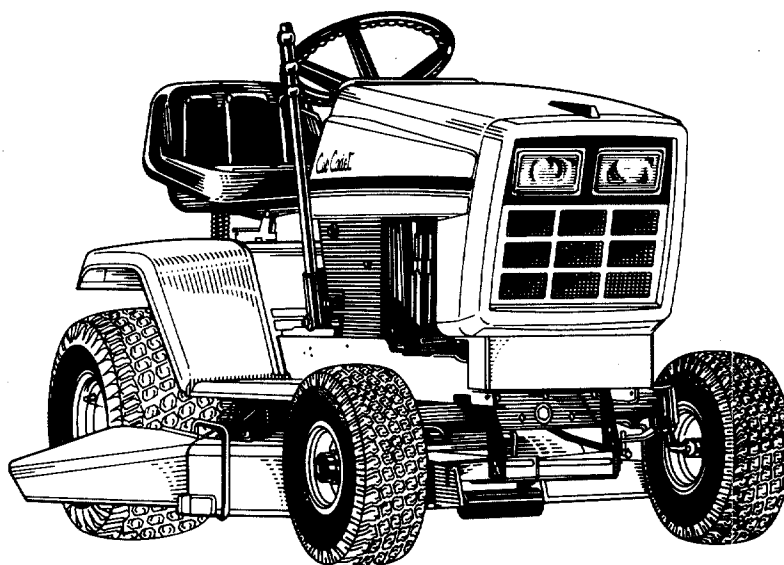




Owner's Manual

LAWN TRACTORS



Model Numbers

1015

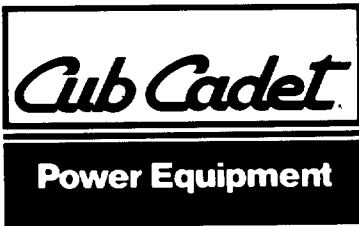
1020

**Important:
Read Safety Rules and Instructions Carefully**

Thank you for purchasing an American-built product
CUB CADET CORPORATION • P.O. BOX 360930 • CLEVELAND, OHIO 44136

PRINTED IN U.S.A.

FORM NO. 772-4069A
R900630



LIMITED WARRANTY

Proper maintenance of your Cub Cadet equipment is the owner's responsibility. Follow the instructions in your owner's manual for correct lubricants and maintenance schedule. Your Cub Cadet dealer carries a complete line of quality lubricants and filters for your equipments engine, transmission, chassis and attachments.

RIDING MOWERS, LAWN TRACTORS, GARDEN TRACTORS, CUB CADET ATTACHMENTS AND HOME MAINTENANCE PRODUCTS.

FIRST YEAR

This limited warranty for residential and commercial users, covers any defect in material or workmanship in your Cub Cadet equipment for one year from the date of purchase for the first user purchaser.

Batteries have a one year prorated limited warranty with 100% replacement during the first three months.

We will replace or repair any part or parts without charge through your authorized Cub Cadet dealer.

SECOND YEAR

This limited warranty, for residential users only, covers any defects in material or workmanship in the drive train for two years from the date of purchase for the first user purchaser.

The drive train consists of the engine, engine cradle, drive shaft, drive shaft clutch, all parts enclosed by the transmission housing, rear axle housing, brakes and electric power take off (if so equipped). V-belts used for either the traction drive or any attachments are covered for one year only.

ITEMS NOT COVERED

The warranty does not cover routine maintenance items such as lubricants, filters (oil, fuel, air and hydraulic), cleaning, tuneups, brake and/or clutch inspection, adjustments made as part of normal maintenance, blade sharpening, set-up, abuse, accidents and normal wear. It does not cover incidental costs such as transporting your equipment to and from the dealer, telephone charges or renting a product temporarily to replace a warranted product.

There is no other express warranty.

HOW TO OBTAIN SERVICE

Contact your authorized Cub Cadet servicing dealer who sold you your Cub Cadet equipment. If this dealer is not available see the Consumer Yellow Pages under "lawn mowers" for the name of a dealer near you.

If you need further assistance in finding an authorized Cub Cadet servicing dealer, write or telephone:

Cub Cadet Corporation
Post Office Box 360930
Cleveland, Ohio 44136
Attn: Customer Service

Telephone: (216) 273-4550

HOW DOES STATE LAW APPLY?

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

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Instructions given with this symbol are for personal safety. Be sure to follow them.



WARNING

This unit is equipped with an internal combustion engine and should not be used on or near any unimproved forest-covered, brush-covered or grass-covered land unless the engine's exhaust system is equipped with a spark arrester meeting applicable local or state laws (if any). If a spark arrester is used, it should be maintained in effective working order by the operator.

In the State of California the above is required by law (Section 4442 of the California Public Resources Code). Other states may have similar laws. Federal laws apply on federal lands. A spark arrester muffler is available at your nearest engine authorized service center.

IMPORTANT

RULES FOR SAFE OPERATION



THIS SYMBOL POINTS OUT IMPORTANT SAFETY INSTRUCTIONS WHICH, IF NOT FOLLOWED, COULD ENDANGER THE PERSONAL SAFETY AND/OR PROPERTY OF YOURSELF AND OTHERS. READ AND FOLLOW ALL INSTRUCTIONS IN THIS MANUAL BEFORE ATTEMPTING TO OPERATE YOUR UNIT. FAILURE TO COMPLY WITH THESE INSTRUCTIONS MAY RESULT IN PERSONAL INJURY. WHEN YOU SEE THIS SYMBOL –



HEED ITS WARNING.



WARNING

Your unit was built to be operated according to the rules for safe operation in this manual. As with any type of power equipment, carelessness or error on the part of the operator can result in serious injury. If you violate any of these rules, you may cause serious injury to yourself or others.

READ THIS OWNER'S MANUAL carefully in its entirety before attempting to assemble or operate this unit. Keep this manual in a safe place for future and regular reference and for ordering

replacement parts.

2. This unit is a precision piece of power equipment, not a plaything. Therefore, exercise extreme caution at all times.

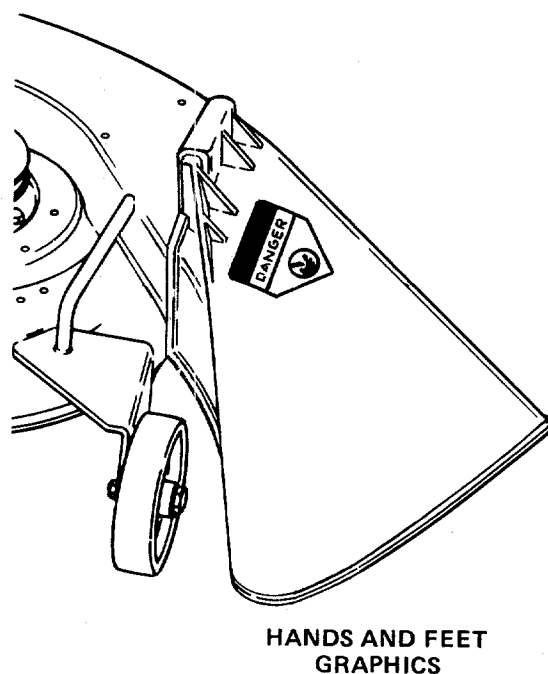
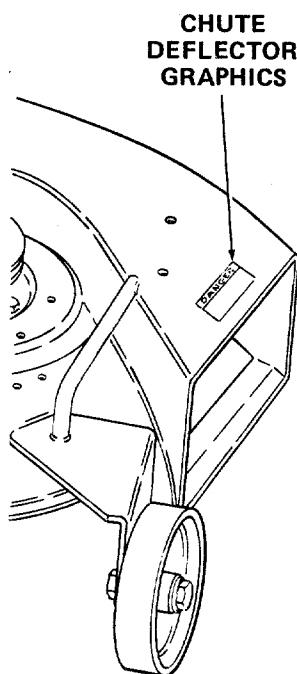
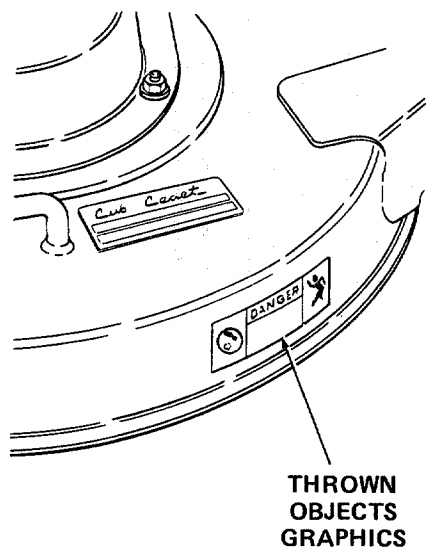
4. Do not allow children to operate vehicle. Do not allow adults to operate it without proper instruction. Only persons well acquainted with these rules of safe operation should be allowed to use your mower.
5. Wear sturdy, rough-soled work shoes and close-fitting slacks and shirts to avoid entanglement in the moving parts. Never operate a unit in bare feet, sandals, or sneakers.
6. To prevent injury, do not carry passengers or give rides. Keep children, pets and bystanders out of the area while mowing. Only the operator should ride on the unit and he/she should ride only in the seat.
7. Check overhead clearance carefully before driving under power lines, guy wires, bridges or low hanging tree branches; before entering or leaving buildings, or in any other situation where the operator may be struck or pulled from the unit, which could result in serious injury.
8. To maintain control of the unit and reduce the possibility of upset or collision, operate the tractor smoothly. Avoid erratic operation and excessive speed.
9. Keep the area of operation clear of all persons, particularly small children and pets. Stop engine when they are in the vicinity of your mower. Although the area of operation should be completely cleared of foreign objects, a small object may have been overlooked and could be accidentally thrown by the mower in any direction and cause injury to you or a bystander.
10. Always wear safety glasses or eye shields during operation or while performing an adjustment or repair, to protect eyes from foreign objects that may be thrown from the machine in any direction.
11. Stop the blade(s) when crossing gravel drives, walks or roads.
12. Disengage all attachment clutches and shift into neutral before attempting to start engine.
13. Before leaving the operator's position, disengage blades, place shift lever in neutral, engage parking brake, shut engine off and remove key.
14. Do not put hands or feet near or under rotating parts. Stay clear of the discharge opening at all times as the rotating blade(s) can cause injury.
15. Disengage power to attachment(s) and stop engine before making any repairs or adjustments. Disconnect the spark plug wire(s) and keep the wire(s) away from the plug to prevent accidental starting.
16. Before attempting to unclog the mower or discharge chute, stop the engine. The mower blade(s) may continue to rotate for a few seconds after the engine is shut off. Therefore, be sure the blade(s) have stopped completely. Disconnect the spark plug wire(s) and keep the wire(s) away from the plug(s) to prevent accidental starting.
17. Disengage power to attachment(s) when transporting or not in use.
18. For your safety, use the slope gauge included as part of this manual to measure slopes before operating this unit on a sloped or hilly area. If the slope is greater than 15° as shown on the slope gauge, do not operate this unit on that area or serious injury could result.
19. Do not stop or start suddenly when going uphill or downhill. Mow up and down face of steep slopes; never across the face. Use extreme caution if it is necessary to drive the tractor up an incline or back the tractor down an incline because the front of the tractor could lift and rapidly flip over backward which could cause serious injury.
20. Reduce speed on slopes and in sharp turns to prevent tipping or loss of control. Always keep the tractor in low gear when going down steep hills to take advantage of engine braking action. Choose a low enough gear so that you will not have to stop or shift while on the slope.
21. Stay alert for holes in terrain and other hidden hazards which may cause the unit to tip over.
22. Use care when pulling loads or using heavy equipment.
 - A. Use only approved drawbar hitch points.
 - B. Limit loads to those you can safely control.
 - C. Do not turn sharply. Use care when backing.
 - D. Use counterweight(s) or wheel weights when suggested in owner's manual.
23. Watch out for traffic when crossing or near roadways.
24. When using any attachments, never direct discharge of material toward bystanders nor allow anyone near vehicle while in operation.
25. Handle fuel with care. It is highly flammable.
 - A. Use approved fuel container.
 - B. Never remove cap or add fuel to a running or hot engine or fill fuel tank indoors. Wipe up spilled fuel. Always use original type vented cap.

- C. Open doors if engine is run in garage. Exhaust fumes are dangerous. Do not run engine indoors.
- 26. Never store the machine with fuel in the fuel tank inside a building where ignition sources are present, such as hot water and space heaters, clothes dryers, and the like. Allow the engine to cool before storing in any enclosure.
- 27. To reduce fire hazard, keep engine and cutting deck free of grass, leaves or excessive grease.
- 28. Keep the vehicle and attachments in good operating condition, and keep safety devices in place. Use guards as instructed in operator's manual.
- 29. Keep all nuts, bolts and screws tight to be sure the equipment is in safe working condition.
- 30. The vehicle and attachments should be stopped and inspected for damage after striking a foreign object. The damage should be repaired before restarting and operating the equipment.
- 31. Do not change the engine governor settings or overspeed the engine.
- 32. When using the vehicle with mower, proceed as follows:
 - A. Mow only in daylight or in good artificial light.
 - B. Never make a cutting height adjustment while engine is running if operator must dismount to do so.
 - C. Shut the engine off and wait until the blade comes to a complete stop before removing the grass catcher.
 - D. Check blade mounting bolts for proper tightness at frequent intervals.
- 33. Check grass catcher bags frequently for wear or deterioration. For safety protection, replace only with new bag meeting original equipment specifications.
- 34. Look behind to make sure the area is clear before placing the transmission in reverse and continue looking behind while backing up. Disengage blades before shifting into reverse and backing up.
- 35. This unit should not be driven up a ramp onto a trailer or truck under power, because the unit could tip over, causing serious personal injury. The unit must be pushed manually to load properly.
- 36. Check brake operation frequently. Adjust and service according to brake adjustment instructions in this manual.

PRODUCT GRAPHICS

Keep safety product graphics (decals) clean. Replace any safety graphic that is damaged, destroyed,

missing, painted over or can no longer be read. Replacement safety graphics are available through your dealer.



 **CAUTION****LOOK!
BEFORE
BACKING**

RECEIVE INSTRUCTION — Read operator's manual. Learn to operate this machine **SAFELY**. Don't risk **INJURY** or **DEATH**.

1. Before starting engine or operation: Be familiar with controls. Be in operator's position with transmission in neutral, PTO engagement lever in the off position and brake depressed.
2. Keep shields in place. Keep away from moving parts.
3. **NO RIDERS!** Keep all people and pets a safe distance away.
4. Don't point mower discharge at people.
5. Avoid slopes. Tractors can be rolled over.
6. Before leaving operator's position:
Place the PTO engagement lever in the off position. Place transmission in neutral.
Set brake lock. Shut off engine. Remove ignition key. Wait for all movement to stop before servicing or cleaning.
7. Do not fill gasoline tank when engine is running or while engine is hot. Tighten cap securely.

3428 (200)

**GENERAL SAFETY INSTRUCTIONS CAUTION -
LOCATED ON THE FRAME COVER**

**CAUTION**

Electrical system is 12 volt negative ground. When using booster with jumper cables, precautions must be taken to prevent personal injury or damage to electrical parts.

