when working on spindle assembly.

THE SPINDLE ASSEMBLY

See the diagram below for identification of spindle parts, while servicing.

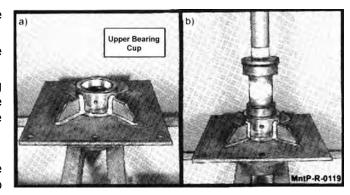


TWIN ROTARY

MAINTENANCE

BEARING INSTALLATION

- 1. Press upper bearing cup into the spindle housing
- 2. Turn the spindle housing over and press in the lower bearing cup.
- 3. Place the lower bearing cone in the bearing cup. Next press the seal into the spindle housing. The inner lip of the seal must be DOWN, towards the bearing, so lubricant is sealed inside the housing.
- 4. Install the spindle in the housing. Lightly tap the end of the spindle with a soft faced hammer to seat the spindle against the bearing inner race.



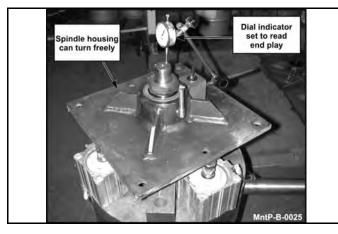
- 5. Turn the spindle housing over (up position) and fill with Tiger Spindle Lubricant (part number 06540000) to the top edge of the upper bearing cup.
- 6. Support the bottom of the spindle and press the upper bearing cone and bearing adjustment sleeve onto the spindle.

NOTE: The spindle housing must turn freely when seating the bearing cone and sleeve.

- 7. Press the two upper seals into the spindle housing. The inner lip of the seals must be UP, away from the bearing, so excess lubricant can escape.
- 8. Install the bearing adjustment nut (thin nut) so there is 1-1/6" clearance between the nut and the sleeve. Install the jam washer, placing the tab into the key-way. Install the bearing lock nut (thin nut) and hand tighten against jam washer and adjustment nut. See the following section for bearing adjustment.

BEARING ADJUSTMENT

- 1. Clamp the bottom end of the spindle securely in a vise so the spindle housing turns freely.
- Position a magnetic base dial indicator on the outer diameter of the spindle housing. Locate the end of the dial indicator against the flat end of the spindle shaft. The dial indicator will now measure accurately bearing end play.
- 3. Tighten the bearing adjustment nut until there is 0.012 inch movement when the spindle housing is pried upward away from the vise jaws.
- 4. When there is 0.012 inch free play between the spindle and housing, install the bearing lock nut (thick nut). Hold the adjusting nut securely and tighten the lock nut to 300 ft. lbs. of torque.



5. After the lock nut is tightened, there must be 0.001 inch to 0.003 inch of free play when lightly prying up on the spindle housing.

If the end play is correct, 0.001 inch to 0.003 inch, bend tabs up on jam washer to prevent the lock nut from loosening. If the end play is NOT correct, loosen the lock nut and turn the adjustment nut as required and retighten the lock nut. Repeat first part of step 5.

TWIN ROTARY

Maintenance Section 4-21

MAINTENANCE

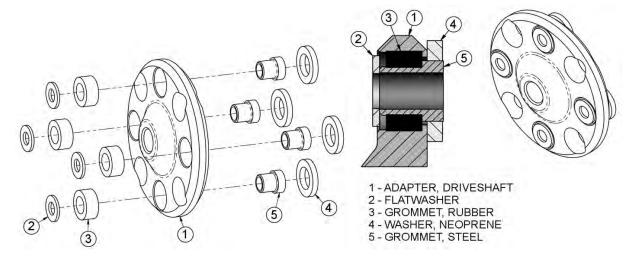
DAILY MAINTENANCE SCHEDULE					
The following services should be performed daily or every 8 hours of service, following the detailed maintenance instructions in the operators manual.					
Pump Driveshaft: Check for end play in driveshaft / coupler and lubricate at zerks.					
Crankshaft adapter: If equipped with rubber grommets check condition, replace if missing or damaged.					
Pivot points: Inject grease until it appears at ends.					
Hydraulic fittings: Check for leaks with paper or cardboard. Tighten fittings or replace hoses immediately					
Knives: Inspect for missing or damaged knives, change (only complete sets) as needed.					
Main Frame/Deck: Unless otherwise specified retorque bolts according to torque specifications in this section.					
Hydraulic Fluid Level: Add, if required, per fluid recommendations.					
Service performed by: Date:/ Hour Meter: Maintenance Section **This page may be copied and used as part of the daily maintenance routine.					
TWIN ROTARY Maintenance Section 4-22					

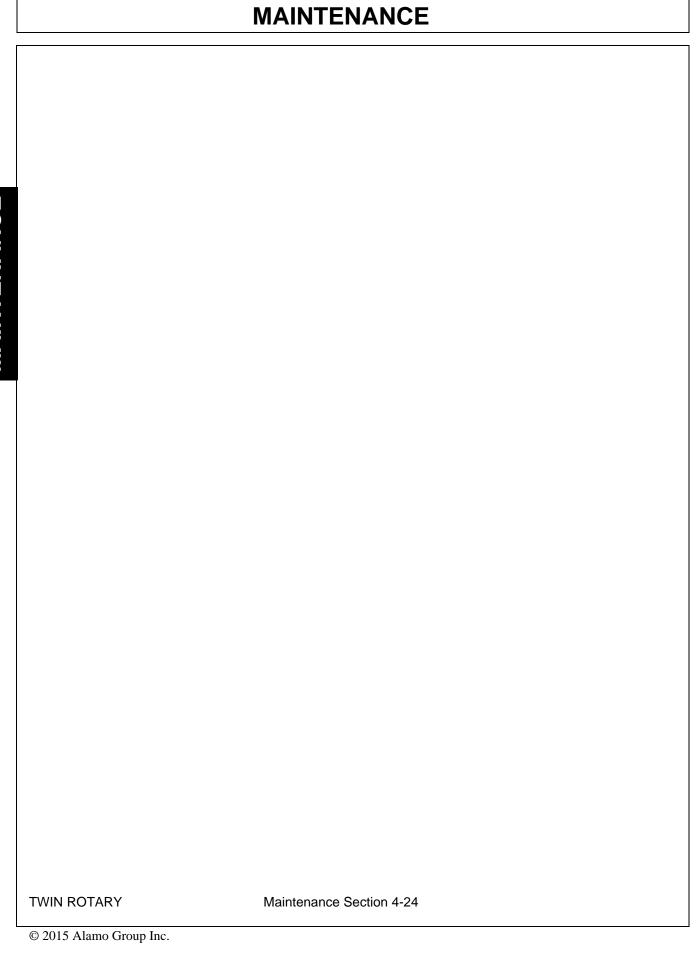
MAINTENANCE

MAINTENANCE OF CRANKSHAFT ADAPTER ASSEMBLY (RIGID ENGINE MOUNT TRACTORS ONLY)

If replacement of components of the crankshaft adapter assembly is required, follow the assembly procedures shown below. Seat rubber grommet completely into counterbore, then seat steel grommet completely into rubber grommet while rubber grommet is supported.

(ASM-JD-0051 CRANKSHAFT ADAPTER MAINTENANCE)





NH POWERSTAR 120 TWIN ROTARY PARTS SECTION

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BUMPER TANK AND PUMP MOUNT	8
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CABLE (MANUAL) LIFT VALVE - 3 SPOOL	
3-SPOOL CABLE CONTROL STAND	
COOLER ASSEMBLY	
TILT CYLINDER.	
NOTES	
TM REAR MOWER HYDRAULICS	
TSR REAR MOWER HYDRAULICS	
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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.

- 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.
- 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.
- 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.
- 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 a purchase order.
 - 6. The manufacturer reserves the right to change prices without prior notice.

NOTE: When ordering replacement decals, refer to the part numbers and descriptions listed in the safety section in the front of this manual.

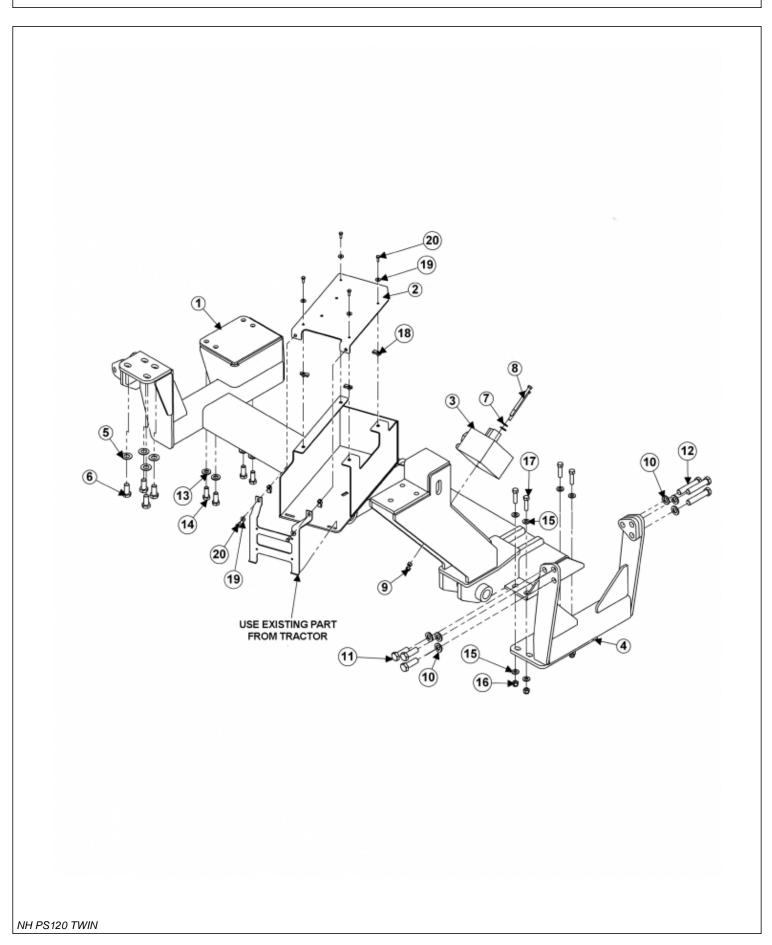


For maximum safety and to guarantee optimum product reliability, always use genuine **Tiger** replacement parts. The use of inferior replacement parts may cause premature or catastrophic failure which could result in serious injury or death.

Direct any questions regarding parts to:

Tiger Corporation 3301 N. Louise Ave. Sioux Falls, SD 57107 1-800-843-6849 1-605-336-7900

TRACTOR MOUNT KIT

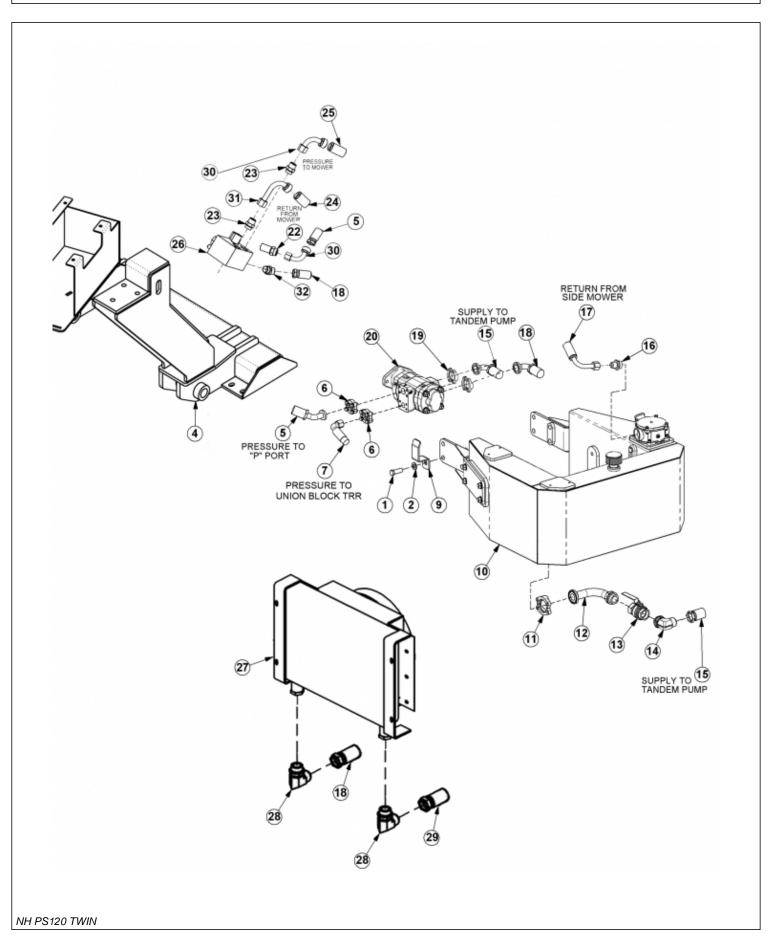


TRACTOR MOUNT KIT

Continued...

ITEM	PART NO.	QTY.	DESCRIPTION
1	06300342	1	MAINFRAME, CASE 110C, TM, TSF
2	06370348	1	COVER, BATTERY
3	06510083	1	BRAKE VALVE
4	06300343	1	FRNT HNGR, CASE 110C TM, TSF
5	06533005	4	FLATWASHER, 18MM, GR10.9
6	06530509	4	CAPSCREW, 18MMX40MM(1.5P)GR10.9
7	22016	2	FLATWASHER, 3/8, GR8
8	21644	2	CAPSCREW, 3/8X5 NC
9	21627	2	NYLOCK NUT, 3/8 NC
10	33880	6	FLATWASHER, 3/4, GR8, SAE
11	6T2548	3	CAPSCREW, 20MMX60MM, 1.5P, GR10.9
12	06530539	3	CAPSCREW, 20MMX100MM, 1.5P, GR10.9
13	33764	4	FLATWASHER, 5/8, GR8, SAE
14	6T2521	4	CAPSCREW, 16MMX40MM, 1.5P
15	06533004	8	FLATWASHER, 1/2, SAE, GR8
16	21727	4	NYLOCK NUT, 1/2 NC
17	21733	4	CAPSCREW, 1/2 X 2 NC
18	35176	6	U-NUT, 1/4, 3/4 TO CENTER
19	22014	6	FLATWASHER, 1/4
20	21529	6	CAPSCREW, 1/4 X 3/4, NC

TRACTOR MOUNT KIT - HYDRAULICS

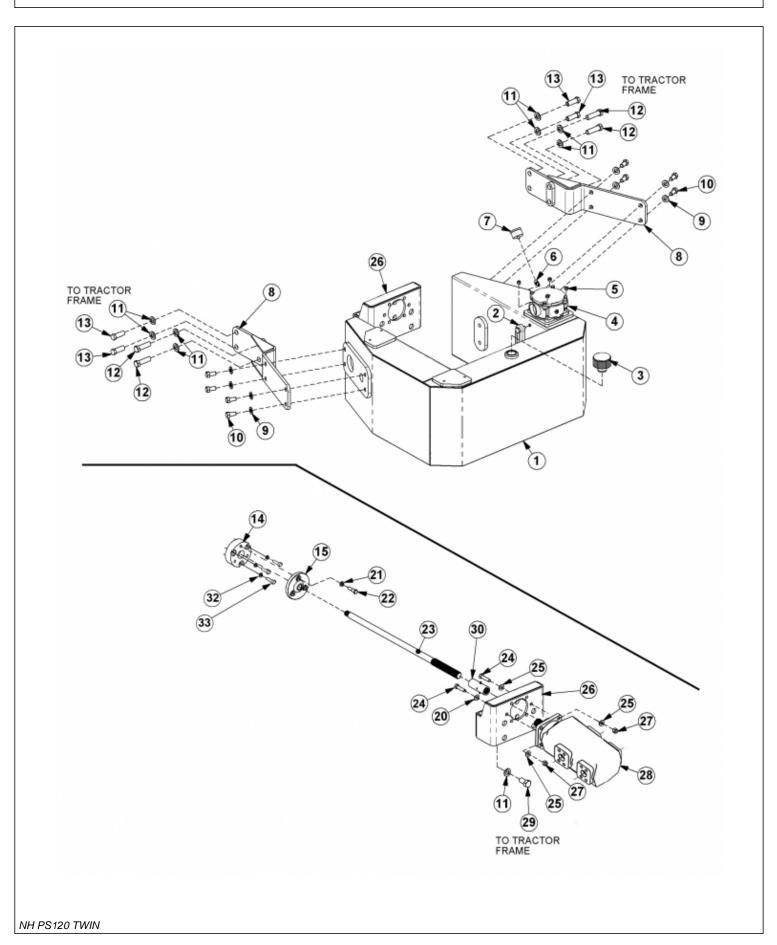


TRACTOR MOUNT KIT - HYDRAULICS

Continued...

	ITEM	PART NO.	QTY.	DESCRIPTION
	1		-	CAPSCREW *REFER TO TRACTOR MOUNT PAGE
	2		-	WASHER *REFER TO TRACTOR MOUNT PAGE
	3	06412147	1	BRKT,HOSE
	4		-	MAINFRAME *REFER TO TRACTOR MOUNT KIT PAGE
	5	34713	1	HOSE, 1" X 60"
	6	TF4852	2	KIT,FLANGE,#20
	7	34199	1	HOSE, 1" X153"
	8	06503174	1	KIT,FLANGE,#12
	9	32382	1	BRACKET,HOSE
	10		-	BUMPER TANK ASSY, *REFER TO TRACTOR MOUNT KIT PAGE
	11	TF4431	1	KIT,FLANGE,#32
	12	34389	1	ELBOW,1 1/2"ORB X 32FLG90
	13	34309	1	BALL VALVE,1-1/2" FOR
	14	34655	1	ELBOW,1-1/2"ORB X 1-1/2"MJ
	15	06500051	1	HOSE,#24X27"(24FJXX24FL90)
	17	06501293	1	HOSE, 1" X 192"
	18	06501291	1	HOSE, 1-1/4" X 42"
	19	TF4854	2	KIT,FLANGE #24
	20		-	PUMP *REFER TO TRACTOR MOUNT KIT PAGE
	22	33555	3	ADAPTER,1"MBX1"MJ
	23	33554	2	ELBOW,1MB"X1"MJ,45
	24	34197	-	HOSE, 1" X 33" PRESSURE
	25	34198	-	HOSE, 1" X 40" RETURN
	26	06510083	1	VALVE,BRAKE,SOL,3000PSI,METRI
	27	06510350	1	COOLER, ADAMS, LEGACY
	28	34117	2	ELBOW, 1"MOR X 1"MJ, 90, FORGED
	29	34865	1	HOSE, 1" X 57"
	30	06503200	2	ELBOW, 16MJX16FJX BT90
	31	06503222	1	ELBOW, 16MJX16FJX, BT 90, L
	32	32869	1	NIPPLE, MALE, LONG, 1MOR X 1MJ
1				

BUMPER TANK AND PUMP MOUNT

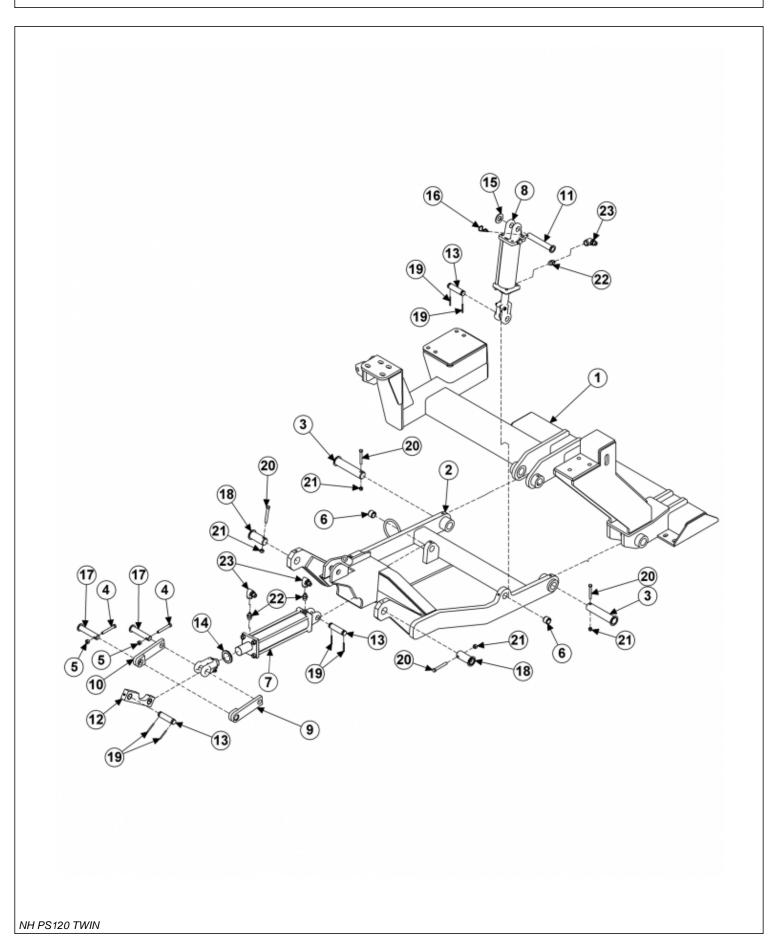


BUMPER TANK AND PUMP MOUNT

Continued...

