

TORO®

MODEL NO.: 30715 — 40001 & UP

**OPERATOR'S
MANUAL****TRIFLEX 88" CUTTING UNIT**

FOR GROUNDSMASTER 325-D, 325-D 4WD & 345

TORO®**THIS UNIT CONFORMS TO
ANSI/OPEI B71.4-1990**

The Groundsmaster 300 Series Traction unit with a TRIFLEX 88" CUTTING Deck conforms to the American National Standards Institute's for Riding Mowers when weights are installed according to chart on page 11.

To assure maximum safety, optimum performance, and to gain knowledge of the product, it is essential that you or any other operator of the mower read and understand the contents of this manual before the engine is ever started. Pay particular attention to the **SAFETY INSTRUCTIONS** highlighted by this symbol —



The safety alert symbol means **CAUTION, WARNING or DANGER** — personal safety instruction. Failure to comply with the instruction may result in personal injury.



FOREWARD

The 88" cutting unit has advanced concepts in engineering, design and safety; and if maintained properly, will give excellent service.

Since it is a high quality product, Toro is concerned about the future use of the machine and safety of the user. Therefore, read this manual to familiarize yourself with proper set-up, operation and maintenance instructions. The major sections of the manual are:

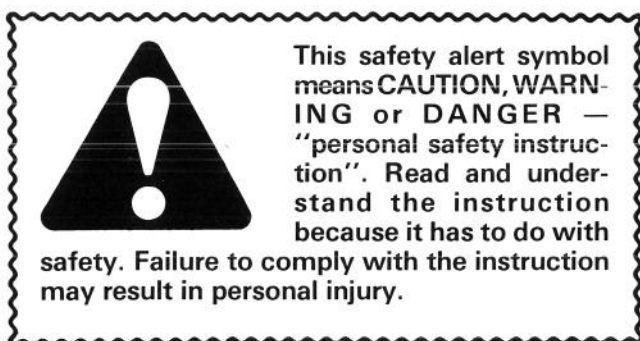
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|------------------------|---------------------------|-----------------------------|
| 1. Safety Instructions | 3. Before Operating | 5. Lubrication Maintenance |
| 2. Set-up Instructions | 4. Operating Instructions | 6. Cutting Unit Maintenance |

Certain information in this manual is emphasized. DANGER, WARNING and CAUTION identify personal safety-related information. IMPORTANT identifies mechanical information demanding special attention. Be sure to read this directive because it deals with the possibility of damaging a part or parts of the machine. NOTE identifies general information worthy of special attention.

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SAFETY INSTRUCTIONS



The cutting unit has been tested and certified for compliance with B71.4-1990 specifications of the American National Standards Institute. However, improper use or maintenance of the machine can result in injury. To reduce the potential for injury, comply with the following safety instructions.

BEFORE OPERATING

1. Read and understand the contents of this Operator's Manual before operating the machine. Become

familiar with all controls and know how to stop quickly. A free replacement manual is available by sending complete Model and Serial Number to:

Publications Department
The Toro Company
8111 Lyndale Avenue South
Minneapolis, MN 55420

2. Do not allow children to operate the machine. Do not allow adults to operate the machine without proper instruction.

3. Remove all debris or other objects that might be picked up and thrown by the cutter blades. Keep all bystanders away from the mowing area.

4. Keep all shields and safety devices in place. If a shield, safety device or decal is defective or damaged, repair or replace it before operating machine. Also tighten any loose nuts, bolts and screws to assure the machine is in a safe operating condition.

5. Do not operate machine while wearing sandals, tennis shoes, sneakers or shorts. Also, do not wear loose fitting clothing which could get caught in

SAFETY INSTRUCTIONS

moving parts. Always wear long pants and substantial shoes. Wearing safety glasses, safety shoes and a helmet is advisable and required by some local ordinances and insurance regulations.

6. Make sure interlock switches are operational so engine cannot be started unless traction pedal is released — neutral position — and PTO lever is in DISENGAGE position. Make sure seat switch is operational so that it prevents operation of the PTO or the traction pedal when the operator is not in the seat.

7. Fill fuel tank before starting the engine. Avoid spilling fuel. Since fuel is flammable, handle it carefully.

- A. Use an approved fuel container.
- B. Do not fill tank while engine is hot or running.
- C. Do not smoke while handling fuel.
- D. Fill fuel tank outdoors and up to about one inch (25mm) from top of the tank (Bottom of filler neck).
- E. Wipe up any spilled fuel.

8. Make sure that the correct amount of weight is attached to the rear of the traction unit (see Set Up section).

9. Make sure that chains are adjusted so that when the deck is raised it does not contact the traction pedal linkage.

WHILE OPERATING

10. Do not run the engine in a confined area without adequate ventilation. Exhaust fumes are hazardous and could possibly be deadly.

11. Maximum seating capacity is one person. Never carry passengers.

12. Sit on the seat when starting the engine and operating the machine.

13. Before starting the engine:

- A. Engage parking brake.
- B. Ensure traction pedal is in neutral and PTO is in OFF, disengaged position.
- C. After engine is started, release parking brake and keep foot off traction pedal. Machine must not move. If movement is evident, the neutral return mechanism is adjusted incorrectly; therefore, shut engine off and adjust until machine does not move when traction pedal is released.

14. Using the machine demands attention, and to prevent loss of control:

- A. Mow only in daylight or when there is good artificial light.
- B. Watch for holes or other hidden hazards.
- C. Do not drive close to a sand trap, ditch, creek or other hazard.
- D. Reduce speed when making sharp turns and when turning on hillsides.
- E. Avoid sudden stops and starts.
- F. Before backing up, look to the rear and be sure no one is behind the machine.
- G. Watch for traffic when near or crossing roads. Always yield the right-of-way.

15. Grass deflectors must be in the down position and attached to the wing units. Should the cutting unit discharge ever plug, disengage PTO lever and shut engine off before removing the obstruction. This product is designed to drive objects into the ground where they lose energy quickly in grassy areas. However, don't take an injury risk!! When a person or pet appears unexpectedly in or near the mowing area, STOP MOWING. Careless operation, combined with terrain anomalies, ricochets, or improperly positioned guards, can lead to thrown object injuries. Do not resume mowing until area is cleared.

16. A blade brake system is designed into the deck to stop the blade in each wing section once the wing is raised past 15 degrees.



CAUTION

Wing unit blades may continue to turn momentarily as each wing section is being raised.

17. Check to ensure that the mechanical doors, on the center section of the deck, close fully as the wing sections are raised and open fully as the wings are lowered.

18. Before lowering wing units, make sure they will not contact foreign objects in the grass or be lowered onto feet or other body members.

19. Never raise the entire cutting unit while the blades are rotating.

20. Be careful not to run into objects that could damage the deck, especially with wing sections of the deck. Although they are designed to withstand impact, it is best to avoid contact with objects that could distort or misalign the wing sections.

21. If the cutting unit blades strike a solid object or the machine vibrates abnormally, disengage PTO, move

SAFETY INSTRUCTIONS

throttle to SLOW, set parking brake and shut engine off. Remove key from switch to prevent possibility of accidental starting. Check cutting unit and traction unit for damage and defective parts. Repair any damage before restarting the engine and operating the cutting unit. Be sure blades are in good condition and blade bolts are tight.

22. Cut grass slopes carefully. Do not start, stop, or turn suddenly. Be sure to lower the deck to the ground before going down a slope.

23. Do not touch engine, muffler or radiator while engine is running or soon after it is stopped. These areas could be hot enough to cause a burn.

24. Before getting off the seat:

- A. Move traction pedal to neutral position and remove foot from pedal.
- B. Set the parking brake and disengage the PTO.
- C. Shut the engine off and remove key from ignition switch. Wait for all movement to stop before getting off the seat.

25. Lower the cutting unit and wings to the ground and remove key from ignition switch whenever machine is left unattended.

MAINTENANCE

26. Remove key from ignition switch to prevent accidental starting of the engine when servicing, adjusting or storing the machine.

27. Perform only those maintenance instructions described in this manual. If major repairs are ever needed or assistance is desired, contact an Authorized Toro Distributor.

28. To reduce potential fire hazard, keep the engine free of excessive grease, grass, leaves and accumulations of dirt.

29. Assure machine is in safe operating condition by keeping nuts, bolts and screws tight. Check the blade

mounting bolt frequently to assure it is tight (85 to 110 ft-lb) (115 to 150 N·m).

30. Make sure all hydraulic line connectors are tight, and all hydraulic hoses and lines are in good condition before applying pressure to the system.

31. Keep body and hands away from pin hole leaks or nozzles that eject hydraulic fluid under high pressure. Use paper or card board, not hands, to search for leaks. Hydraulic fluid escaping under pressure can have sufficient force to penetrate skin and do serious damage. If fluid is ejected into the skin it must be surgically removed within a few hours by a doctor familiar with this form of injury or gangrene may result.

32. Before disconnecting or performing any work on the hydraulic system, all pressure in the system must be relieved by stopping the engine and lowering both the center and wing deck sections to the ground.

33. If the engine must be running to perform a maintenance adjustment, keep hands, feet, clothing and other parts of the body away from the cutting unit blades and other moving parts.

34. Do not over speed the engine by changing governor settings. To be sure of safety and accuracy, have an Authorized TORO Distributor check maximum engine speed with a tachometer.

35. Engine must be shut off before checking oil or adding oil to the crankcase.

36. At the time of manufacture the cutting units conformed to safety standards in effect for riding mowers. Therefore, to ensure optimum performance and safety, always purchase genuine TORO replacement parts and accessories. NEVER USE "WILL-FIT" REPLACEMENT PARTS AND ACCESSORIES MADE BY OTHER MANUFACTURERS. Look for the TORO logo to assure genuineness. Using unapproved replacement parts and accessories could void the warranty of the Toro Company.



SAFETY AND INSTRUCTION DECALS

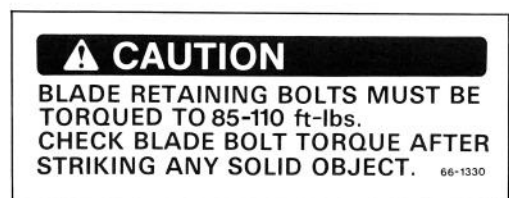
The following safety and instruction decals are installed on the unit. If any become damaged or illegible, replace them. Decal part numbers are listed under decals and also in your parts catalog. Order replacements from your Authorized Toro Distributor.



ON MAIN DECK,
UNDER COVER
(Part No. 55-4300)



ON WINGS, REAR TOP, UNDER CHUTE
(Part No. 66-6380)

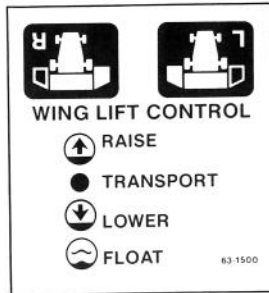


ON GEAR BOX BASE
(Part No. 68-8340)



SAFETY AND INSTRUCTION DECALS

The following safety and instruction decals are installed on the unit. If any become damaged or illegible, replace them. Decal part numbers are listed under decals and also in your parts catalog. Order replacements from your Authorized Toro Distributor.

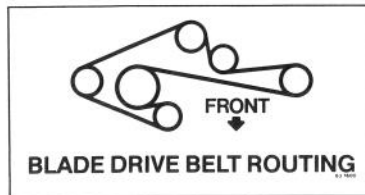


BY TWO LEVER VALVE
(Part No. 63-1500)

ON CENTER DECK,
UNDER COVER
(Part No. 63-1600)



ON MAIN AND WING DECK TOPS
(Part No. 66-1340)



BLADE DRIVE BELT ROUTING



ON GEAR BOX BASE
(Part No. 92-7849)



ON GEAR BOX BRACKET
(Part No. 70-2560)

SPECIFICATIONS

Width of Cut: Model No. 30715 (Fits Groundsmaster 325-D and Groundsmaster 345) is a rear discharge three section deck. Width of cut for the center section is 54" (137 cm). Two 17 in. (43 cm) wings provide an 88 in. (224 cm) over all width of cut. Width of cut is 71 in. (180 cm) with one wing disengaged.

