

## BENGAL ASSEMBLIES

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Tiger Corporation

HH€FÁÞÈŠ[ \*ã^ÁŒ;^È Ùã \*¢ÁŒ; •ÊÛÖÁÁ Ï F€Ï 1-800-843-6849 1-605-336-7900

www.tiger-mowers.com

## TO THE OWNER / OPERATOR / DEALER

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BEFORE YOU START!! Ü^æåÁs@Áaæ^ĉÁ; ^••æ\*^•Á;}Ás@Áa[]|^{ ^}oÁæ;åÁa@;}ÁAjÁs@áÁ;æ)\*æ\È Uà•^¦ç^Ás@Á`|^•Á;Æ^ĉÁæ}åÁ•^Á&[{ { [}Á^}•^Â

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.



2. NO RIDERS, NO CHILDREN OPERATORS.



3. USE SAFETY SHOES. HARD HAT, SAFETY GLASSES, SEAT BELTS, **ROPS & OPS** 

4. BLOCK UP SECURELY **BEFORE WORKING** UNDER



- 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** MOVING

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

•	<ul> <li>If unable to correct the problem yourself,</li> </ul>	contact your lo	cal Tiger D	ealer at	fter
	gathering:				
	<ul> <li>Machine model</li> </ul>				

• Machine model	
<ul><li>Serial number _</li></ul>	
<ul><li>Dealer name</li></ul>	

• 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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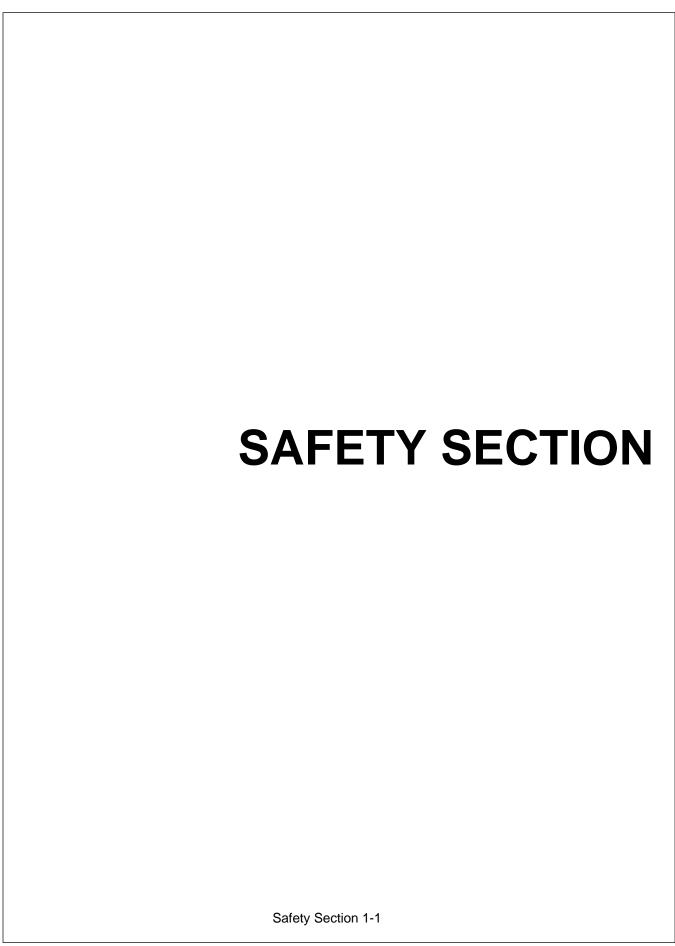


# This symbol means: CAUTION – YOUR SAFETY IS AT RISK!

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

Tiger is a registered trademark.





## **GENERAL SAFETY INSTRUCTIONS AND PRACTICES**

A 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 Implement. 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 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 faced 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.

A DANGER

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

**AWARNING** 

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

**A** CAUTION

Indicates an imminently hazardous situation that, if not avoided, MAY result in MINOR INJURY.

Important

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 and convenient operation or repair.

READ, UNDERSTAND, and FOLLOW the following Safety Messages. Serious injury or death may occur unless care is taken to follow the warnings and instructions stated in this Manual and in the Safety Messages on the implement. Always follow the instruction in this manual and use good common sense to avoid hazards.



NOTE: If you want a translation of this safety section in one of the following Languages, please contact: Translations at 1502 E. Walnut Street Seguin, TX 78155; Fax: (830) 372-9529; Safety Section Translations are available in Spanish, Portuguese, French, German, Russian. PN GS01

## **Operator Safety**



## **AWARNING**

#### TO AVOID SERIOUS INJURY OR DEATH DO THE FOLLOWING:

- READ, UNDERSTAND and FOLLOW Operator's Manual instructions, Warnings and Safety Messages.
- · WEAR SAFETY GLASSES, safety shoes, hard hat, hearing protection and gloves when operating or repairing equipment
- WEAR appropriate breathing respirator when operating in dusty conditions to avoid respiratory diseases.
- DO NOT WEAR loose clothing or jewelry to avoid rotating parts entanglement injury.
- DO NOT USE DRUGS or ALCOHOL before or while operating equipment.
- **DO NOT ALLOW** anyone to operate equipment under the influence of drug or alcohol.
- CONSULT medical professional for medication impairment side effects.
- STAY CLEAR of hot surfaces such as Mufflers, hydraulic pumps, valves and tanks.
- STAY ALERT, prolonged operation can cause fatigue, STOP and REST.

#### **GENERAL OPERATING SAFETY**

#### **VISIBILITY CONDITIONS WHEN MOWING:**

- OPERATE IN DAYLIGHT or with lights that gives at least 100 yards clear visibility.
- BE ABLE TO SEE and identify passersby, steep slopes, ditches, drop-offs, overhead obstructions, power lines, debris and foreign
  objects.
- Avoid backing up while mowing, vision may be limited, severe damage or injury can occur.
- DO NOT run tractor in enclosed building without adequate exhaust ventilation.

#### GROUND SPEED WHEN MOWING:

- NORMAL SPEED range is between 1 to 2 mph(1-3 kph).
- ADJUST MOWING SPEED for terrain conditions and grass type, density and cut height.
- REDUCE MOWING SPEED when near steep slopes, ditches, drop-offs, overhead obstructions, power lines and to avoid debris
  and foreign objects.

#### TRACTOR and MOWER

- DO NOT operate the tractor or mower unless the equipment is maintained and operating properly.
- DISCONTINUE OPERATION if tractor or mower electrical and hydraulic controls do no function properly.
- DISCONTINUE OPERATION of the tractor if the braking or steering systems do not function properly.
- DO NOT operate the tractor or mower if there are any hydraulic leaks.

#### **INSECT INFESTATION**

 DO NOT operate in areas where bees or insects may attack unless you WEAR PROTECTIVE CLOTHING or use enclosed tractor cab.

#### PTO SPEED:

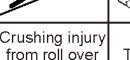
- DO NOT EXCEED IMPLEMENT RATED PTO SPEED
- AVOID exceeding rated PTO speeds that may result in broken drivelines or blade failures.

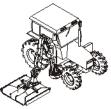
#### **SAFETY SIGNS:**

REPLACE missing, damaged or unreadable safety signs immediately. PN OSBM-01

## **CRUSHING HAZARDS**







Use Cab Tractor With Boom Mowers



Always wear seatbelt



Pinch Point Hazard Keep Hands and body parts clear of pinch points



Crushing injury from boom or mower head falling



TO AVOID SERIOUS INJURY OR DEATH FROM FALLING OFF TRACTOR, EQUIPMENT RUN OVER, ROLLOVER AND CRUSHING BY FALLING WING OR IMPLEMENT:

- USE ROPS and SEAT BELT equipped tractors for mowing operations.
- KEEP ROPS lock in up position.
- ALWAYS BUCKLE UP seat belt when operating tractor and equipment.
- ONLY OPERATE tractor and equipment while seated in tractor seat.

#### WHEN RAISING BOOM MOWER:

- Raise or lower ONLY WHILE SEATED in tractor seat with seat belt buckled.
- KEEP BYSTANDERS CLEAR of area TO AVOID crushing.
- KEEP sufficient clearance around implement and wings TO AVOID contacting buildings or overhead power lines.

LIFTED Equipment can fall from mechanical or hydraulic failure or inadvertent Control Lever movement.



TO AVOID EQUIPMENT FALLING while working near or under lifted boom, components and Mower Head:

- SECURELY SUPPORT or block up raised equipment, wings and components.
- BLOCK UP and securely support equipment before putting hands, feet or body under raised equipment or lifted components.
- KEEP BYSTANDERS CLEAR of raised boom or mower head until securely blocked up.

#### WHEN PARKING Implement and Tractor:

- LOWER Mower Head to the ground or BLOCK lifted parts before leaving equipment.
- NEVER leave implement unattended in a raised position.

## **AWARNING**

#### TO AVOID CHILDREN FALLING OFF OR BEING CRUSHED BY EQUIPMENT:

- NEVER ALLOW children to play on or around Tractor or Implement.
- DO NOT operate without operator CAB or OVERHEAD protection. Falling limbs and debris can cause injuries. PN CHBM-01

## CONNECTING OR DISCONNECTING IMPLEMENT SAFETY





Stop Tractor Remove Key Read Manual



Crushing Hazard Do Not get under boom when connecting mower head to boom



Stability Hazard Ensure 20% of tractor weight is on front wheels



Stability Hazard
Ensure 1500lbs down
force on left tire with
boom extended



TO AVOID SERIOUS INJURY OR DEATH FROM BEING CRUSHED BY TRACTOR OR IMPLEMENT:

#### WHEN connecting mower head to the boom:

- KEEP BYSTANDERS AWAY from tractor and mower.
- Ensure there is enough room to lift and swing the boom with out hitting objects

#### BEFORE connecting and disconnecting the mower head or boom:

STOP TRACTOR ENGINE, place transmission into park, engage parking brake and remove key.

#### WHEN connecting and disconnecting the mower head or boom:

DO NOT crawl or walk under raised mower head or boom. (Refer to Instructions in Operation Section)

#### WHEN CONNECTING IMPLEMENT DRIVELINE: (If equipped)

#### TO AVOID implement driveline coming loose during operation:

- LUBRICATE yoke spring locking collar to ensure it freely slides on PTO shaft.
- **SECURELY** seat yoke locking balls in PTO shaft groove.
- PUSH and PULL DRIVELINE on both the tractor and implement PTO SHAFTS to ensure it is SECURELY ATTACHED.

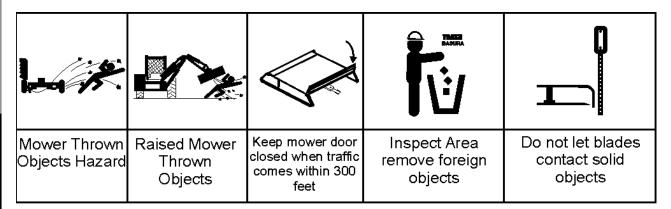
#### TO AVOID broken driveline during operations:

- CHECK driveline for proper length between PTO shaft and implement gearbox shaft. (Refer to Instructions in Operation Section)
- Drivelines too short can pull apart or disengage.
- Drivelines too long can bottom out.
- Bottoming driveline telescoping assembly will stop sliding and become solid.
- Driveline bottoming can push through support bearings and break off PTO shaft.

#### **CONTACT DEALER** if implement driveline does not match Tractor PTO shaft:

- DO NOT USE PTO ADAPTER.
  - Using a PTO adapter can cause:
- Excessive vibration, thrown objects, blade and implement failures by doubling operating speed.
- Increased working length exposing unshielded driveline areas and entanglement hazards. PN CDBM-01

#### THROWN OBJECTS HAZARDS





ROTARY MOWERS CAN THROW OBJECTS 300 FEET OR MORE UNDER ADVERSE CONDITIONS.

#### TO AVOID SERIOUS INJURY OR DEATH TO OPERATOR OR BYSTANDERS FROM THROWN OBJECTS:

KEEP bystanders 300 feet away

#### STOP MOWING IF PASSERSBY ARE WITHIN 300 FEET UNLESS:

- All THROWN OBJECT SHIELDING including, Front and Rear Deflectors, Chains Guards, Steel Guards, Bands, Side Skirts and Skid Shoes in place and in good condition when mowing.
- Mower is close and parallel to ground without exposing blades.
- MOWING AREA has been inspected and foreign materials and debris have been removed.
- DO NOT shred or mow loose or previously cut material if BYSTANDERS are within 300 feet.
- PASSERSBY are inside enclosed vehicle.

#### INSPECT AREA FOR POTENTIAL THROWN OBJECTS BEFORE MOWING:

- **REMOVE** debris, rocks, wire, cable, metal objects and other foreign material from area.
  - Wire, cable, rope, chains and metal objects can be thrown or swing outside deck with great velocity:
  - 1. MARK objects that cannot removed.
  - 2. AVOID these objects when mowing.

#### **HIGH GRASS and WEED AREA INSPECTION:**

- INSPECT for and REMOVE any hidden large debris.
- MOW at Intermediate height
- **INSPECT** and remove remaining debris
- MOW at final height.

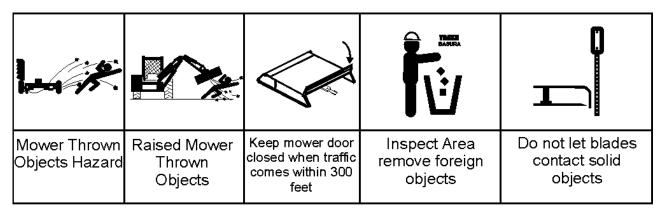
#### **MOWER THROWN OBJECT SHIELDING:**

- **KEEP** all thrown object shielding including, Front and Rear Deflectors, Chains Guards, Steel Guards, Bands, Side Skirts and Skid Shoes in place and in good condition when mowing.
- DO NOT OPERATE with any thrown object shielding missing, damaged or removed.

#### **RIGHT OF WAY (Highway) MOWING**

- Stop mowing if any bystander comes within 300 feet of the mower.
- No shielding is 100% effective in preventing thrown objects. To Reduce Possibility of Injury:
  - 1. MAINTAIN MOWER SHIELDING, side skirts, skid shoes, and blades in good operational condition,
  - 2. RAISE CUTTING HEIGHT to 6 INCHES minimum,
  - 3. INSPECT AREA thoroughly before mowing to REMOVE potential THROWN OBJECT HAZARDS,
  - 4. **NEVER ALLOW BLADES to CONTACT SOLID OBJECTS** like wire, rocks, post, curbs, guardrails, or ground while mowing. *PN TOBM-01*

## THROWN OBJECTS HAZARDS (Continued)



#### MOWER OPERATION:

- **DO NOT** exceed mower's rated Cutting Capacity or cut non-vegetative material.
- USE ENCLOSED TRACTOR CABS when two or more mowers are operating in mowing area.
- Do Not mow in areas where bees or insects may attack unless you WEAR PROTECTIVE CLOTHING or use enclosed tractor cab.
- ADJUST mower head close and parallel to ground without exposing blades.
- ADJUST cutting HEIGHT to AVOID BLADE CONTACT with solid objects like wire, rocks, posts, curbs, guard rails and fixed obstructions.
- CLOSE Mower door and stop operating if bystanders come within 300 feet of the mower.
- Keep mower door closed when cutting close to the ground.
- Open door only to cut large brush or tree limbs. Close door immediately after cutting limb.
- **DO NOT** push mower head down onto material to cut it, use the front tips of the mower blades to cut into the material.
- **DO NOT** operate mower when mower is in transport position.
- **STOP MOWING** immediately if blades strike heavy objects, fixed structures, metal guard rails and concrete structures:
  - 1. BLADES CAN FAIL from impact and objects can be thrown with great velocity.
  - 2. **INSPECT** and **REPLACE** any damaged blades.
  - 3. CHECK blade carrier and REPLACE if damaged.
- DO NOT mow in standing water TO AVOID possible BLADE FAILURE.
- AVOID MOWING in reverse:
  - 1. **STOP PTO** and back up mower.
  - 2. LOWER mower, engage PTO and mow forward.
- **DISENGAGE** mower head and wait until **BLADES** stop rotating before raising mower to transport position.
- DO NOT ENGAGE PTO with mower in transport position.
- STOP mowing when EXCESSIVE VIBRATION occurs:
  - 1. STOP PTO and tractor ENGINE.
  - 2. **INSPECT** mower for vibration source.
  - 3. REPLACE any damage parts and bent or damaged BLADES. PN TOBM-02

## **RUN OVER HAZARDS**





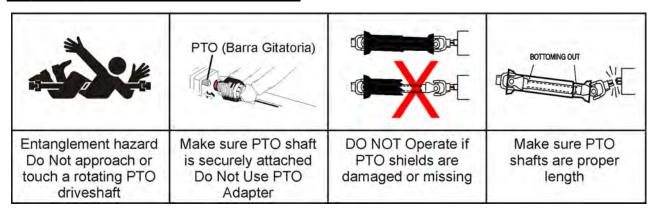
TO AVOID SERIOUS INJURY OR DEATH FROM FALLING OFF TRACTOR OR EQUIPMENT RUN OVER:

- USE ROPS and SEAT BELT equipped tractors for mowing operations.
- **KEEP ROPS** locked in **UP** position.
- ONLY start tractor while seated in tractor seat.
- ALWAYS BUCKLE UP seat belt when operating tractor and equipment.
- ONLY OPERATE tractor and equipment while seated in tractor seat.
- NEVER ALLOW RIDERS on tractor or implement.
- When not mowing stow Boom and Mower head in transport location before moving.

#### WHEN MOUNTING AND DISMOUNTING TRACTOR:

- ONLY mount or dismount when tractor and moving parts are stopped.
- **STOP ENGINE AND PTO**, engage parking brake, lower implement, allow all moving parts to stop and remove key before dismounting from tractor. *PN ROBM-01*

## **PTO ENTANGLEMENT HAZARDS**





KEEP AWAY FROM ROTATING DRIVELINES AND ELEMENTS TO AVOID SERIOUS INJURY OR DEATH:

**STAY AWAY** and **KEEP** hands, feet and body AWAY from rotating blades, drivelines and parts until all moving elements have stopped.

- STOP, LOOK and LISTEN before approaching the mower to make sure all rotating motion has stopped.
- ROTATING COMPONENTS CONTINUE to ROTATE after the PTO is shut off.

#### PTO SHIELDING:

#### TO AVOID SERIOUS INJURY OR DEATH FROM ENTANGLEMENT WHEN OPERATING IMPLEMENT:

- KEEP PTO shields, integral driveline shields and input shields installed
- DO NOT OPERATE mower without shields and guards in place or missing
- REPAIR OR REPLACE if damage, broken or missing
- ALWAYS REPLACE GUARDS that have been removed for service or maintenance.
- Do Not use PTO or PTO guard as a step.

#### **TO AVOID** broken driveline during operations:

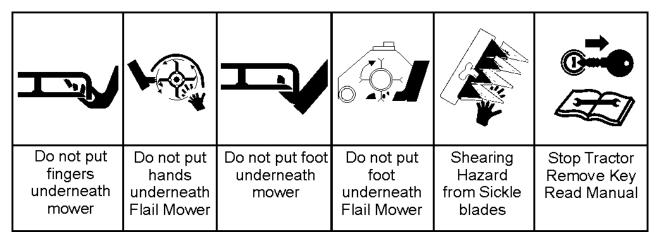
- CHECK driveline for proper length between PTO shaft and implement gearbox shaft. (Refer to Instructions in Operation Section)
- Drivelines too short can pull apart or disengage.
- Drivelines too long can bottom out.
  - Bottoming driveline telescoping assembly will stop sliding and become solid.
- Driveline bottoming can push through support bearings and break off PTO shaft
- AVOID sharp turns or lift mower to heights to cause driveline "knocking".
- Lubricate driveshaft-telescoping components weekly.

#### **CONTACT DEALER** if implement driveline does not match Tractor PTO shaft:

• DO NOT USE PTO ADAPTER.

Using a PTO adapter can cause excessive vibration, thrown objects, blade and implement failures by doubling operating speed. Increased working length exposing unshielded driveline areas. PN PEO1

## **MOWER BLADE CONTACT HAZARDS**





KEEP AWAY FROM ROTATING BLADES TO AVOID SERIOUS INJURY OR DEATH FROM BLADE CONTACT:

- STAY AWAY and KEEP HANDS, FEET and BODY AWAY from rotating blades, drivelines and parts until all moving elements have stopped.
- DO NOT put hands or feet under mower decks
- STOP rotating BLADES disengage mower switch and PTO and wait for blade to stop rotating before raising mower head.
- DO NOT approach Sickle Bar head until Tractor Engine has been shut off.
- STOP LOOK and LISTEN before approaching the mower to make sure all rotating motion has stopped. PN MBBM-01

#### **HIGH PRESSURE OIL LEAK HAZARD**



High pressure oil penetrating skin



High pressure oil eroding skin



Using cardboard to check for oil leaks



Tank contents under pressure. Allow oil to cool before slowly removing cap



TO AVOID SERIOUS INJURY OR DEATH FROM HIGH PRESSURE HYDRAULIC OIL LEAKS PENERATING SKIN:

- DO NOT OPERATE equipment with oil or fuel leaks.
- KEEP all hydraulic hoses, lines and connections in GOOD CONDITION and TIGHT before applying system
  pressure.
- RELIEVE HYDRAULIC PRESSURE before disconnecting lines or working on the system.
- REMOVE and replace hose if you suspect it leaks. Have dealer test it for leaks.

#### HIGH PRESSURE FLUID LEAKS CAN BE INVISIBLE.

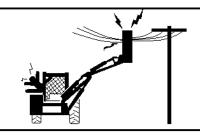
#### WHEN CHECKING FOR HYDRAULIC LEAKS AND WORKING AROUND HYDRAULIC SYSTEMS:

- ALWAYS WEAR safety glasses and impenetrable gloves.
- **USE** paper or cardboard to search for leaks.
- DO NOT USE hands or body parts to search for leak.
- **KEEP** hands and body **AWAY** from pin holes and nozzles ejecting hydraulic fluid.
- · Hydraulic fluid may cause gangrene if not surgically removed immediately by a doctor familiar with this form of injury.

#### Use caution when removing Hydraulic Tank cap.

- Tank contents maybe under pressure
- Allow oil to cool before removing cap.
- Relieve oil pressure before removing cap slowly.
- Stay away from hot oil that may spray from tank. PN HPBM-01

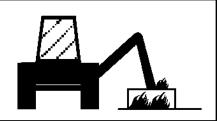
## **ELECTRICAL & FIRE HAZARDS**



Mower head or Boom contacting overhead electrical lines



Strike and explosion Hazard Blades Contacting Utility or Gas Lines



Fire Hazard Do Not operate near fires. Keep debris away from hydraulic pumps and valves



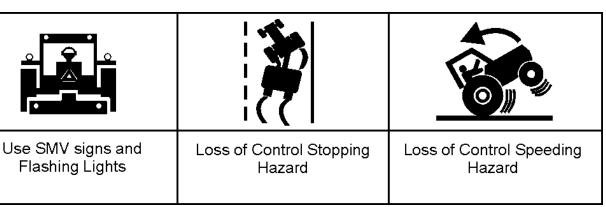
TO AVOID SERIOUS INJURY OR DEATH FROM ELECTRICAL CONTACT WHEN WORKING AROUND ELECTRICAL POWER LINES, GAS LINES AND UTILITY LINES:

- **INSPECT** mowing area for overhead or underground electrical power lines, obstructions, gas lines, cables and Utility, Municipal, or other type structure.
- **KEEP** all raised wings at a 10 feet or greater distance from all power lines and overhead obstructions.
- **DO NOT** allow mower to contact with any Utility, Municipal, or type of structures and obstructions.
- CALL 811 and 1-800-258-0808 for identify buried utility lines.

FIRE PREVENTION GUIDELINES while Operating, Servicing, and Repairing Mower and Tractor to reduce equipment and grass fire Risk:

- EQUIP Tractor with a FIRE EXTINGUISHER
- DO NOT OPERATE mower on a tractor equipped with under frame exhaust
- DO NOT SMOKE or have open flame near Mower or Tractor
- DO NOT DRIVE into burning debris or freshly burnt area
- AVOID FIRE IGNITION by not allowing mower blade to contact solid objects like metal or rock.
- DO NOT operate if oil is leaking. Repair oil leak and remove all accumulated oil before operating.
- CLEAR any grass clippings or debris buildup around mower hydraulic pumps, valves or tanks.
- SHUT OFF ENGINE while refueling. PN EFBM-01

#### TRANSPORTING HAZARDS



## **AWARNING**

#### TO AVOID SERIOUS INJURY AND DEATH WHEN TOWING OR TRANSPORTING EQUIPMENT:

- KEEP transport speed BELOW 20 mph to maintain control of equipment.
- REDUCE SPEED on inclines, on turns and in poor towing conditions.
- DO NOT TOW with trucks or other vehicles.
- **USE** only properly sized and equipped tractor for towing equipment.
- FOLLOW all local traffic regulations.

#### TRACTOR REQUIREMENTS FOR TOWING OR TRANSPORTING IMPLEMENTS:

- ONLY TRANSPORT with tractor with ROPS in the raised position.
- USE properly sized and equipped tractor that exceeds implement weight by at least 20%.
- KEEP 20% of tractor weight on front wheels to maintain safe steering.

#### **BEFORE TRANSPORTING OR TOWING IMPLEMENT:**

#### TRACTOR INSPECTION:

- CHECK steering and braking for proper operation and in good condition.
- CHECK SMV sign, reflectors and warning lights for proper operation and visibility behind unit.
- CHECK that your driving vision is not impaired by tractor, cab, or implement while seated in tractor seat.
- ADJUST your operating position, mirrors, and implement transport for clear vision for traveling and traffic conditions.

#### PREPARE IMPLEMENT FOR TRANSPORTING OR TOWING:

Store Boom and Mower in transport positions and engage transport locks if equipped.

## DETERMINE STOPPING CHARACTERISTICS OF TRACTOR AND IMPLEMENT FOR TRANSPORTING OR TOWING:

#### **BRAKING TESTS:**

- Stopping distance with implement attached may increase
- Observe STOPPING distances increases with increased speeds.
- DETERMINE the maximum safe transport speed that does not exceed 20 mph.
- Reduce travel speed in wet or icy roads, stopping distances increase.

#### DETERMINE MAXIMUM TURING SPEED BEFORE OPERATING ON ROADS OR UNEVEN GROUND:

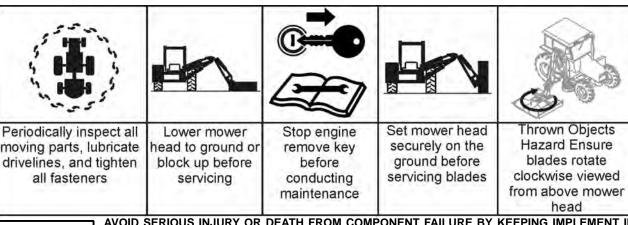
- TEST equipment in slowly increasing speed in turns to determine it can be operated at higher speeds.
- USE REDUCED turning speeds in sharp turns to avoid equipment turning over.

#### WHEN TOWING OR TRANSPORTING EQUIPMENT:

- Always WEAR SEAT BELT when operating or transporting mower.
- USE low speeds to avoid overturn with raised wings.
- USE low speeds and gradual steering on curves, hills, rough or uneven surfaces and on wet roads.
- TURN ON tractor FLASHING WARNING LIGHTS.
- ALLOW clearance for implement swing while turning.

KEEP raised boom mower 10 feet or greater distance from all power lines and overhead obstructions. PN THBM-01

#### HAZARDS WITH MAINTENANCE OF IMPLEMENT



**≜**WARNING

AVOID SERIOUS INJURY OR DEATH FROM COMPONENT FAILURE BY KEEPING IMPLEMENT IN GOOD OPERATING CONDITION IN PERFORMING PROPER SERVICE, REPAIRS AND MAINTENANCE.

#### BEFORE PERFORMING SERVICE. REPAIRS AND MAINTENANCE ON THE IMPLEMENT:

- STOP ENGINE AND PTO, engage parking brake, lower implement, allow all moving parts to stop and remove key before
  dismounting from tractor.
- PLACE implement on ground or securely block up raised equipment. Use large blocks on soft or wet soil.
- PUSH and PULL Remote Hydraulic Cylinder lever to relieve hydraulic pressure.
- DISCONNECT Pump solenoid valve or PTO driveline connection before servicing mower head.
- WEAR SAFETY GLASSES, PROTECTIVE GLOVES and follow SAFETY PROCEDURES when performing service, repairs
  and maintenance on the implement:
- Always WEAR protective GLOVES when handling blades, knives, cutting edges or worn component with sharp edges.
- Always WEAR GLOVES and SAFETY GLASSES when servicing hot components
- AVOID CONTACT with hot hydraulic oil tanks, pumps, motors, valves and hose connection surfaces.
- SECURELY support or BLOCK UP raised implement, framework and lifted components before working underneath equipment.
- FOLLOW INSTRUCTIONS in maintenance section when replacing hydraulic cylinders to prevent component falling.
- STOP any implement movements and SHUT-OFF TRACTOR engine before doing any work procedures.
- USE ladder or raised stands to reach high equipment areas inaccessible from ground.
- ENSURE good footing by standing on solid flat surfaces when getting on implement to perform work.
- FOLLOW manufacturer's instructions in handling oils, solvents, cleansers, and other chemical agents.
- DO NOT change any factory-set hydraulic calibrations to avoid component or equipment failures.
- DO NOT modify or alter implement, functions or components.
- DO NOT WELD or repair rotating mower components. These may cause vibrations and component failures being thrown from mower.

## PERFORM SERVICE, REPAIRS, LUBRICATION AND MAINTENANCE OUTLINED IN IMPLEMENT MAINTENANCE SECTION:

- **INSPECT** for loose fasteners, worn or broken parts, leaky or loose fittings, missing or broken cotter keys and washers on pins, and all moving parts for wear.
- REPLACE any worn or broken parts with authorized service parts.
- Inspect mower blade spindle to ensure bearing preload. If loose repair before operating.
- LUBRICATE unit as specified by lubrication schedule
- **NEVER** lubricate, adjust or remove material while it is running or in motion.
- TORQUE all bolts and nuts as specified.

#### BLADE INSPECTION:

- · Inspect blade carrier and blades daily.
- Check blade and blade carrier BOLT TORQUE daily. Loose bolts can cause blade or blade bolt failures.
- REPLACE, bent, damage, cracked and broken blades immediately with new blades.
- AVOID blade failures and thrown broken blades. DO NOT straighten, weld, or weld hard-facing blades.

#### SAFETY SHIELDS, GUARDS AND SAFETY DEVICES INSPECTION:

- **KEEP** all Deflectors, Chain Guards, Steel Guards, Gearbox Shields, and PTO integral shields, Bands, Side Skirts and Skid Shoes in place and in good condition.
- REPLACE any missing, broken or worn safety shields, guards and safety devices.
- Engine Exhaust, some of its constituents, and certain vehicle components contain or emit chemicals known to the state of California
  to cause cancer, birth defects or other reproductive harm.
- Battery posts, terminals and related accessories contain lead and lead compounds, chemicals known to the state of California to cause cancer, birth defects or other reproductive harm. *PN HMBM-01*

## **PARTS INFORMATION**

#### PARTS INFORMATION

Tiger mowers use balanced and matched system components for blade carriers, blades, cuttershafts, knives, knife hangers, rollers, drivetrain 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. (SPTM-1)

#### SEE YOUR TIGER DEALER

Operator's & Parts Manuals

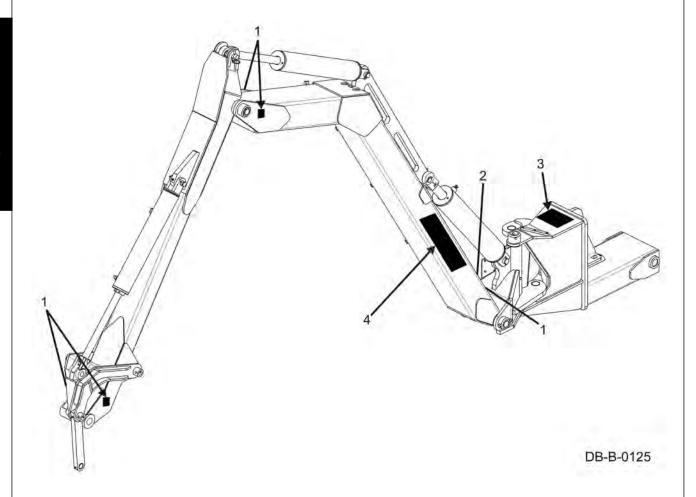


www.algqr.com/tpm

## **Decal Location**

**NOTE:** Tiger supplies safety decals on this product to promote safe operation. Damage to the decals may occur while in shipping, use, or reconditioning. Tiger cares about the safety of its customers, operators, and bystanders, and will replace the safety decals on this product in the field, free of charge (Some shipping and handling charges may apply). Contact your Tiger dealer to order replacement decals.

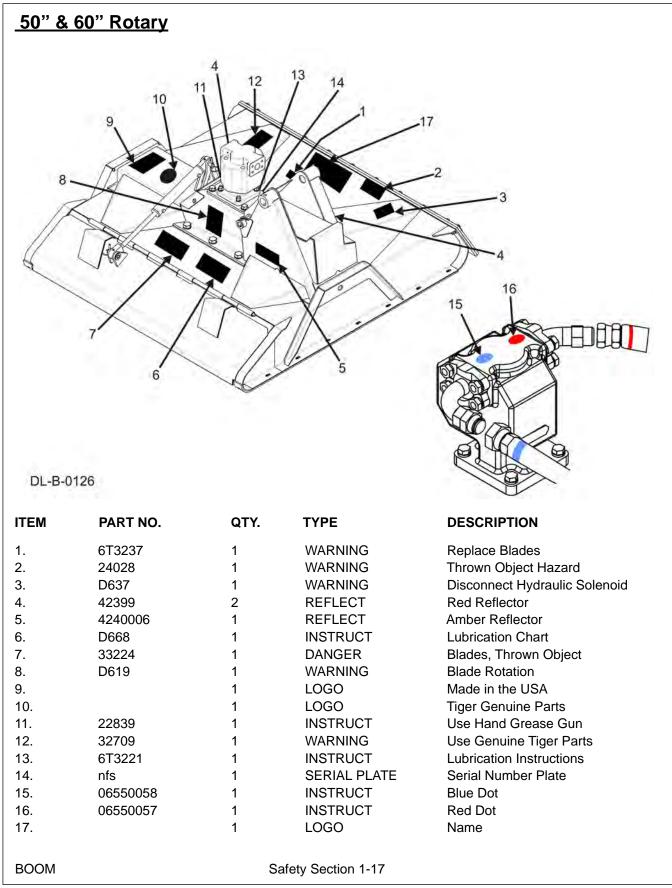
## **Boom Arm**

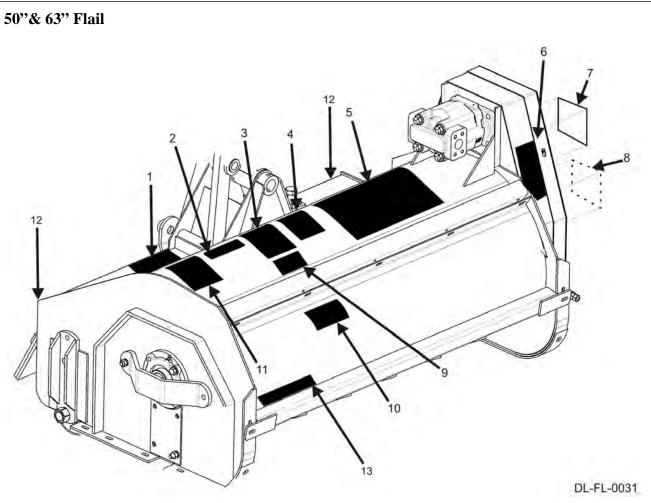


ITEM	PART NO.	QTY.	TYPE	DESCRIPTION
1.	02962764	5	WARNING	Pinch Points
2.	02965262	1	WARNING	Hydraulic Oil Hazard
3.	02962765	1	DANGER	Crushing Hazard
4.		1	LOGO	Name

**BOOM** 

Safety Section 1-16





	ITEM	PART NO.	QTY.	TYPE	DESCRIPTION	
	1.	24028	1	DANGER	Thrown Object Hazard, Deflectors	
	2.	32709	1	WARNING	Use Genuine Tiger Parts	
	3.	33224	1	DANGER	Blades, Thrown Object	
	4.	D637	1	WARNING	Disconnect Hydraulic Solenoid	
	5.		1	LOGO	Tiger Logo	
	6.	00758194	1	WARNING	Pinch Point Hazard	
	7.		1	LOGO	50" Logo	
			1	LOGO	63" Logo	
	8.	D646	1	DANGER	Guard Missing, Do Not Operate	
	9.	D655	1	INSTRUCT	Lube Chart	
	10.	TB1011	1	DANGER	Thrown Object Hazard, Shield	
	11.	6T3236	1	LOGO	Made in the USA	
	12.	42399	2	REFLECT	Red Reflector	
	13.	4240006	1	REFLECT	Amber Reflector	
	14.	nfs	1	SERIAL PLATE	Serial Number Plate	
	воом		Sa	afety Section 1-18		
				•		





## TO AVOID SERIOUS INJURY OR DEATH FROM HIGH PRESSURE HYDRAULIC OIL LEAKS PENETRATING SKIN:

- . DO NOT OPERATE equipment with oil or fuel leaks.
- KEEP all hydraulic hoses, lines and connections in good condition and tight before applying system pressure.
- · Relieve hydraulic pressure before disconnecting lines or working on the system.
- REMOVE and replace hose if you suspect it leaks. Have dealer test it for leaks.

HIGH PRESSURE FLUID LEAKS CAN BE INVISIBLE. WHEN CHECKING FOR HYDRAULIC LEAKS AND WORKING AROUND HYDRAULIC SYSTEMS:

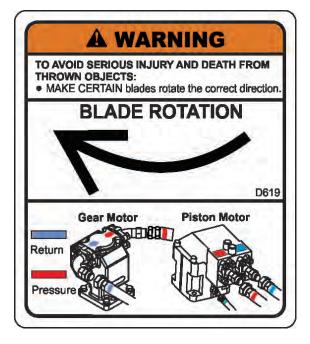
- DO NOT use hands to check for leaks.
- ALWAYS WEAR safety glasses and impenetrable gloves.
- USE paper or cardboard to search for leaks.
- · KEEP hands and body AWAY from pin holes and nozzles ejecting hydraulic fluid.
- Hydraulic fluid may cause gangrene if not surgically removed immediately by a doctor familiar with this form of injury.











Safety Section 1-20



## THROWN OBJECTS HAZARD

Mower can throw objects up to 300 feet. TO AVOID SERIOUS INJURY OR DEATH to operator or bystanders:

- CLOSE MOWER DOOR and STOP operating if bystanders or traffic come within 300 feet.
- · KEEP door fully closed when cutting grass and weeds.
- OPEN door ONLY to cut large brush. Close door immediately after.
- DO NOT operate with door removed.
- KEEP door in place and in good condition during operation.
- Deflectors are SUBJECT TO WEAR. Replace if worn or damaged.
- ALWAYS transport with door closed.

33224

## ENTANGLEMENT HAZARD



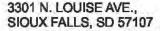
- STAY AWAY and KEEP hands, feet and body AWAY from rotating blades, drivelines and parts that continue to move after power shut-off. WAIT until all moving elements have stopped.
- STOP, LOOK and LISTEN for rotating motion before approaching implement.

## **A WARNING**

Non-genuine parts can fail catastrophically. TO AVOID SERIOUS INJURY OR DEATH:

- ONLY use genuine TIGER replacement parts.
- Non-genuine parts can fail creating hazardous conditions for operator and bystanders.

Contact local dealer or TIGER about repair parts at:



www.algqr.com/tpm

Customer Service: 800-843-6849. Email: feedback@tiger-mowers.com

32709



BE AWARE BE ALERT BE ALIVE

BE TRAINED
Before Operating this Mower

To prevent serious injury to yourself and/or bystanders, be trained in Safe Mowing Practices. Alamo Group Companies as well as AEM and FEMA provide training material that is critical for your Safety and the Safety of others when operating this equipment. www.algqr.com/tbv Make these Safety Procedures an important part of every workday. Read and understand the Operator's Manual. Do not let untrained individuals operate this equipment. Contact your Dealer, AEM (www.aem.org), FEMA (314-878-2304, www.FarmEquip.org), or Alamo Group (www.Alamo-Group.com) for information on training material or courses that provide training in Safer Operating Practices for Mowers. 32709 2

removed.

# PINCH POINT HAZARD TO AVOID SERIOUS INJURY: DO NOT OPERATE with Belt Shield

00758194





#### **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 Training Requirements**

#### Title 29, Code of Federal Regulations Part 1928.57(a)(6). www.osha.gov

Operator instructions. At the time of initial assignment and at least annually thereafter, the employer shall instruct every employee who operates an agricultural tractor and implements in the safe operating practices and servicing of equipment with which they are or will be involved, and of any other practices dictated by the work environment.

Keep all guards in place when the machine is in operation;

Permit no riders on equipment

Stop engine, disconnect the power source, and wait for all machine movement to stop before servicing, adjusting, cleaning or unclogging the equipment, except where the machine must be running to be properly serviced or maintained, in which case the employer shall instruct employees as to all steps and procedures which are necessary to safely service or maintain the equipment.

Make sure everyone is clear of machinery before starting the engine, engaging power, or operating the machine.

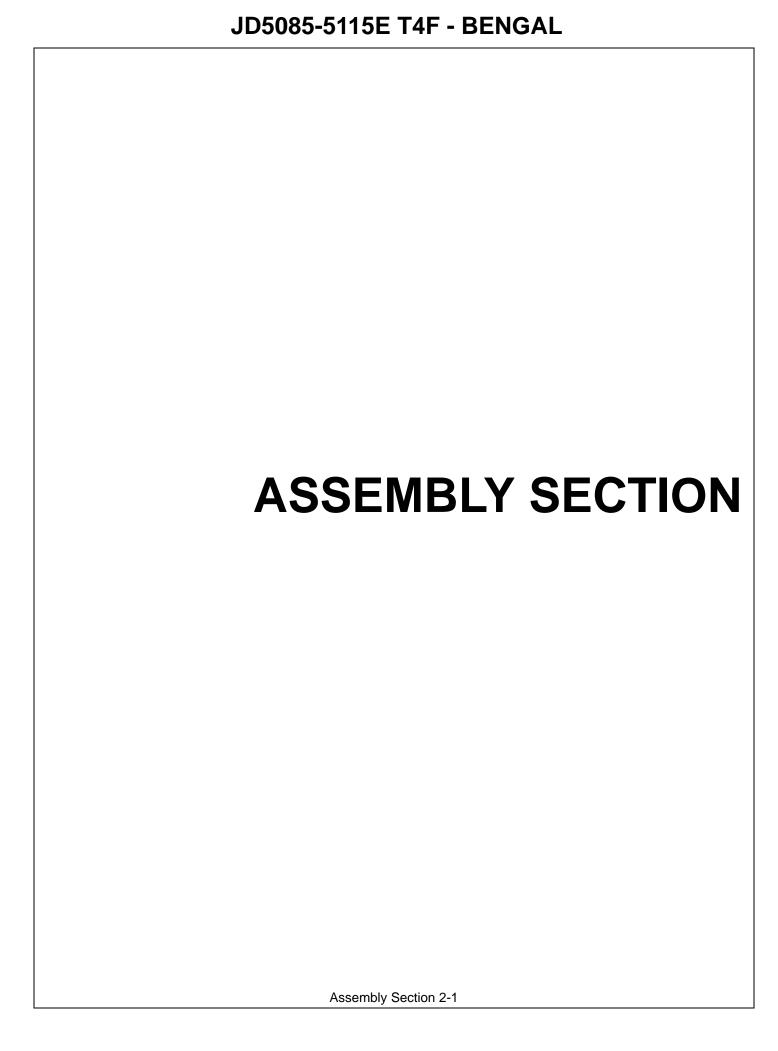
#### **Employer Responsibilities:**

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.
- 8. Require that the employee operator stop operation if bystanders or passersby come within 300 feet.

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

(ASM-JD-0001)

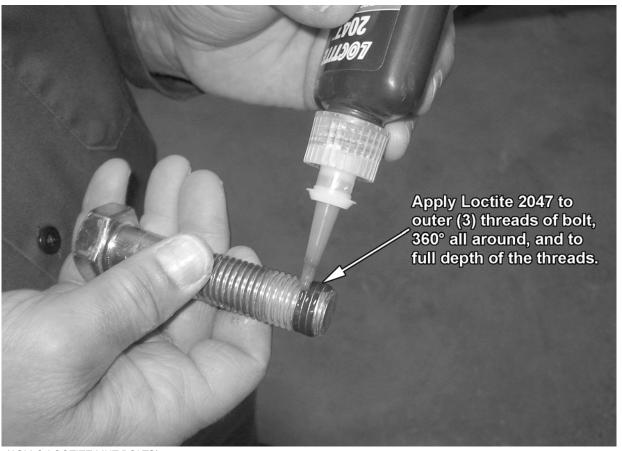
## **ADJUSTING REAR WHEELS**

Raise rear of tractor onto jack-stands. **Follow the instructions in the tractor owner's manual for adjusting tires and rims**. The back wheels MUST be adjusted to the widest setting. 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-B-0001)



# 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)

## DRIVESHAFT AND FRONT PUMP MOUNTING

Install driveshaft into the crankshaft adapter.