ITEM	PART NO.	QTY.	DESCRIPTION
1	34666	1	BUMPER TANK ASSY
2	06505067	1	SIGHT GAUGE
3	06505077	1	CAP,BREATHER
4	21627	4	NYLOCK NUT,3/8",NC
5	06505044	1	RETURN FILTER ASSY
6	TF4887	1	STREET ELBOW,1/8 X 45°
7	6T0649	1	FILTER GAUGE
8	06380075	2	BUMPER TANK MOUNT
9	33764	8	FLATWASHER,5/8",SAE
10	21780	8	CAPSCREW,5/8" X 1-1/4", NC
11	33880	12	FLATWASHER,3/4",SAE
12	06530528	4	CAPSCREW,20MMX70MM,1.5P
13	06530546	4	CAPSCREW,20MMX55MM,1.5P
14	06420091	1	SPACER,DRV SHFT
15	06700043	1	ADAPTER,CRANKSHAFT
16	06537004	3	WASHER,NEOPRENE,3/4"X 1-1/4" X 3/16"
21	27724	3	LOCKWASHER,12MM
22	6T2508	3	CAPSCREW,12MMX45MM.1.25P
23	06420151	1	DRIVE SHAFT
24	21733	2	CAPSCREW,1/2" X 2", NC
25	06533004	4	FLATWASHER,1/2",SAE
26	06380073	1	PUMP MOUNT
27	21727	2	NYLOCK NUT,1/2",NC
28	06504002	1	TANDEM PUMP
29	24860	4	CAPSCREW,20MMX40MM,2.5P
30	6T0375B	1	COUPLING

DRAFT BEAM

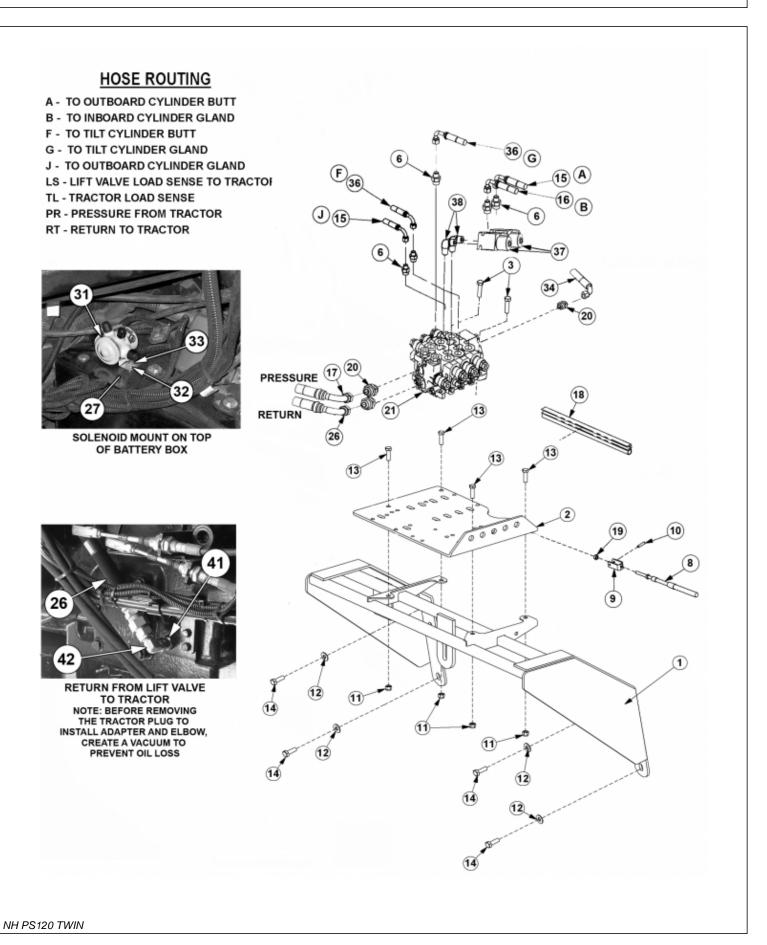


DRAFT BEAM

Continued...

ITEM	PART NO.	QTY.	DESCRIPTION
1	06300342	1	MAINFRAME, CASE, 110C, TM, TSF
2	06350035	1	DRAFT BEAM, SD, CMB, RH, NH, T4.9
3	TF4515	2	PIN, DRAFT BEAM, (T3F, 1-1/2" X 7")
4	21635	2	CAPSCREW, 3/8" X 2-1/4" NC
5	21627	2	NYLOCK NUT, 3/8" NC
6	TB3010	2	BUSHING, 1
7	32215	1	CYLINDER, 3X12 COMBO, SLUGGED
8	31211	1	CYLINDER, 3X8 W/SPACER
9	TF4506B	1	LIFT ARM LINKAGE
10	TF4507B	1	LIFT LINKAGE BAR
11	6T3005	1	PIN, CAPPED, 1X6.30
12	TF4500A	1	ARM, PIVOT
13	TB1033	3	PIN, CLEVIS, 1 X 4
14	22076	1	SPACER, DECK LIFT CYLINDER
15	6T2614	1	FLATWASHER, 1" SAE
16	6T3004	1	R-CLIP (HAIRPIN, COTTER, 3/16")
17	TF4519	2	PIN, 1X4.38
18	30126B	2	PIN, DRAFT BEAM, CAP
19	06537021	6	ROLL PIN, 5MM X 50MM
20	21688	4	CAPSCREW, 7/16" X 3-1/4" NC
21	21677	4	NYLOCK NUT, 7/16" NC
22	34396	3	ADAPTER, .06 RESTRICTOR, 1/2" X 3/8"
23	34244	3	ELBOW, 1/2"ORB X 1/2" FOR

CABLE (MANUAL) LIFT VALVE - 3 SPOOL

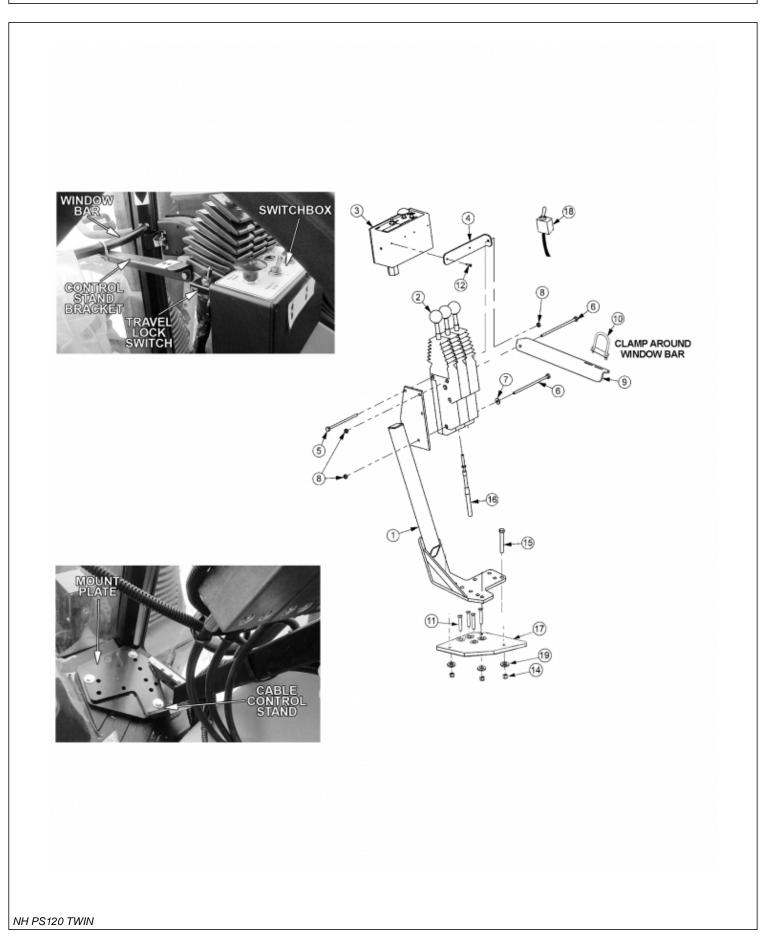


CABLE (MANUAL) LIFT VALVE - 3 SPOOL

Continued...

ITEM	PART NO.	QTY.	DESCRIPTION
1	06340051	1	VALVE MOUNT
2	34622	1	PLATE, VALVE, REAR MOUNT
3	21632	2	CAPSCREW, 3/8 X 1-1/2, NC GR8
6	33271	5	ADAPTER, 1/2MOR X 3/8MJ
8	06505100	3	CABLE CONTROL, 108"
9	6T4411	3	CLEVIS
10	6T3017	3	ROLL PIN, 3/16 X 1
11	21627	6	NYLOCK NUT, 3/8, NC
12	22016	6	FLATWASHER, 3/8, GR8
13	21631	4	CAPSCREW, 3/8 X 1-1/4 NC GR8
14	23113	4	CAPSCREW, 10MM X 30MM (1.5 PITCH)
15	06500300	2	HOSE, 1/4" X 148"
16	34631	2	HOSE, 1/4" X 126"
17	06501252	1	HOSE, 3/4" X 56" (PRESSURE)
18	28053	1	TRIM LOCK
19	21500	4	HEX NUT, 1/4" NF
20	06503023	3	ADAPTER, 3/4MB X 3/4MJ
21	06502159	1	VALVE, 3SP, HSC, OC
26	06501251	1	HOSE, 3/4" X 76" (RETURN)
27	21527	2	NYLOCK NUT, 3/8" NC
31	6T3927	1	CONTINUOUS DUTY SOLENOID
32	22014	2	FLATWASHER, 1/4"
33	21529	2	CAPSCREW, 1/4" X 3/4" NC
34	06501250	1	HOSE, 3/4" X 30"
36	06500300	1	HOSE, 1/4" X 148"
37	06510050	2	TRAVEL LOCK, METRIPACK COIL
38	33382	2	ELBOW, 1/2" MB X 1/2" MJ
41	06503237	1	ADAPTER
42	06503022	1	ELBOW, 1/2"MJ X 1/2"FJX

3-SPOOL CABLE CONTROL STAND

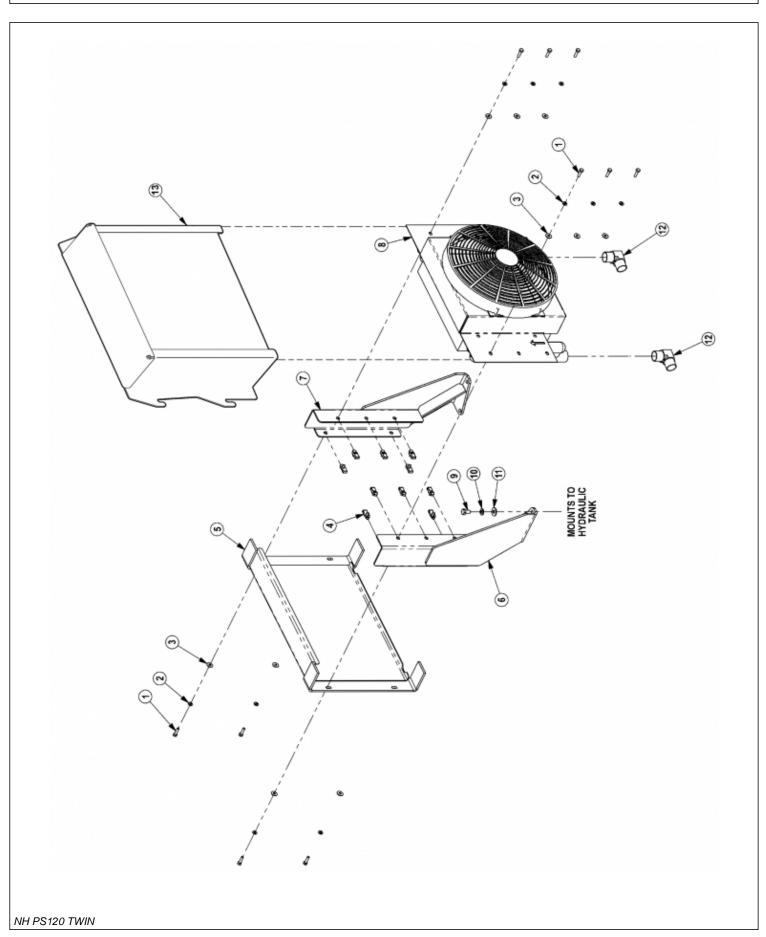


3-SPOOL CABLE CONTROL STAND

Continued...

ITEM	PART NO.	QTY.	DESCRIPTION
1	23865B	1	CABLE CONTROL MOUNT BRACKET
2	6T1251	3	CABLE CONTROL BOX, 180 DEG
3	06510097	1	SWITCHBOX, TWIN, T3F
4	34496	1	BRACKET, SWITCHBOX, UNI
5	21545	1	CAPSCREW, 1/4" X 6" NC
6	22903	2	CAPSCREW, 1/4" X 5-1/2" NC, GR5
7	21986	3	LOCKWASHER, 1/4"
8	21527	3	NYLOCK NUT, 1/4" NC
9	06412186	1	BRACKET, CABLE STAND, T4 85
10	32550	1	U-BOLT, 1/2" X 1" X 1-3/4"
11	06530108	4	CAPSCREW, 8MM X 70MM, 1.25P
12	6T3951	4	SCREW, MACHINE, 8-32 X 1/2"
14	21627	3	NYLOCK NUT, 3/8" NC
15	21635	3	CAPSCREW, 3/8" X 2-1/4" NC
16	06505100	3	CABLE CONTROL, 108"
17	06380081	1	MOUNT, STAND
18	34532	1	SWITCH, TRAVEL LOCK
19	22016	3	FLATWASHER, 3/8" NC

COOLER ASSEMBLY

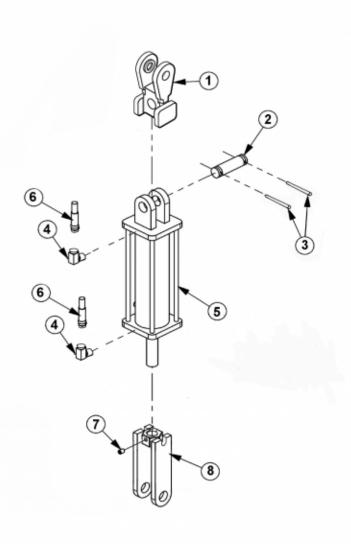


COOLER ASSEMBLY

Continued...

ITEM	PART NO.	QTY.	DESCRIPTION
1	21530	10	CAPSCREW,1/4 X1 NC
2	21986	10	LOCKWASHER,1/4
3	22014	10	FLATWASHER,1/4
4	35176	10	1/4 U-NUT
5	06370015	1	SCREEN,COOLER,FRNT
6	06380006	1	MNT,COOLER,BUMPER TANK,RH
7	06380007	1	MNT,COOLER,BUMPER TANK,LH
8	06510350	1	COOLER,ADAMS,LEGACY
9	21629	4	CAPSCREW,3/8 X 3/4 NC
10	21988	4	LOCKWASHER,3/8
11	22016	4	FLATWASHER,3/8
12	34117	2	ELBOW,1MOR X 1MJ90,FORGED

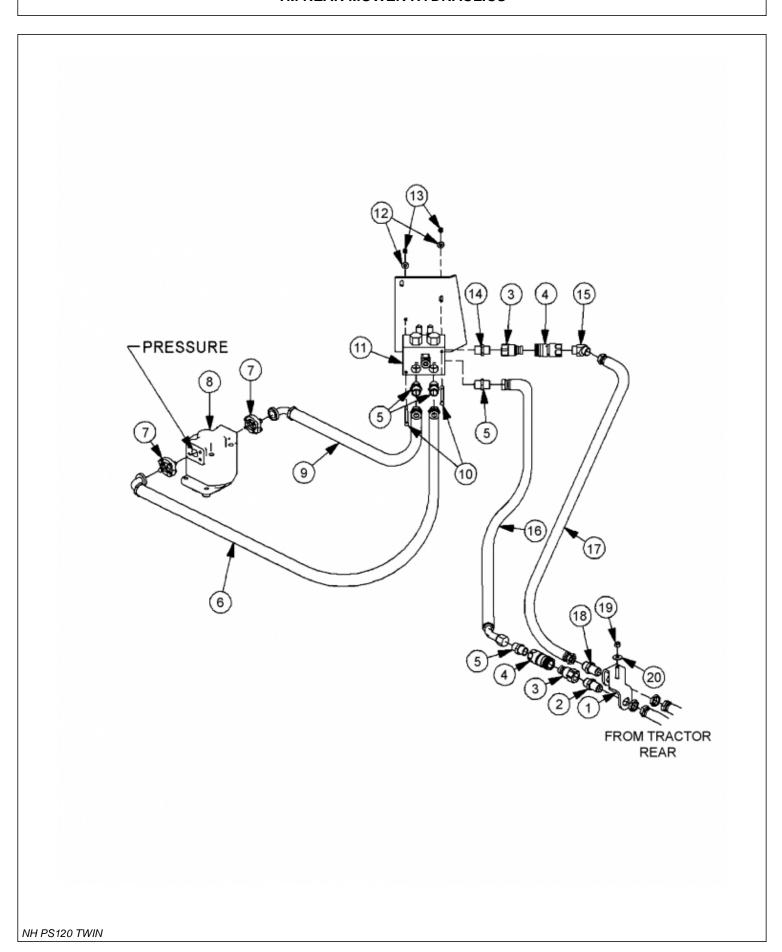
TILT CYLINDER



ITEM	PART NO.	QTY.	DESCRIPTION
1	06370373	1	CLEVIS, NH PS90-120, UPPER, TRAIL
2	TB1033	1	PIN
3	6T3004	2	R-CLIP
4	32810	2	ELBOW, 3/8"MJ X 1/2"MB, ADJ
5	31211	1	CYLINDER, 3" X 8" W/SPACER
6	06500657	2	HOSE, 1/4" X 67"
7	6T2272	1	SETSCREW, 3/8" X 1/2" NC
8	06700057	1	CLEVIS, ASSY, LOWER

	NOTES	
	NOTES	
NH PS120 TWIN		

TM REAR MOWER HYDRAULICS

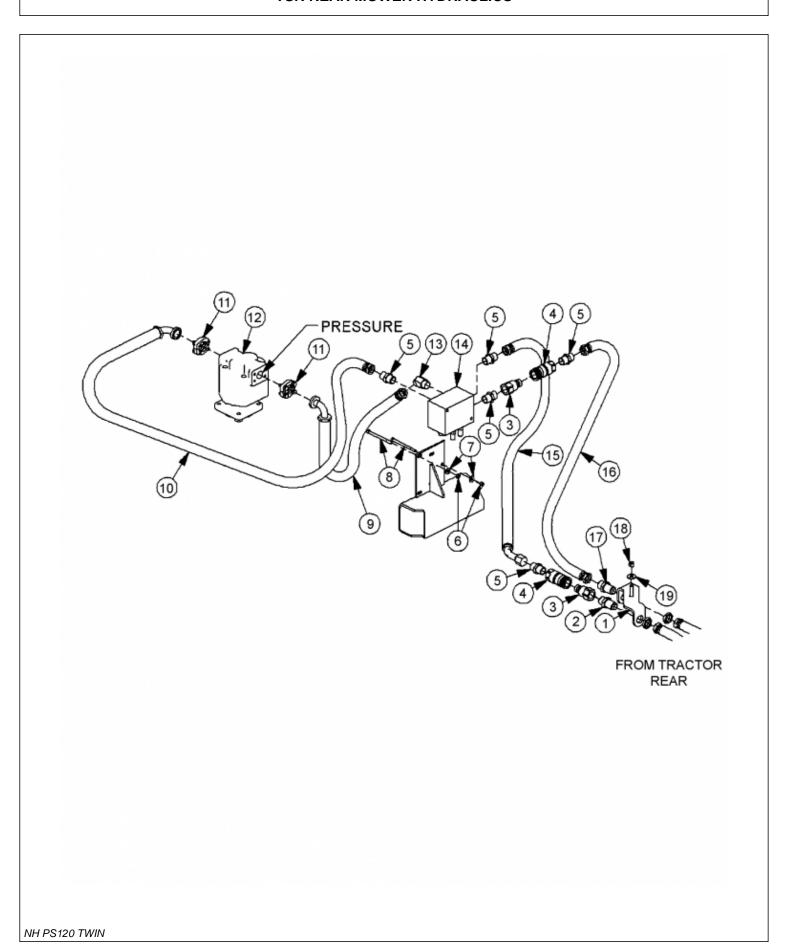


TM REAR MOWER HYDRAULICS

Continued...

ITEM	PART NO.	QTY.	DESCRIPTION
1	34181	1	UNION BLOCK,TRR
2	33287	1	FITTING,BULKHEAD,1"MJ X 1"MOR
3	06503028	2	QUICK COUPLER,1"SAE,MALE,FLAT
4	06503027	2	QUICK COUPLER,1"SAE,FEM,FLAT
5	33555	5	ADAPTER,1"MOR X 1"MJ
6	34198	1	HOSE,1" X 40" (PRESSURE)
7	TF4852	2	KIT,FLANGE,#20
8		-	PUMP *REFER TO TRACTOR MOUNT KIT PAGE
9	34197	1	HOSE,1" X 33" (RETURN)
10	21644	2	CAPSCREW,3/8" X 5",NC
11	06510083	1	VALVE,BRAKE
12	22016	2	FLATWASHER,3/8"
13	21625	2	HEX NUT,3/8",NC
14	06503074	1	UNION,1"MOR X 1"MOR
15	33554	1	ELBOW 1"MOR X 1"MJ 45°
16	06501292	1	HOSE,1" X 65"
17	34865	1	HOSE,1" X 57"
18	34183	1	ADAPTER,BULKHEAD,1"MJ X 1"MJ
19	21725	1	HEX NUT,1/2",NC
20	22018	1	FLATWASHER,1/2",WIDE

TSR REAR MOWER HYDRAULICS



TSR REAR MOWER HYDRAULICS

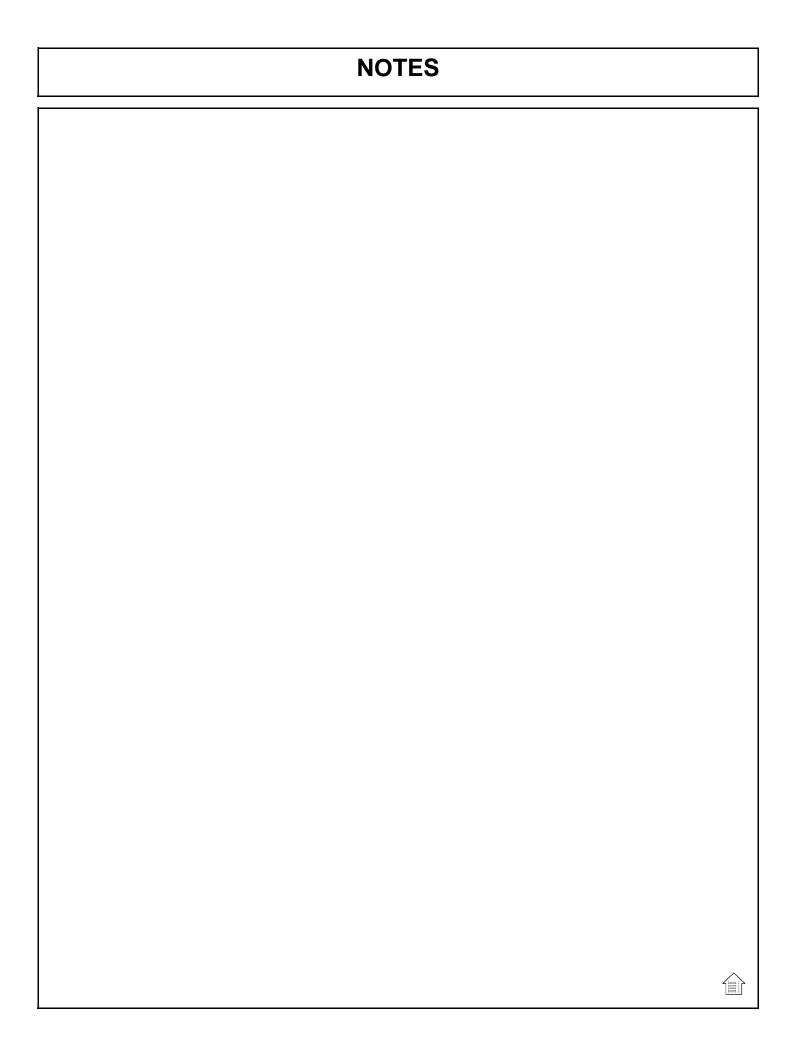
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ITEM	PART NO.	QTY.	DESCRIPTION
1	34181	1	UNION BLOCK,TRR
2	33287	1	FITTING,BULKHEAD,1"MJ X 1"MOR
3	06503028	2	QUICK COUPLER,1"SAE,MALE,FLAT
4	06503027	2	QUICK COUPLER,1"SAE,FEM,FLAT
5	33555	5	ADAPTER,1"MOR X 1"MJ
6	21625	2	HEX NUT,3/8",NC
7	22016	2	FLATWASHER,3/8"
8	21644	2	CAPSCREW,3/8" X 5",NC
9	06500086	1	HOSE,1" X 24" (PRESSURE)
10	06500087	1	HOSE,1" X 42" (RETURN)
11	TF4852	2	KIT,FLANGE,#20
12		-	PUMP *REFER TO TRACTOR MOUNT KIT PAGE
13	33554	1	ELBOW 1"MOR X 1"MJ 45°
14	06510083	1	VALVE,BRAKE
15	06500104	1	HOSE,1" X 64"
16	34865	1	HOSE,1" X 57"
17	34183	1	ADAPTER,BULKHEAD,1"MJ X 1"MJ
18	21725	1	HEX NUT,1/2",NC
19	22018	1	FLATWASHER,1/2",WIDE

NOTES 1

	NOTES	
PS120 TWIN		

COMMON TWIN ROTARY PARTS SECTION



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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.