Height-of-cut: Adjustable from 1 to 4 in. (2.5 to 10 cm) in 1/2 in. (1.3 cm) increments with spacers on the castor shafts.

Cutter Housing: Deck is constructed from 11 gauge steel, 5 in. (13 mm) deep, welded construction and reinforced with 10 gauge channel.

Cutting Unit Drive: PTO driven gear box mounted on cutting unit powers center deck spindles through "BB" hex section belt. Each wing is driven by "A" section belts. Spindle shafts are 1 inch (2.5 cm) in diameter and mounted in two greaseable tapered roller bearings.

Antiscalp Rollers & Blades: Three anti-scalp rollers (center roller under deck) are attached to the deck. Wing units are equipped with adjustable skids. Each blade has an anti-scalp cup. The deck has five 19 in. (48.3 cm) long, 1/4 in. (6.3 mm) thick, 2-1/2 in. (6.3 cm) wide, heat treated steel blades.

Caster Wheels: Deck has two 10.25 in. (26 cm) front caster wheels and two 6 in. (15 cm) rear wheels.

Implement Relief Valve: Must deliver a minimum pressure of 700 psi.

NOTE: See Tractor Service Manual for pressure adjustment procedure.

Dimensions and Weights (approx.):

Width: 93 in. (236 cm) overall
73 1/2 in. (186.7 cm) in transport

Weight: 600 lbs. (272.4 kg) plus tractor belly shield and rear weights.

Counterbalance Weight: Three, 35 lb. (15.9 kg)
Toro Rear End Weights are required on 2 wheel drive units, one, 35 lb. (15.9 kg weight is required on 4 wheel drive unit). Do not exceed 140 pounds total rear end weight or excessive rear axle bushing wear may occur.

Trimming Ability: The deck is offset 1.5 in. (3.8 cm) to the right of centerline of machine. Trimming can be done with both sides of the deck providing a zero uncut circle to the right and a 19 in. (48 cm) uncut circle to the left (with wheel brakes). Deck offset from outside of wheel to trim side of wing deck is 23 in. (58 cm) on the right, 20 in. (51 cm) on the left to allow alternate tire track position.

Gear Box: PTO driven gear box with 1.26 to 1 spiral bevel gears.

Wing Section Blade Brake: Each wing section drive belt automatically disengages as the wing section is raised past 15 degrees. This also results in a brake shoe being applied to the outer portion of the deep groove spindle pulley — stopping the blade and preventing it from spinning.

SPECIFICATIONS

Belly Shield: A belly shield is included to deflect clippings and help prevent grass collection in the radiator.

Wing Decks: Wing sections can be raised individually from the operator's seat for transport or cutting with either wing and center or the center deck only. Adjusted correctly, wings cut from level to 15 degrees up. Further lift disengages the blade and applies a blade brake.

Mowing Rate: Mows up to 4.7 acres/hr. (1.9 hectares/hr) at 5.5 mph (8.9 km/hr). Provides up to 23% more productivity than current 72 inch (183 cm) cutting units.

IMPORTANT: The 88 inch Triflex Deck cannot be used with the earlier Groundsmaster Model 72's (model number 30773) that came equipped with the Vickers hydrostatic transmission.

IMPORTANT: Contact your Toro distributor before using the following options with a Triflex Deck:

1. operators cab
2. four post roll over protection system

IMPORTANT: The lift cylinder and lift arm must be changed on traction units without power steering (use Retrofit Kit number 66-1230).

LOOSE PARTS

Note: Use this chart as a checklist to assure all parts necessary for assembly have been shipped. Without these parts, total set-up cannot be completed.

DESCRIPTION	QTY.	USE
Front Caster Wheel Assembly, including: 1 thrust washer, 6 spacers & 1 lynch pin.	2	Install Caster Wheel Assemblies, see page 7.
Rear Caster Wheel Assembly, including: 2 square spacers, 6 "U" spacers, & 1 lynch pin. Note: 4 extra "U" spacers are included with the deck.	2	
Belly Shield Assembly, including: Belly Shield Belly Shield Hook Locknut— 5/16 Belly Shield Hanger	1 2 4 2	Install Belly Shield, see page 8.
Capscrew — 3/8 NC x 1-1/4	2	
Nut	2	
Hairpin Cotter	2	
Clevis Pin — 3/8 x 1-7/8	2	
Belly Shield Spacers	2	
3" Lift Cylinder	1	Mount to traction unit, page 6.
Operator's Manual	1	
Registration Card	1	
Parts Catalog	1	
Installation Instruction	1	

SET-UP INSTRUCTIONS

IMPORTANT: Three rear end counterbalance weights (Part No. 24-5790) weighing 35 lb. each (15.9 kg) each, must be attached to the rear of the traction unit before the deck is installed (Only one weight is required on machines equipped with 4 wheel drive). The Toro Groundsmaster Weight Box Kit (Part No. 62-6590) may be installed, in place of the three rear end weights, if 80 to 85 lbs. of weight is added to the box. Do not exceed 140 total pounds rear end weight or excessive rear axle bushing wear may occur.

INSTALL 3" LIFT CYLINDER

Note: If machine is already equipped with a 3" lift cylinder installation of new cylinder is not required. Proceed to next section of Set Up Instructions.

1. Remove the cotter pin from the front cylinder pin and remove cylinder pin from the cylinder and lift bracket (Fig. 1).

2. Disconnect hydraulic lines from lift cylinder and remove original cylinder from machine (Fig. 1).

3. Remove and retain the return line 90 degree barbed fitting from the original lift cylinder (Fig. 1).

IMPORTANT: Toro recommends the use of teflon tape on all pipe thread fittings to prevent leakage.

Note: Mark the orientation of the fittings on the main lift valve so that the fittings can be installed with the same orientation.

4. Install the 3/8 inch NPT - ORFS pressure line

SET-UP INSTRUCTIONS

fitting to the rear of the new lift cylinder (pressure port) (Fig. 1) Install the original 90 degree barbed fitting, removed in step 3, to the front of the new lift cylinder (return port). Orient fittings as shown in fig. 1.

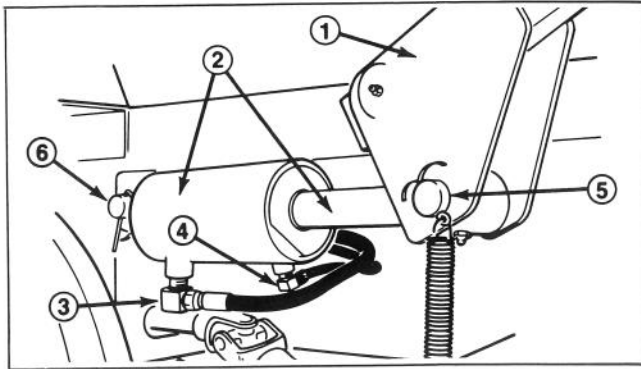


Figure 1

- | | |
|------------------------------------|-----------------------|
| 1. Lift arm bracket | 4. 90° barbed fitting |
| 2. New cylinder | 5. Front cylinder pin |
| 3. 3/8" NPT, ORFS pressure fitting | 6. Rear cylinder pin |

5. Install the new lift cylinder using pins previously removed. Grease the cylinder (2 fittings).

6. Connect the high pressure line from the main lift valve to the 3/8 inch NPT - ORFS fitting on the rear of the cylinder.

7. Reconnect the return line to the lift cylinder (Fig. 1).

IMPORTANT: Raise and lower the main lift arm several times and check for leaks. Do not use your hand to check for leaks. With the arm lowered check the hydraulic fluid reservoir.

INSTALL CASTER WHEEL ASSEMBLIES

1. Cut front and sides of loose parts carton and remove caster assemblies from carton. Squeeze back of wire on lynch pin, flip wire up and pull lynch pins out of caster shafts.

2. Slide spacers off the caster fork shafts. Leave the two full square washers (Fig. 2A) on the rear caster fork shafts.

3. Slide spacers onto caster shafts to get desired height-of-cut: refer to Height-of-Cut Chart, page 13. With thrust washer on top of spacer push round caster shafts (Fig. 2B) through front caster arm. Push square caster shafts (Fig. 2A) through rear caster arm. Install remaining spacers onto caster shafts and install lynch pins to secure assembly. Always retain the same number of spacers on each caster when adjusting height-of-cut.

NOTE: Rear caster wheel grease fittings should face outward (away) from deck.

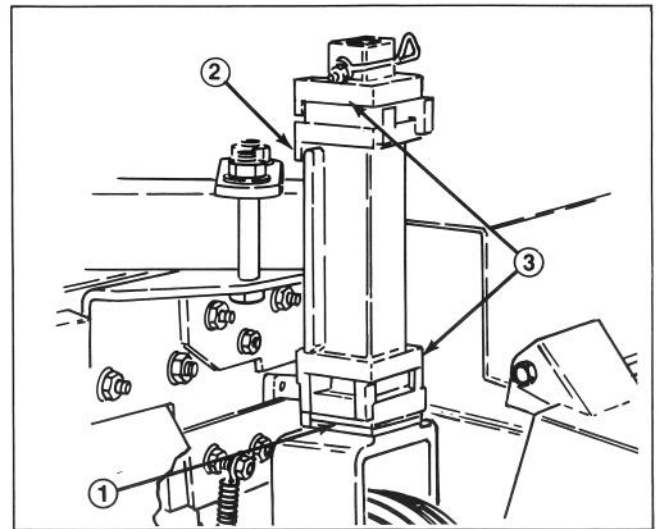


Figure 2A

- | |
|-----------------------------|
| 1. Square washers (2) |
| 2. Spacer hooked over plate |
| 3. Spacers (6) |

NOTE: On front caster shafts, insert lynch pin in front side of shaft with caster wheels positioned as if deck were traveling in forward direction (Fig. 2B). Inserted from the front the wire loop is less likely to be forced up during operation and the pin lost.

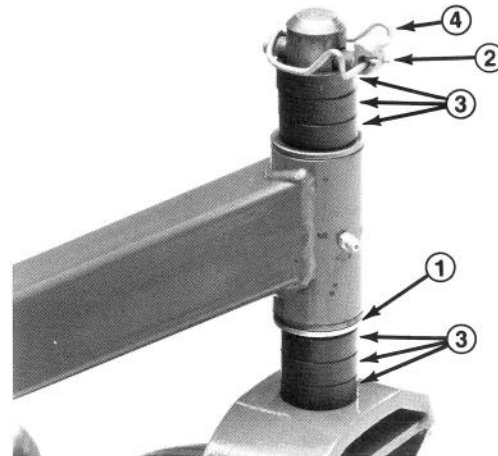


Figure 2B

- | | |
|------------------|----------------|
| 1. Thrust washer | 3. Spacers (6) |
| 2. Lynch pin | 4. Wire spring |

IMPORTANT: The rear caster wheel mounting hole in use must be towards the rear of the deck. This is necessary to provide adequate clearance between the caster wheel and the mechanical door (Fig. 3). If necessary the caster fork assembly should be removed from the square tube and turned around so that the mounting hole with the axle through it is toward the rear

IMPORTANT: Thrust washer — not the spacers — must contact bottom of front carrier frame tube (Fig. 2B).

SET-UP INSTRUCTIONS

IMPORTANT: All six "U" shaped spacers must be on rear square caster shafts — if one is left off remaining spacers will not stay in position during operation. Always install the upper most spacer on caster shafts with the spacer opening facing either forward or to the rear (Fig. 3) (The arrow on the spacer should be in the same direction as the pin). Bottom spacer on the upper stack of spacers should have the spacer opening facing the front so that it hooks over the caster backing plate.

4. Assure all four caster wheels are set at the same height-of-cut and roll cutting unit off wooden pallet.

NOTE: A more optimum cutting appearance of the turf can be achieved in the lower heights-of-cut by positioning the rear caster wheel axles in the upper hole of the caster forks (Fig. 3).