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

Install pump and align so that splined coupling can be moved (FREE PLAY) back and forth by hand. Rotate coupler and check free play every 1/4 turn. Tighten pump mounting bolts in succession, rechecking for spline coupling free play. 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 play in the driveshaft. After all bolts are torqued, the end play on the driveshaft should be 1/16" to 1/8", and 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.

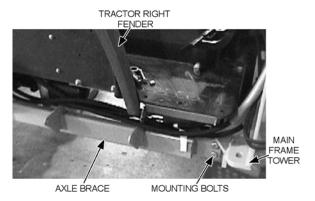
CAUTION: DO NOT START THE TRACTOR UNTIL ALL HOSES ARE ATTACHED, TANK IS FILLED WITH PROPER OIL AND BALL VALVES ARE OPEN! STARTING AT THIS TIME WILL CAUSE SERIOUS DAMAGE TO THE PUMP. (ASM-C-0091)

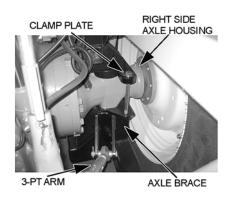
## MAINFRAME INSTALLATION

With an overhead hoist and / or jack-stands, raise one side of the frame up to the correctly matching mounting holes. Install capscrews and other hardware to secure the sides of the mainframe to the tractor casting, as shown on the tractor mount kit page in the Parts Section. DO NOT tighten at this time. Remove the capscrews one at a time and apply a thread locking agent. Reinsert the capscrews and tighten / torque to values noted in the torque chart located in the Maintenance Section of this manual. (ASM-C-0003)

## **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 the right side brace is installed on outside edge of the mainframe and the left side brace is installed on the inside edge of the mainframe. Pictures below show right side brace installation. Install the clamp plate with capscrews, washers and nuts as shown in the mainframe Parts Section. Apply Loctite to the threads and torque to the values noted in the torque chart located in the Maintenance Section of this manual. (ASM-JD-0072 5100M RSS).







## POLYCARBONATE SAFETY WINDOW

**NOTE**: Installing a boom mower requires that all right side windows be replaced or shielded by a lexan safety window. In most cases this should be done before mounting the mainframe. Carefully remove the existing right side cab windows, to be replaced with the matching polycarbonate windows provided.

Clean all of the surfaces around the window opening, once the right side windows are removed. Peel back the protective paper from the area around the window that will contact the window frame. Apply a bead of urethane window adhesive, supplied in kit, around the window opening. Carefully position the new window into position. Fill the remainder of the gap around the window with the adhesive to finish. Be sure to follow the instructions on the adhesive label when installing window.

Next, install the upper and lower door hinges along with the existing cab door hinges. To do this, you will remove the existing hinge hardware and install the existing hardware on the polycarbonate as shown in the Parts Section. Set the safety screen assembly on the hinges and attach the door to the tractor frame. Install the brackets with the hardware shown in the Parts Section. Assemble the rod with the vibration isolator and nuts and attach them to the brackets. Adjust the vibration isolator on the upper and lower brackets to achieve a good fit with the window. (ASM-JD-0061)

## **SWITCHBOX WIRING**

Power for the switchbox is accessed through the port located on the right rear of the cab. A John Deere plug is used, part number RE67651. DO NOT connect the plug to the cab port until the wiring is completed. The wires in the plug are colored RED, BLACK and ORANGE. The RED wire will always be hot, so it needs to be capped. Attach connector 34538 to end of RED wire and tape wire back on itself. The BLACK and ORANGE wires are hot when tractor key is turned to "on." Connect the BLACK wire of the plug to the BLACK wire from the switchbox. Then connect the ORANGE wire of the plug to the RED wire from the switchbox. IMPORTANT: In some cases the red and orange wires may be switched. ALWAYS test the wires to be certain which wire is which.

The two GREEN wires must be connected to the neutral safety wire by cutting the neutral safety wire and connecting one GREEN wire to one end and the second GREEN wire to the other. Refer to the switchbox schematic and wiring diagram for additional information.

The Neutral Safety wire is a brown wire located under steering column. Cut a slot in the right side of column to access, WATCH OUT for existing wires.

After connecting the power to the switchbox, route the white wire along the cables or wires to the solenoid valve. (ASM-JD-0245)



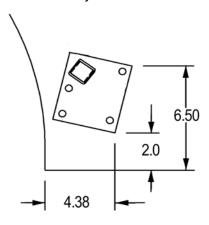
## \*NOTE ON HUSCO CONTROL VALVES\*

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 and Adapter #34396, with.06 orifice. These components can be identified as follows, and are to be installed per Parts Section for the lift valve. (ASM-HUSCO-0001)



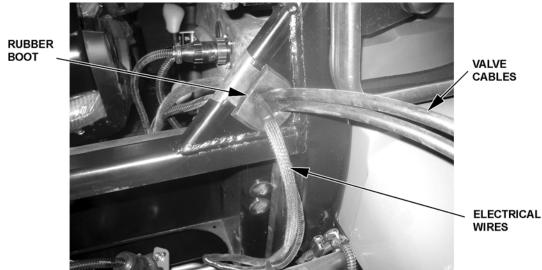
## **CABLE CONTROL LEVER STAND**

Place the cable control bracket on the floor so that the bracket is 2" from the side edge of the door, and 4-3/8" in front of the rear edge of the door. See images below. Be sure that the location of the stand will allow the operation of all control levers in the tractor and that the door will not strike the stand when shut. Before drilling, double check location of the stand for proper placement of holes. Make sure that all cables and wires are clear of the area before drilling holes to mount the stand. Drill 3 holes to match control bracket as shown below and secure with capscrews and nylock nuts noted in the Parts Section.





The rubber boot under the rear window can be cut in a crosshair pattern and, if necessary, the bottom cut through to allow it to slip over the cables and back into position. These cables will be routed to the lift valve mounted on the valve mounting plate, and should not have any sharp bends or kinks in them. Secure cables with zip ties and apply RTV sealer in and around individual cables, inside and outside of the cab, for a water tight seal. Do not allow excess cable to hang unsecured on the outside of the cab. (ASM-JD-0087rev).



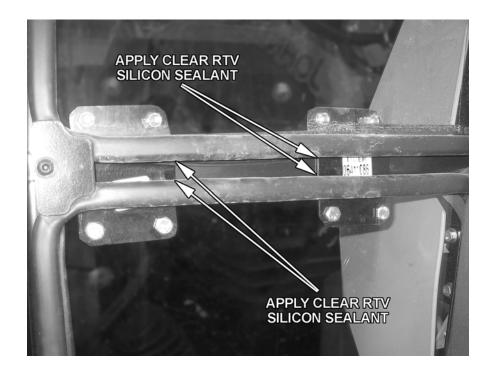
## **JOYSTICK AND SWITCHBOX MOUNTING**

The switchbox is attached to the cross member on the front of the cab, to the right of the steering console. The joystick is attached to the door frame on the right side of the cab. Cables are routed to the right of the driver's seat and out through the rubber boot in the corner of the rear window frame. See the illustration in the Parts Section for hardware used and additional information. (ASM-JD 0087 silicon)





After installation of switchbox brackets 06411086, apply clear RTV (silicon) seal all around the outside of the bracket to prevent leaks.

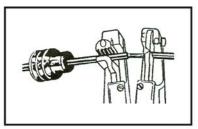


## WEATHER-PACK / METRI-PACK ASSEMBLY

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)



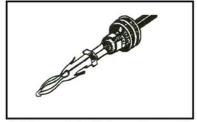
1. Apply seal to cable, before stripping insulation.



2. Align seal with cable insulation.



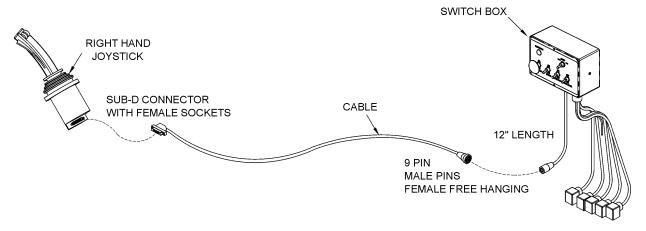
3. Put terminal in crimping tool, then position wire and seal in place.



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

## **BOOM JOYSTICK CONTROL CALIBRATION**

SUB-D



This Electronic control valve is now equipped with higher-resolution actuators on Main Boom, Secondary Boom, Deck Roll, and Swivel functions. These actuators have active fault monitoring. The Deck Shield section does not have active fault monitoring. The joystick is unchanged and provides a ratio-metric voltage signal. The neutral signal voltage is half or 50% of tractor supply voltage. A 25% signal voltage will shift the valve spool to full A-Port, and 75% signal voltage will shift the spool to full B-Port in the Main, Secondary, and Swivel valve sections. On the Deck Roll function a 34% signal voltage will shift the valve spool to full A-Port and a 68% signal voltage will shift the spool to full B-port. If an actuator with active fault monitoring receives a signal from the joystick that is less than 15% or greater than 85% of supply voltage the actuator will "fault out" and shut down. Also, if there is an internal failure in the actuator or if the spool position is greater than that specified by the signal voltage from the joystick, the actuator will "fault out" and shut down. An "active fault" condition causes the actuator to drive the spool to neutral, shut down, and activate a red LED on the top of the actuator. The active fault can be canceled by simply cycling the Master Switch OFF and then ON, which resets the fault monitoring, and causes the LED on top of the actuator to be green again.

**A** CAUTION

The joystick control is equipped with signal adaption potentiometers.

These provide the capability to individually adjust the oil flow to each boom function. It is important that the boom functions do not travel too fast. Excessive boom speed can reduce the stability of the unit and decrease operator control.

Note: Use a Phillips screwdriver and be sure to adjust the screws carefully! DO NOT turn the potentiometers beyond their stopping point, potentiometers are very delicate! Turning the "A" or "B" port potentiometers clockwise increases the oil flow to increase the boom function speed, and turning them counterclockwise decreases the oil flow to decrease the boom function speed. See the graphic on the next few pages for help in adjusting.

## **BOOM JOYSTICK CONTROL CALIBRATION (CONTINUED)**

Run tractor at normal operating RPM to adjust the settings as follows.

#### Set the dead band compensation potentiometer first.

Set the dead band compensation potentiometer at 50%, or halfway between full clockwise and full counterclockwise.

#### **Setting Signal Adaptation Potentiometers:**

Disconnect the Deutsch connectors from the actuators of the valve. Use a Volt/Ohm meter to measure signal voltage and adjust the signal adaptation potentiometers as needed. Pin #4 is tractor supply voltage. Pin #1 is signal voltage from the joystick, and pin #3 is ground. First, measure supply voltage between pins 4 and 3. Then measure signal voltage between pins 1 and 3 while indexing the joystick function fully in both the "A" and "B" port direction. Divide the signal voltage by the supply voltage to get signal voltage as a % of supply voltage. This percentage should not be less than 25% or greater than 75% for the Main Boom, Secondary Boom, or Swivel function. This percentage should not be less than 30% or greater than 62% for the Deck Roll function. Note these initial settings for the Deck Roll function should prevent the spool from shifting into float. After making this first adjustment to deck roll if the spool still goes into float, adjust the "B" port screw additionally counterclockwise.

Reconnect Deutsch connectors on control cables to actuators on Electronic valve. Run tractor until hydraulic system is at operating temperature. Now refine the adjustments of the signal adaptation potentiometers for both "A" and "B" ports for all proportional functions to achieve the following function times. Note: turning potentiometer clockwise increases the flow or the function speed, and turning them counterclockwise decreases the flow or the function speed. Note, if during this procedure the trim potentiometer is set to full counterclockwise but the function is still too fast, use the mechanical stops at the manual actuator end of the valve section to further limit flow. Turn limit screw in or clockwise to limit flow. The upper limit screw limits flow to B-port, and the lower limit screw limits flow to A-port. However DO NOT adjust the limit screw on B-port of deck roll function. Limiting B-port will prevent float function.



## **BOOM JOYSTICK CONTROL CALIBRATION (CONTINUED)**

MAIN BOOM: "A" Port, Boom Up: 8-10 Seconds

(Note: Extend secondary boom completely; roll deck to be level with ground, and lower main boom until deck is on ground. Now index main boom "up" function and determine the time required for main boom to rise completely.)

"B" Port, Boom Down: 6-8 Seconds

(Note: Extend secondary boom completely, roll deck to be level with ground, and raise the main boom to "full up". Then index the main boom "down" function to determine the amount of time required for the deck to contact the ground. CAUTION: Stop the boom just as the deck contacts the ground.)

#### **SECONDARY**

**BOOM**: "A" Port, Boom Out: 8-10 Seconds

(Position main boom full up, roll deck out until deck cylinder is fully retracted, and bring secondary boom in completely. Then index the secondary boom "out" function and determine the time required for boom to extend out completely.)

"B" Port, Boom In: 8-10 Seconds

(Position the main boom full up, roll deck out until deck cylinder is fully retracted, and extend secondary boom completely. Then index the secondary boom "in" function and determine the time required for boom to come in.)

**DECK ROLL:** "A" Port. Deck Out: 7-9 Seconds

(Raise main boom to vertical, extend secondary boom out slightly so that deck can be articulated without contacting the main boom, and roll deck in until deck cylinder is completely extended. Then index the deck roll "out" function and determine the time required for the deck to roll out.)

"B" Port, Deck In: Target 7-9 Seconds (but DO NOT use Limit Screw) (Raise main boom to vertical, extend secondary boom out slightly so that deck can be articulated without contacting the main boom, and roll deck out until deck cylinder is completely retracted. Then index the deck roll "in" function and determine the time required for the deck to roll in.)

#### **BOOM**

SWIVEL: "A" Port, Boom Aft: 14-16 Seconds for 3PS, 3OS, SS

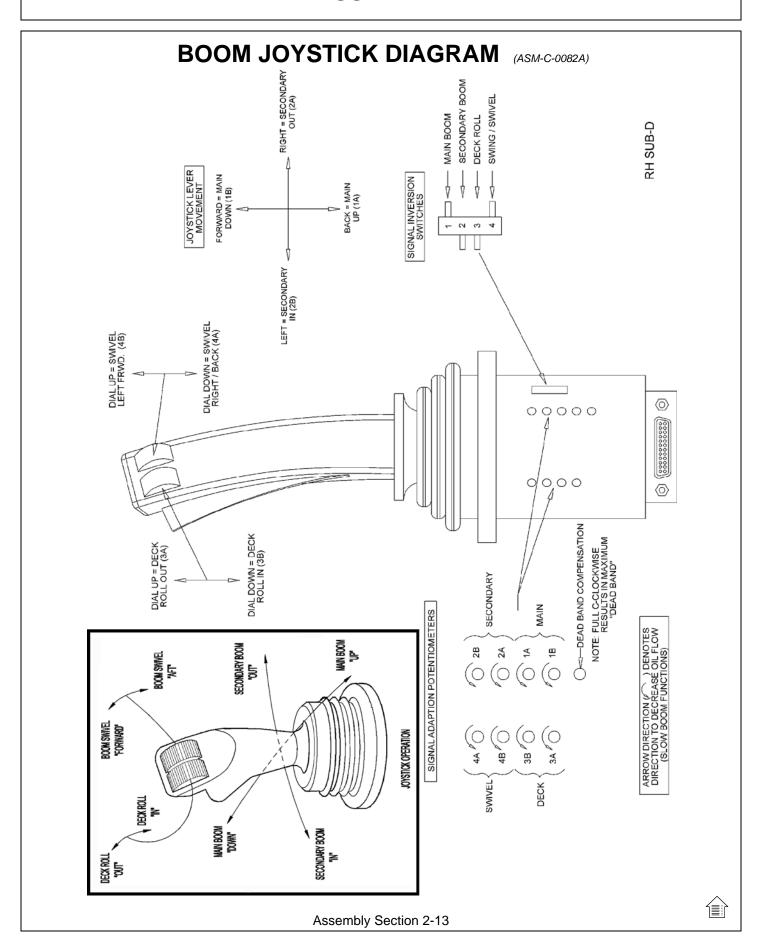
(Extend booms completely; rotate head to be level with ground, lower main boom until deck is just above ground, and swivel boom full forward. Then index the boom swivel "aft" function and determine the time required for the boom to swivel full aft. Use caution when doing this, stop boom before main boom contacts tire.)

"B" Port, Boom Forward: 14-16 Seconds for 3PS, 3OS, SS

(Extend booms completely, rotate head to be level with ground, lower main boom until deck is just above ground, and swivel boom aft until near tire. Then index the boom swivel "forward" function and determine the time required for the boom to swivel full forward.)

(ASM-C-0082)

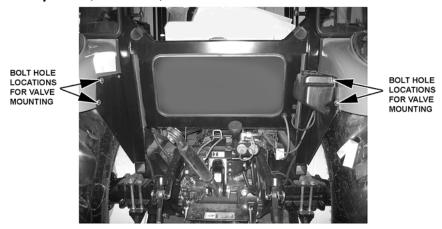




## **VALVE MOUNTING**

Attach the rear valve mounting bracket to the fender of the tractor by removing the two rear bolts on the left fender and the two rear bolts on the right fender. See illustration below. Drill the square holes in the fenders to accept 3/8" capscrews. Use the hardware noted in the Parts Section to attach the valve mounting bracket to the tractor.

Next, attach the valve mounting plate to the mounting bracket. Align the holes on the plate to the holes on the bracket. Use the hardware shown in the Parts Section to attach the plate to the valve mounting bracket. Finally, place the valve on the valve mounting plate as shown in the Parts Section. Align the holes on the valve assembly to the holes in the plate. Use the hardware provided to secure the valve to the plate. Refer to the Parts Section for the placement of the valve and the hardware used. **Please handle the lift valve with care. It is extremely heavy and contains small parts.** (ASM-JD-0065)



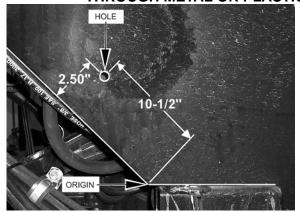
## **HOSE AND WIRE ROUTING**

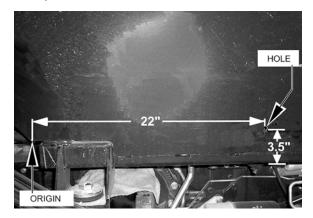
Attach two clamps to the right rear wheel well for proper hose/wire routing. Drill one hole for each clamp. Use the lower rear corner of the wheel well as an origin for measuring. The holes should be 10mm or 3/8" reamed to accept 3/8" hardware.

Measure along the back edge of the wheel well 10-1/2" from the origin. Use a square to measure 2-1/2" up, from the last mark. Refer to the image below to see the first hole.

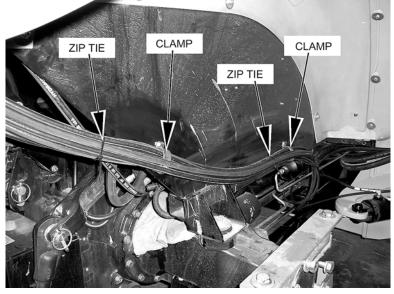
The second hole should run parallel to the bottom edge of the wheel well. Mark the hole 22" from the origin and 3-½" from the bottom edge. Use the images below for reference.

NOTE: DO NOT CUT INTO TUBES / HOSES / WIRES WHEN DRILLING THROUGH METAL OR PLASTIC!. (ASM-JD-0068)





Place as many hoses in the clamp as will fit without compromising pressure. Then secure the (2) HOSE CLAMP (06520013) to the holes drilled with (1 EACH) CAPSCREW,3/8 X 1 NC (21630) and (1 EACH) NYLOCK NUT,3/8 NC (21627). The hoses that don't fit into the clamp are to be secured to the others with zip ties. For protection of hoses in contact with metal edges, wrap hoses with split hose sections and fasten with hose clamps or zip ties as needed.



## WHEEL WELL HYDRAULIC TANK INSTALLATION

Install all fittings and tubes into tank and tank filter as shown in the Parts Section illustration. Insert tank sight glass onto the tractor side of the tank.

Place the tank in the mounting bracket on the axle brace as shown in the Parts Section. Secure the tank with the hardware provided.

Install the filter gauge into the filter housing so that it points to the rear of the tractor and is clearly visible to the operator. The tank breather cap is ready for use as the tank is filled. Some of these items may already be installed. (ASM-C-0103)

### 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)

## WHEEL SPACERS

When mounting a boom mower, a spacer kit is needed for both rear wheels (part # 06200637). After removing the wheels attach the spacer to the wheel portion of the axle with the hardware provided. When you are ready to re-attach the wheel, the wheel goes on first then the reinforcement ring and finally the hardware provided. (ASM-JD-0099)

## **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)

## PREFORMED TUBE INSTALLATION

Lay booms on floor so that the side with the clamp plates is up. Locate all tube clamps and install them loosely onto the clamp plates.

Arrange the tubes and hoses as outlined in the Common Parts Section. Install the tubes closest to the boom arm first, being careful not to pinch the tubes. Place the other tubes outside of the first tubes. Snug all clamp bolts, but do not tighten. Check all tubes for correct alignment and that none are pinched or bent. The clamp bolts can now be tightened. (ASM-C-0085)

## **GENERAL HOSE INSTALLATION**

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



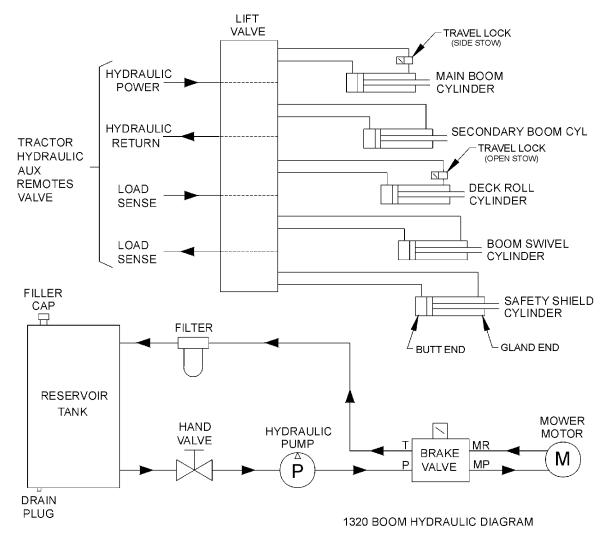
## **HOSE COVERING**

Secure hoses together with zip ties wherever loose. Wrap the hoses between the swivel and main boom with the hose cover provided. Wrap the hoses between the main boom and secondary boom with the hose cover provided. Where hoses may contact the frame or other edges, wrap with split hose and secure with hose clamps or zip ties.

On non-cab units, the pressure and return hoses from the control valve will also need to be routed inside the protective hose wrap. Cover the valve and valve fittings with the hose cover and secure with the string provided. (ASM-C-0058)

(ASM-C-0023)

#### **BOOM HYDRAULIC DIAGRAM**



## **ACCUMULATOR INSTALLATION**

Install the accumulator bracket on the right mainframe mast or lift valve mount, if applicable, with the capscrews, lockwashers and spacers, if applicable, as shown in the Parts Section. Install the accumulator in the bracket and secure with the hardware shown. Install fittings and hoses to the cylinder and control valve as shown in the Parts Section. **Use teflon tape on all pipe fittings (except O-rings).** (ASM-C-0012)

## SOLENOID BRAKE VALVE

Install a solenoid valve on the mounting bracket with the supplied hardware as shown in the Parts Section in this manual. While installing the fittings to the brake valve, the electrical 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-0025)

## 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)

#### WHEEL WEIGHT MOUNTING

For all tractors using a boom mower, a wheel weight will be required for the rear left side wheel. It will be necessary to mount the weight in the wheel using the long capscrews, lockwashers, flatwashers, spacers (if applicable), and hex nuts per the diagram in the Parts Section.

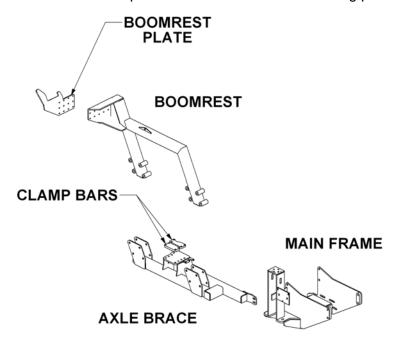
Installation is most easily done with a fork lift, inserting a fork in the center slot of the wheel weight. The head of the capscrews is to be toward the OUTSIDE of the weight, with flatwashers on both the inside and outside of the assembly.

The left rear tire may also be filled with a mixture of water and calcium chloride at about five pounds per gallon. Tire air pressure should be maintained according to the Maintenance Section. (ASM-C-0055)



## SINGLE COLUMN BOOMREST MOUNTING

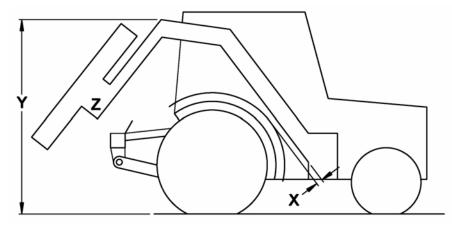
Carefully lower the boomrest and align the boss with the holes of the axle brace. Now install all attaching hardware as shown in the Parts Section, loosely, to allow for alignment. Tighten / torque all hardware on the axle brace and the boomrest. Finally, add the Boomrest Plate with the hardware provided so it lines up with the boom in the rear stowing position. (ASM-JD-0071)





## **3-POINT BOOMREST MOUNTING**

Install the boomrest onto the 3-point hitch using the pins as shown in the Parts Section. Adjust the bottom arms so the boom clears the tractor fender (X); adjust the top link so that the boom saddle is approximately level with the ground. Re-adjust once the boom is completely installed and operable. Adjust the top link until the boom is properly seated in the boomrest (Z) and no part of the boom (including hoses) comes into contact with the tractor cab. Using the side turnbuckles, adjust the boom and boomrest all the way to the right for proper width restrictions. Check your local width regulations before transporting your mower. You may need to adjust the boomrest for overall height as well (Y). (ASM-C-0054)



## **AXLE BRACE INSTALLATION**

With the tractor on jack-stands, remove the existing hardware on the rear axle where the axle braces will be mounted. Use a hoist to raise the axle braces to the correctly matching mounting holes on the rear axle and the mainframe. Use the hardware shown in the Parts Section to attach the braces to the tractor, DO NOT tighten until the mainframe has been positioned onto the axle braces. The mainframe hardware will not be tightened at this time.

When the mainframe is in position, remove the capscrews one at a time and apply a thread locking agent. Reinsert the capscrews and tighten / torque to values noted in the torque chart located in the Maintenance Section of this manual. (ASM-MF-0013)

## MAIN BOOM INSTALLATION

Using a hoist, install the boom swivel into the mainframe as shown in the Parts Section. Line up holes in swivel and mainframe for large swivel pin and insert pin. Secure with hardware as shown.

Attach the inner end of the main boom to the swivel bracket with the cylinder anchors positioned upward, and at a right angle to the tractor. Secure it with the horizontal hinge pin. Secure the hinge pin in the boss with capscrews, etc. (see Parts Section).

Attach the butt end of the main boom cylinder to the swivel with the cylinder pin and roll pins shown in the Parts Section.

Install the travel lock on the rod end of the main boom cylinder. This should be facing the butt end of the cylinder after installation.

Install the fittings and hoses to the main boom cylinder per Parts Section.

GREASE HINGE PIN ZERKS ON BOOM AFTER ASSEMBLY, ONCE UNDER LOAD WITH BOOM ELEVATED, AND AGAIN AT REST WITH BOOM SUPPORTED. (ASM-C-0013)

## **DECK ATTACHMENT**

Attach the head to the secondary boom using the pins and hardware shown in the Parts Section to attach linkages. Install the square tube on the top of the head into the head mount and secure using the mounting plate and hardware as shown. The mount should be positioned to the left side of the cutter head. Install the deck pivot cylinder using the pins and hardware also shown in the Parts Section.

Connect the fittings and hoses from the pivot cylinder to the small preformed tubes on the boom arm. Connect the fittings and hoses from the motor to the large preformed tubes on the boom arm.

Connect all remaining hoses from the control valve to the cylinders and / or preformed tubes on the boom arm. Refer to Parts Section for diagrams.

Before proceeding to the final preparation step, double check the complete assembly from the mainframe to the cutter head against the diagrams in the Parts Section for proper placement and assembly of all components. (ASM-C-0060)



## 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.

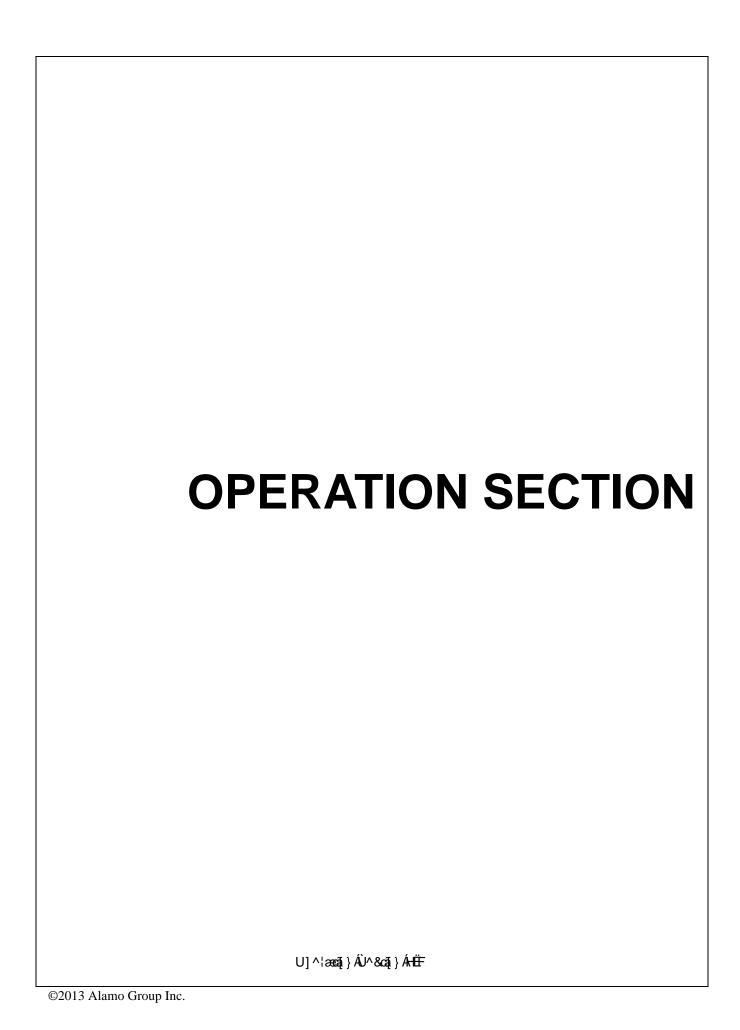
Before operating the mower, the cutter head and boom should be slowly moved throughout the full range of motion. Watch for any condition that would cause pinching or excess stress on the hoses. The steering and front axle travel should also be carefully moved through their full range of motion. If any 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)





# TIGER BOOM MOWER OPERATING INSTRUCTIONS

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READ AND UNDERSTAND THE ENTIRE OPERATING INSTRUCTIONS AND SAFETY SECTION OF THIS MANUAL AND THE TRACTOR MANUAL BEFORE ATTEMPTING TO USE THE TRACTOR AND IMPLEMENT.  $Q\hat{A} = A\hat{A} = A$ 

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#### **1.OPERATOR REQUIREMENTS**

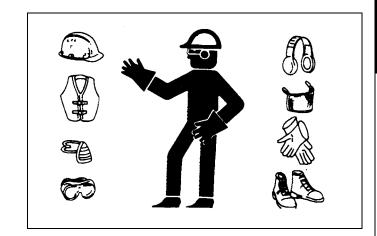
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#### PERSONAL PROTECTIVE EQUIPMENT (PPE)

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#### 2.TRACTOR REQUIREMENTS

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#### **Tractor Requirements and Capabilities**

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#### 2.1 ROPS and Seat Belt

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**AWARNING** 





#### 2.2 Operator Thrown Object Protection

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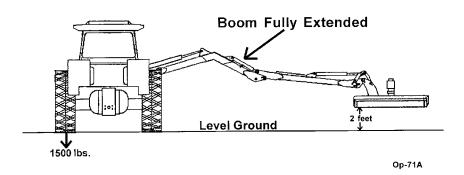
#### 2.3 Tractor Lighting and SMV Emblem

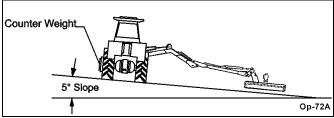
OPS-B- 0017Á



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#### 2.4 Tractor Ballast





## **3.GETTING ON AND OFF THE TRACTOR**

Ó^{¦^Á'^œā)\*Á;}qíÁœÁdæ&qí¦Éko@Á;]^¦æqí¦Á; \*oÁ^æåÁæ)åÁ&[{]|^e^|^Á'}å^¦•œa)åÁc@Áqí]|^{^}óÁæ)åÁdæ&qí¦ []^¦æqí¦Á;æ)\*æ†ÉÁQÁæ)^Á;ædó;Añão@¦Á;æ)\*æjÁæjÁ;[oÁ&[{]|^e^|^Á'}å^¦•qí[åÉÆ[}•\*|oÁæ)Áæčo@¦ã^åÁå^æ}\¦Á[¦ æÁ&[{]|^e^Á'¢]|æ)æqā[}ĚÁOPS-U-0007

**AWARNING** 

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

#### 3.1 Boarding the Tractor

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A DANGER



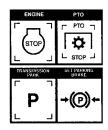
**AWARNING** 

 $\ddot{O}[\dot{A}][\dot{A}[\dot{A}]$ 



#### 3.2 Dismounting the Tractor

**A** DANGER



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#### **4.STARTING THE TRACTOR**

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- "Š[8æe^Ác@ Áæt @Á&[}d[|Á/\ç^\|
- " Š[&æe^Ás@ Áá¦æ\^Á\^åæþ Áæ) 寫\ «&@Á
- ″Š[&æe^Ás@•ÁÚVUÁ&[}d[|Á
- "Š[&æe^Ás@^ÁHÁ,[ã,cÁ@ãs&@Ás;}d;[Á^ç^;
- ‴Š[&æe^Ás@^Áa[[{Á[]^¦æeā]\*Á&[}d[|•ÁQQî^•œã&\Á[¦Áçæqç^Áaæa}\D

Ó^{ | ^ Á cæd cã \* Ás@ Ád æ&d | Á\*) • ` | ^ Ás@ Áf || [ . ã \* KÁÁ

- ‴Ô[}å`&oÁse||Á,¦^Ë=cæboÁ,]^¦æeā[}Á§,•]^&cā[}Áse}åÁn^¦ç&&^Áse&&[¦åā]\*Áq[Ás@^Áslæ&d[¦Á[]^¦æe[¦q•Á;æ)}ĕeþÉÁ
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- V@ÁÚVUÁSI}d[|Á^ç^¦ÁsáÁsã^\}\*æ\*^åÈ
- ″ V@A@妿ĕja&A^{;[o^A&;}d[|Á^ç^¦•Aæ4^Æ4,A6@A,^\*dæ4A,[•ãaã;}ÈA

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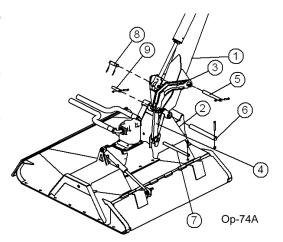
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#### **5.CONNECTING ATTACHING HEADS TO THE BOOM**

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CĐÁÁ/@}Áæacæ&@Ác@Áá[\*|^\*ÇDÁqÁæ)Á([¸^¦ÇĐÁ(•ā,\*Á)ā,ÇD æ)åÁ@æåå,æ4^È

Í BÉOB; æ||^Á( æ); ^Á; ',^Áæ||Áa[ | o ÉÁ; `o ÉÉæ; åÁ; ā; • Áæ; ^Áæ; @;^}^åÁ[ ',^&[ { ^} å^åÁ[ ',` ^ EÉOPS-B-0004\_D



#### **A**WARNING

#### **AWARNING**



## **6.PRE-OPERATION INSPECTION AND SERVICE**

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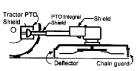
#### **AWARNING**





A DANGER

à^Áˇ•^åÁṣa) åÁ(æā) cæā) ^åÁā) Át[[åÁ¸[¦\ā]\*Á&[}åãāā] ÈÁÁOΕ[Áαæ^ćÁå^çæð.•Á•@[ˇ|åÁà^ ﷺ
ā]•]^&c^åÁ&æò^~ˇ||^ÁæoÁ^æ•óÅææā]^Á[¦Á;ã•ā]\*Á[¦Áà¦[\^}Á&[{][}^}œÆÁTā•ā]\*ÉÁà¦[\^}Ê [¦ÁÁ¸[¦}Áāc^{•Á;ˇ•óÁa^Á^]| æ&^åÁææÁ;}&^Áqā\*&^Ác@^Á][••āâājācÁ;Áā;bˈl^Á¸Áa^ææ@: -¦{Áœ@[¸}Á;àb^&œ•ÉÁ^}cæ)\*|^{^}dÉÁ;lÁa|æå^Á&[}cæ&dÉÁ;ö⊤#d



#### 6.1 Tractor Pre-Operation Inspection/Service

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- ″ Ùc^^¦ā, \* Áā, \æt^
- ″ ÚVUÁ @N∣åÁ
- " ÙT XÁ ã } Ás Ás Ás As à Áçã ãa | ^
- $^{\prime\prime}$  Vlæ&d; lq Áði @ Áæ4^Á&4^æ) Áæ4 åÁ $^{\prime}$  } &dī} } æ4
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- ″ V¦æ&dૄੈ¦ÁÜUÚÙÁ\$eÅ\$JÁ\*[[aÅ&[}aٌãã[}
- ″ÜUÚÙÁ§rÁSĮÁs@∘Áaáã≘^åÅ,[●ãaá∫}
- ″Þ[Áda&kd¦ÁnálÁn∕æd.∙Á
- Űæåãæe[¦Á√^^Á;√Áå^à¦ã•Á
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#### 6.2 Boom Unit Pre-Operation Inspection and Service

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#### **AWARNING**







#### ØÜCET ÖÁCEÙÙÒT ÓŚŸ

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#### **AWARNING**

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## **AWARNING**

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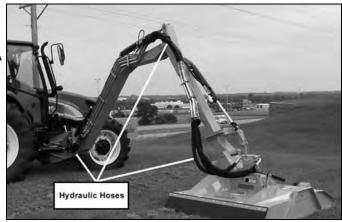


**AWARNING** 

Þ^ç^¦Aææc^{]oAq[A|ĭà|ā&æc^EAæåbŏ•oEA[¦A'^{[ç^A(æc^|āæфA+][{Ac@·AQ]]|^{^}oA, @ā/Aād⁄ārAā, {[cā[}A[¦Á,@ā/Ádæ&c{|Án}\*ā]^ÁafÁĭ}}ā]\*ÈÁ\$vöēeeo

#### PYOUOENSODASO OAD UUOOVOU Þ

- "Q•]^&oÁs@Á&[}åããã[}Á;Ás@Áçædç^Á;[`}cã]\*È
- "Ò}• ' |^Áācāj\*•Ásè^Áj|[]^||^ÁS[}}^&c^åÈ
  OPS-B-0023 D



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#### PŸÖÜŒŃŚŒĂŪWT ÚÐJŒŚĂŨŎŮŎÜXUŒŨ

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Ô@&\Ác@ÁļˇãåÁ¹¸ç^|Áş Ác@ÁP^ 妿ĕ |æÁ¼æ)\Á¡}Ác@ V¦æ&q!Êæ; åÁæååÁ; ⼿Á^~ˇã^åĚŒ Ác@ÁæãÁœe Áà^^}Á; l&°åÁ; ˇớq Ác@ÁÔ^|āj å^!•Áæ; åÁP[•^•ÊÃǽt\*[^•Áṣ] q Ác@ P^妿 |æÁæ; \Áæ; åÁ^å\*&^•Áæ¸6; ['{^Á; Á; āÞÉT æā; cæā; Ác@Á; āÁ¹¸ç^|Á; āc@; Ác@Á; ā @Á\*æ\*\*^Á; &æç\*åÁ;}Ác@Á; ãa^ [-Ác@Á¹^•^!ç[āÞÞ^ç^!Áā;Ác@Áæ; \Áæà[ç^Ác@Á; ā @Á\*æ\*\*^Á; Áæd[¸Á; lÁc@Á¢; æ)•ā; Á; -Ác@Á; āb²\@Á\*æ; \*Á; Ac@Á; āb²\@Á; að; Ac@Á; Ac@Á;

#### **AWARNING**

Offich } cat } káu ajázoaj/h; álóaaj ás ásapp [ás@ áÚ!^••\*; |^ÁÜ^|ah-álóaaj È

## **AWARNING**

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#### JUVQĐŸŔPÒŒÖÁŒDŮÚÒÔVŒÞ

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-[¦Áæ@&]ā;\*Áææār\ÐÁÜ^]|æærÁāææ;æ\*^åÆÄ[;¦}ÊÁ
æ) åÁ[ã•ā;\*Áaæå^•ÁææÁ&[{]|^crÁr^o-Áā[Á
{æā]ææā,Áa[æò²Áaææ)&^È

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**AWARNING** 



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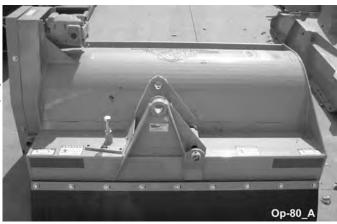
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#### ØŠOEŠÁP ÒOEÖÁDÞ ÙÚÒÔVOJÞ

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   8.@ 8k] ð; \* Ár æð ð ÞÍÐÜ^] |æær Áæiæð æð ^ å ÉÁ; [ ¦ } ÉÁæð) å Á
   { ã ð; \* Áæj æð ^ Áæ Ææí [ { ] | ^ c^ Ár ^ æ Áa[ Ái] ææð ææð; Á
   &\* cc^ ¦ @ææð æðæð 8^ È
- ``Ò}•`¦^Á`àà^¦Áå^-∤^&q[¦•Áse\^Ás[A][•ãtā]}Áse)åÁ
   }[oÁsae(æt^åÈÁÜ\^]|æs&^Á,[¦}ÊÁse|\^}ÊÁse)åÁ
   {ã•ā,\*Á\^&aā}}•Ás[{ ^åãæe\^È
  }
- Q•]^&o/xo@eo/Ae|/Ai[|o-Ae) å Ai &i^, Ae+ Ai, Ai[• aia]} Ai
   a) å Ae+ Ai, I[]^!|^Ai[|``^åÈ

- ¨ Ò} ˇ ¦ ^ Ás@ Ás ¦ ãç ^ Ás ^ | oÁ @ A | å Ás d ^ Ás Ás Ás Ás A | 288 ^ Ás a å Ás A f [ a Á ^ ] æ Ás É

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- Ű^{[ç^Áæ}^Á;\æ•Á;\Á;c@;\Áå^à\ã;Á,@B&@Á;æÁ à^Á;\æ]^åÁæ[ĭ}åÁæ&\*œ;• @æ•Æ)å}å•È
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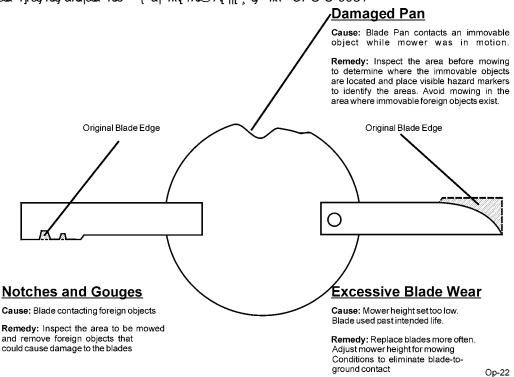
A DANGER

U]^¦æafa[}Áû\^&cafa[}ÁHËFÍ

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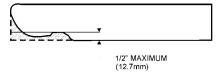
#### **6.3 Cutting Component Inspection**