- 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.
- 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.
- 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.
- 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 a purchase order.
 - 6. The manufacturer reserves the right to change prices without prior notice.

NOTE: When ordering replacement decals, refer to the part numbers and descriptions listed in the safety section in the front of this manual.



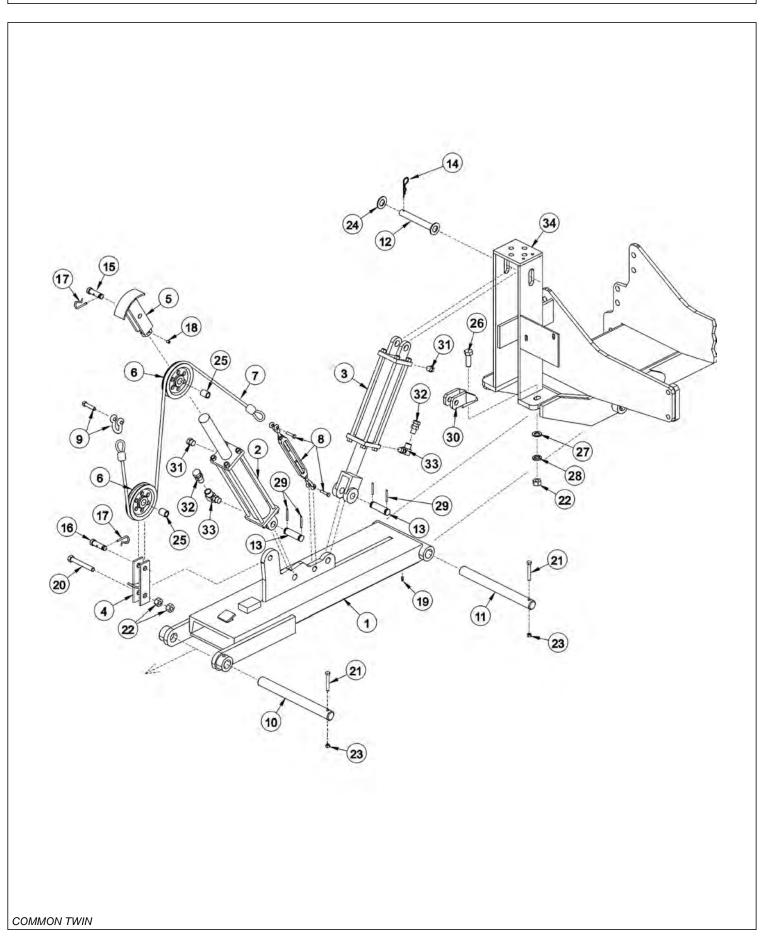
For maximum safety and to guarantee optimum product reliability, always use genuine **Tiger** replacement parts. The use of inferior replacement parts may cause premature or catastrophic failure which could result in serious injury or death.

Direct any questions regarding parts to:

Tiger Corporation 3301 N. Louise Ave. Sioux Falls, SD 57107 1-800-843-6849 1-605-336-7900

COMMON TWIN

CABLE DRAFT BEAM ASSEMBLY

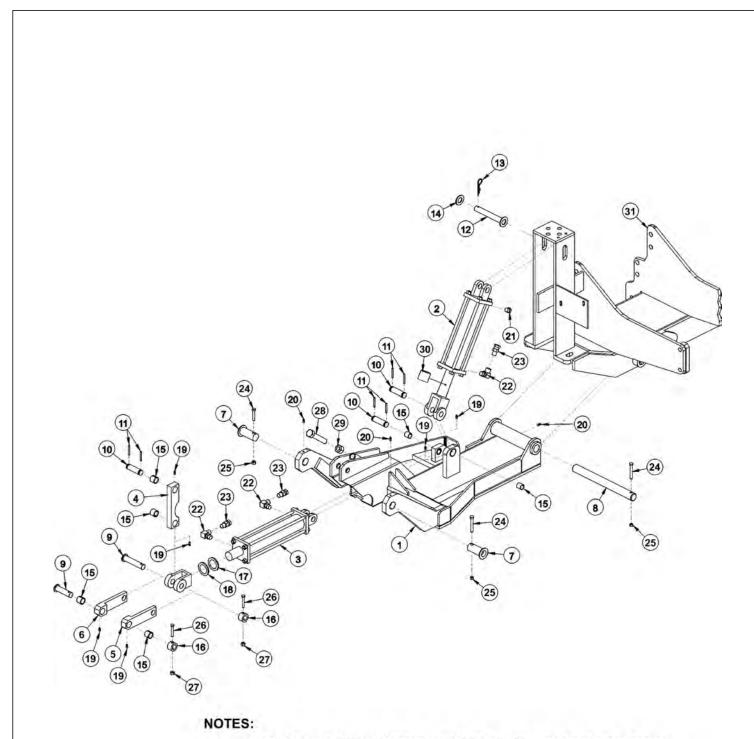


CABLE DRAFT BEAM ASSEMBLY

Continued...

ITEM	PART NO.	QTY.	DESCRIPTION
1	6T0105	-	DRAFT BEAM (STD WITH TRAVEL LOCK)
	27241	-	DRAFT BEAM (EXTENDED 6")
2	6T0150	1	CYLINDER 3" X 18"
3	6T0151R	1	HYD. CYLINDER 3" X 10"
4	6T0100	1	LOWER SHEAVE BRACKET
5	6T0101	1	UPPER SHEAVE BRACKET
6	33768	2	SHEAVE
7	6T0110	1	LIFT CABLE (STD 1/2" X 87 1/2")
	6T0110E	-	LIFT CABLE (EXTENDED 6")
8	6T0115	1	TURN BUCKLE
9	6T0112	1	SHACKLE WITH PIN
10	6T2999	1	OUTER DRAFT BEAM PIN 1 1/2" X 14 1/2"
11	6T3001	1	INNER DRAFT BEAM PIN 1 1/2" X 15 3/4"
12	6T3005	1	CYLINDER PIN 1" X 6 5/8"
13	TB1033	2	CLEVIS PIN 1" X 4"
14	6T3004	1	R - CLIP 3/16"
15	6T3010	1	UPPER SHEAVE PIN WITH ZERK 3/4" X 3"
16	6T3009	1	LOWER SHEAVE PIN WITH ZERK 3/4" X 2 1/2"
17	6T3020	2	R - CLIP 5/32"
18	6T2272	1	SET SCREW 3/8" X 1/2"
19	6T3211	1	GREASE ZERK 1/8" STRAIGHT
20	21837	1	CAPSCREW 3/4" X 3 1/4"
21	21688	2	CAPSCREW 7/16" X 3 1/4"
22	21825	2	HEX NUT 3/4"
23	21677	2	NYLOCK NUT 7/16"
24	22023	1	FLAT WASHER 1"
25	6T0104N	2	SHEAVE PIN BUSHING 1" OD X 3/4" ID
26	21833	1	CAPSCREW 3/4" X 2 1/4"
27	22021	1	FLAT WASHER 3/4"
28	21993	1	LOCK WASHER 3/4"
29	06537021	4	ROLL PIN
30	6T0106	1	TRAVEL LOCK BRACKET
31	6T4258	2	BREATHER 1/2"
32	34396	2	RESTRICTOR
33	34244	2	ELBOW FITTING 1/2"
34		-	MAIN FRAME *REFER TO TRACTOR PARTS SECTION

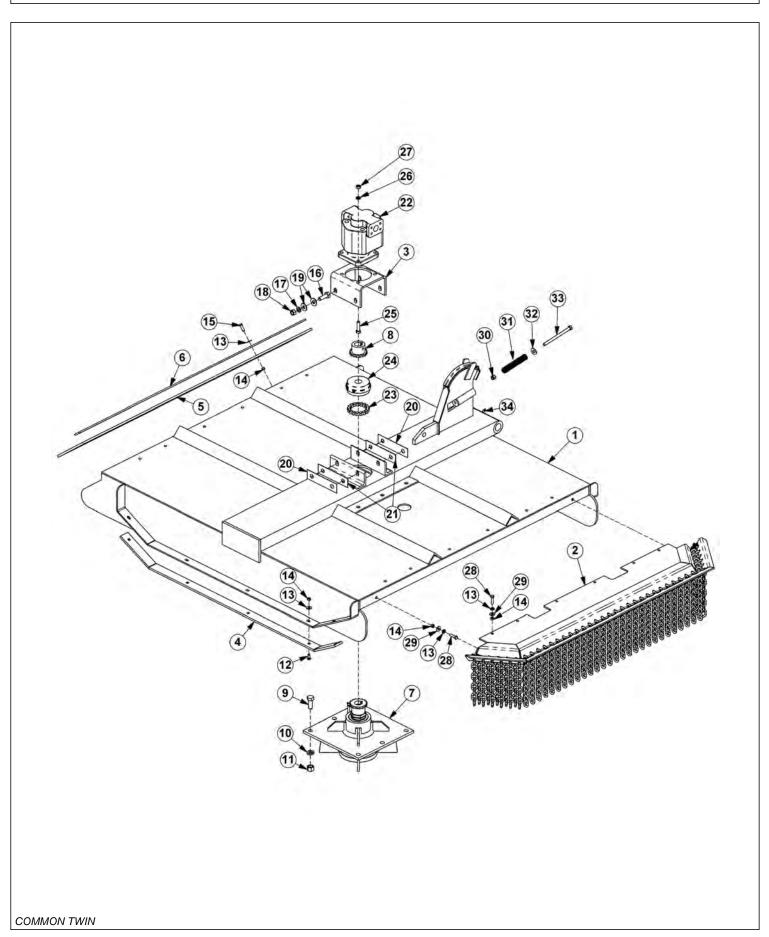
COMBO DRAFT BEAM ASSEMBLY



- 1. ITEM 30 IS USED ON THE GLAND END OF ITEM 2 (AS NEEDED)
- 2. ORIENTATION OF ITEMS 4,5 & 6 ARE CRITICAL

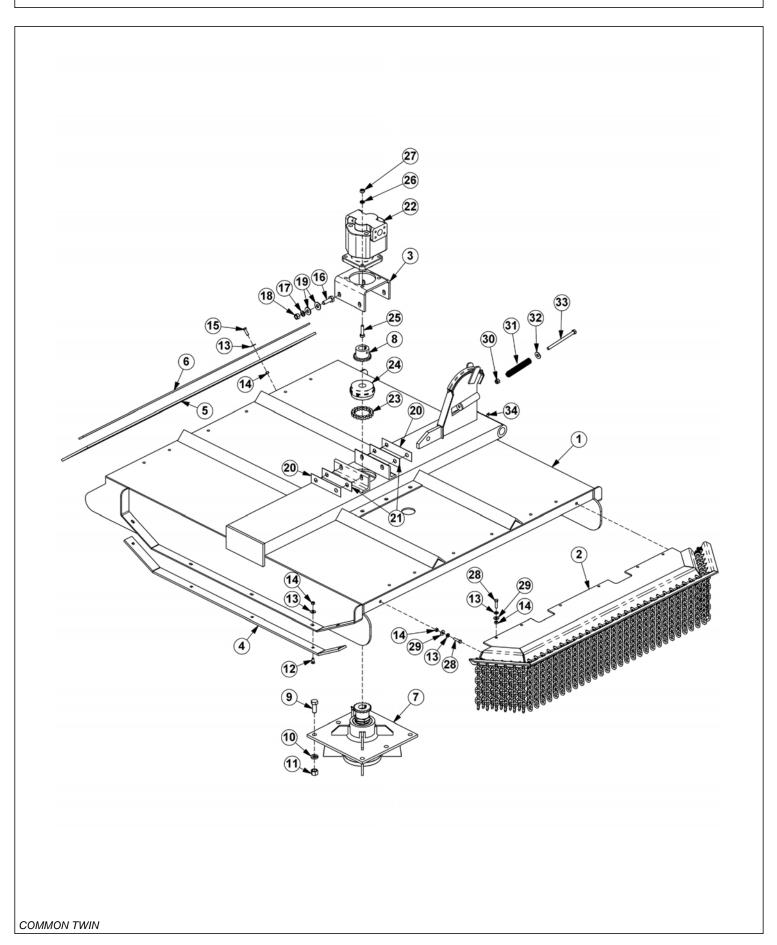
COMBO DRAFT BEAM ASSEMBLY

ITEM	PART NO.	QTY.	DESCRIPTION
1	06350001	1	COMBO DRAFT BEAM - STD DTY ROTARY
	31063	-	COMBO DRAFT BEAM - HVY DTY ROTARY
2	6T0151R	1	HYD. CYLINDER 3" X 10"
3	32215	1	HYD. CYLINDER 3" X 12" - STD DTY
	25343	-	HYD. CYLINDER 3" X 12" - HVY DTY
4	TF4500A	1	PIVOT ARM
5	TF4507B	1	RIGHT LINKAGE ARM
6	TF4506B	1	LEFT LINKAGE ARM
7	30126B	2	PIN, HEAD PIVOT - STD DTY
	TF4514A	-	PIN, HEAD PIVOT - HVY DTY
8	6T3001	1	PIN, BEAM PIVOT
9	TF4519	2	PIN, LINKAGE
10	TB1033	3	PIN, CLEVIS
11	06537021	6	ROLLPIN
12	6T3005	1	PIN,1" W/ CAP
13	6T3004	1	R-CLIP HAIRPIN
14	6T2614	1	FLATWASHER 1"
15	TB3010	8	BUSHING 1"
16	22847	2	BOSS, LINKAGE PIN
17	22076	1	SPACER, HYD. CYLINDER 1/4"
18	22077	1	SPACER, HYD. CYLINDER 5/16"
19	6T3207	6	GREASE ZERK 1/4"
20	6T3211	3	GREASE ZERK 1/8"
21	6T4258	1	BREATHER 1/2"
22	34244	3	ELBOW FITTING 1/2"
23	34396	3	SWIVEL RESTRICTOR
24	21688	3	CAPSCREW 7/16" X 3 1/4"
25	21677	3	NYLOCK NUT 7/16"
26	21635	2	CAPSCREW 3/8" X 2 1/4"
27	21625	2	HEX NUT 3/8"
28	21831	1	CAPSCREW 3/4" X 1 3/4"
29	21825	1	HEX NUT 3/4"
30	06700095	1	CYLINDER SPACER W/SET SCREW
31		-	MAIN FRAME *REFER TO TRACTOR MOUNT PAGE

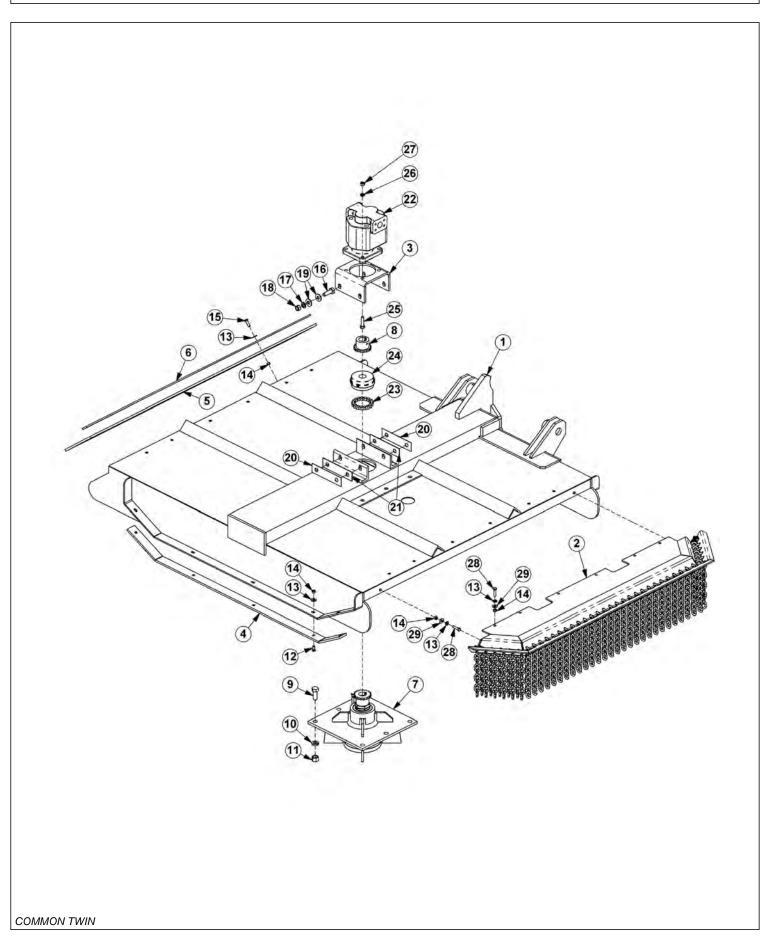


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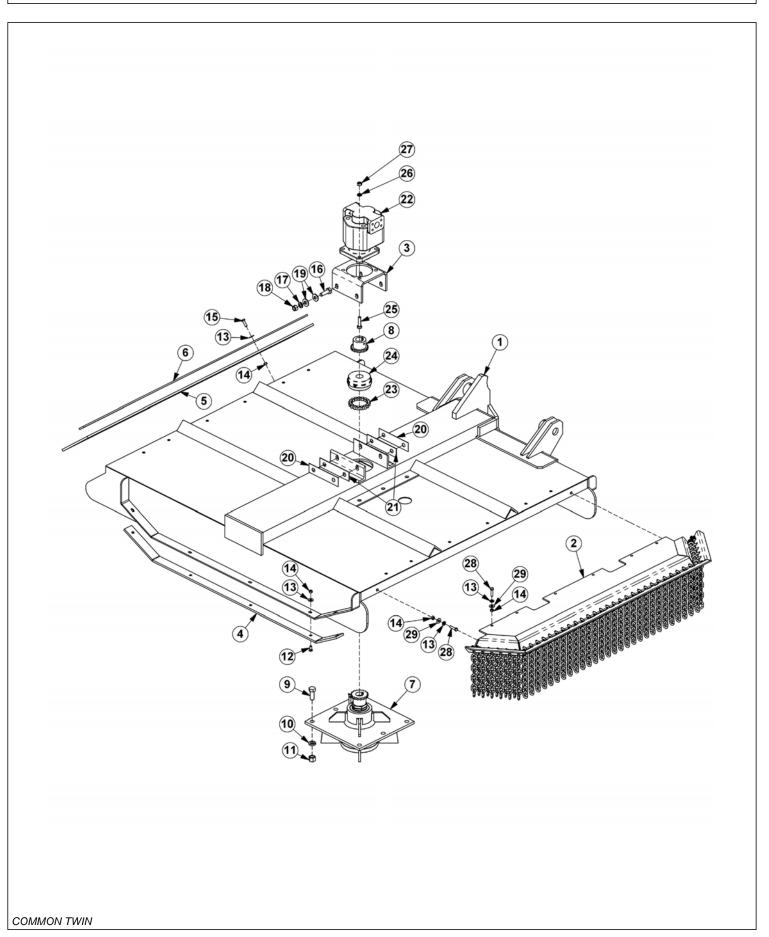
	ITEM	PART NO.	QTY.	DESCRIPTION
	1	32099	1	RTRY, 60" DECK, CABLE
	2	31773	1	GAURD,CHAIN,FRONT,SR60
	3	6T1001	1	BRKT, MOTOR MTG, 60"SIDE RTRY
	4	6T0820H	2	SKID SHOE, TM60
	5	22592	1	FLAP, DEFLECTOR, TM60
	6	6T0823	1	BAR, FLAP, TM60
	7	6T1024H5	1	SPINDLE ASSY,CPLT,HD,5/8" HOLES
	8	21223	1	SPROCKET, 1-1/4" BORE
	9	6T2277	6	CAPSCREW,3/4" X 2",NF
	10	21993	6	LOCKWASHER,3/4",GR 8
	11	6T2413	6	HEX NUT,3/4",NF,GR 8
	12	6T2270	10	PLOW BOLT,3/8" X 1",NC
	13	22016	29	FLATWASHER,3/8"
	14	21625	29	HEX NUT,3/8",NC
	15	21631	11	CAPSCREW, 3/8" X 1-1/4",NC
	16	21783	4	CAPSCREW, 5/8" X 2",NC
	17	21992	4	LOCKWASHER, 5/8"
	18	21775	4	HEX NUT, 5/8"
	19	25270	8	FLATWASHER,5/8",GR 8
	20	6T0822	2	SHIM, MOTOR MOUNT, 14GA. (AS NEEDED)
	21	6T0822A	2	SHIM, MOTOR MOUNT, 18 GA. (AS NEEDED)
	22	6504011	1	MOTOR,(M365-2 1/4" GEAR)
	23	6T1029	1	CHAIN, COUPLING
	24	6T1033	1	COVER, COUPLING
	25	21733	4	CAPSCREW, 1/2" X 2",NC
	26	21990	4	LOCKWASHER,1/2"
	27	21725	4	HEX NUT, 1/2",NC
	28	21632	8	CAPSCREW,3/8" X 1-1/2",NC
	29	21988	8	LOCKWASHER,3/8"
	30	21727	1	NYLOCK NUT,1/2",NC
	31	27005	1	SPRING,PUSHOFF,SIDE RTRY
	32	22018	1	FLATWASHER,1/2",WIDE
	33	21745	1	CAPSCREW,1/2" X 7",NC
	34	6T3211	1	GREASE ZERK
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	ITEM	PART NO.	QTY.	DESCRIPTION
l	1	21225B	1	RTRY,72" DECK, CABLE
l	2	31931	1	GUARD,CHAIN,FRONT,SR72
l	3	6T1001	1	BRKT, MOTOR MTG, 60"SIDE RTRY
l	4	21248	2	SKID SHOE, TM72
l	5	21295B	1	FLAP, DEFLECTOR, TM72
l	6	21242A	1	BAR, FLAP, TM72
l	7	6T1024H5	1	SPINDLE ASSY,CPLT,HD,5/8" HOLES
l	8	21223	1	SPROCKET, 1-1/4" BORE
l	9	6T2277	6	CAPSCREW,3/4" X 2",NF
l	10	21993	6	LOCKWASHER,3/4",GR 8
l	11	6T2413	6	HEX NUT,3/4",NF,GR 8
l	12	6T2270	10	PLOW BOLT,3/8" X 1",NC
l	13	22016	29	FLATWASHER,3/8"
l	14	21625	29	HEX NUT,3/8",NC
l	15	21631	11	CAPSCREW, 3/8" X 1-1/4",NC
l	16	21783	4	CAPSCREW, 5/8" X 2",NC
l	17	21992	4	LOCKWASHER, 5/8"
l	18	21775	4	HEX NUT, 5/8"
l	19	25270	8	FLATWASHER,5/8",GR 8
l	20	6T0822	2	SHIM, MOTOR MOUNT, 14GA. (AS NEEDED)
l	21	6T0822A	2	SHIM, MOTOR MOUNT, 18 GA. (AS NEEDED)
l	22	06504011	1	MOTOR,(M365-2 1/4" GEAR)
l	23	6T1029	1	CHAIN, COUPLING
l	24	6T1033	1	COVER, COUPLING
l	25	21733	4	CAPSCREW, 1/2" X 2",NC
l	26	21990	4	LOCKWASHER,1/2"
l	27	21725	4	HEX NUT, 1/2",NC
l	28	21632	8	CAPSCREW,3/8" X 1-1/2",NC
l	29	21988	8	LOCKWASHER,3/8"
l	30	21727	1	NYLOCK NUT,1/2",NC
	31	27005	1	SPRING,PUSHOFF,SIDE RTRY
	32	22018	1	FLATWASHER,1/2",WIDE
	33	21745	1	CAPSCREW,1/2" X 7",NC
	34	6T3211	1	GREASE ZERK
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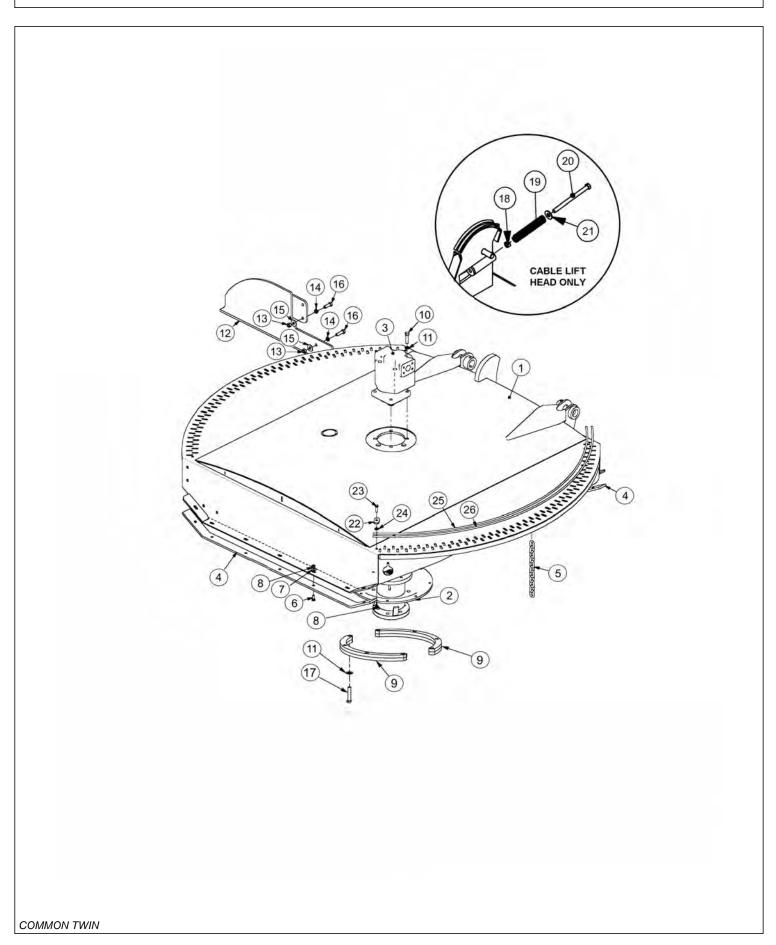


