



## Service and Parts Manual

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### **RYAN**<sup>®</sup> *JR Sodcutter*

#### **Models:**

<b>544844D</b>	<b>JR. SODCUTTER, BRIGGS &amp; STRATTON 12"</b>
<b>544845D</b>	<b>JR. SODCUTTER, BRIGGS &amp; STRATTON 18"</b>
<b>544944A</b>	<b>JR. SODCUTTER, HONDA 12"</b>
<b>544945A</b>	<b>JR. SODCUTTER, HONDA 18"</b>



WARNING: If incorrectly used this machine can cause severe injury. Those who use and maintain this machine should be trained in its proper use, warned of its dangers and should read the entire manual before attempting to set up, operate, adjust or service the machine.



## IMPORTANT MESSAGE

Thank you for purchasing this Ryan product. You have purchased a world class product, one of the best designed and built anywhere.

This machine comes with an Operation and Safety Manual and a separate Parts and Maintenance Manual. The useful life and good service you receive from this machine depends to a large extent on how well you read and understand these manuals. Treat your machine properly, lubricate and adjust it as instructed, and it will give you many years of reliable service.

Your safe use of this Ryan product is one of our prime design objectives. Many safety features are built in, but we also rely on your good sense and care to achieve accident-free operation. For best protection, study the manual thoroughly. Learn the proper operation of all controls. Observe all safety precautions. Follow all instructions and warnings completely. Do not remove or defeat any safety features. Make sure those who operate this machine are as well informed and careful in its use as you are.

See a Ryan dealer for any service or parts needed. Ryan service ensures that you continue to receive the best results possible from Ryan's products. You can trust Ryan replacement parts because they are manufactured with the same high precision and quality as the original parts.

Ryan designs and builds its equipment to serve many years in a safe and productive manner. For longest life, use this machine only as directed in the manual, keep it in good repair and follow safety warnings and instructions. You'll always be glad you did.

**Textron Golf, Turf & Specialty Products**  
**One Bob Cat Lane**  
**Johnson Creek, WI 53038-0469**

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## NOTICE !!!

Unauthorized modifications may present **extreme** safety hazards to operators and bystanders and could also result in product damage.

Textron Golf, Turf & Specialty Products strongly warns against, rejects and disclaims any modifications, add-on accessories or product alterations that are not designed, developed, tested and approved by Textron Golf, Turf & Specialty Products Engineering Department. Any Textron Golf, Turf & Specialty Products product that is altered, modified or changed in any manner not specifically authorized after original manufacture—including the addition of “after-market” accessories or component parts not specifically approved by Textron Golf, Turf & Specialty Products—will result in the Textron Golf, Turf & Specialty Products Warranty being voided.

Any and all liability for personal injury and/or property damage caused by any unauthorized modifications, add-on accessories or products not approved by Textron Golf, Turf & Specialty Products will be considered the responsibility of the individual(s) or company designing and/or making such changes. Textron Golf, Turf & Specialty Products will vigorously pursue full indemnification and costs from any party responsible for such unauthorized post-manufacture modifications and/or accessories should personal injury and/or property damage result.



This symbol means:  
**ATTENTION!**  
**BECOME ALERT!**

Your safety and the safety of others is involved.

## Signal word definitions:

The signal words below are used to identify levels of hazard seriousness. These words appear in this manual and on the safety labels attached to Textron Golf, Turf & Specialty Products machines. For your safety and the safety of others, read and follow the information given with these signal words and/or the symbol shown above.

### **DANGER**

**DANGER** indicates an imminently hazardous situation which, if not avoided, **WILL** result in death or serious injury.

### **WARNING**

**WARNING** indicates a potentially hazardous situation which, if not avoided, **COULD** result in death or serious injury.

### **CAUTION**

**CAUTION** indicates a potentially hazardous situation which, if not avoided, **MAY** result in minor or moderate injury. It may also be used to alert against unsafe practices or property damage.

### **CAUTION**

**CAUTION** used without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, **MAY** result in property damage.



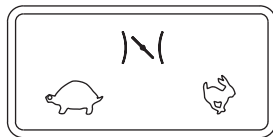
**MODEL NUMBER:** This number appears on sales literature, technical manuals and price lists.

**SERIAL NUMBER:** This number appears only on your mower. It contains the model number followed consecutively by the serial number. Use this number when ordering parts or seeking warranty information.



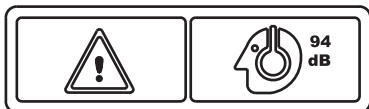
009034910

This decal instructs the operator to read and understand the Operation & Safety manual. To prevent injury, they must be familiar with the operation of this product and be fully aware of safe operating procedures.



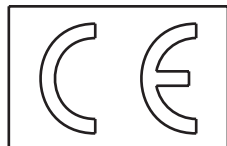
524481

The throttle control decal uses the turtle to represent slower engine speeds, the rabbit represents faster engine speeds.



524538

This decal informs the operator that hearing protection should be worn if operating the Jr. Sodcutter for extended periods of time (longer than four hours).



009039290

This decal indicates the unit is certified for use for the European community.

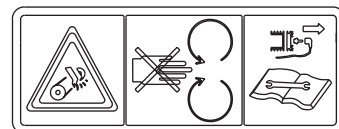


524541

The top symbol shows fingers or hands being cut or severed. **DO NOT** place hands or fingers under Jr. Sodcutter while operating the unit.

The middle symbol shows toes or feet being cut or severed. **DO NOT** place feet or toes under Jr. Sodcutter while operating the unit.

The lower symbol informs the operator and/or bystanders to keep a safe distance away from machinery. If you do not keep hands and feet a safe distance from the machinery, personal injury could occur.



840697

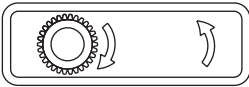
The left symbol shows the possible result of working on the machinery with safety shields removed. Hands and fingers may become entangled in belts. **DO NOT** operate the unit without safety shields in place.

The middle symbol warns the operator and/or bystanders to keep hands out of moving components.

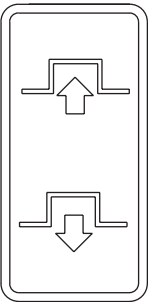
The right symbol instructs the operator to read the service section of the operators manual. Disable the engine (disconnect spark plug wire) before performing any service or maintenance on the unit.

LABELS

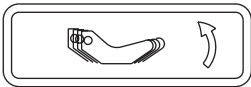
Jr.  
Sodcutter



524486  
This decal shows the direction of lever movement used to engage the drive wheels of the Jr. Sodcutter. Movement in the opposite direction will stop the drive wheels.



524480  
This decal shows the direction of lever movement used to engage the drive belt of the Jr. Sodcutter. Push the lever forward to engage the drive belt. Pull the lever rearward to disengage the drive belt.



524485  
This decal shows the direction of lever movement used to engage the cutter blade of the Jr. Sodcutter. Movement in the opposite direction will stop the cutter blade.

OPERATING INSTRUCTIONS

HARD SOIL OPERATION:

1. TIP BLADE FORWARD BY LOOSENING LOCKING LEVER (BLACK HANDLE RIGHT SIDE "H" FRAME). PUSH "H" FRAME FORWARD AS REQUIRED AND LOCK LEVER.

DEPTH OF CUT:

1. LOOSEN UPPER RIGHT HAND LOCKING LEVER. TIP MACHINE FORWARD AND MOVE CENTER DEPTH CONTROL LEVER TO DESIRED DEPTH. LOCK IN POSITION BY ROTATING LOCKING LEVER CLOCKWISE.

2. LOOSEN DEPTH STOP LOCKING LEVER AT CENTER OF "H" FRAME. RAISE DEPTH STOP UNTIL IT CONTACTS DEPTH CONTROL LEVER AND LOCK IN PLACE.

3. ADJUST BLADE TO CUT SOD 3/4 TO 1 INCH THICK.

BLADE ADJUSTMENTS

TO MOVE WITHOUT POWER:

DISENGAGE DRIVE WHEEL SHIFTER LEVER (ON FRONT-RIGHT SIDE OF MACHINE) BY ROTATING DOWNWARD.

TO MOVE MACHINE UNDER POWER:

1. DISENGAGE CUTTING BLADE SHIFTER LEVER (ON FRONT-RIGHT SIDE OF MACHINE) BY ROTATING DOWNWARD.

2. ENGAGE DRIVE WHEEL SHIFTER LEVER (ON FRONT-RIGHT SIDE OF MACHINE) BY ROTATING UPWARD.

3. WITH ENGINE RUNNING, HOLD OPERATOR PRESENT LEVER AGAINST HANDLEBAR AND PUSH CLUTCH LEVER FORWARD TO THE ENGAGED POSITION.

TRANSPORTING MACHINE

1. FILL FUEL TANK WITH REGULAR GASOLINE.

2. PULL CLUTCH LEVER BACK TO DISENGAGED POSITION.

3. SET THROTTLE TO 1/2 OPEN POSITION AND MOVE STOP SWITCH TO "ON" POSITION.

4. SET CHOKE AND START ENGINE.

STARTING ENGINE

1. MAKE REQUIRED BLADE ADJUSTMENTS AS STATED ABOVE.

2. START ENGINE PER INSTRUCTIONS ABOVE AND SET THROTTLE TO FULL SPEED.

3. ENGAGE DRIVE WHEELS BY ROTATING SHIFTER LEVER ON FRONT RIGHT SIDE OF MACHINE UPWARD.

4. ENGAGE CUTTING BLADE BY ROTATING SHIFTER LEVER ON REAR RIGHT SIDE OF MACHINE UPWARD.

5. WITH MACHINE TIPPED FORWARD ON FRONT BUMPER AND OPERATOR PRESENT LEVER HELD AGAINST HANDLEBAR, PUSH CLUTCH LEVER FORWARD. AT THE SAME TIME LOWER THE MACHINE SO BLADE ENTERS THE GROUND.

6. TO STOP MACHINE, PULL BACK FIRMLY ON CLUTCH LEVER. THIS APPLIES A BRAKE.

7. STOP ENGINE BY MOVING STOP SWITCH TO "OFF" POSITION.

SOD CUTTING INSTRUCTIONS

524487  
This decal shows the operating instructions for the Jr. Sodcutter.

### JR SODCUTTER CONTROLS

**Clutch Control Lever - A :** Engages or releases drive belt and applies brake action to drive belt when pulled FIRMLY to rear.