1. Attach one end of jumper cable to positive terminal of booster battery and other end to positive terminal of vehicle battery.
2. Attach one end of second cable to negative terminal of booster battery and other end to vehicle frame away from battery.
3. To remove cables, reverse above sequence exactly to avoid sparks. See operator's manual for additional information.

MC

**CAUTION - BOOSTER BATTERY INSTRUCTIONS
LOCATED UNDER THE SEAT ASSEMBLY**

TO THE OWNER

Cub Cadet lawn tractors, Models 1015 and 1020, are shipped with 32-inch mower deck, Model 337. Contained in this manual are operation, lubrication, and maintenance instructions for this equipment. The material has been prepared in detail to help you better understand the correct care and efficient operation of your tractor. Before you operate the tractor, study this manual carefully. Additional copies may be ordered from your dealer at a nominal price.

Your local authorized dealer is interested in the performance you receive from your tractor. He has factory-trained servicemen, informed in the latest method of servicing tractors, modern tools, and original-equipment service parts which assure proper fit and good performance.



CAUTION

DO NOT tow your Model 1020 tractor. Towing or pushing for more than a few feet may damage the hydrostatic drive unit.

The *Cub Cadet* 1020 Tractor has a hydrostatic drive unit and will require minimum service if recommended operation and maintenance procedures are followed.

To obtain top performance and assure economical operation the tractor should be inspected, depending on its use, periodically, or at least once a year, by your authorized dealer.

When in need of parts, always specify the model, chassis, and engine serial numbers, including the prefix and suffix letters. Write these serial numbers in the space provided on this page.

Should you have difficulties with the unit, consult your authorized dealer. **UNDER NO CIRCUMSTANCES SHOULD YOU ATTEMPT TO SERVICE THESE UNITS YOURSELF.** Only your dealer is authorized to repair or replace units on this drive under the terms of the warranty. Should you desire additional information not found in this manual, contact your authorized *Cub Cadet* dealer.

SERIAL NUMBER LOCATION



NOTE

LEFT and RIGHT indicate the left and right sides of the tractor when facing forward in the driver's seat. Reference to FRONT indicates grille end of the tractor; to REAR the drawbar end.

Chassis serial number plate is on the left hand side of pedestal. (Refer to Figure 1.)

Engine serial number plate is located on the engine shroud. (Refer to Figure 2.)

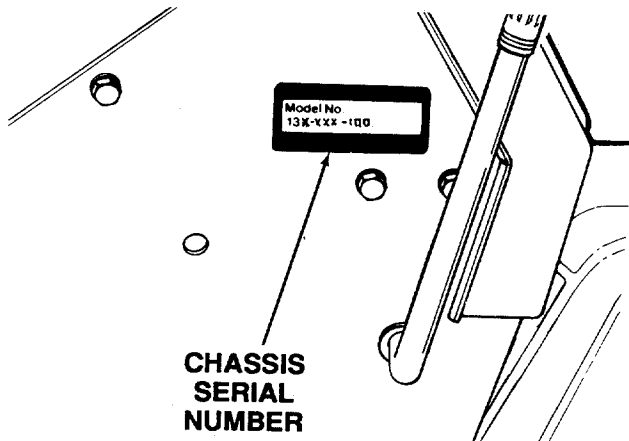


Figure 1

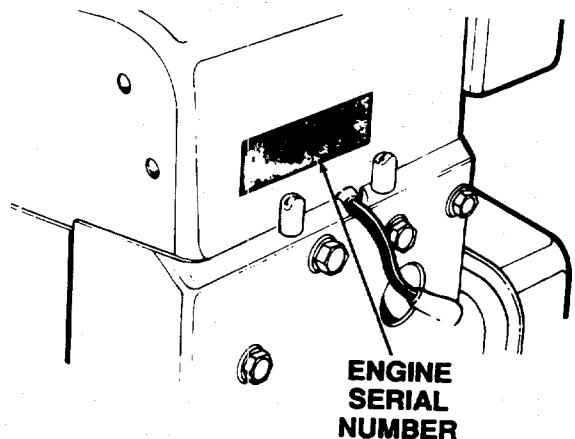


Figure 2

MODEL _____
DELIVERY DATE _____

SECTION I. CONTROLS

Your *Cub Cadet* Tractor has been safety engineered. Thoroughly acquaint yourself with all the instruments and controls before attempting to start or operate the tractor.

A. CHARGE INDICATOR

This instrument indicates whether the alternator is charging or the battery is discharging. If it shows discharge continuously, investigate the cause to avoid completely discharging the battery and possible damage to the charging circuit. (Refer to Figure 3.)

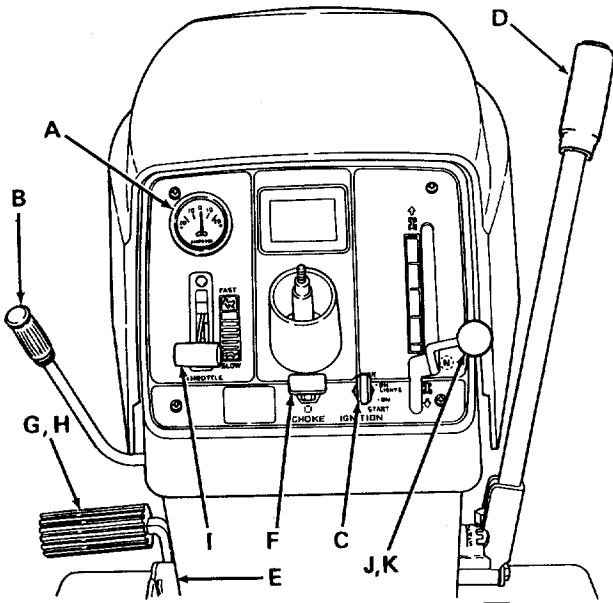


Figure 3

- A. Charge Indicator
- B. Power Take-Off (PTO) Engagement Lever
- C. Ignition Switch/Light Switch
- D. Lift Handle
- E. Brake Pedal Lock
- F. Choke Control
- G. Brake/Clutch Pedal (1015 Tractor)
- H. Brake Pedal (1020 Tractor)
- I. Throttle Control Lever
- J. Gear Shift Lever (1015 Tractor)
- K. Speed Control Lever (1020 Tractor)

B. POWER TAKE-OFF (PTO) ENGAGEMENT LEVER

The power take-off (PTO) engagement lever is located on the left side of the tractor pedestal. Placing the PTO engagement lever in the "ON" position directs power to a tractor attachment such as a mower deck or snow thrower. Placing the PTO engagement lever in the "OFF" position disengages power to the tractor attachment. Before the PTO engagement lever is

placed in the "ON" position, the throttle control (I, Figure 3) should be placed in the fast position.

C. IGNITION/LIGHT SWITCH



Remove the key from the tractor when the tractor is not in use to prevent accidental starting and battery discharge.

The combination lights and ignition switch is a four-position switch. (Refer to Figure 4.)

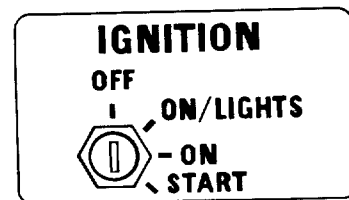


Figure 4

D. LIFT HANDLE

This lever is used to raise and lower equipment used with the tractor. The equipment can be set in six positions by depressing the button on the top of the lever and releasing it when the desired position is reached. (Refer to Figure 5).



An optional gas spring assist kit is available through your authorized *Cub Cadet* dealer, order part number 759-3266.

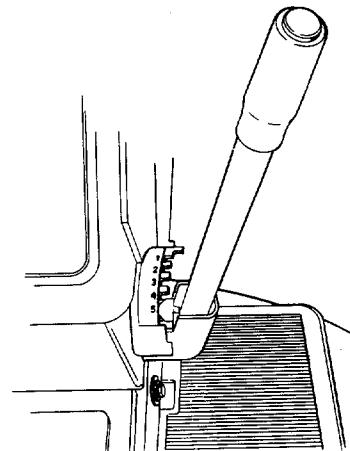


Figure 5

E. BRAKE PEDAL LOCK



WARNING

The hydrostatic transmission will not hold the tractor on a hill. In a short period of time (depending on the steepness of the hill) the oil will drain from the transmission and allow the tractor to roll downhill. To avoid an accident and/or possible injury, lock the brake.

Always lock the brake when tractor is parked on a grade. To lock the brake, depress brake/clutch pedal (1015 Tractor) or the brake pedal (1020 Tractor) and place the brake pedal lock in the engaged position. (Refer to Figure 6.) To disengage the lock, press down on the pedal, lift the lock up and place it in the disengaged position.

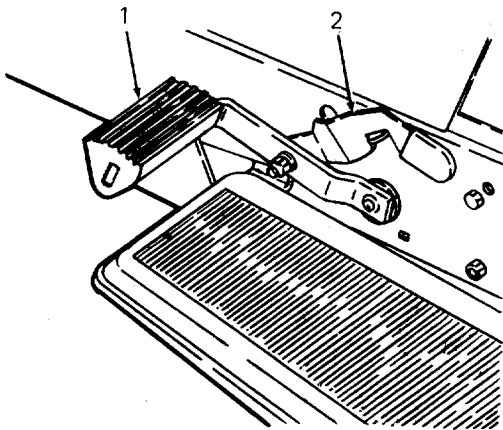


Figure 6

1. Brake/Clutch Pedal (1015 Tractor)
Brake Pedal (1020 Tractor)
2. Brake Pedal Lock

F. CHOKE CONTROL

The choke control is located on the instrument panel directly below the steering column. The choke control is operated manually. Pull knob out to choke engine. Push knob in to open choke. (Refer to Figure 3.)

G. BRAKE/CLUTCH PEDAL (1015 Tractor)

The brake/clutch pedal is located on the left side of the tractor. This pedal serves a dual purpose. When the brake/clutch pedal is slightly depressed, the drive belt is disengaged from the engine pulley. Fully depressing the brake/clutch pedal actuates the brakes to stop the tractor. (Refer to Figure 3.)

H. BRAKE PEDAL (1020 Tractor)

The brake pedal is located on the left side of the tractor. When the pedal is fully depressed, the speed control lever is automatically moved to the neutral position if the linkage is properly adjusted. (Refer to Figure 3.)

I. THROTTLE CONTROL LEVER

This lever controls the speed of the engine. When set in a given position, it will maintain a uniform engine speed. (Refer to Figure 3.)

When using power take-off operated equipment, best performance is achieved with the throttle lever in the "FAST" position.



"Turtle" This symbol shows slow position.



"Rabbit" This symbol shows fast position.

J. GEAR SHIFT LEVER (1015 Tractor)



Brake/clutch pedal should be slightly depressed before shift lever is moved.

The gear shift lever is located on the upper right hand side of the instrument panel. This lever is used to select various gear ratios provided in the transmission. There are five forward speeds and one reverse speed. Refer to "SPECIFICATIONS." (Refer to Figure 7.)

K. SPEED CONTROL LEVER (1020 Tractor)

The speed control lever is located on the upper right hand side of the instrument panel. Move the speed control lever forward for various forward tractor speeds or backward for various reverse tractor speeds. (Refer to Figure 8.)

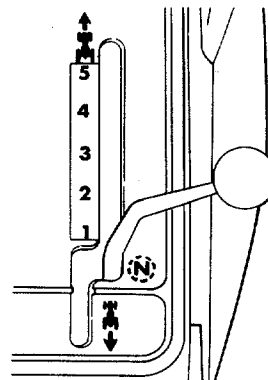


Figure 7

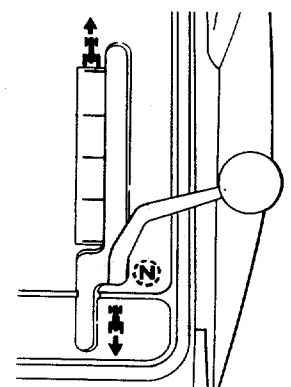


Figure 8

L. INTERLOCKS

This tractor is equipped with a safety interlock system for the protection of the operator. If the interlock system should ever malfunction, do not operate the tractor. Contact your authorized *Cub Cadet* dealer.

The safety interlock system prevents the engine from cranking or starting unless the brake/clutch pedal (1015 tractor) or brake pedal (1020 tractor) is fully depressed and the PTO engagement lever is in the "OFF" position.

When the operator leaves the seat, the safety interlock system will automatically shut off the engine unless all the following conditions are met: gear shift lever (1015 tractor) or speed control lever (1020 tractor) is in the neutral ("N") position; brake pedal lock is engaged; PTO engagement lever is in the "OFF" position.

If the unit is shifted into reverse when the PTO engagement lever is in the "ON" position, the safety interlock system will automatically shut off the engine. To restart the engine, depress brake/clutch pedal (1015 tractor) or brake pedal (1020 tractor), move PTO engagement lever to the "OFF" position, and restart the engine while seated.

M. HYDROSTATIC DUMP VALVE LEVER (1020 Tractor)

The hydrostatic dump valve lever is located on the frame cover.

The dump valve disconnects the transmission from the pump so the unit can be pushed without running.

1. To engage the dump valve (making the tractor free-wheeling), push the lever forward and hold in this position. (Refer to Figure 9.)

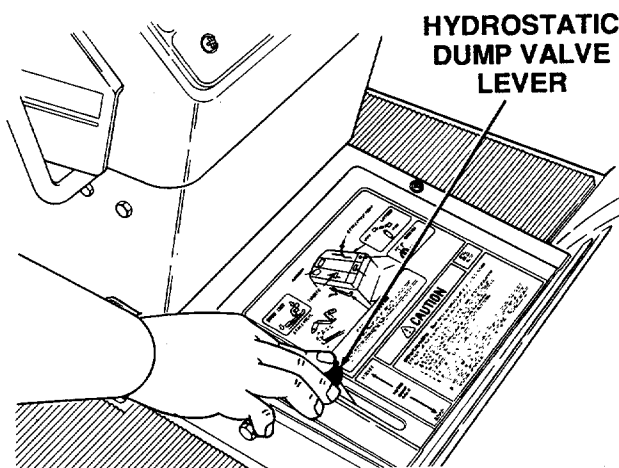


Figure 9

2. To disengage the dump valve, release the lever. (Refer to Figure 10.)

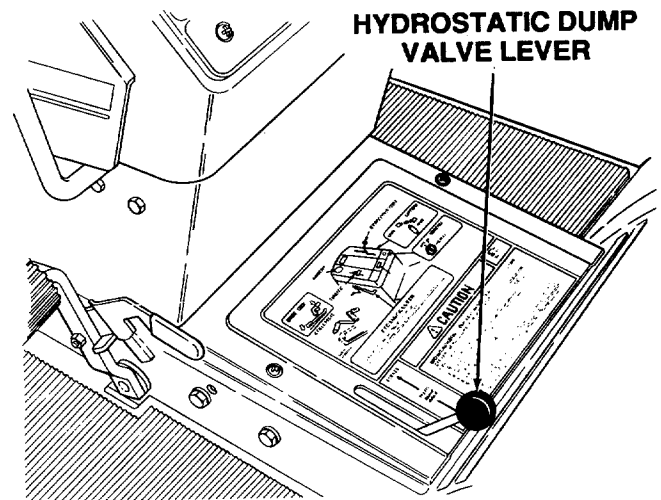


Figure 10

FUEL TANK

The fuel tank is on the pedestal under the hood. (Refer to Figure 11.)