ITEM	PART NO.	QTY.	DESCRIPTION
1	30087D	1	RTRY, 60" DECK, COMBO - STD DUTY
	32617	1	RTRY, 60" DECK, COMBO - HVY DUTY
2	31773	1	GAURD,CHAIN,FRONT,SR60
3	6T1001	1	BRKT, MOTOR MTG, 60"SIDE RTRY
4	6T0820H	2	SKID SHOE, TM60
5	22592	1	FLAP, DEFLECTOR, TM60
6	6T0823	1	BAR, FLAP, TM60
7	6T1024H5	1	SPINDLE ASSY,CPLT,HD,5/8" HOLES
8	21223	1	SPROCKET, 1-1/4" BORE
9	6T2277	6	CAPSCREW,3/4" X 2",NF
10	21993	6	LOCKWASHER,3/4",GR 8
11	6T2413	6	HEX NUT,3/4",NF,GR 8
12	6T2270	10	PLOW BOLT,3/8" X 1",NC
13	22016	29	FLATWASHER,3/8"
14	21625	29	HEX NUT,3/8",NC
15	21631	11	CAPSCREW, 3/8" X 1-1/4",NC
16	21783	4	CAPSCREW, 5/8" X 2",NC
17	21992	4	LOCKWASHER, 5/8"
18	21775	4	HEX NUT, 5/8"
19	25270	8	FLATWASHER,5/8",GR 8
20	6T0822	2	SHIM, MOTOR MOUNT, 14GA. (AS NEEDED)
21	6T0822A	2	SHIM, MOTOR MOUNT, 18 GA. (AS NEEDED)
22	06504011	1	MOTOR,(M365-2 1/4" GEAR)
23	6T1029	1	CHAIN, COUPLING
24	6T1033	1	COVER, COUPLING
25	21733	4	CAPSCREW, 1/2" X 2",NC
26	21990	4	LOCKWASHER,1/2"
27	21725	4	HEX NUT, 1/2",NC
28	21632	8	CAPSCREW,3/8" X 1-1/2",NC
29	21988	8	LOCKWASHER,3/8"



	DARTNO	OTV	DECODIDEION
	PART NO.	QIY.	DESCRIPTION
1	34260	1	RTRY, 72" DECK, COMBO - STD DUTY
	31408A	1	RTRY, 72" DECK, COMBO - HEAVY DUTY
2	31931	1	GUARD,CHAIN,FRONT,SR72
3	6T1001	1	BRKT, MOTOR MTG, 60"SIDE RTRY
4	21248	2	SKID SHOE, TM72
5	21295B	1	FLAP, DEFLECTOR, TM72
6	21242A	1	BAR, FLAP, TM72
7	6T1024H5	1	SPINDLE ASSY,CPLT,HD,5/8" HOLES
8	21223	1	SPROCKET, 1-1/4" BORE
9	6T2277	6	CAPSCREW,3/4" X 2",NF
10	21993	6	LOCKWASHER,3/4",GR 8
11	6T2413	6	HEX NUT,3/4",NF,GR 8
12	6T2270	10	PLOW BOLT,3/8" X 1",NC
13	22016	29	FLATWASHER,3/8"
14	21625	29	HEX NUT,3/8",NC
15	21631	11	CAPSCREW, 3/8" X 1-1/4",NC
16	21783	4	CAPSCREW, 5/8" X 2",NC
17	21992	4	LOCKWASHER, 5/8"
18	21775	4	HEX NUT, 5/8"
19	25270	8	FLATWASHER,5/8",GR 8
20	6T0822	2	SHIM, MOTOR MOUNT, 14GA. (AS NEEDED)
21	6T0822A	2	SHIM, MOTOR MOUNT, 18 GA. (AS NEEDED)
22	06504011	1	MOTOR,(M365-2 1/4" GEAR)
23	6T1029	1	CHAIN, COUPLING
24	6T1033	1	COVER, COUPLING
25	21733	4	CAPSCREW, 1/2" X 2",NC
26	21990	4	LOCKWASHER,1/2"
27	21725	4	HEX NUT, 1/2",NC
28	21632	8	CAPSCREW,3/8" X 1-1/2",NC
29	21988	8	LOCKWASHER,3/8"
			, ,

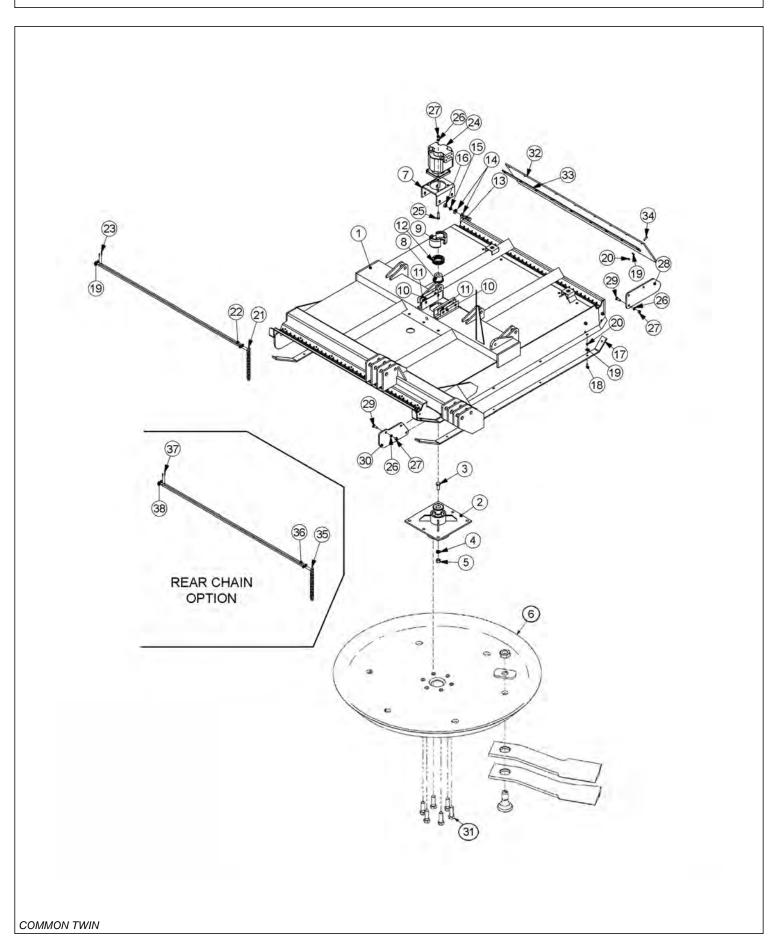
60IN SIDE TSR ROTARY MOWER



60IN SIDE TSR ROTARY MOWER

ITEM	PART NO.	QTY.	DESCRIPTION
1	34975	1	HEAVY DUTY GRASSKAT COMBO
	06320005	1	STD DUTY GRASSKAT COMBO
	06320008	1	HEAVY DUTY GRASSKAT CABLE
2	34980	1	SPINDLE ASSY,TM 60"
3	06504016	1	CURRENT MOTOR,(M365-1 1/4" 14-SPLINE)
4	06410254	2	SKID,OUTBOARD,TM60
5	22992	156	CHAIN,10 LINK
6	6T2270	14	PLOW BOLT,3/8" X 1" NC
7	22016	26	FLATWASHER,3/8"
8	21625	30	HEX NUT,3/8",NC
9	06320011	2	SPACER,TSF,SPINDLE
10	6T1025	4	CAPSCREW, 1/2 X 2,GR 8,NC
11	06533006	4	FLATWASHER,1/2,SAE,GR 8
12	06370029	1	TIRE GUARD, LEFT
13	21725	8	HEX NUT, 1/2",NC
14	21990	8	LOCKWASHER, 1/2"
15	22018	8	FLATWASHER, 1/2", WIDE
16	21731	4	CAPSCREW, 1/2" X 1-1/2" NC
17	21732	4	CAPSCREW, 1/2" X 1-3/4" NC
18	21745	1	NYLOCK NUT, 1/2
19	21727	1	SPRING, PUSHOFF, SIDE RTRY
20	27005	1	CAPSCREW, 1/2 X 7,NC
21	22018	1	FLATWASHER,1/2",WIDE
22	34972	4	PLATE,CAP,CHAIN
23	21631	16	CAPSCREW, 3/8 X 1-1/4,NC
24	21988	16	LOCKWASHER, 3/8"
25	34974	2	ROD,CHAIN,INNER,TM60
26	34973	2	ROD,CHAIN,OUTER,TM60

60IN REAR TM ROTARY MOWER

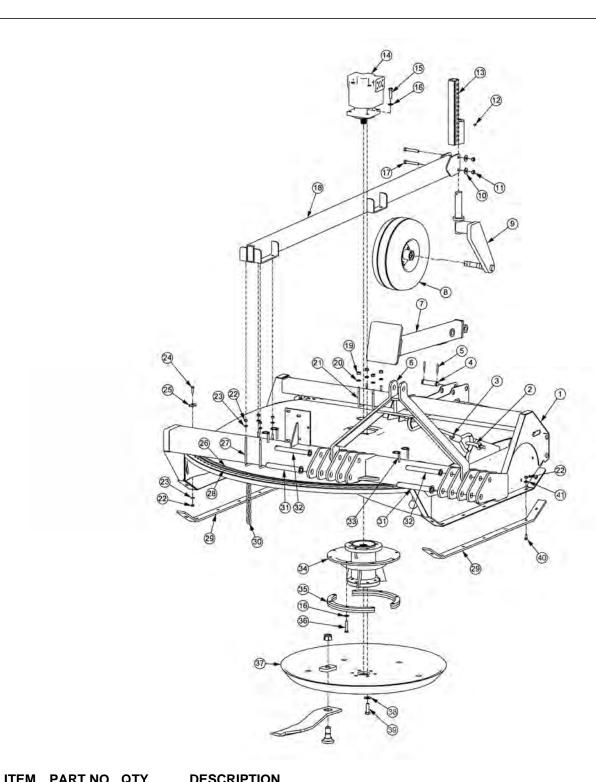


60IN REAR TM ROTARY MOWER

Continued...

	DARTNO	0.77/	DECODIDETION
	PART NO.	QIY.	DESCRIPTION
	23003	-	REAR RTRY, 60" W/REAR CHAINS
1	32616	1	RTRY, 60" DECK, TRR
2	6T1024H5	1	SPINDLE ASSY,CPLT,HD,5/8 HOLES
3	6T2277	6	CAPSCREW, 3/4" X 2" NF
4	21993	6	LOCKWASHER,3/4",GR 8
5	6T2413	6	HEX NUT,3/4",NF,GR 8
6		-	DISK *REFER TO DISK & KNIVES PAGE
7	6T1001	1	BRKT, MOTOR MTG, 60"
8	21223	1	SPROKET, 1-1/4" BORE
9	6T1033	1	COVER, COUPLING
10	6T0822	2	SHIM, MOTOR MOUNT, 14GA. (AS NEEDED)
11	6T0822A	2	SHIM, MOTOR MOUNT, 18 GA. (AS NEEDED)
12	6T1029	1	CHAIN, COUPLING
13	21783	4	CAPSCREW, 5/8" X 2",NC
14	25270	8	FLATWASHER,5/8", GR 8
15	21992	10	LOCKWASHER, 5/8"
16	21775	4	HEX NUT, 5/8"
17	23160A	2	SKID SHOE
18	6T2270	12	PLOW BOLT,3/8" X 1" NC
19	22016	21	FLATWASHER,3/8"
20	21625	21	HEX NUT,3/8",NC
21	22993	71	CHAIN, 5/16" GR30, 9 LINK
22	22054	2	ROD, CHAIN HOLDER
23	6T3028	2	COTTER PIN, 1/8" X 1"
24	06504011	1	MOTOR, (M365 - 2" GEAR)
25	21733	4	CAPSCREW, 1/2" X 2",NC
26	21990	16	LOCKWASHER, 1/2"
27	21725	16	HEX NUT, 1/2" NC
28	33656	2	PLATE,GUARD,SAFETY,REAR,RTRY
29	6T2267	12	CARRIAGE BOLT, 1/2" X 2" NF, GR8
30	33655	2	PLATE,GAURD,SAFETY,FRONT, RTRY
31	6T2290	6	CAPSCREW,5/8" X 2",NF GR 8
32	24347	1	REAR DEFLECTOR FLAP
33	24349	1	FLAP MOUNTING BAR
34	21631	9	CAPSCREW, 3/8" X 1-1/4" NC
35	22992	71	CHAIN, 5/16" GR30, 10 LINK
36	22054	2	ROD, CHAIN HOLDER
37	6T3028	2	COTTER PIN, 1/8" X 1"
38	22016	2	FLATWASHER,3/8"

60IN REAR TSR ROTARY MOWER



1 1 1 141	FAILT NO.	wii.	DESCRIPTION
	06741023	-	60IN TSR REAR MOWER ASSY
1	06320002	1	TRAILKAT®,60,WLDMNT
2	6T0112	2	SHACKLE,W/PIN,CPLT

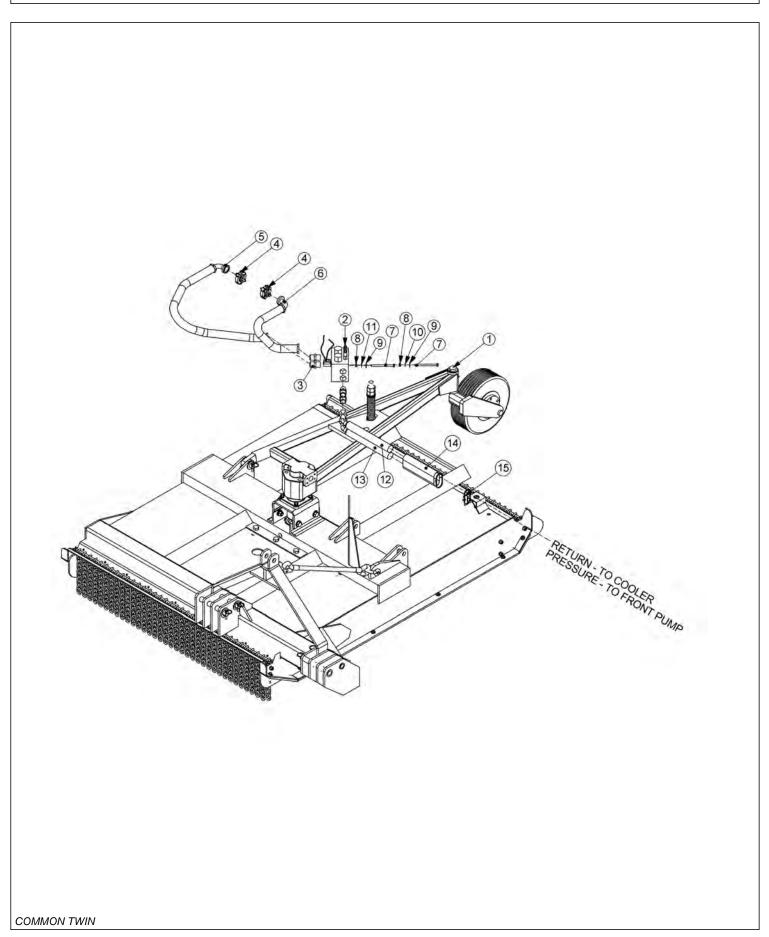
3 22051 1 CABLE,LIFT,TRR,60

60IN REAR TSR ROTARY MOWER

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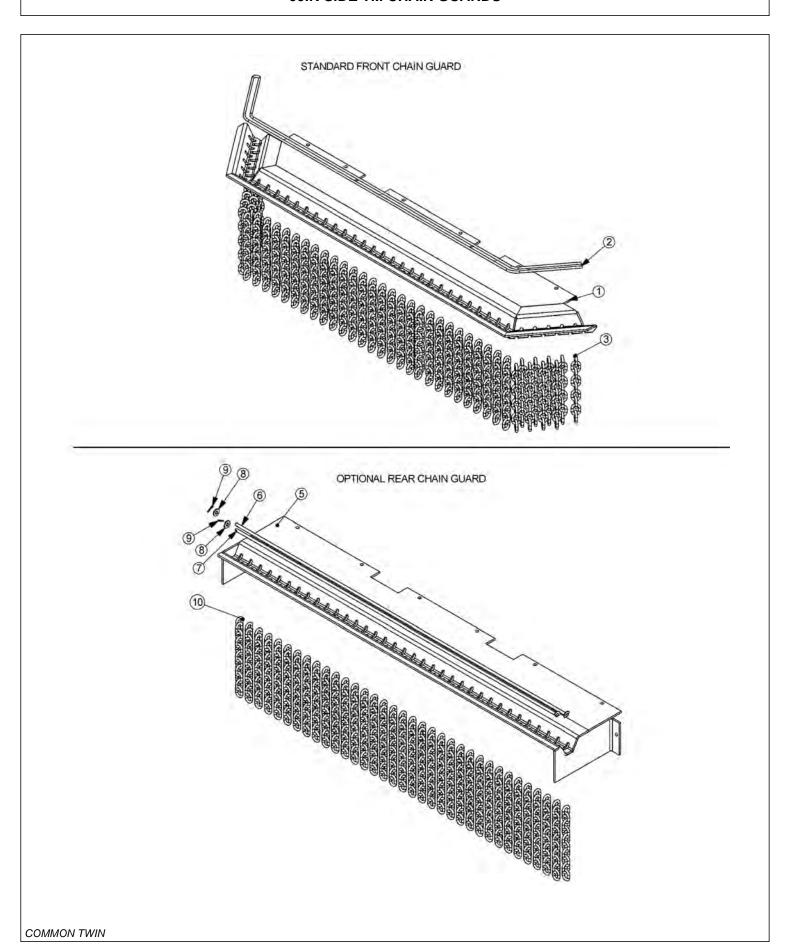
ITEM	PART NO.	QTY.	DESCRIPTION
4	06520425	2	PIN
5	06537021	4	ROLLPIN,5MM X 50MM,SS
6	21474A	1	HITCH,3PT,TRR
7	28511	1	STAND,SAFETY SUPPORT W/PAD
8	23329	1	CASTER WHL, SOLID TIRE W/SPIND
9	22057	1	SPINDLE,CASTER AXLE,ASSY
10	22018	2	FLATWASHER,1/2,WIDE
11	21725	2	HEX NUT,1/2,NC
12	6T3211	1	GREASE ZERK,1/8
13	06370003	1	CASTER ADJ,TRAILKAT
14	06504016	1	MOTOR,M365-1 1/4",SPLINE,SEALED
15	6T1025	4	CAPSCREW,1/2 X 2,NC,GR8
16	06533004	12	FLATWASHER,1/2,SAE,GR8
17	21738	2	CAPSCREW,1/2 X 3-1/4,NC
18	06370004	1	CASTER MNT,TRAILKAT
19	21700	4	HEX NUT,1/2,NF
20	21990	4	LOCKWASHER,1/2
21	06420003	2	U-BOLT,.50 X 3.25 X 5.00
22	21625	20	HEX NUT,3/8,NC
23	21988	6	LOCKWASHER,3/8
24	21631	2	CAPSCREW,3/8 X 1-1/4,NC,GR8
25	34972	2	PLATE,CAP,CHAIN
26	34974	1	ROD,CHAIN,INNER,TM60
27	06420005	2	U-BOLT,.38 X 5.63 X 6.31
28	34973	1	ROD,CHAIN,OUTER,TM60
29	06410254	2	SKID SHOE,TSR
30	22992	78	CHAIN,10 LINK
31	33698	2	PIN,1.13 X 9.00
32	33699	2	PIN,1 X 8.88
33	TF1143	4	LYNCH PIN
34	34980	1	SPINDLE ASSY,TM60
35	06320011	2	SPACER,TSR,SPINDLE
36	06530221	8	CAPSCREW,1/2 X 2-1/4,NF,GR8
37		-	DISK *REFER TO DISK & KNIVES PAGE
38	25270	6	FLATWASHER,5/8",USS,GR8
39	6T2290	6	CAPSCREW,5/8" X 2",NF,GR8
40	6T2270	14	PLOW BOLT,3/8" X 1",NC
41	22016	14	FLATWASHER,3/8",GR8