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**A** DANGER

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- ″ Ö^^]Á\*[ \* \* ^ Á§ Ás@ Ás|æå^ q Á\* | ~æ&^ Ásd^ Á; | ^ ^ } dÁ; |
- ~ Õ[ \*\* ^• Á; | Á&@aj ] ^ å Áæb ^ ææ Áā; Ás@ Á&\* ccāj \* Á\\* å\* ^ Áæb ^ Áæb \* ^ I Ás@æð; ÁFEDG-ÆF CEË { □ DÃ; | Á
- ″ V@^Á, æc^¦ãæ4Á;}Ás@~Á^æåā;\*Án°å\*^Á@æ•Ás^^}Á;[¦}Ásę æ°Ás^Á;[¦^Ás@æ;ÁrEDQFGÈi{{D-



Original Blade Edge

NOTE: Replace Blades in pairs after no more than 1/2" (12.7mm) wear Op-23

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Tractor PRE-OPERATION Inspection				
Mower ID#	Make			
Date:	Shift			
Before conducting the inspection, make sure the tractor engine is off, all rotation has stopped and the tractor is in park with the parking brake engaged. Make sure the mower is resting on the ground or securely blocked up and all hydraulic pressure has been relieved.				
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 Mo	OWER		

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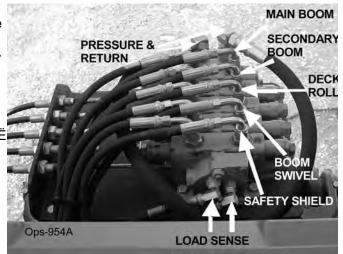
<b>Boom PRE-OPERATION Inspection</b>			
Mower ID#	Make		
Date:	Shift		
Before conducting the inspection, make stopped and the tractor is in park with mower is resting on the ground or securibeen relieved.	n the parking brake	engaged. Make sure tl	
Table 1:			
Item	Condition at Start of Shift	Specific Comments if not O.K.	
The Operator's Manual is in the tractor			
All safety decals are in place and legible			
The mounting frame bolts are in place and tight			
The boom connection bolts & pins are tight			
There are no cracks in boom			
The hydraulic cylinders pins are tight			
The hydraulic pump hose connections are tight			
The hydraulic valve controls function properly			
There are no leaking or damaged hoses			
The hydraulic oil level is full			
There is no evidence of hydraulic leaks			
The blades are not chipped, cracked or bent			
The blade bolts are tight			
The deflectors are in place and in good condition			
The boom shields are in place and in good condition			
The skid shoes are in good condition and tight			
There are no cracks or holes in boom deck			
The hydraulic motor mounting bolts are tight			
The boom head spindle housing is tight and lubricated			
Operator's Signature:			

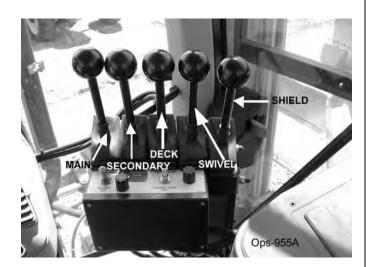
## DO NOT OPERATE an UNSAFE TRACTOR or MOWER

#### Cable Controlled Mowers

ODÉN[}d[|Án^ç^¦Án^&æhÁnā[ābæhÁn[Án@Án}}^Án@]}Án^[,Án@]`|åÁn^Án^æhÁn@ÁN]}d[|Án;æhç^Án[Án^{ā]åÁn@Án]^¦æn[¦Án~ o@Án^ç^¦Án}}&aā]}•È

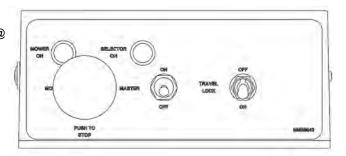






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#### 6.4 Switchbox

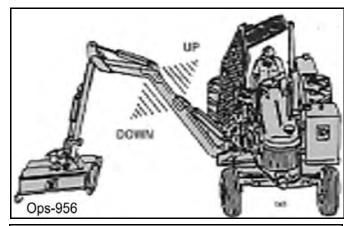


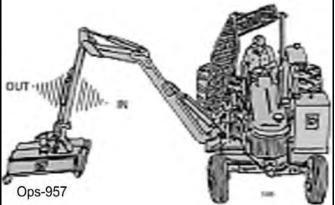
#### SAFETY SHIELD & DEFLECTOR OPERATION Failure to close Safety Shield and Deflector may allow objects to be thrown outward with great force which can cause property damage, bodily injury, or death. SAFETY SHIELD 1. Keep Safety Shield and Deflector fully closed when cutting grass and weeds to reduce possibility of objects being thrown outward by the Blades if persons are in the area. Before Cutting brush, trimming limbs, or other such operations, raise the Deflector and Safety Shield fully to allow the blades to contact the material if area is clear of passerby. Operator must stop cutting and close shield if passerby enters the thrown objects area or blade contact area. 3. Repair or replace Safety Shield and Deflectors as DEFLECTOR needed. 4. Always transport with Safety Shield and Deflector closed. 02967867

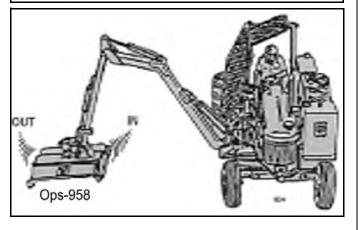
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ŠÒXÒÜÆÌGÁÙÒÔUÞ֌ܟÆÓUUT







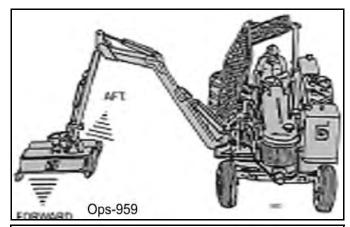
ŠÒX Ò ÜÂ HÁ Ö Ò Ô SÁ Ü U ŠŠ

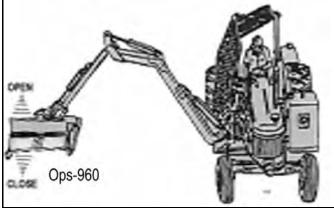
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ŠÒXÒÜÂN ÁÓUUTÁÙY QXÒŠ

ŠÒXÒÜÂÁÍ ÁÓUUT ÁÙP QÒŠÖ





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# 7. Joystick Controlled Mowers

<u>ALWARNING</u> ÞUVÒ KÁDO NOTÁ;]^¦æc^Á;[¸^¦Á@æåÁ¸@ǎp^Áa[[{Á;[¸^¦ÁarÁa¸Ác@Áa[[{Án^•dÉá;¦Áa¸Ác@Á•d;¦^å ][•ãcá;}ÂÁÜ^åÁÆ□[¸^¦ÁÜ`}+Áã@óáşåå&æc••Á;[¸^¦ÁarÁkUÞ+È

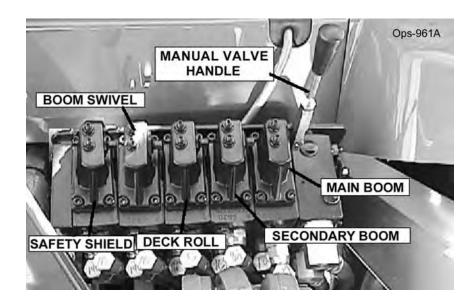
 $V@\dot{A}_{0}[{\{\dot{A}^{*}\}} & cal_{0}\} \bullet \dot{A}_{0} \bullet \dot{A}_{0}] d[||^{a}\dot{A}_{0} \bullet \dot{A}_{0}] \bullet \dot{A}_{0}] \bullet cal_{0} \bullet \dot{A}_{0} \bullet \dot{A}_{0}] \bullet cal_{0} \bullet \dot{A}_{0} \bullet \dot{A}_{0}] \bullet \dot{A}_{0} \bullet \dot{A}_{0} \bullet \dot{A}_{0}] \bullet \dot{A}_{0} \bullet \dot{A}_{0} \bullet \dot{A}_{0} \bullet \dot{A}_{0}] \bullet \dot{A}_{0} \bullet \dot$ 

**A** CAUTION

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Q•cæd|Ás@Á(æ)\*ædýædy;^Á@æ)å|^Át}}d[Ágædy;^Áæd)åÁt]]^!ææ^Ás@Á\*}&cāt}•Ás}åäçãa\*æd|^Át[Át[,Áæ[]{È
Œe^!Áa[[{ÆæÁ\*rt],^åÁ\$,Á^•cÊÁdæ)•][!oÁc@Á;}ãóÁt[Ác@Á;ææ\$,c^}æ)&^Áæ&;āãcÁæ)åÁ&[}ææ&oÁ[\*'!Vã^\*!Ás^æ4\*!Át[!Áæ••ã\*ææ}&^È

A CAUTION DO NOTÁBER?\{ ] OÁ[Á] ^ læe^Ás@ Áşækç^Á; æ) ĕæl^Á[ lÁ; [¸ā] \*Á;] ^ læeā[} •Â

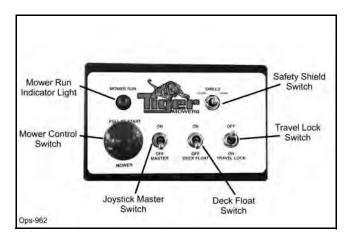
Þ[ c^kÁÚˇ• @ð, \* Á; æ) ˇæþÁçæþç^Á@æ) å|^• ÁNjó chÁ; lÁ‰ç æê hÁ+l[ { Ás@ Ád æ&d; lÁ&æàÁ, āļlÁàlā, \* Ác@ Á; æāj à[[{ Á‰] +ÉA^&[} åæf Áà[[{ Á%jó chÉA[||Áå^&\ÁNjó chÉæ) åÁ•, āç^|Áà[[{ ÁsæchÈÚˇ||ā, \* Á; æ) ǎæþÁ@æ) å|/• Át], ædåÁ&æà ¸āļÁ^cÁ; æāj Áà[[{ Ásác], } +ÉÁàlā, \* Á^&[} åæb Áà[[{ Ásáb, +ÉÁ[||Áå^&\Ásab, +ÉÁE], ædå Ásaè



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#### 7.1 Switch Box and Joystick Control

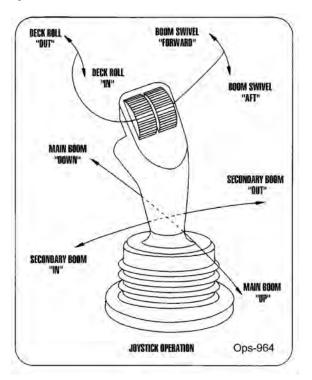
V@Áåãæť¦æ(•Áà^[[¸Áæ)åÁ[}Áœ)Á;^¢óÁjæť^Á•@[¸Ás@Áˇ}&cā[}•Ác@æcÁæ4^Á]^¦-[;{ ^åÁc@[ˇ\*@Ác@Áˇ•^Á[-Ác@ tộ^•cæX,Ás[}d[||^¦ÈÁ



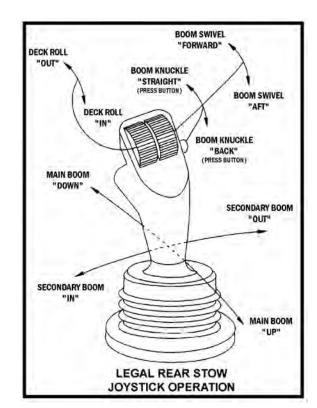
# SAFETY SHIELD OPERATION • Failure to close Safety Shield may allow objects to be thrown outward with great force which can cause property damage, bodily injury, or death. 1. Keep Safety Shield fully closed when cutting grass and weeds to reduce possibility of objects being thrown outward by the Blades and to prevent contact with the Blades if persons are in the area. 2. Before cutting brush, trimming limbs, or other such operations, raise Safety Shield fully to allow the blades to contact the material if area is clear of passersby. Operator must stop cutting and close shield if passerby enters the thrown objects area or blade contact area. 3. Repair or replace Safety Shield as needed. 4. Always transport with Safety Shield closed. Ops-963

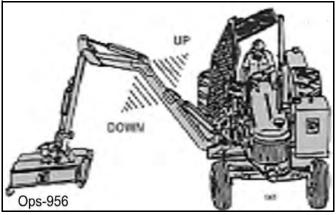
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## **Joystick Control**

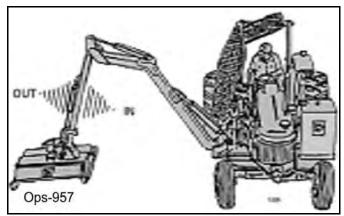


RUŸÙVÔĴSÁØY ÖÐÓÐÔSÁT UXÒÙÁT ŒÐÞÁÓUUT

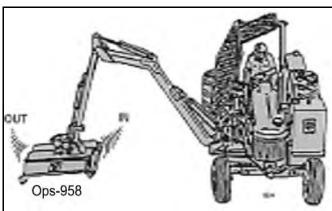




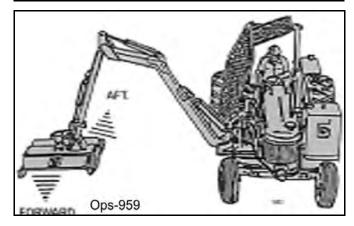
RUŸÙVÔSÁŠÒØVÐÜŐPVÁTUXÒÙÁÙÒÔUÞ֌ܟ ÓUUT



ŠÒØVÁRUŸÙVØĴSÁÜUŠŠÒÜÁT UXÒÙÁÖÒÔSÁÜUŠŠ



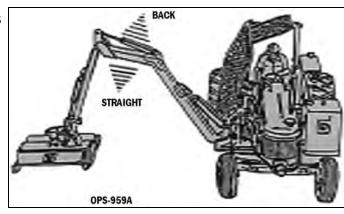
ÜŐPVÁ RUŸÙVÓDSÁÜUŠŠÒÜÁTUXÒÙ Á ÓUUT ÙY OXÒŠ



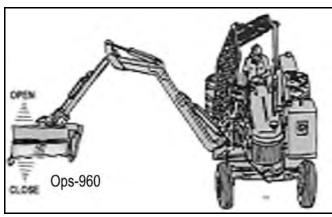
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ÜŐPVÁRUŸÙVÓSÁÜUŠŠÒ ÜÁY POŠÒÁÚÜÒ ÙÙOÞŐ ÓWVUÞÁT UXÒÙÁÓUUT ÁSÞWÔSŠÒÁJÞÁŒŠÒÕŒŠ ÜÒŒĴÁÚVUY ÁÓUUT



ÙPOÒŠÖÁ ÙY QYÔPOÇ}Á•, ãã&®Áà[¢DÁ UÚÒÜOEVÒÙ ÙOEZÒVŸÁÜPOÒŠÖ



#### **8.DRIVING THE TRACTOR AND IMPLEMENT**

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æ)åÁj¦^&æĕæ¶]•Át[Áææ^Á @\$p^Áå¦āçā;\*Á ãœÁæ)Áæææ&@åÁā[]|^{ ^}œĎ}•ˇ¦^Ác@Ádæ&q¦Áææ-Ác@Ásæ]æ&ãcÁt @æ)å|^Ác@Á¸^ã @Á;ÆœÆá[[{Áæ}åÁœÆd;lÁ;]^!ææã;\*Á&[}d[|•Áæ+^Ár^óÁ;¦Áæ\*Aáæ)•][¦dĚÁv[Ár}•ˇ¦^Áæ\*Ac @\$p^Áå¦āçā;\*Ác@Ádæ&q¦Á¸ãc@ÁæÁa[[{ÉÃoçãr,Ác@Áf||[,ā;\*È

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#### **A** DANGER

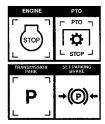
$$\begin{split} & \text{P^{c}} | A[] \wedge | \text{aech} A \text{com} A \text{V}| \text{aee} \{ | A[ | A \text{Q}] | \wedge \{ \wedge \} \text{ ca} | A^* \} \text{ ca} | A^* | \text{aee} \wedge A | \text{aee} | A^* |$$



**AWARNING** 

#### **A** DANGER

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Vlaa)•][¦oÁ[}|^ÁæeÁ•]^^å•Á, @¦^Á^[`Á&æa)Á{ æaaj æaaj Á&[}d[|Á[-Áo@ **AWARNING**\[ \( \begin{align\*} \frac{1}{4} \\ \begin{align\*} \frac{1}{4} \\ \alpha \end{align\*} \frac{1}{4} \\ \alpha ^~~ al { ^} o ÁcacÁ@at @ 4 ] ^^ a • ÉÁW} a ^ l • cæ) a Ác@ ÁW a& [ l Áca) a ÁQ ] | ^ { ^} o Áca) a



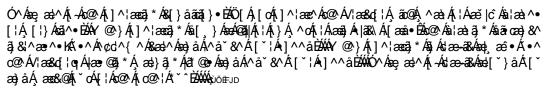
@Q\_ ÁānÁ@ea)å|^•Áa^-{¦^Áa(æ)•][¦cā]\*Áa}}Áa(d^^orÁse)åÁ@#@@æô•EĂTæà^Áa`'|^Áa@AÁ/¦æ&q'¦Áac^^¦ā]\* æ) å Ána læ) ^• Ánæ) ^ Áng Át [ [ å Áng ] å ãna ] Ánæ) å Án ] ^ læe^ Án l [ ] ^ l | È

Ó^{;\^Ád;æ}•][;d]\*Ác@;Áv;æ&d;;Áæ;åÁQ;]|^{^};dÊå^c^;{ā;^Ác@;Á;;[]^;Ád;æ;•][;dÁ;]^^å•Á;;; ^[`Ása}åÁs@^Án``ā]{^}dÈÁTas\^Án`¦^Á:[`Ásaàãa^Ás^Ás@^Á;||[\_ā,\*Á`|^∙K

\^• oÁc@ Ád æ&d; ¦ÁædÁæÁ |[ Á] ^^åÁæ) åÁg &l^æ• ^Ác@ Á] ^^åÁ|[ | ÈÁOE] | ^Ác@ ÁÓ¦æè ^• Á{ [ [ o@? d[Áå^<<\{ā}^Áx@Árd[]]ā]\*Á&@ede&&<\ãac&Ard[]Ard@Áv!æ&d[!Áæ)åÁQ]|^{^}{^}d@Áv! c@Á•]^^åÁ[-Ác@ÁV|æ&d[¦Ác@Á•d[]]ā]\*Áåãææ}&^Áāj&!^æ•^•EĂÁÖ^c^¦{āj^Ác@Á{æ¢ã}\*{ daa)•][¦oÁ]^^åÁ,[oÁ[Án¢&^^åÁO€Á,]@ÁQHÉÁ]@DÁ(¦Ádaa)•][¦oã,\*Ás@áÁ~~ã,{ ^}oÈ

\^• oÁs@ Á`` a] { ^} oÁsœÁsæÁ|[ Á] ^^ åÁsp Ác' |} • ÈÁQQ &| ^ æ• ^ Ás@ Á| ^^ åÁs@[ ` \* @Ás@ Ác' |} Ár} |^ Ásee^\ ^[`Áå^c^\{ā]^Ácœeós@^Á^``ā]{^}oá8æ}Áà^Á[]^\æc^åÁæóÆ@#@\Æi]^^åÈÁN^^Â`¢d^{^A\$æA. c'|} ā, \* Á[ç^|ÉHÖ^c^|{ ā, ^Ác@ Á( æ¢ā[ `{ Ác'|}ā, \* Á•] ^^å Á[ | Á^[ ` Áæ) å Ác@á Á ` ` ā, { ^} cÁà^-[ | ^ []^¦ææã;\*Áş}Á[æå•Áş¦Á;}^ç^}Á\*;[ˇ}åÈ

U}|^Ástæ}•][¦oÁs@^Á/læ&d;|Ásæ}åÁQ]|^{^},^}oÁsæðó@Án]^^å•Á,@B&@Ásæ|[,Á[`ÁsfÁ;!]^\|^Æs[}d[| c@\Á\``ā|{ ^}cÈ





#### 8.1 Starting the Tractor

V@Á, | [&^å` |^Áq ÁrœeloÁs@Ádæ&q | Áæ Á; [å^|Ár]^&ãæ&È Ü^\_^| Áq Ác@ Áclæ&q | Á[ ] ^| æg | eq Á( æ) ~ æþÁ[ | Á+ cælcā] \* ] | [ &^ a` | ^ • Á{ | Á` [ ` | Á] æb æ&` | æb Ád æ&d; | ÞÉÁÓ [ } • ` | oÁæ) æ c@ | a^ å Á å^ æ ^ | Á ã Á @ Á • æ dā \* Á ] | [ & ^ å ` | ^ Á ã • ˇ}&|^æbÀÁÒ}•ˇ¦^Áo@^ÁHË;[ã;αÁ&[}d:[|Áļ^ç^¦Áã;Áā;Ác@^ |[ ^\^åÁı[•ãtā[}Áse]åÁs@AÚVUÁseÁsã^^} \*æ\*^åÁs^^{\^ • czełcą \* Ás@ Ád ze&d ¦ ÉÁOPS-U-0033



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#### 8.2 Brake and Differential Lock Setting

Tæ\^Á\` | ^ Á@\ Átæ&q | Áa|æ\^• Áæ\^Áa A`[ [ ª Ái] ^ | ææā \* &[ } ª ãāā } ÈÁV|æ&q | Áa|æà ^• Á&æ) Áà^Á• ^ cÁq Ái ] ^ | ææ^ 

§ å^] ^ } å^ } q^ Áæ|[ , ¾ \* Á• ¾ \* | ^ Ái/æÁ, @^ |Áa|æ ¾ \* æ&æā } Ái | Ái[ &\ ^ åÁi \* ^ c@\ Áq Ái | çãa^Á• ¾ \* |cæ}^[ \* • & c@\ Áq Ái | çãa^Á• ¾ \* |cæ}^[ \* • | ^ æÁ, @^ |Áa|æ ¾ \* ĚÁØUÜÁT UÙVÁÖÜQKŒ•ÕÁŒ•Ö UÚÒÜŒVŒ•ÕÁÔUÞÖQVŒIÞÙÉVPÒÁÓÜŒSÒÁJÒÖŒŠÙ ÙPUWŠÖÁÓÒÆÜÔSÒÖÁVUÕÒVPÒÜÁVUÁÚÜUX®Ò VPÒÁT UÙVÁÒØØÒÔVQKÒÁÖÜŒSŒÞÕÁŒÈVŒIÞÉÁ

 CT。
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 \* 老・Ác@ Át æ&c[ ¦Áãã~\'^} cãæþÁ[ & Á, @}

 c ; ] a \* ÉÁY @} Ár) \* 老 ^ åÁc@ ^ Áåã-^ ¦^} cãæþÁ[ & Á, ā]

 ] ¦^ç^} cÁ[ ¦Ájā ãrÁc@ Ád æ&c[ ¦Á+[ { Ác '}} ā \* ÉÁÖ' ¡ā \*

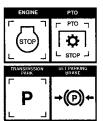
 ] ¡ ( æþÁ&\* ccā) \* Á&[ } åãñā } • ÉÁ|[ & ā \* Ác@ Áåã-^ ¦^} cãæþ

 ] ¡ ( çãô^• Á [ Æa^} ^ ãrÁs) \* ãrÁs @ \* |åÁ; [ crás^ á • ^ å ÉÁÁ

OPS-U- 0013



**A** DANGER



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#### 8.3 Driving the Tractor and Boom

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\[ \( \hat{A} \) \( \frac{\} \) \( \hat{E} \) \( \hat{A} \) \( \frac{\} \) \( \hat{E} \) \( \hat{A} \) \( \hat{A}

OPS-B- 0006





#### **AWARNING**

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**A** DANGER



#### 9. OPERATING THE BOOM UNIT AND ATTACHED HEAD

 $\begin{array}{l} V[A^*] \bullet^* |^A A \otimes A^* \wedge A^* \otimes A^* |^A \otimes A^* |^A \otimes A^* \wedge A^* \otimes A^* \wedge A^* |^A \otimes A^* \wedge A^* \otimes A^* \wedge A^* |^A \otimes A^* |^A \otimes$ 

 $\begin{array}{l} U \} | \hat{A}[] \wedge | \operatorname{age} \hat{A} \otimes \hat{A}[] \wedge | \hat{A} \otimes \hat$ 

**AWARNING** 

O[A,[o4,[, A, ac@Ac, [A, ac@Ac@Ac, A, ac@Ac, A, ac, A, ac,

**A**WARNING

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## **AWARNING**

#### **AWARNING**

Þ^ç^lÁ[]^læc^Ác@Á[[¸^lÁ@æåÁcād^åÁa[¸}Á¸@l^Ác@Á[]^læt[lÁ&æ}Ár^^Ác@Áa]æå^•Á;Ác@ {[¸^lÈÁV@Áà|æå^Á&[ˇ|åÁc@[¸Áæ)Á;àb^&cÁt[¸æåáÁc@Á[]^læt[lÁ&æ\*•ã;\*Á•^lātˇ•Áā]bŏl^Á[l å^æc@ÁÞ^ç^lÁ[]^læc^Ác@Á([¸^lÁ¸āc@`cÁæ)ÁU]^læt[lÁÚ![c^&cāç^ÁÙdˇ&cŏl^ÈÁOT¸æê•Á¸^æ •æ^cÂÁ|æ•^•Áæ)åÁæÁæåÁæætÄÇU]•ËEE€ÉËT QÙÔD

#### 9.1 Foreign Debris Hazards/Overhead Obstructions

CJ, Ách~æÁ[ Ás^Á&` cÁ; \*• cÁã• cÁà• Ás; •] ^&c\* åÁ[ ¦Á; àb &o• Ác@æó&[ ` |å Áà~Ác@[ ¸ } Å; !Ác@æó&[ ` |å Áàæ; æ‡ ^Ác@ Á; æ&@] ^È
Yæ| Ác@[ \*\* @Ác@ Áæ4~æÁ|[ [\ā \* Á-[ ¦Á^} & ^• ÊÁa[ ` |å^! • ÊÁ! [& \• ÊÁ&` |ç^! • ÊÁ• č { ]• Á[ ¦Á( ^cæ‡Á[ àb &o• ÈÁT æ}\ Ác@

a]•] ^&c\* åÁæ4~æÁ; āc@Áæ\* • ĒÁcÁœ Áæ\* æÁs Áå\*) • ^Áæ} åÁææ) } [ cÁà\* Á; æ] ^å æÁæ] \*[ cÁà\* Á; æ] \* @Ç ÁācÁ; æ Áá\* Á; ^& \* • • æ Ác] ^Å; \* @Ç ÁācÁ; æ Áá\* Á; ^& \* • • æ Ác] ^Å; \* @] ^&c

æé• { æ| ^ ! Áæ4~æÁæ\* Á; ^ ||Áæ\* Á] [•• āà |^ ÊÁc@} Ác] ^ } Acæ Ác@ Á] æd Ác@æóÆæ• Áà\* ^ } Áā; •] ^ &c\* åÁæ) å Á&æ) Å æ\* | ^Áà\* ^

!^{ [ ç^å ÈÁ\* æ] ^ Áæ&@Á\*, ^ } Áæ4\* æÁæ\* Æá; Áæ) åÁ^] ^ ææÁæ Æí] ^ &æ Ác] ^ } Aæ\* \* ^ ! [ !^ Áæ; æâ ÈÚU^] ^ ææÆæ Ác] ^ &æ
} ^ & \* • • æ\* Á; æÅ\* æÅ\* æÆ\* æÆ\* Æí] ^ &æ Áæ\* Æí] \* Ææ; å† Ææ; å† ! Åæ; \* ^ ! [ \* • Æí] Á; [ !\ Ææ Æí\* æ\* Æí] ^ &æ Áæ\* Æí\* ææ\* Æí] 
} [ cÁà\* ^ } Á§•] ^ & \* æ\* ŧ•] ^ & \* æ\* Åæ\* Æí\* æ\* Æí\* æ\* Æí\* æ\* æ

# **AWARNING**



#### **AWARNING**

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#### **AWARNING**

#### 9.2 Operating Speed and Ground Speed

Õ¦[`}åÁ•]^^åÁæ̃kæðs@ðç^åÁà^Ádæ)•{ã•ā}Á\*^æÁ•^|^&æā}ÁÞ[oÁà^Ác@Á\*}\*ā¸^Á[]^\ææā;\*Á•]^^åÈÁV@
[]^\ææ[¦Á;æíÁa^Áa^íÁa²,Áa^íÁg[Á\*¢]^\a;ā,Aá@Áa^oÁ\*,Aá\æá,Aæjå\*^Á&[{àā;ææā;}•Á[Áa^c\¦{ā¸^Ác@Áa^•oÁ\*^æÁæ}å
\æa;\*^Á;@ðk@Á;¦[çãå^•Áo@Á;[•ơÁa~æÁ;^\a;{¦a;a}\á\æā;}ÈÁOE
c@Á\*^ç^\ãcÁ;—Á&`cæ;\*Á&[}åäæā;}•Ás[&åAæ]\*^Áa[]^^åÁa^@\*\å&^A&\æ\*^åÈOPS-B-0009

#### **AWARNING**

#### 9.3 Operating the Attached Mower Heads

Ü^-^¦Áq[Ác@ÁCE•^{à|^ÁÙ^&cā[}Á, Ác@áÁ, æ) ĕæþÁq[Ár}•`¦^Ác@éÁ@æåÁánÁ,¦[]^¦|^Áæncæ&@åÁq[Ác@Áa[[{ Ác@á&@Áæ)å @妿ĕ|æ&Áa}^•Áæ¦^Á,¦[]^¦|^Á&[}}^&cåÈÁÁOPS-B-0010

#### **A** DANGER



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#### 9.4 Mower Operation

V@Á[œæā,\*Á;æto•Áā,Ás@āÁ;æ&@ā,^Á@æç^Áà^^},Áå^•ã;}^åÁç•àåÁç•¢^åÁf;¦Á\*\*\*^åÁ;•^ÈŘP[\_^ç^¦ÉÃc@^Á&[\*|åÁæā; ˇ][}Áā[]æ&oÁ,ão@Á@ æç^Á+[|ãåÁ;àb^&o•Ë\*&@Áæ•Á+&^|Á\*\*æbåÁæāp•ÉÆ[}&¦^&^Áæà\*d;^}œÊœÉÉÆæě•ā;\*Áo@{ÁdfÁs^ c@[; } ÁæaÁæáç^¦^ Á@ã @Áç^|[8ãc ÈÁÞ^ç^¦Áæ|[;Á&`co^¦Á@`æåÁ[Á&[}cæ&cÁ\*`&@Á;àb^8c• ÈÁQ•]^&cā;\*Áœ@ Á&`ccā;\*Áæ}^æÁ;¦ • X @ A à b x x 4 å A \ [ c a \* A x x 4 k

U} &^Á;} Áf &ææð;} ÊÁr; ^¦Ás@Á; [, ^¦Ás,^&\Á|ðð @d^Áæð; ç^Ás@Á; ææ^¦ãæþÁf Ás,^Á&`dÊA; Ás@Á; [, ^¦Ás,^^Á; oÁ@æç^Áf • œekoÁ}å^¦ÁæÁ[æeåÈÁYão@Áo@Ádæ&q;¦ÁæeÁæ)Ásã|^ÊÁ\}\*æ\*^Á;[¸^¦ÈÁÓ¦ā;\*Ádæ&q;¦ÁÜÈÚÈTEÁ]Á[ÁFJ€€Ë⊙G€€ÁÜÈÚÈTÈÁæ)å 

OZÁJæZÁÁ, [\_^\ÁŠà^&\Á`@``|åÁs^Á&æd¦ð?åÁ;[Áo@æxÁœÁA;ædoÁ;Áo@Ás^&\Á;^ã @ÆzÁæd}ð?åÁs^Áó@Ás[[{ Áse}åÁ;ædó&æd}ð?å -{||[.•Ás@-Á&[}d[`¦Án-Ás@-Át|[`}åÁn[|^Án æ-ān^Áa`|ā,\*Án[.ā,\*Án]^|ææān}•È

V@Á[œc^Á;[¸^¦Ás^&\Á;@,`|åÁse,æ°•Ás^Ásæc¦ā°åÁæœ@¦Ásœe)Ás¦æ\*\*^åÁ;}Ás@Á\ãaÁ@,^•Á;@}Á;[¸ā;\*Á;}Ás@ \*¦[ˇ}åÈÖ¦æŧ\*ą̄\*Ác@Á[œá^Á[gæ^Á;[¸^¦Áå^&,Áq&,Áq&,Aæ^•Ác@Á•ãå^Á[æå•Á;}Ác@Áà[[{ÊÁå^&;^æ•^•Ác@Á@;•^][¸^¦ ægæajææi/^Áf Ás@ Á&` cc^¦Á@ æåiÊæn) åÁ^å` &^• Ás@ Ásæàjããĉ Áj Ás@ Ásæ&&` { ` |æg | Ás@ Ásæb¦^Áj æb Ój Ásæb¦^Áj æb Ój Ás@ Á @Áj Ás@ Ás[ [ { å ˈ{ā̞ \* Á̞ [ ā̞ \* Á̞ ] ^ ¦æeā[ } ● È

**AWARNING** 

Y @ } Á [ cæaā] \* Á j æðo Áæb ^ Áāj Á [ cāī] ÉÁn ^ ¦āī \* Áāj bǐ ¦ Á æ Á k& š ¦ Áā-Ásæ cāī } Áān Á [ cÁ • ^ å Á ¦ Áåæ) \* ^ ¦ Áān }[oÁ\^&[\*}ã^åĚ\Þ^ç^¦Áæ||[, Áà^•œa)å^¦•Á, ão@a, Á300 feetÁ[-Ás@-Á(æ&s@a,^Á, @}}Áā,Á[]^¦ææā[}È Ò¢d^{ ^Á&æd^Á•@,`|åÁà^Áæd:^}Á; @^}Á;]^¦ææāj\*Á;^ædÁ[[•^Á;àb^&o•Ē\*&@ÁæeÁ\*¦æç^|ÉÁ[&\•ÉÆa);å: å^à¦ãa ÈÁV@∿•^Á&{}}åããã{}•Á∗@|`|åÁsà^Ásæç[ãå^åÈ

#### 9.5 50" & 60" Boom Rotary

V@^ÁÍ €+ÁBÁÎ €+Áà[[{ Á¦[œd^Áà| \*•@Á{ [ \_^¦Á\_æ• å^• āt} ^åÁ-{ ¦Á& cca} \* Áঠ\*• @Áæ} åÁ-{ |ãæ\* ^Á\* ] Áḍ ÁÎ ā & @ • Áā Áå ãæ ( ^ c^ \ Á; \ Á; ~ | cā | | ^ Áa | æ) & @ • Ác@æ Á@æ ( ^ Áa e d cædÁ&¦[••Á•^&cãt} Áæd^æÁ^~ ãçæb^} cÁd Á[}^AÎ Áð; &@ à¦æ}&@È

Ö`¦ā;\*Á;[,^¦Á;]^¦ææā;}ÊÁo@\Á@æd;åÁo@;[od^Á; \*•oÁà^ ઁ•^åÁq Áq æang œang Án}\*āj^Án]^^åÁsæÁrJ€€ËGG€€ÁÜÈÚÈTÈ V@āÁ]¦^ç^}o•Á¦æåå&æфÁ&@æ)\*^•ÁājÁ[ [ ^¦Á•]ājå|^• •]^^åÊ\^å`&aj\*Áx@^Á;[••ãàājācîÁ[-Á&`cc^\Áæ••^{ à|^ åæ{æ\*^È

 $V@\dot{A}@\dot{a}[\capA][\bullet \tilde{a}\tilde{a}] A * \dot{A} \approx \tilde{a}\tilde{a} A A * \dot{a} \approx \tilde{a}\tilde{a}$ å^•āt}^åÁq[Áµ[•ãαã[}Áx@ Á& coā]\*Á@ æåÁæ)åÁμ¦[çãå^Áæ  $|\tilde{a}| \tilde{a} \tilde{c}^{\hat{a}} \hat{A} |^{\hat{a}} = \tilde{c}^{\hat{a}} + \tilde{c}^{\hat{a}} = \tilde{c}^{\hat{a}} + \tilde{c}^{\hat{a}} = \tilde{c}^{\hat{a}} + \tilde{c}^{\hat{a}} + \tilde{c}^{\hat{a}} + \tilde{c}^{\hat{a}} = \tilde{c}^{\hat{a}} + \tilde{$ aa]]|aðåÁ[Ác@Áa[[{ EÁÖ[Á][cÁ[¦&^Ác@Áscca]\*Á@æå ãid Á@ anc^Ána¦aa) & @ • Án¦Án č { ] • ÉAÖ and and Án∮Án@ Á }ãnÁ an Án• ĭ loÈ

A CAUTION

Ö[Á}[oÁ[¸^¦Ác@^Á([¸^¦Á@^æåÁå[¸}Áåãl^&d^Áðjd[ÁæÁd^^Á[¦Á+č{]EÁV@^Á([¸^¦Áà|æå^+Áæb^ å^• å } ^ å Áq Á& oÁ, ão@Ác@ Ár } å ÉÁæ) å Áq ãr • ^ Á&æ) Á&æĕ • ^ Áåæq æt ^ Áq Ác@ Áa |æå ^ Áæ) å ÁæÁ@æ æbå [ ` • • ãc ǎæaã[}Á[¦Áo@^Á[]^¦æe[¦È

**A** CAUTION

Ú[ ` ^¦ā] \* Ác@ Áà[ [ { Áå[ ` } ÉÁ; | &ā] \* Á; [ ` ^¦Áå^&\Á; ð[Á\*; [ ` } åÁ; æ Áåæ; æ \* ^Á; [ ` ^¦Áå^&\Áæ) åÁæ; 

V[ÁY}•`¦^ÁœÁ&|^æ}Á&`dÊY}\*āj^Á;]^^åÁ;@`|åÁà^Á|æājæāj^åÁæÁæj;]¦[¢ājæe^|ÁFJ€€Ë3G€€ÁÜÉÚÈTÈÉQÁs@ Ádæ&d;¦ •|[¸•ÁqÁ^••Áx@a)Árì €€ÄÜÈÜÈ ÈÉA @aÁqÁx@Á,^¢A[¸^¦Á\*^æÈÖUÁ>UVÁaa^Áx@Ák]ˇc&@Éx@aÁ¸ā|Á&æ\*•^Á;¦^{æč¦^ & 🌣 🛠 🕮 🕆 본The engine should not be operated at any time at more than 2400 R.P.M. on the tractor tachometer.

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**A** CAUTION

DO NOTÁ •^Ár¢&^•ãç^Á[¦&^Á; @}Á][•ããā]}ā] \*Á&` ccā] \*Á@`æåÁā, qíÁ@`æç^Áa¦æ) &@•Á[¦Á•č{]•È Öæ(æ\*^ÁqíÁœ)Á}ãó(æÁ)ãó(æÁ)° (dÃoÁæÁa^•óÁqíÁroÁc@ Á&` cc²¦Á@`æåÁAbæóÁæ; æ÷√Á|[¸|^ÁæóÆ@æç^Á&` ccā] \* bjà•È

A CAUTION

ÁQÁ-[|ãæ\*^Á-æ||•Á[]Á[]Á[]Á[]Á[], Á[], ^¦Áå^&\Á&æ\*•ā]\*Ádæ&d[¦Á[Áà^&[{^Á`}•œæà|^ÉÁ[[ç^Ác@Aà[[{ %a[|], æ+å+Áæ);åÁ%LJ`c+Á[Á'|ā°ç^Áæ]]ā]\*Á[Ác@^Ádæ&d[¦ÉÁŠ[, ^¦Á[, ^\;Á[, ^\;Áå^&\Á(Á';[`})åÁæ);åÁ•@c å[, }Á;ãÆÆŒ<\Áæ|Á[[æ‡^Á-4[]•ÉÁ^{[ç^Á[]æ#\*^Á-4][{Á[], ^\;Áå^&\È

V@Á;[, ^¦Á, āļÁ] ^¦æe^Á;[¦^Á~æða³} d^ÁsjÁt\*\* @¦Ási[}åãā]}•ÁspåÁ¸ãc@Á^••Á;[, ^¦ÁsiÁc@Á}ãç^•Áse^Á^] cÁœÁ] cÁœÁ; É QÁc@Á;[, ^¦Áà^\*∄•Á;Áşãà|æe^É4d]Ác@Ádæ&d;¦ÉÁ&@&\Á;¦Á¸ã^Á¸¦æ]]^åÁsjÁc@Á+]∄å|^Á;¦Áåæ;æ\*^åÁ}ãç^•È Y@}Á^]|æ&å;\*Á}ãç^•ɽ^]|æ&^Ásd|Á}ãç^•Á¸ãc@Á,^¸Á}ãç^•Á;Ár}•\*¦/Áj¦[]^¦Ásæææ;&^Á•[Ác@Á;[, ^¦Á¸ãļÁ;[c çãà|æe^ÈÁU^ç^¦^Áçãa|ææã}}Á¸ãlÁ^•\*|dÉsÁ}ãç^•Á¸ãc@Á}^~\*áèAse^Á\*•^åÈ

Ó^\*āļÁæáļæ•Áæás@Á[]Árãå^Á;Ás@Ás^^Áæàå [¦\Áå[]}Á,ão@Ás^A\*Æå@Æ[]•^&`cãç^Ájæ•ÈÉV @}Á&`ccā;\*Ás^^•Áæàå •@`à•ÊÁ\*•^Áæá¶\_^¦Ái]^^åÁs Áæál[,Ás@Á)åç^•Áæã ^Ás Á&`cÁæÁ,^||Áæ¢Á` |&@Ó@Á|[ãæ\*^È

**≜**WARNING

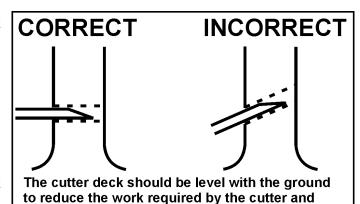
Ó^\*ājÁ^æ&@Ájæ••ÁæAó@Á[]Árāā^Á;ÁœÁd^^•Áæ}åÁj[¦\Áå[]}ÁjāœÁxæ&@Á&[}•^&čæÿ^Ájæ•ÈÁV•^ÁæÁj]¸Ás]^^åÁq[
æ‖[¸Ác@Á&čæð;\*Áa |æå^•Ácā;^Ácā;Ák[jk.@Áæ;Ák] oÁc@Á-£j⿆^EÁY @}Ác@Á-ð;āææÁ,æ•Áæ;Ák[æå^Ê
åã^}\*æ\*^Ás@Á;[¸^¦Éæ;åÁ^č¦}ÁaÁ^č;}Áa[[{Át[ÁæÁæ^Ádæ;^Ádæ;^Adæ;}ÈÄÜ^č;}Át[Ácædæ;\*Á;[ð;oÁæ;åÁ;æ•^Á;o¢ó,æ•Ê
^c&È

OEe^¦Áo@^Ádi•oÁsaêÁ[-Á]^¦æaā[}ÊÁæd|Ás[|o•Á•@[\*|åÁà^Á&@&\^åÁæ)åÁæd;åÁæd;åÁæ\*\&`¦^|ÊÁV@æÁa@[\*|åÁà^Áå[}^ ]^¦ā[å&æd|^Ás[Ár}•\*¦^Ás@^Ás[|o•Ás[Ár]oÁs^&[{ ^Á[[•^Áæ)åÁ&æ\*•^Ásæé æ\*^Ás[Ás@Ásæác[¦Ár¦Á;[¸^¦ÊÁ;Ás]b`;^Ás[Ás@ []^¦æs[¦È

U]^¦æaa[}ÁÛ^&aa[}Á<del>lÜ</del>Î

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Y @^}Á&`ccāj\*Ác!^^•Áad;åÁa;|`•@Áad;];[æa&@Á;æac^¦ãad; q Áà^Á& oÁ, ão@Áo@ Á@ æåÁ,^¦]^} åã& |æÁ Áj Á; ææ\¦ãæþÈ V@^Á&`ccāj\*Á^å\*^Á[-Ác@^Áà|æå^•Á•@[`|åÁà^Ác@ [}|^Án|^{ ^} @^Áa; Á&; } cæ&oÁ; ão@Á; æe^¦ãædÉÁV@^Áa;|æå^ àækÁn @[ `|åÁn [ oÁ&[ } cæ&oÁ, ão@Án ææ^¦ãæþÉÁV @ Án [ , ^¦ ]^{]^}å&&`|æd|^Áqaq Áx@o.Á(æe^\;&edA.æe@\;Á[,^;qi.\*  $c@A[[ ^{\dot{}}A@aaaA[]A[]A[]A[aac^{\dot{}}aac^{\dot{}}Bacc^{\dot{}}A@Aa]aaa^{\dot{}}$ àælÁ\å\*^•Áæl^Át[`\*^ålÁ;\Á[`}å^åÁ\[{ Á, ^ælÊÁc@ æà`•ãç^Á(æ)}^¦ÈÁV@^Áà|æå^Áàæ;ÁãrÁ,[oÁā;c^}å^åÁ[ &`oÁ, æe^¦ãæþÁ;¦Áq;Áà^ÁæÁ, ^ædÁãe^{ Áðã^Ác@^Áà|æå^•È Ö[ÁÞ[ơÁæ|[ Ác@ Áà|æå^•Á; Áà|æå^ÁàæÁ; Á&[ }æ&c  $c@A^*|[`]$  å EA[&] • A[A] [ A[A] à A[A] à A[A] à A[A] à A[A] à A[A] à A[A] A[A]c@\A\*; [`} å A&a) A^• |oA; A| &\• Aa) åA• [ |ãa A| à b\&o @\$&@\$&æ)Á&æě•^Á•^¦ā[\*•Áā]bŏ¦āN•Á[Ác@^Á;]^¦æe[¦ æ) åÁà^•œe) å^¦•ÊÁV@ãÁĉ]^Á[-Á[]^¦æeã[}Á&æ) Á∫^æå q[Áà^} qÁ; lÁà; [\^} Áà|æå^Áàæ• ÉÆà; [\^} Áà|æå^Áà[|σ• æ) å Áà¦[\^} Áà|æå^ Áàæ Áæ•^{ à|^ Áà[|o• Á, @&&@Á&æ) à^Áåæ)\*^¦[ˇ•ÁqíÁs@^Áq]^¦æeg[¦Ásæ)åÁsà^•ææ)å^¦•È



tractor to minimize equipment wear and damage.