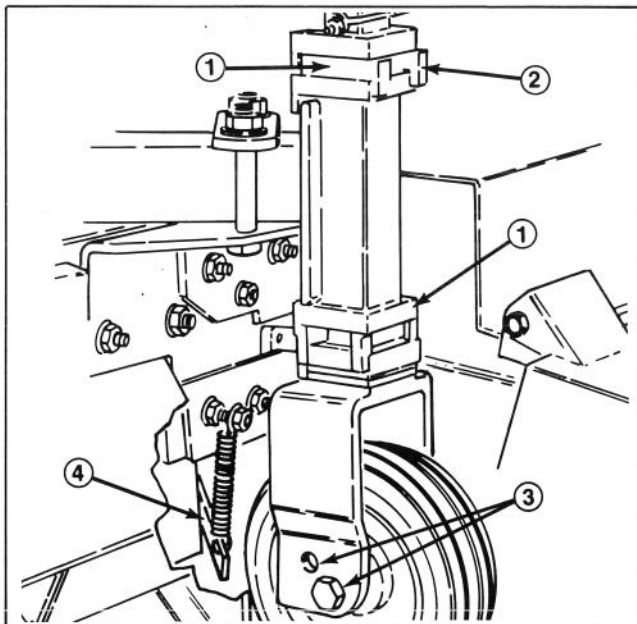


Figure 3

- 1. "U" spacers (6)
- 2. Spacer opening
- 3. Caster wheel axle holes
- 4. Mechanical door

5. Place the rear axles into the lower caster fork holes for higher height-of-cut settings (above 1" or 25mm) where optimum cutting appearance is not required.

INSTALL BELLY SHIELD

1. Position traction unit on level surface, shut engine off and engage parking brake.

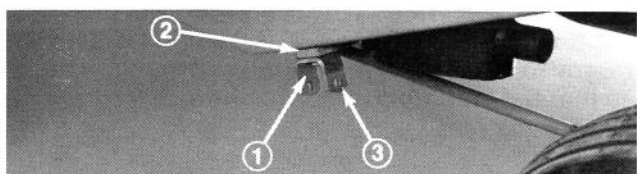


Figure 4

- 1. Capscrew and flangenut
- 2. Engine support or spacer (diesel only)
- 3. Shield hanger

2. Block up the forward end of engine (gasoline only) to prevent it from shifting during disassembly.

3. Secure Belly Shield hanger and engine support to frame with 3/8 x 1-1/4 in. cap screw and flange nut. Repeat procedure on opposite side of machine (Fig. 4).

4. On diesel machines only, install a 3/8 in. thick spacer between shield hanger and frame (Fig. 4).

5. Position Belly Shield mounting hooks over hub of push arm mounting brackets (Fig. 5).

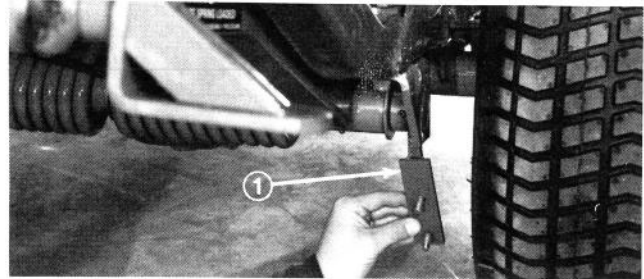


Figure 5

- 1. Belly shield mounting hooks

6. Secure Belly Shield to Belly Shield hooks with two 5/16 in. locknuts on each side (Fig. 6).

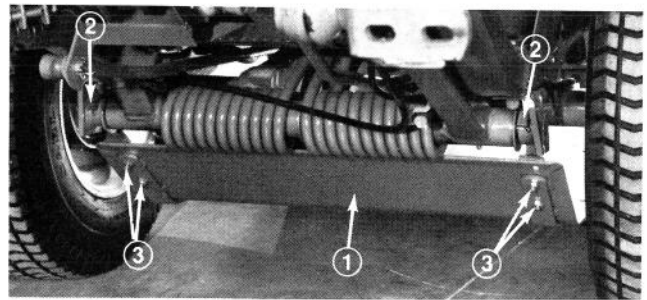


Figure 6

- 1. Belly shield
- 2. Belly shield hook
- 3. Locknuts

7. Raise rear of Belly Shield and secure to Belly Shield hangers with a clevis pin and hairpin cotter on each side (Fig. 7). Push hairpin cotter all the way to loop, to prevent loss.

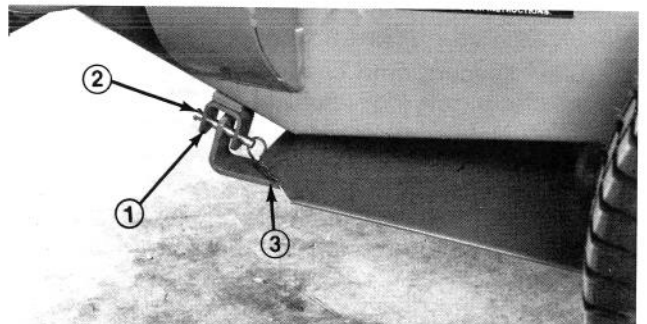


Figure 7

- 1. Belly shield hanger
- 2. Clevis pin
- 3. Hairpin cotter

SET-UP INSTRUCTIONS

CONNECT LEFT HAND PUSH ARM TO CUTTING UNIT



WARNING

Since left hand push arm is spring loaded to about 150 pounds (667 N) a helper is needed to push down on the push arm. Sudden release of the push arm could cause injury.

1. Slide deck under front of traction unit.
2. To assure correct deck alignment, loosen the push arm ball joint locknut and measure from the end of the push arm to the center-line of the ball joint and adjust to 2-3/8" (60 mm)(Fig. 8). Leave the push arm locknut loose.

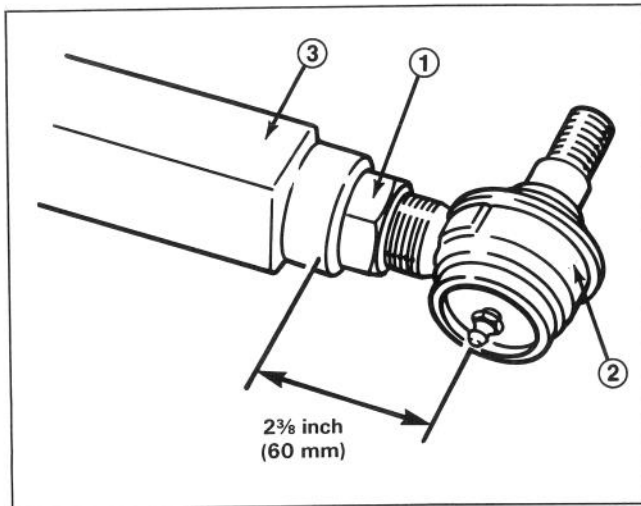


Figure 8

1. Push arm locknut
2. Ball joint
3. Left push arm

3. Remove the left hand ball joint mounting bracket from the deck noting the original order of washers, bolts, cotter pin and nuts for reinstallation of the bracket to the deck.

NOTE: Position cotter pin hole in ball joint, (before ball joint is secured to the deck mounting bracket in Step 4), so cotter pin can be easily installed without obstruction.

4. Attach the lift arm ball joint to the left hand mounting bracket (Fig. 9) with castle nut and cotter pin. Tighten nut securely before installing the cotter pin.

5. Have a helper carefully push down on the push arm until ball joint mount bracket holes line up with holes in carrier frame arm (Fig. 10). Immediately slide

4 x 4 in. (102 x 102 mm) block of wood between top of push arm and underside of chassis.

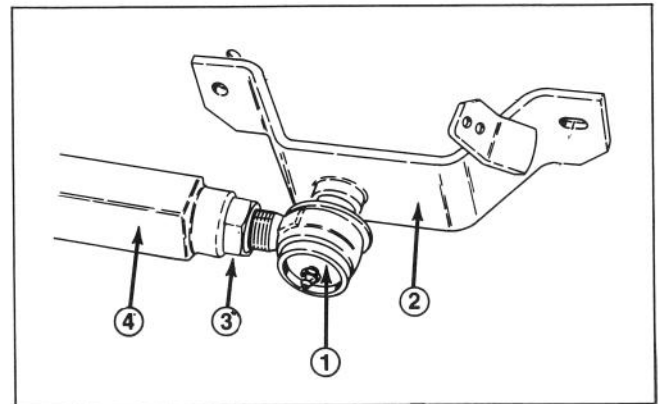


Figure 9

1. Left hand ball joint
2. Left hand mounting bracket
3. Lock nut
4. Left lift arm

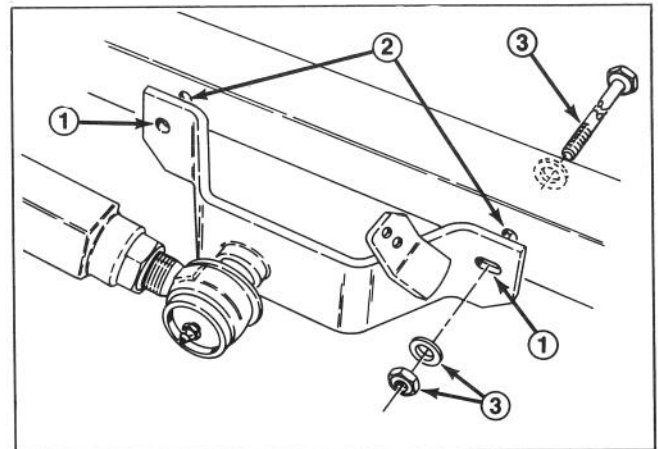


Figure 10

1. Mounting bracket holes
2. Carrier frame holes
3. Mounting bracket hardware



WARNING

Make sure the wooden block cannot slip out accidentally.

6. Secure mounting bracket to deck with hardware removed in Step 3. Bolts should be tightened to 45 ft. lbs. (60 N·m).

7. Tighten large locknut against front of left push arm.

8. Carefully remove wooden block once lift arm is secured to deck.

SET-UP INSTRUCTIONS

CONNECT RIGHT HAND PUSH ARM TO CUTTING UNIT



WARNING

Since the right hand push arm is spring loaded to about 100 pounds (445 N), a helper is needed to push the push arm down. Sudden release of the push arm could cause injury.

NOTE: Remove right hand wing cover and then remove center right cover.

1. To assure correct alignment, loosen the push arm ball joint lock nut and measure from the end of the push arm to the centerline of the ball joint and adjust to 2 3/8". Leave the locknut loose.
2. Remove the right hand ball joint mounting bracket from the deck noting the original order of washers, bolts, cotter pin and nuts for reinstallation of the bracket to the deck.
3. Secure the push arm ball joint to the right hand mounting bracket (Fig. 11) with castle nut and cotter pin. Tighten nut securely before installing the cotter pin.

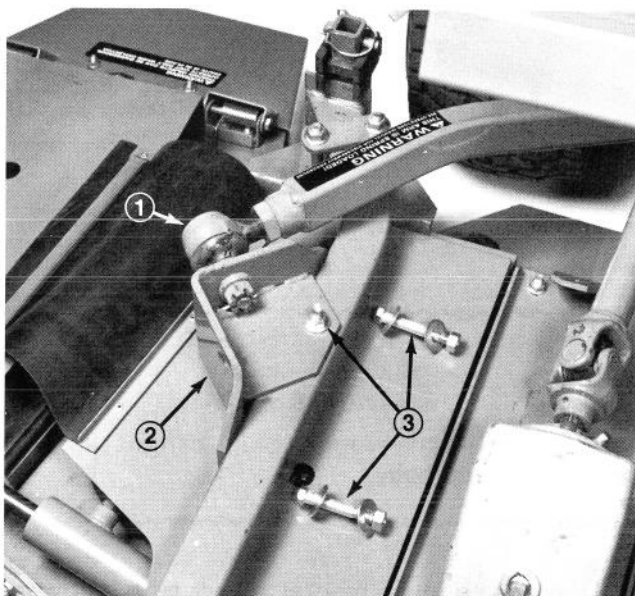


Figure 11

1. Right push arm ball joint
2. Mounting bracket
3. Mounting hardware

4. Once again, have a helper carefully push down on the push arm until holes in bracket line up with holes in caster arm. Immediately slide 4 x 4 in. (102 x 102 mm) block of wood between top of push arm and underside of chassis.