**Throttle Control - B :** Speeds up or slows down engine.

**Engine Switch:** Turn to "ON" position to start engine. Turn to "OFF" position to stop engine.

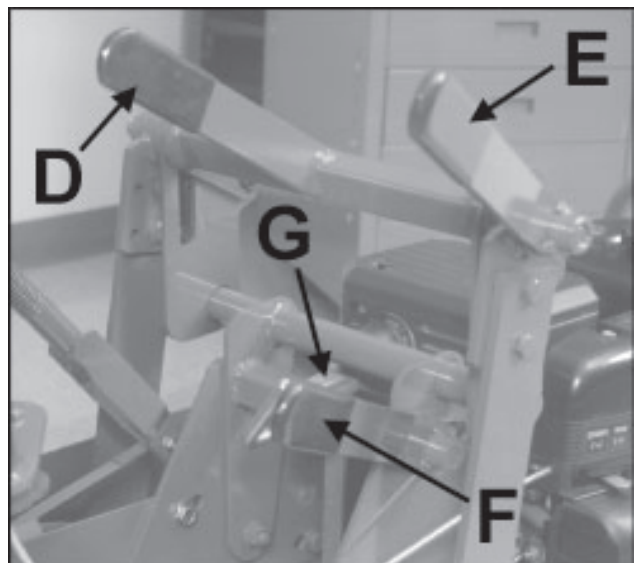
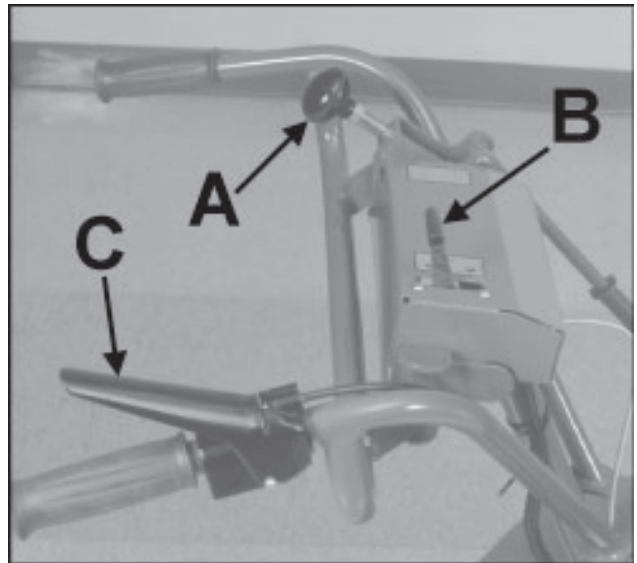
**Operator Presence Control - C :** With clutch control engaged, engine will stop if operator presence lever is not depressed.

**Blade Depth Control Lever - D :** Raises or lowers cutting blade.

**Blade Angle Locking Lever - E :** Adjusts cutting angle of blade.

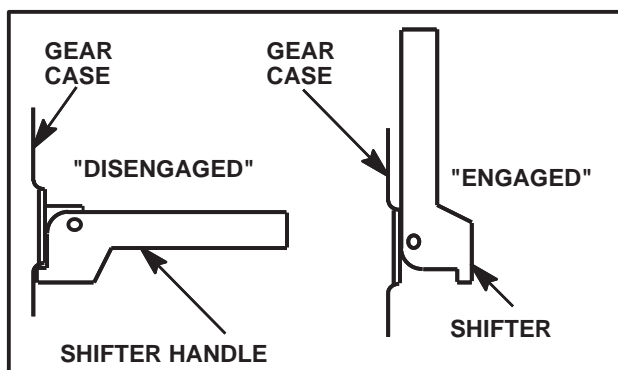
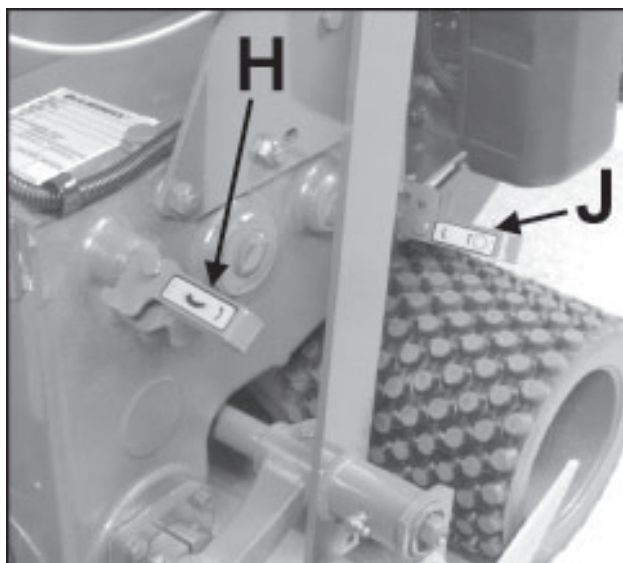
**Blade Depth Control Locking Lever - F :** Locking lever holds blade depth control in desired position.

**Depth Gauge - G :** Allows resetting of blade depth to the previous cutting height.



## JR SODCUTTER CONTROLS

**Blade (H) and Wheel (J) Shifter Handles :** Engage or disengage blade for cutting and gears for driving Sodcutter.



## MOVING THE JR SODCUTTER

### To move unit without running blade :

1. Place blade shifter handle **H** in "disengaged" position (handle will point straight out from unit).
2. Set engine speed at slow speed.
3. Engage drive shifter handle.
4. Depress operator presence control.
5. Engage operator presence control.
6. Engage clutch control lever.
7. Adjust throttle to desired walking speed.

### To move unit without running engine :

1. Put drive shifter handle and clutch control lever in "Disengaged" position.

### To transport the unit :

1. When transporting unit on trailer or truck, shut fuel valve "OFF" beneath fuel tank.

### PRE-OPERATION CHECK

1. Visually check all moving parts and all fasteners. If loose or broken, tighten or replace. Check belt for fraying, wear and proper adjustment (see SERVICE section).
2. Lubricate all lubrication fittings before each days use or after every eight hours of operation (see SERVICE section).
3. Check the engine crankcase oil level with the engine resting in a level position. Add oil if necessary.
4. Check the gear case oil level. Add oil if necessary.
5. Check the air filter. Replace if necessary.
6. Sharpen cutting blade (see SERVICE section).
7. Follow the engine manufacturer's recommendations for the correct type and amount of oil. Fill the fuel tank according to the engine manufacturer's specifications.

#### **WARNING**

Gasoline is extremely flammable and highly explosive under certain conditions. Always stop the engine and do not smoke or allow open flames or sparks when refueling. **BE SURE** to install fuel cap after refueling.

Do not fill containers in a vehicle or on a truck or trailer bed with a plastic liner. Fill containers on the ground away from the vehicle.

Refuel equipment on the ground. If equipment must be fueled on a truck or trailer, refuel from a portable container rather than a dispenser nozzle.

Keep the dispenser nozzle in contact with the rim of the fuel tank or container opening until fueling is complete. Do not use a nozzle lock-open device.

**NEVER** start or run the engine inside where exhaust fumes can collect. Carbon monoxide present in the exhaust is an odorless and deadly gas.

**DO NOT** operate equipment without shields in place. **DO NOT** make adjustments or perform any maintenance while the engine is running.

Before operating, check the area and remove any object which may present a safety hazard or damage the equipment.

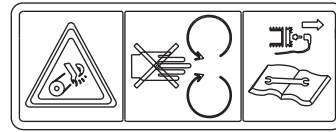
## ⚠ WARNING

When replacement parts are required, use genuine **RYAN** parts or parts with equivalent characteristics, including type, strength and material. Failure to do so may result in product malfunction and possible injury to the operator and/or bystanders.

Carbon monoxide present in the exhaust is an odorless and deadly gas. Never start or run the engine inside where exhaust fumes can collect. Provide enough fresh air to keep fumes from getting too strong.

When replacing engine, be sure to replace sound level warning decal (Part No. 524538).

Any warning decal that becomes illegible should be replaced immediately.



**STOP** engine and disconnect spark plug wire before servicing or making adjustments to unit. The preceding decal shows what could happen if the engine is not stopped or disabled before removing safety covers. Hands may become entangled in moving belts, gears, chains or other parts.

Use adequate lifting device (i.e., hoist, fork lift, etc.) to raise unit.

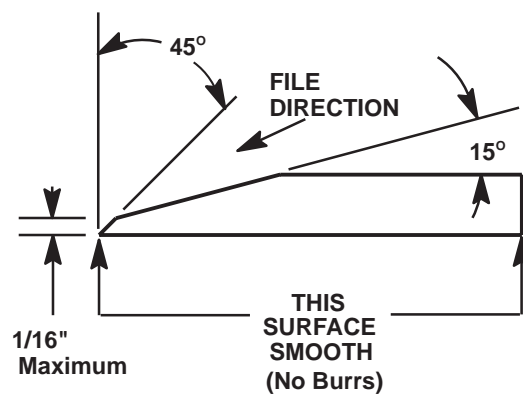
Use adequate supports when unit is raised for servicing.

Wear protective eye equipment when using hammers, chisels and punches.

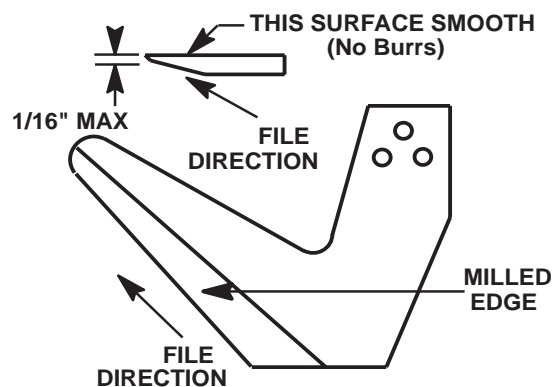
## BLADE SHARPENING

1. Hand file bottom blade at 45° angle until no flat remains.
2. To keep cutting edge less than 1/16" on 45° angle, grind milled surface back at 15° to less than 1/16".
3. Hand file side blades at 45° until no flat remains.
4. To keep cutting edge less than 1/16" on 45° angle, grind milled surface back at 15° to less than 1/16".

### BOTTOM BLADE



### SIDE BLADE

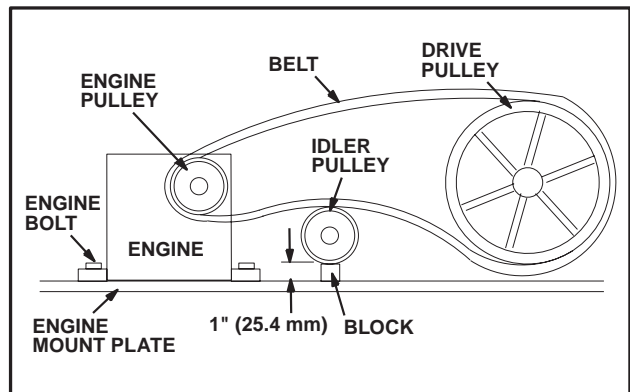


### DRIVE BELT ADJUSTMENT

Keep belt free of oil and dirt, and adjusted to proper tension at all times.

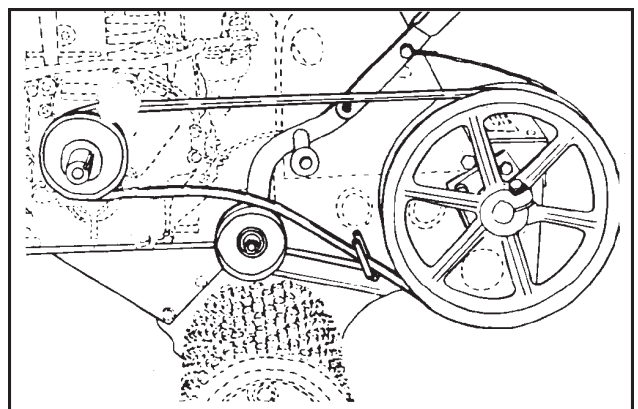
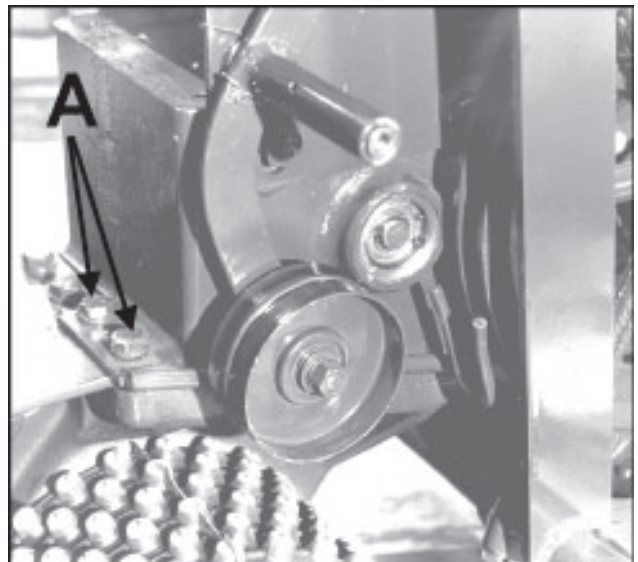
Belt tension is adjusted by loosening four (4) engine mounting bolts and shifting engine on the base.