REAR ROTARY HYDRAULICS



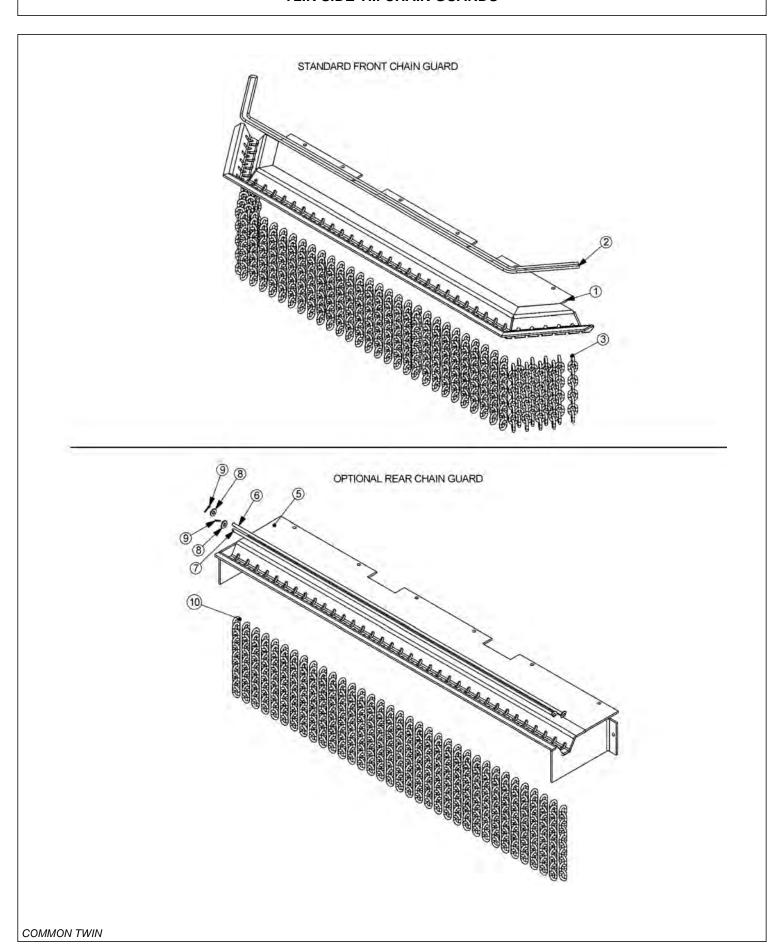
REAR ROTARY HYDRAULICS

ITEM	PART NO.	QTY.	DESCRIPTION	
1		-	REAR ROTARY MOWER	
2	06510083	1	VALVE,BRAKE,SOL,3000PSI,METRI	
3	33555	4	ADAPTER,1MORB X 1MJIC (3 FOR TSR)	
	33554	1	ELBOW,1MORB X 1MJIC,45 (TSR PRESSURE TO MOTOR)	
4	TF4852	2	KIT, FLANGE, #20	
5	34198	1	HOSE, 1" X 40" (TM MOWER RETURN)	
	06500087	-	HOSE, 1" X 42" (TSR MOWER RETURN)	
6	34197	1	HOSE, 1" X 33" (TM MOWER PRESSURE)	
	06500086	-	HOSE, 1" X 24" (TSR MOWER PRESSURE)	
7	21644	2	CAPSCREW,3/8" X 5" NC	
8	21625	2	HEX NUT,3/8",NC	
9	22016	2	FLATWASHER,3/8"	
10	21988	1	LOCKWASHER, 3/8"	
11	6T2665	1	STAR LOCKWASHER, 3/8"	
12		1	HOSE (RETURN)	
13		1	HOSE (PRESSURE)	
14	33930	1	HOSE SLEEVE, TRR	
15	6T1823	2	ZIP TIE, 14" STRAPS	



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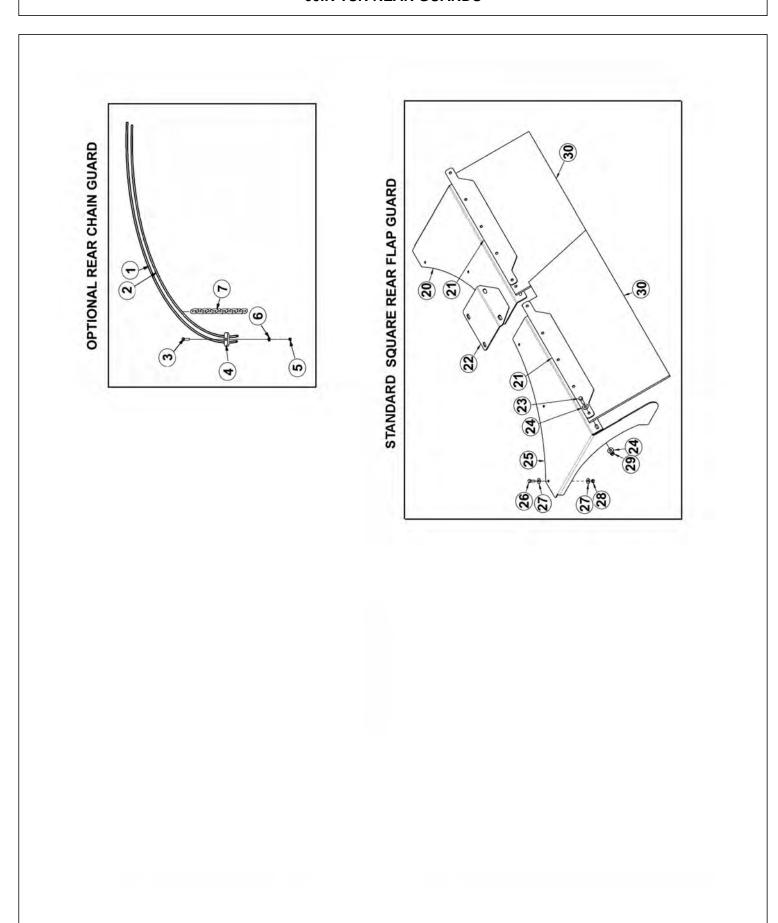
ITEM	PART NO.	QTY.	DESCRIPTION
	31773	-	GUARD,CHAIN,TM60,FRONT,ASSY
1	31762	1	GUARD,CHAIN,TM60,FRONT
2	28407	12	CABLE,5/16",BULK (QTY IN FEET)
3	22993	77	CHAIN,5/16",GR30,9 LINK
4	28408	4	U-BOLT,CABLE,5/16" (NOT SHOWN)
	31774	-	GUARD,CHAIN,TM60,REAR,ASSY
5	31763	1	GUARD,CHAIN,TM60,REAR
6	31879	1	ROD,SHORT,TM60
7	31878	1	ROD,LONG,TM60
8	22016	2	FLATWASHER,3/8",GR8
9	6T3028	2	COTTER PIN,1/8" X 1"
10	22992	69	CHAIN,5/16",GR30,10 LINK



Continued...

ITEM	PART NO.	QTY.	DESCRIPTION
	31931	-	GUARD,CHAIN,TM72,FRONT,ASSY
1	31863	1	GUARD,CHAIN,TM72,FRONT
2	28407	14	CABLE,5/16",BULK (QTY IN FEET)
3	22993	91	CHAIN,5/16",GR30,9 LINK
4	28408	4	U-BOLT,CABLE,5/16" (NOT SHOWN)
	31932	-	GUARD,CHAIN,TM60,REAR,ASSY
5	31864	1	GUARD,CHAIN,TM60,REAR
6	31934	1	ROD,LONG,TM72
7	31933	1	ROD,SHORT,TM72
8	22016	2	FLATWASHER,3/8",GR8
9	6T3028	2	COTTER PIN,1/8" X 1"
10	22992	83	CHAIN,5/16",GR30,10 LINK

60IN TSR REAR GUARDS

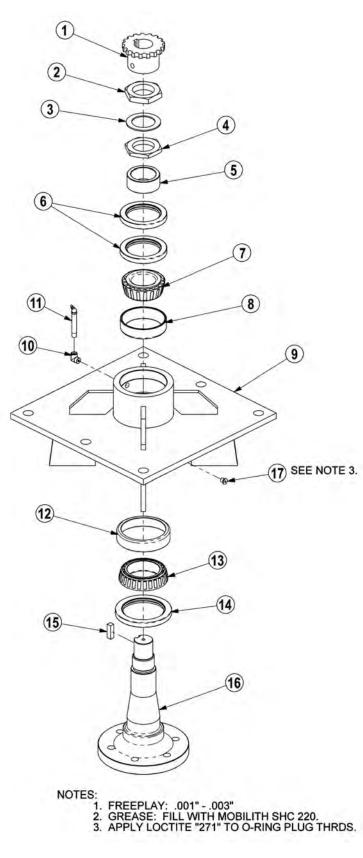


60IN TSR REAR GUARDS

Continued...

ITEM	PART NO.	QTY.	DESCRIPTION
1	34973	2	ROD,CHAIN,OUTER,TM60
2	34974	2	ROD,CHAIN,INNER,TM60
3	21631	16	CAPSCREW, 3/8 X 1-1/4,NC
4	34972	4	PLATE,CAP,CHAIN
5	21625	30	HEX NUT,3/8",NC
6	21988	16	LOCKWASHER, 3/8"
7	22992	156	CHAIN,10 LINK
20	06410947	1	MNT,FLAP,RH,EXT,TSR
21	06401184	2	STRAP,FLAP,EXT,TSR
22	06410948	1	COVER,FLAP,EXT,TSR
23	21632	10	CAPSCREW,3/8" X 1-1/2" NC
24	22016	20	FLATWASHER,3/8",GR8
25	06410946	1	MNT,FLAP,LH,EXT,TSR
26	21580	6	CAPSCREW,5/16 X 1 NC
27	22015	12	FLATWASHER,5/16
28	21577	6	NYLOCK NUT, 5/16,NC
29	21625	10	HEX NUT,3/8",NC
30	06520331	2	FLAP,EXT,TSR

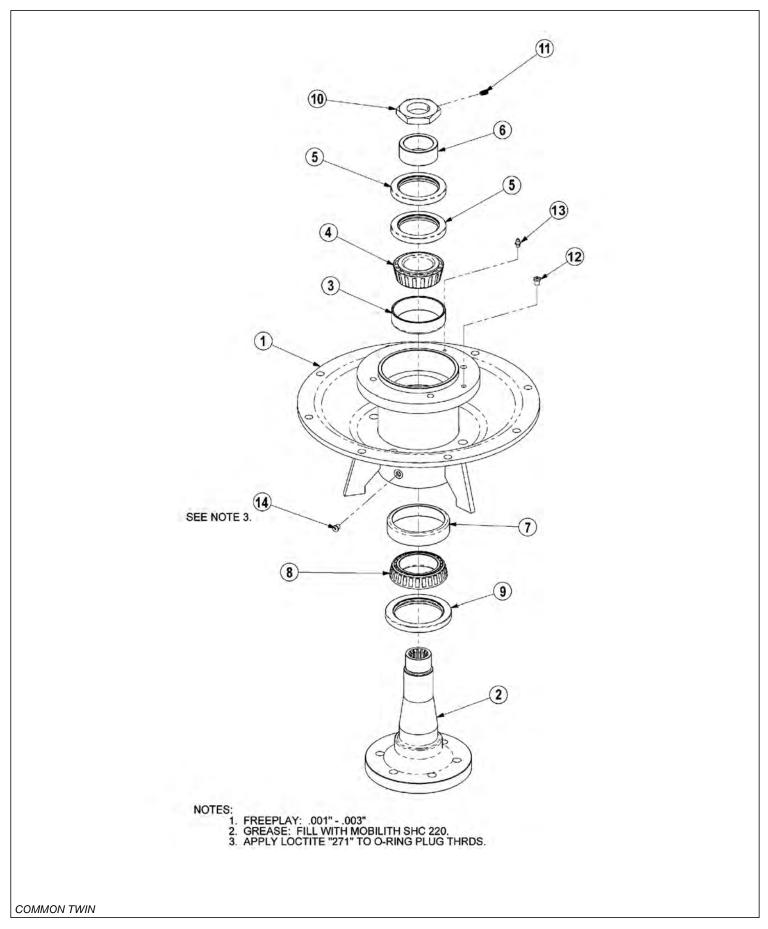
TM MOWER SPINDLE ASSEMBLY



TM MOWER SPINDLE ASSEMBLY

ITEM	PART NO.	QTY.	DESCRIPTION
	6T1024H5	-	SPINDLE ASSEMBLY COMPLETE
1	6T1031	1	SPROCKET
2	6T1016	1	BEARING LOCK NUT - THICK
3	22596	1	JAM WASHER
4	6T1015	1	BEARING ADJUSTMENT NUT - THIN
5	6T1014	1	BEARING ADJUSTMENT SLEEVE
6	6T1011	1	UPPER SEAL - SET OF 2
7	6T1012	1	BEARING CONE
8	6T1013	1	BEARING CUP
9	6T1010H	1	SPINDLE HOUSING
10	30570	1	FITTING STREET ELBOW
11	33990	1	GREASE ZERK
12	6T1013H	1	BEARING CUP
13	6T1012H	1	BEARING CONE
14	6T1011H	1	LOWER SEAL
15	6T1019	1	SPINDLE KEY
16	PT1018H-5	1	SPINDLE
17	06503064	1	O-RING PLUG, 1/8"
	31771	-	SPINDLE REBUILD KIT (INCLUDES ITEMS 2 - 8 AND 12 - 15)

TSR MOWER SPINDLE ASSEMBLY

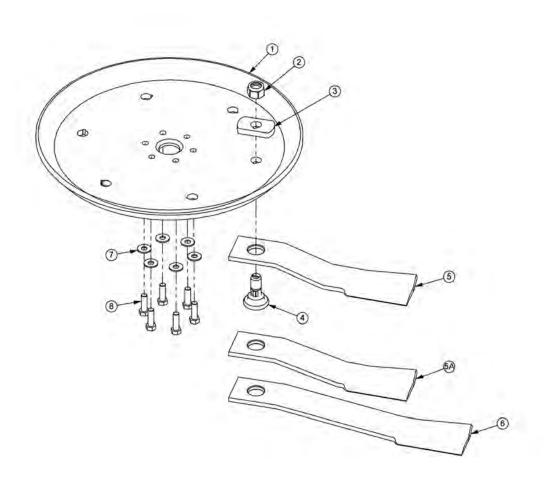


TSR MOWER SPINDLE ASSEMBLY

Continued...

ITEM	PART NO.	QTY.	DESCRIPTION
	34980	-	SPINDLE ASSEMBLY COMPLETE
1	34978	1	SPINDLE MOUNT
2	34979	1	SPINDLE,TM60
3	6T1013	1	BEARING CUP
4	6T1012	1	BEARING CONE
5	6T1011	1	UPPER SEAL - SET OF 2
6	6T1014	1	BEARING ADJUSTMENT SLEEVE
7	6T1013H	1	BEARING,CUP,HD
8	6T1012H	1	BEARING CONE,HD
9	6T1011H	1	SEAL,LOWER,HD
10	34985	1	NUT W/SETSCREW
11	6T2275	1	SETSCREW,5/16" X 1/2",NC
12	34988	1	RELIEF,1PSI,1/8" NPT
13	6T3207	1	ZERK,1/4" X STR
14	06503064	1	O-RING PLUG, 1/8"

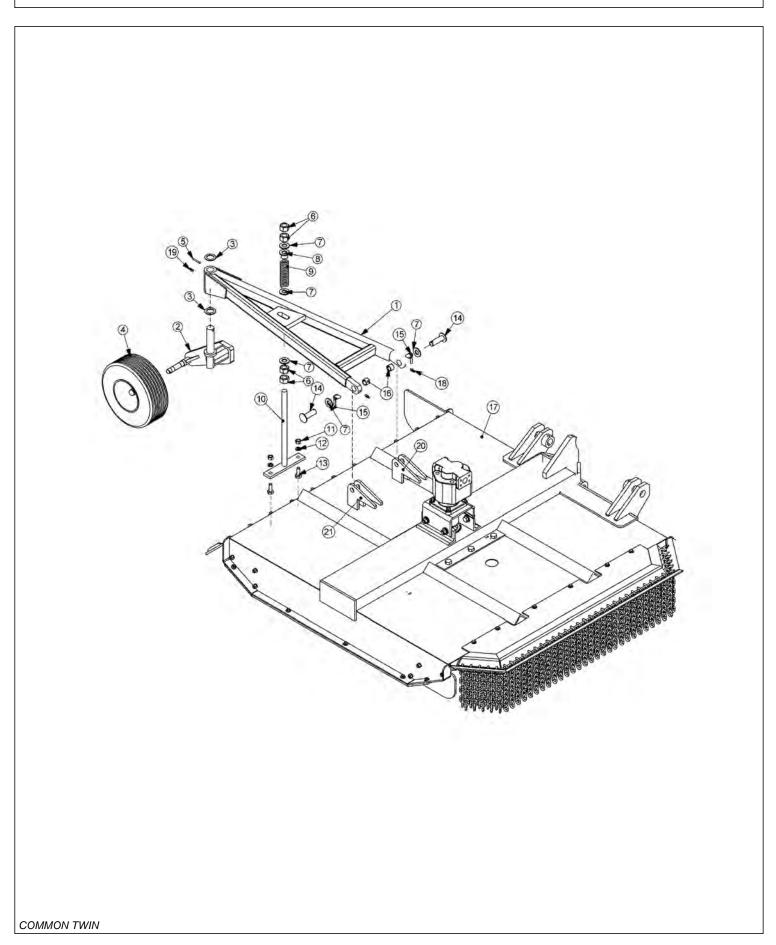
ROTARY DISK AND KNIVES



l I	ГЕМ	PART NO.	QTY.	DESCRIPTION
1		34876	1	BLADE MOUNTING DISK
2		6T1023R	2	NYLOCK NUT,1-1/8"
3		34878	2	SPACER
4		34497	2	KNIFE MOUNTING BOLT
5		34685	2	KNIFE,60" HIGH SUCTION - STANDARD
5.	A	34684	2	KNIFE,60" - OPTIONAL
6		34682	2	KNIFE 72" (MOUNT ON 72" MOWER ONLY)
7		25270	6	FLATWASHER,5/8",USS,GR8
8		6T2259	6	CAPSCREW,5/8" X 1-3/4",NF
		6T1825	-	LOCTITE - USED ON ALL DISK MOUNTING BOLTS
	-	27167	-	BOLT KIT (INCLUDE ITEMS 7 & 8)
		06700002	-	KIT,60/72,DISK,KNF MTG (INCLUDE ITEM 1, 3,7 & 8)

	NOTES	
	NOTES	
COMMON TWIN		

SIDE ROTARY CASTER WHEEL ASSEMBLY

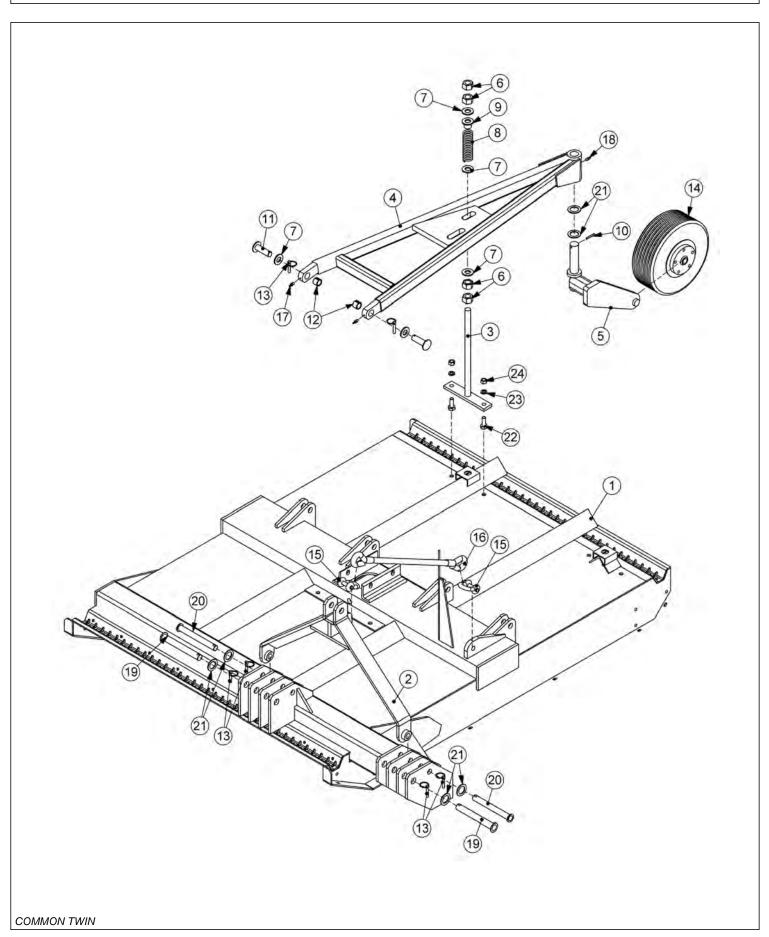


SIDE ROTARY CASTER WHEEL ASSEMBLY

Continued...