Ops-1480

(OPS-R-220)

#### 9.6 50" Boom Flail



**AWARNING** 

U]^¦ææāj\*Ác@^Á;[¸^¦ÁājÁæá{; æ}}^¦Ác@æcÁæd|[¸•Ác@·Ái}æç^•Áq[Á&[}æāj\*æd|^Á;|å.Áa;æ&;\Ái;lÁæd|[¸ã;\* \}ãç^Á;\*•Áq[Á&[}ææ&cÁ[lãæt^Á;ā]lÁ&æĕ•^Áj^¦{ æ}^}œåæq;æt^Áq[Ás@;Á&č;œ^¼&č;æc%¦Án@æeóhå¦č{ĒÁ;}ãç^•ĒÁæq;å \}ã^Áææææ&@;^}œÁ;æbece

**AWARNING** 

V @ ÁÍ €-Áà[[{Á-|æaā|Á&`co^¦Á•@eeó-áē/Åa^•ā\*}^åÁ-[iÁ•œa);åæaåÁ[cæaā[}Áç9æ{^Á[cæaā[}ÁæeAó@Áclæ&d[¦ ¸@^|•Áa`¦ā]\*Á[¦¸æåáklæç^|DÉMever operate the cutter shaft in reverse rotation.ÁU]^¦æaā]\* co@aÁ[¸^¦Áa,Á^ç^¦•^Á[cæaā[}Á;æá&æě•^Á;àb^&o-á[Áa^Ác@[¸}Á;čÁc@A↓[}o4;Ác@Á;[¸^¦Ác@æáÈ

**▲**WARNING

 $V@^{\tilde{A}_{1}} \in \dot{A}_{0}[[\{\dot{A}_{1}|\dot{A}_{0}|\dot{A}_{1}^{*}\}^{2}]^{\dot{A}_{1}}, \dot{A}_{1}^{\dot{A}_{1}}, \dot{A}_{0}^{\dot{A}_{1}}, \dot{A}_{0}^{\dot{A}_{1}}, \dot{A}_{0}^{\dot{A}_{1}}, \dot{A}_{0}^{\dot{A}_{1}}, \dot{A}_{0}^{\dot{A}_{1}}]^{\dot{A}_{0}}, \dot{A}_{0}^{\dot{A}_{1}}, \dot{A$ 

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**AWARNING** 

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#### 9.7 63" Boom Flail

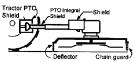


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**AWARNING** 

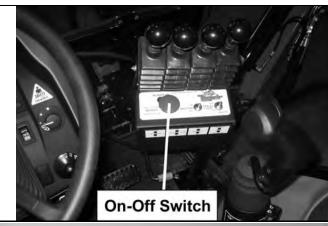
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#### 9.8 Shutting Down the Attached Head- For Standard Equipment

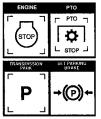
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#### 10.TRACTOR, BOOM, AND ATTACHED HEAD STORAGE

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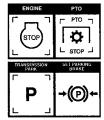
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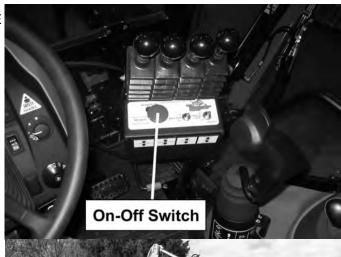
**AWARNING** 

#### 11.TRANSPORTING THE TRACTOR AND IMPLEMENT

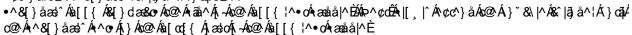
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#### 11.1 Placing Boom Arm on Boom Arm Rest - For Standard Equipment



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#### 11.2 Transporting on Public Roadways

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**AWARNING** 

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#### 11.3 Hauling the Tractor and Implement



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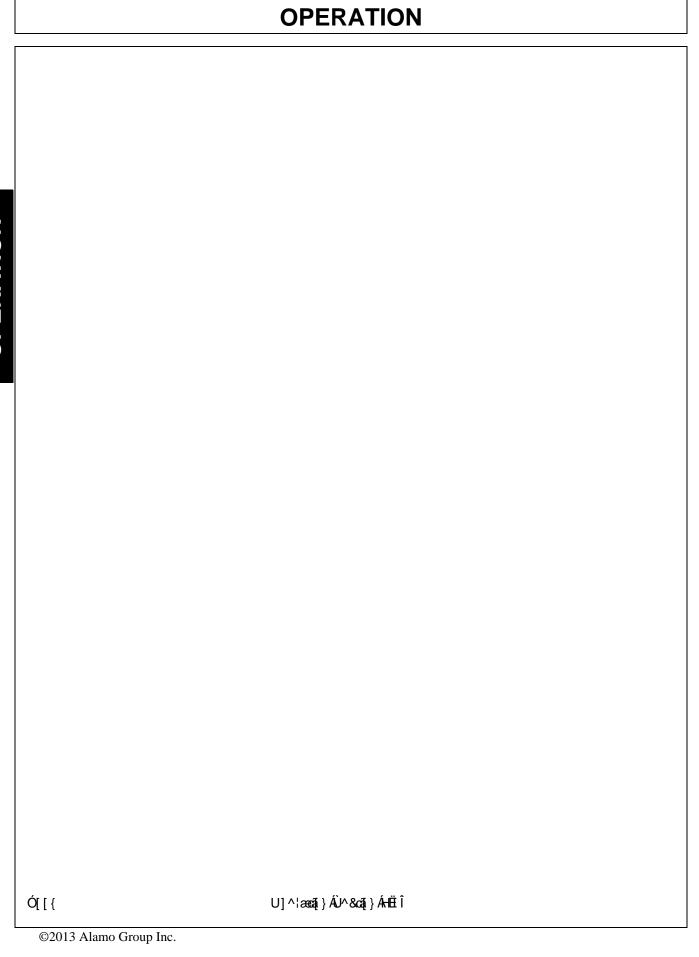
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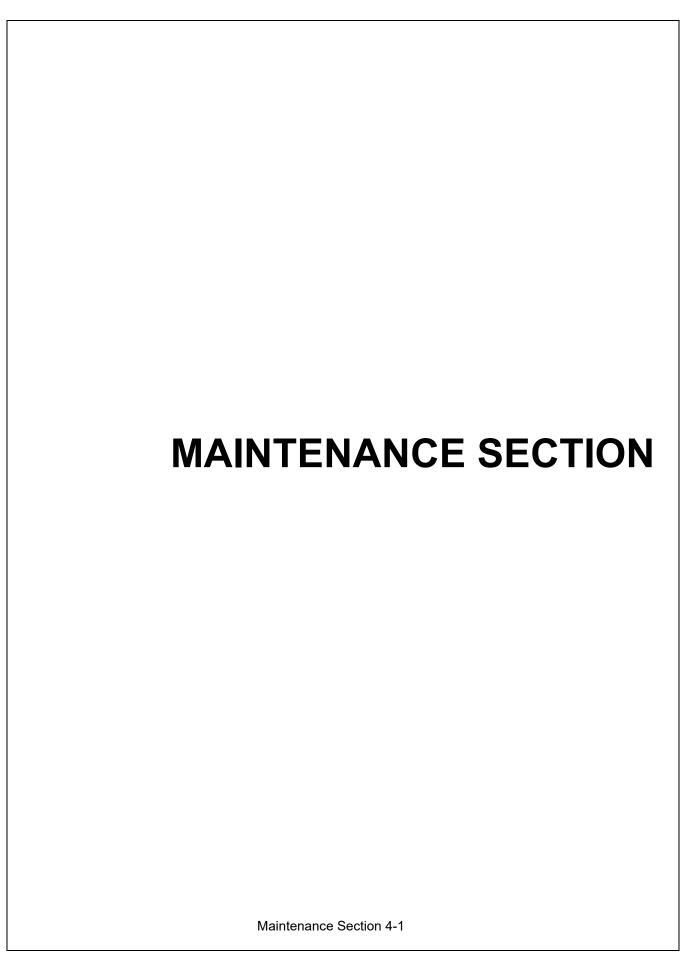
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#### **General Instructions**

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 efficency 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 for suspected leaks in hydraulic hoses! Hydraulic 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 within 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. Thereafter the filter should be replaced every 500 hours, or yearly, which ever 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 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)



Boom

Maintenance Section 4-2



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)

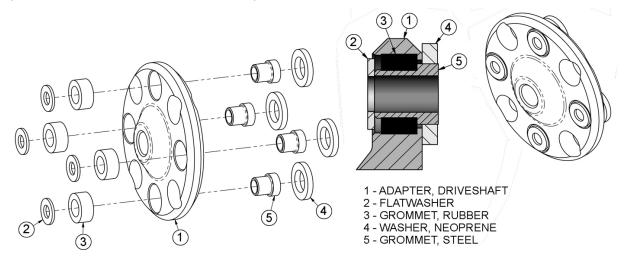
A DANGER

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)



#### 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)



Boom

Maintenance Section 4-3

# **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.

Refer to the Detailed Maintenance section for futher instructions on greasing. Copy and use the Daily Maintenance sheet located at the end of this section.

# **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 Coupler	Check and Lube	Insure driveshaft end play			
Crankshaft Adapter	Check rubber grommets	Replace grommets if damaged or missing			
Pivot Points	Lubricate	Grease as instructed in detailed maintenance section  Insure driveshaft end play  Replace grommets if			
Hydraulic Fittings	Check for leaks				
Knives	Check				
Spindle mouting bolts spindle to deck)	Check	•			
Knife mounting bolts (knife to disk or blade bar)	Check				
Disk/Blade Bar mounting bolts (disk/blade bar to spindle)	Check				
Belts	Check/Adjust	Check if broken, tighten as required			
Main Frame and Deck	Check				
Hydraulic Fluid Level	Check	Add if required per fluid recommendations			
Rear Flail Drive(if applicable) Bear Flange and Shaft Coupler	Lubricate				
Cutter Shaft and	Lubricate	Grease as instructed in			
Boom	Maintenance Section 4	4-4			

Ground Roller			detailed maintenance section				
	WEEKLY C	R EVEI	RY 40 HOURS				
ITEM	SERVICE		COMMENTS				
Rotary Spindle	Lubricate		Every 40 hours or weekly				
	WEEKLY C	R EVEI	RY 50 HOURS				
ITEM	SERVICE		COMMENTS				
In Tank Hyd. 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				
	MONTHLY C	OR EVE	RY 150 HOURS				
ITEM	SERVICE		COMMENTS				
Hydraulic Fluid Level	Check		Add as needed				
Hyd. Tank Breather	Clean/Check/F	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 O	R EVER	Y 500 HOURS				
ITEM	SERVICE		COMMENTS				
Spindle Grease Hyd. Tank Fluid In Tank Hyd. Fluid Filter (10 micron filter)	Change Change Change						
In-Line HP Filter (10 micron filter)	Change	or	Change when indicated by restriction indicator.				
Hyd. Tank Breather	Change						
Boom	Mainte	nance Sect	ion 4-5				
©2020 Alamo Group Inc							

SYMPTOMS  Vibration	CAUSE	DEMED)/				
Vibration		REMEDY				
	1. Loose bolts	Check all bolts and tighten to				
	2. Cutter assembly	recommended torque specs.  2a. Check for damaged blades, disc				
	unbalanced	or cuttershaft. Replace if needed.				
	ansalanod	2b. Check for wire, rope, etc.				
		entangled in the cutter assembly				
Mower will not lift	1. Hyd. Fluid Low	Check and refill hyd fluid				
	2. Leaks in line ROU	2. Tighten or replace fittings and hoses				
	<ol><li>Faulty relief valve</li></ol>	3. Check pressure in line. Line				
		pressure in control valve should be				
		at least 2500 P.S.I.				
	5. Faulty cylinder	Inspect, repair or replace cylinder				
Mower will not start	1. Blown fuse	Check fuse between mower switch				
or run	O. Dallarahara alasa d	and ignition/replace				
	Ball valves closed     Low oil level	<ol> <li>Make sure valves are open</li> <li>Check hyd. tank and fill</li> </ol>				
	4. Line leak	<ol> <li>Check hyd. tank and fill</li> <li>Check all fittings and lines,</li> </ol>				
	4. Lille leak	re-tighten or replace				
	5. Electronic	5a. Without the tractor running, turn				
	solenoid faulty	the mower switch to on. A low				
	<b>,</b>	audible click should be 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				
		object is attracted but no "click" is				
		heard, replace the solenoid.				
		5b. 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.				
		Clean filter and re-install.				
		5c. Remove large nut on side of large				
		valve block. Remove spring, and use				
		needle nose vise grip to pull spool fro				
		block. Check block and spool				
		for contaminants and scratches.				

Clean parts or replace if scratched.

SYMPTOMS	CAUSE	REMEDY
Motor runs but	1. Belts	Inspect belts and pulleys. Replace
will not cut.	2. Tensioner	<ul><li>belts and repair as needed.</li><li>Adjust tensioner nut flatwasher washer is flush with top of guide.</li></ul>
Mower turns slowly or not at all.	Contaminants     restricting spool     movement in     valve body.	<ol> <li>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.</li> </ol>
	Suction lines     obstructed	Check for kinks or obstruction in suction hose.
	3. Low oil level	3. 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.

Boom

Maintenance Section 4-7

				Т	orque	for St	andard	l Faste	ners				
Nominal Dia.			$\rangle$	Grade 2		<b>&gt;</b>	Grade 5			Grade 8			Grade 9
Dia.	per inch	Tig	htening Tor	que	Tig	htening To	rque	Tig	htening Tor	que	Tig	htening Tor	que
	IIICII	Lubed	Dry Plated	Dry plain	Lubed	Dry Plated	Dry plain	Lubed	Dry Plated	Dry plain	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
					Unit		rse Threa						
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	18 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
1 1/2	6	652	783	869	1462	1657	1950	2371	2688	3162	2779	3150	3706
			-										
		l	l	I	la=1: ::		hread Se					land	
1/4	28	56 in-lbs					116 in-lbs						
5/16	24	112	135	150	174	197	231	245	278	327	287	325	383
3/8	24	17 ft-lbs	20 ft-lbs		26 ft-lbs	30 ft-lbs		37 ft-lbs	42 ft-lbs	49 ft-lbs	43 ft-lbs	49 ft-lbs	58 ft-lbs
7/16	20 20	27	32	36 55	41	47	55	58	66	78	68	78	91
1/2		41	49		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 16	82	99	110	127	144	170	180	204	240	211	239	281
3/4		144	173	192	223 355	253	297	315 502	357	420 669	369	418 666	492 784
7/8	14	138	165	184		403	474		568 867		588		
1 100	14	210	252 357	280	542	614 757	722	765		1020	896	1016	1195
1 1/8	12 12	298		397 553	668 930	1055	890	1083	1227	1444	1269	1439	1693 2358
1 1/4		415	498				1241	1509	1710	2012	1768	2004	
1 1/2	12	734	880	978	1645	1865	2194	2668	3024	3557	3127	3544	4169

Torque values for 1/4 and 5/16-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

D = Nominal Diameter F = Clamp Load

Nominal Pitch   Tightening Torque   Tighteni				Torqu	e-Tens	ion Re	lations	hip for	Metric	Faste	ners		
Nominal   Pitch				Class 4.6			Class 8.8	Class 10.9				Class 12.9	
Nominal   Pitch													
Lubed   Dry Plated   Dry Plat			<b>│</b>	4.6	<b>)</b>	(	<b>(</b> 8.8 <b>)</b>		( 10.9 )			12.9	
Lubed   Dry Plated   Dry Plat			١ ،	\ /	,		\ /	,		\ /	,		
Lubed   Dry Plated   Dry Plat				$\overline{\underline{}}$									
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 = 0.17   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   K = 0.15   K = 0.17   K = 0.20   K = 0.15   K = 0.17   K = 0.20   K = 0.15	Nominal	Pitch											
(mm)         (ft-lbs)         (ft-lbs) <th< td=""><td>D:-</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></th<>	D:-												
3         0.5         0.28         0.32         0.36         0.73         0.82         0.97         1.0         1.2         1.4         1.2         1.8           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         2.2         2.2													
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 6.6 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 11 12 14 28 32 37 40 45 53 47 62 12 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 12 1.75 19 21 25 49 55 65 70 79 93 81 108 14 1.5 28 32 37 72 82 96 103 117 138 121 161 141 142 144 15 161 17 181 17 181 181 191 191 191 191 191 191 191 191		0.5	, ,								<del></del>		
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         6.6         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													
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         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         6.6         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         11													
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         6.6         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         1.25         11         13         15         29         33         39         42         48         56         49         66           10         1.25	_												
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         6.6         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         11         12         14         28         32         37         40         45         53         47         62           12         1.5         21         23         28         53         60         71         76         86         101         89         119           12         1.5         20 <td></td>													
7         1         3.8         4.3         5.0         9.7         11         13         14         16         19         16         22           8         1         5.9         6.6         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         11         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         1.5         20		_											
8         1         5.9         6.6         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         11         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         1.75         19         21         25         49         55         65         70         79         93         31         108           14         1.25         26         29         34         66         75         89         95         103         117         138         121         161           14         1.5													
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         11         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         28         32         37         72         82         96         103         117         138         121         161           14         2.30         34 <td>_</td> <td>_</td> <td></td>	_	_											
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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         104         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													
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         104         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 </td <td></td>													
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         104         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         65         73         86         167         189         222         239         270         318         279         372           20 <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td><math>\overline{}</math></td></td<>													$\overline{}$
14         1.5         28         32         37         72         82         96         103         117         138         121         161           14         2         30         34         40         78         88         104         111         126         148         130         173           16         1.5         50         57         67         129         146         171         184         208         245         215         287           16         1.5         50         57         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         65         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													
14         2         30         34         40         78         88         104         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         65         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													
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         65         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 load calculated as 75% of the proof load for specified botts         K = 0.15 for "lubricated" conditions         D = Nominal Diameter           All torque values are listed in foot-pounds         K = 0.17 for zinc plated, dry condit													
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         65         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 load calculated as 75% of the proof load for specified botts.         K = 0.15 for "lubricated" conditions         D = Nominal Diameter           All torque values are listed in foot-pounds         K = 0.17 for zinc plated, dry conditions         F = Clamp Load													
18         1.5         73         82         97         187         212         249         268         303         357         313         417           18         2.5         65         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 load calculated as 75% of the proof load for specified bolts. K         e. 0.15 for "lubricated" conditions         D = Nominal Diameter           All torque values are listed in foot-pounds         K = 0.17 for zinc plated, dry conditions         F = Clamp Load													
18         2.5         65         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 load calculated as 75% of the proof load for specified botts. K = 0.15 for "lubricated" conditions         D = Nominal Diameter           All torque values are listed in foot-pounds         K = 0.17 for zinc plated, dry conditions         F = Clamp Load													
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 load calculated as 75% of the proof load for specified botts. K = 0.15 for "lubricated" conditions         D = Nominal Diameter           All torque values are listed in foot-pounds         K = 0.17 for zinc plated, dry conditions         F = Clamp Load													
20         2.5         91         104         122         236         267         314         337         382         449         394         525           Clamp load calculated as 75% of the proof load for specified botts. K = 0.15 for "lubricated" conditions.         D = Nominal Diameter           All torque values are listed in foot-pounds.         K = 0.17 for zinc plated, dry conditions.         F = Clamp Load													
All torque values are listed in foot-pounds   K = 0.17 for zinc plated, dry conditions   F = Clamp Load													
All torque values are listed in foot-pounds   K = 0.17 for zinc plated, dry conditions   F = Clamp Load	Clamp lo	ad calc	ulated as	75% of th	ne proof lo	ad for spe	cified bolts	K = 0.15 f	or "lubric	ated" cond	itions	D = Nomir	nal Diameter
												F = Clamp	Load
	Torque v	alues	calculate	d from form	nula T=KDI	F, where							

Boom

Maintenance Section 4-8

Description	Application	General Specification	Recomended Mobil Lubricant
Tractor Hydraulics	Reservoir	JD-20C MF M1135,M1141 FNHM2C134D (FNH201)	Mobilfluid 424
Mower Hydraulics Cold Temperatures 0° F Start-Up	Reservoir	ISO 46 Anti-Wear-Low Temp	Mobil DTE 15M
Normal Temperatures 10° F Start-Up		JD-20C MF M1135,M1141 FNH M2C134D(FNH201)	Mobilfluid 424
Normal Temperatures 15° F Start Up		ISO 46 Anti-Wear	Mobil DTE 25
High Operating Temp. Above 90° F		ISO 100 Anti-Wear	Mobil DTE 18M
Flail Rear Gearbox	Grease	PAO Synthetic Extreme Pressure Gear Lube	Mobil SHC 75W-90 Mobil 1 Synthetic Gear
Cutter Shaft & Ground Roller Shaft(Flail)	Grease Gun	Lithium-Complex Extreme Pressure NLGI-ISO 320	Mobilgrease CM-S
Drive Shaft Coupler (Flail and Rotary)	Grease Gun	Lithium-Complex Extreme Pressure NLGI2-ISO 320	Mobilgrease CM-S
Drive Shaft Yoke, U-joint & Stub Shaft	Grease Gun	Lithium-Complex Extreme Pressure NLGI2-ISO 320	Mobilgrease CM-S
Boom Swivel Boom Cylinder Pivots (Rotary & Flail Boom)	Grease Gun	Lithium Complex Extreme pressure NLGI2-ISO 320	Mobilgrease CM-S
Deck Boom Pivot & Deck Stop Adjustment Rotary & Flail)	Grease Gun	Lithium Complex Extreme Pressure NLGI-ISO 320	Mobilgrease CM-S
Deck Spindle(Rotary)	Grease Gun	Tiger Spindle Lubricant part number 06540000	Mobilith SHC 220

Boom Maintenance Section 4-9

#### POLYCARBONATE CARE AND MAINTENANCE

The proprietry 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.
- 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(1) Top Job(2) Joy(2) Mr Clean(2) Fantastik(3) Formula 409(4) 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 of paints, marking pen inks, lipstick, etc.) The use of masking tape, adhesive tape or lint removal tools work well for lifting off old weathered paints.

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

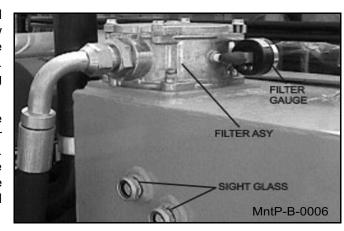
IMPORTANT: If a material is found to be incompatible in a short-term test, it will usually be found to be incompatible in the field. The converse, however, is not always true. Favorable performance is no guarantee that actual end-use conditions have been duplicated. Therefore, these results should be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

Boom Maintenance Section 4-10

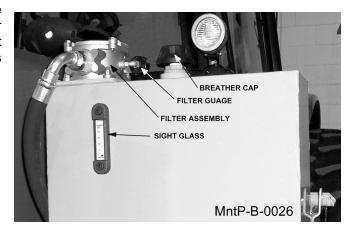
# RECOMMENDED FILLING INSTRUCTIONS FOR HYDRAULIC RESERVIORS

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 not place face over opening when removing breather.

If your reservior has two sight glasses: The reservior should be filled to the top of the lower sight glass on the side of the tank. Do not overfill. The reservoir has been overfilled 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 reservior has one sight glass/temperature gage: The reservior 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.



#### **DETAILED MAINTENANCE**

REPLACING IN-TANK HYDRAULIC FILTER:

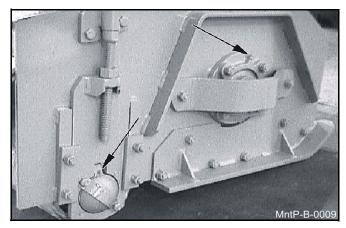
Loosen the four bolts on the top cover of the filter housing. Turn cover counter-clockwise until cover is free. Remove and replace filter. Replace top cover and cover bolts in opposite order as removed.



Boom Maintenance Section 4-11

## **GREASING CUTTERSHAFT -- FLAIL MOWERS**

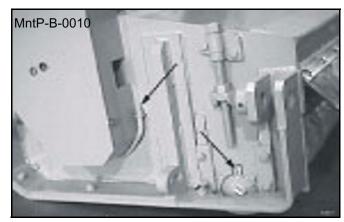
Locate grease zerks on each end of cuttershaft(s), these are located on the bearing cover. Normal conditions require one or two pumps in each bearing, using Lithium-Complex Extreme Pressure grease confirming to NLGI2-ISO 320 specifications. This is to be done with a standard grease gun daily or at 8 hour intervals. CAUTION: Over greasing may cause premature seal failure.



Boom

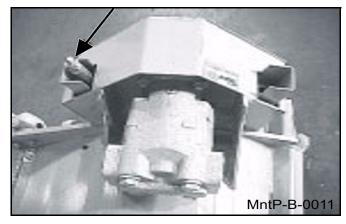
#### **GREASING GROUND ROLLER SHAFT-- FLAIL**

Locate grease zerks on eack end of roller tube at lower end of head. Normal conditions require one or two pumps in each bearing, using Lithium-Complex Extreme Pressure grease conforming to NLGI2-ISO 320 specifications. This is to be done with a standard grease gun daily or at 8 hour intervals. CAUTION: Over greasing may cause premature seal failure.



#### ADJUSTING/CHECKING BELT TENSION

To adjust belt tension or replace belts on flail cutter head, remove four bolts that secure the belt cover and remove cover. The hex nuts shown below can be adjusted to increase/decrease the belt tension as needed. (NOTE: Location of adjustment nuts may vary on flail cutter heads.) Be sure to replace the belt cover BEFORE operating mower!

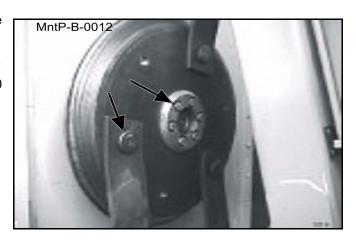


#### **TIGHTENING KNIFE BOLTS AND DISK BOLTS:**

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

Knife mounting bolts torque to 800 lubricated ft. lbs.

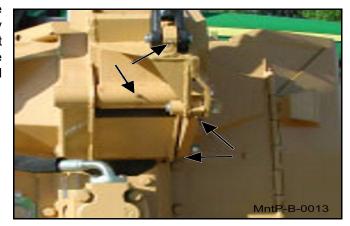
Disk mounting bolts (6ea.) torque to 204 dry or 180 lubricated ft. lbs.



Boom

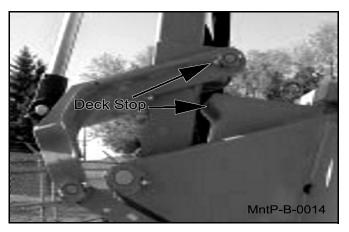
#### **GREASING POINTS ON BOOM AND PIVOT**

Locate grease zerks on deck pivot ssembly, on the deck end of secondary boom, at main/secondary boom joint, and at swivel end of main boom. Inject Lithium-Complex Extreme Pressure grease conforming to NLGI2-ISO 320 specifications until grease begins to protrude from ends.



#### **DECK STOP ADJUSTMENT**

On boom flail, loosen locking nut. Turn adjustment bolt in, and run deck cylinder out to full extension. Adjust bolt out until the head just touches the boom, and tighten lock nut. **NOTE: Bolt should not hit boom before cylinder reaches full travel.** 



#### **GREASING SPINDLE**

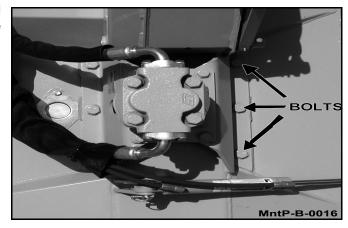
Locate grease fitting on inside of deck housing. Inject Tiger Spindle Lubricant, part number 06540000 into spindle housing. Fill with lubricant until lubricant weeps out of top spindle seal. Lubricate spindle weekly or every 40 hours of use.



Boom

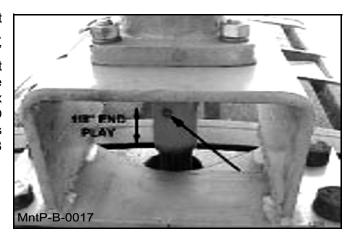
#### **TIGHTENING SPINDLE BOLTS**

The spindle mounting bolts should be checked and retorqued daily or every 8 hours of service. Torque the (6) bolts shown below to 357 dry or 315 ft. lbs. lubricated.



#### **GREASING PUMP DRIVE SHAFT COUPLER**

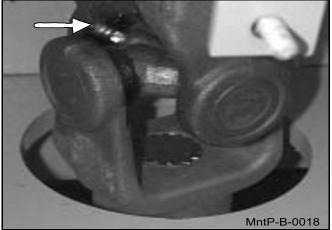
With engine stopped, ensure driveshaft alignment by grasping coupler and sliding back and forth. Coupler should slide freely with approximately 1/8" of end play. If coupler does not slide freely, inspect for loose pump mount bolts, or damaged or loose crankshaft adapter. Inject Lithium-Complex Extreme 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.

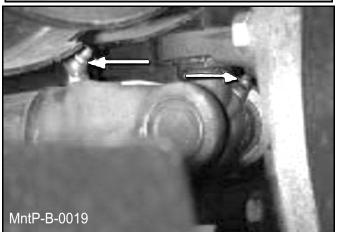


Boom

#### DRIVESHAFT YOKE, U-JOINT STUB SHAFT

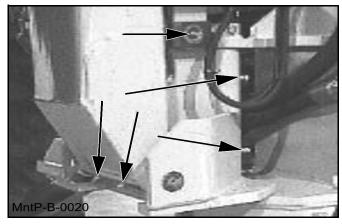
WIth engine stopped, inject Lithium-Complex extreme pressure grease conforming to NLGI2-ISO 320 specifications into universal joints and slip yoke until grease appears at the seal. Grease them daily or every 8 hours.





#### **GREASING THE BOOM SWIVEL**

Locate the zerks on the main swivel boss (if applicable), main boom pivot boss (if applicable) and on both ends of the boom swivel cylinder. Inject Lithium-Complex Extreme Pressure grease conforming to NLGI2-ISO 320 specification until grease begins to protrude from ends.



Boom Maintenance Section 4-16

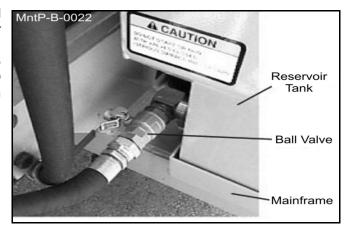
## **GREASING BOOM CYLINDER(S) PIVOT POINTS**

Locate the zerk on the butt end tang of cylinder and on rod end tang. Inject Lithium-Complex Extreme Pressure grease conforming to NLGI2-ISO 320 specifications until grease begins to protrude from ends. This procedure is to be used on the main boom cylinder, secondary boom cylinder, deck pivot, and swivel cylinders daily or at 8 hour intervals.



#### **BALL VALVES**

The ball valve 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 COUPLED TO MOTOR OR PTO! Failure to do so will result in component failure!



Boom

#### **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**

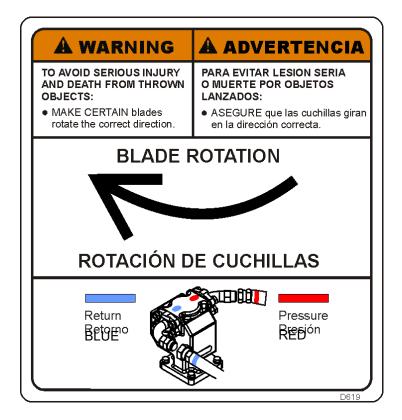
Make sure the mower blades are turning clockwise when looking down from the top of the mower. Follow the color coding on the hydraulic hoses and fittings to make sure the motor and hydaulics hoses are assembled properly. Connect the red hose connection only to red fitting. Connect the blue hose connection 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.





Boom

#### ROTARY KNIFE REPLACEMENT

- 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 (if applicable) around the holes.
- 3. Lube threads with anti-seize. Install bolts through knife and disk from bottom side of disk/blade bar. 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.

**AWARNING** 

WHEN CUTTING HEAVY BRUSH, KNIFE BOLTS SHOULD BE INSPECTED HOURLY AND RETORQUED TO 800 LUBRICATED FT. LBS.

#### REPLACEMENT OF ROTARY DISK/BLADE BAR

**A** CAUTION

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

- 1. The bolts that attach the disk to the spindle must be grade 8. These 5/8 inch bolts are to be torqued to 204 dry or 184 ft. lbs lubricated with Loctite 271.
- 2. 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.
- 4. Inspect the disk mounting bolts daily when checking tightness of knife 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.
- 5. If a knife mounting bolt is loose, the self locking nut must be replaced as a safety precaution. Lubricate threads with anti-seize. Install bolts through knife and disk/blade bar from bottom side. Install self locking nuts and torque them to 800 ft. lbs.

Boom

#### Flail Blades Inspection

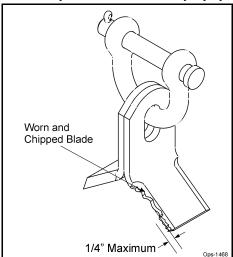
A DANGER

Inspect the Blades daily for abnormal wear. REPLACE ALL BLADES on the carrier IMMEDIATELY if any blades have:

- · Become bent or deformed from its original shape, or
- · Wear inside the blade bolt hole, or
- Any cracks are visible, or
- · Deep gouges in the blade's surface are present, or
- Gouges or chipped areas in the cutting edge are larger than 1/4"(8mm), or
- The material on the leading edge has been worn away by more than 1/4"(8mm)

DO NOT straighten, sharpen, weld or hard-face blades

Failure to replace worn or damaged blades may lead to catastrophic failure of the blades and ejection of the broken part with tremendous force which may cause serious bodily injury or death.



Always replace blades in sets

- Blades that are damaged may indicate severe service or abuse. If one blade is worn or damaged other blades on the same shaft will have been subjected to the same severe service or abuse.
- The Flail rotor turns at speeds exceeding 2000 RPM and is dynamically balanced at the factory. Differences in blade weight between used blades with loss of material from gouges or wear as compared to new blades can cause severe vibration and damage to the Flail rotor. Always replace blades as complete sets.

Boom

#### **Blade Pins and D-Ring Inspection**

Inspect Blade Pins and D-Rings daily for wear or damage as follows:

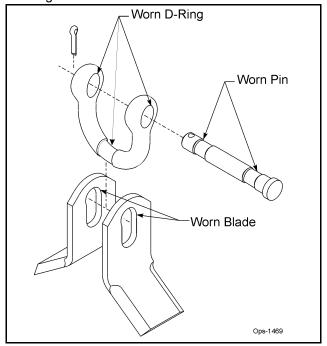
**A** DANGER

Inspect the Blade pins and D-Rings daily for abnormal wear. Make sure the cotter pins are in place and properly spread. REPLACE BLADE Pins and D-Rings IMMEDIATELY if they have:

- Visible cracks or
- If a Pin or D-Ring has visible worn areas, or
- If a Pin or D-Ring has gouges or chipped areas

Failure to replace abnormally worn pins or D-Rings may lead to catastrophic failure and ejection of the broken part, which may cause serious bodily injury or death.

Always replace the pins and D-Rings whenever excessive wear is noticed.



**Important** 

If the cotter pins are broken by contact with other flail blades, remove the pin and reverse the direction the pin is inserted through the D-Ring so that the cotter pin is on the opposite side of the D-Ring. This will prevent the next set of blades from swinging back and hitting the cotter pin. *ops-u-0045* 

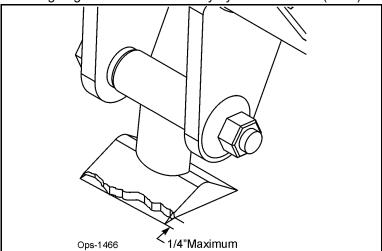
Boom

#### Flail Axe Blades Inspection

**A** DANGER

Inspect the Blades daily for abnormal wear. REPLACE ALL BLADES on the carrier IMMEDIATELY if any blades have:

- · Become bent or deformed from its original shape, or
- · Oval shape wear inside the blade bolt hole, or
- · Any cracks are visible, or
- Deep gouges in the blade's surface are present, or
- Gouges or chipped areas in the cutting edge are larger than 1/4"(8mm), or
- The material on the leading edge has been worn away by more than 1/4"(8mm)



Failure to replace worn or damaged blades may lead to catastrophic failure of the blades and ejection of the broken part with tremendous force which may cause serious bodily injury or death.

Always replace blades in sets

- Blades that are damaged may indicate severe service or abuse. If one blade is worn or damaged other blades on the same shaft will have been subjected to the same severe service or abuse.
- The Flail Axe rotor turns at speeds exceeding 2000 RPM and is dynamically balanced at the factory.
  Differences in blade weight between used blades with loss of material from gouges or wear, as compared
  to new blades, can cause severe vibration and damage to the Flail Axe rotor. Always replace blades as
  complete sets.

**Important** 

Use only genuine Alamo Industrial replacement blades, blade bolts and fasteners. Other blades and bolts may not meet the requirements of Alamo Industrial and may fail during operation, resulting in the part failing and being thrown out from under the mower.



Never attempt to sharpen blades. ops-u-0042

Boom

#### Flail Axe Blade Bolt Inspection

Inspect Blade Bolts daily for wear or damage as follows:

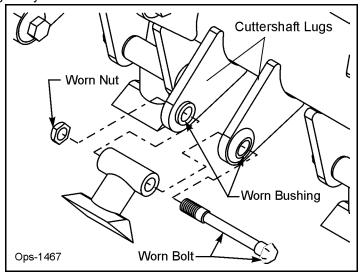
**A** DANGER

Inspect the Blade Bolt daily for abnormal wear. REPLACE ALL BLADE BOLTS on the carrier IMMEDIATELY if any bolts have:

- Visible cracks or
- · If the blade bolt is worn or any recessed area is visible on the bolt, or
- · If Blade Bolt has gouges or chipped areas. or
- If Bushing fits loose in the Rotor Shaft.

Failure to replace abnormally worn bolts or bushings may lead to catastrophic failure of the blades and ejection of the broken part, which may cause serious bodily injury or death.

Always replace Blade Bolts with new bolts and new bushings whenever replacing the Blades. To tighten bolts and nuts, first apply thread lock to nut. Make sure to tighten bolts and nuts just enough to allow the blades to swing freely and not bend the cuttershaft lugs. If cuttershaft lugs are bent together because of over tightening the blades will not swing freely. *OPS-U-0043* 



Boom

#### 50" FLAIL KNIFE BLADE REPLACEMENT (Light Brush Grass)

- 1. If knives are damaged or badly worn, they will need to be replaced as a set. Replacing a single knife can cause severe knife can cause severe vibration and possible damage to the mower. The knife should <u>not</u> be welded on for any reason.
- Always replace the knife bolts when replacing the knives. DO NOT REUSE THE KNIFE BOLTS OR NUTS.
- 3. Assemble knives, bushings, bolts and nuts as shown in Parts Section of the manual.
- 4. Install the locking hex nut so that the flat face of the nut is towards the knife.
- 5. Apply Loctite 271 or equivalent to threads.
- Torque nut to 50 ft. lbs. Knife must swing freely.



DO NOT re-use the locking hex nuts for mounting the knives. If hex nut becomes loose, or required removal for knife replacement or any other reason, they must be discarded and replaced with new nuts.

#### 50" FLAIL KNIFE BLADE REPLACEMENT (Medium Brush Grass)

- 7. If knives are damaged or badly worn, they will need to be replaced as a set. Replacing a single knife can cause severe knife can cause severe vibration and possible damage to the mower. The knife should not be welded on for any reason.
- 8. Always replace the knife bolts when replacing the knives. DO NOT REUSE THE KNIFE BOLTS OR NUTS.
- 9. Assemble knives, bushings, bolts and nuts as shown in Parts Section of the manual.
- 10. Install the locking hex nut so that the flat face of the nut is towards the knife.
- 11. Apply Loctite 271 or equivalent to threads.
- 12. Torque nut to 120 ft. lbs. Knife must swing freely.

**A**WARNING

DO NOT re-use the locking hex nuts for mounting the knives. If hex nut becomes loose, or required removal for knife replacement or any other reason, they must be discarded and replaced with new nuts.

## 50" FLAIL KNIFE BLADE REPLACEMENT (Heavy Duty Brush)

- 13. If knives are damaged or badly worn, they will need to be replaced as a set. Replacing a single knife can cause severe knife can cause severe vibration and possible damage to the mower. The knife should not be welded on for any reason.
- 14. Always replace the knife bolts when replacing the knives. DO NOT REUSE THE KNIFE BOLTS OR NUTS.
- 15. Assemble knives, bushings, bolts and nuts as shown in Parts Section of the manual.
- 16. Install the locking hex nut so that the flat face of the nut is towards the knife.
- 17. Apply Loctite 271 or equivalent to threads.
- 18. Torque nut to 176 ft. lbs. Knife must swing freely.

**AWARNING** 

DO NOT re-use the locking hex nuts for mounting the knives. If hex nut becomes loose, or required removal for knife replacement or any other reason, they must be discarded and replaced with new nuts.

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#### **63" BOOM FLAIL KNIFE REPLACEMENT**

- 1. If knives are damaged or badly worn, they will need to be replaced as a set. Replacing a single knife can cause severe vibration and possible damage to the mower.
- 2. Assemble knives, clevis, bolts and nuts as shown in part section of manual.
- 3. Install locking hex nut so that the flat face of nut is towards the knife.
- 4. Apply Loctite 271 or equivalent to threads.
- 5. Torque nut to 35 FT. LBS. Knife must swing freely.

**AWARNING** 

DO NOT re-use the locking hex nuts for mounting the knives. If hex nut become loose, or require removal for knife replacement or any other reason, they must be discarded and replaced with new nuts.



Knives should not be welded on for any reason.

# HEAVY DUTY SPINDLE ASSEMBLY INSTALLATION AND BEARING ADJUSTMENT

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

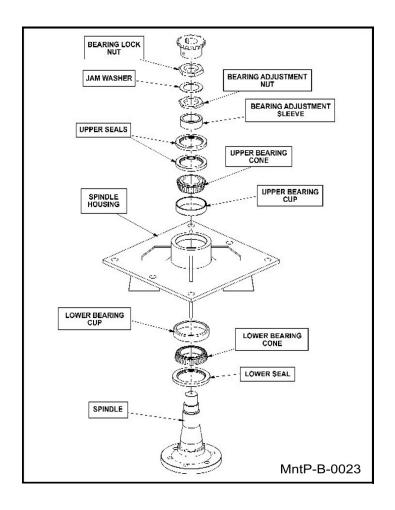
**NOTE**: The grease zerk and gussets are located on the top side of the spindle housing. Be sure the spindle is assembled correctly.

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

Boom

#### THE SPINDLE ASSEMBLY

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



Boom

MntP-B-0024

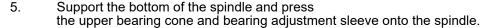
## **MAINTENANCE**

**UPPER** 

BEARING CUP

#### **BEARING INSTALLATION**

- 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 press the spindle to seat the cone onto the spindle.





- 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.
- 9. Position the spindle housing horizontally with the drain hole oriented "up". Grease through the zerk with Tiger Spindle Lubricant (part number 06540000) until the grease purges from the drain hole.
- 10. Install the plug into the drain hole.

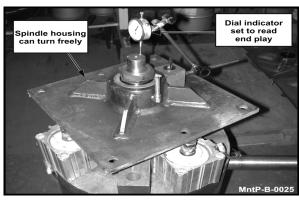
#### **BEARING ADJUSTMENT**

- 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 .012 inch movement when the spindle housing is pried upward away from the vise jaws.
- 4. When there is .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 .001 inch to .003 inch of free play when lightly prying up on the spindle housing.

If the end play is correct, .001 inch to .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 re-tighten the lock nut. Repeat first part of step 5.