The belt should be taut when the clutch lever is pushed forward (engaged) and the idler wheel is 1" (25.4 mm) from the engine mount plate.



### DRIVE BELT REPLACEMENT

1. Remove shield on left side of unit.
2. Remove nut securing brake band to clutch control rod.
3. Remove cotter pin on outside of guard support rod and move brake band over to nut on rod.
4. Loosen two bolts **A** securing belt guide to provide clearance when removing belt.
5. Install new belt in reverse procedure. Route the belt as shown.



## DRIVE CHAIN REMOVAL

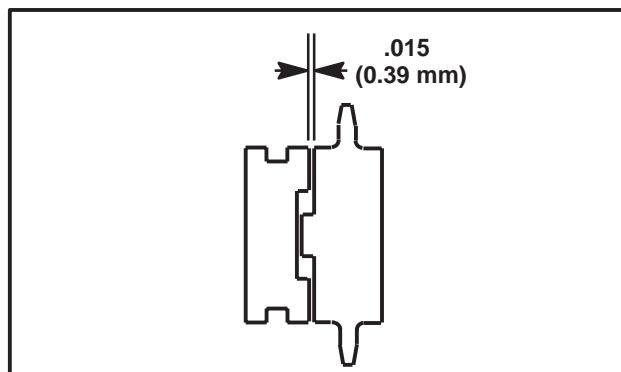
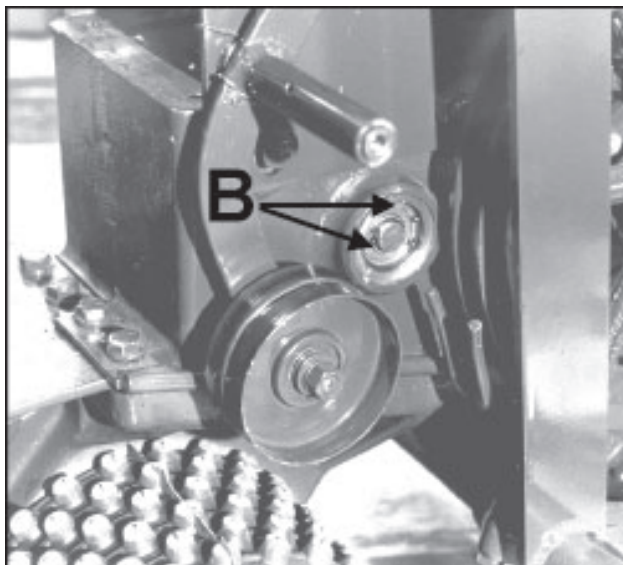
1. Raise unit, place on adequate supports and remove belt guard.
2. Remove four (4) screws securing cover.
3. Remove throttle cable from engine and lay behind cam case.
4. Remove dipstick from cover.
5. Remove screw, flat washer, nut and bushing from right lower side of "H" frame.
6. Using a screwdriver, lift cover to break sealant bond and remove cover.
7. Drain oil out of front cavity on case, and turn drive wheels until master link is on top of sprocket.
8. Remove master link and continue rotating drive wheels until chain is off bottom sprocket.
9. Install new chain in reverse procedure. Clean mating surfaces on case and cover. Apply 3M Scotch Grip 847 or an equivalent adhesive to case cover before installation.

## BLADE DRIVE CHAIN REPLACEMENT

- NOTE:** To prevent small components from falling down into oil cavities and causing damage to unit, cover opening with clean rags, cardboard, etc.
1. Follow steps 1 thru 6 in drive chain removal.
  2. Remove bottom screw on bearing cage to drain oil from rear cavity.
  3. Rotate pulley shaft until master link is to front of top sprocket. Remove master link.
  4. Rotate blade drive shaft until chain is free.
  5. Install new chain in reverse procedure. Use 3M Scotch Grip 847 or an equivalent adhesive on case cover and bearing retainer screw.

### UPPER DRIVE SPROCKET & SHAFT

1. Remove drive chain according to steps 1 thru 6 in drive chain removal section.
2. Remove master link from chain. Chain does not need to be removed from lower sprocket.
3. Remove drive shifter assembly from gear case.
4. Remove blade and side arms from pivot brackets for easier access.
5. Remove plugs on both ends of shaft.
6. Remove snap rings **B** from left bearing.
7. Using a punch and soft hammer (lead, leather, etc.), drive shaft out left side of unit and remove large gear.
8. Using a bearing puller or slide hammer, remove bearing. Shaft is now removable through cam case cover opening.
9. Dog clutch half is removable from gear by removing snap ring.
10. Assemble in reverse procedure.
11. After installing blade shifter assembly, adjust dog clutch to provide .015" (0.39 mm) clearance between clutch faces, as shown.
12. Apply 3M Scotch Grip adhesive or an equivalent to gear case cover before installation.

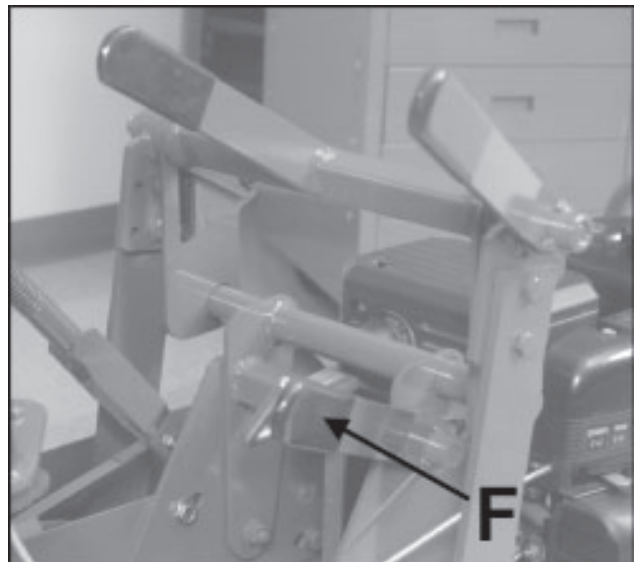


## DRIVE WHEEL CHAIN SPROCKET SHAFT

1. Follow steps 1 thru 7 in drive chain removal section.
2. Remove master link and remove chain from top sprocket.
3. Remove both drive wheels and axle keys.
4. Remove seal in case and snap ring retaining bearing in case.
5. Install axle nut on end of shaft, opposite the side of snap ring previously removed.
6. Using a soft hammer (lead, brass, etc.), drive shaft out of case. Sprocket can now be removed by lifting up on chain.
7. Top sprocket and chain should be checked for wear and replaced if necessary.
8. Reassemble in reverse procedure using new seals and gaskets.

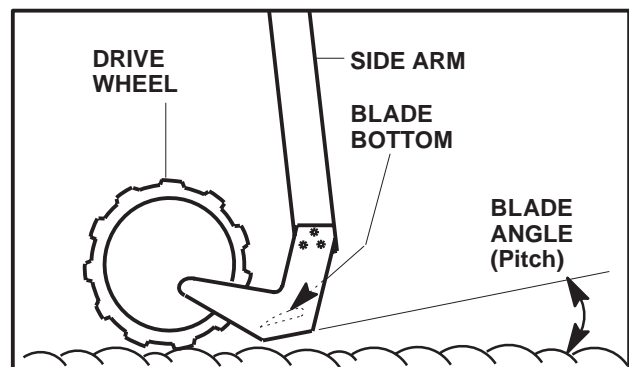
## ADJUSTING BLADE ANGLE

1. Loosen blade angle control locking lever **F** and move H-frame forward or backward until blade is at desired angle of pitch.
2. Tighten blade angle control locking lever **F**.



## BLADE ANGLE (PITCH)

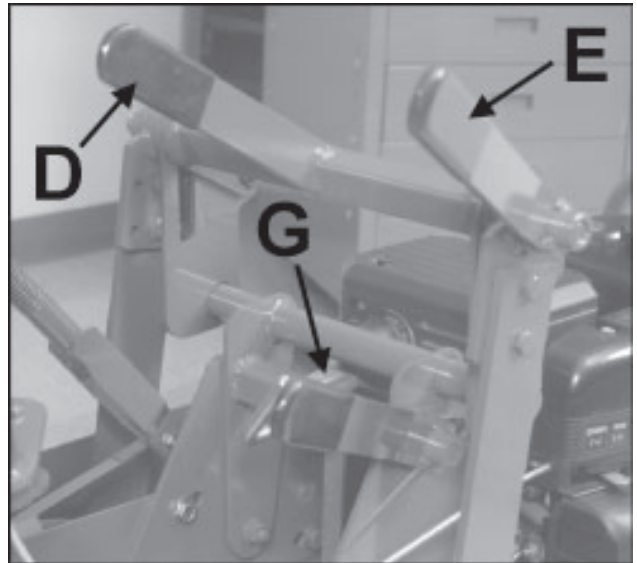
Under normal operating conditions, blade angle is minimal (blade bottom is flat). In extremely hard soil or when cutting with a dull blade, the blade may want to ride out of the ground. It may then help to adjust blade angle downward (see Adjusting Blade Angle above). A short trial run will indicate which is the best blade angle.



### ADJUSTING DEPTH OF CUT

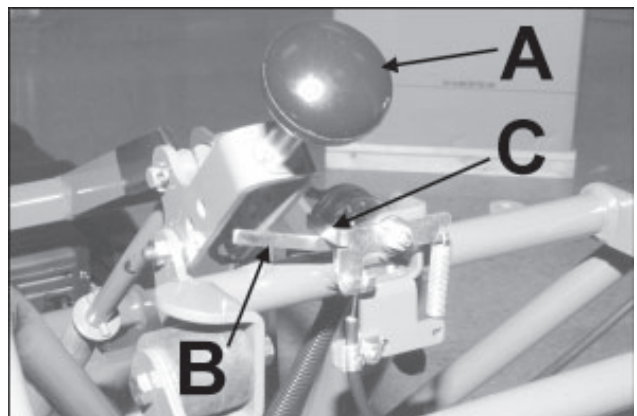
1. Make a trial run in turf. Set depth to cut approximately 3/4" of soil.
2. Loosen depth gauge handle. Adjust depth gauge **G** to contact bottom on depth control lever **D**.
3. Loosen depth control locking lever **E** and lower depth control **D** until it rests on depth gauge **G**.
4. Tighten depth control locking lever **E**.