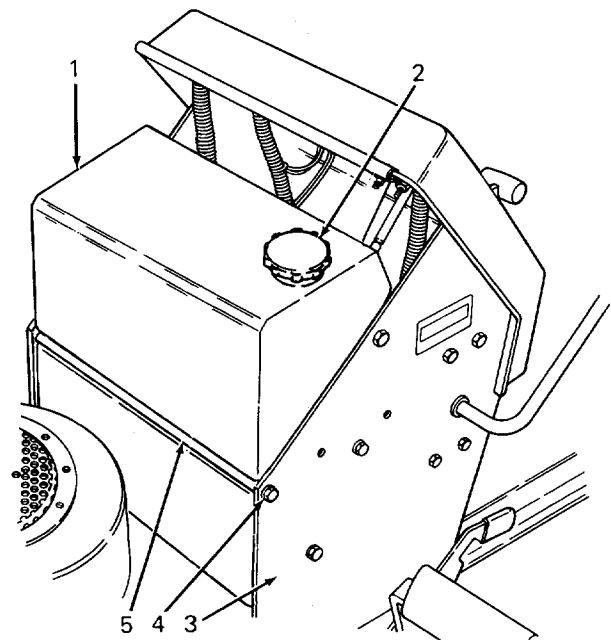


Figure 11

1. Fuel Tank
2. Fuel Tank Cap
3. Pedestal
4. Hex Tapp Screw
5. Tube

SECTION II. OPERATION

PRE-OPERATION CHECKLIST

1. Check oil level. The oil fill and dipstick are located on the right rear side of the engine. (Refer to Figure 12.)
2. Fill fuel tank with Regular or Unleaded gasoline.

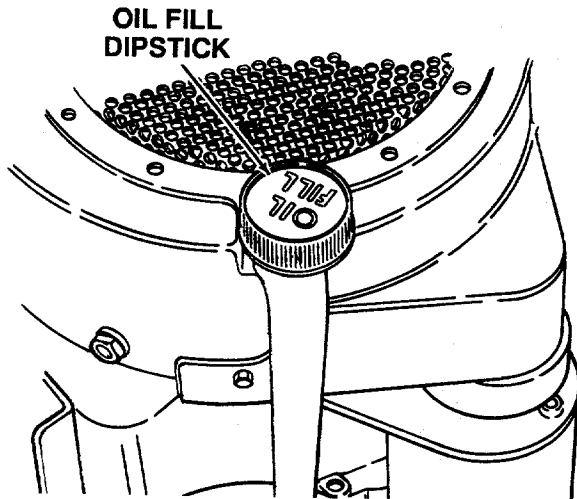


Figure 12

ENGINE OIL REQUIREMENTS

Cub Cadet Low Ash Engine Oil

Ambient Temperature	Viscosity (Grade SF or SG)
Above 40°F	SAE 30
0° to 100°F	SAE 10W30 or 10W40
Below 20°F	SAE 5W20 or 5W30

DO NOT USE: Synthetic oil, non-detergent oil or other non-recommended oils.

DO NOT MIX different brands of oil.

OIL DIPSTICK CHECKS

Dipstick should be checked before starting the unit EVERY TIME.

Dipstick markings indicate upper and lower limits at a cold oil condition.

Never overfill engine oil.

BEFORE OPERATING YOUR TRACTOR



The mower deck must be leveled according to "DECK LEVELING ADJUSTMENTS" located on page 25 of Section VI, MOWER DECK.



CAUTION

If the mower deck is not level, the mower will not cut your lawn evenly.

1. Before you operate the tractor study this manual carefully. It has been prepared to help you operate and maintain your tractor with utmost efficiency.
2. Familiarize yourself with the operation of all the instruments and controls.
3. Fill the tank with either lead-free, low-lead or regular gasoline. Make sure before you fill the tank that the gasoline is clean and fresh.
4. Check tire inflation pressures.
5. Adjust the seat for operator's maximum comfort, visibility and complete control of the tractor.
6. Refer to various sections of the Owner's Manual for additional information.

STARTING THE ENGINE



WARNING

Do not operate tractor if the interlock system is malfunctioning. It is a safety device designed for protection of the operator.



NOTE

This unit is equipped with a safety interlock system for your protection. The safety interlock system prevents the engine from cranking or starting unless the brake/clutch pedal (1015 tractor) or brake pedal (1020 tractor) is fully depressed and the PTO engagement lever is in the "OFF" position. When the operator leaves the seat, the safety interlock system will automatically shut off the engine unless all the following conditions are met: gear shift lever (1015 Tractor) or speed control lever (1020 Tractor) is in neutral ("N") position; brake pedal lock is engaged; PTO engagement lever is in the "OFF" position. If the unit is shifted into reverse when the PTO engagement lever is in the "ON" position, the safety interlock system will automatically shut off the engine. To restart the engine, depress brake/clutch pedal (1015 tractor) or

brake pedal (1020 tractor), move PTO engagement lever to the "OFF" position, and restart engine while seated.



WARNING

During operation do not run the engine in confined area such as storage building any longer than is necessary. Immediately move the tractor outside into the air.



WARNING

Operator must be seated before starting tractor.

1. Operator must be seated.
2. Pull choke control knob out to full choke position. Less choking may be necessary due to variations in temperature, grade of fuel, etc. Little or no choking will be needed when the engine is warm.
3. Place the throttle in the "START" (1/2-3/4 throttle) position. Never start engine at full throttle.
4. Place the PTO engagement lever in the "OFF" position.
5. Place the gear shift lever (1015 tractor) or speed control lever (1020 tractor) in neutral ("N").
6. Fully depress the brake/clutch pedal (1015 tractor) or brake pedal (1020 tractor).



NOTE

On the 1020 model tractors, the speed control lever will automatically return to neutral when the brake pedal is pressed all the way down, and the linkage is properly adjusted.

7. Turn the ignition key clockwise to the "START" position and release it as soon as the engine starts: however, do not operate the starter for more than 10 seconds at any one time. If the engine does not start within this time, turn the key "OFF" and wait a few minutes, then try again.
8. After the engine starts, slowly release the brake/clutch pedal (1015 Tractor) or brake pedal (1020 Tractor) and gradually push the choke control knob all the way in. Do not use the choke to enrich the fuel mixture, except as necessary to start the engine.

STOPPING THE ENGINE



CAUTION

Remove the key to prevent accidental starting and battery discharge if equipment is left unattended.

1. Return gear shift lever (1015 Tractor) or speed control lever (1020 Tractor) to neutral ("N"), engage the brake pedal lock and return the PTO engagement lever to the "OFF" position.
2. Move the throttle lever to the "SLOW" position and allow the engine to idle for a short time before stopping.
3. Then turn the key to the "OFF" position. Remove key from ignition switch.

COLD WEATHER STARTING



WARNING

During operation do not run the engine in confined area such as storage building any longer than is necessary. Immediately move the tractor outside into the air.



NOTE

In cold weather the starting motor may disengage prematurely. This is caused by the engine firing once but failing to continue running. If this happens several times, the engine will be flooded and it will be necessary to leave the throttle in the "SLOW" position but push the choke knob in all the way; then turn the ignition key to the "START" position and slowly pull the choke knob out to the position which will cause the engine to start and continue running. If the engine falters after putting tractor into motion, pull the choke knob out part way until the engine runs smoothly, then gradually push the choke back in as the engine warms.

Engine starting is possible in cold weather providing the correct weight of engine oil is used, the battery is fully charged, and the proper starting procedure is followed. The best procedure for starting at temperatures near or below freezing is as follows:



WARNING

Operator must be seated before starting tractor.

1. Operator must be seated.
2. Pull the choke knob all the way out to the full choke position.
3. Place the throttle in the "START" (1/2-3/4 throttle) position. Never start engine at full throttle.
4. Place the gear shift lever (1015 tractor) or speed control lever (1020 tractor) in neutral ("N"). Depress the brake/clutch pedal (1015 tractor) or brake pedal (1020 tractor) and place the PTO engagement lever in the "OFF" position.
5. Move the key switch into the "START" position and hold until the engine starts; however, do not operate the starter for more than 10 seconds at any one time. As soon as the engine starts, slowly push the choke knob in part way.

DRIVING THE TRACTOR (1015 Tractor)



CAUTION

DO NOT shift gears while the tractor is moving. The brake/clutch pedal must be pushed slightly down in order to change gears.



CAUTION

Do not leave the seat of the tractor without depressing the brake/clutch pedal, engaging the brake pedal lock, and placing the PTO engagement lever in the "OFF" position. If leaving the tractor unattended, also turn the ignition key off and remove the key.



CAUTION

Avoid sudden starts, excessive speed and sudden stops. Keep vehicle in gear when going down hills.



CAUTION

Do not rest your foot on the brake/clutch pedal while driving the tractor. This will lead to premature and excessive wear of the belt.



NOTE

When using power take-off (PTO) operated attachments, best performance is achieved with the throttle lever in the "FAST" position.

1. Disengage the drive belt by pressing the brake/clutch pedal all the way down, and release the brake pedal lock. Move the gearshift lever to the desired speed.
2. Start the tractor in motion by slowly releasing the brake/clutch pedal and moving the throttle lever to the position where the engine operates best for the load to be handled. If smooth engagement cannot be obtained, an adjustment to the clutch rod may be required.

DRIVING THE TRACTOR (1020 Tractor)



CAUTION

Avoid sudden starts, excessive speed, and sudden stops. Keep tractor in gear when going down hills.



CAUTION

Do not leave the seat of the tractor without depressing the brake pedal, engaging the brake pedal lock, and placing the PTO engagement lever in the "OFF" position. If leaving the tractor unattended, also turn the ignition key off and remove the key.



NOTE

When using power take-off (PTO) operated attachments, best performance is achieved with the throttle lever in the "FAST" position.

1. Depress the brake pedal and release the brake pedal lock. Move the throttle lever to the position where the engine operates best for the load to be handled. Release the brake pedal.
2. Start the tractor in motion by moving the speed control lever slowly forward or rearward to desired speed.

DRIVING ON SLOPES (Refer to "SLOPE GAUGE" on page 47 in order to help determine slopes where you may not operate safely.)



WARNING

Do not mow on inclines with a slope in excess of 15 degrees (a rise of approximately 2-1/2 feet every 10 feet). A tractor could overturn and cause serious injury.



WARNING

Operate tractors up and down slopes, never across slopes.



CAUTION

Always drive up or down the face of a slope. Do not drive so that the tractor may tip over sideways.

Before operating the tractor on any slope, walk the slope to look for possible hazards such as rocks, mounds, ruts, stumps or other surface irregularities which could cause an upset.

Back the tractor with implement up the steepest portion of each slope you intend to work. If the tractor cannot negotiate the slope in reverse, the slope is too steep to be worked.

Avoid turns when driving on a slope. If a turn must be made, turn down the slope. Turning up a slope greatly increases the chance of a roll over.

Avoid stopping when driving up a slope. If it is necessary to stop while driving up a slope, start up smoothly and carefully to reduce the possibility of flipping the tractor over backward.

STOPPING THE TRACTOR (1015 Tractor Only)



CAUTION

Always engage brake pedal lock, lower equipment and shut off engine before dismounting.

Fully depress the brake/clutch pedal. When tractor has stopped, raise brake/clutch pedal slightly and place gear shift lever in neutral ("N").

STOPPING THE TRACTOR (1020 Tractor Only)



CAUTION

Always engage brake pedal lock, lower equipment and shut off engine before dismounting.

Fully depress the brake pedal. When tractor has stopped, place the speed control lever in neutral ("N").



NOTE

On the 1020 model tractors, the speed control lever will automatically return to neutral when the brake pedal is pressed all the way down, and the linkage is properly adjusted.

OPERATING THE POWER TAKE-OFF (PTO) ENGAGEMENT LEVER

1. With the operator seated, and the engine running, move the throttle lever to the "FAST" position.
2. Push the PTO engagement lever forward to the "ON" position. (Refer to Figure 13.)
3. To disengage the PTO, move the PTO engagement lever to the "OFF" position.
4. PTO operated equipment cannot be operated while the tractor is in reverse. Before shifting into reverse, the PTO engagement lever must be returned to the "OFF" position (refer to Figure 13), or the tractor engine will automatically shut off.
5. The operator must remain in the tractor seat when the tractor is running and the PTO engagement lever is in the "ON" position. The PTO engagement lever must be placed in the "OFF" position before leaving the tractor seat, or the engine will automatically shut off.

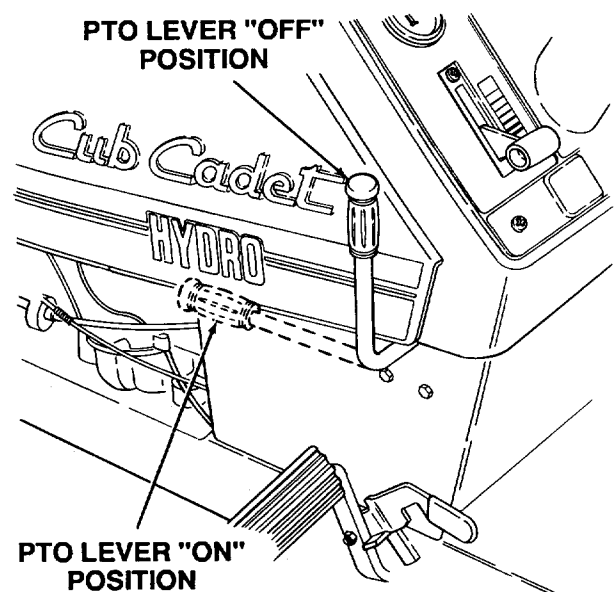


Figure 13

SECTION III. ADJUSTMENTS

This section contains adjustment information for Models 1015 and 1020 tractors. Adjustment information for the 32-inch mower deck is located on page 25 of Section VI, MOWER DECK.

ADJUSTING THE SEAT

Before starting the tractor, adjust the seat to the most comfortable driving position. Tilt the seat forward over the steering wheel, loosen the four adjustment bolts in the seat support, and slide the seat assembly forward or rearward to the position which is most comfortable for the operator. (Refer to Figure 14.)

Retighten the adjustment bolts after the seat is adjusted.

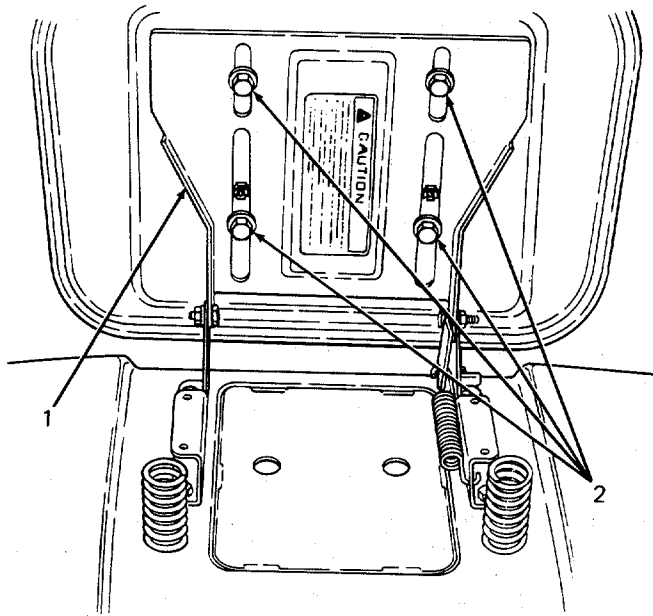


Figure 14

1. Seat Support
2. Adjustment Bolt

FRAME COVER REMOVAL

1. Remove two screws holding frame cover to frame in the step through area. (Refer to Figure 15.)
2. Remove ball knob from end of dump valve (on 1020 Tractor only).
3. Lift up and slide frame cover rearward from underneath the pedestal.
4. Reassemble frame cover using two screws.