Boom

#### **Boom Cylinder Removal and Replacement Instructions**

- 1. Clear the area of all personnel before lowering the boom mower head.
- 2. From the tractor seat with your seat belt fastened around you, lower the boom mower head to the ground. Extend the boom to the furthest reach and lower the mower head flat on the ground. DO NOT attempt to replace the cylinders with the boom in the raised or transport position.
- 3. Shut off the tractor, engage the parking brake, place the tractor transmission in the park position, and remove the key before dismounting.
- 4. Allow the system to cool to room temperature before removing any hydraulic components
- 5. Wear safety glasses and impenetrable gloves when working with hydraulic hoses and fittings.
- 6. Release all oil pressure from the hydraulic circuit by manually stroking each valve section with the tractor engine off. Utilize the manual override function if the unit is equipped with an electric over hydraulic valve.
- 7. Utilize blocks, jack stands or a suitable over head hoist to support the weight of the boom section and remove pressure form the cylinder mounting pins.
- 8. Check to see that the cylinder to be replaced is not under pressure by moving the cylinder pins by hand. The pins should be loose and should slide from the pin bore easily. If the pins are tight and cannot be moved, the cylinder may be under pressure. Make sure the boom components are properly supported and that the pressure is relived from the circuit.
- 9. Cylinder assemblies are heavy and can fall when the pins are removed. Support the hydraulic cylinder with a suitable hoist or jack.
- Slowly loosen the hydraulic connections to the cylinder. Carefully unscrew hose fitting and allow any remaining pressure to bleed off. Use extreme care. Oil must be cool, and the technician should stand to the side to prevent exposure to any hydraulic oil. Always consult the Material Safety Data Sheet and wear any required Personal Protective Equipment. A catch pan may be required to retain any spilled oil.
- 11. Cap both ends of the fitting with suitably sized metal caps.
- 12. Remove the cylinder pins starting with the ROD end cylinder pin. Make sure the cylinder is properly supported, and remove the base end cylinder pin. The cylinder may be heavy-- use proper lifting techniques to lift and handle the cylinder. If needed, get assistance from another person to safely lift the cylinder from the machine.
- 13. Measure the distance between the cylinder pin holes and extend the new cylinder the correct length prior to attempting an installation.
- 14. Install the new cylinder in place and install both cylinder pins and retaining hardware.
- 15. Remove the metal caps and re-install the hydraulic hoses.
- 16. Check the hydraulic reservoir of the boom mower to ensure there is sufficient oil. Follow the manufactures recommendations for proper oil type and filtering techniques and requirements to add oil to the system.
- 17. Clear the area of all persons prior to starting the tractor.
- 18. Consult the Operator's Manual for instructions in regard to the proper operating procedure.
- 19. From the tractor seat, with the seat belt fastened, operate the boom to ensure proper operation of the boom function.
- 20. From the tractor seat, with the seat belt fastened, operate the boom controls to fully extend and retract the new cylinder several times to purge any trapped air from the system.
- 21. From the tractor seat, with the seat belt fastened, look for signs of an oil leak. If an oil leak is observed, shut the tractor down and follow the steps to remove pressure from the hydraulic circuit. Identify the source of the leak and resolve the issue.
- 22. Upon completion of the required repairs return to Step # 16 to recheck the cylinder for proper operation.

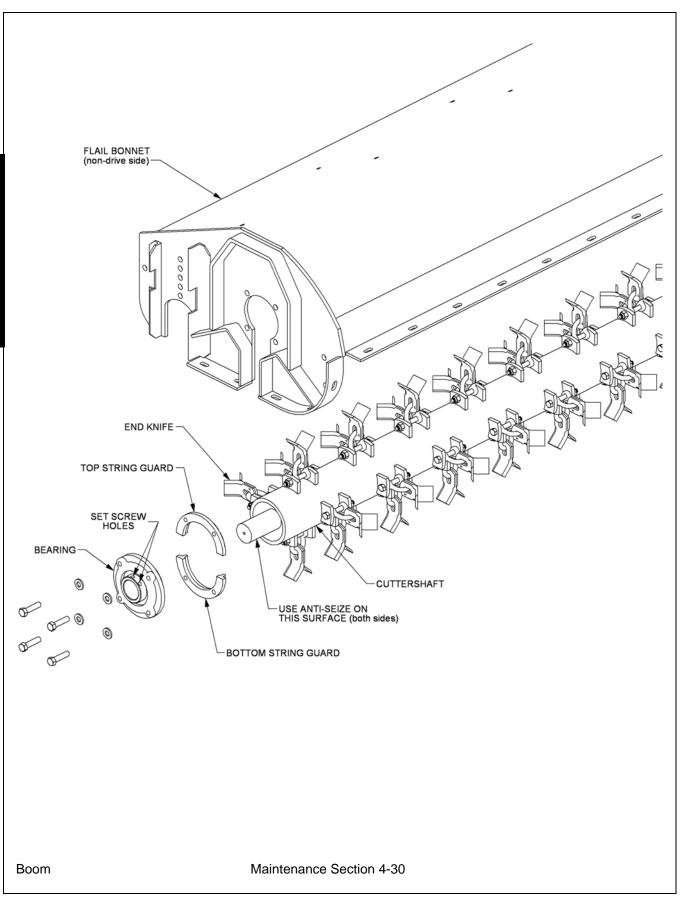
Boom Maintenance Section 4-28

#### CUTTERSHAFT BEARING REPLACEMENT

- 1. Remove existing cuttershaft, bearings and string guards.
- 2. Make sure that the end knives on each end of the cuttershaft are oriented as shown.
- 3. Apply anti-seize on cuttershaft as shown on next page.
- 4. Before installation the bearings must be fully greased per the following protocol: 1.Add 2 or 3 pumps of grease, 2. Spin the bearing 2 or 3 times. 3. Add 2 or 3 pumps of grease. 4. Spin the bearing 2 or 3 times. 5. Add 2 or three pumps of grease. Continue this procedure until you can visually confirm that grease is purging from the entire circumfrence of the seal.
- 5. Install non-drive side bearing first.
- 6. Install the top of the string guard on the non-drive side first. Use Loctite 271 or equivalent and torque (95 ft-lb or 104ft-lb if you use an extension).
- 7. Install the bearing and top string guard on the drive side.
- 8. Center the cuttershaft between the string guards. Use Loctite 271 or equivalent and torque (95ft-lb or 104ft-lb if you use an extension) the top string guard on the drive side.
- 9. Install, use Loctite 271 or equivalent, and torque (95ft-lb or 104ft-lb if you use an extension) the bottom string guard on both sides.
- 10. Make sure the cuttershaft is centered. On the non-drive side, tighten one set-screw in the bearing onto the cuttershaft.
- 11. Remove the other set screw and drill a 5/16" hole into the cuttershaft 3/16" deep through the hole in the bearing. BE CAREFUL NOT TO DAMAGE THE THREADS IN THE BEARING HOLE.
- 12. Replace the set screw in the bearing, use Loctite 271 or equivalent, and tighten onto the cuttershaft through the new hole.
- 13. Remove the other set screw and repeat the drilling procedure (Step 10). Replace the set screw as stated in Step 11.
- 14. Repeat steps 9 through 12 on the drive side.

## See illustration on next page

Boom



#### GROUND ROLLER BEARING REPLACEMENT

- 1. Remove existing ground roller brackets, bearings, and ground roller.
- 2. Remove bearings from stub shafts and ground roller brackets.
- 3. Clean stub shafts thoroughly, and apply anti-seize to O.D. of outer end.
- 4. Before installation, bearings must be fully greased per the following protocol: 1.Add 2 or 3 pumps of grease, 2. Spin the bearing 2 to 3 times. 3. Add 2 or 3 pumps of grease. 4. Spin the bearing 2 to 3 times. 5. Add 2 or 3 pumps of grease. Continue this procedure until you can visually confirm that grease is purging from the entire circumference of the seal.
- 5. Install bearing onto ground roller brackets using existing hardware and Loctite 271.
- 6. Slide bearing-ground roller bracket assemblies onto stub shafts of ground roller.
- 7. Install ground roller brackets onto flail bonnet using existing hardware.
- 8. Insure that ground roller brackets are set to the same elevation on both sides.
- Center ground roller in bearings.
- 10. Tighten one setscrew in one bearing onto stub shaft of ground roller.
- 11. At the other end, remove the setscrew collar and drill 5/16" holes in both setscrew locations into the stub shaft 3/16" dear (or align setscrew holes in bearing collar with existing countersinks in stub shaft.
- 12. Reinstall setscrew collar on drilled-end. Remove both setscrews, apply Loctite 271 or equivalent, and tighten setscrews into stub shaft.
- 13. Then remove setscrew collar from other end, and repeat the drilling procedure from Step 11. Reinstall setscrew collar and install setscrews per Step 12.

See illustrations in the Common Parts Section.

Boom

# **MAINTENANCE**

DAILY MAINTENANCE SCHEDULE			
The following services should be performed daily or every 8 hours of service, following the detailed maintenance instructions in the operator's manual.			
Pump driveshaft: If required with drive shaft/coupler check for end play 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.			
Belts: Check/tighten/replace belts as needed.			
Mainframe/deck: Unless otherwise specified retorque bolts according to torque specifications in this section.			
Hydraulic fluid level: Add, if required, per fluid recommendations.			
Rear flail drive, bearing flange and shaft couplers: Grease as instructed in the detailed maintenance section.			
Cuttershaft and ground roller: Grease as instructed in the detailed maintenance section.			
Meter: Maintenance Section  **This page may be copied and used as part of the daily maintenance routine.			
Boom Maintenance Section 4-32			

JD 51009 H(: -69B; 5@ **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.



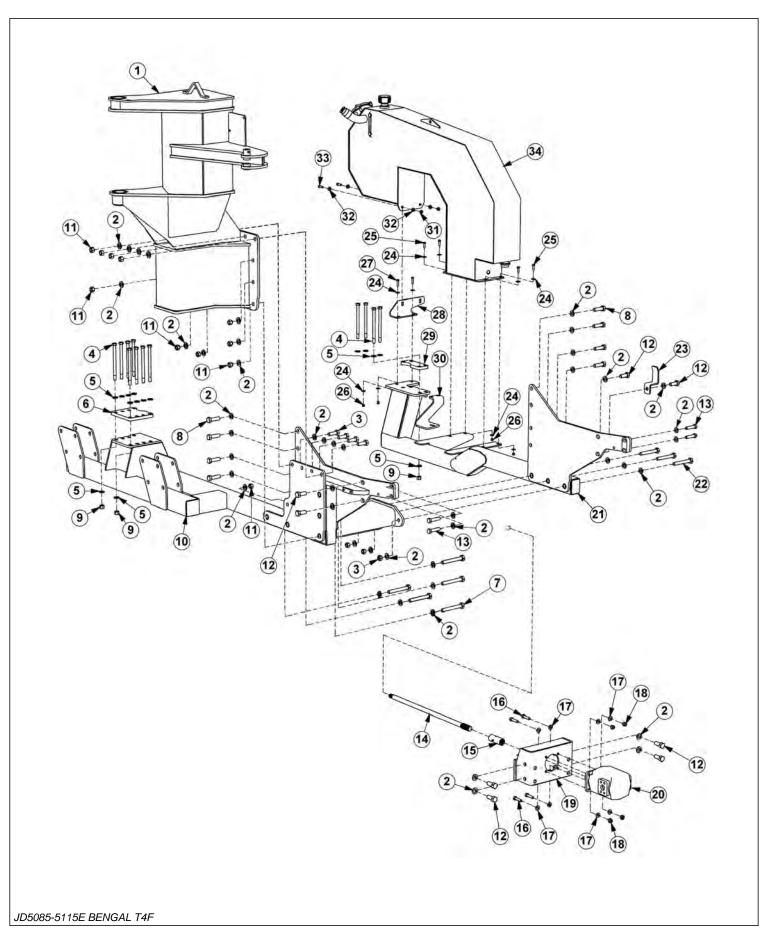
For maximum safety and to guarantee optimum product reliability, always use genuine **Tiger** replacement parts. The use of inferior replacement parts may cause premature or catastrophic failure which could result in serious injury or death.

Direct any questions regarding parts to:

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

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#### TRACTOR MOUNT KIT

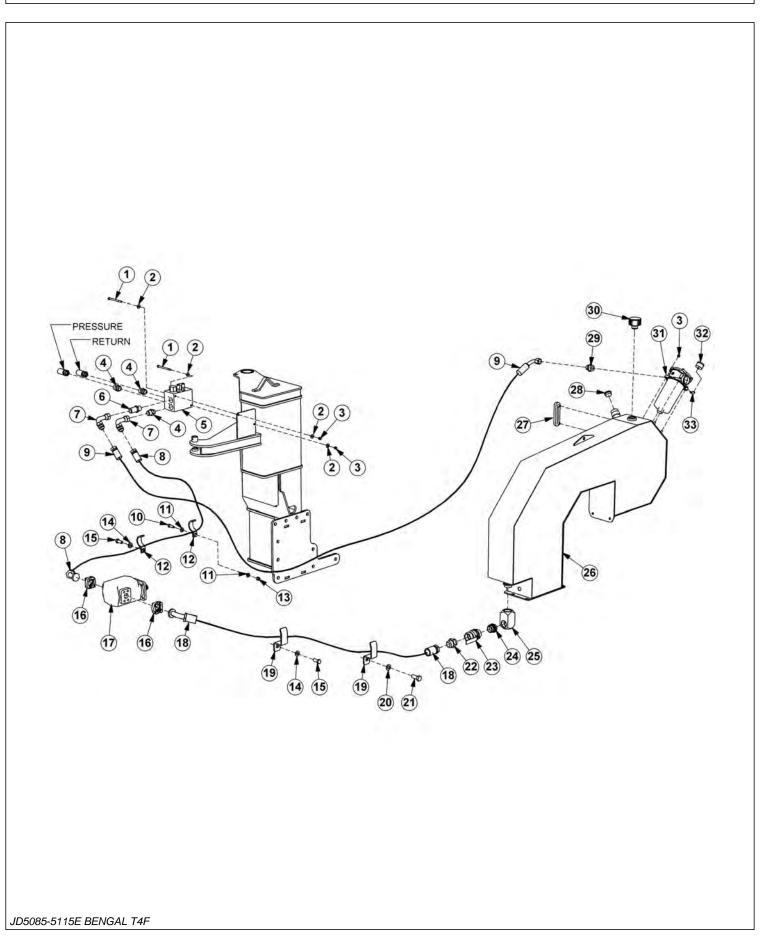


#### TRACTOR MOUNT KIT

#### Continued...

	ITEM	PART NO.	QTY.	DESCRIPTION
	1	06300364	1	MAINFRAME
	2	33880	36	FLATWASHER,3/4",GR 8
	3	21833	5	CAPSCREW,3/4" X 2-1/4", NC
	4	21797	12	CAPSCREW,5/8" X 9",NC
	5	33764	28	FLATWASHER,5/8",GR 8
	6	06402339	1	TOP AXLE PLATE,RH
	7	21843	5	CAPSCREW,3/4" X 6`, NC
	8	25341	8	CAPSCREW,20MM X 70MM,2.5P
	9	21775	12	HEX NUT,5/8', NC
	10	06300360	1	AXLE BRACE,RH
	11	21825	13	HEX NUT,3/4", NC
	12	31731	8	CAPSCREW,20MM X 50MM,2.5P
	13	31732	4	CAPSCREW,16MM X 70MM,2.0P
	14	06420158	1	DRIVESHAFT
	15	6T0375B	1	COUPLER
	16	21733	4	CAPSCREW,1/2" X 2", NC
	17	06533004	8	FLATWASHER,1/2",GR8
	18	21727	4	NYLOCK NUT,1/2", NC
	19	32642	1	PUMP MOUNT
	20	23152	1	PUMP
	21	06300363	1	AXLE BRACE,LH
	22	6T2309	3	CAPSCREW,3/4" X 5-1/2", NC
	23	32382	1	HOSE BRACKET
	24	22016	12	FLATWASHER,3/8",GR8
	25	21631	4	CAPSCREW,3/8" X 1 1/4", NC
	26	21627	6	NYLOCK NUT,3/8", NC
	27	21632	2	CAPSCREW,3/8" X 1-1/2", NC
	28	06412355	1	HYDRAULIC TANK SUPPORT BRACKET
	29	06401246	1	TOP AXLE PLATE, LH
	30	06412356	1	TANK SUPPORT BRACKET *USE EXISTING FASTENERS*
	31	21677	2	NYLOCK NUT,7/16", NC
	32	22017	4	FLATWASHER,7/16"
	33	21680	2	CAPSCREW,7/16" X 1-1/4"NC GR5
	34	06700213	1	TANK,RES,WHEEL WELL ASSY
1				

#### TRACTOR MOUNT KIT-HYDRAULICS



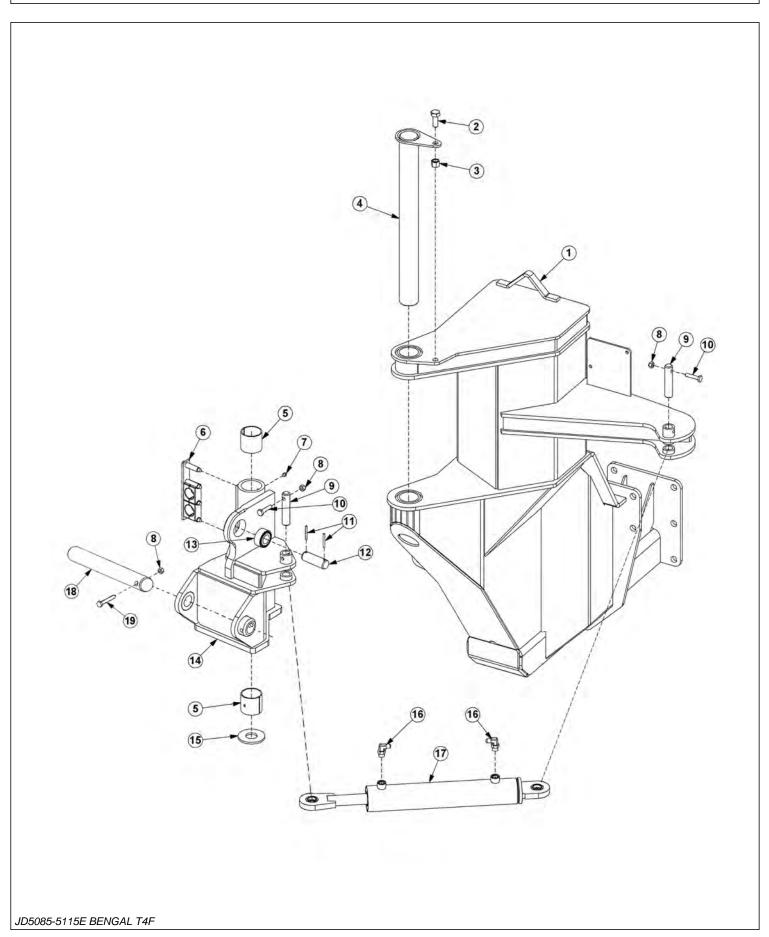
## TRACTOR MOUNT KIT-HYDRAULICS

#### Continued...

ITEM	PART NO.	QTY.	DESCRIPTION
1	21644	2	CAPSCREW,3/8" X 5", NC
2	22016	4	FLATWASHER,3/8",GR8
3	21627	2	NYLOCK NUT,3/8", NC
4	33555	3	ADAPTER,1"MB X 1"MJ
5	06510083	1	BRAKE VALVE
6	32869	1	NIPPLE,MALE LONG,1"MOR X 1"MJ
7	06503200	2	ELBOW,1"MJ X 1"FJX,BT90°
8	06500248	1	HOSE,1" X 77" (PRESSURE)
9	06500819	1	HOSE,1" X 177" (RETURN)
10	21731	1	CAPSCREW,1/2" X 1-1/2", NC
11	06533004	2	FLATWASHER,1/2",GR 8
12	TB3012	2	CLAMP,CROSSOVER
13	21727	1	NYLOCK NUT,1/2 ",NC
14	33764	2	FLATWASHER,5/8",GR 8
15	22421	2	CAPSCREW,16MM X 40MM,2.0P
16	TF4852	2	KIT,FLANGE,#20
17	23152	1	PUMP
18	06500818	1	HOSE,24" X 102"
19	32382	2	BRACKET,HOSE
20	33880	1	FLATWASHER,3/4",GR 8
21	31731	1	CAPSCREW,20MM X 50MM,2.5P
22	34710	1	ADAPTER,1-1/2" ORB X 1-1/2" MJ
23	34309	1	BALL VALVE,1 1/2", FOR
24	06503083	1	ADAPTER,1-1/2" ORB X 1-1/2" ORB
25	06503084	1	ELBOW,1-1/2" FB X 1-1/2" FB
26		1	TANK,RES, ASSY *SEE TRACTOR MOUNT PAGE*
27	06505067	1	SIGHT GAUGE
28	06505127	1	PLUG,SAE #20
29	34064	1	ADAPTER,1-1/4"MOR X 1"MJ
30	06505077	1	BREATHER CAP
31	06505044	1	FILTER,ASSY,IN-TANK
32	6T0649	1	FILTER GAUGE
33	TF4888	1	STREET ELBOW,1/8" X 90°

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## **BOOM MOUNT**



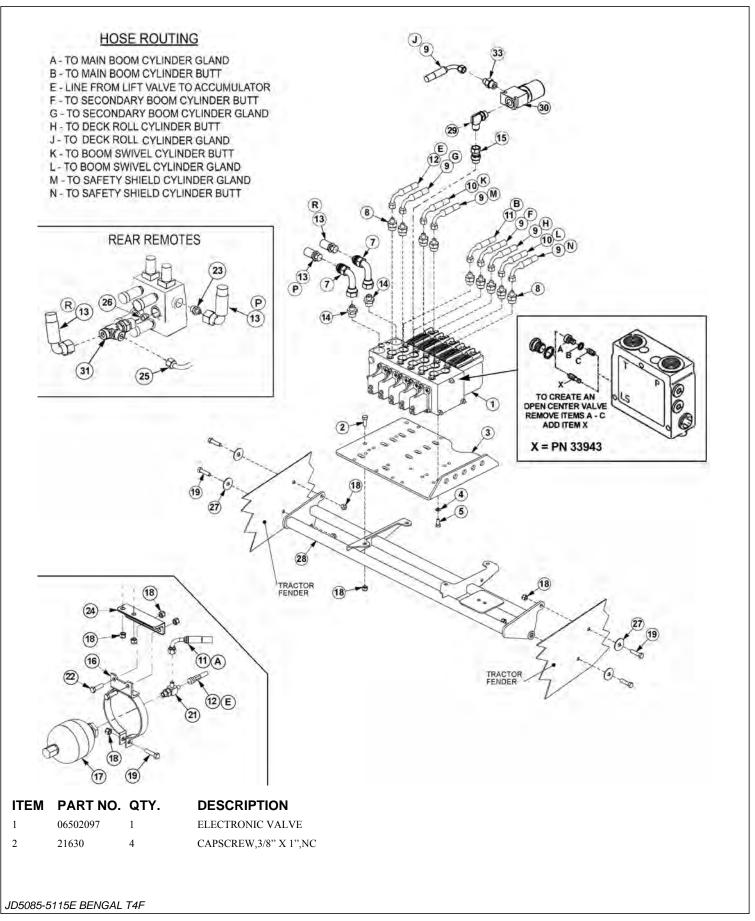
#### **BOOM MOUNT**

#### Continued...

ITEM	PART NO.	QTY.	DESCRIPTION
1		-	MAINFRAME *REFER TO TRACTOR MOUNT KIT
2	21782	1	CAPSCREW,5/8" X 1-3/4",NC
3	21777	1	NYLOCK NUT,5/8",NC
4	32381	1	PIN,CAPPED
5	32322	2	BUSHING
6	06505186	1	CLAMP KIT
7	6T3211	2	GREASE ZERK,1/8"NPT
8	21677	3	NYLOCK NUT,7/16",NC
9	32380	2	PIN,1"
10	21683	2	CAPSCREW,7/16" X 2",NC
11	TB1023	2	ROLL PIN
12	06420100	1	PIN,1-1/4"
13		-	SPHERICAL BEARING *NOT FOR SALE
14	06700185	1	SWIVEL ASSEMBLY
	06310150	1	SWIVEL WELDMENT
15	06520250	1	BEARING, WASHER
16	32810	2	ADAPTER,ELBOW
17	06501029	1	CYLINDER,3" X 13.88"
18	06420022	1	PIN, 1/5" X 12"
19	21688	1	CAPSCREW, 7/16" X 3-1/4"

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#### **ELECTRONIC PROPORTIONAL LIFT VALVE MOUNT**



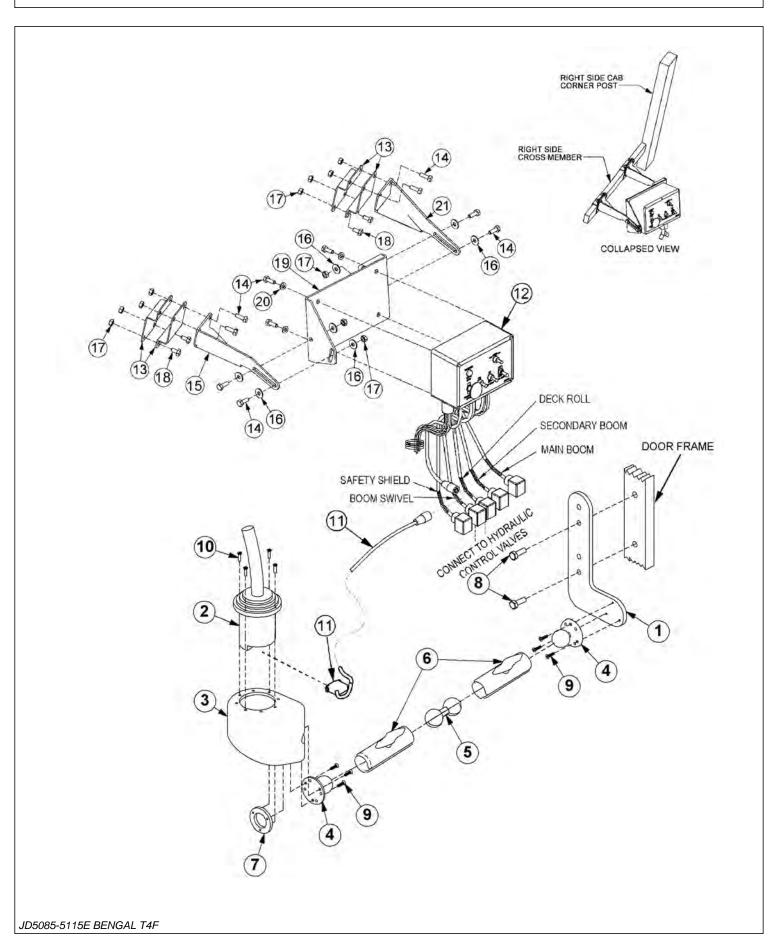
## **ELECTRONIC PROPORTIONAL LIFT VALVE MOUNT**

#### Continued...

ITEM	PART NO.	QTY.	DESCRIPTION
3	34622	1	PLATE, VALVE, REAR MNT
4	21987	4	LOCKWASHER,5/16"
5	21579	4	CAPSCREW,5/16" X 3/4",NC
7	06503199	2	ELBOW, 3/4" MJ X 3/4" FJX, BT90
8	32807	10	ADAPTER,5/8"MB X 3/8"MJ
9	06500687	6	HOSE,1/4" X 268"
10	06500697	2	HOSE,1/4" X 210"
11	06500688	2	HOSE,1/4" X 288"
12	33744	1	HOSE,1/4" X 34"
13	06500823	2	HOSE,3/4" X 53"
14	06503023	2	ADAPTER, 3/4" MB X 3/4"MJ
15	06503041	1	ADAPTER 5/8" ORB X 1/2" FJX
16	23888	1	BRACKET, ACCUMULATOR
17	24300	1	ACCUMULATOR
18	21627	9	NYLOCK NUT,3/8",NC
19	21632	5	CAPSCREW, 3/8" X 1-1/2" NC
21	06503029	1	TEE,RUN,1/2"MB X 3/8"MJ X 3/8"MJ
22	21631	4	CAPSCREW, 3/8" X 1-1/4" NC
23	06502167	1	ADAPTER, PB, JD5M/E
24	06500072	1	BRACKET
25		-	TRACTOR PREFORMED TUBE
26	06503194	1	PLUG
27	6T2615	4	WASHER,FENDER,3/8"
28	06340033	1	VALVE MOUNT
29	33382	1	ELBOW, 1/2" MB X 1/2" MJ
30	06510050	1	TRAVEL LOCK, METRIPACK COIL
31	06503193	1	TEE, RUN, 27MM X 3/4"MF X 3/4"MF
32	06500809	1	HOSE,3/4" X 14"
33	33271	1	ADAPTER, 1/2" MOR X 3/8" MJ
34	06503188	2	ADAPTER, 5/8" MB X 3/4"MJ
35	06503057	1	ADAPTER,1/4"MB X 3/8"MJ
39	35281	1	ELBOW, 3/4"MJ X 3/4"FJX

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#### **JOYSTICK AND SWITCHBOX MOUNT**



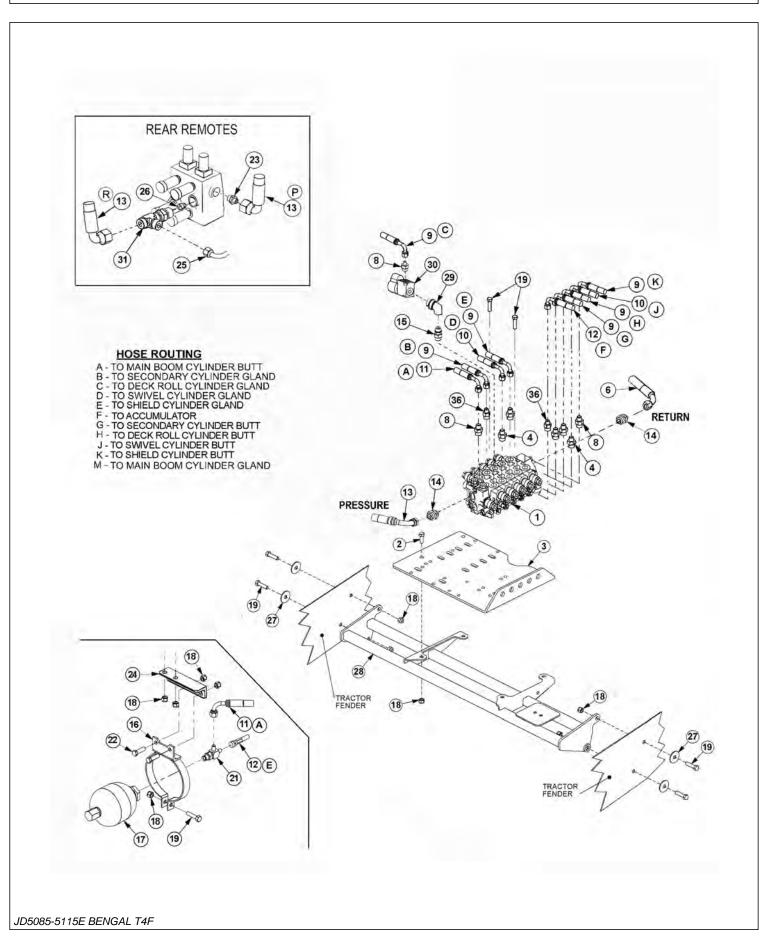
## **JOYSTICK AND SWITCHBOX MOUNT**

#### Continued...

ITEM	PART NO.	QTY.	DESCRIPTION
1	06340031	1	MT,BRKT,JYSTK
2	33691	1	JOYSTICK
3	06770022	1	CAN, JOYSTICK
4	06520019	2	MOUNT,RAM BALL,1-1/2",FLANGE
5	06520290	1	MOUNT,RAM,BALL,DBL,1-1/2"
6	06520020	2	MOUNT,RAM,ARM,1-1/2" X 4-5/8",STD
7	06400882	1	RING,BOLT,MNT,JYSTK
8	23113	2	CAPSCREW,10MM X 30MM,1.5P
9	32990	6	SCREW,MACHINE,10-32 X 1/2",RD HD
10	32829	4	SCREW,MACHINE,10-32 X 3/4",FLT HD
11	33693	1	CBL,EXT,4FT
12	06510196	1	SWITCH BOX,DF,BOOM
13	06411086	4	BRKT,MNT
14	21529	8	CAPSCREW,1/4" X 3/4",NC
15	06411087	1	BRKT,STABILIZING,LT
16	22014	8	FLATWASHER,1/4"
17	21527	12	NYLOCK NUT,1/4",NC
18	21528	4	CAPSCREW,1/4" X 1/2",NC
19	06411116	1	BRKT,MNT,SWITCH BOX
20	21986	4	LOCKWASHER,1/4"
21	06411378	1	BRKT,STABILIZING,RT

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#### **CABLE (MANUAL) LIFT VALVE - 5 SPOOL**



# **CABLE (MANUAL) LIFT VALVE - 5 SPOOL**

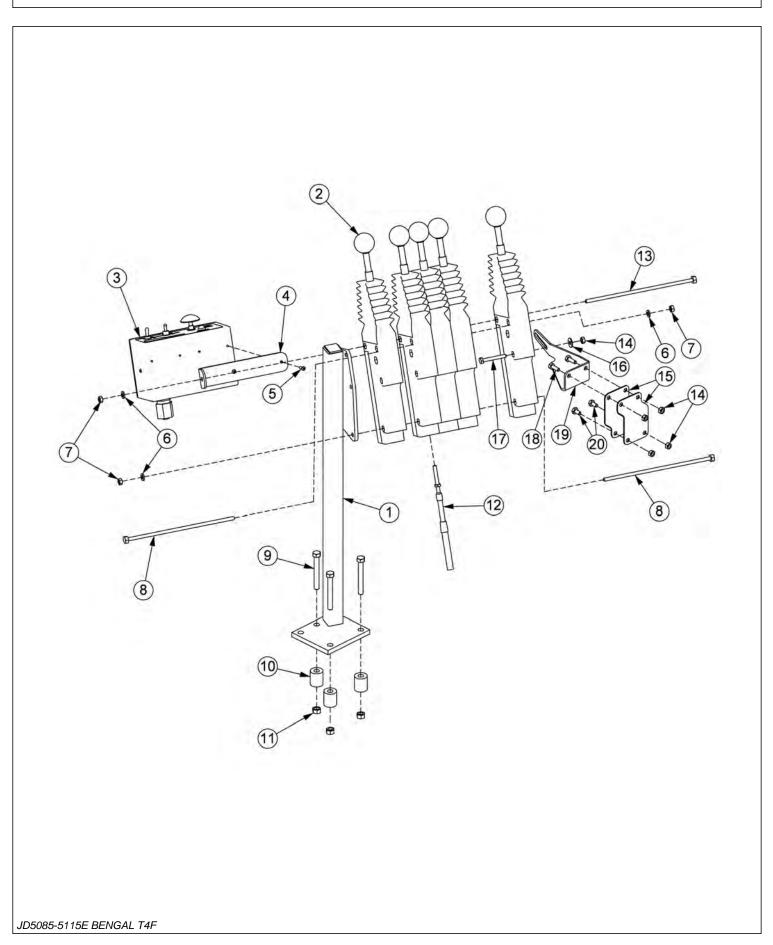
# Continued...

ITEM	PART NO.	QTY.	DESCRIPTION
1	06502187	1	VALVE, 5SPL
2	21630	4	CAPSCREW,3/8" X 1",NC
3	34622	1	PLATE, VALVE, REAR MNT
4	34396	2	ADAPTER, .062 RSTRCTR, 1/2"ORB X 3/8"MJ
5	06503199	2	ELBOW, 3/4"MJ X 3/4"FJX, BT90°
6	06500825	1	HOSE, 3/4" X 40"
7	06503023	2	ADAPTER, 3/4"MB X 3/4"MJ
8	33271	6	ADAPTER, 1/2"MOR X 3/8" MJ
9	06500687	6	HOSE,1/4" X 268"
10	06500697	2	HOSE,1/4" X 210"
11	06500688	2	HOSE,1/4" X 288"
12	33744	1	HOSE,1/4" X 34"
13	06500824	1	HOSE,3/4" X 28"
14	06503023	2	ADAPTER, 3/4" MB X 3/4"MJ
15	06503019	1	ADAPTER 1/2" MB X 1/2" FJX
16	23888	1	BRACKET, ACCUMULATOR
17	24300	1	ACCUMULATOR
18	21627	13	NYLOCK NUT,3/8",NC
19	21632	9	CAPSCREW, 3/8" X 1-1/2" NC
21	06503029	1	TEE,RUN,1/2"MB X 3/8"MJ X 3/8"MJ
22	21631	4	CAPSCREW, 3/8" X 1-1/4" NC
23	06502167	1	ADAPTER, PB, JD5M/E
24	06500072	1	BRACKET
25		-	TRACTOR PREFORMED TUBE
26	06503194	1	PLUG
27	6T2615	4	WASHER,FENDER,3/8"
28	06340033	1	VALVE MOUNT
29	33382	1	ELBOW, 1/2" MB X 1/2" MJ
30	06510050	1	TRAVEL LOCK, METRIPACK COIL
31	06503193	1	TEE, RUN, 27MM X 3/4"MF X 3/4"MF
32	06500807	1	HOSE,3/4" X 33"
34	06503188	2	ADAPTER, 5/8" MB X 3/4"MJ
35	22016	4	FLATWASHER, 3/8"
36	06502036	2	CHECK VALVE, .06

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# **5 SPOOL CABLE CONTOL MOUNT**



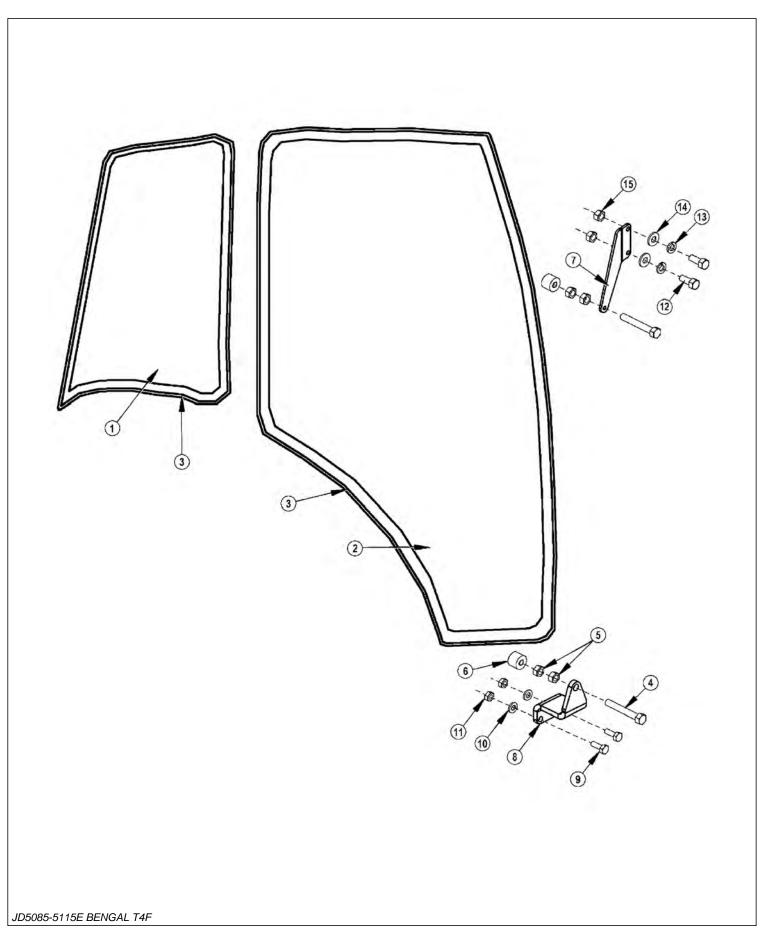
# **5 SPOOL CABLE CONTOL MOUNT**

# Continued...

ITEM	PART NO.	QTY.	DESCRIPTION
1	31923	1	BRKT,CTRL,CBL
2	6T1251	5	CBL CTRL BOX,180 DEG
3	06510100	1	SWITCH BOX,BOOM
4	34496	1	BRKT,SWITCH BOX
5	6T3951	2	SCREW,MACHINE 8-32 X 1/2"
6	21986	3	LOCKWASHER,1/4"
7	21525	3	HEX NUT,1/4",NC
8	21548	2	CAPSCREW,1/4" X 9",NC
9	21635	3	CAPSCREW,3/8" X 2-1/4",NC
10	27082B	3	SPACER
11	21627	3	NYLOCK NUT,3/8",NC
12	06505100	5	CBL,CNTRL,108"
13	34332	1	CAPSCREW,1/4" X 9-1/4",NC
14	21527	5	NYLOCK NUT,1/4",NC
15	06411086	2	BRKT,MNT
16	22014	1	FLATWASHER,1/4"
17	21534	1	CAPSCREW,1/4" X 2",NC
18	21529	2	CAPSCREW,1/4" X 3/4",NC
19	06411087	1	BRKT,STABILIZER
20	21528	2	CAPSCREW,1/4" X 1/2",NC

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# **POLYCARBONATE**



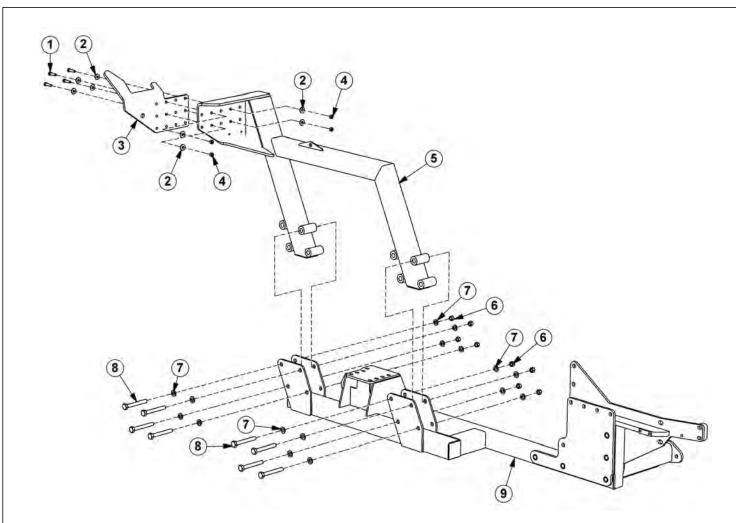
# **POLYCARBONATE**

# Continued...

ITEM	PART NO.	QTY.	DESCRIPTION
1	06490014	1	POLYCARB, FRMD, REAR
2	06490013	1	POLYCARB, FRMD, DOOR
3	31965	25	TRIM SEAL (IN FEET)
4	21584	2	CAPSCREW, 5/16" X 2",NC
5	21575	6	HEX NUT, 5/16" NC
6	33477	2	VIBRATION ISOLATOR
7	06410268	1	TOP BRACKET
8	06410269	1	BOTTOM BRACKET
9	21529	2	CAPSCREW,1/4" X 3/4",NC
10	21986	2	LOCKWASHER,1/4"
11	21525	2	HEX NUT,1/4",NC
12	27508	2	CAPSCREW,8MM X 20MM,1.25P
13	6T2619	2	LOCKWASHER,8MM
14	34948	2	WASHER,8MM
15		-	HEX NUT (EXISTING HARDWARE)
	06537005	1	3M ADHESIVE

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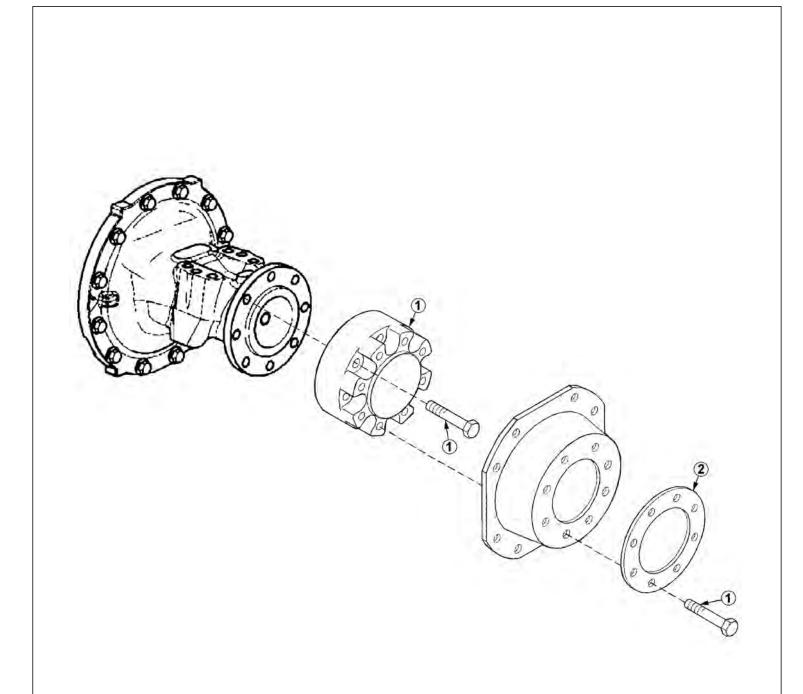
# **SINGLE COLUMN BOOMREST**



ITEM	PART NO.	QTY.	DESCRIPTION
1	21733	4	CAPSCREW,1/2" X 2" NC
2	22018	8	FLATWASHER,1/2",WIDE
3	06411166	1	SADDLE,T4,BENGAL
4	21725	4	HEX NUT,1/2" NC
5	06310074	1	BOOMREST, SINGLE COLUMN
6	21825	8	HEX NUT,3/4" NC
7	33880	16	FLATWASHER,3/4",GR 8,SAE
8	21843	8	CAPSCREW,3/4" X 6" NC
9		-	AXLE BRACE RH* REFER TO TRACTOR MOUNT KIT*

NOT	ES	

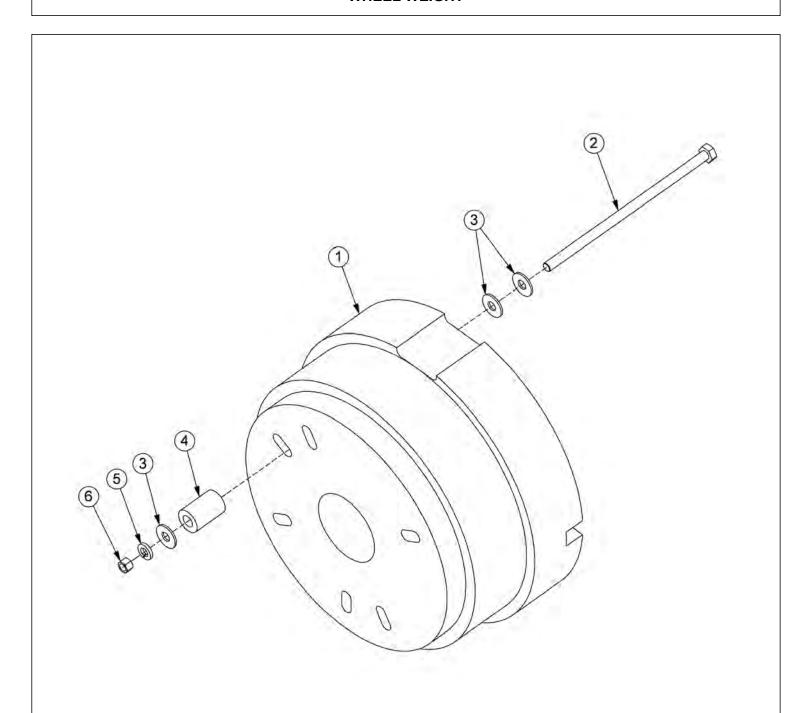
# **WHEEL SPACER**



ITEM	PART NO.	QTY.	DESCRIPTION
1	06770025	1	KIT,SPCR,WHL,JD
2	06400919	1	RING,SPACER,WHEEL,JD

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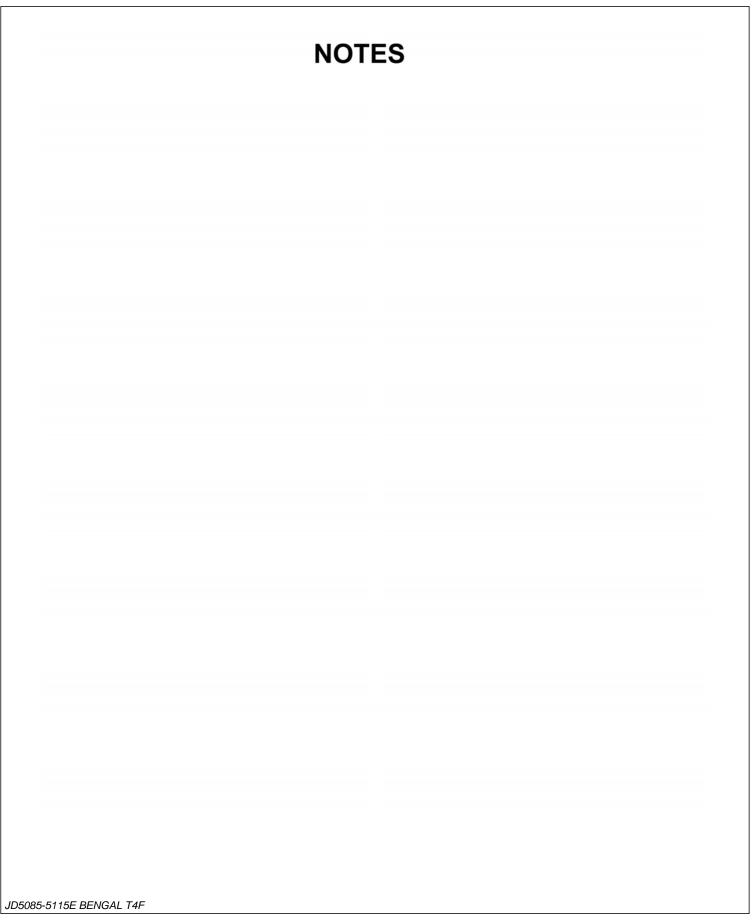
# WHEEL WEIGHT



ITEM	PART NO.	QTY.	DESCRIPTION
1	02970758	1	WHEEL WEIGHT, UNIVERSAL
2	31455	3	CAPSCREW,3/4" X 17",NC
3	33626	9	FLATWASHER,3/4",USS
4	06430148	3	SPACER,2"
5	21993	3	LOCKWASHER,3/4"
6	21825	3	HEX NUT,3/4",NC

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# NOTES 1



# **BENGAL COMMON PARTS**

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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.