5. Secure mounting bracket to caster arm with original hardware (Fig. 11). Bolts should be tightened to 45 ft. lbs. (60 N·m).

6. Once the bracket is secured to the carrier frame arm, tighten the large jam nut against the front of the right push arm. Replace covers.

CONNECT PTO SHAFT AND LIFT CHAINS

IMPORTANT: The PTO shaft yokes must be exactly in line with each other when outer PTO sleeve is installed on splined shaft. Remove sleeve and change yoke position if alignment is not correct. Misalignment of the two yokes will shorten life of PTO shaft assembly and cause unnecessary vibration when cutting unit is operated.

1. Line up holes in yoke and input shaft of gear box. Slide yoke onto shaft (Fig. 12) and secure parts together with roll pin (3/16 x 1-1/2 in.) (38 mm), capscrews and nuts.

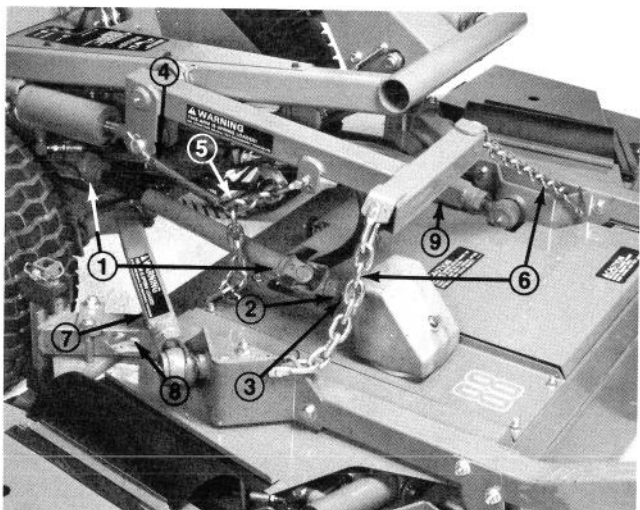


Figure 12

1. PTO shaft yokes in phase
2. Roll pin
3. Gear box input shaft
4. Tension spring
5. Rear lift chain
6. Front lift chains
7. Right push arm
8. Carrier frame
9. Left push arm

2. Mount PTO shield over input shaft and onto gear box mounting plate with two self tapping screws (Fig. 13).

3. Attach three lift chains to lift arm and cutting unit (Fig. 12) with six shackles, shackle pins (3/8 x 1-1/2 in.) (38 mm) and cotter pins (1/8 x 3/4 in.) (19 mm). Adjust chain length so that the front of the deck raises level (side to side). When main lift cylinder is fully extended the left push arm should be just below the frame stop (1/16 to 3/8 inch). Half chain link adjustments can be made by switching mounting holes in push arm brackets. Tie up extra chain links if additional length may be needed in the future.

SET-UP INSTRUCTIONS

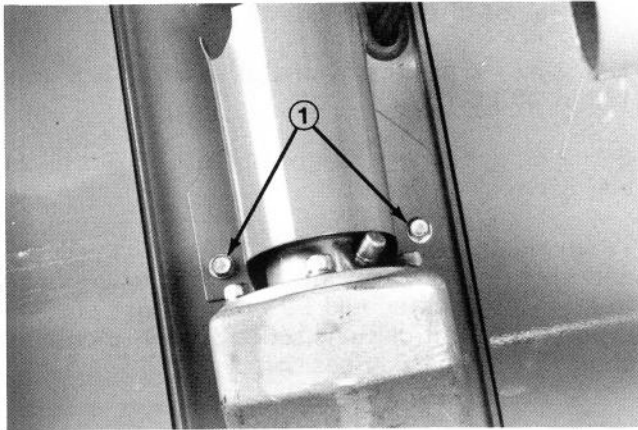


Figure 13

1. PTO shield mounting screws

IMPORTANT: Improper chain adjustment could result in main deck lift arm damage if deck contacts traction unit.

Note: As starting points use the following settings:

Right Front Chain — 10 links, lower bracket hole
Left Front Chain — 14 links, lower hole
Rear Chain — 10 links, upper and front holes

4. Adjust length of rear chain so rear caster wheels are as far as possible from the ground but carrier frame does not contact right push arm when deck is lifted (Fig. 12).



CAUTION

Improper chain adjustment may result in the deck contacting the traction pedal and forcing it into reverse.

5. To check adjustment stay in the driver's seat, raise the deck all the way and turn the key OFF. Set the parking brake and then walk to the front of the traction unit to see if the deck is contacting the linkage.

6. Connect ends of tension spring between fourth link of rear chain and eye of cotter pin that holds cylinder pin in place (Fig. 12).

INSTALL REAR WEIGHT

Two Wheel Drive Groundsmaster 300 Series Traction Units comply with ANSI B71.4–1990 Standard when equipped with rear weight. Use chart below to determine combinations of weight required. Order parts from your local Authorized Toro Distributor.

Four Wheel Drive Groundsmaster 300 Series Traction Units do not need additional rear weight to comply with ANSI B71.4–1990 Standard.

Traction Unit Description	Rear Weight Required	Weight Part Number	Weight Description	Qty.
Groundsmaster 325–D (30788 / 30739)	105 lb.	24–5780	Rear Weight Kit (includes two 35 lb. weights and mounting hardware)	1
		& 24–5790	& Rear Weight Kit (includes one 35 lb. weight and mounting hardware)	1
Groundsmaster 345 (30789)	140 lb.	24–5780	Rear Weight Kit (includes two 35 lb. weights and mounting hardware)	2
Groundsmaster 325–D 4 Wheel Drive (30795 / 30741)	0 lb.	—	—	—

BEFORE OPERATING

MECHANICAL DOOR

On each side of the deck's center section is a mechanical door that opens and closes as the wing sections are lowered and raised (Fig 14). The doors open to provide overlap of the cutter blades when the wing units are down. The doors close to provide safety and protection when the wing units are raised.

To adjust mechanical door, disconnect threaded rod from the door by removing cotter pin. Loosen the jam nut and turn the rod in or out so that the bottom of the door is 1/4 inch (6 mm) up from the bottom of the deck side panel when the wing is fully raised (Fig. 14). Tighten jam nut and reinstall the cotter pin.

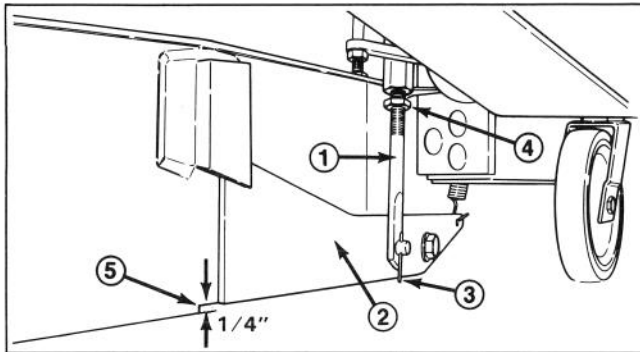


Figure 14

- | | |
|--------------------|--------------------|
| 1. Threaded rod | 4. Jam nut |
| 2. Mechanical door | 5. 1/4" (6 mm) gap |
| 3. Cotter pin | |



CAUTION

Check for proper operation of mechanical doors each time the deck is cleaned and repair as needed.

SKID AND ANTISCALP ROLLER ADJUSTMENT

When height-of-cut is set or changed skids and anti-scalp rollers should also be adjusted (Fig. 15). (Adjust on a hard level surface).

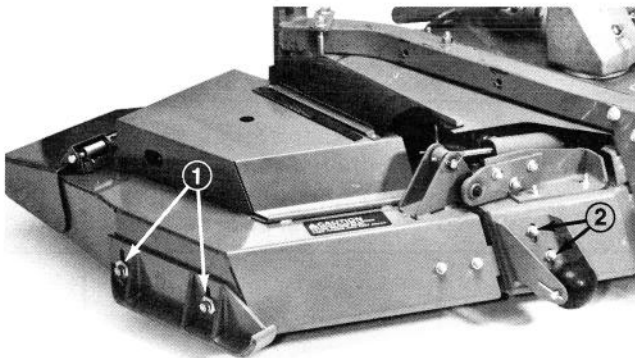


Figure 15

1. Skid adjustment 2. Antiscalp roller adjustment

1 in. Height-of-Cut — Skids all the way up.

1 1/2 in. - 2 in. Height-of-Cut — Skids 3/8 in. to 1/2 in. off the ground.

2 1/2 in. and higher Height-of-Cut — Skids all the way down.

When height-of-cut is set at 1" to 1 1/2" the center anti-scalp roller (Fig. 16) and the two ball rollers on the front of the deck should be in the upper position. When the height-of-cut is set at 2" to 4" the rollers should be in the lower position.

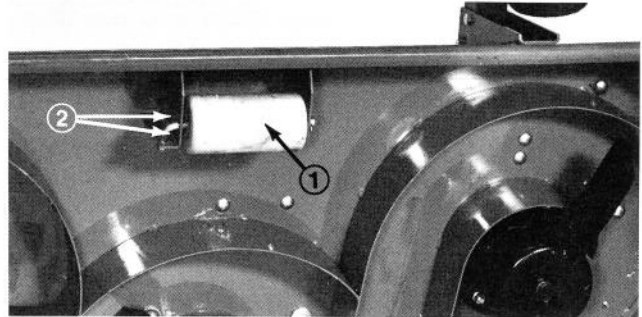


Figure 16

1. Center anti scalp roller 2. Upper and lower holes

GREASE CUTTING UNIT

Before the machine is operated, it must be greased to assure proper lubricating characteristics: refer to Lubrication, see page 15. Failure to grease the machine will result in premature failure of critical parts.

CHECK LUBRICANT IN GEAR BOX

The gear box is designed to operate on SAE 80-90 wt. gear lube. Although the gear box is shipped with lubricant from the factory, check the level before operating the cutting unit.

1. Position machine and cutting unit on a level surface and lower cutting unit.

2. Remove check plug from side of gear box (Fig. 17) and make sure lubricant is up to bottom of hole. If level of lubricant is low, add enough lubricant to bring it up to bottom of check hole.

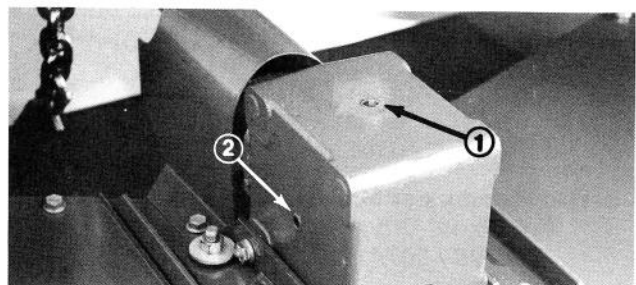


Figure 17

1. Filler plug 2. Check plug

OPERATING INSTRUCTIONS

ADJUSTING HEIGHT-OF-CUT

The height-of-cut is adjustable from 1 to 4 inches (25 to 102mm) in 1/2 inch (13 mm) increments, by adding or removing an equal number of spacers on the front and rear caster forks. The height-of-cut chart below gives the combinations of spacers to use for all height-of-cut settings.

Height-of-Cut-Chart

Height-of-Cut Setting in inches	Spacers Below Caster Arm (Front)	(Rear)
1 (25 mm)	0	0
1-1/2 (38 mm)	1	1
2 (51 mm)	2	2
2-1/2 (64 mm)	3	3
3 (76 mm)	4	4
3-1/2 (89 mm)	5	5
4 (102 mm)	6	6

NOTE: A more optimum cutting appearance in the 1" (25 mm) height-of-cut setting can be achieved by lowering the rear of the cutting unit. Accomplish this by relocating the rear caster wheel axles in the upper hole of the caster forks (Fig. 18). Reposition the axles into the lower caster fork holes for settings (above 1" or 25 mm).