CLUTCH ROD ADJUSTMENT (1015 Tractor)

Clutch rod adjustment is necessary when belt slippage occurs, or when brake/clutch pedal bottoms out on the

running board and does not return to the up position. If adjustment is needed, contact your authorized dealer.

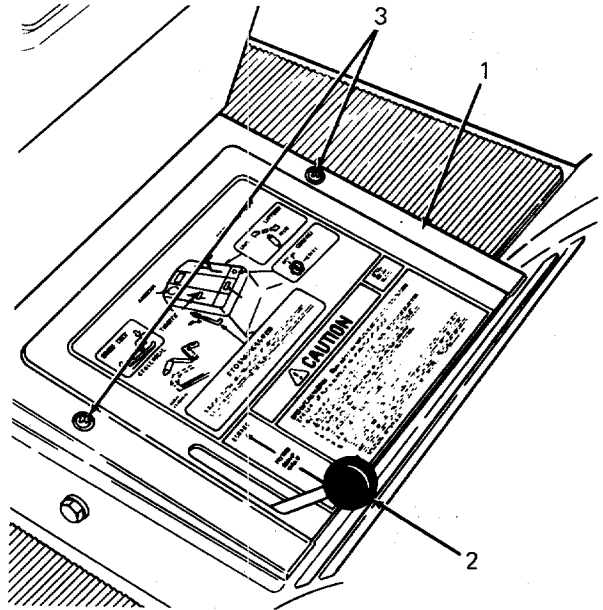


Figure 15

1. Frame Cover
2. Ball Knob (Model 1020 only)
3. Screw

ADJUSTING THE BRAKES (1015 Tractor)

During normal operation on this machine, the brakes are subject to wear and will require periodic examination and adjustment.

To check brake adjustment, position the tractor on a level surface, place the gear shift lever in neutral ("N") position and perform the following checks:

1. Engage the brake pedal lock. If the unit can be pushed forward or rearward, the brake force must be increased.
2. Release the brake pedal lock. If the unit cannot be pushed forward or rearward, brake force must be decreased.

Refer to the following instructions to increase or decrease brake force.

To increase brake force, refer to Figure 16 and proceed as follows:

1. Place the tractor on a level surface with the brake pedal lock disengaged.
2. Tighten the top lock nut 1/4 turn at a time until tractor free movement begins to bind. Then back off the top lock nut 1/4 turn.

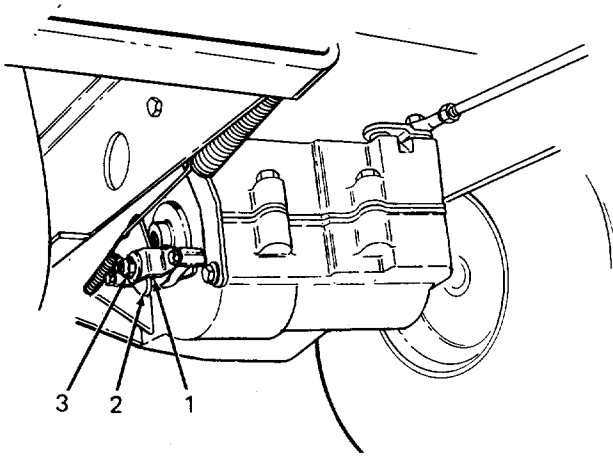


Figure 16

1. Stop Bolt
2. Cam Lever
3. Top Lock Nut



If the previously described brake adjustment does not result in efficient brake operation, proceed to step number 3.

3. Refer to Figure 17 and tighten the hex nut on the end of the brake rod, under the spring as follows: remove the hairpin cotter and flat washer from the other end of the brake rod to disconnect it, and tighten the hex nut.
4. Reconnect the brake rod and secure it with flat washer and hairpin cotter.

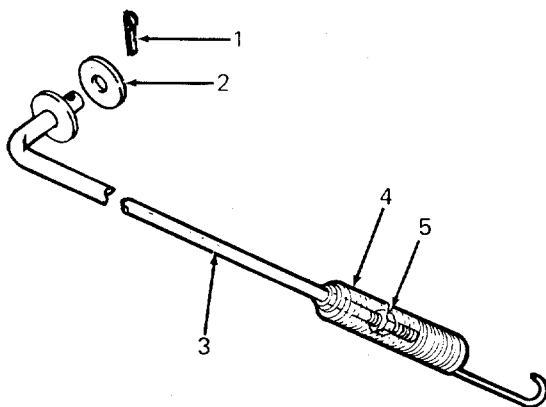


Figure 17

1. Hairpin Cotter
2. Flat Washer
3. Brake Rod
4. Spring
5. Hex Nut

Recheck the adjustment making certain correct adjustment is reached before operating the tractor.

To decrease brake force, refer to Figure 17 and proceed as follows:

1. Loosen the hex nut on the end of the brake rod under the spring as follows: remove the hairpin cotter and flat washer from the other end of the brake rod to disconnect it, and loosen the hex nut.



At least 3 threads on the end of the brake rod must remain visible following this adjustment.

2. Reconnect the brake rod and secure it with flat washer and hairpin cotter.

Recheck the adjustment making certain correct adjustment is reached before operating the tractor. If the tractor still cannot be pushed following this adjustment, and with the brake pedal lock released, see your authorized *Cub Cadet Dealer*.

ADJUSTING THE BRAKES (1020 Tractor)

During normal operation of this tractor, the brakes are subject to wear and will need periodic examination and adjustment.

To check the brake adjustment, place tractor on a level surface, and engage the hydrostatic dump valve so unit can be pushed. Perform the following checks:

1. Engage the brake pedal lock [when the brake pedal is fully depressed, and the linkage is properly adjusted, the speed control lever will automatically move to the neutral ("N") position]. If the unit can be moved forward or rearward, the brake force must be increased.
2. Release the brake pedal lock. If the unit cannot be moved forward or rearward, the brake force must be decreased.

Refer to the following instructions to increase or decrease brake force.

To increase the brake force, refer to Figure 18 and proceed as follows:

1. Place the tractor on a level surface, with the brake pedal lock disengaged.
2. While working from the rear of the tractor, turn the nut located on the end of the brake rod, clockwise one full turn at a time, until correct adjustment is achieved.

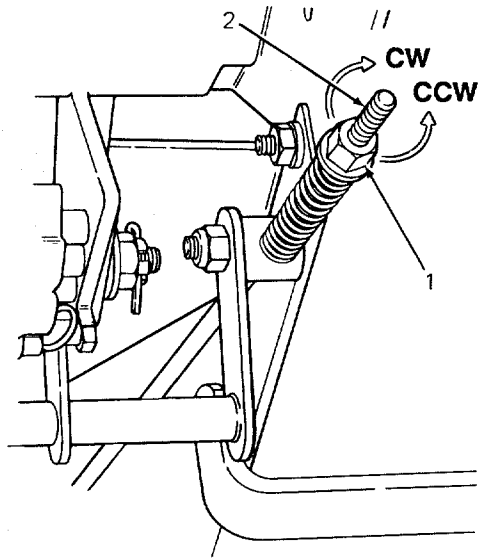


Figure 18

1. Nut
2. Brake Rod

Recheck the adjustment making certain correct adjustment is reached before operating the tractor. If the tractor can still be pushed with the brake pedal locked and dump valve engaged, see your authorized *Cub Cadet* dealer.

To decrease brake force, refer to Figure 18 and proceed as follows:

1. While working from the rear of the tractor, turn the nut located on the end of the brake rod, counterclockwise one full turn at a time, until correct adjustment is achieved.

Recheck the adjustment, making certain correct adjustment is reached before operating the tractor. Following this adjustment, release the brake pedal lock and engage the dump valve. If the tractor still cannot be pushed, see your authorized *Cub Cadet* Dealer.

HYDROSTATIC CONTROLS AND ADJUSTMENT (1020 Tractor)



CAUTION

On the 1020 model tractors, the speed control lever will automatically return to neutral when the brake pedal is pressed all the way down, and the linkage is properly adjusted. If this action fails to occur, contact your authorized *Cub Cadet* Dealer for immediate service.

The following adjustment may be necessary for the hydrostatic adjustment rod if the tractor creeps forward or rearward while the speed control lever is in the neutral ("N") position. Refer to Figure 19 and while working from rear of tractor with unit off, proceed as follows:

1. If the tractor creeps forward, loosen the jam nut and turn the hex on the control assembly counterclockwise until tractor creep is stopped. When correct adjustment is achieved, retighten jam nut.
2. If the tractor creeps rearward, loosen jam nut and turn the hex on the control assembly clockwise until tractor creep is stopped. When correct adjustment is achieved, retighten jam nut.



NOTE

If condition is not corrected after performing the above steps, see your authorized *Cub Cadet* Dealer for service.

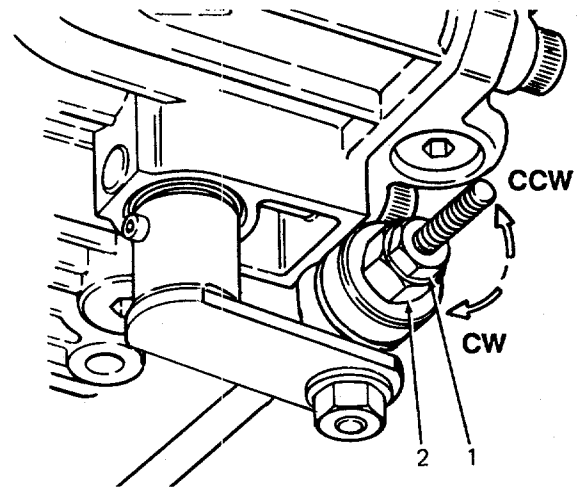


Figure 19

1. Jam Nut
2. Control Assembly

PIVOT BAR ADJUSTMENT BOLTS



CAUTION

The tractor must be checked every 50 hours of tractor operation for play between the front axle and the pivot bar adjustment bolts. Both adjustment bolt heads must fit against the front axle. If play is discovered, the pivot bar adjustment bolts must be adjusted.

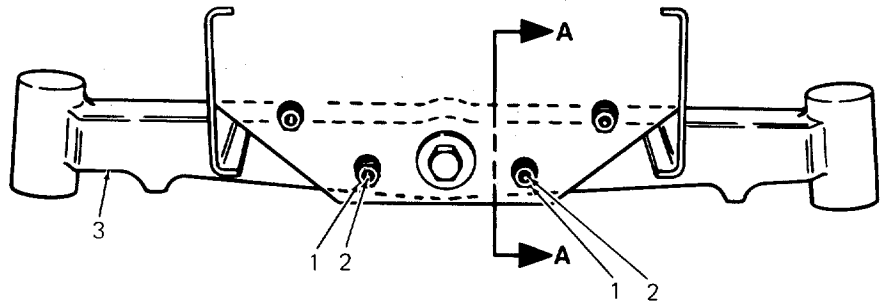
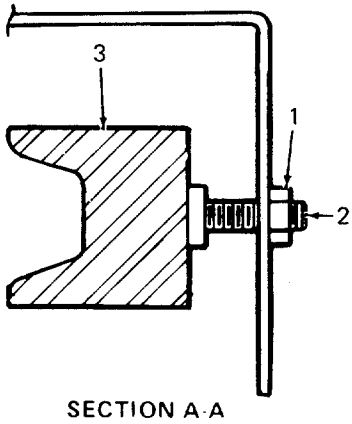


Figure 20

1. Jam Nut
2. Pivot Bar Adjustment Bolts
3. Front Axle

If play is discovered between the front axle and the pivot bar adjustment bolt heads, adjust both bolts as follows: (Refer to Figure 20.)

1. Loosen jam nut 3 to 4 turns or as required.
2. Turn pivot bar adjustment bolt counterclockwise until it hits against the front axle.
3. Tighten jam nut.
4. Repeat the above steps for the other pivot bar adjustment bolt.

WHEEL ALIGNMENT

The front wheels should toe-in approximately 1/8 inch.

Measure the distances A and B on the front wheels. (Refer to Figure 21.)



Dimension B should be approximately 1/8 inch less than dimension A.

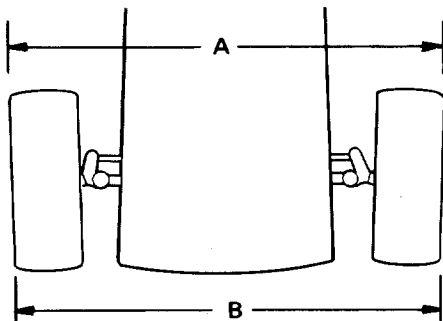


Figure 21

FRONT WHEEL ADJUSTMENTS

To adjust the toe-in remove one ball joint, loosen lock nuts "C" at the ball joint and turn the tie rod ball joint in or out as required. (Refer to Figure 22.)



NOTE

Tie rod has a bend in the center for clearance of castle nut on pivot bar. Bend must remain down as shown in Figure 22.

TURNING RADIUS



CAUTION

Be sure all parts are tightened after completing the following adjustment.

The front wheels should have an equal angle for left and right turns. If adjustment is necessary, remove ball joint and loosen lock nut "D." (Refer to Figure 22.) Turn the drag link ball joint clockwise or counterclockwise as required.

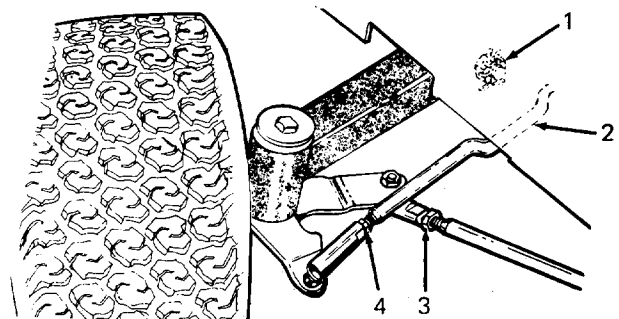


Figure 22

Tie Rod and Drag Link Ball Joints

1. Castle Nut at Pivot Bar
2. Bend in Tie Rod
3. Lock Nut "D"
4. Lock Nut "C"

CARBURETOR ADJUSTMENT



WARNING

If any adjustments are made to the engine while the engine is running (e.g. carburetor), disengage clutches and blades. Keep clear of all moving parts. Be careful of heated surfaces and mufflers.

Minor carburetor adjustment may be required to compensate for differences in fuel, temperature, altitude or load.



NOTE

The air cleaner must be assembled to carburetor when running engine.

To Adjust Carburetor (Refer to Figure 23)

1. Gently turn valves clockwise until they just close. Valves may be damaged by turning them too far.
2. Open needle valve 1-1/2 turns counterclockwise and idle valve one turn. This initial adjustment will permit the engine to be started and warmed up approximately 5 minutes prior to final adjustment.