**NOTE:** Numbers on depth gauge do not necessarily represent thickness of sod being cut.



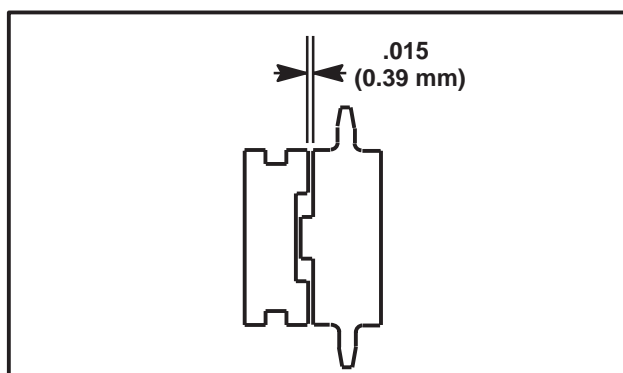
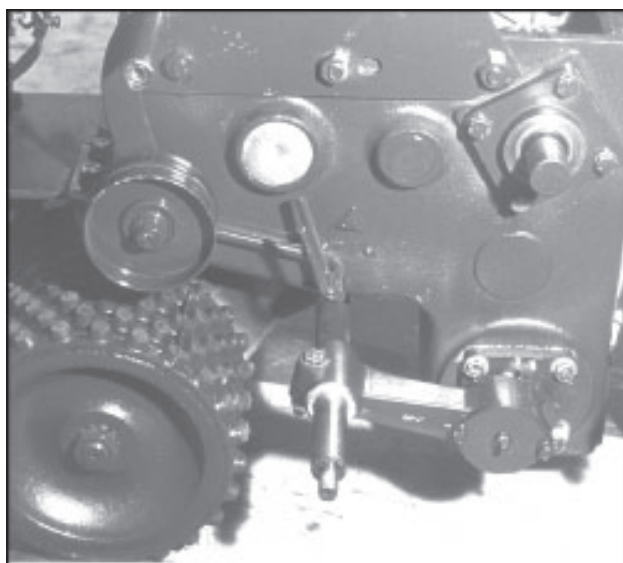
### ADJUSTING OPERATOR PRESENCE CONTROL

1. To adjust operator presence cable, pull clutch control handle **A** rearward as far as possible.
2. Press operator presence handle (right handlebar) down as far as possible.
3. Adjust cable until the pivot arm **C** contacts the arm extending from the operator presence switch **B**.
4. Tighten cable clamp to secure cable. Check for proper operation.



### PULLEY SHAFT

1. Follow steps 1 thru 4 in belt replacement section and steps 2 thru 6 in drive chain removal section.
2. Remove blade from unit and remove left side arm.
3. Remove blade shifter assembly.
4. Turn pulley until master link is on top of sprocket. Remove chain from top sprocket.
5. Remove belt pulley and key.
6. Remove four (4) bearing cage screws and pull gears out left side of unit. Dog clutch and double sprocket will slide off as shaft is removed.
7. To remove gear and bearing, remove snap ring, slide gear off shaft and remove key. Remove bearing snap ring and remove bearing.
8. Assemble in reverse procedure. After blade shifter assembly is installed, adjust dog clutch to provide .015" (0.39 mm) clearance between clutch faces, as shown.
9. Apply 3M Scotch Grip 847 adhesive or equivalent to gear case cover before installation.

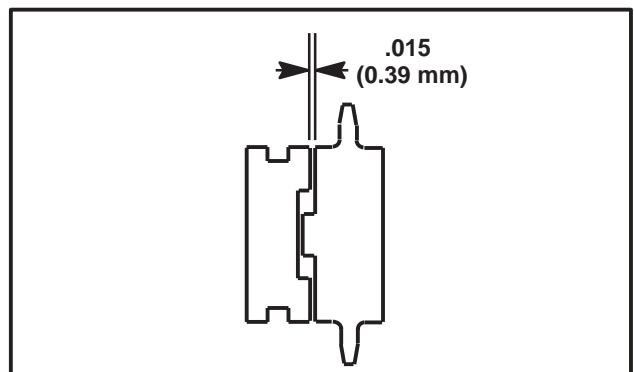
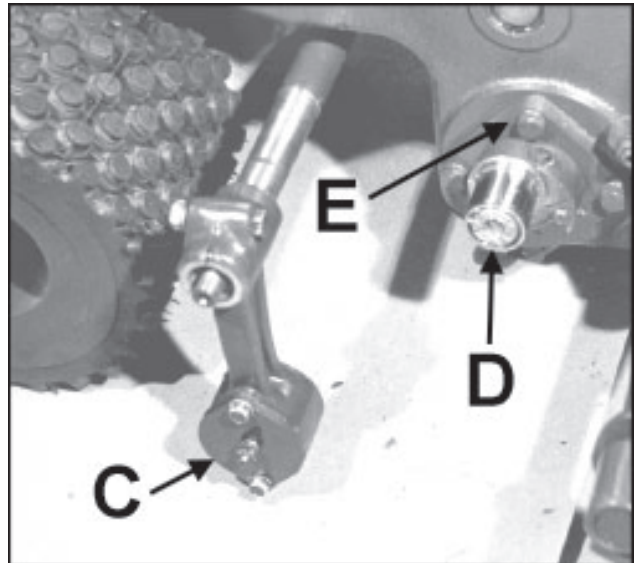


### BLADE SPROCKET SHAFT

1. Follow steps 1 thru 6 in pulley shaft section.
2. Loosen clamp screw on left pitman arm **C** and remove from shaft.
3. Loosen clamp screw in eccentric assembly **D** and remove.
4. Remove two (2) top screws securing the other side arm assembly. Side arm, shaft and pitman arm, are now removable by pulling side arm out.
5. Remove eccentric and both bearing cages **E**. Put a pan under rear portion of case to catch oil from case cavity.
6. Push shaft to left of case, lift right end of shaft out of case with bearings and sprocket intact.
7. To remove sprocket, press bearing from shaft, and slide sprocket off.

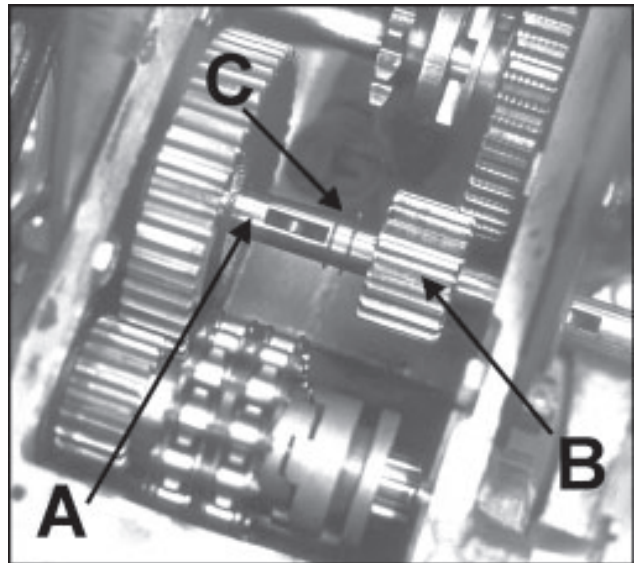
**NOTE:** End play on shaft must not exceed .005 (.127 mm) clearance and should rotate freely when bearing cages are tightened.

8. Assemble in reverse procedure. After blade shifter assembly is installed, adjust dog clutch to provide .015" (0.39 mm) clearance between clutch faces, as shown.
9. Apply 3M Scotch Grip 847 adhesive or equivalent to gear case cover before installation.



### IDLER GEAR SHAFT

1. Remove belt guards.
2. Follow steps 2 thru 6 in drive chain removal section.
3. Remove plug from right side of unit.
4. Remove snap ring **C** from groove by small gear **B** to left end of shaft **A**.
5. Move small gear **B** to left side (from operators position) of case.
6. Move shaft **A** out right side of case until large gear clears shaft for removal.
7. Remove key from shaft and slide snap rings **C** off end of shaft.
8. Small gear **B** will slide off as shaft is removed from gear case.



9. Assemble in reverse procedure. Apply 3M Scotch Grip 847 adhesive or equivalent to gear case cover before installation.

### LUBRICATION

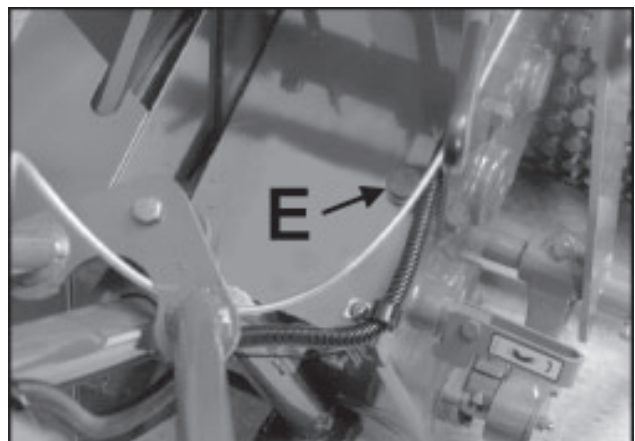
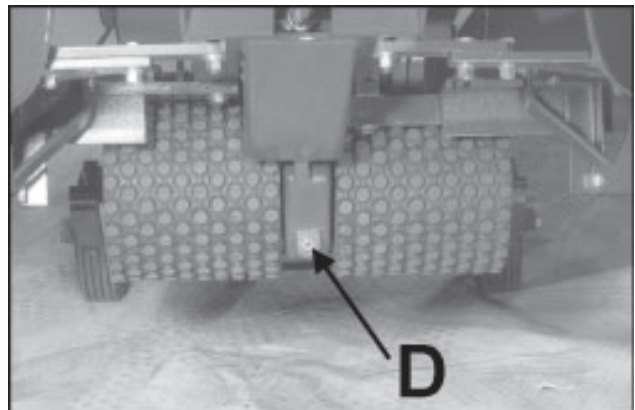
The gear case is initially filled with 3 1/2 pints (1.7 L) of EP 140 Gear Lube. Do not add to this amount unless oil is changed or lost through leakage. Gear case drain plug **D**.

On all pressurized lubrication fittings use a good grade of Lithium Based lubricant.

The Jr. Sodcutter has 6 lubrication fittings. Lubricate pitman arms (1 each side) and side arms (1 each side) after every 4 hours of use.

Lubricate side arm pivots (1 each side - top of unit) after every 8 hours of use.

Check gear case lubricant level using dipstick **E** located on top of gear case. Check lube with dipstick sitting on threads, do not screw in.



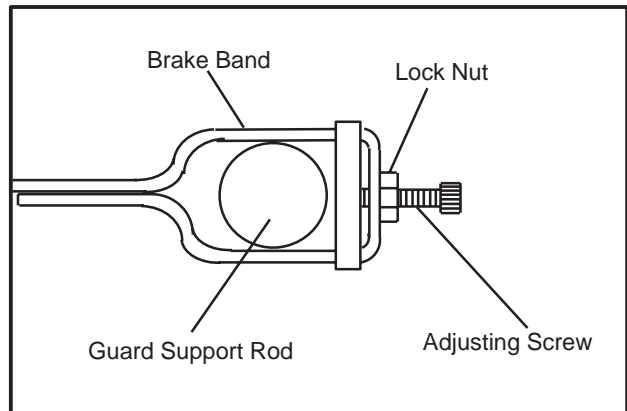
### BRAKE BAND REPLACEMENT AND ADJUSTMENT

1. Remove belt guard.
2. Remove old brake band from Jr. Sodcutter. Retain all hardware.
3. Install new brake band with the large loop and hardware at the lower mounting point (on guard support rod).
4. Loosen the lock nut and the adjustment screw on the new brake band. Activate the brake lever and tighten the adjustment screw until the brake band is pulled snug against the belt. Tighten the lock nut on brake adjustment screw. Make a test run. Stop engine and re-adjust brake band if necessary.
5. Re-install belt guard using original hardware.

**NOTE:** Make sure that cotter pin does not interfere with drive belt.

Routine brake band adjustment is necessary as the band and belt wear.

If brake band is not correctly attached to clutch control link, idler arm will rotate backward away from belt and no drive will occur.