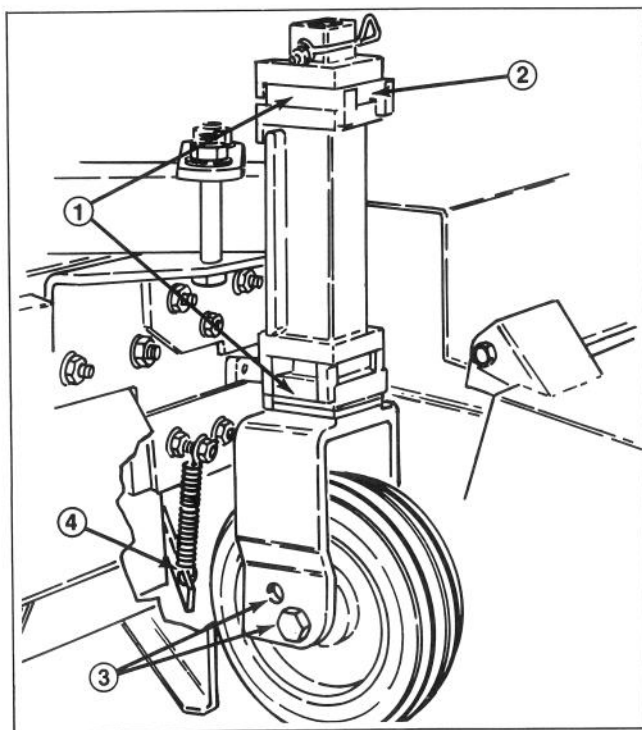


Figure 18

- 1. "U" spacers (6)
- 2. Spacer opening
- 3. Caster wheel axle holes
- 4. Mechanical door

IMPORTANT: The rear caster wheel mounting hole in use must be towards the rear of the deck. This is necessary to provide adequate clearance between the caster wheel and the mechanical door (Fig. 3). If necessary the caster fork assembly should be

removed from the square tube and turned around so that the mounting hole with the axle through it is toward the rear. The caster wheel grease fittings should always face outward.

IMPORTANT: Do not attempt to cut off more than one inch (25 mm) of the grass when in the one inch (25 mm) height-of-cut setting and when the rear of the cutting unit is lowered. Since grass is being cut twice this may cause the engine to labor excessively.

1. Start the engine and raise cutting unit so height-of-cut can be changed. Stop engine after cutting unit is raised.

2. Squeeze the back of the wire spring and raise it on lynch pin. Pull pin out of caster shaft. Slide spacers onto the caster shaft to get desired height-of-cut (Fig. 19 and 20). Then slide thrust washer (Fig. 19) onto caster shaft (front only).

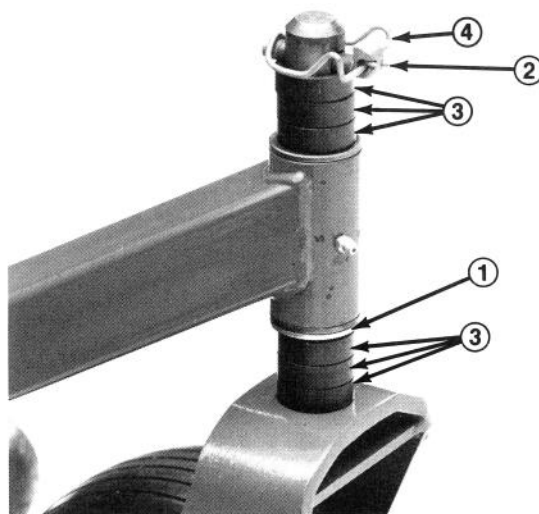


Figure 19

- 1. Thrust washer
- 2. Lynch pin
- 3. Spacers (6)
- 4. Wire spring

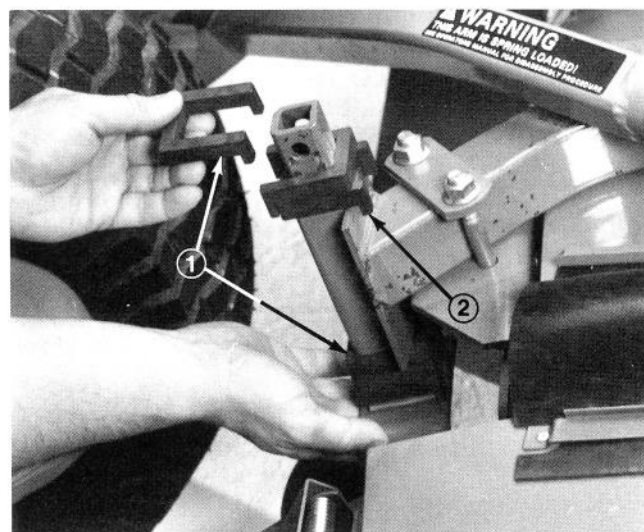


Figure 20

- 1. Rear caster spacers
- 2. Hooked over plate

OPERATING INSTRUCTIONS

3. Push caster shaft through caster arm. Slide any remaining spacers onto shaft (Fig. 19 and 20). Install lynch pin to retain parts in place. Always retain the same number of spacers on each caster when adjusting height-of-cut.

IMPORTANT: All six "U" shaped spacers must be on rear square caster shafts — if one is left off remaining spacers will not stay in position during operation. Always install spacers on caster shafts with the spacer opening facing forward or to the rear (Fig. 20). Never install with the spacer facing the side or middle of the deck. (The arrow on the spacer should be in the same direction as the pin.)

NOTE: On front caster shafts, insert lynch pin in front side of shaft with caster wheels positioned as if deck were traveling in forward direction. Inserted from the front the wire loop is less likely to be flipped up during operation and the pin lost.

IMPORTANT: Thrust washer — not the spacers — must contact bottom of front carrier frame tube. (Fig 19).

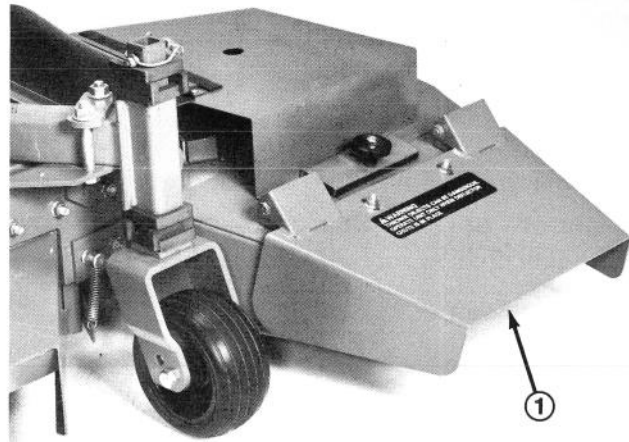


Figure 21

1. Grass deflector (2)

GRASS DEFLECTORS



WARNING

Grass deflectors (Fig. 21) are a safety device that divert grass and other foreign objects being discharged downward and helps prevent physical contact with rotating blades. **WE STRONGLY RECOMMEND THAT EACH DEFLECTOR BE IN ITS NORMAL OPERATING POSITION WHENEVER THE CUTTING UNIT IS ENGAGED. NEVER OPERATE CUTTING UNIT WITH THE DEFLECTORS REMOVED OR TIED/BLOCKED IN A RAISED POSITION, SINCE THE BLADES COULD THEN THROW DEBRIS A CONSIDERABLE DISTANCE WITH SUFFICIENT FORCE TO CAUSE PERSONAL INJURY OR DAMAGE TO PROPERTY.** If the grass deflectors are damaged, repair or replace the affected parts.

IMPORTANT: If your traction unit is not already equipped with the Donaldson air cleaner, it should be equipped by installing Air Cleaner Kit 27-7090.

INITIAL DECK USE

IMPORTANT: When a new deck is operated for the first time, it should be run for 5 minutes before the wings are raised.

COOLING SYSTEM MAINTENANCE

NOTE: More frequent cleaning of the traction unit radiator may be required due to the rear discharge

deck. Be sure to check the condition of the radiator frequently after the deck is installed.

LUBRICATION MAINTENANCE

The cutting unit must be lubricated regularly. If machine is operated under normal conditions, lubricate caster bearings and bushings with No. 2 general purpose lithium grease or molybdenum base grease, after every 8 hours of operation or daily, whichever comes first. All other bearings, bushings and the gear box must be lubricated after every 50 hours of operation.

1. The cutting unit has bearings and bushings with grease fittings that must be lubricated, these lubrication points are: front caster shaft bushings and caster wheel bearings (Fig. 22); rear caster wheel bearings (Fig. 23); idler arm and blade spindle bearings (Fig. 24); right and left push arm ball joints (Fig. 25); wing lift cylinder bushings (Fig. 26); and center deck idler arm bearings (Fig. 25).

IMPORTANT: Wipe any excess grease off wing idler pivot after lubricating. Do not get grease on pulley or brake.