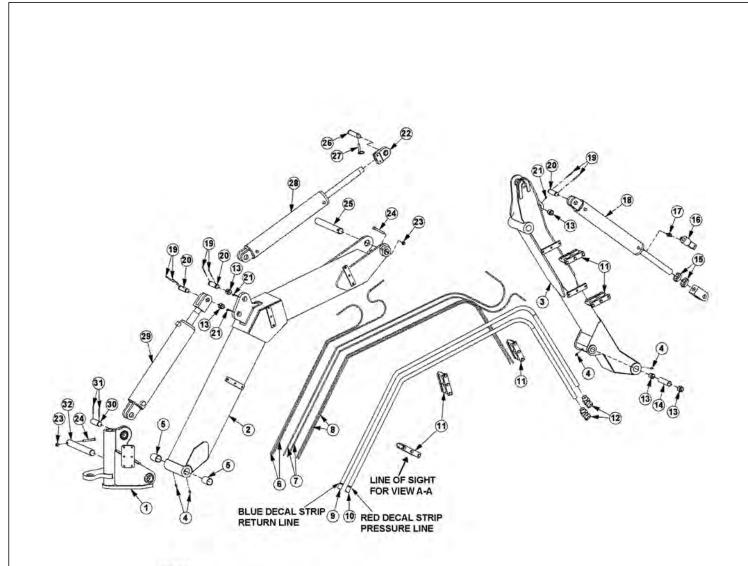


For maximum safety and to guarantee optimum product reliability, always use genuine **Tiger** replacement parts. The use of inferior replacement parts may cause premature or catastrophic failure which could result in serious injury or death.

Direct any questions regarding parts to:

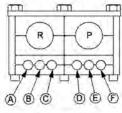
Tiger Corporation 3301 N. Louise Ave. Sioux Falls, SD 57107 1-800-843-6849 1-605-336-7900

#### **BOOM ASSY - BENGAL 18 T4**



#### NOTES:

- 1. IMPORTANT: ALIGN GREASE HOLE OR GAP IN BEARING (ITEMS 5 & 13) WITH GREASE ZERK IN BOOM. MAINTAIN ALIGNMENT DURING BEARING INSTALLATION.
- GREASE HINGE PIN ZERKS (ITEM 4) ON BOOM AFTER ASSEMBLY, ONCE UNDER LOAD WITH BOOM ELEVATED AND AGAIN AT REST WITH BOOM SUPPORTED.
- 3. ONLY ONE SET COLLAR (ITEM 15) NEEDED FOR ROTARY MOWERS.



VIEW A-A

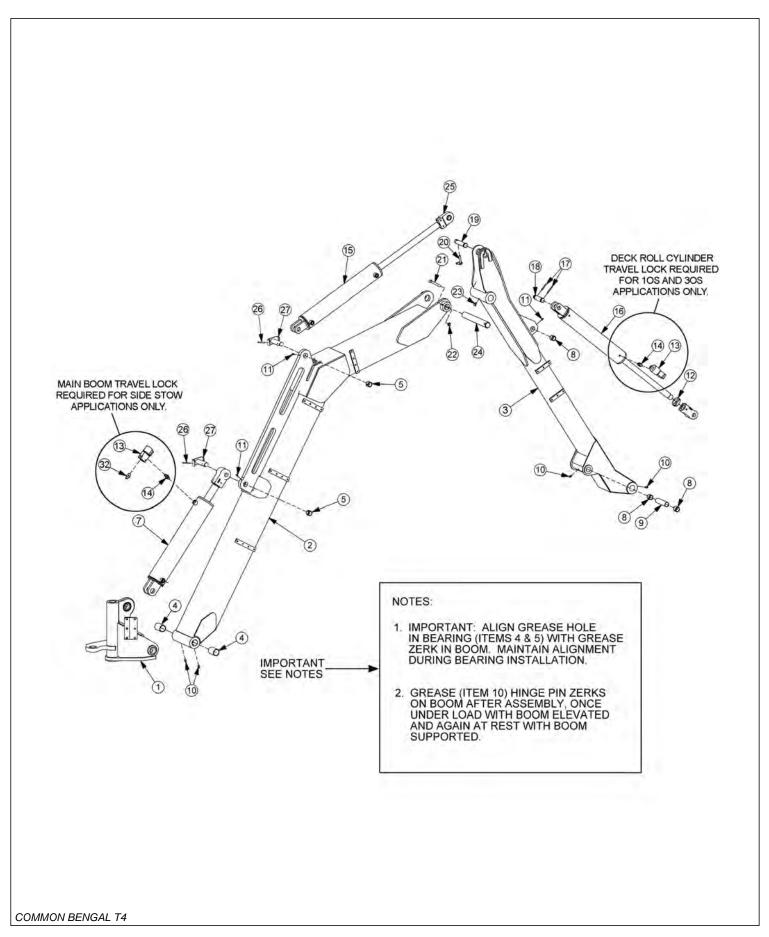
- A SECONDARY BUTT
  B SECONDARY GLAND
  C DECK ROLL BUTT
  D DECK ROLL GLAND
  E SHIELD BUTT
  F SHIELD BUTT
  F SHIELD GLAND
  R RETURN
  P PRESSURE

# **BOOM ASSY - BENGAL 18 T4**

# Continued...

ITEM	PART NO.	QTY.	DESCRIPTION
1		-	REAR STOW SWIVEL ASSY
2	06700167	-	MAIN BOOM ASSY
	06310111	1	MAIN BOOM WELDMENT
3	06700168	-	SECONDARY BOOM ASSY
	06310112	1	SECONDARY BOOM WELDMENT
4	6T3211	4	GREASE ZERK,1/8"
5	32321	2	BEARING, DX, 1-1/2" X 2"
6	06500499	2	HOSE,1/4" X 50"
7	06500500	2	HOSE,1/4" X 108"
8	06500502	2	HOSE,1/4" X 100"
9	06500713	1	HOSE,1" X 163"
10	06500714	1	HOSE,1" X 162"
11	06505116	2	CLAMP KIT
12	24724	2	SWIVEL,1MJ X 1FJX45
13	TB3010	3	BUSHING
14	TB1035	1	BUSHING,SPACER
15	35312	1	SET COLLAR
16	06510050	1	TRAVEL LOCK,METRIPACK COIL
17	31329	1	ADAPTER,1/2ORB X 1/2ORB ADJ
18	06501023	1	DECK ROLL CYLINDER,3" X 18"
19	06537021	6	ROLL PIN,5MM
20	TB1033	4	PIN,1"
21	6T3207	4	GREASE ZERK,1/4"
22	TB3033	1	CLEVIS WITH SPHERICAL BEARING
23	21677	2	NYLOCK NUT,7/16",NC
24	21688	2	CAPSCREW,7/16" X 3-1/4",NC
25	TB1025	1	PIN,1-1/2"
26	TB1036	1	PIN,1"
27	TF1143	1	PIN,LYNCH
28	06501024	1	SECONDARY CYLINDER,3-1/2" X 20"
29	06501022	1	MAIN CYLINDER,4" X 20"
30	06420100	1	PIN,1-1/4"
31	TB1023	2	ROLL PIN,7/32"
32	TB3013C	1	PIN,1-1/2"

#### **BOOM ASSY BENGAL STANDARD 22 T4**

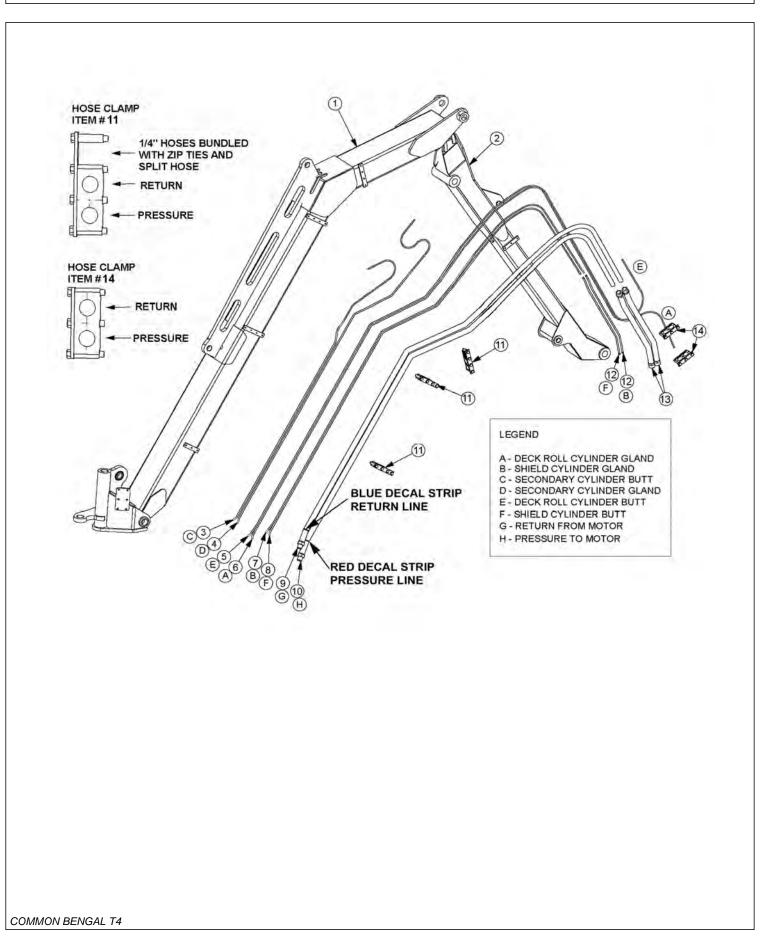


# **BOOM ASSY BENGAL STANDARD 22 T4**

# Continued...

ITEM	PART NO.	QTY.	DESCRIPTION
1		-	SWIVEL ASSY *REFER TO TRACTOR MOUNT KIT
2	06700189	1	MAIN BOOM, T4
3	24517	1	SECONDARY BOOM ARM ASSY
4	32321	2	BEARING, DX, 1-1/2" X 2"
5	TB1044	2	BUSHING, 1-1/4"ID
7	06501020	1	CYLINDER, 5" X 20"
8	TB3010	3	BUSHING, 1"ID
9	TB1035	1	BUSHING,SPACER
10	6T3211	4	GREASE ZERK,1/8"
11	6T3207	3	GREASE ZERK,1/4
12	35312	1	SET COLLAR
13	06510050	1	TRAVEL LOCK,METRIPACK COIL
14	31329	1	ADAPTER,1/2ORB X 1/2ORB ADJ
15	06501022	1	CYLINDER, 4" X 20"
16	06501023	1	CYLINDER,3" X 18"
17	06537021	6	ROLL PIN,5MM
18	TB1033	1	PIN,1" X 4"
19	TB1036	1	PIN,1" X 4-11/16"
20	TF1143	1	PIN,LYNCH
21	21688	2	CAPSCREW,7/16" X 3-1/4",NC
22	21677	2	NYLOCK NUT,7/16",NC
23	6T3210	1	GREASE ZERK,1/8" X 90°
24	TB1025	1	PIN,1-1/2" X 12"
25	30172	1	CLEVIS,SPHERICAL
26	6T3014	2	ROLL PIN, 1/4" X 2"
27	TB1045B	2	PIN, PRIMARY CYLINDER

#### **BOOM ASSY HYD BENGAL 22 T4**

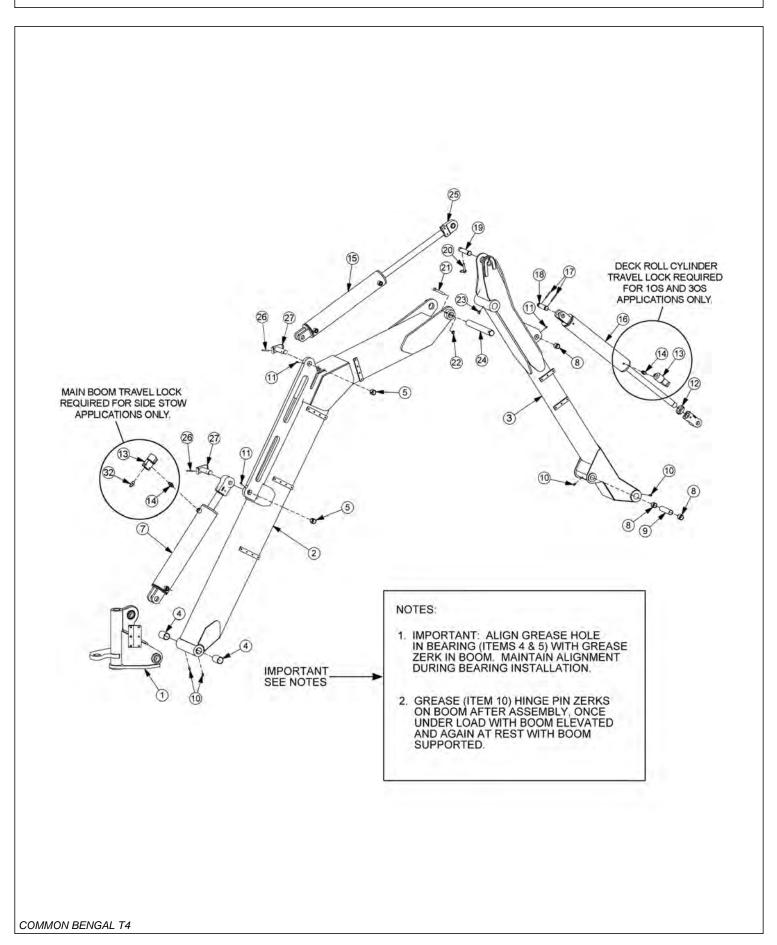


# **BOOM ASSY HYD BENGAL 22 T4**

# Continued...

ITEM	PART NO.	QTY.	DESCRIPTION
1		-	MAIN BOOM *REFER TO BOOM ARM ASSY
2		-	SECONDARY BOOM *REFER TO BOOM ARM ASSY
3	06500694	1	HOSE, 1/4" X 83"
4		1	HOSE, 1/4" X 83"
5	06500695	1	HOSE, 1/4" X 138"
6		1	HOSE, 1/4" X 138"
7	06500696	1	HOSE, 1/4" X 112"
8		1	HOSE, 1/4" X 112"
9	34645	1	HOSE, 1" X 182"
10		1	HOSE, 1" X 182"
11	06505019	3	CLAMP KIT,3 SECTION
12	34102	2	TUBE,PRFRMD,SEC BOOM
13	2403306	2	TUBE,PRFRMD,SEC BOOM,HP
14	30111	2	CLAMP KIT,2 SECTION

#### **BOOM ASSY BENGAL EXT 24 T4**

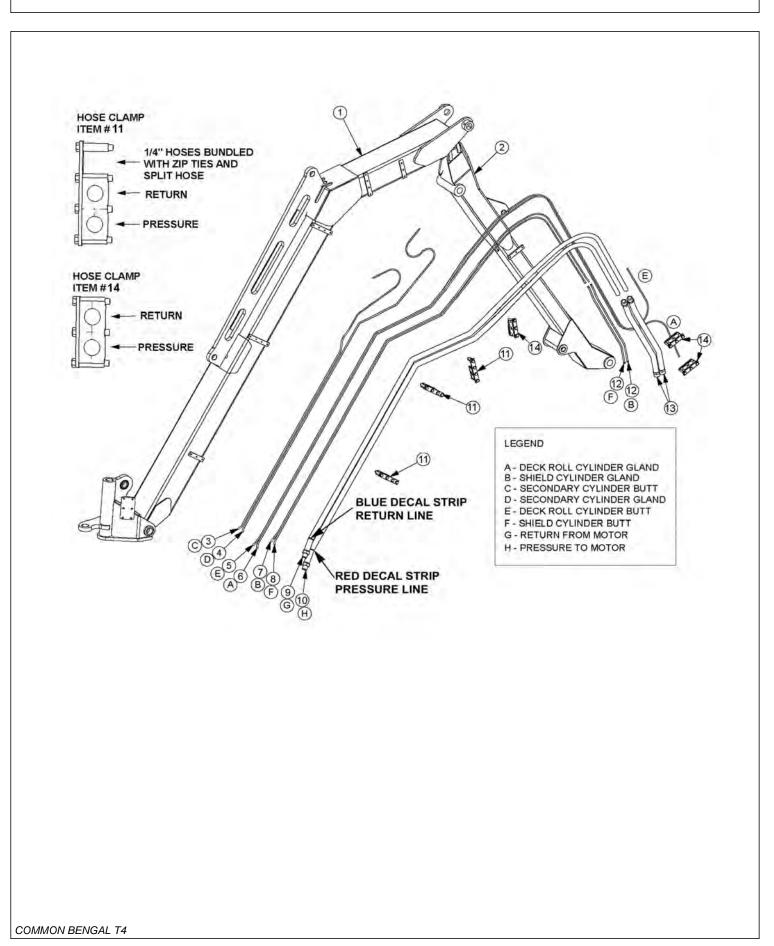


# **BOOM ASSY BENGAL EXT 24 T4**

# Continued...

ITEM	PART NO.	QTY.	DESCRIPTION
1		-	SWIVEL ASSY *REFER TO TRACTOR MOUNT KIT
2	06700191	1	MAIN BOOM, EXT, T4
3	06700094	1	SECONDARY BOOM ARM ASSY, EXT, T4
4	32321	2	BEARING, DX, 1-1/2" X 2"
5	TB1044	2	BUSHING, 1-1/4"ID
7	06501020	1	CYLINDER, 5" X 20"
8	TB3010	3	BUSHING, 1"ID
9	TB1035	1	BUSHING, SPACER
10	6T3211	4	GREASE ZERK,1/8"
11	6T3207	3	GREASE ZERK,1/4
12	35312	1	SET COLLAR
13	06510050	1	TRAVEL LOCK, METRIPACK COIL
14	31329	1	ADAPTER,1/2ORB X 1/2ORB ADJ
15	06501022	1	CYLINDER, 4" X 20"
16	06501023	1	CYLINDER,3" X 18"
17	06537021	6	ROLL PIN,5MM
18	TB1033	1	PIN,1" X 4"
19	TB1036	1	PIN,1" X 4-11/16"
20	TF1143	1	PIN,LYNCH
21	21688	2	CAPSCREW,7/16" X 3-1/4",NC
22	21677	2	NYLOCK NUT,7/16",NC
23	6T3210	1	GREASE ZERK,1/8" X 90°
24	TB1025	1	PIN,1-1/2" X 12"
25	30172	1	CLEVIS,SPHERICAL
26	6T3014	2	ROLL PIN, 1/4" X 2"
27	TB1045B	2	PIN, PRIMARY CYLINDER

#### **BOOM ASSY HYD BENGAL 24 T4**

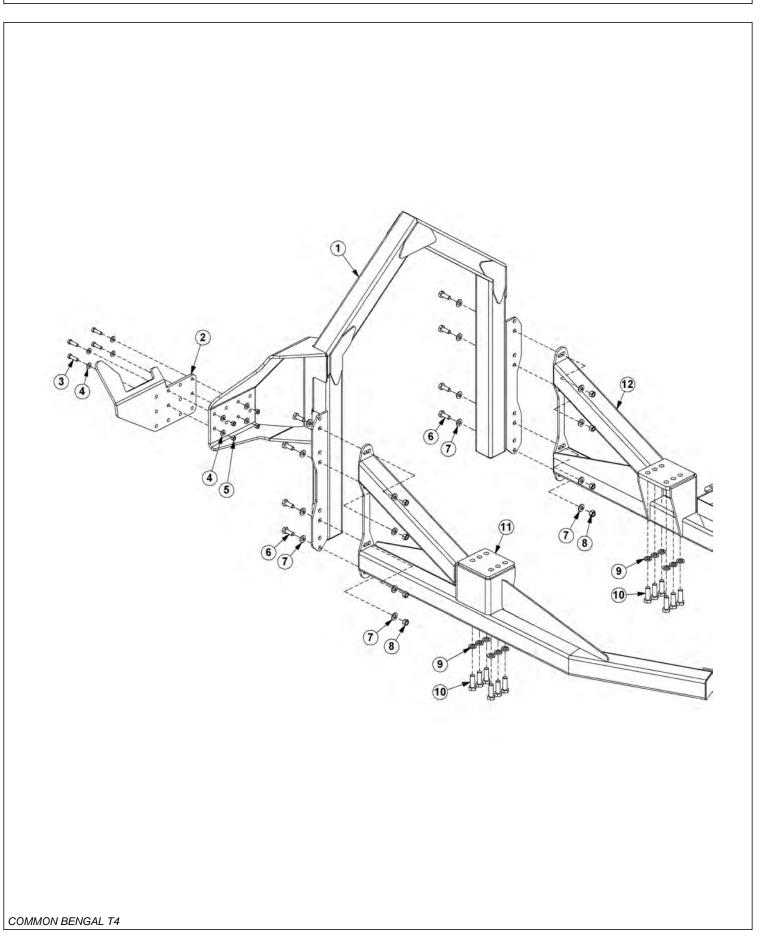


# **BOOM ASSY HYD BENGAL 24 T4**

# Continued...

ITEM	PART NO.	QTY.	DESCRIPTION
1		-	MAIN BOOM *REFER TO BOOM ARM ASSY
2		-	SECONDARY BOOM *REFER TO BOOM ARM ASSY
3	06500716	1	HOSE, 1/4" X 100"
4		1	HOSE, 1/4" X 100 "
5	06500717	1	HOSE, 1/4" X 170"
6		1	HOSE, 1/4" X 170"
7	06500718	1	HOSE, 1/4" X 130"
8		1	HOSE, 1/4" X 130"
9	06500715	1	HOSE, 1" X 198"
10		1	HOSE, 1" X 198"
11	06505019	3	CLAMP KIT,3 SECTION
12	34103	2	TUBE,PRFRMD,SEC BOOM
13	30169	2	TUBE,PRFRMD,SEC BOOM,HP
14	30111	2	CLAMP KIT,2 SECTION

# **BOOMREST - OPEN STOW**

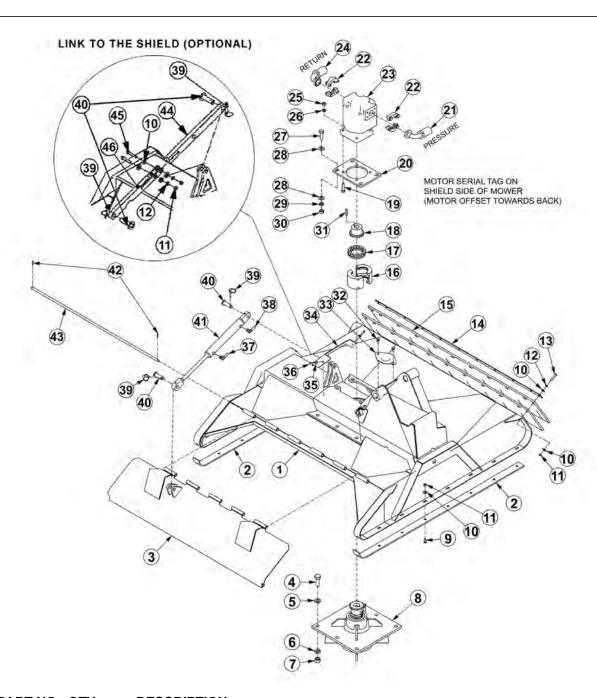


# **BOOMREST - OPEN STOW**

# Continued...

ITEM	PART NO.	QTY.	DESCRIPTION
1	06310157	1	BOOMREST,OS
2	06410968	1	SADDLE
3	21732	4	CAPSCREW,1/2" X 1-3/4",NC
4	06533004	8	FLATWASHER,1/2",SAE
5	21725	4	HEX NUT,1/2",NC
6	21782	8	CAPSCREW,5/8" X 1-3/4",NC
7	33764	16	FLATWASHER,5/8",SAE
8	21775	8	HEX NUT,5/8",NC
9	24881	12	LOCKWASHER,20MM
10	27281	12	CAPSCREW,20MM X 60MM,2.5P
11		1	AXLE BRACE,RH
12		1	AXLE BRACE,LH

#### **50IN ROTARY MOWER ASSEMBLY**



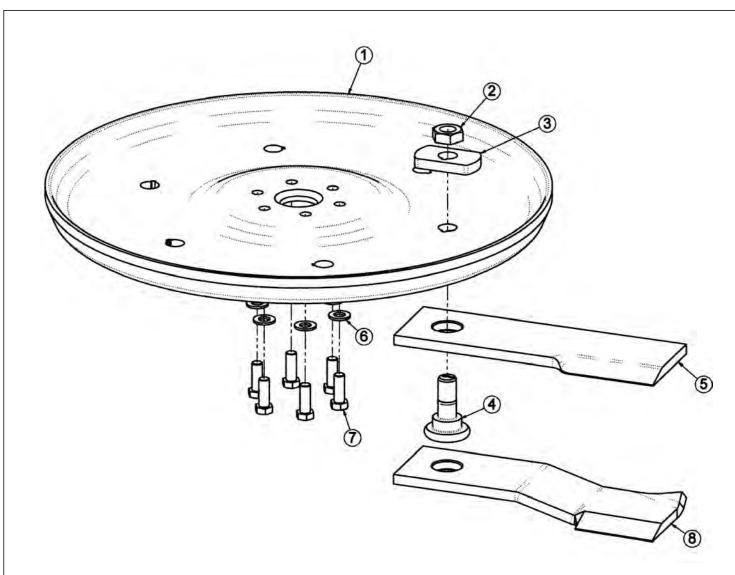
ITEM	PART NO.	QTY.	DESCRIPTION
1	33780	1	DECK,WLDMNT,50" RTRY
2	33777	2	SKID SHOE,50" RTRY
3	33754	1	SHIELD,50"RTRY
4	33879	6	CAPSCREW, 3/4 X 2 1/4,NF GR 8
5	33880	6	FLATWASHER,3/4",GR 8,SAE
6	21993	6	LOCKWASHER,3/4",GR 8
7	6T2413	6	HEX NUT,3/4,NF,GR 8
8	6T1024H5	1	SPINDLE ASSY,CPLT,HD,5/8 HOLES

# **50IN ROTARY MOWER ASSEMBLY**

# Continued...

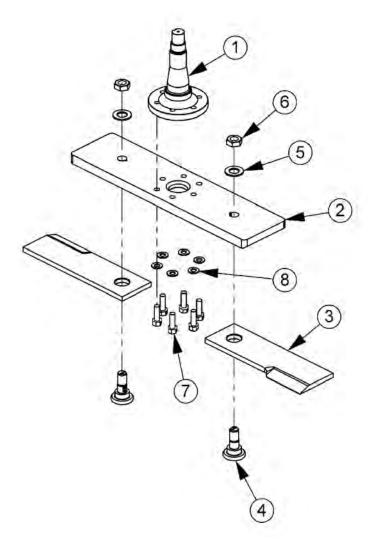
ITEM	PART NO.	QTY.	DESCRIPTION
9	6T2270	16	PLOW BOLT,3/8" X 1" NC
10	22016	33	FLATWASHER,3/8"
11	21625	20	HEX NUT,3/8",NC
12	21988	11	LOCKWASHER, 3/8"
13	21633	11	CAPSCREW, 3/8 X 1 3/4,NC
14	33774	1	FLAP RETAINER,50" RTRY
15	33775	2	FLAP,50" RTRY
16	6T1033	1	COUPLER COVER
17	6T1029	1	COUPLER CHAIN
18	21223	1	SPROCKET
19	21733	4	CAPSCREW, 1/2 X 2,NC
20	33776	1	MOTOR MOUNT,PLATE,50" RTRY
21	24490	1	HOSE - PRESSURE
	06500155	1	HOSE- PRESSURE (LRS ONLY)
22	TF4852	2	FLANGE KIT - #20
23	06504012	1	MOTOR
24	24489	1	HOSE - RETURN
	06500154	1	HOSE-RETURN (LRS ONLY)
25	21725	4	HEX NUT, 1/2" NC
26	06533004	4	FLATWASHER, 1/2"
27	6T2290	4	CAPSCREW,5/8X2,NF GR 8
28	33764	8	FLATWASHER,5/8",GR 8,SAE
29	21992	4	LOCKWASHER, 5/8
30	6T2408	4	HEX NUT, 5/8, NF
31	TF1124	1	SQUARE KEY
32	33881	2	CAPSCREW,FLG, 3/8 X 3/4,NC
33	33779	1	PLATE, COVER, KNF HOLE
34	06410439	1	COVER
35	22014	2	FLATWASHER,1/4
36	21530	2	CAPSCREW,1/4 X 1,NC
37	34187	1	HOSE 1/4" X 75"
38	34186	1	HOSE 1/4" X 66"
39	RD1032	2	LYNCH PIN
40	33984	2	PIN,SHIELD,50"
41	33785	1	1-1/2" X 8", CYLINDER, WELDED
42	6T3017	2	ROLLPIN
43	33778	1	HINGE PIN,50" RTRY
44	33772	1	LINK, SHIELD 50" RTRY
45	21634	2	CAPSCREW, 3/8" X 2, NC
46	33773	1	LINK 2, SHIELD 50" RTRY

# **50IN ROTARY KNIVES AND DISH**



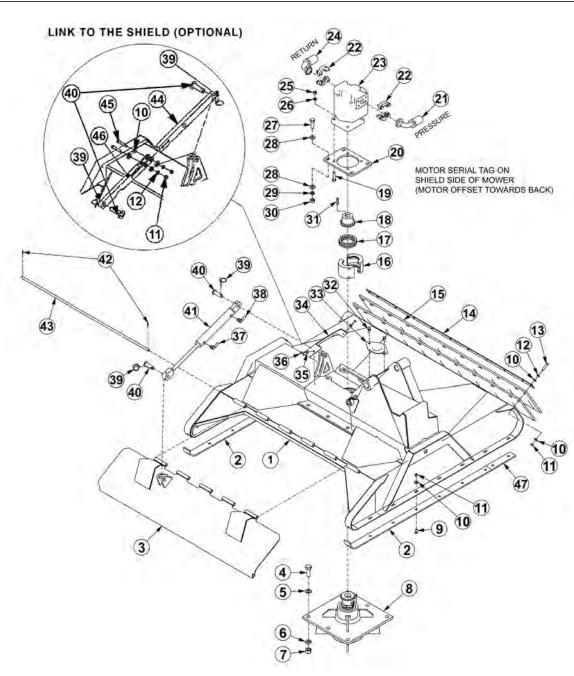
ITEM	PART NO.	QTY.	DESCRIPTION
	06700089	-	KIT,TRB50,DISK,W/BOLT KIT (INCLUDES ITEMS 1,3 & 7)
1	06770003	1	BLADE MOUNTING DISK
2	6T1023R	2	NYLOCK HEX NUT 1 1/8"
3	34878	2	SPACER
4	06538000	2	KNIFE MOUNTING BOLT
5	06521001	2	STANDARD KNIFE
6	33764	6	FLATWASHER
7	6T2259	6	CAPSCREW
	06770012	-	BOLT KIT (INCLUDES ITEMS 6, 7 & LOCTITE)
8	06521002	2	GRASS KNIFE (OPTIONAL)
	6T1825	-	LOCTITE - USED ON ALL DISK MOUNTING BOLTS

# **50IN ROTARY BLADE BAR AND KNIVES**



ITEM	PART NO.	QTY.	DESCRIPTION
1	PT1018H5	1	SPINDLE,5/8HOLES,HD,WO/TABS
2	06400388	1	BAR,BLADE,TRB
3	06521001	2	KNIFE,TRB50,5/8
4	06538000	2	KNIFE MTG BOLT,5/8 SHOULDER
5	06533002	2	FLATWASHER,1 1/8,GR 8
6	6T1023R	2	KNIFE MTG NUT,1 1/8,NF,GR8
7	6T2259	6	CAPSCREW,5/8X1-3/4,NF,GR8
8	33764	6	FLATWASHER,5/8,GR 8,SAE

#### **60IN ROTARY MOWER ASSEMBLY**



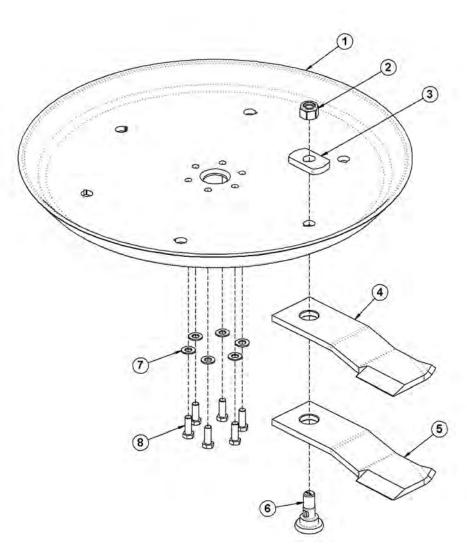
ITEM	PART NO.	QTY.	DESCRIPTION
1	06320159	1	DECK,WLDMNT,60" RTRY
2	33777	2	SKID SHOE,RTRY
3	06320162	1	SHIELD,60"RTRY
4	33879	6	CAPSCREW, 3/4 X 2 1/4,NF GR 8
5	33880	6	FLATWASHER,3/4",GR 8,SAE
6	21993	6	LOCKWASHER,3/4",GR 8
7	6T2413	6	HEX NUT,3/4,NF,GR 8
8	6T1024H5	1	SPINDLE ASSY,CPLT,HD,5/8 HOLES

# **60IN ROTARY MOWER ASSEMBLY**

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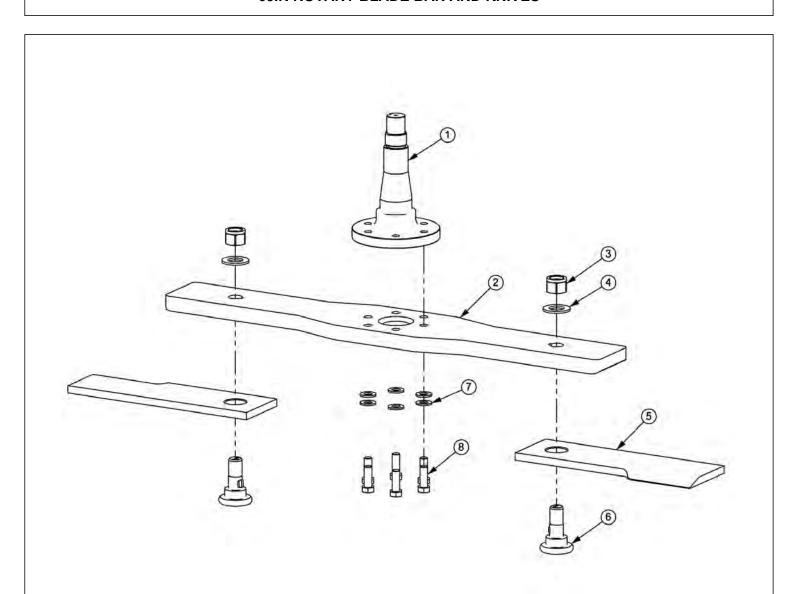
ITEM	PART NO.	QTY.	DESCRIPTION
9	6T2270	16	PLOW BOLT,3/8" X 1" NC
10	22016	33	FLATWASHER,3/8"
11	21625	20	HEX NUT,3/8",NC
12	21988	11	LOCKWASHER, 3/8"
13	21633	11	CAPSCREW, 3/8 X 1 3/4,NC
14	6T0823	1	FLAP RETAINER,60" RTRY
15	06520238	2	FLAP,60" RTRY
16	6T1033	1	COUPLER COVER
17	6T1029	1	COUPLER CHAIN
18	21223	1	SPROCKET
19	21733	4	CAPSCREW, 1/2 X 2,NC
20	33776	1	MOTOR MOUNT,PLATE,RTRY
21	24490	1	HOSE - PRESSURE
	06500155	1	HOSE-PRESSURE (LRS ONLY)
22	TF4852	2	FLANGE KIT - #20
23	6504011	1	MOTOR
24	24489	1	HOSE - RETURN
	06500154	1	HOSE-RETURN (LRS ONLY)
25	21725	4	HEX NUT, 1/2" NC
26	06533004	4	FLATWASHER, 1/2"
27	6T2290	4	CAPSCREW,5/8X2,NF GR 8
28	33764	8	FLATWASHER,5/8",GR 8,SAE
29	21992	4	LOCKWASHER, 5/8
30	6T2408	4	HEX NUT, 5/8, NF
31	TF1124	1	SQUARE KEY
32	33881	2	CAPSCREW,FLG, 3/8 X 3/4,NC
33	33779	1	PLATE, COVER, KNF HOLE
34	06410439	1	COVER
35	22014	2	FLATWASHER,1/4
36	21530	2	CAPSCREW,1/4 X 1,NC
37	34187	1	HOSE 1/4" X 75"
38	34186	1	HOSE 1/4" X 66"
39	RD1032	2	LYNCH PIN
40	33984	2	PIN,SHIELD
41	33785	1	1-1/2" X 8", CYLINDER, WELDED
42	6T3017	2	ROLLPIN
43	06420139	1	HINGE PIN,60" RTRY
44	33772	1	LINK, SHIELD,RTRY
45	21634	2	CAPSCREW, 3/8" X 2, NC
46	33773	1	LINK 2, SHIELD,RTRY
47	06401245	2	SKID SHOE,TRB60

# **60IN ROTARY KNIVES AND DISH**



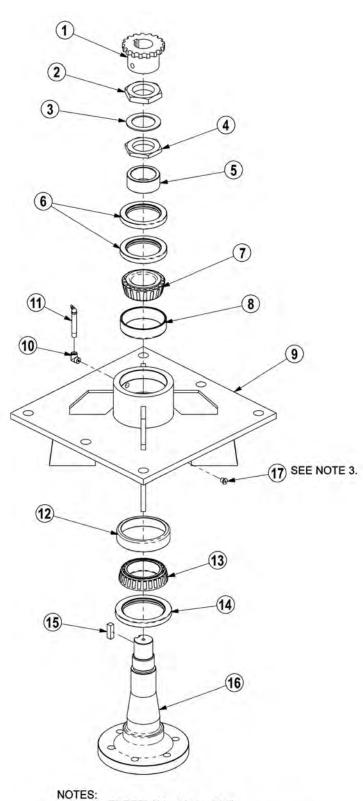
ITEM	PART NO.	QTY.	DESCRIPTION
1	34876	1	BLADE MOUNTING DISH,60"
2	6T1023R	2	NYLOCK NUT,1-1/8",NF
3	34878	2	SPACER
4	34684	2	STANDARD GRASS KNIFE
5	34685	2	HIGH SUCTION GRASS KNIFE (OPTIONAL)
6	34497	2	KNIFE MOUNTING BOLT
7	25270	6	FLATWASHER,5/8",GR8,USS
8	6T2259	6	CAPSCREW,5/8" X 1-3/4",NF,GR8
	6T1825	1	LOCKTITE (USED ON ITEM 8)
	27167	1	BOLT KIT (ITEMS 7 & 8)
	33893	1	KNIFE KIT (ITEMS 2,4 & 6)

# **60IN ROTARY BLADE BAR AND KNIVES**



ITEM	PART NO.	QTY.	DESCRIPTION
1	PT1018H5	1	SPINDLE
2	06400690	1	BAR,BLADE,RTRY60
3	6T1023R	2	KNIFE MTG NUT,1-1/8,NYLOCK,NF
4	06533002	2	FLATWASHER,1-1/8,GR8
5	06521001	2	KNIFE,TRB50,5/8
6	06538000	2	KNIFE MTG BOLT,5/8 SHOULDER
7	33764	6	FLATWASHER,5/8,GR 8,SAE
8	6T2259	6	CAPSCREW,5/8 X 1-3/4,NF,GR8

#### **ROTARY MOWER SPINDLE ASSEMBLY**

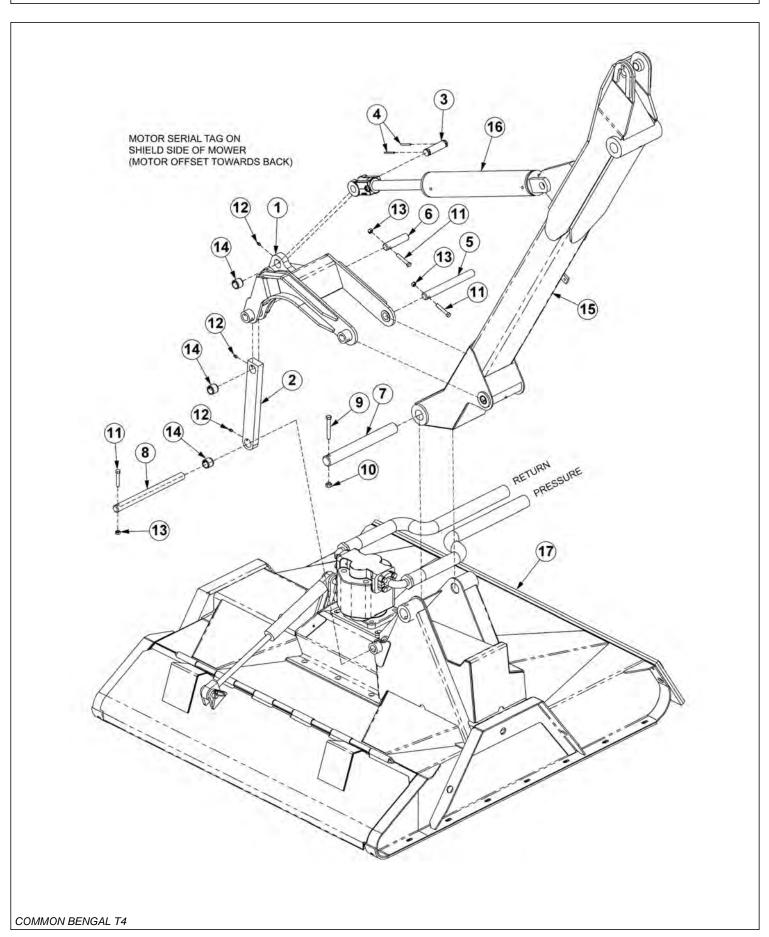


- 1. FREEPLAY: .001" .003" 2. GREASE: FILL WITH MOBILITH SHC 220. 3. APPLY LOCTITE "271" TO O-RING PLUG THRDS.