## STORAGE INSTRUCTIONS

### **WARNING**

To prevent possible explosion or ignition of vaporized fuel, do not store equipment with fuel in tank or carburetor in enclosure with open flame (for example, a furnace or water heater pilot light).

#### **Daily Storage**

1. Check engine oil level and air filter element daily.
2. Check oil level in gear case.
3. Close fuel valve at bottom of fuel tank.
4. Clean cutting blade (grass, dirt, etc.).

#### **Extended Storage**

**Before the equipment is put into storage for any period exceeding 30 days, the following steps should be taken:**

1. Drain all fuel from fuel tank and lines (use a hose or fuel line, routed from fuel tank shut-off to proper container).

2. Start engine and run until all fuel is used from the carburetor float bowl.
3. While engine is warm, drain the crankcase oil and replace with the proper weight of oil corresponding to the season when the equipment will next be used.
4. Remove the spark plug and squirt a small quantity of engine oil into the cylinder. Turn the engine over a few times to distribute the oil.
5. Lubricate all lubrication fittings.
6. Clean and oil cutting blade to prevent rust.

#### **To put equipment into operation after an extended storage:**

1. Fill fuel tank with clean fresh fuel.
2. Check crankcase oil level, and start engine.
3. Check fuel system for fuel leaks.

## TROUBLE SHOOTING CHART

<b>POSSIBLE PROBLEM</b>	<b>PROBABLE CAUSE</b>	<b>REMEDY</b>
Blade will not stay in ground.	A. Bottom of blade is rounded off. B. Blade angle is not properly set.	A. Blade should be sharpened or replaced. See page 8. B. Adjust blade angle. See page 12.
Root hair pinning on side or bottom of blade.	A. Some types of turf and soil make this a problem.	A. Keep the blade extra sharp and ground back at a low angle.
Belt jumps off.	A. Wrong type of belt construction. B. Too much slack when belt tightener is disengaged.	A. Use only the special Ryan factory belt. B. Slide engine forward and readjust control rod.
Locking levers not tight when pulled to limit of travel.	A. Thread wear on locking nut. B. Locking nut not properly adjusted.	A. Replace locking nut. B. Tighten locking nut on opposite end of tie rod.
Belt grabs in pulleys and unit creeps when clutch is not engaged.	A. Belt is old and frayed, or is not the type sent out with the unit. B. Rust or paint in pulley grooves. C. Engine set too far forward.	A. Belt should be replaced with factory construction belt, designed for belt tightener clutches. B. Clean and polish pulleys. C. Move engine back.
Idler does not engage belt when clutch lever is moved forward.	A. Brake band is not attached to clutch link or is broken.	A. Reattach upper end of brake band to clutch link or replace brake band.

# SPECIFICATIONS

# Jr. Sodcutter

## Models: 544844D, 544845D

### Engine

Model..... #117432, Type 0530, Trim E1  
4 cycle 6 H.P. B&S Vanguard 11.1 cu. in. (182 cc)  
Starter..... Recoil  
Governor..... 3600 RPM + 100 RPM, no load  
Clutch..... spring loaded belt tightener type

### Noise Level

Sound pressure level.... 88dB(A)(pressure based)  
Sound power level..... 99dB(A)(power based)

### Vibration

Handlebar vibration level (in Z-axis)..... 29.4 M/S<sup>2</sup>

### Reduction

Engine to blade..... 2.94:1  
Engine to drive wheels..... 55.8:1

### Wheels:

Drive..... 8" (203 mm) Dia. w/knobby  
tread vulcanized to hub  
Rear..... 8 x 1.75 semi-pneumatic tires  
with pre-packed ball bearings

### Drive:

Engine to gear case..... "A" section belt  
Gear case..... roller chain

### Gear case:

Lubrication..... EP140 Gear lube  
Capacity..... 3 1/2 Pints (1.7L)

### Cutting width:

544844D..... 11 3/4" (298 mm)  
544845D..... 18" (457 mm)

### Blade pitch:

Hand lever adjustment..... variable 0° to 9°

**Blade speed:** .....1225 oscillations/min @ 3600 RPM

### Dimensions:

Width..... 24" (600 mm)  
Length..... 49" (1244 mm)  
Height..... 33" (838 mm)  
Wheelbase..... 19" (483 mm)  
Weight (544844D)..... 269 lbs. (122.1 Kg)  
Weight (544845D)..... 327 lbs. (148.5 Kg)

**Standards:**..... Conforms to European Community  
(EC) standard 89/392 and  
amendments 91/368 and 93/44.  
CARB, EPA

## Models: 544944A, 544945A

### Engine

Model..... #GX160-K1QX2, GX160 OHV  
4 cycle 5.5 H.P. Honda 9.9 cu. in. (163 cc)  
Starter..... Recoil  
Governor..... 3600 RPM + 100 RPM, no load  
Clutch..... spring loaded belt tightener type

### Noise Level

Sound pressure level.... 92dB(A)(pressure based)  
Sound power level..... 105dB(A)(power based)

### Vibration

Handlebar vibration level (in Z-axis)..... 32.4 M/S<sup>2</sup>

### Reduction

Engine to blade..... 2.94:1  
Engine to drive wheels..... 55.8:1

### Wheels:

Drive..... 8" (203 mm) Dia. w/knobby  
tread vulcanized to hub  
Rear..... 8 x 1.75 semi-pneumatic tires  
with pre-packed ball bearings

### Drive:

Engine to gear case..... "A" section belt  
Gear case..... roller chain

### Gear case:

Lubrication..... EP140 Gear lube  
Capacity..... 3 1/2 Pints (1.7L)

### Cutting width:

544944A..... 11 3/4" (298 mm)  
544945A..... 18" (457 mm)

### Blade pitch:

Hand lever adjustment..... variable 0° to 9°

**Blade speed:** .....1225 oscillations/min @ 3600 RPM

### Dimensions:

Width..... 24" (600 mm)  
Length..... 49" (1244 mm)  
Height..... 33" (838 mm)  
Wheelbase..... 19" (483 mm)  
Weight (544944A)..... 269 lbs. (122.1 Kg)  
Weight (544945A)..... 327 lbs. (148.5 Kg)

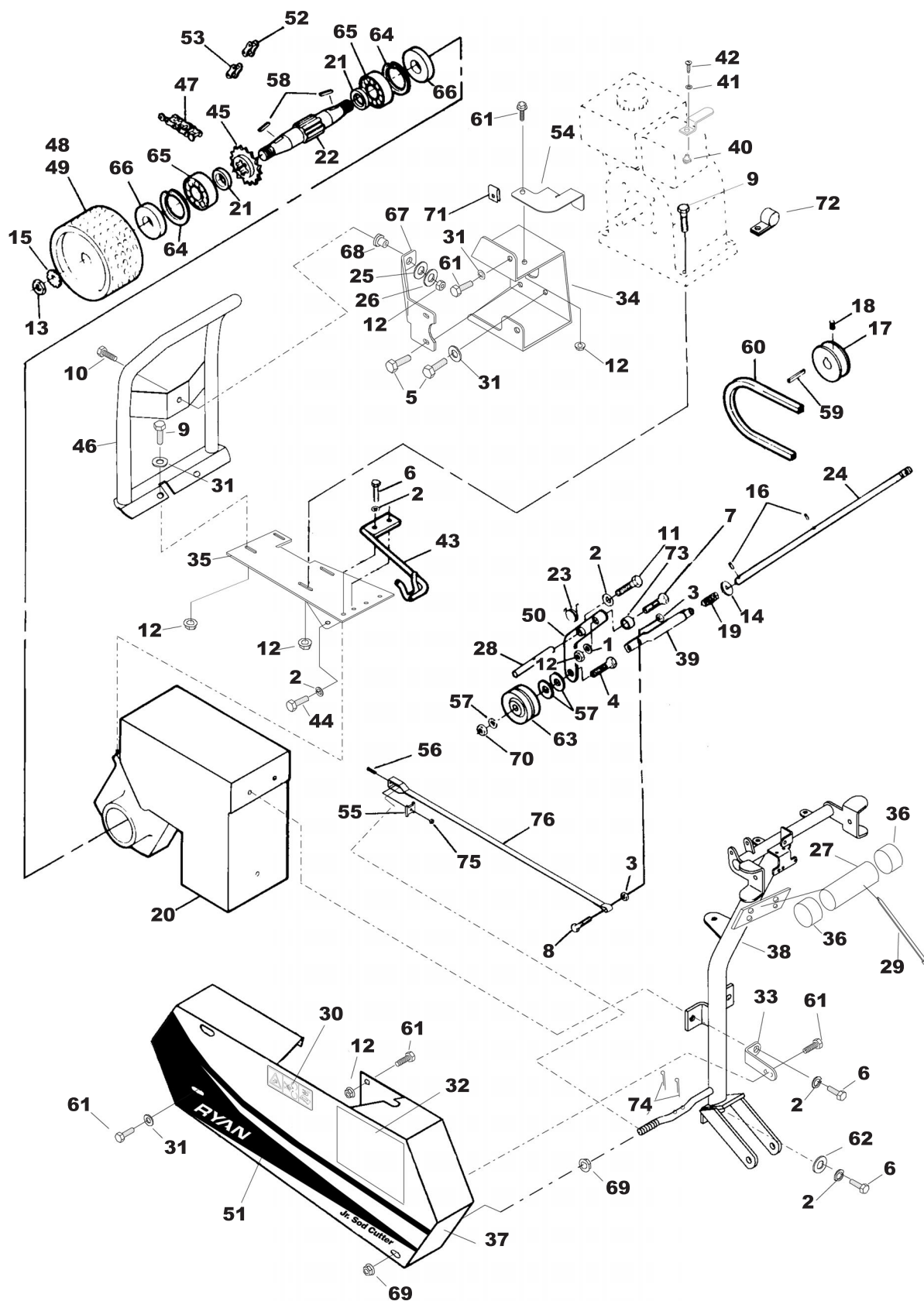
**Standards:**..... Conforms to European Community  
(EC) standard 89/392 and  
amendments 91/368 and 93/44.  
CARB, EPA