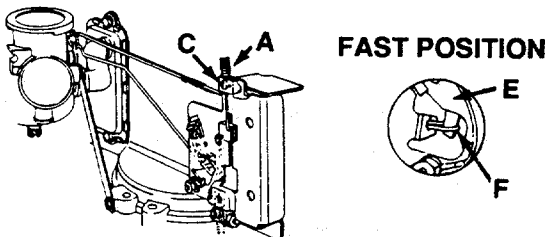
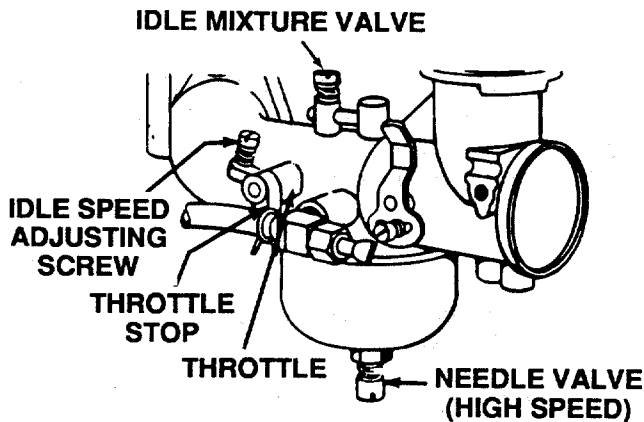


Figure 23

Final Adjustment

1. Place speed control lever in FAST position. Turn needle valve in until engine slows (clockwise—lean mixture). Then turn it out past smooth operating point (rich mixture).
2. Turn needle valve to midpoint between rich and lean. Adjust idle RPM. Rotate throttle counterclockwise and hold against stop while adjusting idle speed adjusting screw to obtain 1750 RPM.
3. Holding throttle against idle top, turn idle valve in (lean) and out (rich). Set at midpoint between rich and lean. Recheck idle RPM.
4. Release throttle. If engine will not accelerate properly, the carburetor should be re-adjusted, usually to a slightly richer mixture.

CONTROL ADJUSTMENTS

Proper choke and speed control operation is dependent upon proper adjustment of controls on the powered equipment.

To Check Operation

Move control lever to CHOKE position. The carburetor choke should be closed.

To Adjust Choke

Place control lever on equipment in CHOKE position. Refer to Figure 24. Loosen casing clamp screw. Move casing and wire until choke is completely closed. Tighten casing clamp screw.

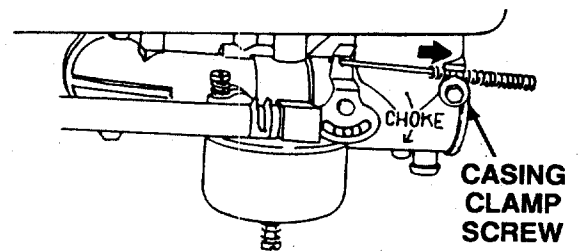


Figure 24

Throttle Control Adjustment

1. Place speed control lever on equipment in FAST (high speed) position. Loosen casing clamp screw "C." Move casing "A" and wire until lever "E" touches link at "F." Tighten casing clamp screw "C."
2. Move control to STOP position. Lever must make good contact with stop switch.

SECTION IV. MAINTENANCE

This section contains maintenance information for Models 1015 and 1020 tractors. Maintenance information for the 32-inch mower deck is located on page 34 of Section VI, MOWER DECK.

ENGINE OIL

The engine crankcase is filled with ship-away oil. This oil may be used for the first 5 hours of engine operation at temperatures between 0 degrees F and 90 degrees F. If temperatures are not within this range, drain the oil from the crankcase and replace with new oil as specified in the "LUBRICATION TABLE." The engine oil must be drained and replaced with new oil every 25 hours of engine operation.

To aid starting, the selection of crankcase lubricating oils should be based on the lowest anticipated temperatures until the next drain period.

Cub Cadet Low Ash Engine Oil meeting API Service Classification SF or SG is recommended. For maximum engine life select API SF or SG oils with lowest levels of barium, calcium, or magnesium additives and minimum ash content (approximately 0.5%). Lubricant suppliers will normally furnish this information on their engine oils.

Multi-viscosity numbered oils such as SAE 10W-30 or SAE 10W-40 can be used above 32 degrees Fahrenheit.

OIL LEVEL CHECK

Before each use, the oil level of the engine crankcase should be checked to see that it is filled to correct level. Close monitoring of the oil level during the first 10 hours of operation of the engine is especially important. Always keep the oil level between the "FULL" and the "LOW" marks on the dipstick. When checking the oil level the dipstick must be withdrawn and wiped clean, then inserted all the way and withdrawn for a true reading.

NOTE

Check the oil level only while the engine is stopped and tractor is level.

NOTE

The engine oil level should be checked prior to every use.

FILLING THE CRANKCASE

To fill the crankcase with oil, place the tractor on a level surface. Clean the area around the oil fill tube

and dipstick to prevent debris from entering the crankcase.

NOTE

Never overfill the engine crankcase. Engine may overheat and/or damage may result if the crankcase is below the "LOW" mark or over the "FULL" mark. For oil capacity refer to the **SPECIFICATIONS** and **LUBRICATION TABLE** sections.

Remove the oil fill cap and dipstick and fill to the full mark on the dipstick. **POUR SLOWLY.** The oil capacity is 3 pints. When checking the oil level, push the dipstick assembly firmly but slowly until cap bottoms on tube. **DO NOT OVERFILL.** Dipstick assembly **MUST BE PUSHED FULLY INTO TUBE AT ALL TIMES WHEN ENGINE IS OPERATING.**

OIL CHANGE PROCEDURE

NOTE

The engine oil should be changed after the first 5 hours of operation.

Refer to the **MAINTENANCE CHART** and the **LUBRICATION TABLE** for information regarding the frequency of oil change and the quantity and type of oil needed. While the engine oil is warm, proceed as follows:

WARNING

Oil may be hot. Use care to avoid burns from hot oil.

1. Place the tractor on a level surface, and engage brake pedal lock. Remove the drain plug and collect the old oil in an adequate container. (Refer to Figure 25.)
2. Replace the drain plug.
3. Refer to **FILLING THE CRANKCASE** and **LUBRICATION GUIDE** and refill the crankcase.

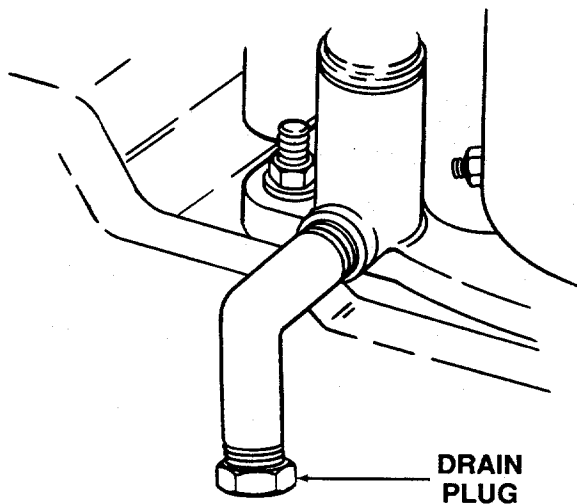


Figure 25

AIR CLEANER

Service air cleaner at three month intervals or every 25 hours, whichever occurs first.



Service more often under dusty conditions. (Refer to Figure 26).

1. Remove two cover knobs and remove air cleaner cover.
2. Remove foam pre-cleaner.
 - A. Wash pre-cleaner in liquid detergent and warm water to remove dirt.

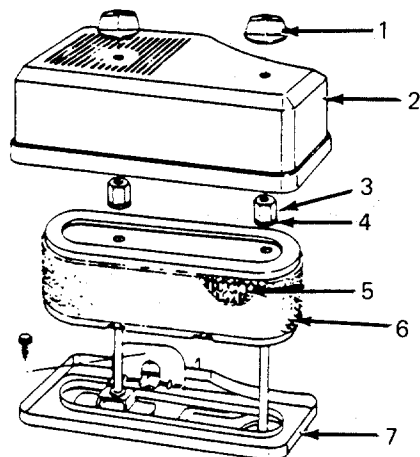


Figure 26

- | | |
|-------------------|---------------------|
| 1. Cover Knobs | 5. Cartridge |
| 2. Cover | 6. Foam Pre-Cleaner |
| 3. Cartridge Nuts | 7. Air Cleaner Base |
| 4. Fiber Washer | |

- B. Wrap pre-cleaner in cloth and squeeze dry.
- C. Saturate foam in engine oil. Squeeze to remove excess oil.
3. Remove the two nuts from top of cartridge.
4. Remove cartridge and clean air cleaner body carefully to prevent dirt from entering carburetor. Brush dirt from lower air cleaner body into duct.
5. Clean cartridge by tapping gently on flat surface.
 - A. If very dirty, replace cartridge or wash in a low or non-sudsing detergent and warm water solution.
 - B. Rinse thoroughly from inside out until water is clear.
 - C. Cartridge must be allowed to stand and air dry thoroughly before using.
6. Reassemble air cleaner.

Properly cleaned and installed air cleaner elements significantly contribute to prolonged engine life.



CAUTION

Petroleum solvents, such as kerosene, are not to be used to clean cartridge. They may cause deterioration of the cartridge. Do not oil cartridge. Do not use pressurized air to clean or dry cartridge.

CLEANING ENGINE

This tractor has an air-cooled engine. Air must be able to circulate freely around the engine, through the screen, shroud, and over the fins of the cylinder head and cylinder block. Keep these areas free of accumulated dirt and trash or engine will overheat and result in damage to moving parts.

SPARK PLUGS



WARNING

To avoid possible injury, be sure engine is off and cool before making any adjustment or repairs.



Remove all dirt from around the spark plugs before removing.

To remove spark plugs, always use a spark plug wrench. Check gap after every 100 hours of operation.

Replace a defective plug with a new plug. Set gap at .030 inch. (Refer to Figure 27.) Tighten plug to 10-15 ft-lbs. See your authorized dealer for the correct replacement plug.

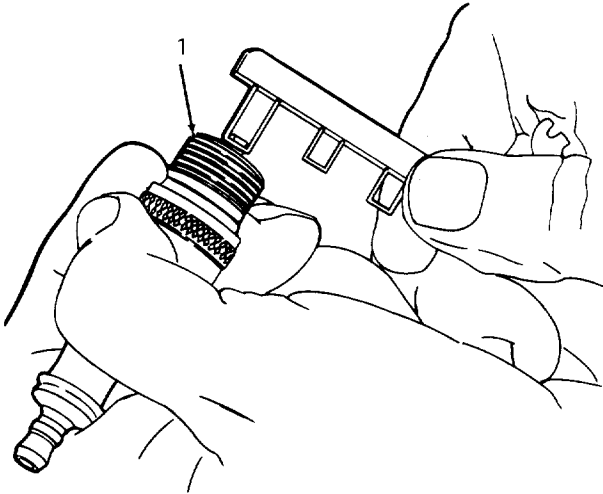


Figure 27

1. Spark Plug

CLEANING OF CYLINDER HEADS

Cleaning of the cylinder heads should only be done by your authorized *Cub Cadet* Dealer. This process is to be done to keep your engine properly cooled and at its peak efficiency. The frequency of cleaning is dependent upon the type of fuel used. When leaded fuel is used the cleaning interval is more frequent than with unleaded fuel. The cylinder head should also be cleaned more frequently when the unit is run under a constant load. The cleaning interval is from 100 to 300 hours.

FIVE SPEED TRANSMISSION (1015 Tractor)

The transmission is lubricated and sealed at the factory and does not require checking. If disassembled for any reason, lubricate with 30 ounces of Bentonite grease, available at your authorized *Cub Cadet* Dealer.

HYDROSTATIC TRANSAXLE (1020 Tractor)

This is a sealed unit. It should only be serviced by an authorized *Cub Cadet* Dealer.

DRIVE BELT REPLACEMENT

If drive belt replacement is required, contact your authorized *Cub Cadet* Dealer.

BATTERY INFORMATION



WARNING

- A. Battery acid must be handled with great care as contact with it can burn and blister the skin. It is also advisable to wear protective clothing (goggles, rubber gloves and apron) when working with it.*
- B. Should battery acid accidentally splatter into the eyes or onto the face, rinse the affected area immediately with clean cold water. If there is any further discomfort, seek prompt medical attention.
- C. If acid spills on clothing, first dilute it with clean water, then neutralize with a solution of ammonia/water or baking soda/water.
- D. Since battery acid is corrosive, do not pour it into any sink or drain. Before discarding empty electrolyte containers, rinse them with a neutralizing solution.
- E. NEVER connect or disconnect charger clips to battery while charger is turned on as it can cause sparks.
- F. Keep all lighted materials (cigarettes, matches, lighters) away from the battery as the hydrogen gas generated during charging can be combustible.
- G. As a further precaution, only charge the battery in a well-ventilated area.

* Always shield eyes and protect skin and clothing when working near batteries.



DANGER

BATTERIES CONTAIN SULFURIC ACID AND MAY CONTAIN EXPLOSIVE GASES (when electrolyte has been added).

KEEP BATTERIES OUT OF THE REACH OF CHILDREN.

MAINTENANCE OF BATTERY

1. Check electrolyte level periodically (at least every two weeks). Keep the level to the split rings. Use only distilled water or a good quality drinking water. Never add acid or any other chemicals to the battery after initial activation.

2. The battery should be checked with a hydrometer after every 25 hours of operation. If the specific gravity is less than 1.225, the battery should be recharged. Maximum charge rate 5 amps.
3. Coat the terminals and exposed wire with a thin coat of grease or petroleum jelly for longer service and protection against corrosion.
4. The battery should be kept clean. Any deposits of acid should be neutralized with baking soda and water. Be careful not to get this solution in the cells.
5. Avoid tipping the battery. Even a "sealed" battery will leak electrolyte when tipped.

STORAGE OF THE BATTERY

1. When storing battery for extended periods, disconnect battery cables. Removing battery from unit is recommended.
2. Keep the exterior of the battery clean, especially the top. A dirty battery must be stored with a full charge. A dirty battery will discharge itself.
3. Check the battery with a hydrometer. The battery must be stored with a full charge. A discharged battery will freeze.

Specific Gravity	Freezing Point
1.265	-71°F
1.250	-62°F
1.200	-16°F
1.150	5°F
1.100	16°F



All batteries discharge during storage.

4. Recharge battery whenever the specific gravity is less than 1.225, before returning to service or every two months, whichever comes first.

COMMON CAUSES FOR BATTERY FAILURE

1. Overcharging
2. Undercharging
3. Lack of water

4. Loose hold downs and/or corroded connections
5. Excessive loads
6. Battery electrolyte substitutes
7. Freezing of electrolyte



These failures do not constitute warranty.

BATTERY REMOVAL OR INSTALLATION



When removing the battery, follow this order of disassembly to prevent your wrench from shorting against the frame.

1. Remove the Negative cable.
2. Remove the Positive cable.

To install a battery:

1. Attach the Positive cable.
2. Attach the Negative cable.

JUMP STARTING



Failure to use this starting procedure could cause sparking, and the gases in either battery could explode.