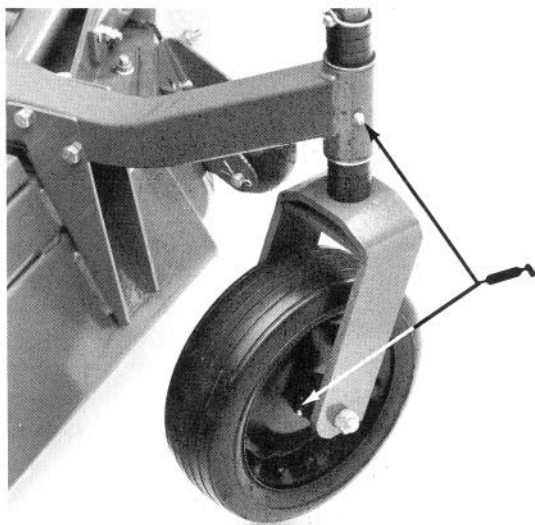


Figure 22

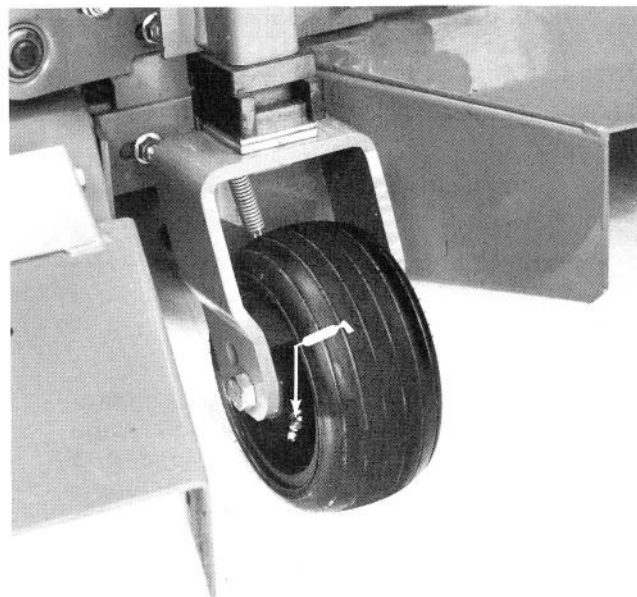


Figure 23

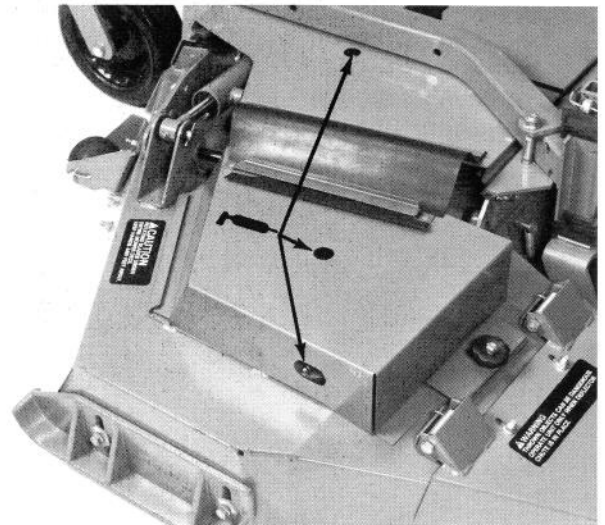


Figure 24

1. Idler arm and blade spindle lubrication points

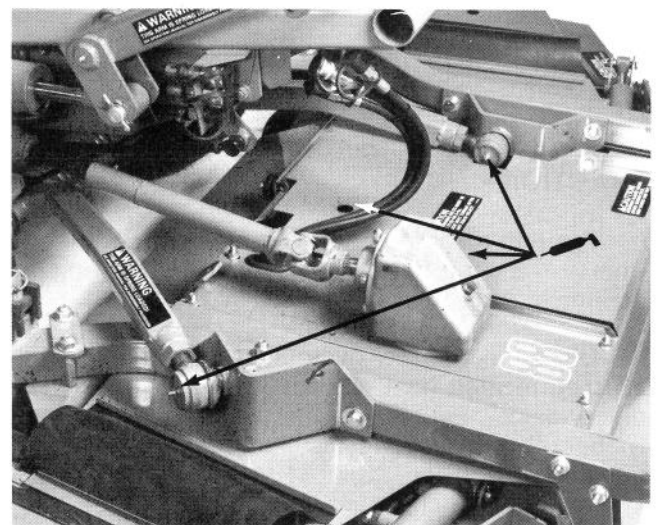


Figure 25

1. Arm ball joint lubrication points

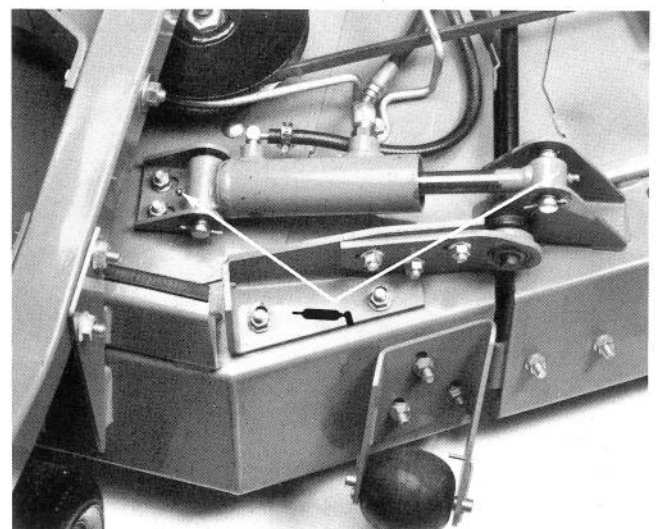


Figure 26

1. Wing lift cylinder (2) lubrication points

LUBRICATION MAINTENANCE

2. Lower cutting unit so caster wheels are on a level surface. Remove check plug (Fig. 27) from side of gear box and check level of lubricant. If level of lubricant is low, remove fill plug on top of gear box and add SAE 80-90 wt. gear lube until level is up to bottom of check hole.

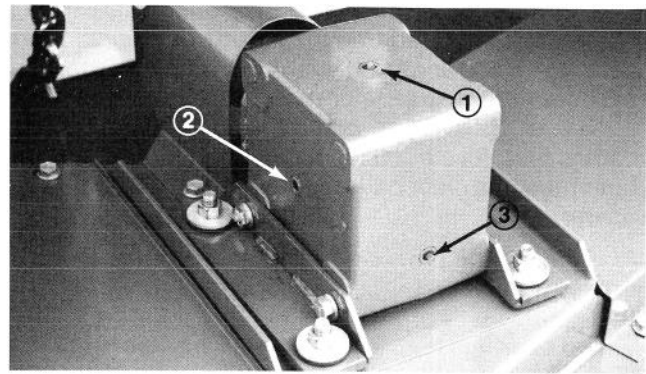


Figure 27

- 1. Filler plug
- 2. Check plug
- 3. Drain plug

CUTTING UNIT MAINTENANCE

SEPARATING CUTTING UNIT FROM TRACTION UNIT

1. Position machine on level surface, lower cutting unit to the shop floor, shut engine off and engage parking brake.

2. Disconnect three hydraulic lines at mounting bracket, located next to traction pedal, using quick disconnects (Fig. 28). Immediately put attached rubber plugs in disconnects on both the traction unit and deck hoses (Fig. 28).

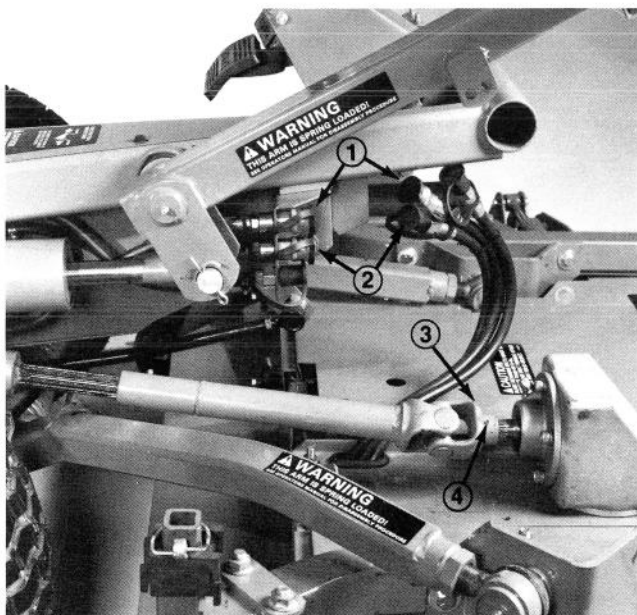


Figure 28

- 1. Hose plugs
- 2. Quick disconnects
- 3. Yoke
- 4. Roll pin

3. Remove PTO shield from top of cutting unit and set shield aside.

4. Drive roll pin out of yoke and input shaft of gear box (Fig., 28). Loosen capscrews and nuts securing yoke to shaft. Slide yoke off the input shaft. If traction unit will be used without the cutting unit, drive roll pin out of yoke at PTO pivot shaft and remove entire universal shaft from traction unit.



DANGER

Do not start the engine and engage the PTO lever when PTO shaft is not connected to gear box on cutting unit. If engine is started and PTO shaft allowed to rotate, serious injury could result.

5. Disconnect spring from lift cylinder cotter pin. Remove cotter pins and clevis pins securing lift chains to lift arm.



WARNING

Since the right hand push arm is spring-loaded to about 100 pounds (445 N) and left hand push arm is spring-loaded to about 150 pounds (667 N), a helper is needed to release push arms from cutting unit. Sudden release of the push arms could cause injury.

CUTTING UNIT MAINTENANCE

6. Have a helper push down on the right push arm while you remove the capscrews, flat washers and nuts securing ball joint mount to caster arm on cutting unit. Now the helper can carefully allow push arm to move upward, which gradually releases the 100 pounds (445 N) of spring load.

7. Have a helper push down on the left push arm while you remove the capscrews, flat washers and nuts securing ball joint mount to carrier frame on cutting unit. Now the helper can carefully allow push arm to move upward which will gradually release the 150 pounds (667 N) of spring load.

8. Roll the cutting unit away from the traction unit.

MOUNTING CUTTING UNIT TO TRACTION UNIT

(See SET UP INSTRUCTIONS Page 7).

SETTING CUTTING UNIT BELT TENSION

NOTE: Check that belts are in good condition and positioned correctly in the sheaves of the pulleys on the center section and wing sections of the deck.

IMPORTANT: Check tension on new belts after 10 hours of use.

Wing Section:

NOTE: Block deck in raised position so that it cannot accidentally lower while belts are being tensioned. Wings should be in lowered position.

Loosen two capscrews (capscrew nuts are located under the deck) securing spring bracket (Fig 29). Slide the spring bracket (Fig. 30) so that the rubber bumper, at one end, just contacts the edge of the idler arm and tighten capscrew nuts, under deck, to secure the spring bracket. With the spring bracket in this position the belt is properly tensioned.

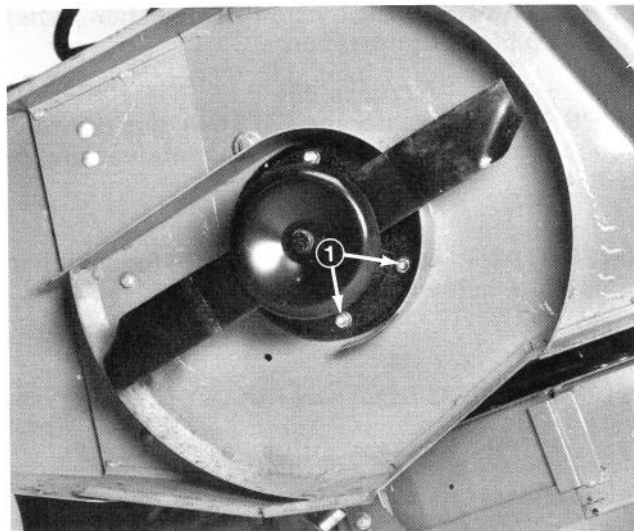


Figure 29

1. Spring bracket retaining nuts

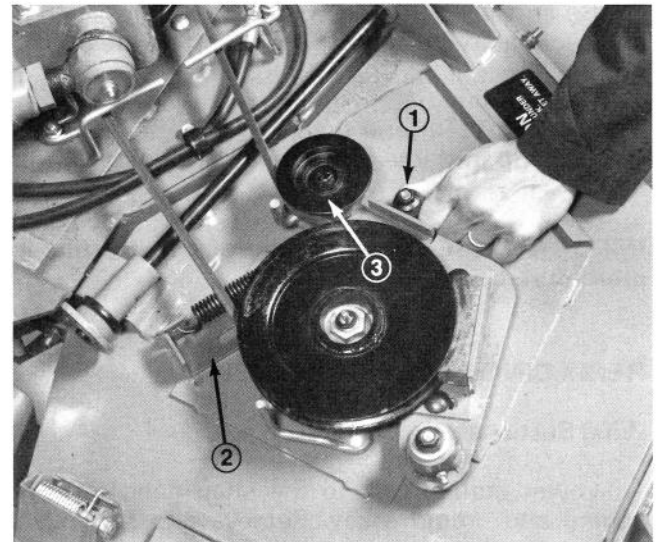


Figure 30

1. Rubber bumper 3. Idler pulley bolt
2. Spring bracket

Center Section:

NOTE: Spring tension is only 10-15 lbs. on the wing section but is 80-90 lbs. on the center section requiring use of the threaded rod for adjustments.

1. Loosen capscrew nuts which secure the spring bracket to the deck (Fig. 31). Loosen the jam nut which locks the threaded rod.

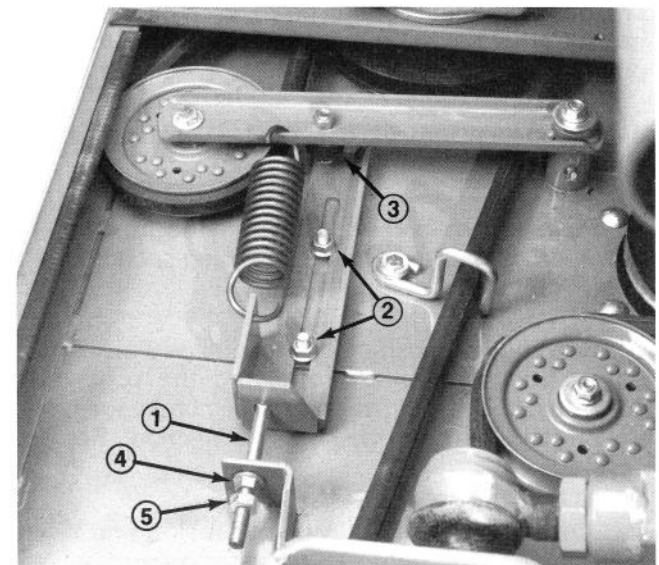


Figure 31

1. Threaded rod 4. Tensioning nut
2. Spring bracket capscrew nuts 5. Jam nut
3. Rubber stop

2. Adjust the spring bracket so that the lip on the spring bracket just contacts the rubber stop (Fig. 31) on the idler arm. Use the threaded rod to make belt adjustments. Tighten capscrews securing the spring bracket in position on the deck and tighten the jam nut on threaded rod.