**PARTS  
SECTION**

# DRIVE ASSEMBLY AND SIDE COVER

Jr.  
Sodcutter

FIGURE 1



524781-01

**FIGURE 1**

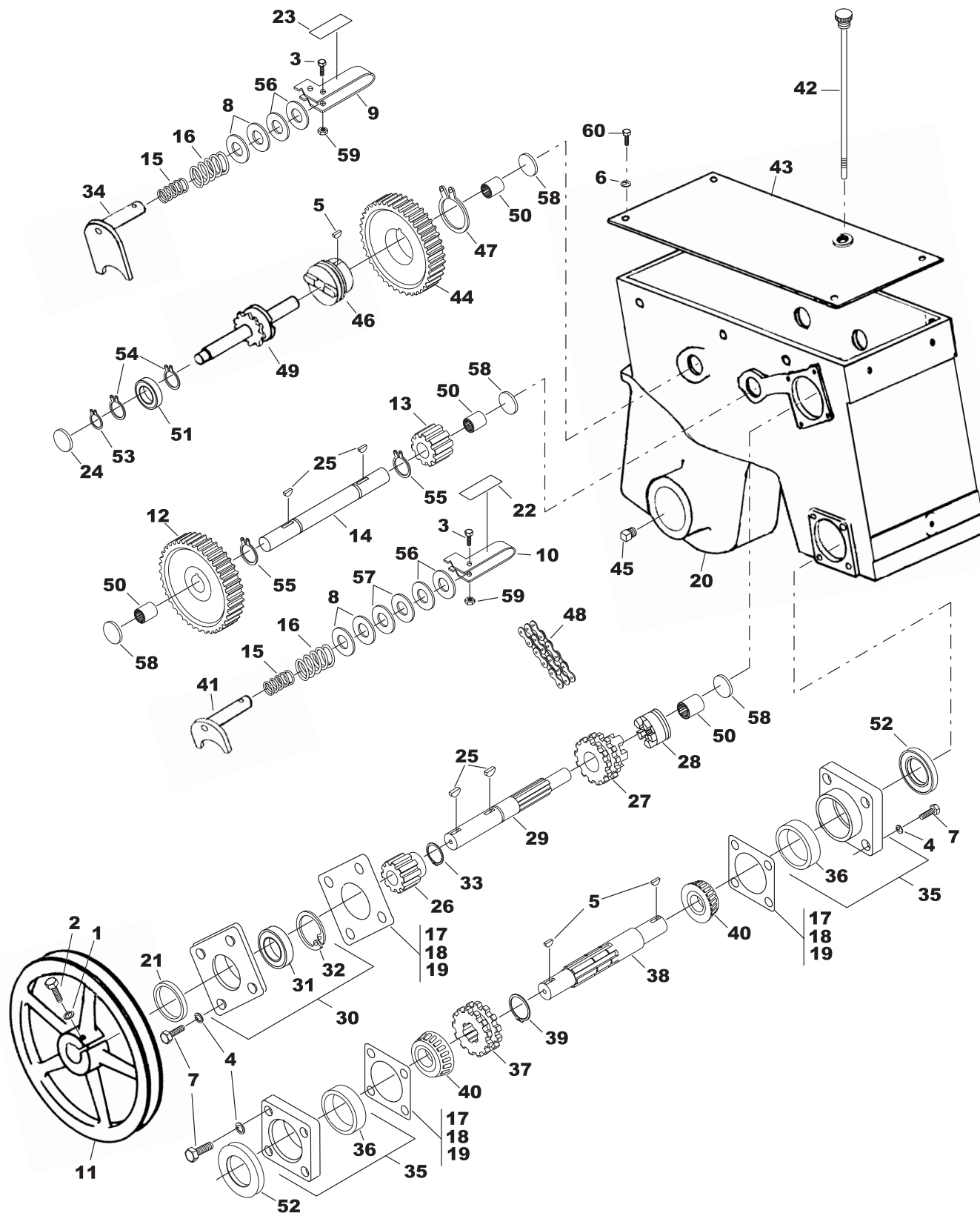
ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
1-1	103867	WSHR, .31.69.06 YS FLT	1	1-47	547398	CHAIN AY, #50 RLR	1
1-2	64006-05	LOCKWSHR-HELICAL 1/2	13	1-48	547408.7	WHEEL AY 12"	2
1-3	130728	NUT, .25-20 YS HX JAM	2			(USED ON 544844D & 544944A)	
1-4	64123-67	BLT-HEX 3/8-16X2	1	1-49	547424.7	WHEEL AY 18"	2
1-5	64139-01	BLT-WLF 5/16-24X3/4	4			(USED ON 544845D & 544945A)	
1-6	64123-50	BOLT-HEX 3/8-16X1	12	1-50	547428.7	IDLER ARM AY	1
1-7	64123-68	BOLT-HEX 5/16-18X1	5	1-51	4124295	LABEL-SIDE JR SOD CUT	1
1-8	306418	SCRW, .25-20 1.125 YS HX	1	1-52	548480	HALF LINK	A/R
1-9	64139-23	BLT-WLF 5/16-18 X 1-3/4	4	1-53	4117675	LINK AY, #50 CONNECT	A/R
1-10	548902	SCRW, .31-18 1.00 YS HSF	1	1-54	524610	BRACKET, BELT GUIDE	1
1-11	64123-15	BOLT-3/8-16X3/4 HEX	1	1-55	524574	NUT, BRAKE BAND	1
1-12	64141-6	NUT, 5/16-18	4	1-56	800888	SCRW, #10-32 1.00 BS NE	1
1-13	307665	NUT, .75-16 YS HX JAM	2			(ITEMS 55, 56, 75 & 76 ARE AVAILABLE IN BRAKE BAND KIT 540274)	
1-14	64163-67	WASHER-.516X1X12GA	2	1-57	306981	WSHR, .41 .81 .06 YS FLAT	6
1-15	309799	LWSHR, .75 ZS SHKPRF EX	2	1-58	64164-10	1/4X1/4X1-1/4 MACH KEY	2
1-16	316938	PIN, SPIROL.188 1.000 PS	2	1-59	64164-12	KEY-1/4X1/4X1 SQ END	1
1-17	517137	PULLEY, 4" DIA "A" SIZE	1	1-60	524582	BELT, V A SECT. 66" LONG	1
1-18	548201	SETSCREW, 5/16-18 X 5/16	2	1-61	64139-06	BLT-WLH 5/16-18X5/8	6
1-19	518535.7	SPRING	1	1-62	548164	WSHR, .41.81.07 YS FLT	1
1-20	520671.7	GEARCASE	1	1-63	548942	PULLEY, PLAIN IDLER 3.25"	1
1-21	520722	SPACER	2	1-64	548952	RING, INTRNL RETAINING	2
1-22	520723	SHAFT	1	1-65	548953	BRG, BALL 1.38 2.83.67	2
1-23	520785	SPRING	1	1-66	548954	SEAL, OIL 1.38 SHAFT	2
1-24	521062.7	ROD	1	1-67	524773.7	BRACE, GUARD	1
1-25	838496	WASHER, .25 1.00.125 FLAT	1	1-68	2702464	BUSHING, ISOLATION	1
1-26	64163-29	WASHER-21/64 X 1 X 11GA	1	1-69	64141-13	NUT WLF 1/2-13	2
1-27	38541	TUBE, DOCUMENT 2.75OD	1	1-70	800698	NUT, 38-16 HX FLG CRWN	5
1-28	521087	SHAFT	1	1-71	800889	NUT, .31-18 SPD J W/NUT	2
1-29	65286-5A	TIE-CABLE 14 1\2	2	1-72	48228A	CABLE CLIP-INSULATED	3
1-30	840697	DECAL, WARNING HANDS	1	1-73	819337	BUSHING	1
1-31	64163-55	WASHER .328X.75X14 GA	5	1-74	306956	COTTER PIN	2
1-32	4124337	DECAL, INFORMATION	1	1-75	2702244	NUT, #10-32 YS HEX	1
1-33	520773.7	BRACKET	1	1-76	524573.7	BAND, BRAKE	1
1-34	524436.7	BRACKET, BELT GUARD	1	1-77*	524775	FILTER, AIR CLEANER	1
1-35	524473.7	PLATE, ENGINE MOUNT	1	1-78*	524776	FILTER, AIR PRE-CLEANER	1
1-36	38061A	CAP, VINYL	2	1-79*	540385	KIT, SPARK ARRESTOR	1
1-37	540200.2	GUARD AY	1			(ITEMS 78-80 USED ON BRIGGS & STRATTON ENGINES ONLY)	
1-38	540212.7	HANDLEBAR AY, MOUNT	1	1-80*	524777	FILTER, AIR W/PRE-CLNR	1
1-39	545247.7	CLEVIS AY	1	1-81*	540374	SPARK ARESTOR W/SCRW	1
1-40	831888	SWIVEL	1			(ITEMS 81, 82 USED ON HONDA ENGINES ONLY)	
1-41	831889	WASHER, SWIVEL	1				
1-42	831890	SCRW, SWIVEL THROTTLE	1				
		(ITEMS 40-42 USED ON HONDA ENGINES ONLY)					
1-43	545380.7	GUIDE AY, BELT	1				
1-44	64123-87	BOLT-HEX 3/8-16X1-3/4	2				
1-45	545626	SPROCKET AY	1				
1-46	540244.2	GUARD AY, FRONT	1				