1. Attach the first jumper cable from the positive terminal of the good battery to the positive terminal of the dead battery.
2. Attach the second jumper cable from the negative terminal of the good battery to the FRAME OF THE UNIT WITH THE DEAD BATTERY.

TIRES

Keep the pneumatic tires properly inflated. Overinflation will cause operator discomfort. Underinflation will cause short tire life.

Inflate the front and rear tires for normal or heavy load operations as shown in the following table:

Tire Size	Pounds per Square Inch
Front Tires 15 x 6-6	12
Rear Tires 18 x 8.5-8	10

Always see that the tire valve caps are in place and tightened securely to prevent loss of air and protect the valve core and stem.

Do not overload the tractor tires by mounting equipment on the tractor which exceeds the load capacity of the size of the tires on the tractor.

MOUNTING TIRES ON THE RIM

After mounting a new or old tire on the rim, inflate it to 20 pounds pressure to seat the tire bead on the rim flange. Then deflate the tire to the correct operating pressure.



After the first 10 hours of operation, check and retorque the front wheel bolts to 35 ft-lbs. and rear wheel bolts to 23 ft-lbs. to make sure they have seated properly.

SECTION V. OFF-SEASON STORAGE

If the machine is to be inoperative for a period longer than 30 days, the following procedures are recommended:



WARNING

Never store engine with fuel in tank indoors or in poorly ventilated enclosures, where fuel fumes may reach an open flame, spark or pilot light as on a furnace, water heater, clothes dryer, etc.

1. Remove all gasoline from fuel tank to prevent gum deposits from forming on these parts and causing possible malfunction of engine.

Run engine until engine starts to falter, then use choke to continue engine operation until all fuel in tank and carburetor is exhausted. Remove fuel line at tank or carburetor and drain any remaining gasoline from system.



WARNING

Drain fuel into approved container outdoors, away from open flame.

Fuel left in engine during warm weather deteriorates and will cause serious starting problems.

2. Remove spark plug and pour one (1) ounce of engine oil through spark plug hole into cylinder. Crank engine several times to distribute oil. Replace spark plug.
3. Clean the engine and the entire tractor thoroughly.
4. Lubricate all lubrication points and wipe the entire machine with an oiled rag in order to protect the surfaces.
5. Follow battery storage instructions on page 23.
6. Protect tires and seat from sunlight. Inflate tires at regular intervals.

SECTION VI. MOWER DECK

This section contains adjustment, removal and installation, and maintenance information for the 32-inch mower deck, Model 337.

A. ADJUSTMENTS

LIFT STOP ASSEMBLY ADJUSTMENT

1. Lift stop assembly is located on right side of tractor under the foot rest. Refer to Figure 28 for a detailed view.

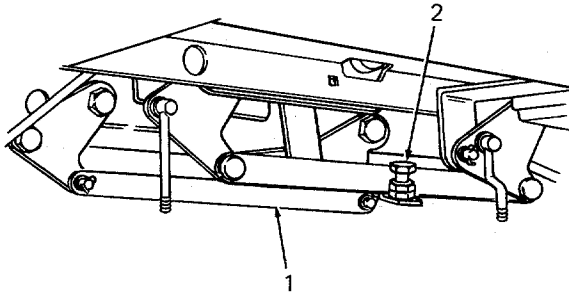


Figure 28

1. Lift Stop Assembly
2. Stop Bolt

2. Raise the lift handle to its highest setting, make sure the head of the stop bolt is touching the frame. (See Figure 29.)

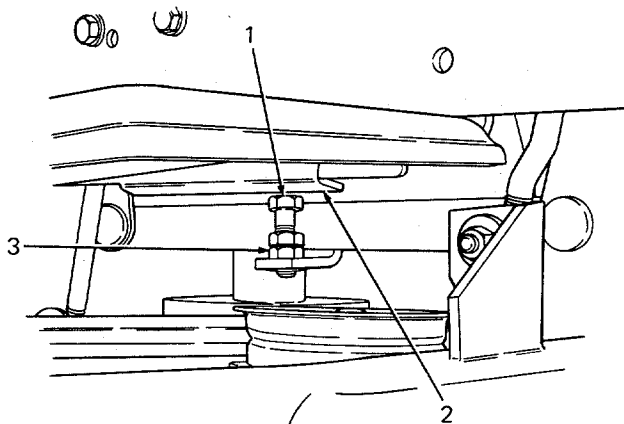


Figure 29

1. Stop Bolt
2. Frame
3. Jam Nut

3. If necessary loosen jam nut and turn bolt until it touches frame. Tighten jam nut.

DECK LEVELING ADJUSTMENTS

In order to achieve even cutting, the mower deck must be properly leveled. This leveling procedure will result in the left and right blades having corresponding front cutting-edge-to-ground measurements within 1/16 inch. Also, the right and the left blades will each have a 1/16 to 1/8 inch downward tilt toward the front of the tractor. Proceed as follows:



WARNING

Before making any adjustments, turn off the machine, remove the key, and engage the brake pedal lock to avoid accidental starting and injury.



WARNING

When adjusting the mower deck, be careful not to cut yourself on the sharp blades.



CAUTION

If the mower deck is not level, the mower will not cut your lawn evenly.



NOTE

Check the tires for proper inflation before making a level adjustment. To level the deck, the tractor **MUST** be placed on a hard, level surface.

1. The gauge wheels should be set to the lowest position as described in "GAUGE WHEEL ADJUSTMENT" located on page 27.
2. Place the lift handle in the highest setting.
3. Disconnect the spark plug wire(s).

- Position the mower blades so that the ends of each blade face the front and rear of the tractor. (Refer to Figure 30.)

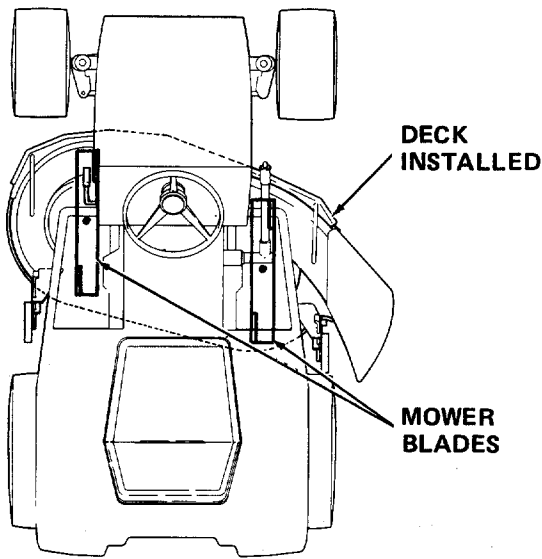


Figure 30

- Refer to Figure 31. Measure and record the distance from the hard, level surface to the CUTTING EDGE at the front and rear of each of the blades. Hereafter, these measurements will be referred to as the cutting-edge-to-ground distances.
- Determine which blade has the highest front cutting-edge-to-ground distance. Adjustments designed to place the front cutting-edge-to-ground measurements of the two blades within 1/16 inch of one another are performed on the blade which has the highest recorded front cutting-edge-to-ground measurement.
- Begin by placing the lift handle in position number 1. Refer to Figure 32 and remove the hairpin cotter and flat washer which secure the front lift link to the lift carriage lift pin. Remove the front lift link from the lift carriage lift pin.

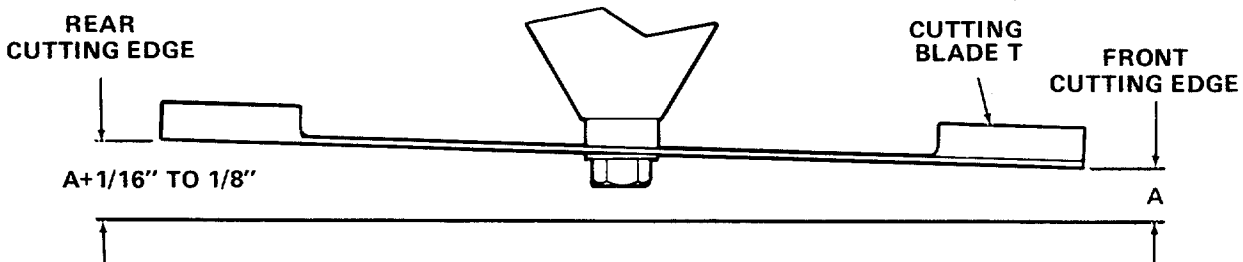


Figure 31

- Turn the lift link counterclockwise (out of the ferrule), until the front cutting-edge-to-ground distance on the high blade is equal to the corresponding blade measurement on the opposite side of the deck. Each 360 degree turn of the lift link equals approximately 1/16 inch.
- Reposition the front lift link onto the lift carriage lift pin, and secure with a flat washer and hairpin cotter.
- Place the lift handle in position number 6, and remeasure the front cutting-edge-to-ground distance on the high blade. If it is within 1/16 inch of the corresponding measurement on the opposite blade, proceed to step 11. If the two measurements are not within 1/16 inch, repeat steps 6, 7, 8, 9, and 10 until the desired measurement is achieved.
- With the lift handle in position number 6, repeat and record the blade measurements described in step 5. Refer to your recorded cutting-edge-to-ground measurements. Each of the two blades must have a downward tilt toward the front of the tractor. A proper tilt is achieved when a blade's rear cutting-edge-to-ground measurement (measurement A+, Figure 31) is 1/16 to 1/8 inch higher than that blade's front cutting-edge-to-ground measurement (measurement A, Figure 31). If a proper tilt does not exist for one or both of the blades, refer to step 12.
- Place the lift handle in position number 1. Working on side of the deck corresponding to the blade being adjusted, refer to Figure 32 and remove the hairpin cotter and flat washer securing the rear lift link to the lift carriage lift pin. Remove lift link from the lift pin.
- Rotate the lift link into or out of the ferrule to achieve the 1/16 to 1/8 inch downward tilt of the blade. Each 360 degree rotation of the lift link equals approximately 1/16 inch. Clockwise rotation of the lift link increases the tilt; counterclockwise rotation decreases the tilt.

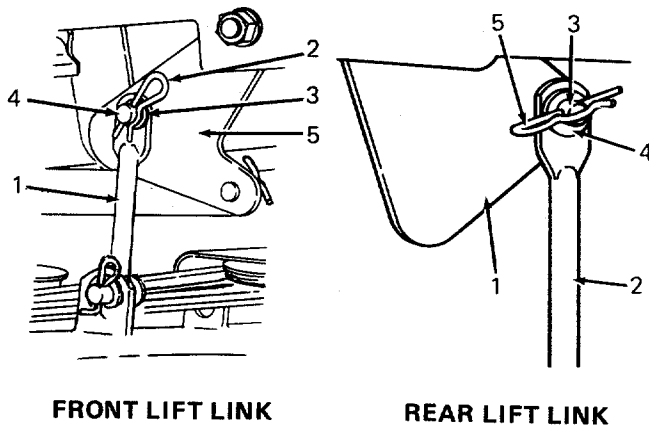


Figure 32

- | | |
|--------------------|-------------------|
| 1. Front Lift Link | 1. Lift Carriage |
| 2. Hairpin Cotter | 2. Rear Lift Link |
| 3. Flat Washer | 3. Lift Pin |
| 4. Lift Pin | 4. Flat Washer |
| 5. Lift Carriage | 5. Hairpin Cotter |

14. Reposition the rear lift link onto the lift carriage lift pin. Secure with a flat washer and hairpin cotter.
15. Place the lift handle in the highest setting. Remeasure the front and the rear cutting-edge-to-ground distances to confirm that the proper blade tilt, as described in step 11, has been achieved. If the proper tilt has not been achieved, repeat steps 11, 12, 13, 14 and 15.

GUAGE WHEEL ADJUSTMENT



Gauge wheel adjustment should be done only **AFTER** the deck has been properly adjusted.

In order to adjust the height of gauge wheels, refer to Figure 33 and proceed as follows:

1. Remove the hex nut and lock washer from the shoulder bolt holding the gauge wheel to the deck.
2. Resecure the gauge wheel in the hole that will produce the desired height.



Both gauge wheels must be adjusted to the same height. Uneven gauge wheel height adjustment will result in uneven cutting.

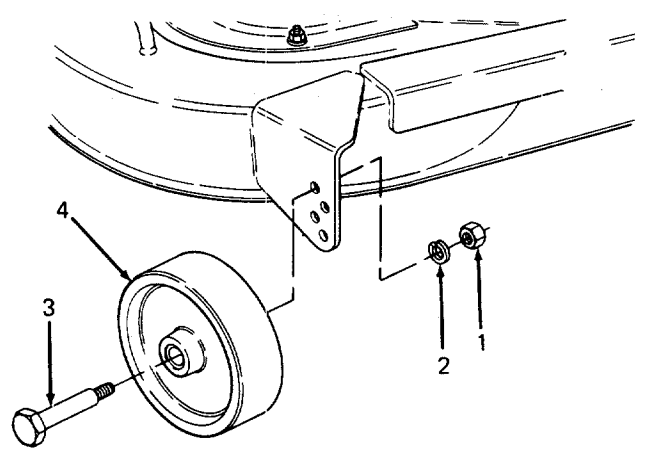


Figure 33

- | | |
|----------------|------------------|
| 1. Hex Nut | 3. Shoulder Bolt |
| 2. Lock Washer | 4. Gauge Wheel |

DOUBLE DRIVE PULLEY BELT GUARD ADJUSTMENT

1. Remove the frame cover by removing two screws holding the frame cover to the frame in the step through area. (Refer to Figure 34.)
2. Remove the ball knob from end of dump valve. (Model 1020 only.) (Refer to Figure 34.)

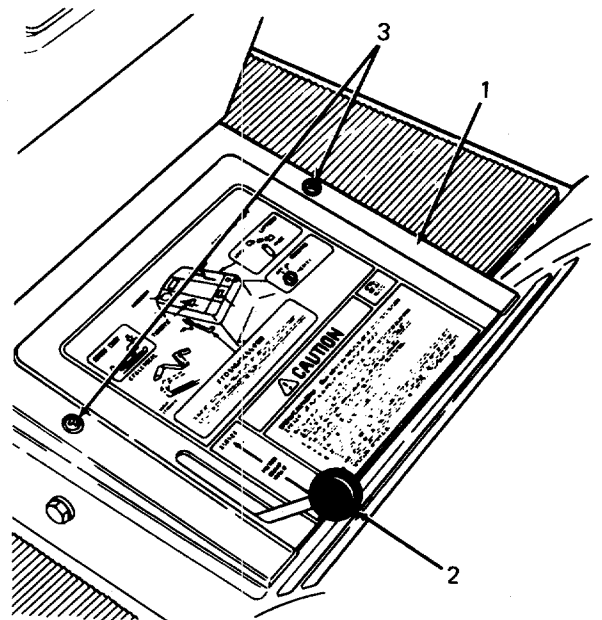


Figure 34

- | |
|----------------|
| 1. Frame Cover |
| 2. Ball Knob |
| 3. Screw |

- Lift up and slide frame cover rearward from underneath the pedestal.
- Place the PTO engagement lever in the "ON" position. (Refer to Figure 35.)