CUTTING UNIT MAINTENANCE

3. Be sure all belt guides are correctly positioned and secured to the deck before operating the cutting unit.

IMPORTANT: Greater than 3/16 in. gap between rubber stop and idle arm requires retensioning of belt.

IMPORTANT: Over tensioning of belts results in premature belt wear.

REPLACING BLADE DRIVE BELTS

Wing Sections:

1. Lower cutting unit to the shop floor, turn off engine and remove key. Remove and set covers aside.

NOTE: To remove the center section belt, the wing section belts have to be removed first.

2. With the wing unit raised, loosen nuts on cap-screws holding the spring bracket from under the deck (Fig 29).

NOTE: Block deck in raised position so that it cannot accidentally lower while belts are being tensioned. Wings should be in lowered position.

3. With spring tension relaxed, lower wings, loosen or remove the idler pulley bolt (Fig. 30) to allow the belt to pass between the belt guide and the idler pulley.

4. Loosen or remove belt guides as necessary to allow removal of belts from remaining pulleys.

5. Position the new belt correctly in the groove of the pulley on the center section and wing section of the deck, tighten the idler pulley bolt.

6. Replace or reposition all belt guides (Fig. 32) and adjust belt tension by following the procedure described above. Adjust wing pulley brake following the procedure described in this section. Replace covers.

IMPORTANT: Check new belt tension and brake adjustment after initial 10 hours of operation.

Center Section:

NOTE: Wing belts must be removed first.

1. Loosen capscrew nuts holding the spring bracket to the deck (Fig. 31). Then loosen the threaded rod jam nut and back off the tensioning nut gradually to release the spring tension.

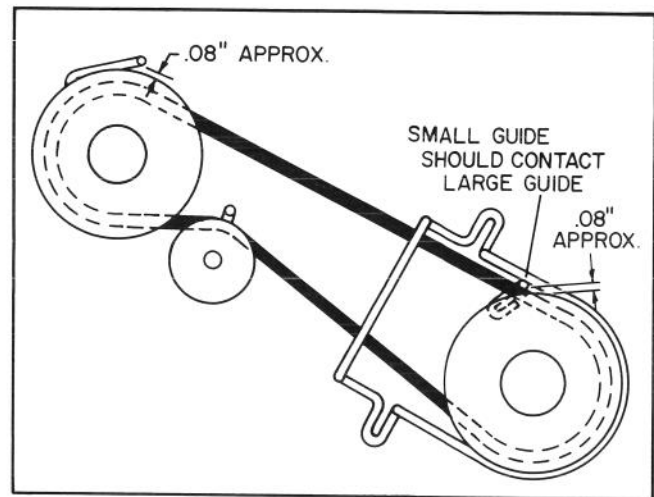


Figure 32



WARNING

Loosen capscrew nuts before backing off threaded rod to avoid sudden movement of the bracket.

2. With belt tension released, remove idler arm and belt guides as necessary and remove the belt.

3. Position new belt correctly in the center section pulleys. Replace and tighten the idler arm and guide.

4. Be sure all belt guides are correctly positioned and secured to the deck and adjust belt tension by following the procedure described above.

IMPORTANT: Check tension of new belts after initial 10 hours of operation.

IMPORTANT: Greater than 3/16 in. gap between rubber stop and idle arm requires retensioning of belt.

IMPORTANT: Over tensioning of belts results in premature belt wear.

SETTING WING SECTION PULLEY BRAKE

1. Raise wing to be adjusted, 15 degrees (Use a magnetically mounted compass) and loosen brake pad capscrews with Allen wrench (Fig. 33). Push brake pad against pulley with one hand and tighten capscrews with the other hand.

CUTTING UNIT MAINTENANCE

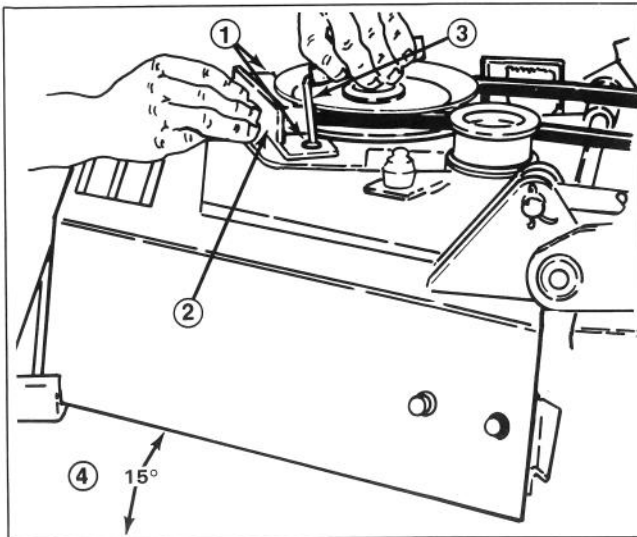


Figure 33

1. Brake pad capscrews (2 per wing)
2. Brake pad
3. Allen wrench
4. 15° angle

NOTE: Idler arm assembly is shimmed to center the brake pad (Vertically) in the pulley groove. Add washers under the idler arm pivot hub as necessary.

WING SHAFT END PLAY

Slotted holes in the hinge bracket allow for adjustment of wing shaft end play (Fig. 34). End play should be no more than 1/16 inch.

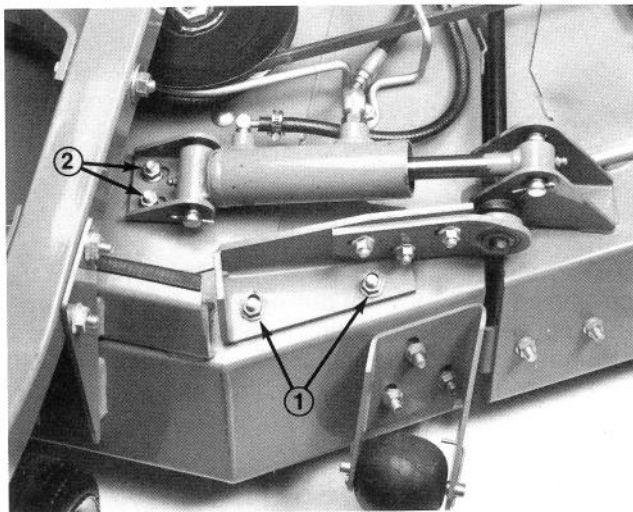


Figure 34

1. Slotted wing shaft bracket holes
2. Slotted lift cylinder bracket holes

POSITIONING WING LIFT CYLINDERS

Slotted holes in the lift cylinder bracket allow for adjustment of the wing lift cylinders (Fig. 34). With the cylinder fully extended (manually pull the pivot pin outward) the pivot pin should rest up against the outer edge of the pivot hole on each wing section (Fig. 35).

Torque bolts to 65 ft. lbs. (90 N·m). Once the cylinder has been positioned, adjust the wing vertical stop on the top of the deck.

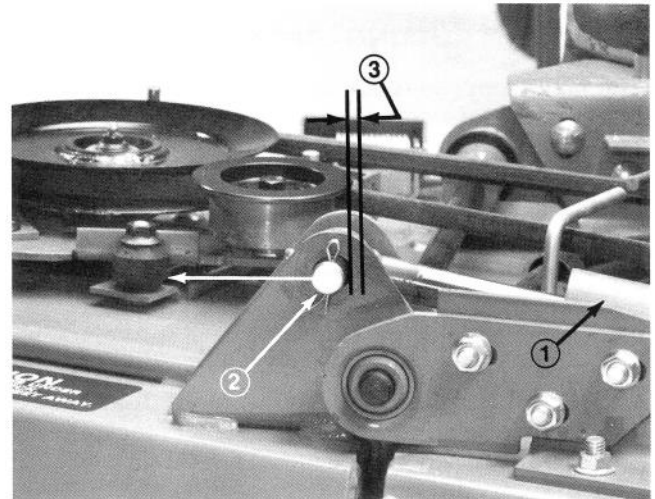


Figure 35

1. Wing lift cylinder
2. Manually pull pin forward
3. Designed gap

NOTE: If wings do not raise all the way (perpendicular to the deck) wing lift cylinders may need adjustment. Readjust wing stops after adjusting wing lift cylinders.

WING STOP ADJUSTMENT

1. Lower deck to floor, remove wing cover and raise wings to 90° (perpendicular to deck). Block mechanical door in fully raised position. Back off jam nuts.

2. Pull up on mechanical door lift lever (Fig. 36). Hand tighten the wing stop bolt jam nuts so that there is no gap between the bolt head and the main deck surface.

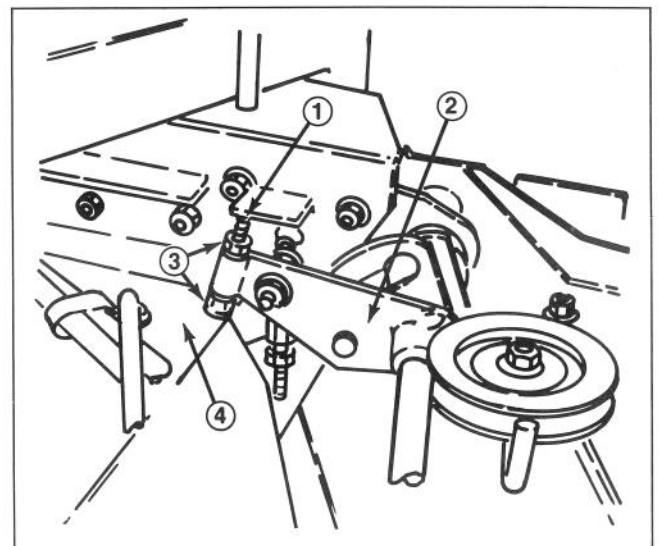


Figure 36

1. Wing stop bolt
2. Mechanical door lift lever
3. Jam nuts
4. Main deck surface

CUTTING UNIT MAINTENANCE

3. Tighten jam nuts, lower wings and reinstall covers. Readjust mechanical door height if necessary. Refer to section on Mechanical Door, page 11.

REMOVING CUTTING UNIT BLADE

The blade must be replaced if a solid object is hit, the blade is out-of-balance, worn or bent. Always use genuine TORO replacement blades to ensure safety and optimum performance. Never use blades made by other manufacturers because they could be dangerous.



CAUTION

Do not try to straighten a blade that is bent, and never weld a broken or cracked blade. Always use a new TORO blade to assure continued safety certification of the product.

1. Raise cutting unit to highest position, shut the engine off and engage parking brake. Block cutting unit to prevent it from falling accidentally.
2. Grasp end of blade using rag or thickly padded glove. Remove special screw, washer, antiscalp cup and blade from spindle assembly (Fig. 37).

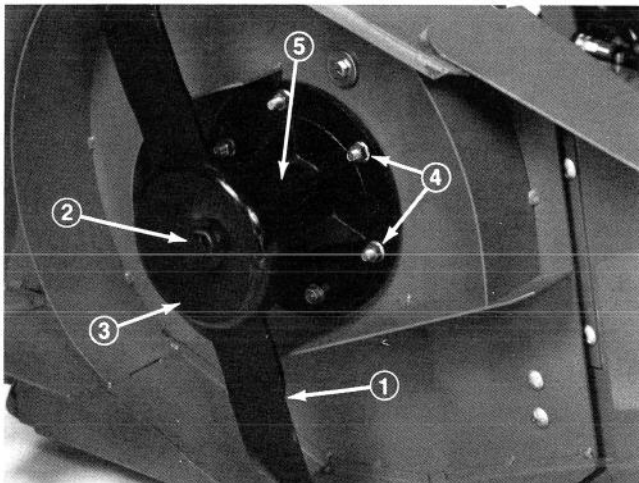


Figure 37

- | | |
|------------------------------|---------------------|
| 1. Cutting blade | 4. Flange bolts (6) |
| 2. Mounting screw and washer | 5. Spindle housing |
| 3. Anti scalp cup | |

3. To install the blade, assemble parts in reverse order, and make sure the blade sail is facing up. Tighten special screw to 85 to 110 ft-lb (115 to 150 N·m).