## **ROTARY 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	PT1018H5	1	SPINDLE
17	06503064	1	O-RING PLUG, 1/8"
	31771	-	SPINDLE REBUILD KIT (INCLUDES ITEMS 2 - 8 AND 12 - 15)

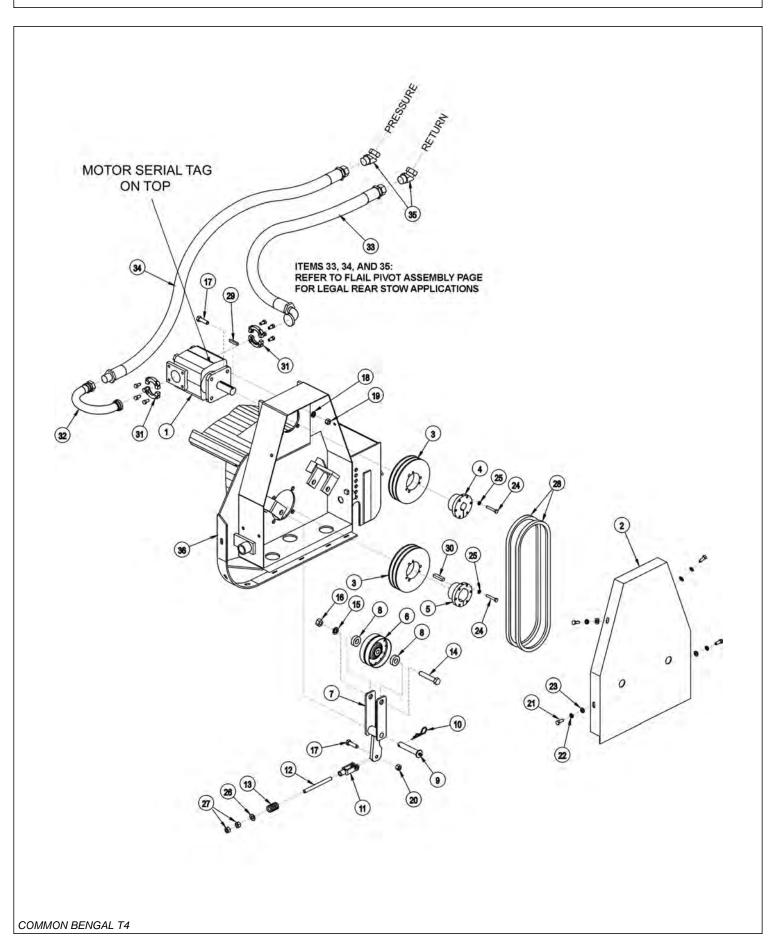
## **BOOM ROTARY PIVOT ASSEMBLY**



## **BOOM ROTARY PIVOT ASSEMBLY**

ITEM	PART NO.	QTY.	DESCRIPTION
1	TB1032	1	ROTARY PIVOT ASSY
2	TB1028	1	PIVOT ARM ASSY
3	TB1033	1	PIN,CLEVIS
4	06537021	2	ROLL PIN
5	TF3097	1	PIN
6	TB1030	1	PIN
7	33985	1	PIN
8	33986	1	PIN
9	21688	1	CAPSCREW,7/16 X 3-1/4,NC
10	21677	1	NYLOCK NUT,7/16 NC
11	21635	3	CAPSCREW,3/8 X 2-1/4
12	6T3207	3	GREASE ZERK
13	21627	3	NYLOCK NUT,3/8,NC
14	TB3010	3	BUSHING
15		-	SECONDARY BOOM *REFER TO BOOM ARM ASSY
16		-	CYLINDER *REFER TO BOOM ARM ASSY
17		-	ROTARY MOWER HEAD *REFER TO ROTARY DECK

#### **50IN FLAIL DRIVE ASSEMBLY**

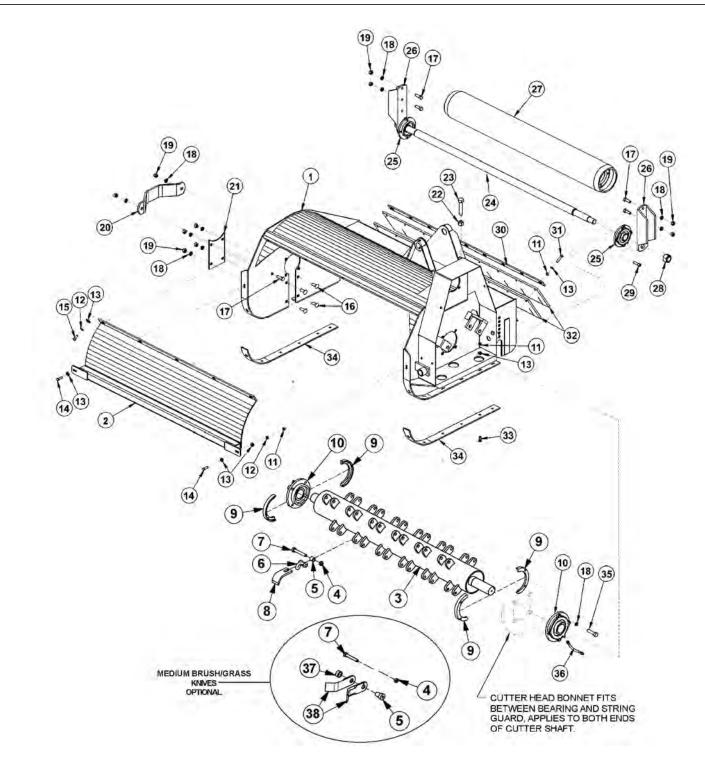


## **50IN FLAIL DRIVE ASSEMBLY**

## Continued...

ITEM	PART NO.	QTY.	DESCRIPTION
1	06504132	1	MOTOR (M350-1 3/4" GEAR)
2	TF3006	1	BELT GUARD
3	TF3043	2	SHEAVE
4	TF3013	1	BUSHING
5	TF3011	1	BUSHING
6	TF3034	1	IDLER PULLEY
7	TF3205	1	IDLER ARM
8	TF3206	2	IDLER PULLEY SPACER
9	TF3605	1	IDLER ARM PIN WITH ZERK
10	6T3004	1	R - CLIP
11	PT3611A	1	CLEVIS
12	32481	1	THREADED ROD
13	TF3620	1	COMPRESSION SPRING
14	21789	1	CAPSCREW 5/8" X 3 1/2"
15	21992	1	LOCKWASHER 5/8"
16	21775	1	HEX NUT 5/8"
17	21732	5	CAPSCREW 1/2" X 1 3/4"
18	21990	4	LOCKWASHER 1/2"
19	21725	4	HEX NUT 1/2"
20	6T2418	1	LOCK NUT 1/2"
21	21630	4	CAPSCREW 3/8" X 1"
22	21988	4	LOCKWASHER 3/8"
23	22016	4	FLATWASHER 3/8"
24	21584	6	CAPSCREW 5/16" X 2"
25	21987	6	LOCKWASHER 5/16"
26	27938	1	FLATWASHER 1/2"
27	21700	2	HEX NUT 1/2" NF
28	TF3021	2	BELT
29	TF1125	1	SQUARE KEY
30	TF1025	1	SQUARE KEY MOTOR
31	TF4852	2	FLANGE KIT
32	34227	1	PREFORMED TUBE
33	31218	1	HOSE - RETURN
34	34331	1	HOSE - PRESSURE
35	24724	2	SWIVEL FITTING
36		-	CUTTER HEAD *REFER TO CUTTER HEAD ASSY

## **50IN FLAIL MOWER ASSEMBLY**



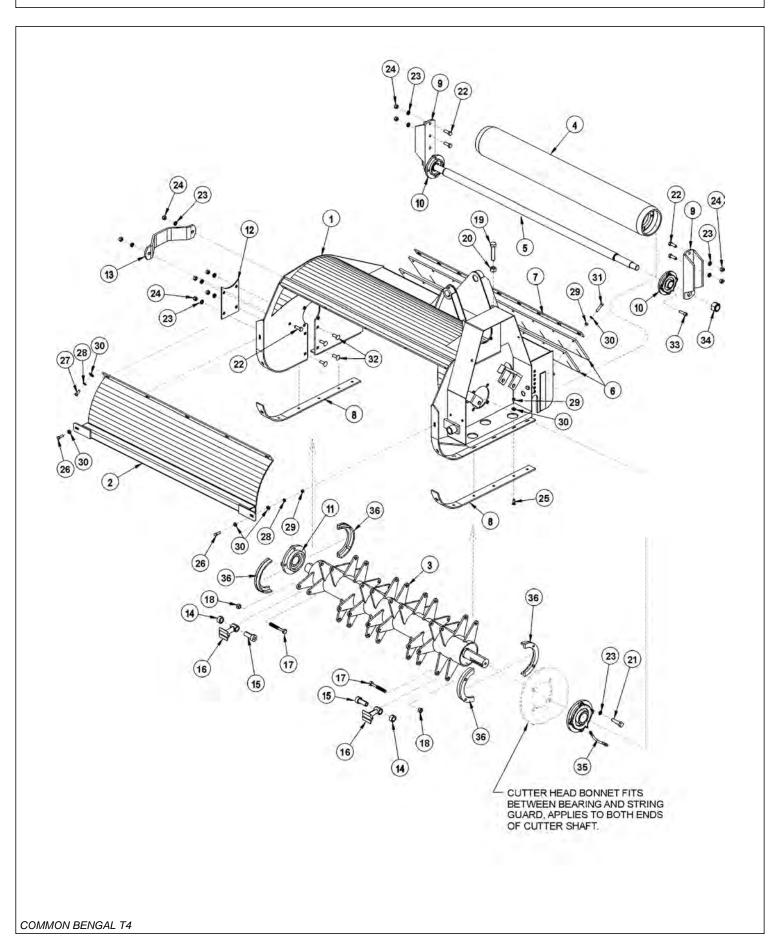
ITEM	PART NO.	QTY.	DESCRIPTION
	34787	1	FLAIL,BOOM,50,BRUSH,CPLT ASSY (LIGHT BRUSH/GRASS)
	06742133	1	FLAIL,BOOM,50,MD GRASS,CPLT ASSY (MEDIUM BRUSH/GRASS)
1	TF3003F	1	CUTTER HEAD BONNET
2	TF3004	1	FRONT SHIELD

## **50IN FLAIL MOWER ASSEMBLY**

## Continued...

ITEM	PART NO.	QTY.	DESCRIPTION
3	34783	1	TBF50 (LIGHT BRUSH/GRASS KNIFE ASSY)
	06700115	1	TBF50 (MEDIUM BRUSH/GRASS KNIFE ASSY)
4	6T2419	24	HEX NUT,9/16",NC,STOVER
5	06420182	24	BUSHING
6	34782	24	CLEVIS (LIGHT BRUSH/GRASS KNIVES)
7	34786	24	CAPSCREW,9/16" X 3-1/2",NC
8	34780	24	KNIFE (LIGHT BRUSH/GRASS CUTTING)
9	31204	2	STRING GUARD SET (2 PIECES PER SET)
10	TF1018	2	FLANGE BEARING,2-3/16"
11	21625	23	HEX NUT,3/8",NC
12	21988	7	LOCKWASHER,3/8"
13	22016	30	FLATWASHER,3/8"
14	21631	2	CAPSCREW,3/8" X 1-1/4",NC
15	21630	5	CAPSCREW,3/8" X 1",NC
16	6T7031D	4	PLOW BOLT,1/2" X 1-1/2",NC
17	21731	6	CAPSCREW,1/2" X 1-1/2",NC
18	21990	18	LOCKWASHER,1/2"
19	21725	10	HEX NUT,1/2",NC
20	TF1040	1	CUTTER SHAFT GUARD
21	TF3007A	1	COVER PLATE
22	21825	1	HEX NUT,5/8",NC
23	21838	1	CAPSCREW,3/4" X 3-1/2",NC
24	TF3406	1	GROUND ROLLER TIE ROD
25	TF1022	2	FLANGE BEARING,1-3/8"
26	TF3407	2	GROUND ROLLER ADJUSTMENT BRACKET
27	TF3405	1	GROUND ROLLER
28	6T1023R	2	NYLOCK NUT,1-1/8",NF
29	6T2330	8	CAPSCREW,7/16" X 1-1/2",SOCKET HEAD
30	TB1008	1	FLAP RETAINING BAR
31	21633	9	CAPSCREW,3/8" X 1-3/4",NC
32	TB1006A	2	DEFLECTOR FLAP
33	6T2270	12	PLOWBOLT,3/8" X 1",NC
34	TF3001	2	SKID SHOE
35	06530218	8	CAPSCREW,1/2" X 1-3/4",NC
36	TF1032	1	FLANGE BEARING GREASE HOSE
37	06420183	24	SPACER (MEDIUM BRUSHGRASS KNIVES)
38	06521007	48	KNIFE (MEDIUM BRUSH/GRASS CUTTING)

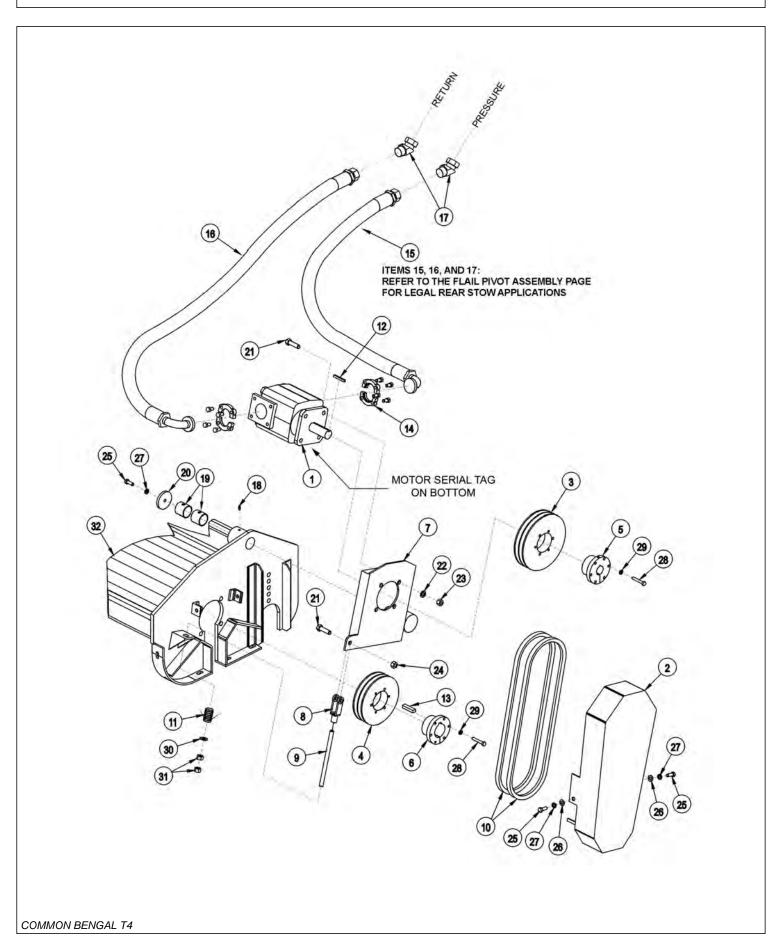
# 50IN FLAIL MOWER ASSY, PASS-THROUGH KNIVES



# 50IN FLAIL MOWER ASSY, PASS-THROUGH KNIVES

ITEM	PART NO.	QTY.	DESCRIPTION
	34172	1	FLAIL,BOOM,50,CPLT ASSY
1	TF3003F	1	CUTTER HEAD BONNET
2	TF3004	1	FRONT SHIELD
3	33717	1	TBF50,CUTTERSHAFT,PASS THRU KNIVES
4	TF3405	1	GROUND ROLLER
5	TF3406	1	GROUND ROLLER TIE ROD
6	TB1006A	2	DEFLECTOR FLAP
7	TB1008	1	FLAP RETAINING BAR
8	TF3001	2	SKID SHOE
9	TF3407	2	GROUND ROLLER ADJUSTMENT BRACKET
10	TF1022	2	FLANGE BEARING,1-3/8"
11	TF1018	2	FLANGE BEARING,2-3/16"
12	TF3007A	1	COVER PLATE
13	TF1040	1	CUTTER SHAFT GUARD
14	33858	24	SPACER,COLLAR
15	33857	24	SHOULDER,BUSHING
16	46399.01	24	KNIFE,FLAIL,FORGED
17	33854	24	CAPSCREW,5/8" X 4-1/2",NC
18	32674	24	HEX NUT,5/8",NC
19	21838	1	CAPSCREW,3/4" X 3-1/2",NC
20	21825	1	HEX NUT,5/8",NC
21	21732	8	CAPSCREW,1/2" X 1-3/4",NC
22	21731	6	CAPSCREW,1/2" X 1-1/2",NC
23	21990	18	LOCKWASHER,1/2"
24	21725	10	HEX NUT,1/2",NC
25	6T2270	12	PLOWBOLT,3/8" X 1",NC
26	21631	2	CAPSCREW,3/8" X 1-1/4",NC
27	21630	5	CAPSCREW,3/8" X 1",NC
28	21988	7	LOCKWASHER,3/8"
29	21625	23	HEX NUT,3/8",NC
30	22016	30	FLATWASHER,3/8"
31	21633	9	CAPSCREW,3/8" X 1-3/4",NC
32	6T7031D	4	PLOW BOLT,1/2" X 1-1/2",NC
33	6T2330	8	CAPSCREW,7/16" X 1-1/2",NC,SCKT HD
34	6T1023R	2	NYLOCK NUT,1-1/8",NF
35	TF1032	1	FLANGE BEARING GREASE HOSE
36	31204	2	STRING GUARD SET (2 PIECES PER SET)

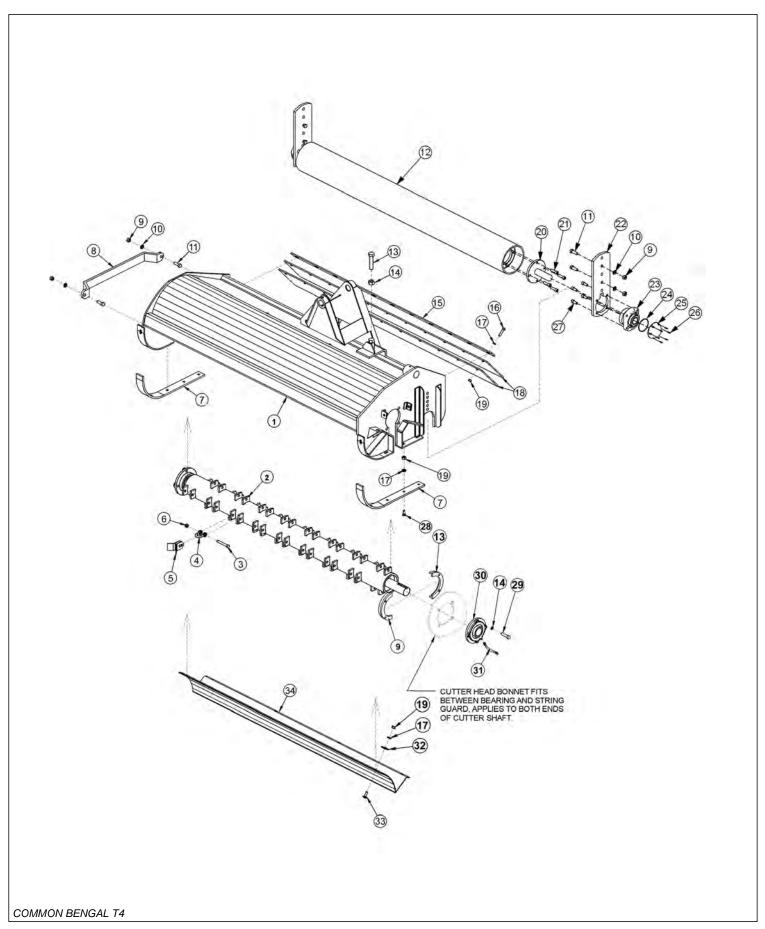
## **63IN FLAIL DRIVE ASSEMBLY**



## **63IN FLAIL DRIVE ASSEMBLY**

ITEM	PART NO.	QTY.	DESCRIPTION
1	06504132	1	MOTOR (M350-1 3/4 GEAR)
2	32569	1	BELT GUARD
3	TF3044	1	UPPER SHEAVE
4	TF3040	1	LOWER SHEAVE
5	TF3013	1	BUSHING
6	28723	1	BUSHING
7	28679B	1	MOTOR CHANNEL
8	PT3611A	1	CLEVIS
9	40496	1	THREADED ROD
10	28702	2	BELT
11	TF3620A	1	TENSIONER SPRING
12	28572	1	SQUARE KEY
13	26142A	1	SQUARE KEY
14	TF4852	2	FLANGE KIT
15	30308	1	HOSE,1 X 69 - PRESSURE
16	30309	1	HOSE,1 X 78 - RETURN
17	24724	2	SWIVEL FITTING
18	TF1033	1	GREASE ZERK
19	27580	2	BUSHING
20	28682	1	MOTOR CHANNEL WASHER
21	21732	5	CAPSCREW 1/2" X 1 3/4"
22	21990	4	LOCKWASHER 1/2"
23	21725	4	HEX NUT 1/2"
24	6T2418	1	STOVER NUT 1/2"
25	21630	3	CAPSCREW 3/8" X 1"
26	22016	2	FLATWASHER 3/8"
27	21988	3	LOCKWASHER 3/8"
28	21584	6	CAPSCREW 5/16" X 2"
29	21987	6	LOCKWASHER 5/16"
30	27938	1	FLATWASHER 1/2"
31	21700	2	HEX NUT 1/2" NF
32		-	CUTTER HEAD *REFER TO MOWER ASSY

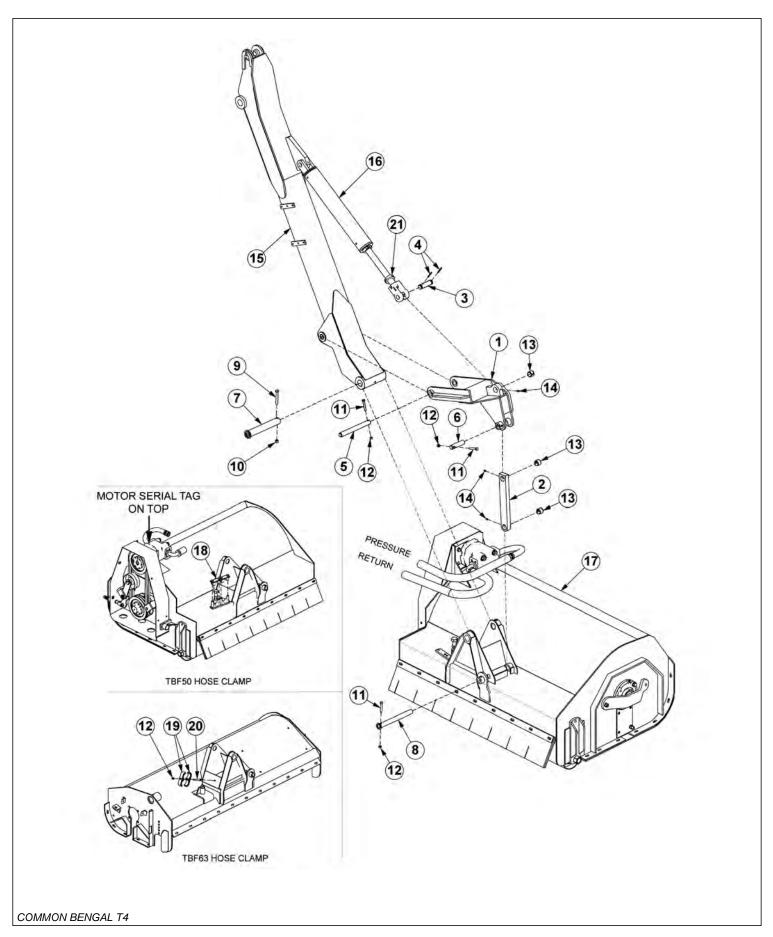
## **63IN FLAIL MOWER ASSEMBLY**



## **63IN FLAIL MOWER ASSEMBLY**

ITEM	PART NO.	QTY.	DESCRIPTION
	06200271	-	FLAIL,BOOM,63,GRASS,CPLT ASSY
1	28659Н	1	CUTTER HEAD BONNET
2	28743	-	CUTTER SHAFT / KNIFE ASSY STANDARD GRASS
	28642C	1	CUTTER SHAFT,63,STD
3	34011	36	FLAIL KNIFE MOUNTING BOLT
4	TF1020	36	FLAIL KNIFE MOUNTING CLEVIS
5	33713	72	FLAIL KNIFE - STANDARD
6	21677	36	NYLOCK NUT
7	28086A	2	SKID SHOE
8	27975A	1	CUTTER SHAFT GUARD
9	21725	14	HEX NUT 1/2"
10	21990	14	LOCKWASHER 1/2"
11	21731	6	CAPSCREW 1/2" X 1 1/2"
12	06320240	1	GROUND ROLLER
13	33863	2	STRING GUARD,STD
14	06533006	8	FLATWASHER,1/2",SAE,L9
15	28700	1	FLAP RETAINING BAR
16	21633	11	CAPSCREW 3/8" X 1 3/4"
17	21988	28	LOCKWASHER 3/8"
18	28701	2	DEFLECTOR FLAP
19	21625	28	HEX NUT 3/8"
20	TF1045B	2	GROUND ROLLER STUB SHAFT
21	6T2330	8	CAPSCREW 7/16" X 1 1/2" SOCKET HEAD
22	28735	2	ADJUSTABLE ROLLER BRACKET
23	06520028	2	BEARING,FLANGE,1-3/8,GRNDRLLR
24	06520029	2	O-RING
25	06520027	2	CAP,BEARING,GROUNDROLLER
26	06530001	12	CAPSCREW,SKT HD,8-32 X 1/2,SS
27	6T2331	8	CAPSCREW 7/16" X 1" SOCKET HEAD
28	6T2270	10	PLOW BOLT 3/8" X 1 1/4"
29	06530217	8	CAPSCREW 1/2" X 2",L9
30	28683	2	FLANGE BEARING
31	TF1032	1	FLANGE BEARING GREASE HOSE
32	6T2615	7	FENDER WASHER 3/8"
33	6T2283	7	CARRIAGE BOLT 3/8" X 1"
34	28665A	1	BAFFLE (INSIDE UPPER REAR OF CUTTER HEAD)

#### **BOOM FLAIL PIVOT ASSEMBLY**

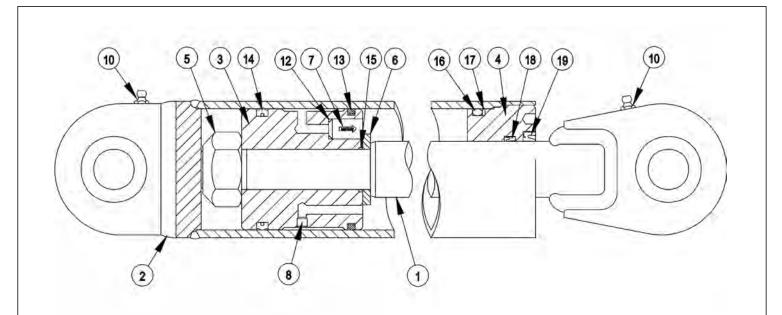


## **BOOM FLAIL PIVOT ASSEMBLY**

## Continued...

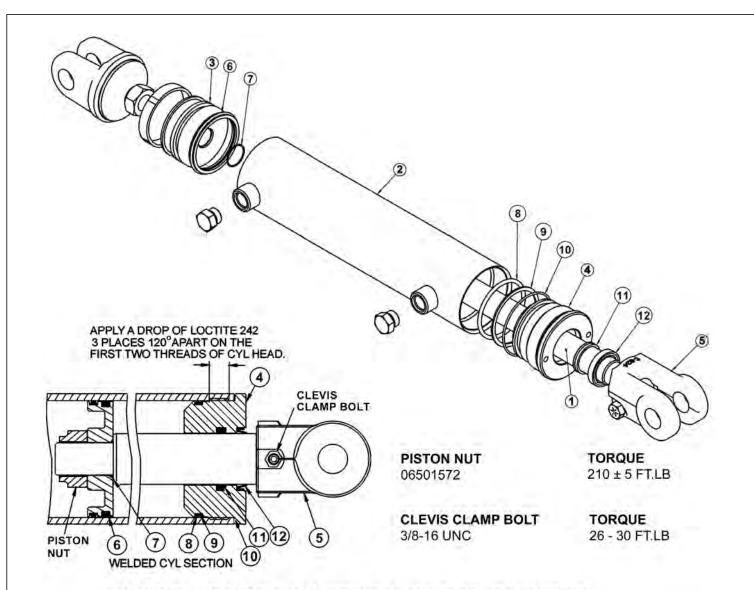
ITEM	PART NO.	QTY.	DESCRIPTION
1	TF3015	1	FLAIL PIVOT ASSY
2	TB1028	1	PIVOT ARM ASSY
3	TB1033	1	PIN CLEVIS
4	06537021	2	ROLL PIN
5	TF3097	1	PIN
6	TF3090	1	PIN
7	TB1024	1	PIN
8	TB1027	1	PIN
9	21688	1	CAPSCREW 7/16" X 3 1/4"
10	21677	1	NYLOCK NUT 7/16"
11	21635	3	CAPSCREW 3/8" X 2 1/4"
12	21627	4	NYLOCK NUT 3/8"
13	TB1030	3	BUSHING
14	6T3207	3	GREASE ZERK
15		-	SECONDARY BOOM *REFER TO BOOM ARM ASSY
16		-	CYLINDER - REFER TO BOOM ARM ASSY
17		-	FLAIL MOWER HEAD *REFER TO FLAIL ASSY
18	31723	1	CLAMP KIT,TBF50 (USED ON 50" FLAIL)
19	TB3031	2	DOUBLE HOSE CLAMP (USED ON THE 63" FLAIL)
20	21638	1	CAPSCREW 3/8" X 3"
21	35312	2	SPLIT COLLAR

#### 3IN X 13-7/8 IN WELDED CYLINDER BREAKDOWN



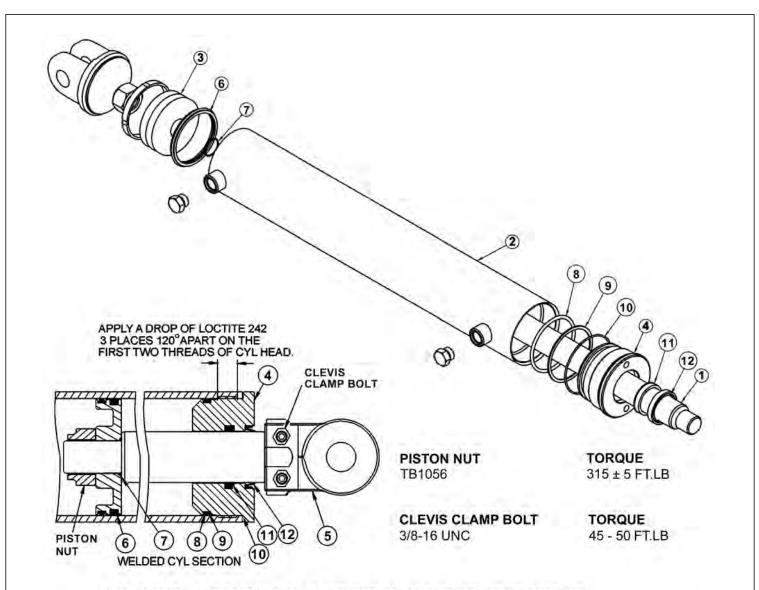
	ITEM	PART NO.	QTY.	DESCRIPTION
l		06501029	-	CYLINDER,WELDED,3" X 13.87"
l	1	06501630	1	PISTON ROD ASSY
l	2	06501648	1	BUTT & TUBE ASSY
l	3	06501649	1	PISTON
l	4	34574	1	GLAND
l	5	34575	1	LOCK NUT,1"-14 UNS (TORQUE TO 315 FT.LB.)
l	6	34576	1	SPACER
l	7	34577	1	CHECK VALVE, KEPNER
l	8	06501650	1	ORIFICE, ZERO LEAK, 0225
	9	33761	1	SEAL KIT, PACKING (ITEMS 12 THRU 19)
l	10		2	GREASE ZERK
l	12		1	O - RING
l	13		1	CAST IRON PISTON RING
l	14		1	CROWN SEAL
l	15		1	O - RING
l	16		1	O - RING
l	17		1	BACK - UP WASHER
l	18		1	U - CUP
l	19		1	WIPER
	20	34334	-	SPHERICAL BEARING (NOT SHOWN)
I				

## **3IN X 18IN WELDED CYLINDER BREAKDOWN**



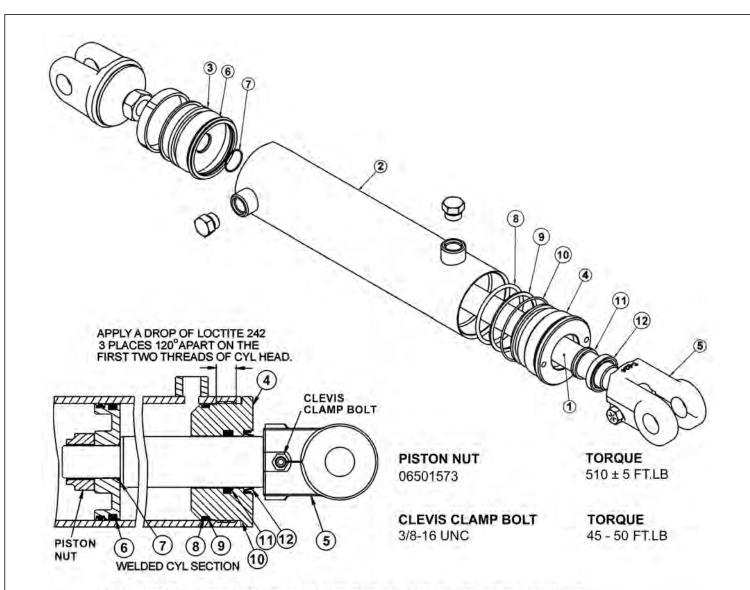
ITEM	PART NO.	QTY.	DESCRIPTION
	06501023	-	HYDRAULIC CYLINDER COMPLETE
1	06501561	1	ROD
2	06501562	1	TUBE WELDMENT
3	06501552	1	PISTON
4	06501563	1	CYLINDER HEAD
5	06501554	1	CLEVIS
	06501564	-	SEAL REPAIR KIT (ITEMS 6 THROUGH 12)

#### 3-1/2IN X 20IN WELDED CYLINDER BREAKDOWN



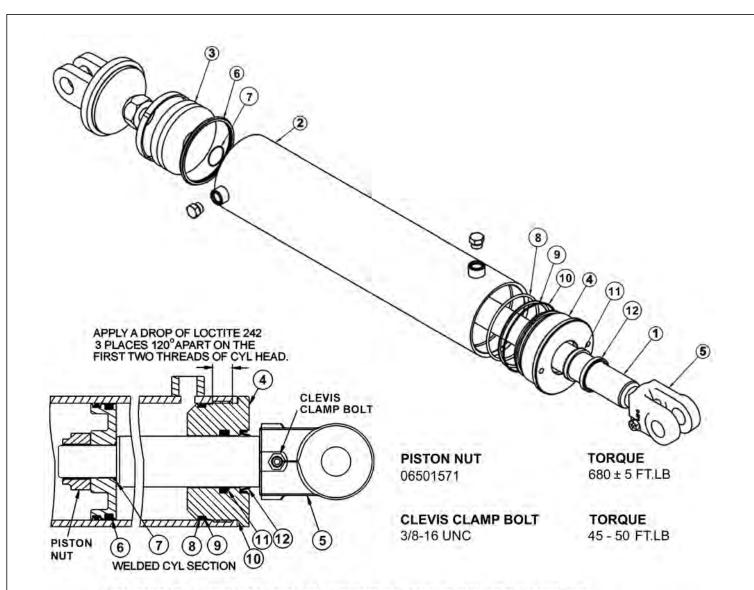
ITEM	PART NO.	QTY.	DESCRIPTION
	06501024	-	HYDRAULIC CYLINDER COMPLETE
1	06501565	1	ROD
2	06501566	1	TUBE WELDMENT
3	06501567	1	PISTON
4	06501568	1	CYLINDER HEAD
5	TB3033	-	CLEVIS
	06501569	-	SEAL REPAIR KIT (ITEMS 6 THROUGH 12)
соммог	N BENGAL T4		

#### **4IN X 20IN WELDED CYLINDER BREAKDOWN**



ITEM	PART NO.	QTY.	DESCRIPTION		
	06501022	-	HYDRAULIC CYLINDER COMPLETE		
1	06501556	1	ROD		
2	06501557	1	TUBE WELDMENT		
3	06501558	1	PISTON		
4	06501559	1	CYLINDER HEAD		
5	6T0172	1	CLEVIS		
5A	30172	-	CLEVIS (FOR EXTENDED BOOM)		
	06501560	-	SEAL REPAIR KIT (ITEMS 6 THROUGH 12)		
COMMON BENGAL T4					

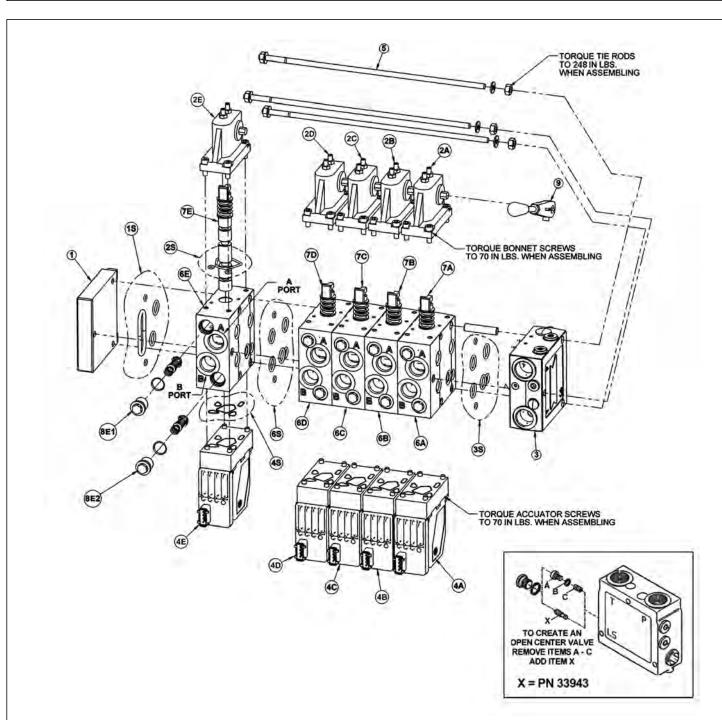
## **5IN X 20IN WELDED CYLINDER BREAKDOWN**



ITEM	PART NO.	QTY.	DESCRIPTION
	06501020	-	HYDRAULIC CYLINDER COMPLETE
1	06501544	1	ROD
2	06501545	1	TUBE WELDMENT
3	06501546	1	PISTON
4	06501547	1	CYLINDER HEAD
5	06501548	1	CLEVIS
	06501549	-	SEAL REPAIR KIT (ITEMS 6 THROUGH 12)

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## **5 SPOOL ELECTRONIC VALVE - OPEN STOW,3PS**

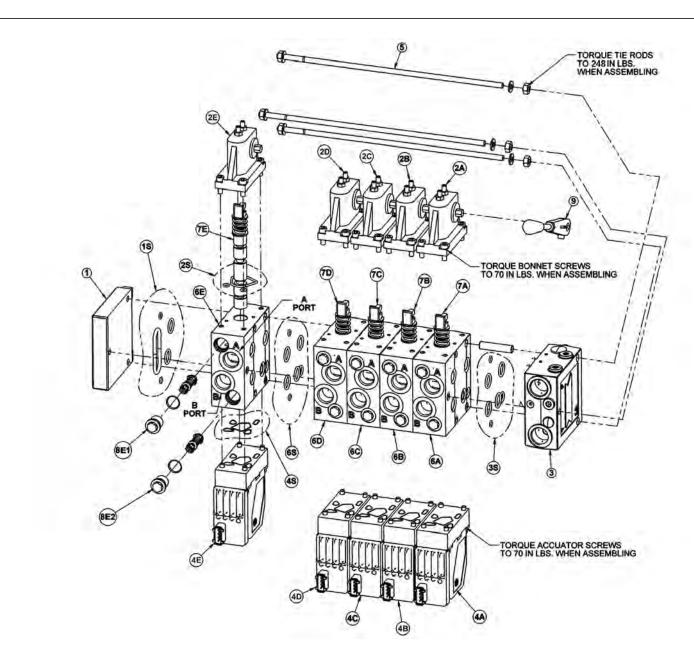


ITEM	PART NO.	QTY.	DESCRIPTION
	06700224	-	VALVE, 5SP, OS
	06502097	-	VALVE, SUB-ASSEMBLY
1	06502074	1	END PLATE
1S	06505013	1	END PLATE SEAL KIT
2		5	BONNET
2S	06505042	1	BONNET SEAL KIT

# 5 SPOOL ELECTRONIC VALVE - OPEN STOW,3PS

ITEM	PART NO.	QTY.	DESCRIPTION
2A	42197	1	MAIN BOOM BONNET
2B	42197	1	SECONDARY BOOM BONNET
2C	42197	1	DECK ROLL BONNET
2D	42197	1	BOOM SWIVEL BONNET
2E	42197	1	DECK SHIELD BONNET
3	34308	1	INLET SECTION
3S	06505013	1	INLET SECTION SEAL KIT
4		5	ELECTRONIC ACCUATOR
4A	06502101	1	MAIN BOOM ELECTRONIC ACCUATOR
4B	06502101	1	SECONDARY BOOM ELECTRONIC ACCUATOR
4C	06502100	1	DECK ROLL ELECTRONIC ACCUATOR
4D	06502101	1	BOOM SWIVEL ELECTRONIC ACCUATOR
4E	06502099	1	DECK SHIELD ELECTRONIC ACCUATOR
5	42202	1	TIE-BOLT KIT
6		5	SECTION
6S	06505013	1	SECTION SEAL KIT
6A	42698	1	MAIN BOOM SECTION
6B	42698	1	SEC BOOM SECTION
6C	06502076	1	DECK ROLL SECTION
6D	42698	1	BOOM SWIVEL SECTION
6E	06502077	1	SHIELD SECTION
7		5	SPOOL
7A	42697	1	MAIN BOOM SPOOL
7B	42697	1	SEC BOOM SPOOL
7C	4242106	1	DECK ROLL SPOOL
7D	06502073	1	BOOM SWIVEL SPOOL
7E	42201	1	DECK SHIELD SPOOL
8		10	ANTI CAV/SHOCK RELIEF
8A1	06502084	1	MAIN BOOM A PORT RELIEF
8A2	06502081	1	MAIN BOOM B PORT RELIEF
8B1	42296	1	SEC BOOM A PORT RELIEF
8B2	06502082	1	SEC BOOM B PORT RELIEF
8C1	42295	1	DECK ROLL A PORT RELIEF
8C2	06502082	1	DECK ROLL B PORT RELIEF
8D1	06502070	1	BOOM SWIVEL A PORT RELIEF
8D2	06502083	1	BOOM SWIVEL B PORT RELIEF
8E1	06502081	1	DECK SHIELD A PORT RELIEF
8E2	06502081	1	DECK SHIELD B PORT RELIEF
9	33459	1	HANDLE