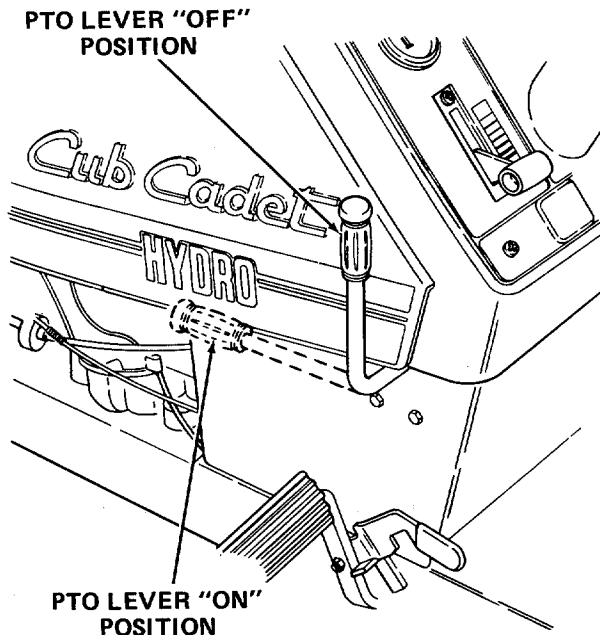


Figure 35

- Place the tractor lift handle in position 3 or 4 as shown on the lift height indicator.
- While sitting on the tractor seat, look through the frame and locate the deck double drive pulley and belt guard. The double drive pulley belt guard should be positioned so that the PTO drive belt is the same distance (approximately 1/4 inch) from each edge of the belt guard. (Refer to Figure 36.)
- If adjustment is required, the bolt holding the belt guard and double drive pulley to the deck should be loosened only until belt guard can be moved. Retighten the bolt and recheck the belt guard position as in step 6.

NOTE

Do not completely loosen the bolt since the double drive pulley is under spring tension.

- Reassemble the frame cover using the two screws and reinstall the ball knob to the dump valve handle if necessary.

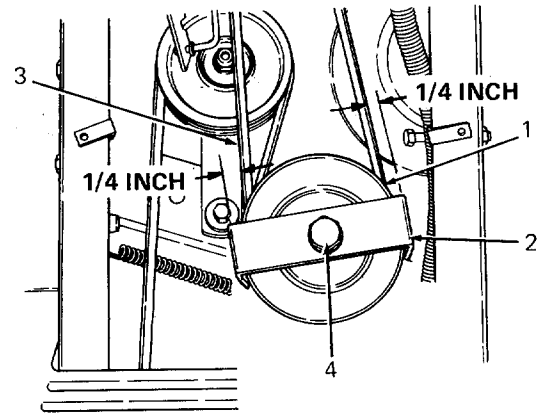


Figure 36

- Double Drive Pulley
- Double Drive Pulley Belt Guard
- PTO Drive Belt
- Bolt

DECK BRAKE ROD ADJUSTMENT

- Place the PTO engagement lever in the "OFF" position. (Refer to Figure 35.)
- Place the tractor lift handle in position 3 or 4 as shown on the lift height indicator.
- While working from the left side of the tractor, locate the deck brake rod under the tractor. (Refer to Figure 37.)

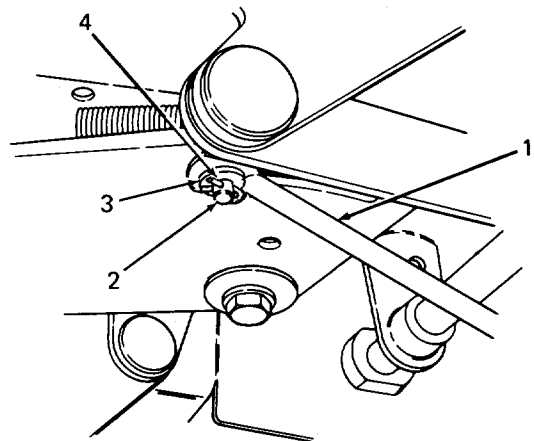


Figure 37

- Brake Rod
- Clutch Rod
- Flat Washer
- Hairpin Cotter

4. Remove the brake rod from the clutch rod by removing the hairpin cotter and the flat washer. (Refer to Figure 37).
5. Place the brake rod ferrule to the rear of the slot in the brake bracket assembly. (Refer to Figure 38.)
6. Turn the brake rod into (to shorten) or out of (to lengthen) the brake rod ferrule until the hole in the brake rod engages the clutch rod. (Refer to Figure 38.)

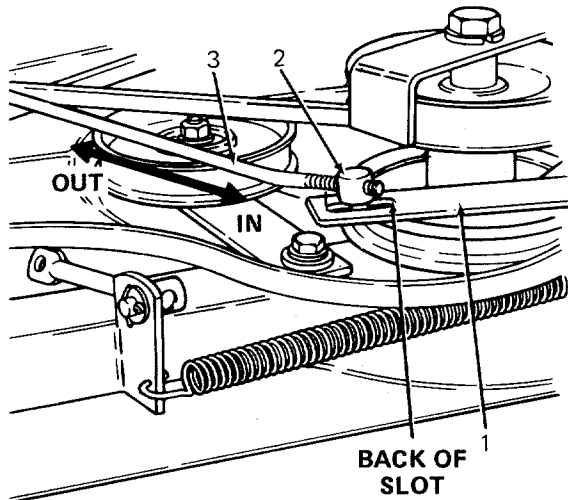


Figure 38

1. Brake Bracket Assembly
2. Ferrule
3. Brake Rod

7. Shorten the brake rod 3 complete turns to allow for proper clearance in the slot of the brake bracket assembly.



CAUTION

The brake rod must be positioned outside and to the left of the PTO drive belt.

8. Place the brake rod on the clutch rod. Secure with the flat washer and hairpin cotter.

B. REMOVAL AND INSTALLATION OF DECK ASSEMBLY

REMOVAL OF DECK



WARNING

Stop the tractor engine, place the PTO engagement lever in the "OFF" position, place all controls in neutral and engage the brake pedal lock before performing deck removal.



WARNING

When handling the mower deck, be careful not to cut yourself on the sharp blades.



CAUTION

The mower deck must be placed on a hard level surface during removal.



NOTE

When removing the mower deck from the tractor, save all retaining hardware such as hairpin cotters and flat washers. These items will be used again when deck is reinstalled on the tractor.

1. Lower the lift handle to its lowest setting.
2. Work from the left side of the tractor and remove the brake rod from the clutch rod by removing the hairpin cotter and flat washer. (Refer to Figure 37.)



NOTE

Be sure that PTO engagement lever is in the "OFF" position before removing the PTO drive belt.

- Remove the PTO belt from the idler pulley as follows: Pull loop on idler pulley belt guard away from the idler pulley and remove PTO belt from the pulley. (Refer to Figure 39.)

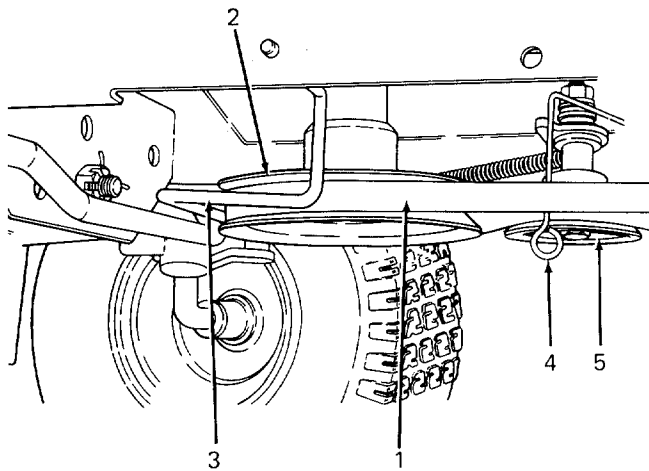


Figure 39

- PTO Drive Belt
- Engine Drive Pulley
- Engine Drive Pulley Belt Guard
- Idler Pulley Belt Guard
- Idler Pulley

- Remove PTO belt from engine drive pulley as follows: Push the engine drive pulley belt guard upward and toward the front of the tractor and remove the PTO belt from the pulley. (Refer to Figure 39.)



WARNING

The mower deck and front hanger assembly will spring forward slightly when the hanger assembly is removed from the front hanger bracket.

- Turn the front wheels to the left as far as possible. Remove the front hanger bracket assembly from the front hanger bracket as follows: Remove two hairpin cotters on right side of tractor hanger rod and slide rod out to the left. (Refer to Figure 40.)
- Remove the front hanger bracket from the front roller bracket as follows: Remove hairpin cotter and flat washer, then remove the deck hanger rod. (Refer to Figure 41.)

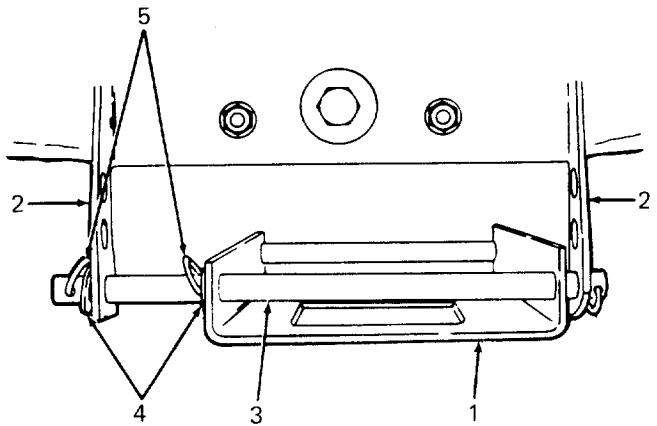


Figure 40

- Front Hanger Assembly
- Front Hanger Bracket
- Tractor Hanger Rod
- Flat Washer
- Hairpin Cotter

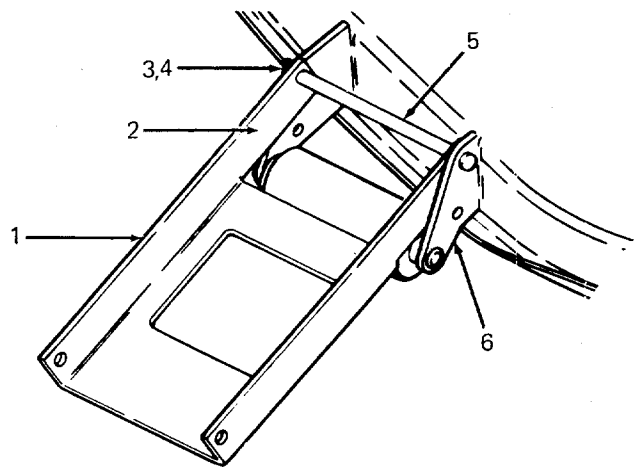


Figure 41

- Front Hanger Assembly
- Hanger Extension
- Hairpin Cotter
- Flat Washer
- Deck Hanger Rod
- Front Roller Bracket

- Remove the four lift links from the lift carriage lift pins as follows: Lift the deck slightly by hand and remove the hairpin cotter and flat washer which secure each lift link to the lift pins. (Refer to Figures 42 and 43.)

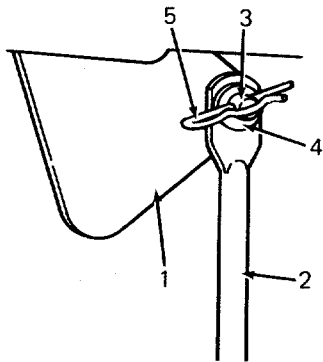


Figure 42

1. Lift Carriage
2. Rear Lift Link
3. Lift Pin
4. Flat Washer
5. Hairpin Cotter

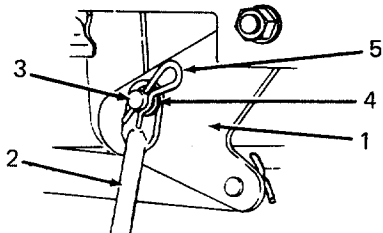


Figure 43

1. Lift Carriage
2. Front Lift Link
3. Lift Pin
4. Flat Washer
5. Hairpin Cotter

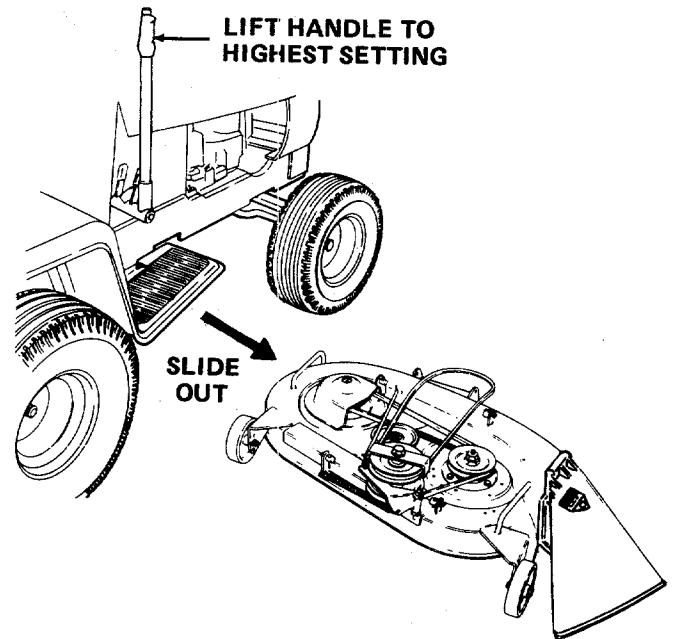


Figure 44



WARNING

Stop the tractor engine, place the PTO engagement lever in the "OFF" position, place all controls in neutral and engage the brake pedal lock before performing deck installation.



WARNING

When handling the mower deck, be careful not to cut yourself on the sharp blades.



WARNING

The mower deck must be placed on a hard level surface during installation.

8. Raise the lift handle to the highest setting and slide the deck out from under the tractor. (Refer to Figure 44.)

INSTALLATION OF DECK



WARNING

Install this deck only on lawn tractors equipped with manual PTO deck engagement lever.



NOTE

When installing the mower deck, use hairpin cotters and flat washers retained when deck was removed from tractor.

1. Raise the lift handle to its highest setting. Refer to Figure 45 and place the deck on the right side of the tractor, with the front of the deck facing toward the front of the tractor. Slide the deck under the tractor until it is aligned with the tractor as illustrated in Figure 46.