INSPECTING AND SHARPENING BLADE

1. Raise cutting unit to highest position, shut the engine off and engage parking brake. Block cutting unit to prevent it from falling accidentally.

2. Examine cutting ends of the blade carefully, especially where the flat and curved parts of the blade meet (Fig. 38A). Since sand and abrasive material can wear away the metal that connects the flat and curved parts of the blade, check the blade before using the machine. If any wear is noticed (Fig. 38B), replace the blade; refer to Removing Cutter Blade, page 19.



WARNING

If the blade is allowed to wear, a slot will form between the sail and flat part of the blade (Fig. 38C). Eventually, a piece of the blade may break off and be thrown from under the housing, possibly resulting in serious injury to yourself or bystander.

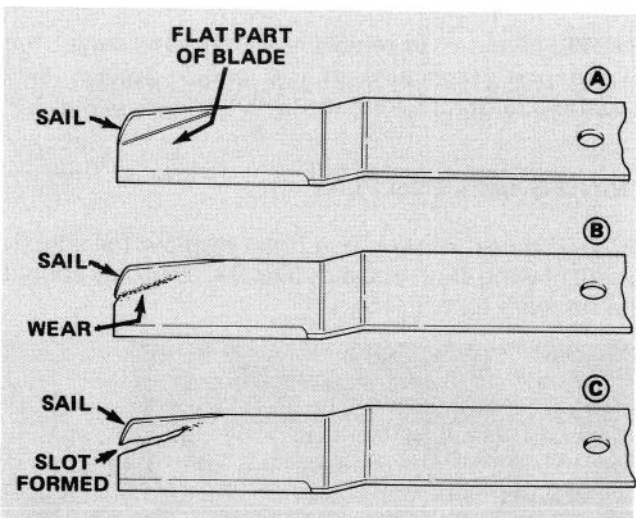


Figure 38

3. Examine cutting edges of all blades. Sharpen the cutting edges if they are dull or nicked. Sharpen only the top side of the cutting edge and maintain the original cutting angle to assure sharpness (Fig. 39). The blade will remain balanced if same amount of metal is removed from both cutting edges.

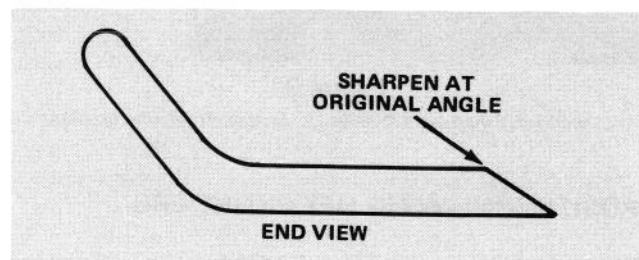


Figure 39

4. To check blade for being straight and parallel, lay blade on level surface and check its ends. Ends of

CUTTING UNIT MAINTENANCE

blade must be slightly lower than the center, and cutting edge must be lower than heel of blade. This blade will produce good quality-of-cut and require minimal power from the engine. By contrast, a blade that is higher at the ends than the center, or cutting edge higher than the heel of the blade is warped or bent and must be replaced.

5. To install the blade, assemble parts in reverse order, and make sure the blade sail is facing up. Tighten special screw to 85 to 110 ft-lb (115 to 150 N·m).

CHECKING AND CORRECTING MISMATCH OF BLADES

If there is mismatch between the blades, the grass will appear streaked when it is cut. This problem can be corrected by making sure all blades are straight and cutting on the same plane.

1. Position the deck on a flat 4 X 8 sheet of plywood at least 3/4" (20mm) thick.

IMPORTANT: If the rear caster wheel axle is in the lower hole place a 3/4" block under each front caster wheel to level the deck. This is not necessary if the rear caster wheel axle is in the upper hole.

2. Adjust height-of-cut so all six height-of-cut spacers are below the caster arm (Highest height-of-cut).

3. Lower cutting unit onto flat surface.

4. Rotate blades until the ends face forward and backward. Measure from floor to front tip of cutting edge and record this dimension. Then rotate same blade so opposite end is forward and measure again. The difference between dimensions must not exceed 1/8 inch (3 mm). If difference exceeds 1/8 inch (3 mm), replace the blade because it is bent. Make sure and measure all five blades.

5. Rotate blades until the ends face forward and backward. Measure and record the dimensions from floor to tips of blades at the front and the rear. Rotate blades until ends face side to side. Measure and record dimensions from floor to tips of blades at each end of the blades. Compare measurements of all five blades. The maximum difference between any two adjacent blades should not exceed 1/4 inch. The maximum difference between the highest and lowest blade should not exceed 3/8 inch. The three center section blades can be adjusted with shims (see Step 7). The wing blades can be adjusted by repositioning the hinge bushing brackets and/or the wing stops (see Step 8).

6. Rotate blades so tips line up with one another (Fig. 40). Tips of the adjacent blades must be within 1/8 inch (3 mm) of each other. If tips are not within 1/8

inch (3mm) of each other, proceed to step 7 and add shims between spindle housing and bottom of cutting unit or Step 8 to adjust wing sections.

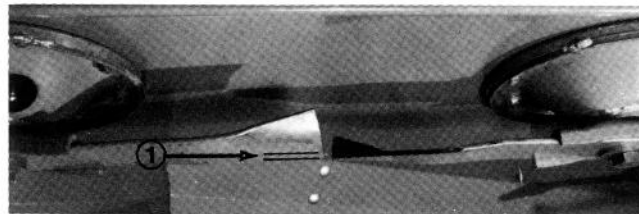


Figure 40

Center Section:

7. Remove locknuts from spindle, in the area where shims must be added. To lower a blade, add a shim, Part No. 3256-24, between spindle housing and bottom of cutting unit. Continue to check alignment of blade and add shims until tips of blades are within the required dimension.

IMPORTANT: Do not use more than three shims at any one hole location. Use decreasing numbers of shims in adjacent holes if more than one shim is added to any one hole location.

Wing Sections:

8. Raise or lower lower hinge bushing brackets and/or adjust front and rear stops to achieve proper blade match and height of cut. Each wing section should rest against the front and back stops (Fig. 41). A half inch (13 mm) gap between the wing section and the center section should be maintained (Fig. 41). Torque fasteners to 65 ft. lbs. (90 N·m). Readjust wing lift cylinders and retension belts after making wing adjustments. Install covers on top of cutting unit.

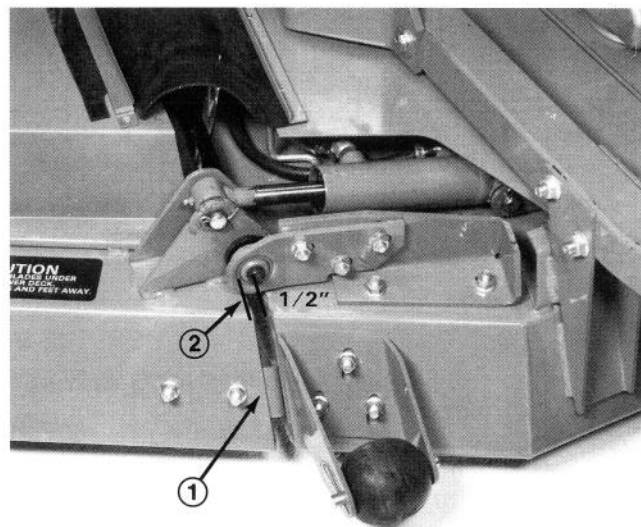


Figure 41

- 1. Adjustable stop
- 2. 1/2" gap

IDENTIFICATION AND ORDERING

MODEL AND SERIAL NUMBERS

The cutting unit has two identification numbers: a model and a serial number. These numbers are stamped into a plate. The cutting unit identification plate is located just behind the left front hinge bracket. In any correspondence concerning the cutting unit, supply the model and serial numbers to assure correct information and replacement parts are obtained.

To order replacement parts from an authorized TORO Distributor, supply the following information:

1. Model and serial numbers of the cutting unit.
2. Part number, description and quantity of parts desired.

NOTE: Do not order by reference number if a parts catalog is being used; use the part number.

SERVICE INTERVAL CHART

Date									
Hour Meter Reading									
Service Interval		Daily	10	50	100	150	200	250	300
Check Blades	Daily								
Lubricate Caster Arm Bushings	Daily								
Lubricate Caster Wheel Bearings	Daily								
Tighten Caster Wheel Nuts (Tighten after 2 & 10 hrs. initially)	50								
Torque Blade Bolts (Tighten after 10 hrs. initially)	50								
Lubricate Grease Fittings	50								
Clean Cutting Unit	50								
Check Blade Drive Belts (Retension after initial 10 hrs.)	50								
Check Gear Box Oil	50								
Change Gear Box Oil	250								

SERVICE SPECIFICATIONS:

Cutting Unit Gear Box Oil — SAE 80-90 wt. Gear Lube

The Toro Promise

A ONE YEAR LIMITED WARRANTY

The Toro Company promises to repair your TORO Product if defective in materials or workmanship. The following time periods from the date of purchase apply:

Commercial Products 1 Year

The costs of parts and labor are included, but the customer pays the transportation costs on walk rotary mowers with cutting unit widths of less than 25".

If you feel your TORO product is defective and wish to rely on The Toro Promise, the following procedure is recommended:

1. Contact your Authorized TORO Distributor or Commercial Dealer (the Yellow Pages of your telephone directory is a good reference source).
2. The TORO Distributor or Commercial Dealer will advise you on the arrangements that can be made to inspect and repair your product.
3. The TORO Distributor or Commercial Dealer will inspect the product and advise you whether the product is defective and, if so, make all repairs necessary to correct the defect without an extra charge to you.

If for any reason you are dissatisfied with the distributor's analysis of the defect or the service performed, you may contact us.

Write:

TORO Commercial Products Service Department
8111 Lyndale Avenue South
Minneapolis, Minnesota 55420

The above remedy of product defects through repair by an Authorized TORO Distributor or Commercial Dealer is the purchaser's sole remedy for any defect.

THERE IS NO OTHER EXPRESS WARRANTY. ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR USE ARE LIMITED TO THE DURATION OF THE EXPRESS WARRANTY.

Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.

This Warranty applies only to parts or components which are defective and does not cover repairs necessary due to normal wear, misuse, accidents, or lack of proper maintenance. Regular, routine maintenance of the unit to keep it in proper condition is the responsibility of the owner.

All warranty repairs reimbursable under the Toro Promise must be performed by an Authorized TORO Commercial Dealer or Distributor using Toro approved replacement parts.

Repairs or attempted repairs by anyone other than an Authorized TORO Distributor or Commercial Dealer are not reimbursable under the Toro Promise. In addition, these unauthorized repair attempts may result in additional malfunctions, the correction of which is not covered by warranty.

THE TORO COMPANY IS NOT LIABLE FOR INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES IN CONNECTION WITH THE USE OF THE PRODUCT INCLUDING ANY COST OR EXPENSE OF PROVIDING SUBSTITUTE EQUIPMENT OR SERVICE DURING PERIODS OF MALFUNCTION OR NON-USE.

Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

COUNTRIES OTHER THAN THE UNITED STATES OR CANADA

Customers who have purchased TORO products exported from the United States or Canada should contact their TORO Distributor (Dealer) to obtain guarantee policies for your country, province or state. If for any reason

you are dissatisfied with your Distributor's service or have difficulty obtaining guarantee information, contact the TORO importer. If all other remedies fail, you may contact us at The Toro Company.