#### **5 SPOOL ELECTRONIC VALVE - SIDE STOW**



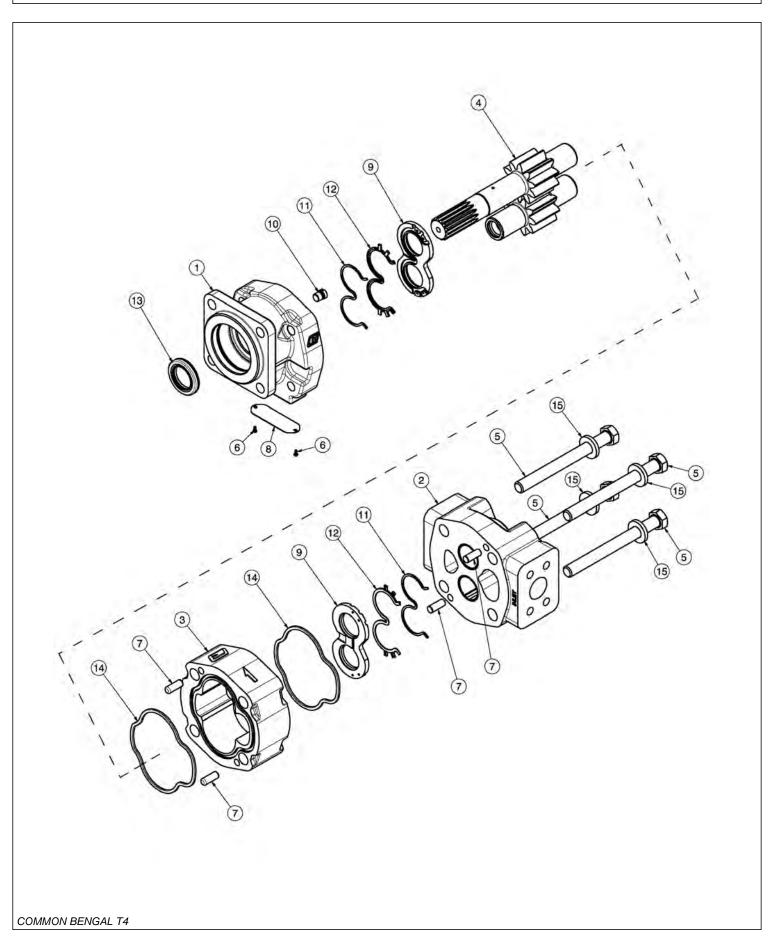
ITEM	PART NO.	QTY.	DESCRIPTION
	06502096	-	VLV,5SP,32PVG,SIDE STOW
1	06502074	1	END PLATE
1S	06505013	1	END PLATE SEAL KIT
2		5	BONNET
2S	06505042	1	BONNET SEAL KIT
2A	42197	1	MAIN BOOM BONNET
2B	42197	1	SECONDARY BOOM BONNET
2C	42197	1	DECK ROLL BONNET
2D	42197	1	BOOM SWIVEL BONNET
2E	42197	1	DECK SHIELD BONNET

# **5 SPOOL ELECTRONIC VALVE - SIDE STOW**

## Continued...

ITEM	PART NO.	QTY.	DESCRIPTION
3	34308	1	INLET SECTION
3S	06505013	1	INLET SECTION SEAL KIT
4		5	ELECTRONIC ACCUATOR
4A	06502101	1	MAIN BOOM ELECTRONIC ACCUATOR
4B	06502101	1	SECONDARY BOOM ELECTRONIC ACCUATOR
4C	06502100	1	DECK ROLL ELECTRONIC ACCUATOR
4D	06502101	1	BOOM SWIVEL ELECTRONIC ACCUATOR
4E	06502099	1	DECK SHIELD ELECTRONIC ACCUATOR
5	42202	1	TIE-BOLT KIT
6		5	SECTION
6S	06505013	1	SECTION SEAL KIT
6A	42698	1	MAIN BOOM SECTION
6B	42698	1	SEC BOOM SECTION
6C	06502076	1	DECK ROLL SECTION
6D	42698	1	BOOM SWIVEL SECTION
6E	06502077	1	SHIELD SECTION
7		5	SPOOL
7A	42697	1	MAIN BOOM SPOOL
7B	42697	1	SEC BOOM SPOOL
7C	4242106	1	DECK ROLL SPOOL
7D	06502073	1	BOOM SWIVEL SPOOL
7E	42201	1	DECK SHIELD SPOOL
8		10	ANTI CAV/SHOCK RELIEF
8A1	42650	1	MAIN BOOM A PORT RELIEF
8A2	06502069	1	MAIN BOOM B PORT RELIEF
8B1	42650	1	SEC BOOM A PORT RELIEF
8B2	42295	1	SEC BOOM B PORT RELIEF
8C1	42296	1	DECK ROLL A PORT RELIEF
8C2	42295	1	DECK ROLL B PORT RELIEF
8D1	42295	1	BOOM SWIVEL A PORT RELIEF
8D2	42295	1	BOOM SWIVEL B PORT RELIEF
8E1	06502069	1	DECK SHIELD A PORT RELIEF
8E2	06502069	1	DECK SHIELD B PORT RELIEF
9	33459	1	HANDLE

## FRONT HYDRAULIC PUMP

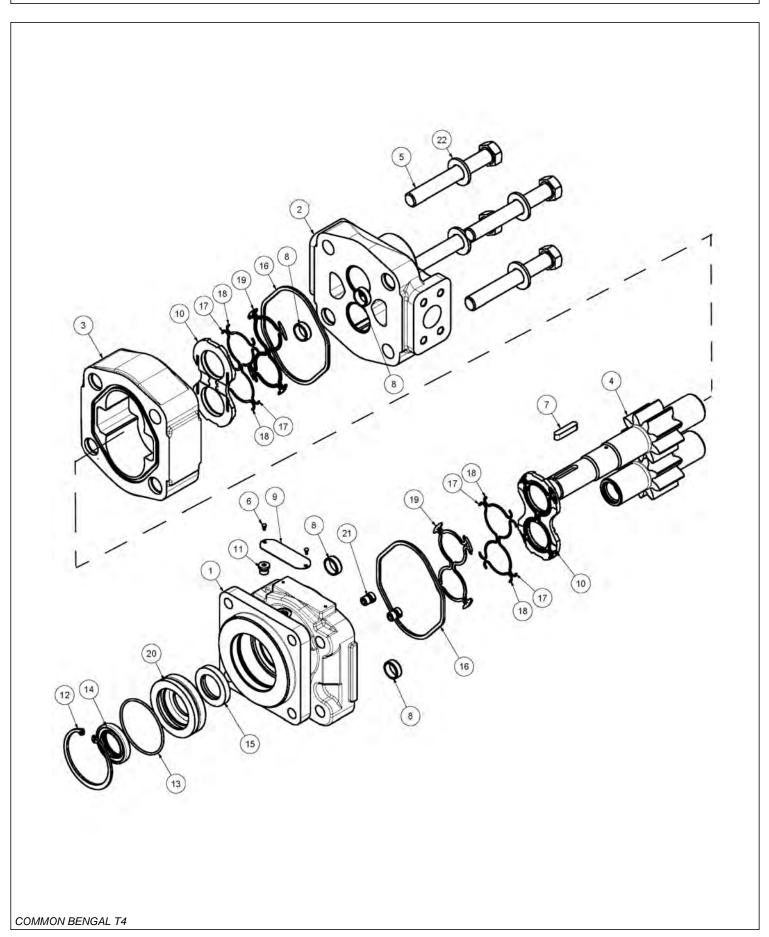


## FRONT HYDRAULIC PUMP

## Continued...

ITEM	PART NO.	QTY.	DESCRIPTION
	23152	1	PUMP ASSEMBLY,1-3/4",COMPLETE
1	22766	1	SHAFT END COVER
2	22779	1	PORT END COVER
3	22774	1	GEAR HOUSING,1-3/4"
4	22771	1	GEAR SET
5	23824	4	CAPSCREW
6	06504078	2	SCREW,DRIVE
7	22773	4	DOWEL PINS
8	06504077	1	NAMEPLATE
9	22770	2	THRUST PLATE
10	22767	1	PLUG
11	06504075	2	SEAL,BK-UP
12	06504074	2	SEAL,CHAN
13	22765	1	SEAL,LIP
14	06504076	2	SEAL,SQ-R
15	02961917	4	WASHER
	24150	1	SEAL KIT (INCLUDES 11, 12, 13 AND 14)

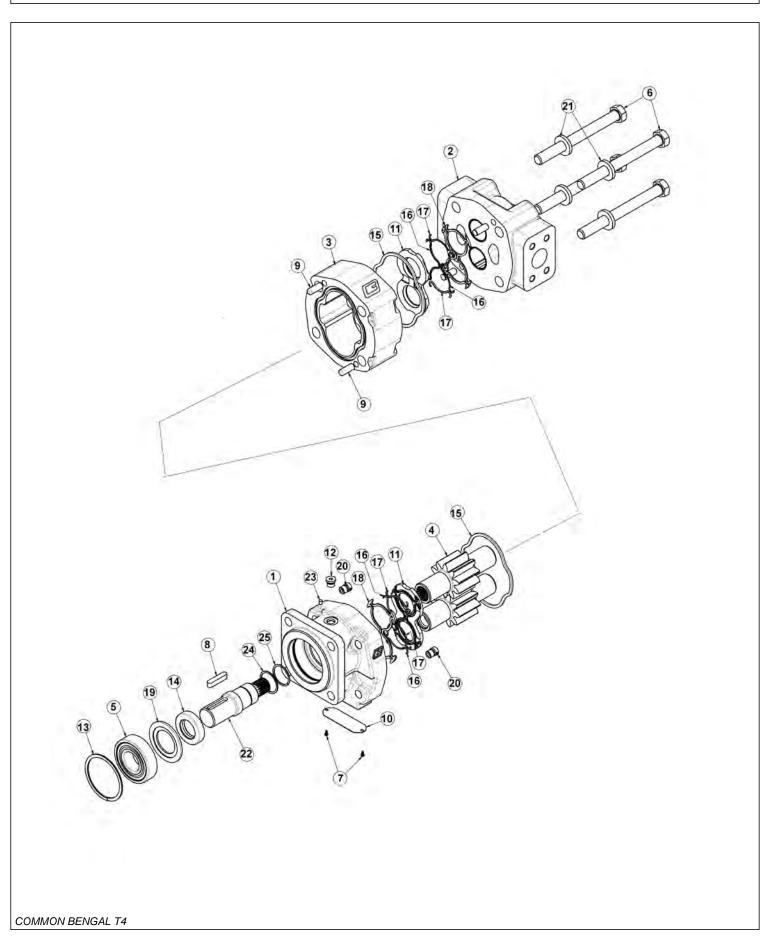
# **50IN AND 60IN ROTARY MOTOR BREAKDOWN**



## **50IN AND 60IN ROTARY MOTOR BREAKDOWN**

ITEM	PART NO.	QTY.	DESCRIPTION
	06504011	-	MOTOR ASSEMBLY,TRB60
	06504012	-	MOTOR ASSEMBLY,TRB50
1	22790	1	HOUSING, SEC
2	06504088	1	HOUSING, PEC
3	06504062	1	HOUSING, GEAR, TRB60
	06504089	-	HOUSING, GEAR, TRB50
4	06504090	1	SET, GEAR SHAFT
5	06504104	4	CAP SCREW,TRB60
	06504091	-	CAP SCREW,TRB50
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

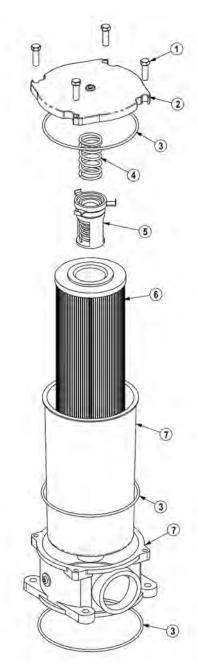
## **FLAIL MOTOR BREAKDOWN**



## **FLAIL MOTOR BREAKDOWN**

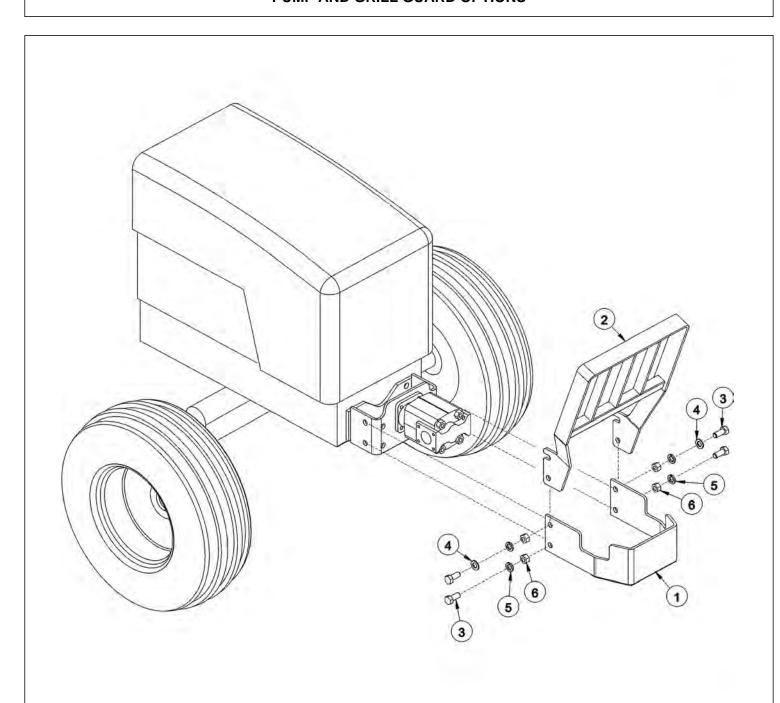
ITEM	PART NO.	QTY.	DESCRIPTION
*	06504132	-	MOTOR ASSEMBLY 350 - TBF50, TBF63
1	06504141	1	SHAFT END COVER
2	06504040	1	PORT END COVER
3	06504041	1	GEAR HOUSING
4	06504117	1	MATCHED GEAR SET
5	TF4402	1	BALL BEARING
6	06504043	4	CAP SCREW
7	06504044	2	SET SCREW
8	06504028	1	KEY
9	06504045	4	DOWEL PIN
10	*	1	NAMEPLATE
11	763759	1	THRUSTPLATE
12	2961940	1	PLUG, ODT (0.25)
13	TF4401	1	SNAP RING
14	06504142	1	LIP SEAL
15	TF4410	2	GASKET SEAL
16	06504046	4	SIDE SEAL
17	06504047	4	END SEAL
18	TF4407	2	BACK-UP SEAL
19	06504122	1	SEAL RETAINER
20	6T5809	2	CHECK ASSEMBLY
21	2961917	4	WASHER
22	06504140	1	SHAFT
23	06504139	1	BREATHER
24	06504121	1	SPACER, BRG
25	06504119	1	SNAP RING
*	06504116	-	SEAL KIT

## **RESERVOIR TANK FILTER ASSEMBLY**



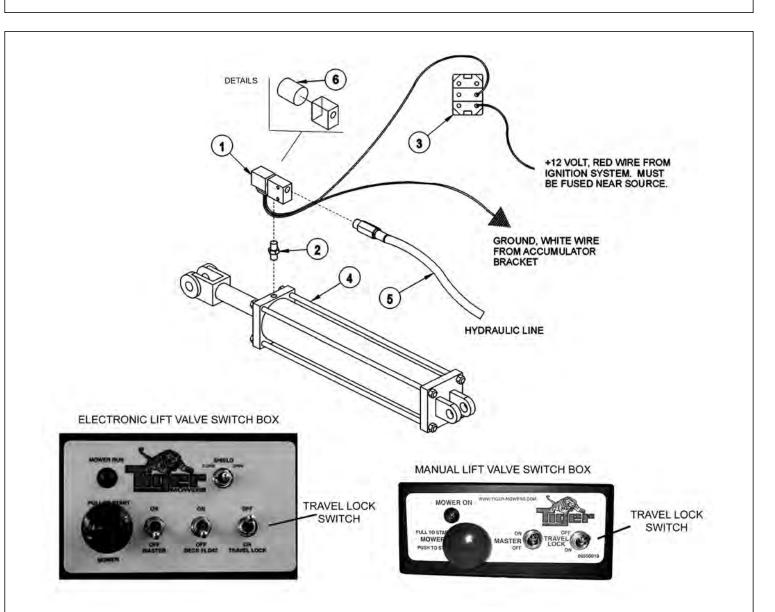
ITEM	PART NO.	QTY.	DESCRIPTION
	06505044	-	FILTER ASSY SAE 10 MICRON
1	28583	4	CAPSCREW,8MM X 25MM(1.25 PITCH)
2	06505045	1	COVER
3	06505046	1	SEAL KIT
4	06505047	1	SPRING
5	06505048	1	BYPASS
6	35259	1	FILTER,10 MIC,RETURN LINE
7	06505049	1	CAN/BODY

## **PUMP AND GRILL GUARD OPTIONS**



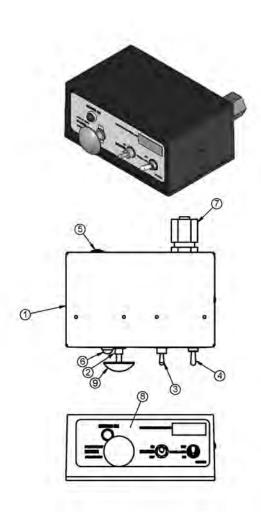
ITEM	PART NO.	QTY.	DESCRIPTION
1	32430	1	UNIVERSAL PUMP GUARD
2	32737	1	UNIVERSAL GRILL GUARD
3	21833	4	CAPSCREW,3/4" X 2-1/4",NC
4	22021	2	FLATWASHER,3/4"
5	21993	4	LOCKWASHER,3/4"
6	21825	4	HEX NUT,3/4",NC

#### **BOOM TRAVEL LOCK**



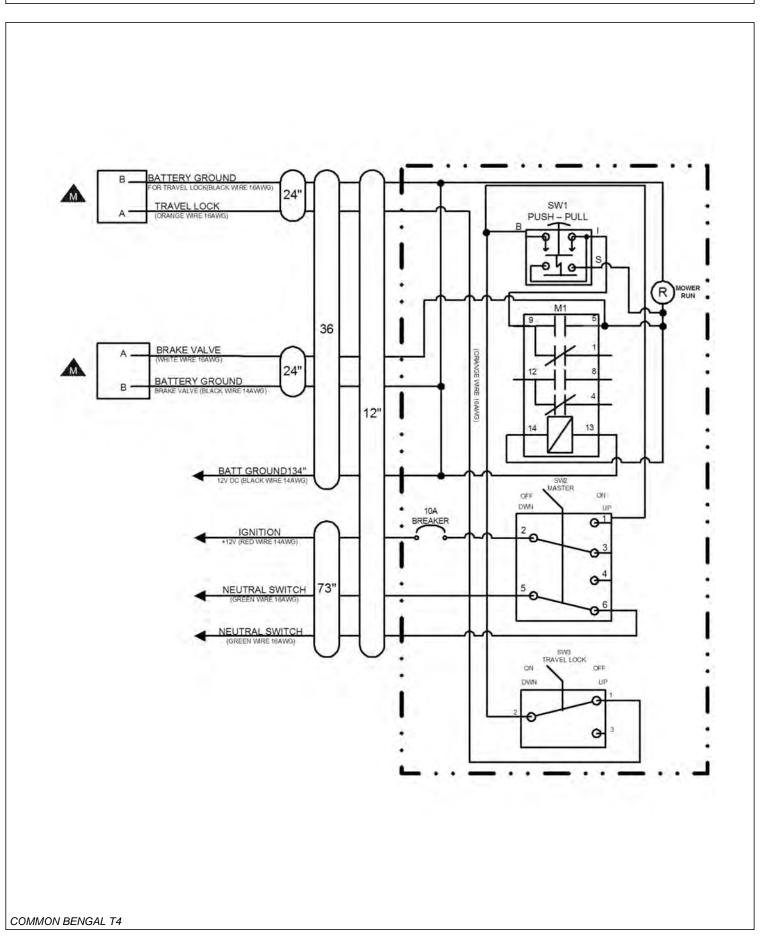
ITEM	PART NO.	QTY.	DESCRIPTION
1	06510050	1	HYDRAULIC TRAVEL LOCK VALVE
2	31329	1	ADAPTER - STANDARD BOOM
	31611	1	ADAPTER - EXTENDED BOOM
3	34532	1	SWITCH,TRAVEL LOCK
4		-	MAIN BOOM CYLINDER *REFER TO BOOM ASSY
5		-	HOSE / FITTINGS *REFER TO BOOM HYD ASSY
6	06510092	1	COIL ,TRAVEL LOCK

# **MANUAL LIFT VALVE SWITCH BOX**

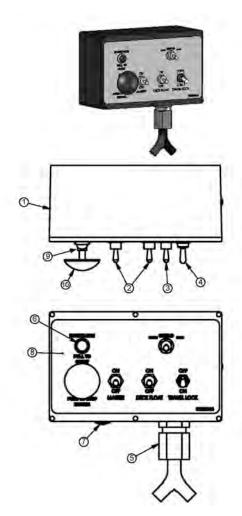


ITEM	PART NO.	QTY.	DESCRIPTION
1	06514012	1	SWBX,ALUM,BLK,06510100
2	35226	1	SWITCH,MOWER,COLEHERSEE
3	33811	1	SWITCH,MASTER/DECK FLOAT
4	34532	1	SWITCH,TRVL LCK
5	06514014	1	BREAKER,10A,SWBX
6	6T3923	1	INDICTATOR LIGHT,ON,RED
7	34540	1	STRAIN RELIEF,3/4,BLACK,NYLON
8	06550019	1	DECAL,SWTCHBX,BOOM,CG
9	02964063	1	KNOB,RED
10	35227	1	RELAY,DP,DT,12V,LY2F,35226

#### MANUAL LIFT VALVE SCHEMATIC



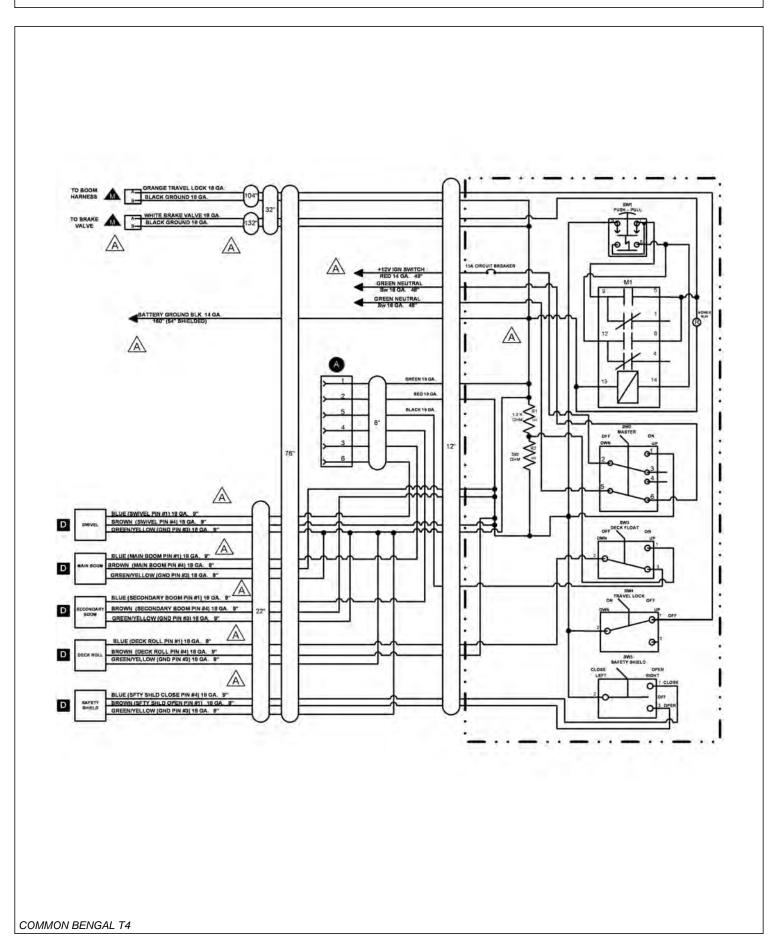
# **ELECTRONIC LIFT VALVE SWITCH BOX**



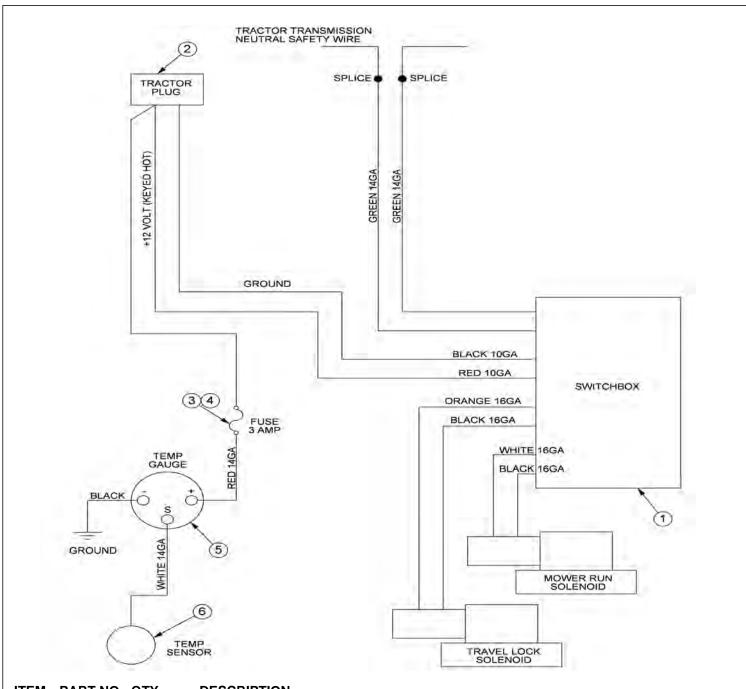
ITEM	PART NO.	QTY.	DESCRIPTION
1	06510196	1	SWBX,ASSY
2	33811	2	SWITCH,MASTER/DECK FLOAT
3	33813	1	SWITCH,SFTY SHIELD
4	34532	1	SWITCH,TRVL LCK
5	34540	1	STRAIN RELIEF,3/4",BLACK,NYLON
6	6T3923	1	INDICTATOR LIGHT,ON,RED
7	06514006	1	BREAKER,15A,SWBX
8	06550044	1	DECAL,SWBX,06510047
9	35226	1	SWITCH,MOWER,COLEHERSEE
10	02964063	1	KNOB,RED
11	35227	1	RELAY,DP,DT,12V,LY2F,35226

COMMON BENGAL T4

## **ELECTRONIC LIFT VALVE SCHEMATIC**

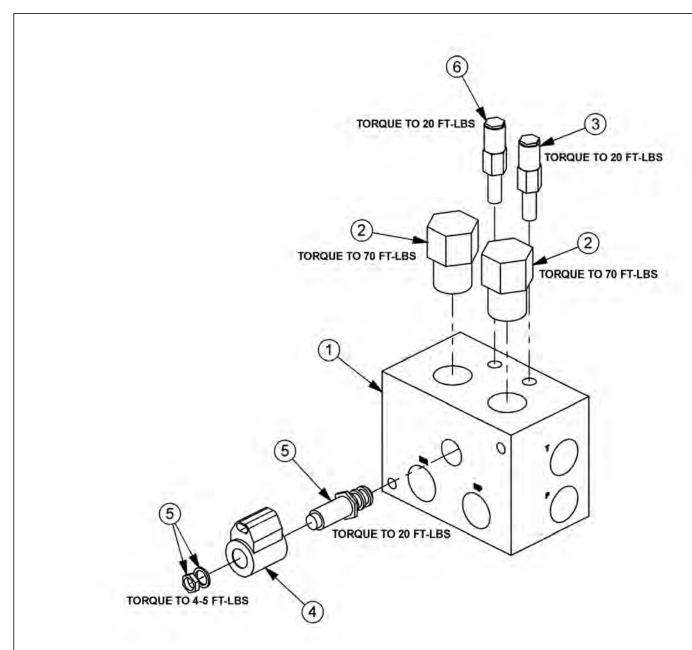


## **SOLENOID SWITCH BOX AND WIRING**



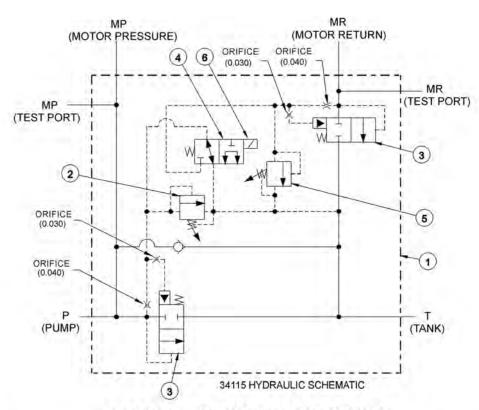
ITEM	PART NO.	QTY.	DESCRIPTION
1		-	SWITCH BOX
2	RE37651	1	PLUG,AUX PWR
3	24204	-	FUSE HOLDER,IN-LINE (OPTION)
4	6T3965	-	FUSE,3AMP (OPTION)
5	6T3934	-	TEMPERATURE GAUGE (OPTION)
6	6T3931	-	TEMPERATURE SENSOR (OPTION)
COMMON BENGAL T4			

# **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
COMMON BENGAL T4			

#### BRAKE VALVE HYDRAULIC SCHEMATIC



# BRAKE VALVE TROUBLESHOOTING

FAILURE MODE:	CHECK STEPS
<ul> <li>MOWER WILL NOT START - system pressure is low (engine not lugging).</li> </ul>	1 thru 6
<ul> <li>MOWER WILL NOT START - system pressure is high (engine lugging). "MR" port will be high pressure.</li> </ul>	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:

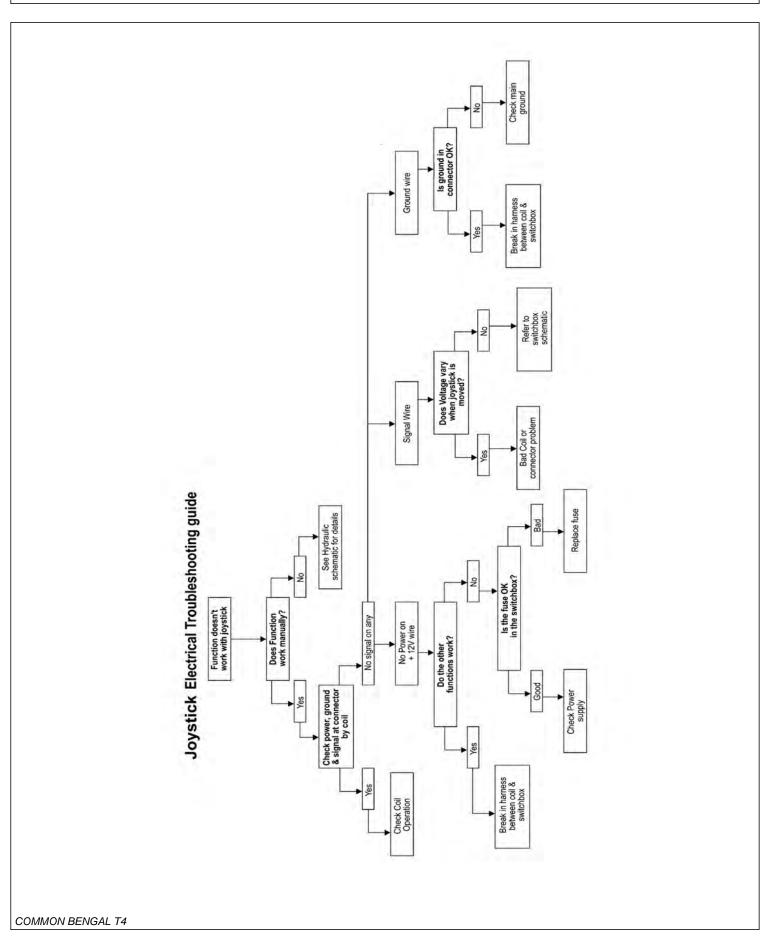
- 1. Check for voltage at solenoid (item 6), voltage must be between 10.2 volts and 13.8 volts.
- 2. Remove, inspect solenoid and cartridge (items 4, 6) for wear or contamination.
- 3. Remove, inspect logic elements near "P" port (item 3) for wear or contamination.
- 4. Remove, inspect 3000 psi relief 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.

Parts Section 6-67

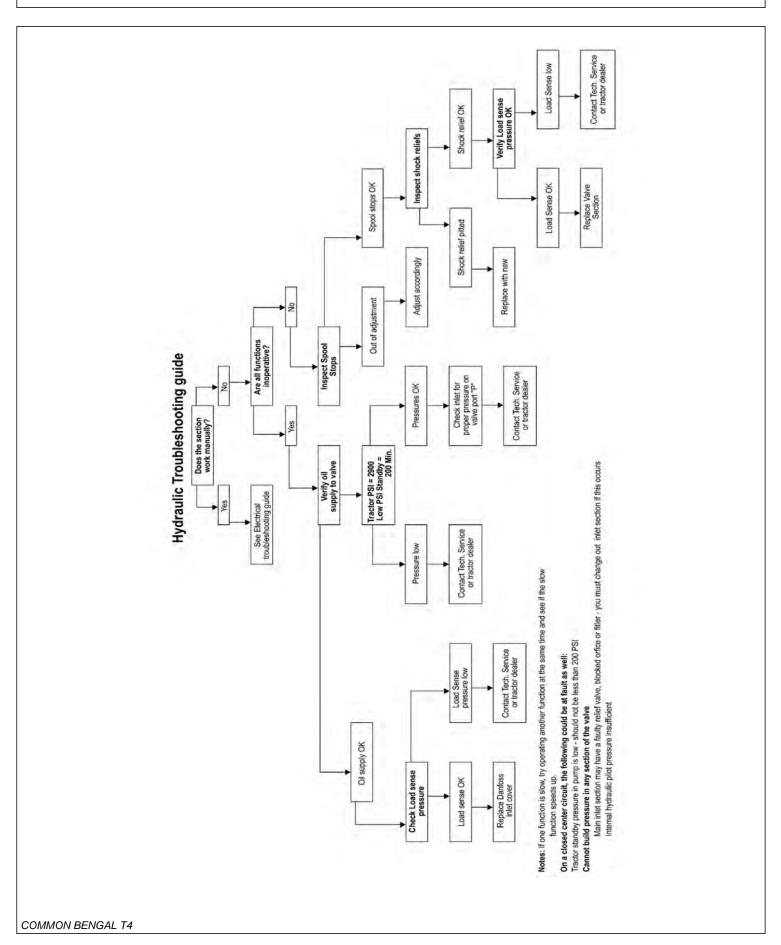
- 7. Remove and inspect orifices near "MR" port for contamination.
- 8. Remove, inspect 2600 psi relief valve (item 5) for wear of contamination.
- 9. Remove, inspect logic element near "MR" port (item 3) for wear or contamination.

COMMON BENGAL T4

# **ELECTRICAL TROUBLESHOOTING GUIDE**



#### HYDRAULIC TROUBLESHOOTING GUIDE



#### **TROUBLESHOOTING**

# JOYSTICK TROUBLESHOOTING

#### Boom operation not responding to joystick movement.

Isolate hydraulic vs. electronic symptom.

Turn off electronic master switch (preventing electronic actuator on valve from attempting to hold spool in neutral position). With tractor engine running, operate the valve section with the manual handle. If function operates normally, continue with electronic inspection. If function does not operate normally, continue with hydraulic inspection.

#### Electronic inspection.

Connect a voltmeter to the cable connector of the valve section that is not operating. This will allow you to measure supply and signal voltage when the joystick is operated.

Main, Secondary, and Swivel Valves – signal voltage should be 50% of supply voltage with joystick in Neutral position, up to 75% of supply voltage in B direction, down to 25% of supply voltage in A direction. Signal voltage should change smoothly with lever movement.

Pin #1 – Signal Voltage, Pin #4 – Power Voltage, Pin #3 – Ground

Deck Roll Valve or Float Valve – signal voltage should be 50% of supply voltage with joystick in Neutral position, up to 65% of supply voltage in B direction, down to 35% of supply voltage in A direction. Signal voltage should change smoothly with lever movement. Signal voltage should be approximately 75% of supply voltage when float switch is operated.

Pin #1 – Signal Voltage, Pin #4 – Power Voltage, Pin #3 – Ground

Shield Valve or On/Off Valve – Voltage on pin #1 should be equal to supply voltage when switch is operated in A direction. Voltage on pin #4 should be equal to supply voltage when switch is operated in B direction.

Pin #1 - Signal Voltage (Shield Open), Pin #4 - Signal Voltage (Shield Close), Pin #3 - Ground

If none of the valve will operate with electrical signal, verify that there is oil pressure at the valve inlet. Electrical Valves must have pilot supply oil to move the spools.

### Possible electronic problems.

Open circuit (broken wire, bad connection or loose connection in switchbox). Shorted to positive, ground, or other. Incorrect voltage signal from joystick.

#### Continued on next sheet

#### TROUBLESHOOTING - CONTINUED

#### Hydraulic inspection.

Install 3 pressure gauges, on the valve inlet (use M port, or tee into hose supplying oil from the pump to the inlet), on the workport that is not operating, and on the LS port.

With the spools in Neutral

Gear pump – P should be approximately 200 psi, LS = 0, workport – pressure on cylinder or function.

LS pump – P should equal pump standby pressure, LS = 0, workport – pressure on cylinder or function.

Pressure Comp pump – P should equal pump standby pressure, LS = 0, workport – pressure on cylinder or function.

Gear pump – P should be approximately 200 psi higher than LS, LS should equal workport, workport – pressure on cylinder or function.

LS pump – P should be LS + standby, LS should equal workport, workport – pressure on cylinder or function.

Pressure Comp pump – P should equal pump standby pressure, LS should equal workport, workport – pressure on cylinder or function.

Operate one spool, measure pressures with function at end of travel or stop

Gear pump – P should equal valve relief setting or workport shock valve setting. LS should equal workport. Workport should equal relief setting or workport shock valve setting.

LS pump – P should equal valve relief setting, pump max pressure setting, or workport shock valve setting. LS should equal workport. Workport should equal relief setting, pump max pressure setting, or workport shock valve setting.

Pressure Comp pump – P should equal pump standby pressure, LS should equal workport. Workport should equal pump standby pressure or workport shock valve setting.

Operate more than one spool.

Gear pump – P should approximately 200 psi higher than LS. LS should equal highest workport pressure. Workport – pressure on cylinder or function. LS pump – P should be LS + standby pressure. LS should equal highest workport pressure. Workport – pressure on cylinder or function. Pressure Comp pump. P should equal pump standby pressure. LS should equal highest workport pressure. Workport – pressure on cylinder or function.

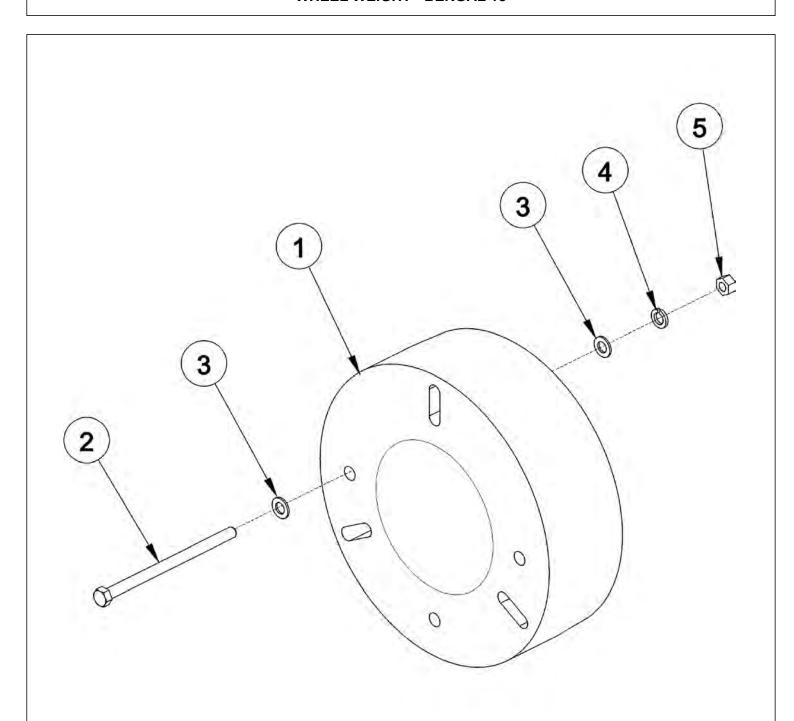
Possible hydraulic problems.

Cylinder leak.

LS signal leaking to tank before reaching pump LS port.

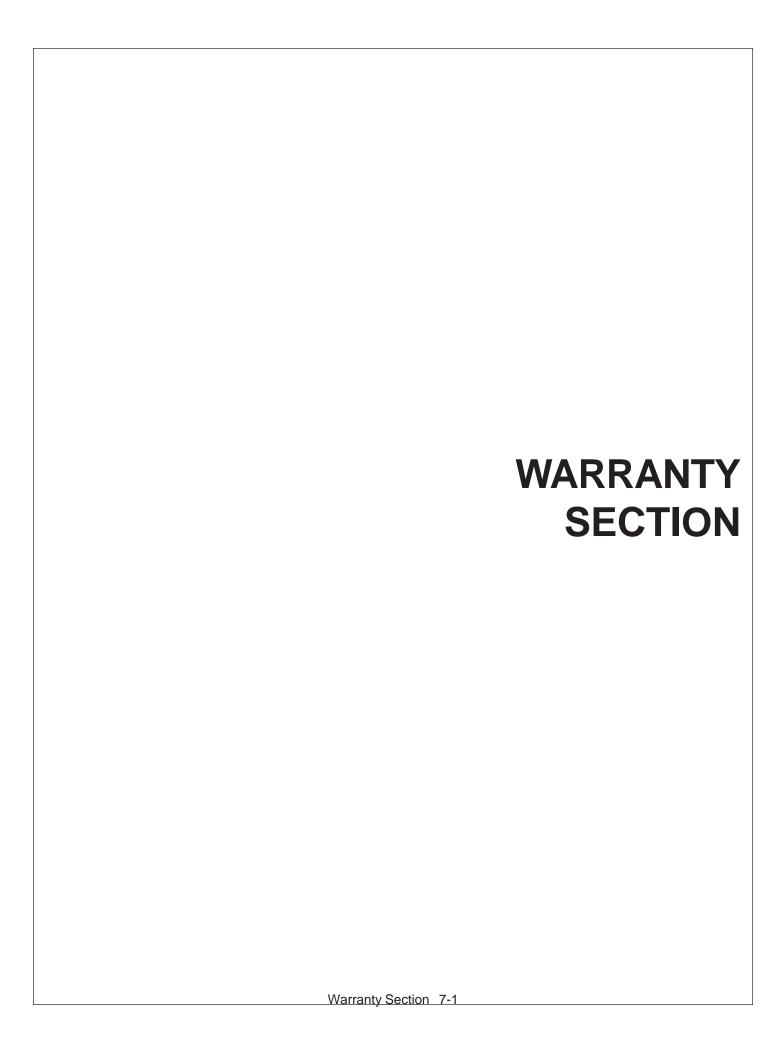
Hydraulic system or pump not supplying flow to valve.

# **WHEEL WEIGHT - BENGAL 18**



ITEM	PART NO.	QTY.	DESCRIPTION
1	30687	1	500# WHEEL WEIGHT
2	21956	4	CAPSCREW,3/4" X 13",NC
3	22021	8	FLATWASHER,3/4"
4	21993	4	LOCKWASHER,3/4"
5	21825	4	HEX NUT,3/4",NC

COMMON BENGAL T4



# 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