ITEM	PART NO.	QTY.	DESCRIPTION
1	25214C	1	FRAME,CASTER,WHL (TM60)
	28297A	-	FRAME, CASTER WHL (TM72)
2	22057	1	SPINDLE,CASTER AXLE,ASSY
3	6T2617	2	BUSHING,MACH,1-1/2IDX 2-1/4OD
4	28548	1	CASTER WHEEL, SOLID TIRE
	22065	1	HUB,ASSY,CASTER
	22066	1	HUB,CASTER
	22070	1	DUST CAP
	22071	5	HUB STUD
	22073	1	HEX NUT,1",NF (SLOTTED)
	22533	1	COTTER PIN,3/16" X 2"
	6T0830	2	BEARING,CONE,CASTER WHEEL
	6T0838	1	SEAL
	23329	1	WHEEL,CPLT,SOLID TIRE
	21416	1	TIRE,SOLID
	22697	1	RIM,OUTER
	22696	1	RIM,CASTER
5	6T3014	1	ROLL PIN,1/4" X 2"
6	21925	4	HEX NUT,1",NC
7	22023	5	FLATWASHER,1"
8	22753	1	TUBE,PROTECTOR
9	22058	1	SPRING,REAR RTRY
10	22059B	1	ADJ ROD,TRR
11	21775	2	HEX NUT,5/8"
12	21992	2	LOCKWASHER,5/8"
13	21782	2	CAPSCREW,5/8" X 1-3/4",NC
14	22060	2	CASTER FRAME PIN
15	TF1143	2	PIN,LYNCH,7/16" X 2"
16	TB3010	2	BUSHING,1"
17		1	RTRY,CPLT,TM
18	6T3207	2	GREASE ZERK,1/4" X STR
19	6T3211	1	GREASE ZERK,1/8" X STR
20	21441	2	CASTER FRAME ANCHOR (TM60)
	42527	2	CASTER FRAME ANCHOR (TM72)
21	21442	2	CASTER FRAME ANCHOR (TM60)
	42527	2	CASTER FRAME ANCHOR (TM72)

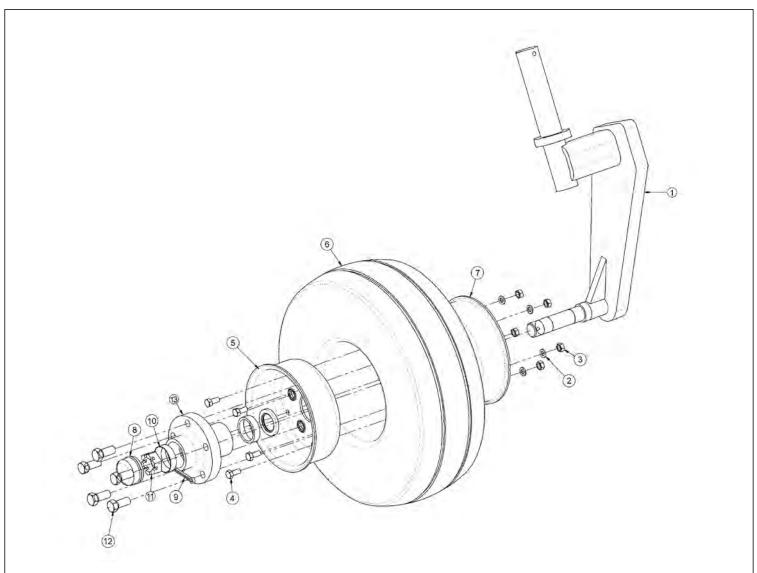
60IN TM REAR CASTER WHEEL & 3PT ASSY



60IN TM REAR CASTER WHEEL & 3PT ASSY

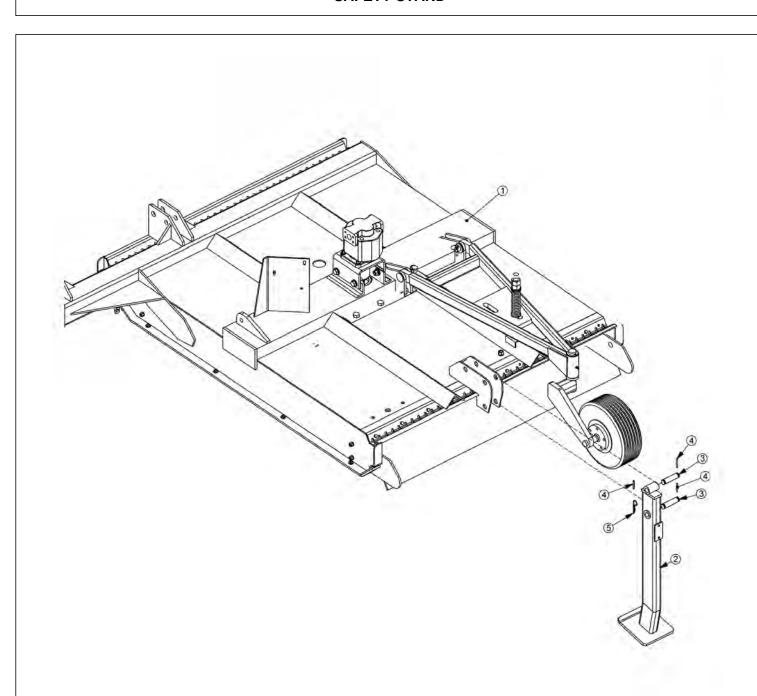
ITEM	PART NO.	QTY.	DESCRIPTION
1		-	MOWER,REAR,60IN,TM
2	21474A	1	HITCH, 3PT, TRR
3	22059B	1	ADJ ROD, TRR
4	25095A	1	FRAME, CASTER WHEEL, TRR 60"
5	22057	1	SPINDLE, CASTER AXLE, ASSY
6	21925	4	HEX NUT,1" NC
7	22023	5	FLATWASHER,1"
8	22058	1	SPRING, REAR RTRY
9	22753	1	TUBE, PROTECTOR
10	6T3014	1	ROLL PIN, 1/4" X 2"
11	22060	2	CASTER FRAME PIN
12	TB3010	2	BUSHING,1"
13	TF1143	6	PIN, LYNCH, 7/16" X 2"
14	28548	1	CASTER WHEEL, SOLID TIRE
15	6T0112	2	SHACKLE, W/PIN, CPLT
16	22051	1	CABLE, LIFT, TRR, 60"
17	6T3207	2	GREASE ZERK,1/4" X STR
18	6T3211	1	GREASE ZERK,1/8" X STR
19	33698	2	PIN, CAPPED, 1-1/8" X 9"
20	33699	2	PIN, CAPPED, 1" X 9"
21	6T2617	6	BUSHING,MACH,1-1/2IDX 2-1/4OD
22	21782	2	CAPSCREW, 5/8 X 1 3/4,NC
23	21992	2	LOCKWASHER, 5/8
24	21775	2	HEX NUT, 5/8

CASTER WHEEL ASSEMBLY



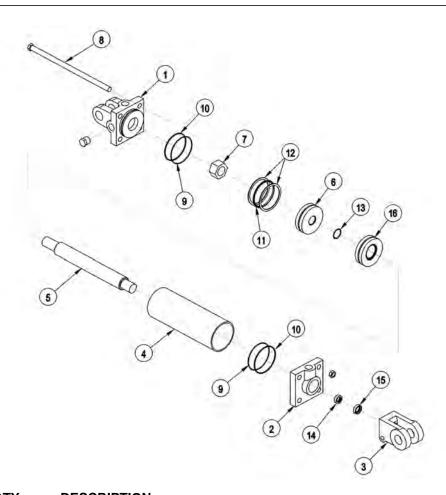
ITEM	PART NO.	QTY.	DESCRIPTION
1	22057	1	SPINDLE,CASTER AXLE,ASSY
2	21987	5	LOCKWASHER,5/16"
3	21575	5	HEX NUT,5/16"
4	28548	5	CAPSCREW,5/16" X 3/4",NC
5	22697	1	RIM,OUTER,CASTER ASSY
6	21416	1	TIRE,SOLID
7	22696	1	RIM,CASTER WHEEL
8	22070	1	DUST CAP
9	22533	1	COTTER PIN,3/16" X 2"
10	6T0836	2	CUP,CASTER WHEEL
11	22073	1	HEX NUT,1",NF (SLOTTED JAM NUT)
12	22071	5	HUB STUD
13	22066	1	HUB,CASTER WHEEL

SAFETY STAND



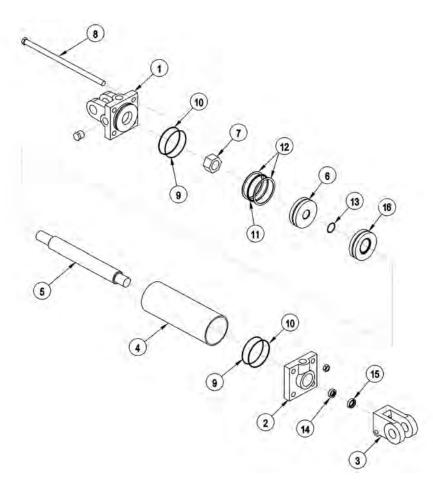
ITEM	PART NO.	QTY.	DESCRIPTION
1		-	REAR RTRY - REFER TO REAR RTRY DECK ASSY
2	28511	1	REAR RTRY STAND
3	06520425	2	PIN
4	6T3014	3	ROLL PIN, 1/4" X 2"
5	6T3004	1	R-CLIP (HAIRPIN COTTER, 3/16")

3IN X 10IN HYDRAULIC CYLINDER BREAKDOWN



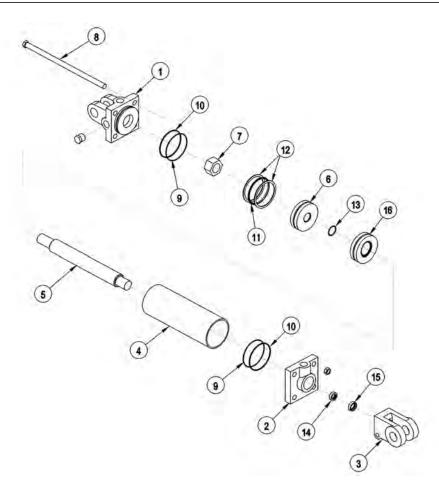
ITEM	PART NO.	QTY.	DESCRIPTION
	6T0151R	-	HYD. CYLINDER 3" X 10"
1	6T0167	1	CYLINDER BUTT
2	6T0170	1	CYLINDER GLAND
3	6T0178	1	CLEVIS END
4	6T0164	1	CYLINDER TUBE
5	6T0161	1	PISTON ROD
6	6T0173	1	PISTON
7	6T0179	1	LOCKNUT
8	6T0176	4	TIE ROD ASY
	6T0187	-	SEAL KIT
9		2	O - RING
10		2	BACK - UP WASHER
11		1	O - RING
12		2	BACK - UP WASHER
13		1	O - RING
14		1	U - CUP
15		1	WIPER

3IN X 12IN HYDRAULIC CYLINDER BREAKDOWN



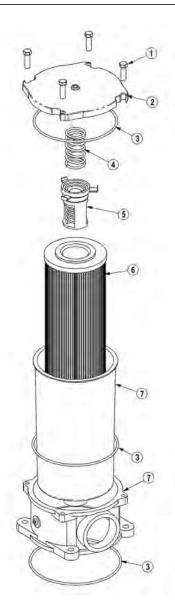
ITEM	PART NO.	QTY.	DESCRIPTION
	32215	-	HYD. CYLINDER 3" X 12" (STD DUTY)
	25343	-	HYD. CYLINDER 3" X 12" (HVY DUTY)
1	6T0167	1	CYLINDER BUTT
2	6T0170	1	CYLINDER GLAND
3	6T0178	1	CLEVIS END
4	6T0204	1	CYLINDER TUBE
5	6T0203	1	PISTON ROD
6	6T0173	1	PISTON
7	6T0179	1	LOCKNUT
8	6T0205	4	TIE ROD ASY
	6T0187	-	SEAL KIT
9		2	O - RING
10		2	BACK - UP WASHER
11		1	O - RING
12		2	BACK - UP WASHER
13		1	O - RING
14		1	U - CUP
15		1	WIPER

3IN X 18IN HYDRAULIC CYLINDER BREAKDOWN



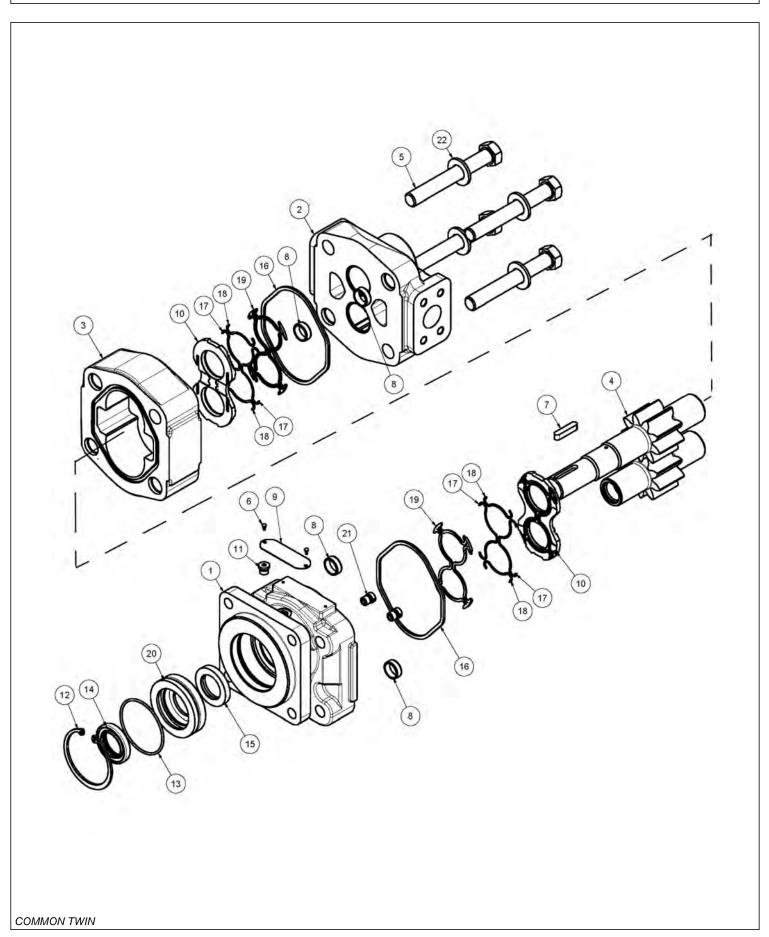
ITEM	PART NO.	QTY.	DESCRIPTION
	6T0150	-	CYLINDER 3" X 18"
1	6T0167	1	CYLINDER BUTT
2	6T0170	1	CYLINDER GLAND
3	6T0178	1	CLEVIS END
4	6T0165	1	CYLINDER TUBE
5	6T0162	1	PISTON ROD
6	6T0173	1	PISTON
7	6T0179	1	LOCKNUT
8	6T0177	4	TIE ROD ASY
	6T0187	-	SEAL KIT
9		2	O - RING
10		2	BACK - UP WASHER
11		1	O - RING
12		2	BACK - UP WASHER
13		1	O - RING
14		1	U - CUP
15		1	WIPER
16	6T0206	1	SPACER

RESERVOIR TANK FILTER ASSEMBLY



ITEM	PART NO.	QTY.	DESCRIPTION
	06505044	-	FILTER ASSY SAE 10 MICRON
1	28583	4	CAPSCREW,8MM X 25MM(1.25 PITCH)
2	06505045	1	COVER
3	06505046	1	SEAL KIT
4	06505047	1	SPRING
5	06505048	1	BYPASS
6	35259	1	FILTER,10 MIC,RETURN LINE
7	06505049	1	CAN/BODY

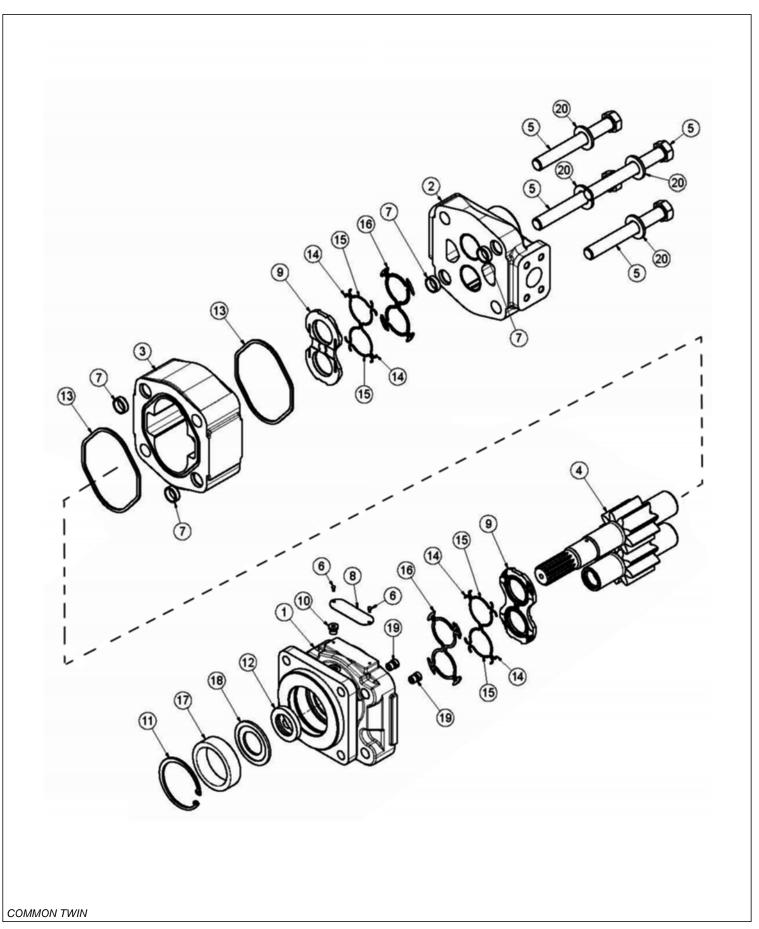
ROTARY MOTOR BREAKDOWN



ROTARY MOTOR BREAKDOWN

ITEM	PART NO.	QTY.	DESCRIPTION
	06504011	-	MOTOR ASSEMBLY
1	22790	1	END,COVER
2	06504088	1	HOUSING, PEC
3	06504111	1	HOUSING, GEAR
4	06504026	1	SET, GEAR SHAFT
5	06504104	4	CAPSCREW
6	06504078	2	SCREW, DRIVE
7	06504092	1	KEY
8	06504093	4	PIN, DOWEL
9	06504094	1	NAME PLATE
10	06504095	2	THRPL
11	2961940	1	PLUG, ODT
12	2962200	1	RING, SNAP
13	06504096	1	O RING
14	6T5101	1	SEAL, LIP
15	06504097	1	SEAL, LIP
16	22797	2	SEAL, SQ-R
17	06504098	4	SEAL, SIDE CHAN
18	06504099	4	SEAL, END CHAN
19	06504100	2	SEAL, BK-UP
20	06504101	1	RTNR, SEAL
21	6T5809	2	CHECK ASS'Y
22	06504102	4	WASHER
	06504103	-	SEAL KIT

60IN TSR ROTARY MOTOR BREAKDOWN

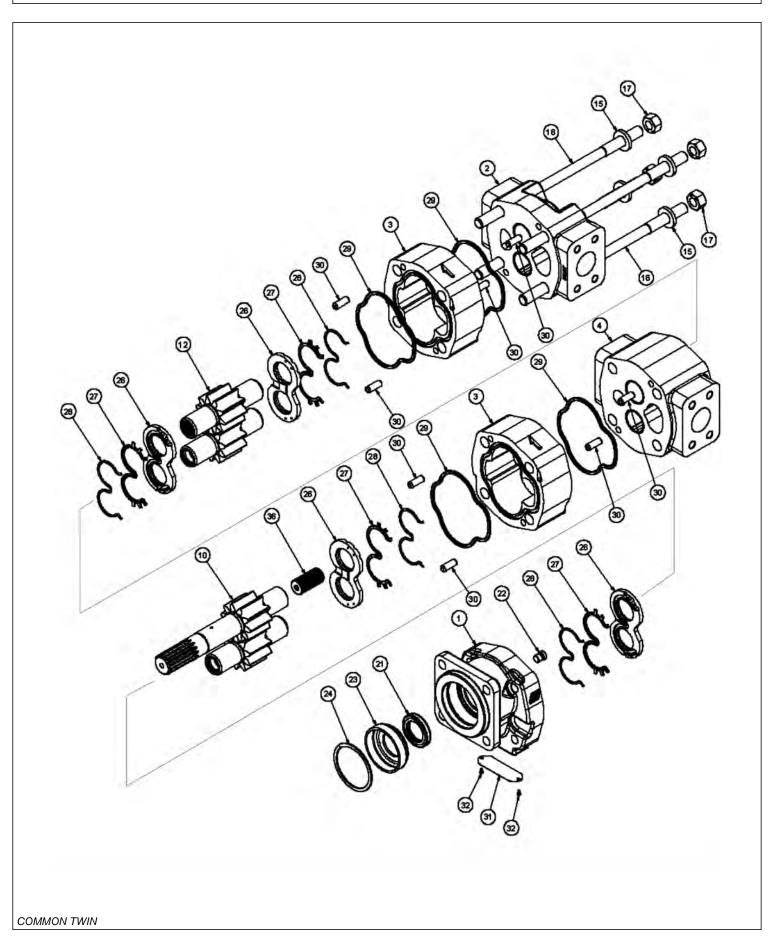


60IN TSR ROTARY MOTOR BREAKDOWN

Continued...