\* NOT ILLUSTRATED

# GEAR CASE

Jr.  
Sodcutter

FIGURE 2

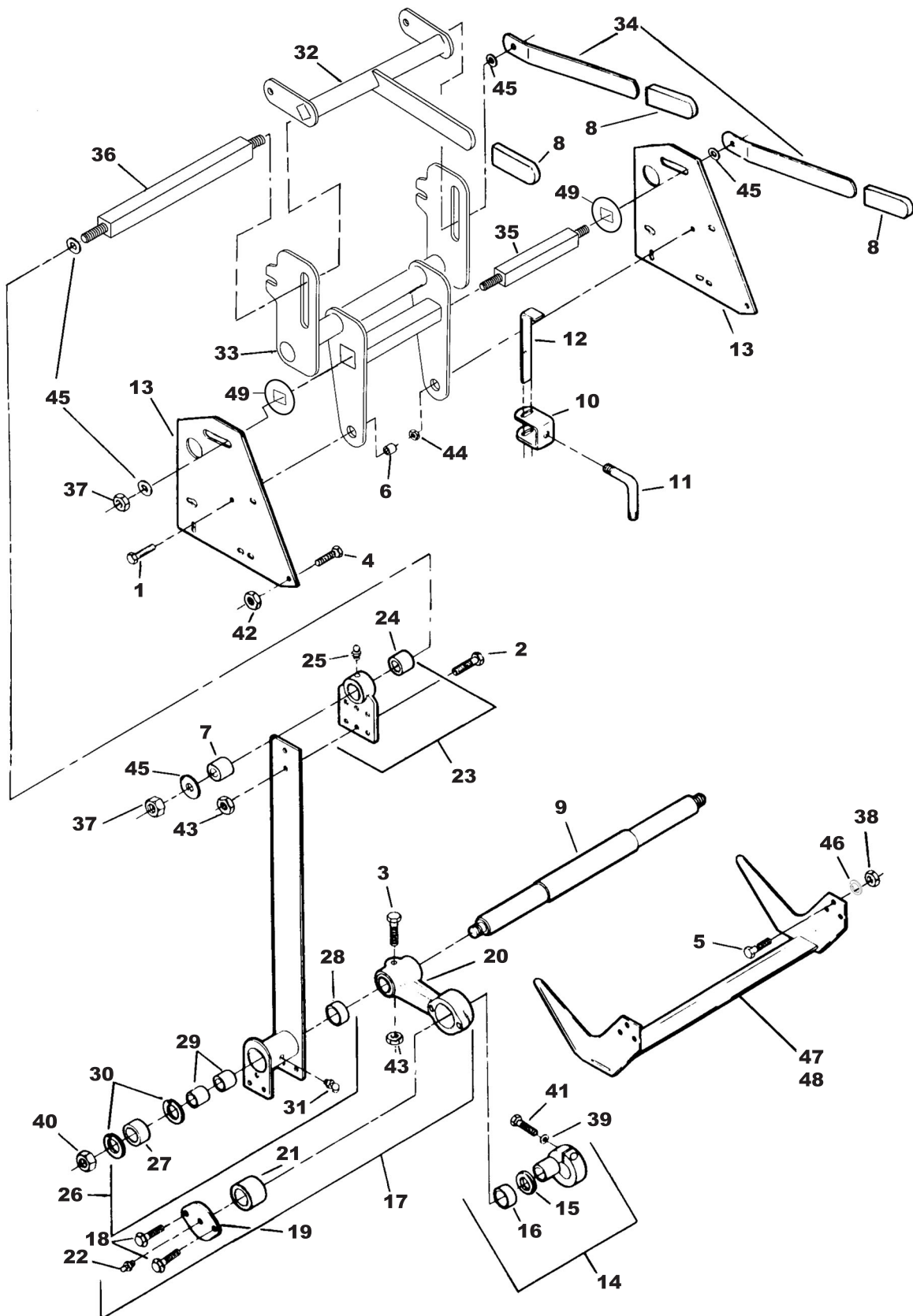


ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
2-1	64006-03	WSHR, 3/8 HELICAL LOCK	1	2-43	546037.7	COVER AY, GEAR CASE	1
2-2	64123-67	BLT-HEX 3/8-16X2	1	2-44	519404	GEAR,DRIVE	1
2-3	64123-80	BLT-HEX 1/4-20X1-1/4	2			(INCLUDES ITEMS 45-47)	
2-4	64006-02	LCKWSHER-HELICAL 5/16	12	2-45	548775	PLUG.25-18NPTF HS	1
2-5	64164-19	KEY WOODRUFF.19X.75 #9	3	2-46	516222	HUB	1
2-6	64006-01	LOCKWASHER-1/4 HELICAL	4	2-47	548329	RING,EXT LOCK 1.61ID.06T	1
2-7	64123-68	BOLT-HEX 5/16-18X1	12	2-48	546937	CHAIN, #50 DOUBLE	1
2-8	515891	SHIM,.64 1.25.010 YS	4	2-49	547427	SPROCKET & SHAFT AY	1
2-9	515896.7	HANDLE-WHEEL SHIFTER	1	2-50	548080	BRG.NDL.75 1.00.75	4
2-10	515897.7	HANDLE-BLADE SHIFTER	1	2-51	548096	BRG,BALL.59 1.38.43 "SS"	1
2-11	515901.7	PULLEY	1	2-52	548272	SEAL,OIL 1.00 SHAFT	2
2-12	516145	GEAR	1	2-53	548321	RING,EXT RET.56ID.037	1
2-13	516150	GEAR	1	2-54	548323	RING, INTRNL RETAINING	2
2-14	516156	SHAFT	1	2-55	548324	RING,EXT RET.691ID	2
2-15	516194	SPRING	2	2-56	548477	WASHER	4
2-16	516196	SPRING	2	2-57	548478	WSHR,.641 1.188.04 YS FLT	5
2-17	520238	SHIM .005 (.13MM)	A/R	2-58	548482	PLUG,EXPANSION 1.25 YS	4
2-18	520239	SHIM .010 (.25MM)	A/R	2-59	548597	LOCKNUT, UNI-TORQUE	2
2-19	520240	SHIM .020 (.51MM)	A/R	2-60	548726	SCRW,.25-20.75 YS RS	4
2-20	520671.7	GEARCASE	1				
2-21	521941	SPACER,1.00 1.12.66	1				
2-22	524485	DECAL, BLADE SHIFTER	1				
2-23	524486	DECAL, WHEEL SHIFTER	1				
2-24	548931	PLUG,EXPANSION 1.75 YS	1				
2-25	64164-28	KEY-#808 WOODRUFF	4				
2-26	516151	GEAR	1				
2-27	516162	SPROCKET, CLUTCH	1				
2-28	516172	CLUTCH	1				
2-29	516173	SHAFT	1				
2-30	544215	CAGE ASSY,BEARING	1				
		(INCLUDES ITEMS 31, 32)					
2-31	548131	BRG,BALL 1.00 2.00.50 "DA"	1				
2-32	548326	RING,INT RET 2.21OD.06	1				
2-33	548327	RING-LOCK	1				
2-34	544217.7	SHIFTER AY	1				
2-35	545050	CAGE AY,BEARING	1				
		(INCLUDES ITEM 36)					
2-36	814474	CUP,TPRD RLR BRG	1				
2-37	516160	SPROCKET	1				
2-38	521253	SHAFT-ECCENTRIC	1				
2-39	548336	LOCK RING (KC)	1				
2-40	814473	CONE,TPRD RLR BRG 1.00	2				
2-41	545710	SHAFT AY	1				
2-42	546033.7	DIPSTICK AY	1				

# SIDE ARMS, PITMAN ARMS AND HANDLES

Jr.  
Sodcutter

FIGURE 3



# Jr. Sodcutter

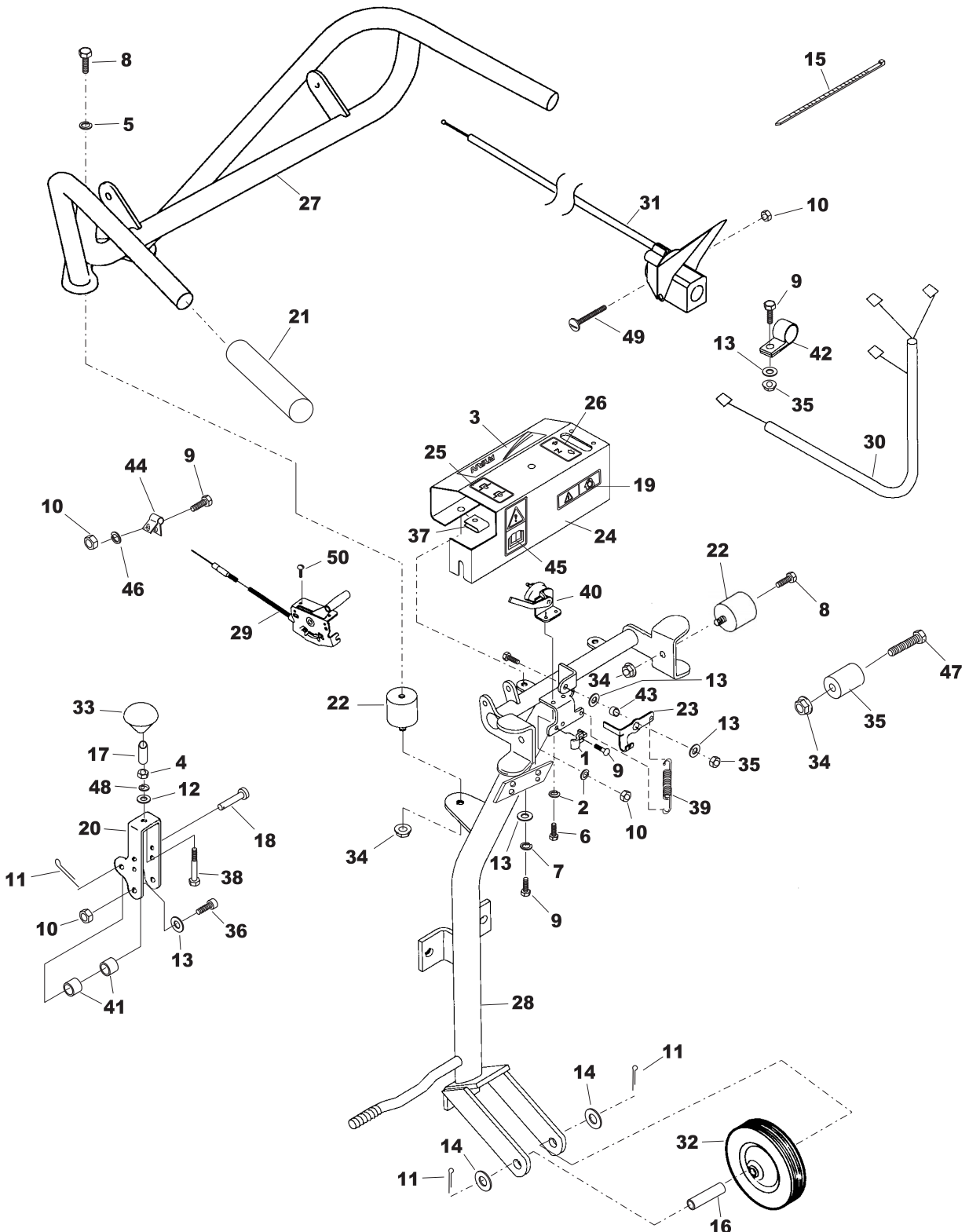
## SIDE ARMS, PITMAN ARMS AND HANDLES

524781-03

FIGURE 3

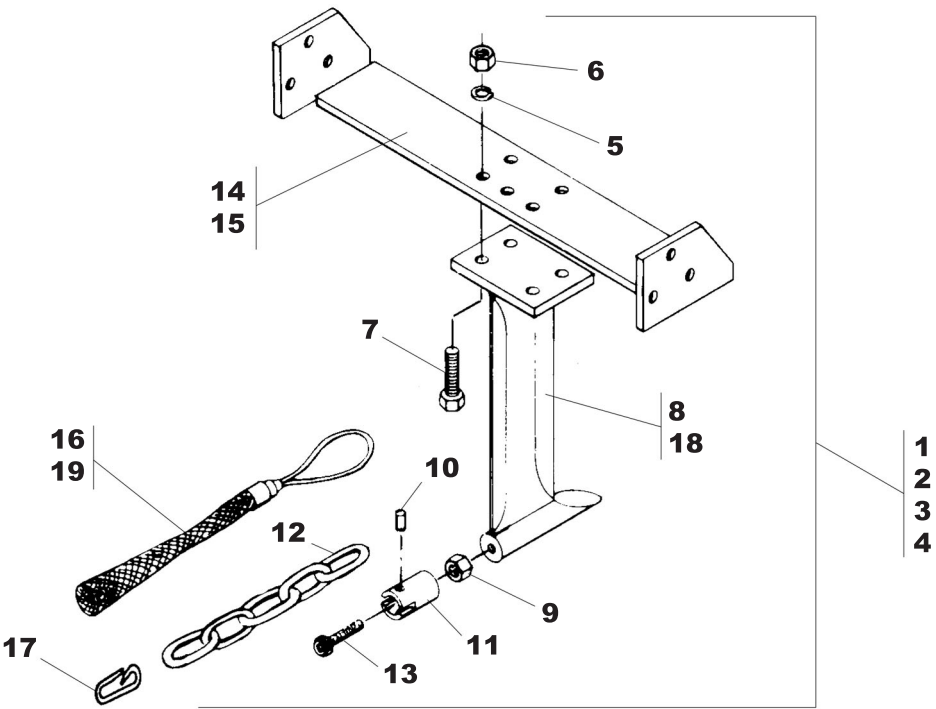
ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
3-1	64123-50	BOLT-HEX 3/8-16X1	2	3-38	64025-03	NUT-HEX 5/16-24	6
3-2	64123-68	BOLT-HEX 5/16-18X1	4	3-39	548183	LWSHR,.31.09 HI-COLLAR	2
3-3	64123-61	BLT-HEX 5/16-18X1-3/4	2	3-40	800198	NUT,.5-20 YS HX CRNLCK	2
3-4	328018	SCRW,.44-14 1.12 YS HX	6	3-41	800513	SCRW-SCKT 5/16-18-1-1/4	2
3-5	515011	SCRW,.31-24 1.00 ZS HX	6	3-42	548056	NUT,.44-14 YS HX UNITORQ6	6
3-6	515729	BUSHING	2	3-43	64268-02	NUT-FL NYLN LCK 5/16-18	6
3-7	516067	BUSH,STL.515X.874X1.015	2	3-44	64268-03	NUT-FL NYLN LCK 3/8-16	5
3-8	521144	COVER,HANDLE	3	3-45	830287	WSHR,FLAT	6
3-9	521435	SHAFT, LOWER	1	3-46	64006-02	LOCKWSHR-HELICAL 5/16	6
3-10	521469.7	CLAMP, SADDLE	1	3-47	015636.7	BLADE-SOD CUTTER, 12"	1
3-11	521470	HANDLE,LOCKING	1			(USED ON MODELS 544844D, 544944A)	
3-12	521471	GAGE,DEPTH (PLATING)	1	3-48	015639.7	BLADE-SOD CUTTER, 18"	1
3-13	521472.7	BRACKET, PIVOT	2			(USED ON MODELS 544845D, 544945A)	
3-14	545436	ECCENTRIC AY	2	3-49	4113281	WASHER, SPCL .531 SQ	2
		(INCLUDES ITEMS 15 & 16)					
3-15	521424	RING	1				
3-16	548814	RACE, INNER	1				
3-17	545437	ARM AY	2				
		(INCLUDES ITEMS 18-22)					
3-18	112050	TSCRW,.25-20.62 YS HW	2				
3-19	521425	PLATE - COVER	1				
3-20	521427	ARM, PITMAN	1				
3-21	521428	BRG,NDL 1.25 1.62 1.06	1				
3-22	548226	FITTING (KC)	1				
3-23	545443.7	BRACKET AY	2				
		(INCLUDES ITEMS 24, 25)					
3-24	521429	BRONZE BEARING	1				
3-25	548224	FITTING,GREASE 1/4 SPCL	1				
3-26	545445.7	ARM AY, SIDE	2				
		(INCLUDES ITEMS 27-31)					
3-27	521436	BALL BEARING	1				
3-28	521438	GREASE SEAL	1				
3-29	548138	BRG,NDL.88 1.12 1.00	2				
3-30	548340	LOCK RING (KC)	2				
3-31	831405	FTG, GREASE 90D.25-28	1				
3-32	540209.7	LEVER AY	1				
3-33	540210.7	FRAME AY, H	1				
3-34	545449.7	HANDLE AY	2				
3-35	524549	ROD,TIE LOWER	1				
3-36	524550	ROD,TIE UPPER	1				
3-37	64151-7	LOCKNUT, 1/2-13 HEX	2				

# Sodcutter



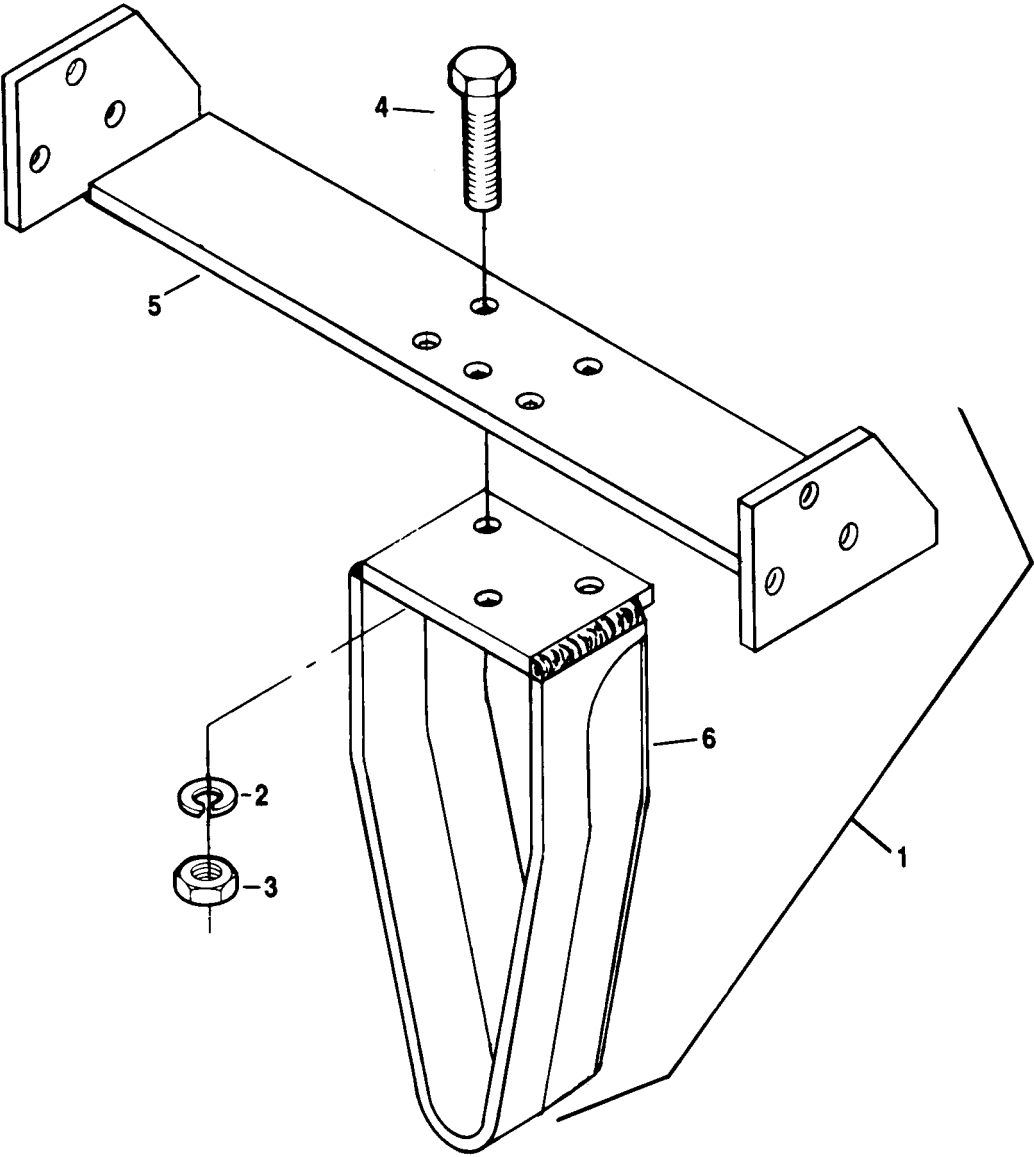
ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
4-1	111898	CLAMP,CABLE	1	4-46	64163-55	WASHER .328X.75X14 GA	1
4-2	120052	LOCKWASHER	2	4-47	306464	SCRW,.31-18 2.50 YS HX	3
4-3	4124274	LABEL-RYAN	1	(OPTIONAL- USED TO ATTACH ITEM 52)			
4-4	64025-04	NUT-3/8-24 HEX	1	4-48	64163-61	WSHR .81X.406X16GA	1
4-5	64006-02	LCKWSHER-HELICAL 5/16	2	4-49	800896	TSCRW,.190-24.75	1
4-6	306391	SCRW,#10-32.31	2	4-50	819195	TSCRW,#8-18.50 SLF-DRL	2
4-7	64006-01	LCKWSHER-1/4 HELICAL	2				
4-8	548901	SCRW,.31-18.50 YS HSF G5	3				
4-9	64123-89	BOLT-HEX 1/4-20X3/4	8				
4-10	64151-17	LOCKNUT, HEX	4				
4-11	306956	COTTER PIN	5				
4-12	64006-03	WSHR, 3/8 HELICAL LOCK	1				
4-13	64163-03	WSHR-.256IDX62ODX18GA.	6				
4-14	64163-67	WASHER-.516X1X12GA	2				
4-15	65286-4A	TIE,CABLE 11-5/8 BLACK	3				
4-16	515726	SHAFT	1				
4-17	516544	BUSHING (PLATING)	1				
4-18	516634	PIN,CLEVIS.38 1.75 YS	1				
4-19	524538	DECAL,WARNING HEARING	1				
4-20	522585.7	HANDLE,CONTROL	1				
4-21	522727	GRIP,HANDLE	2				
4-22	829148	MOUNT,ISOLATION	3				
4-23	524472	ARM, PIVOT (PLATING)	1				
4-24	540347	COVER AY	1				
4-25	524480	DECAL, CLUTCH CONTROL	1				
4-26	524481	DECAL,THROTTLE CNTRL	1				
4-27	540211.7	HANDLEBAR AY	1				
4-28	540212.7	HANDLEBAR AY, MOUNT	1				
4-29	540326	CONTROL AY,THROTTLE	1				
4-30	540229	WIRE AY	1				
4-31	540232	CONTROL AY, KILL SWITCH	1				
4-32	4124195	WHEEL AY, 8X1.25 SOLID	1				
4-33	548171	KNOB	1				
4-34	64141-6	NUT, 5/16-18	3				
4-35	524551	SPACER	3				
(OPTIONAL - MAY BE USED IN PLACE OF ITEM 22 WITH ITEM 47)							
4-36	800492	CAPSCREW,HEX (KC)	1				
4-37	800495	NUT,.25-20 BS SPD "U"	2				
4-38	800883	SCRW,.38-24 2.25 YS HX	1				
4-39	805421	SPRING,EXTENSION	1				
4-40	806800	SWITCH,STOP LIGHT	1				
4-41	524577	BUSHING, .328X.63X.41	2				
4-42	48228A	CABLE CLIP-INSULATED	3				
4-43	814585	BUSHING	1				
4-44	515755	CLIP	1				
4-45	009034910	DECAL-WARNING	1				

FIGURE 5



ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
5-1	544670	MOLE BLADE KIT- 3/4" (USED ON 544844D & 544944A) (INCLUDES ITEMS 5-14 & 16-17)	1				
5-2	544725	MOLE BLADE KIT- 3/4" (USED ON 544845D & 544945A) (INCLUDES ITEMS 5-13 & 15-17)	1				
5-3	544673	MOLE BLADE KIT- 1-1/4" (USED ON 544844D & 544944A) (INCLUDES ITEMS 5-7 & 9-14 & 17-19)	1				
5-4	544728	MOLE BLADE KIT- 1-1/4" (USED ON 544845D & 544945A) (INCLUDES ITEMS 5-7 & 9-13, 15 & 17-19)	1				
5-5	64006-03	WSHR, 3/8 HELICAL LOCK	4				
5-6	64025-04	NUT-3/8-24 HEX	4				
5-7	64123-21	BLT-HEX 3/8-24X1-1/4	4				
5-8	544689	BLADE AY, MOLE 3/4" (INCLUDES ITEMS 9-13)	1				
5-9	64025-02	NUT-HEX 5/16-18	1				
5-10	316943	PIN,SPIROL.250.750 PS	1				
5-11	515691	SWIVEL	1				
5-12	547052	CHAIN AY	1				
5-13	800513	SCREW-SCKT 5/16-18-1-1/4	1				
5-14	546089	BRACKET,12"-MOLE BLADE (USED ON 544844D & 544944A)	1				
5-15	546092	BRACKET,18"-MOLE BLADE (USED ON 544845D & 544945A)	1				
5-16	548613	KELLEM GRIP (USED ON 544670 & 544725)	1				
5-17	808222	LINK,CHAIN CONN	1				
5-18	544692	BLADE AY, MOLE 1-1/4" (INCLUDES ITEMS 9-13)	1				
5-19	548616	KELLEM GRIP (USED ON 544673 & 544728)	1				

FIGURE 6



ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
6-1	546199	BLADE KIT (INCLUDES ITEMS 2-6) * (FOR MODELS 544844B, 544844C, 544844D, 544944, 544944A)	1				
6-2	64006-03	WSHR, 3/8 HELICAL LOCK	3				
6-3	64025-04	NUT-3/8-24 HEX	3				
6-4	64123-21	BLT-HEX 3/8-24X1-1/4	3				
6-5	546089	BRACKET,12"-MOLE BLADE	1				
6-6	546198	BLADE AY,TRENCHING	1				

\*NOTE: The trenching blade set includes parts for installation on earlier model sodcutters. Discard any parts not required for installation on model 544844B and newer.







English

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