ITEM	PART NO.	QTY.	DESCRIPTION
	06504016	-	MOTOR(M365-1 1/4SPLINE),SEALED
1	22790	1	COVER,END
2	06504088	1	HOUSING,PEC
3	06504111	1	HOUSING,GEAR
4	06504110	1	SET,GEAR SHAFT
5	06504104	4	CAP SCREW
6	06504078	2	SCREW,DRIVE
7	06504093	4	PIN,DOWEL
8	06504094	1	NAME PLATE
9	06504095	2	THRPL
10	02961940	1	PLUG,ODT (0.25)
11	6T5200	1	RING,SNAP
12	06504097	1	SEAL,LIP
13	22797	2	SEAL,SQ-R
14	06504098	4	SEAL,SIDE CHAN
15	06504099	4	SEAL,END CHAN
16	06504100	2	SEAL,BK-UP
17	06504112	1	SPACER
18	06504113	1	RTNR,SEAL
19	6T5809	2	CHECK ASS'Y
20	06504102	4	WASHER
	06504022	1	SEAL KIT

FRONT HYDRAULIC PUMP BREAKDOWN

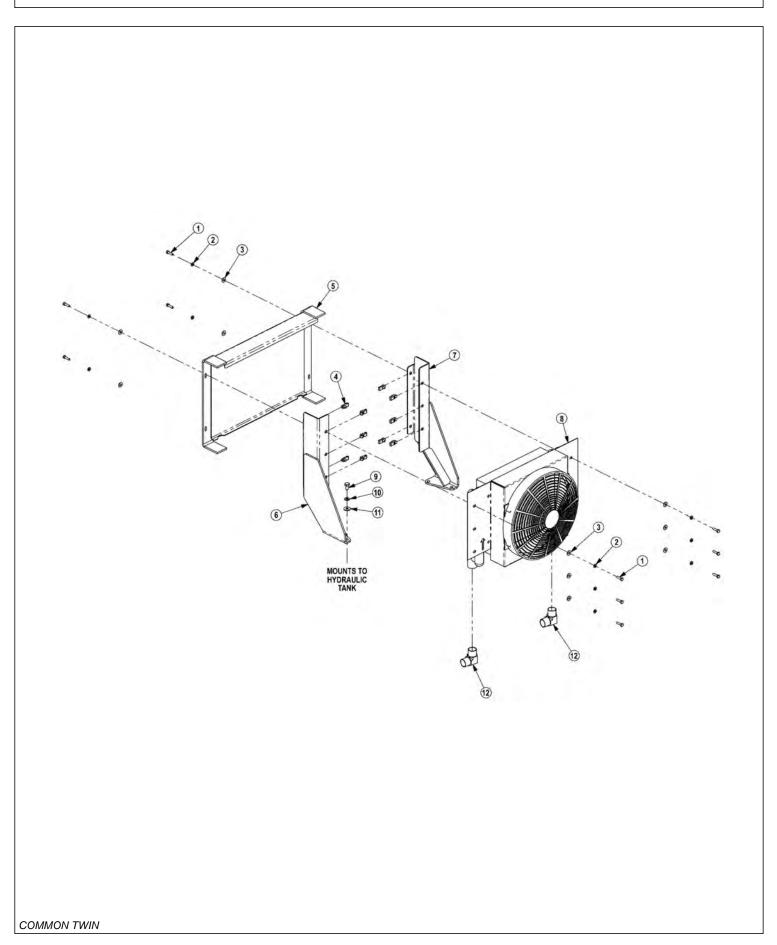


FRONT HYDRAULIC PUMP BREAKDOWN

Continued...

ITEM	PART NO.	QTY.	DESCRIPTION
	06504002	1	PUMP,ASSY
1	22766	1	HOUSING,SEC
2	06504068	1	HOUSING,PEC
3	02965092	2	HOUSING,GEAR
4	06504069	1	HOUSING,BEARING CARRIER
10	06504070	1	SET,GEARSHAFT
12	06504071	1	GEAR,SET
15	02961917	4	WASHER
16	06504072	4	STUD
17	06504073	4	NUT,HEX
21	22765	1	SEAL,LIP
22	6T5121	1	PLUG
23	02979970	1	SPACER
24	02979971	1	RING,SNAP
26	02965611	4	THRPL
27	06504074	4	SEAL,CHAN
28	06504075	4	SEAL,BK-UP
29	06504076	4	SEAL,SQ-R
30	02961924	8	PIN,DOWEL
31	06504077	1	NAMEPLATE
32	06504078	2	SCREW,DRIVE
36	06504079	1	SFT,CONN
	22764	1	SEAL KIT (ITEMS 21, 27, 28 & 29

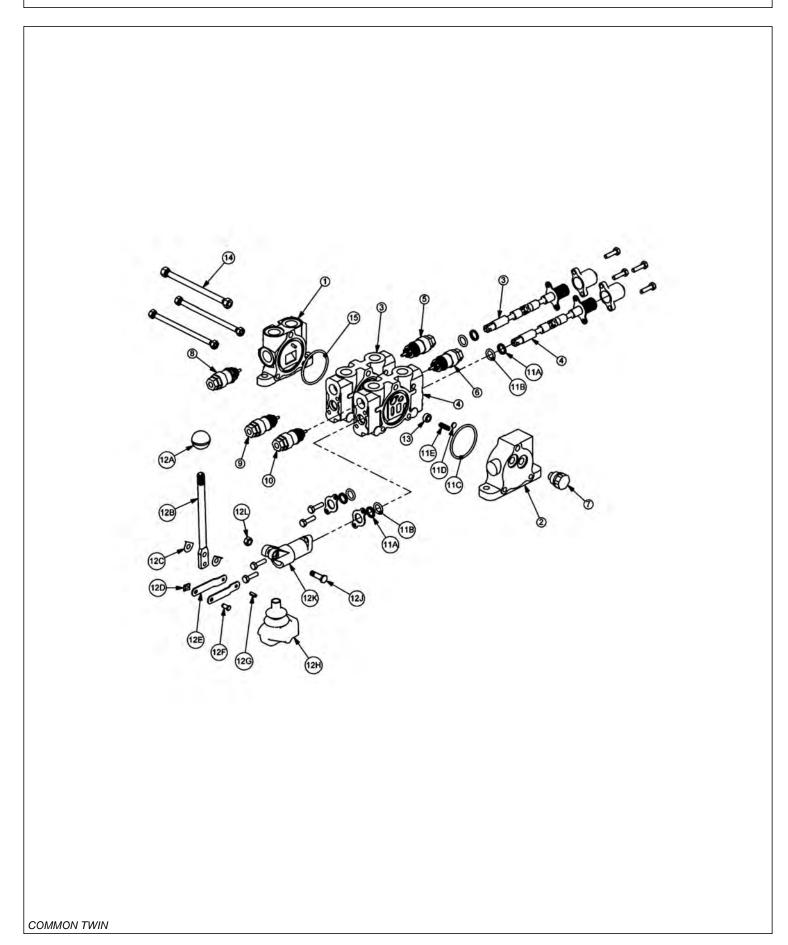
COOLER ASSEMBLY



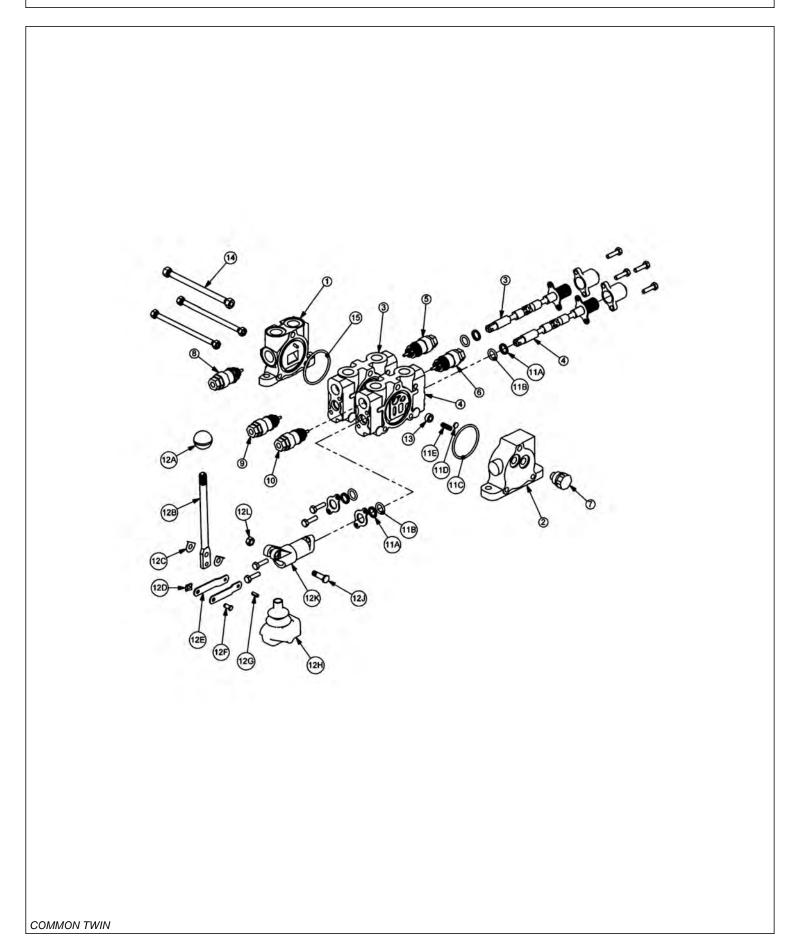
COOLER ASSEMBLY

Continued...

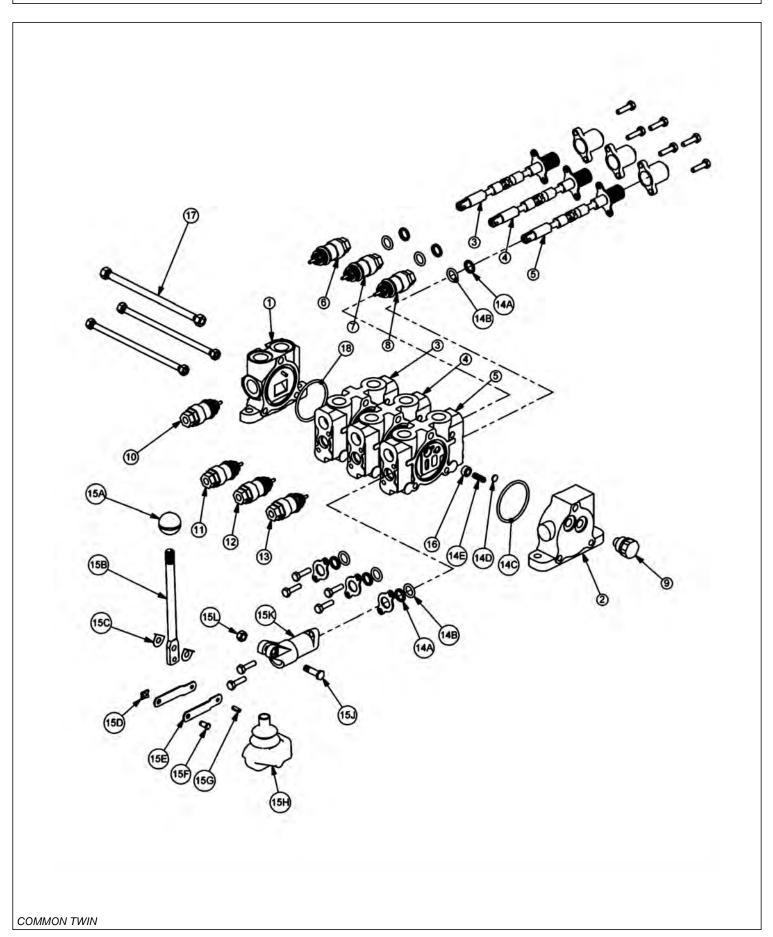
ITEM	PART NO.	QTY.	DESCRIPTION
1	21530	10	CAPSCREW,1/4 X1 NC
2	21986	10	LOCKWASHER,1/4
3	22014	10	FLATWASHER,1/4
4	35176	10	1/4 U-NUT
5	06370015	1	SCREEN,COOLER,FRNT
6	06380006	1	MNT,COOLER,BUMPER TANK,RH
7	06380007	1	MNT,COOLER,BUMPER TANK,LH
8	06510350	1	COOLER,FRONT MNT
	06510029	1	FAN ASSY ONLY
9	21629	4	CAPSCREW,3/8 X 3/4 NC
10	21988	4	LOCKWASHER,3/8
11	22016	4	FLATWASHER,3/8
12	34117	2	ELBOW,1MOR X 1MJ90,FORGED



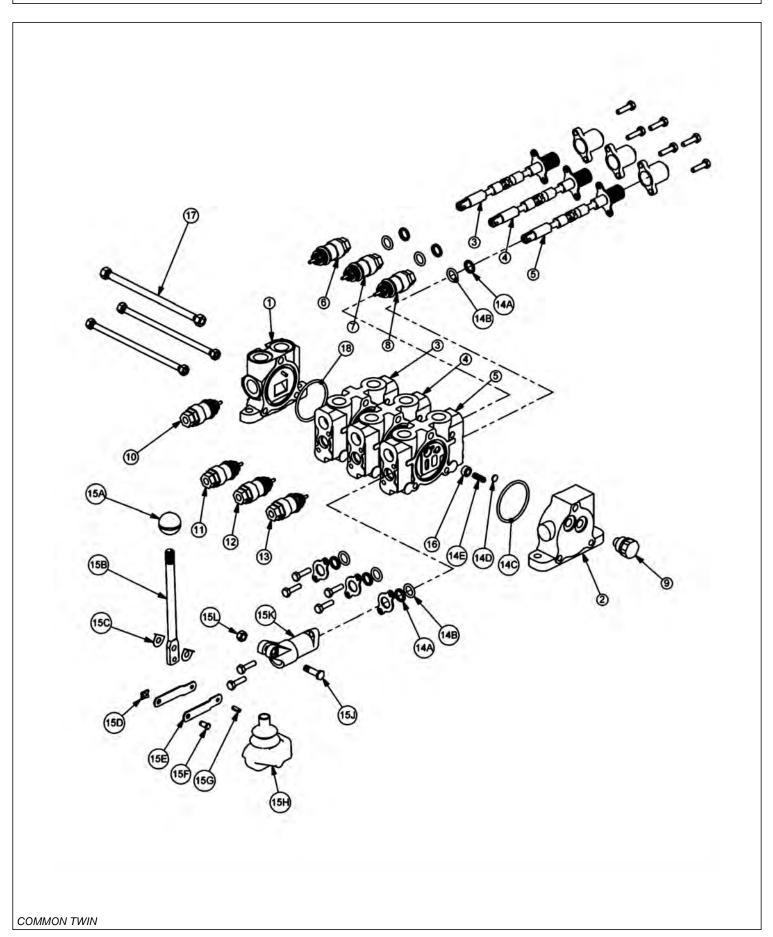
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	ITEM	PART NO.	QTY.	DESCRIPTION
	1	31595	1	INLET END COVER
	2	31594	1	END COVER, LOAD SENSE
	3	31597	1	VALVE SECTION (DOUBLE ACTING, CENTER SPRING)
	4	31597	1	VALVE SECTION (DOUBLE ACTING, CENTER SPRING)
	5	06503067	1	RELIEF PLUG
	6	06503067	1	RELIEF PLUG
	7	N/A	-	N/A
	8	6T4209	1	RELIEF PLUG
	9	31862	1	RELIEF VALVE, 2175 PSI
	10	31862	1	RELIEF VALVE, 2175 PSI
	11	31593	2	VALVE SEAL KIT (FOR ONE SECTION)
	11A		2	WIPER
	11B		2	O-RING SMALL
	11C		1	O-RING LARGE
	11D		1	SHUTTLE DISC
	11E		1	SPRING
	12	TB1017L	2	LEVER KIT (FOR ONE SECTION)
	12A		1	LEVER KNOB
	12B		1	LEVER
	12C		2	LEVER WASHER
	12D		1	LEVER CLIP
	12E		2	LINKAGE
	12F		1	LEVER PIN
	12G		1	ROLL PIN
	12H		1	LEVER BOOT
	12J		1	LEVER BOLT
	12K		1	LEVER DUST COVER
	12L		1	LEVER NUT
	13	31603	2	COMPENSATOR
	14	TB1017X	1	TIE ROD KIT
	15	24214	1	O-RING, LARGE
l				



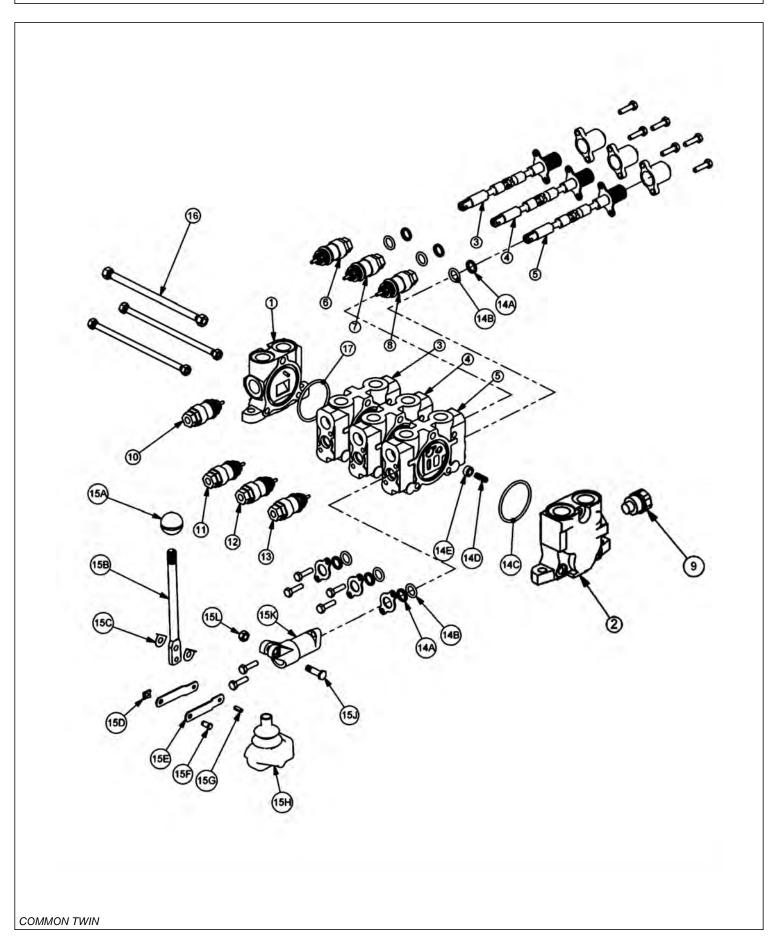
ITEM	PART NO.	QTY.	DESCRIPTION
1	31595	1	INLET END COVER
2	31594	1	END COVER, LOAD SENSE
3	31597	1	VALVE SECTION (DOUBLE ACTING, CENTER SPRING)
4	31597	1	VALVE SECTION (DOUBLE ACTING, CENTER SPRING)
5	06503067	1	RELIEF PLUG
6	31861	1	RELIEF VALVE, 360 PSI
7	N/A	-	N/A
8	6T4209	1	RELIEF PLUG
9	31862	1	RELIEF VALVE, 2175 PSI
10	31862	1	RELIEF VALVE, 2175 PSI
11	31593	2	VALVE SEAL KIT (FOR ONE SECTION)
11A		2	WIPER
11B		2	O-RING SMALL
11C		1	O-RING LARGE
11D		1	SHUTTLE DISC
11E		1	SPRING
12	TB1017L	2	LEVER KIT (FOR ONE SECTION)
12A		1	LEVER KNOB
12B		1	LEVER
12C		2	LEVER WASHER
12D		1	LEVER CLIP
12E		2	LINKAGE
12F		1	LEVER PIN
12G		1	ROLL PIN
12H		1	LEVER BOOT
12J		1	LEVER BOLT
12K		1	LEVER DUST COVER
12L		1	LEVER NUT
13	31603	2	COMPENSATOR
14	TB1017X	1	TIE ROD KIT
15	24214	1	O-RING, LARGE



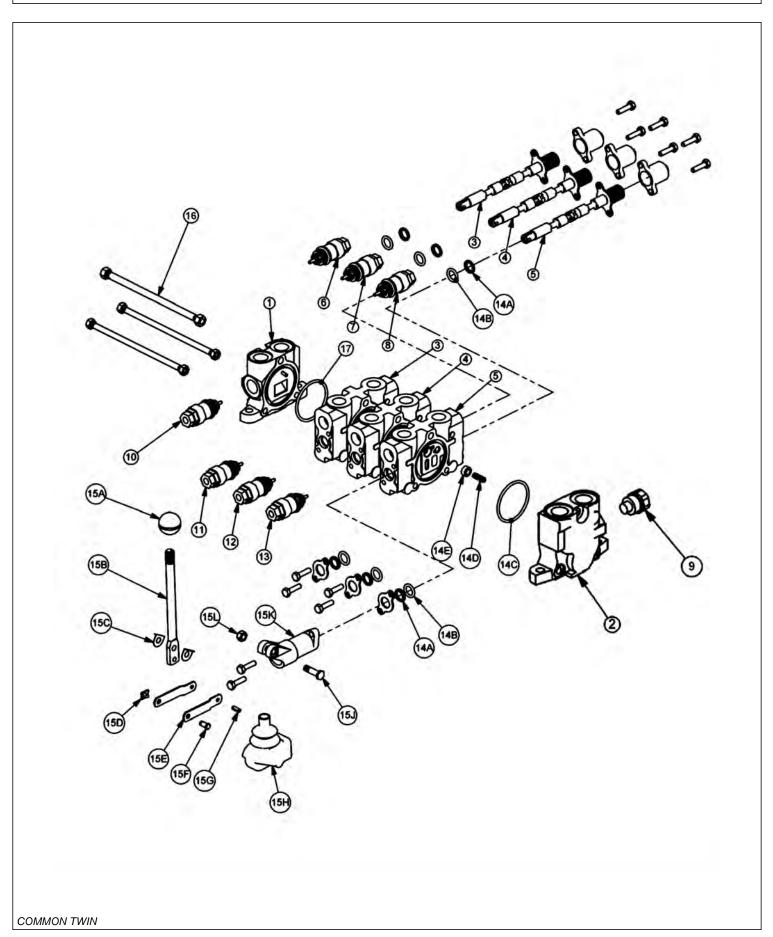
ITEM	PART NO.	QTY.	DESCRIPTION
1	31595	1	INLET END COVER
2	31594	1	END COVER, LOAD SENSE
3	31597	1	VALVE SECTION (DOUBLE ACTING, CENTER SPRING)
4	31597	1	VALVE SECTION (DOUBLE ACTING, CENTER SPRING)
5	31597	1	VALVE SECTION (DOUBLE ACTING, CENTER SPRING) (REMOVE SHUTTLE DISC)
6	06503067	1	RELIEF PLUG
7	06503067	1	RELIEF PLUG
8	28816	1	RELIEF VALVE, 1812 PSI
9	06503068	1	RELIEF PLUG
10	6T4209	1	RELIEF PLUG
11	31862	1	RELIEF VALVE, 2175 PSI
12	31862	1	RELIEF VALVE, 2175 PSI
13	28816	1	RELIEF VALVE, 1812 PSI
14	31593	3	VALVE SEAL KIT (FOR ONE SECTION)
14A		2	WIPER
14B		2	O-RING SMALL
14C		1	O-RING LARGE
14D		1	SHUTTLE DISC
14E		1	SPRING
15	TB1017L	3	LEVER KIT (FOR ONE SECTION)
15A		1	LEVER KNOB
15B		1	LEVER
15C		2	LEVER WASHER
15D		1	LEVER CLIP
15E		2	LINKAGE
15F		1	LEVER PIN
15G		1	ROLL PIN
15H		1	LEVER BOOT
15J		1	LEVER BOLT
15K		1	LEVER DUST COVER
15L		1	LEVER NUT
16	31603	3	COMPENSATOR
17	23397	1	TIE ROD KIT
18	24214	1	O-RING, LARGE
1			



	ITEM	PART NO.	QTY.	DESCRIPTION
	1	31595	1	INLET END COVER
	2	31594	1	END COVER, LOAD SENSE
	3	31597	1	VALVE SECTION (DOUBLE ACTING, CENTER SPRING)
	4	31597	1	VALVE SECTION (DOUBLE ACTING, CENTER SPRING)
	5	31597	1	VALVE SECTION (DOUBLE ACTING, CENTER SPRING) (REMOVE SHUTTLE DISC)
	6	06503067	1	RELIEF PLUG
	7	31861	1	RELIEF VALVE, 360 PSI
	8	28816	1	RELIEF VALVE, 1812 PSI
	9	06503068	1	RELIEF PLUG
	10	6T4209	1	RELIEF PLUG
	11	31862	1	RELIEF VALVE, 2175 PSI
	12	31862	1	RELIEF VALVE, 2175 PSI
	13	28816	1	RELIEF VALVE, 1812 PSI
	14	31593	3	VALVE SEAL KIT (FOR ONE SECTION)
	14A		2	WIPER
	14B		2	O-RING SMALL
	14C		1	O-RING LARGE
	14D		1	SHUTTLE DISC
	14E		1	SPRING
	15	TB1017L	3	LEVER KIT (FOR ONE SECTION)
	15A		1	LEVER KNOB
	15B		1	LEVER
	15C		2	LEVER WASHER
	15D		1	LEVER CLIP
	15E		2	LINKAGE
	15F		1	LEVER PIN
	15G		1	ROLL PIN
	15H		1	LEVER BOOT
	15J		1	LEVER BOLT
	15K		1	LEVER DUST COVER
	15L		1	LEVER NUT
	16	31603	3	COMPENSATOR
	17	23397	1	TIE ROD KIT
	18	24214	1	O-RING, LARGE
-1				

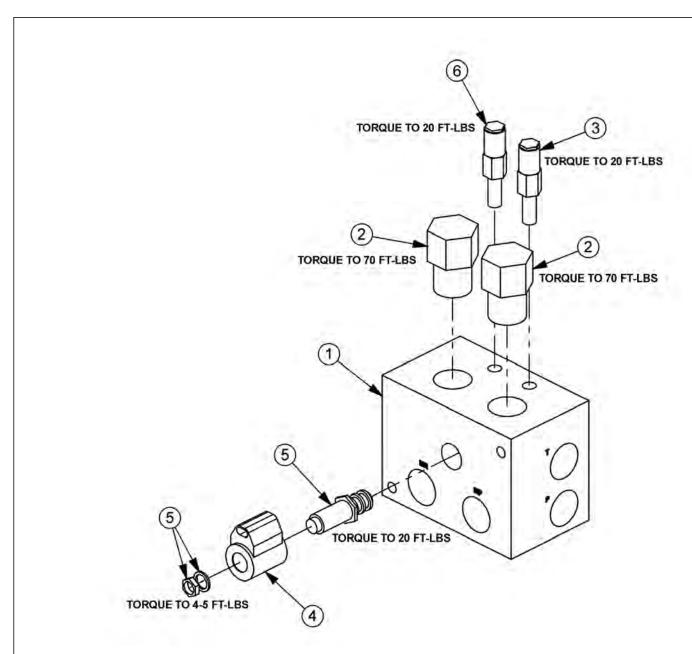


ITEM	PART NO.	QTY.	DESCRIPTION
1	TB1017S	1	INLET END COVER
2	TB1702	1	END COVER, POWER BEYOND
3	TB1017P	1	VALVE SECTION (SINGLE ACTING, SPRING DETENT)
4	TB1017P	1	VALVE SECTION (SINGLE ACTING, SPRING DETENT)
5	TB1017N	1	VALVE SECTION (DOUBLE ACTING, CENTER SPRING)
6		-	N/A
7		-	N/A
8	28816	1	RELIEF VALVE, 1812 PSI
9	TB1017M	1	SHUT-OFF PLUG
10	06502085	1	RELIEF VALVE, 3000 PSI
11	31862	1	RELIEF VALVE, 2175 PSI
12	31862	1	RELIEF VALVE, 2175 PSI
13	28816	1	RELIEF VALVE, 1812 PSI
14	TB1017A	4	VALVE SEAL KIT (FOR ONE SECTION)
14A		2	WIPER
14B		2	O-RING SMALL
14C		1	O-RING LARGE
14D		1	SPRING
14E		1	PUCKET
15	TB1017L	4	LEVER KIT (FOR ONE SECTION)
15A		1	LEVER KNOB
15B		1	LEVER
15C		2	LEVER WASHER
15D		1	LEVER CLIP
15E		2	LINKAGE
15F		1	LEVER PIN
15G		1	ROLL PIN
15H		1	LEVER BOOT
15J		1	LEVER BOLT
15K		1	LEVER DUST COVER
15L		1	LEVER NUT
16	23397	1	TIE ROD KIT
17	24214	1	O-RING, LARGE



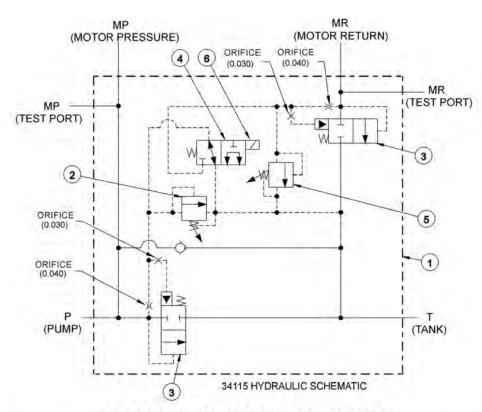
	ITEM	PART NO.	QTY.	DESCRIPTION
	1	TB1017S	1	INLET END COVER
	2	TB1702	1	END COVER, POWER BEYOND
	3	TB1017P	1	VALVE SECTION (SINGLE ACTING, SPRING DETENT)
	4	TB1017N	1	VALVE SECTION (DOUBLE ACTING, CENTER SPRING)
	5	TB1017N	1	VALVE SECTION (DOUBLE ACTING, CENTER SPRING)
	6		-	N/A
	7	31861	1	RELIEF VALVE, 360 PSI
	8	28816	1	RELIEF VALVE, 1812 PSI
	9	TB1017M	1	SHUT-OFF PLUG
	10	06502085	1	RELIEF VALVE, 3000 PSI
	11	31862	1	RELIEF VALVE, 2175 PSI
	12	31862	1	RELIEF VALVE, 2175 PSI
	13	28816	1	RELIEF VALVE, 1812 PSI
	14	TB1017A	4	VALVE SEAL KIT (FOR ONE SECTION)
	14A		2	WIPER
	14B		2	O-RING SMALL
	14C		1	O-RING LARGE
	14D		1	SPRING
	14E		1	PUCKET
	15	TB1017L	4	LEVER KIT (FOR ONE SECTION)
	15A		1	LEVER KNOB
	15B		1	LEVER
	15C		2	LEVER WASHER
	15D		1	LEVER CLIP
	15E		2	LINKAGE
	15F		1	LEVER PIN
	15G		1	ROLL PIN
	15H		1	LEVER BOOT
	15J		1	LEVER BOLT
	15K		1	LEVER DUST COVER
	15L		1	LEVER NUT
	16	23397	1	TIE ROD KIT
	17	24214	1	O-RING, LARGE
ı				

BRAKE VALVE ASSEMBLY



ITEM	PART NO.	QTY.	DESCRIPTION		
	06510083	1	BRAKE VALVE, ASSY		
1	34092	1	BRAKE VALVE, BLANK		
2	34094	2	LOGIC ELEMENT		
3	34095	1	RELIEF VALVE, 3000 PSI		
4	06510095	1	METRI PAK COIL		
5	34093	1	CARTRIDGE, 2 POSITION, 3 WAY (WITH NUT & WASHER)		
6	34091	1	RELIEF VALVE, 2600 PSI		
	34096	2	RELIEF SEAL KIT		
	34097	1	SOLENOID SEAL KIT		
	34098	2	ELEMENT SEAL KIT		
СОММОГ	COMMON TWIN				

BRAKE VALVE HYDRAULIC SCHEMATIC



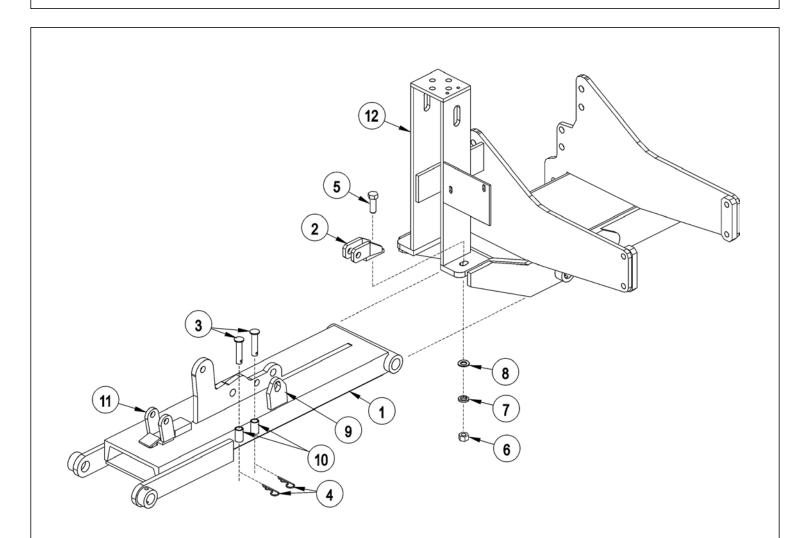
BRAKE VALVE TROUBLESHOOTING

FAILURE MODE:	CHECK STEPS
 MOWER WILL NOT START - system pressure is low (engine not lugging). 	1 thru 6
 MOWER WILL NOT START - system pressure is high (engine lugging). "MR" port will be high pressure. 	7
- MOWER WILL NOT ROTATE AT FULL SPEED - limited power.	3 thru 5
- MOWER BLADE WILL NOT STOP - blade will not stop in proper time.	7 thru 9

CORRECTIVE STEPS:

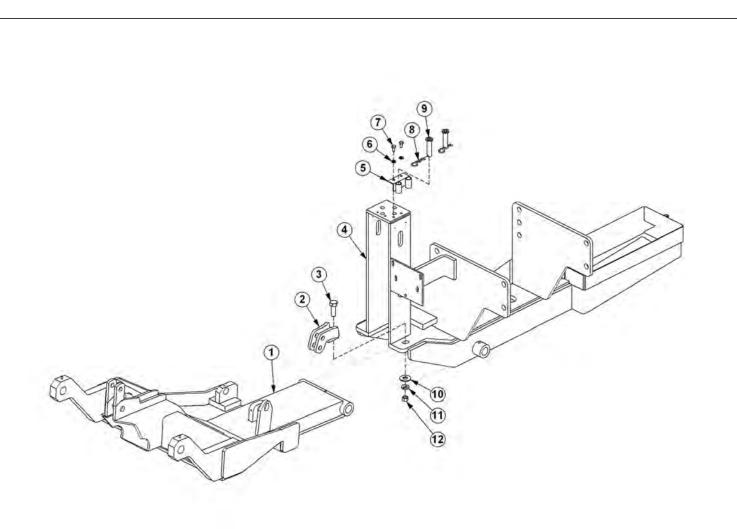
- 1. Check for voltage at solenoid (item 6), voltage must be between 10.2 volts and 13.8 volts.
- 2. Remove, inspect solenoid and cartridge (items 4, 6) for wear or contamination.
- 3. Remove, inspect logic elements near "P" port (item 3) for wear or contamination.
- 4. Remove, inspect 3000 psi relief valve (item 2) for wear or contamination.
- 5. Remove and inspect orifices near "P" port for contamination.
- 6. Remove "P" port hose and fitting, visually inspect for contamination, check ball for movement.
- 7. Remove and inspect orifices near "MR" port for contamination.
- 8. Remove, inspect 2600 psi relief valve (item 5) for wear of contamination.
- 9. Remove, inspect logic element near "MR" port (item 3) for wear or contamination.

CABLE DRAFT BEAM TRAVEL LOCK



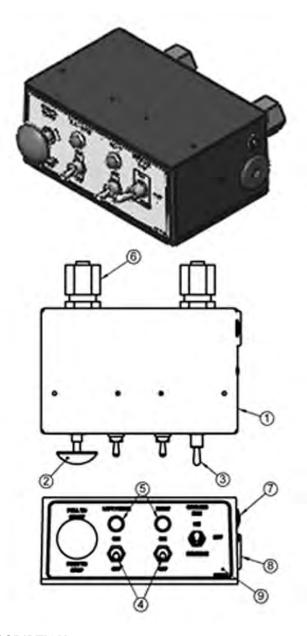
ITEM	PART NO.	QTY.	DESCRIPTION
1		-	CABLE DRAFT BEAM
2	6T0106	1	TRAVEL LOCK BRACKET
3	6T0107	2	TRAVEL LOCK PINS 3/4" X 3 1/4"
4	6T3020	2	R - CLIP 5/32"
5	21833	1	CAPSCREW 3/4" X 2 1/4"
6	21825	1	HEX NUT 3/4"
7	21993	1	LOCK WASHER 3/4"
8	22021	1	FLAT WASHER 3/4"
9	22600	1	TRAVEL LOCK EAR
10	22604	2	PIN HOLDER
11	22601C	1	TRAVEL LOCK ASY
12		-	MAIN FRAME *REFER TO PARTS SECTION

COMBO DRAFT BEAM TRAVEL LOCK



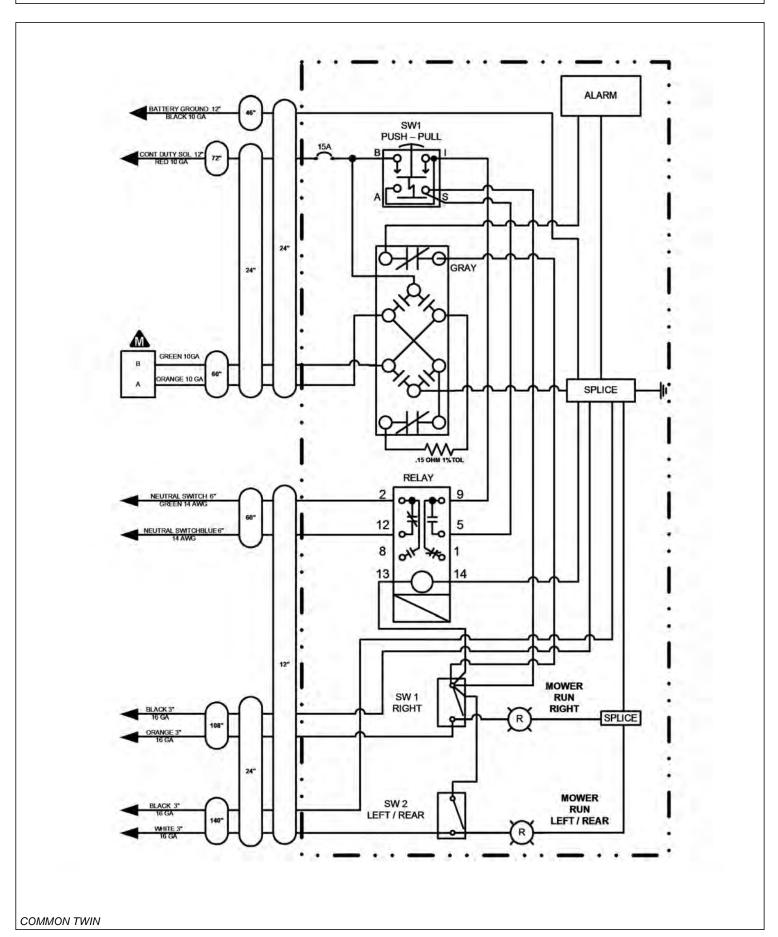
ITEM	PART NO.	QTY.	DESCRIPTION
1		-	COMBO DRAFT BEAM
2	6T0106	1	TRAVEL LOCK BRACKET
3	21833	1	CAPSCREW 3/4" X 2 1/4"
4		-	MAIN FRAME *REFER TO PARTS SECTION
5	33856	1	BRKT,PIN HOLDER
6	21988	2	LOCK WASHER 3/8"
7	21629	2	CAPSCREW 3/8" X 3/4"
8	6T3020	2	R - CLIP 5/32"
9	6T0107	2	TRAVEL LOCK PINS 3/4" X 3 1/4"
10	22021	1	FLAT WASHER 3/4"
11	21993	1	LOCK WASHER 3/4"
12	21825	1	HEX NUT 3/4"

SWITCH BOX



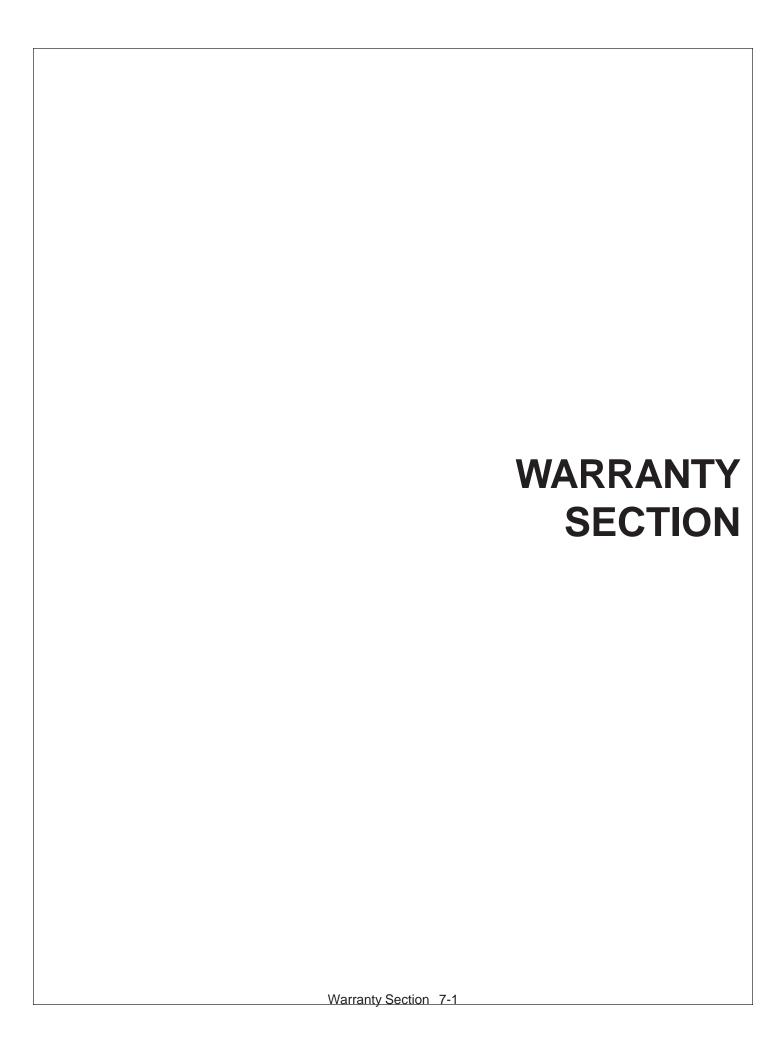
ITEM	PART NO.	QTY.	DESCRIPTION
1	06514011	1	SWBX,ALUM,BLK,06510097
2	35226	1	SWITCH,MOWER,COLEHERSEE
3	06510028	1	SWITCH,FORWARD/BRAKE/REV
4	33811	2	SWITCH,MASTER/DECK FLOAT
5	6T3923	2	INDICTATOR LIGHT,ON,RED
6	34540	2	STRAIN RELIEF,3/4,BLACK,NYLON
7	06514006	1	BREAKER,15A,SWBX
8	06514015	1	ALARM,SWBX,REVERSER
9	06550002	1	DECAL,SWTCHBX,TWIN/T3F,REV FAN
10	35227	1	RELAY,DP,DT,12V,LY2F,35226

SWITCH BOX SCHEMATIC



NOTES 1

	NOTES
COMMON TWIN	



WARRANTY INFORMATION

Tiger Corporation, 3301 N. Louise, Sioux Falls, South Dakota, warrants to the original Retail Customer, the new Tiger equipment is free of defects in material and workmanship. Any part of equipment that in Tiger's judgement, show evidence of such defects will be repaired or replaced without charge, provided that the failure of part(s) shall have occurred within twelve (12) months from the date of delivery of said equipment to the Retail Customer. Expendable components such as knives, oil, chain sprockets, skid shoes, knife mounting disks and the like are excluded but not limited to this warranty.

The Retail Customer must pay the transportation cost to and from the Tiger Dealer's service shop for warranty service. Warranty service will be performed by the Tiger Dealer from whom the equipment was purchased, during service shop regularly scheduled days and hours of operation.

All Tiger obligation under this warranty shall be terminated if the equipment is modified or altered in ways not approved in writing by Tiger, if repair parts other than genuine Tiger repair parts have been used, or if the equipment has been subject to misuse, neglect, accident, improper maintenance or improper operation.

Tiger Corporation reserves the right to make improvements in design or changes in specification at any time without incurring any obligation to owners of equipment previously sold.

No agent or person has authority to alter, add to or waive the above warranties which are agreed to be in the only warranties, representations or promises, expressed or implied, as to the quality or performance of the products covered and which do not include any implied warranty of merchantability or fitness. In no event will Tiger be liable for incidental or consequential damages or injuries, including, but not limited to, loss of profits, rental or substitute equipment or other commercial loss.

THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THOSE EXPRESSED HEREIN.

It is the Purchasers obligation to sign the warranty registration form **AFTER** he / she has Read and Understands the Operation and Safety Instructions stated within this manual.

ONE LAST WORD

This manual cannot possibly cover all of the potentially hazardous situations you will encounter. By being familiar with the safety rules, operating and maintenance instructions in this manual you can help prevent accidents. The objective of this manual is to help make you a better operator. Remember, SAFETY IS YOU!



Your safety and the safety of those around you depends on **YOU**. Common sense should play a large role in the operation of this machine.

Since we at Tiger Corporation are constantly striving to improve out products, we reserve the right to change specifications or design at any time.

TO THE OWNER / OPERATOR / DEALER



To keep your implement running efficiently and safely, read your manual thoroughly and follow these directions and the Safety Messages in this manual and on the machine. The table of contents clearly identifies each section where you can easily find the information you need.

The Occupational Safety and Health Act (OSHA 1928.51 subpart C) makes the following minimum requirements for tractor operators.

OWNER REQUIREMENTS:

- 1. Provide a Roll-Over-Protective Structure that meets the requirements of this Standard; and
- 2. Provide Seatbelts that meet the requirements of this Standard and SAE J3C; and
- 3. Ensure that each employee uses such Seatbelt while the tractor is moving; and
- 4. Ensure that each employee tightens the Seatbelt sufficiently to confine the employee to the protected area provided by the ROPS.

OPERATOR REQUIREMENTS:

- 1. Securely fasten seatbelt it the tractor has a ROPS.
- 2. Where possible, avoid operating the tractor near steep ditches, embankments, and holes.
- 3. Reduce speed when turning, crossing slopes, and on rough, slick, or muddy surfaces.
- 4. Stay off slopes too steep for safe operation.
- 5. Watch where you are going especially at row ends, on roads, and around trees.
- 6. Do Not permit others to ride.
- 7. Operate the tractor smoothly no jerky turns, starts, or stops.
- 8. Hitch only to the draw-bar and hitch points recommended by the tractor manufacturer.
- 9. When the tractor is stopped, set brakes securely and use park lock, if available