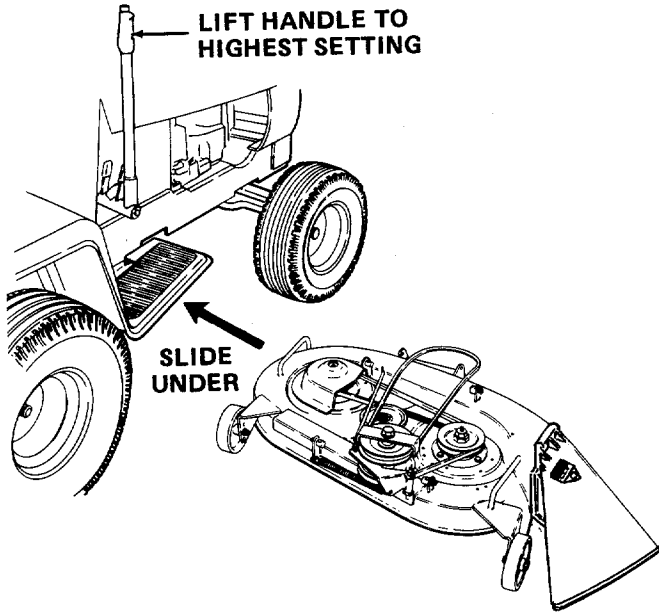


Figure 45

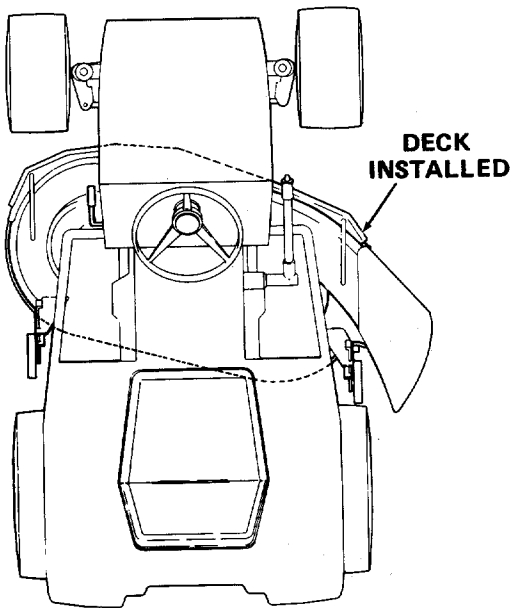


Figure 46

2. Lower the lift handle to its lowest setting. Secure each of the rear lift links to the lift carriage lift pins using a flat washer and hairpin cotter. (Refer to Figure 47.)

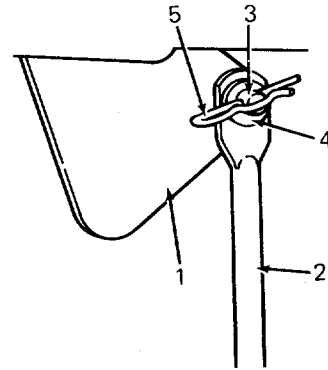


Figure 47

1. Lift Carriage
2. Rear Lift Link
3. Lift Pin
4. Flat Washer
5. Hairpin Cotter

3. Secure each of the front lift links to the lift carriage lift pins using a flat washer and hairpin cotter. (Refer to Figure 48.)

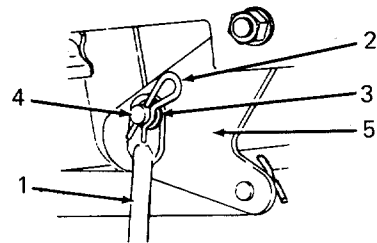


Figure 48

1. Front Lift Link
2. Hairpin Cotter
3. Flat Washer
4. Lift Pin
5. Lift Carriage

4. Refer to Figure 49 to determine the proper positioning of the front hanger assembly in relation to the tractor and deck. Note that when the front hanger assembly is properly positioned, the hanger extensions face the rear of the tractor,

and the top of the front hanger assembly is open. Attach the rear of the front hanger assembly to the top hole of the front roller bracket using the deck hanger rod. Secure the rod to the bracket using a flat washer and hairpin cotter.

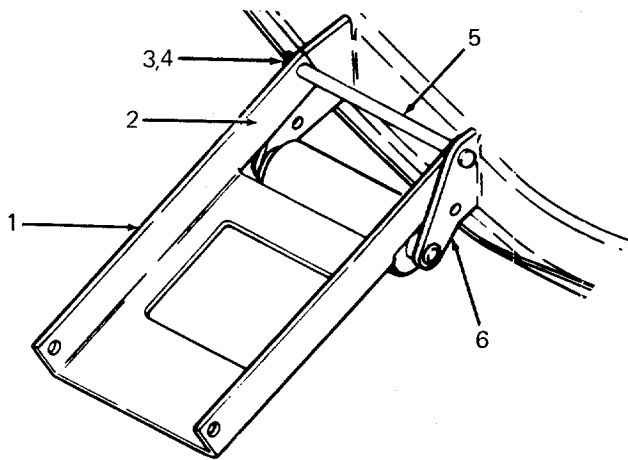


Figure 49

1. Front Hanger Assembly
2. Hanger Extension
3. Hairpin Cotter
4. Flat Washer
5. Deck Hanger Rod
6. Front Roller Bracket

5. With the left front wheel turned to the left, attach the front hanger assembly to the front hanger bracket by passing the tractor hanger rod through the bottom mounting holes of the front hanger bracket. Remember to attach the center flat washer to the rod after it passes through the right side of the front hanger assembly. Refer to Figure 50. Secure the tractor hanger rod with flat washer and hairpin cotters.
6. With the PTO engagement lever in the "OFF" position, install the PTO drive belt while working from the left side of the tractor. Push the engine drive pulley belt guard upward and toward the front of the tractor to allow the belt to be installed on the engine drive pulley. (Refer to Figure 51.)
7. To install the PTO drive belt to the idler pulley, pull the loop on the idler pulley belt guard away from the idler pulley. Slide the belt onto the idler pulley and release the idler pulley belt guard. (Refer to Figure 51.)

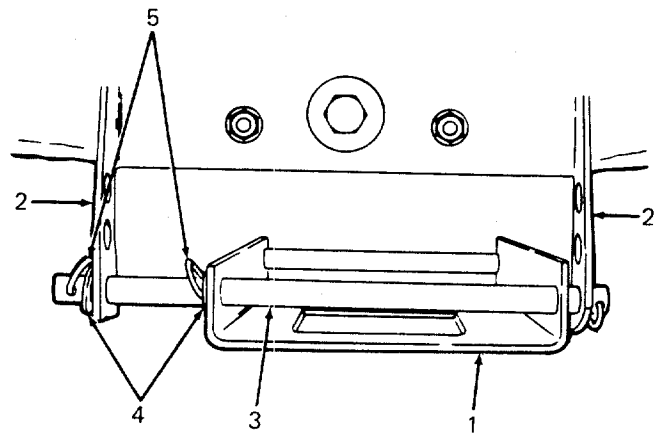


Figure 50

1. Front Hanger Assembly
2. Front Hanger Bracket
3. Tractor Hanger Rod
4. Flat Washer
5. Hairpin Cotter

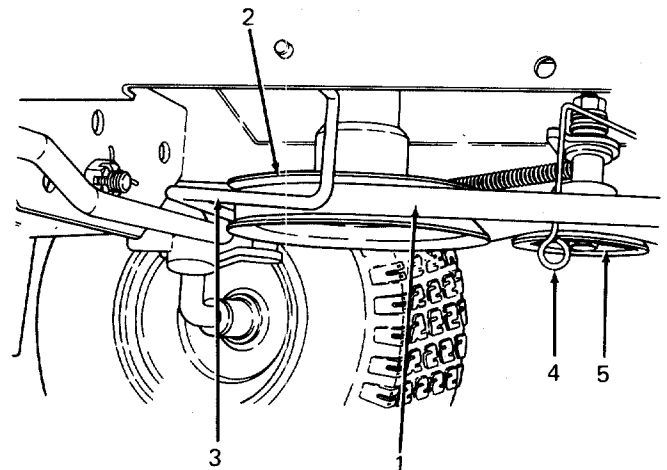


Figure 51

1. PTO Drive Belt
2. Engine Drive Pulley
3. Engine Drive Pulley Belt Guard
4. Idler Pulley Belt Guard
5. Idler Pulley

NOTE

The deck brake rod must be positioned outside and to the left of the PTO drive belt when installing the PTO drive belt.

- Place the brake rod on the clutch rod. Secure with a flat washer and hairpin cotter. (Refer to Figure 52.)

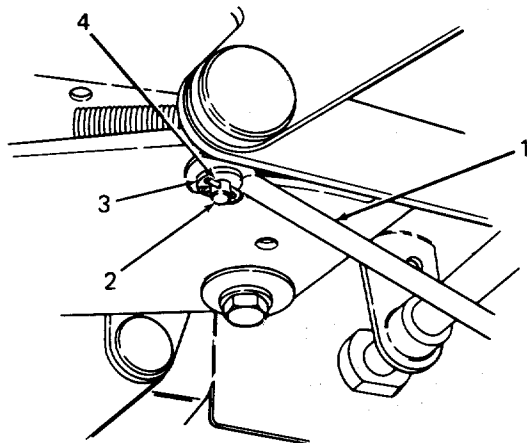


Figure 52

- Brake Rod
- Clutch Rod
- Flat Washer
- Hairpin Cotter



CAUTION

Following mower deck installation, and **BEFORE** operating the deck, refer to "ADJUSTMENTS" located on page 25.

C. MAINTENANCE

CLEANING AND BLADE CARE



WARNING

Stop the tractor, place the PTO engagement lever in "OFF" position, place all controls in neutral, engage the brake pedal lock and stop the engine before performing any maintenance.



WARNING

Be careful not to cut yourself when sharpening the blades or cleaning the underside of the mower.

Clean the underside of the mower deck at the end of the mowing season and when buildup of cut material on the underside is noticed. Also remove the belt cover and remove any accumulation.

The cutting blades must be kept sharp at all times.



NOTE

Sharpen ends evenly so that the blades remain balanced and the same angle of sharpness is maintained. However, if the cutting edge of a blade has been sharpened to within 3/8 inch of the wind wing, it is recommended that new blades be installed. New blades are available at your authorized dealer.

When removing the blades, hold the hex shaped pulley hub with a 1-1/4 inch socket wrench to remove the hex nut holding the blade. A block of wood may be placed between housing and cutting edge of blade to assist in removal of hex nut securing blade. Refer to Figure 53.

After replacing blades, grease the threaded end of the shaft to prevent rust buildup.

When replacing the blades, be sure they are assembled so the cutting edges are in the direction of rotation with the wind wings pointed upward. Tighten the nuts to 90 to 110 ft-lbs. (122 to 149 N·m).



NOTE

If the spindle pulley nuts are removed for any reason, they should be retightened to 50 to 60 ft-lbs. (68 to 81 N·m) torque when replaced.

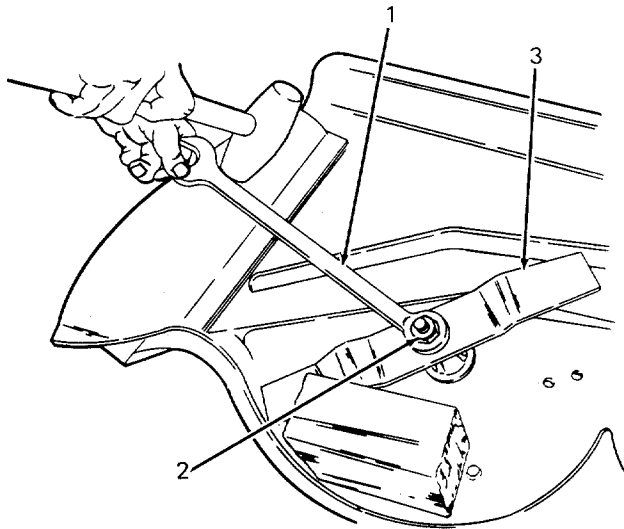
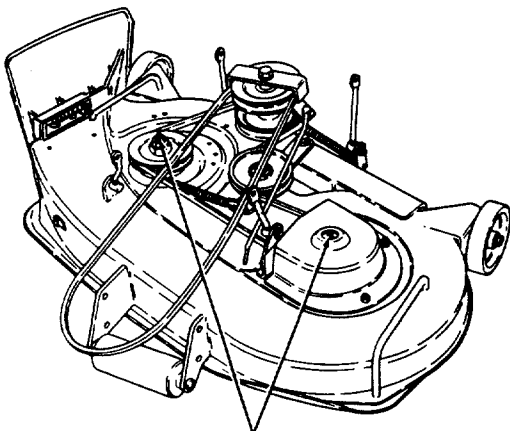


Figure 53

1. 1-1/8 Inch Wrench
2. Hex Nut
3. Blade

LUBRICATION

After every 50 hours of operation and/or before putting into winter storage, lubricate the spindle assemblies using 251H EP grease or equivalent No. 2 multipurpose lithium grease. The grease will be expelled from the top spindle seal. Since the spindle pulley covers the top spindle seal, the expelled grease cannot be seen. When the spindle is fully greased, the expelled grease will cause the top spindle seal to give off a muffled crackling noise. Refer to Figure 54.



SPINDLE ASSEMBLY
GREASE FITTINGS

Figure 54

BELT REPLACEMENT

Before replacing the spindle drive belt or the front PTO drive belt, the mower deck must be removed from the tractor. Refer to "REMOVAL OF DECK ASSEMBLY" on page 29. Remove mower deck and proceed as follows:

Spindle Drive Belt Replacement

1. Remove the nuts and washers that secure the spindle belt cover to the deck. Remove the spindle belt cover.
2. Refer to Figure 55. Move the flat idler pulley to the left in order to relieve tension on the belt, and remove the spindle drive belt from the flat idler pulley.

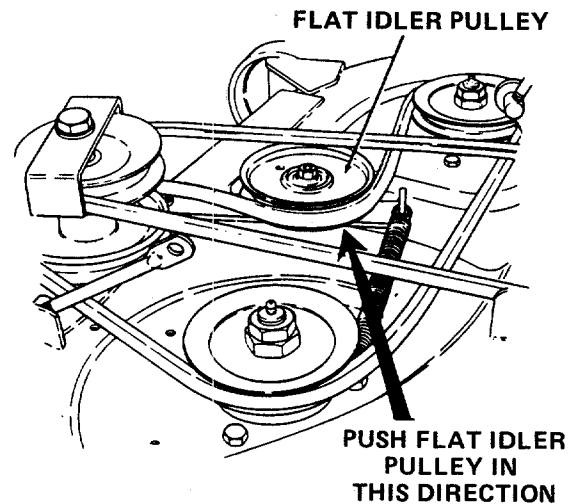
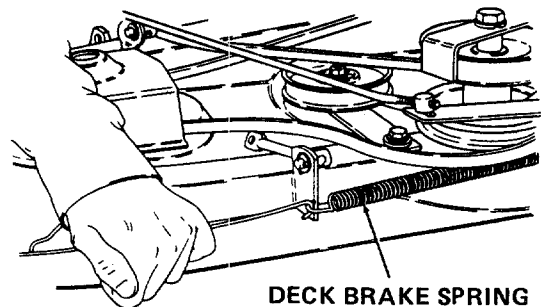


Figure 55

3. Refer to Figure 56. Release the deck brake spring from its attachment to the left, rear deck bracket. Swing the brake bracket assembly toward the right side of the deck to allow the belt to be removed.



DECK BRAKE SPRING

Figure 56

4. Refer to Figure 57 and remove the spindle drive belt from the double drive pulley and from the spindles.
5. Remove the spindle drive belt and replace with a new belt. Installation of the spindle drive belt is essentially the reverse of the removal process described in steps 1 through 4.

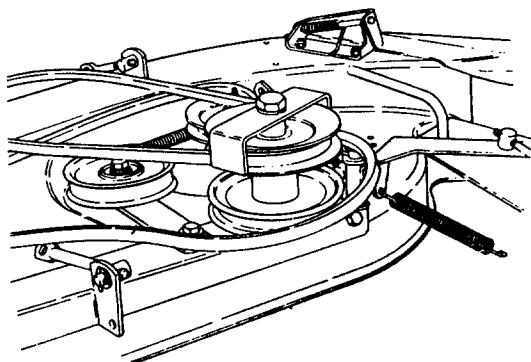


Figure 57

Front PTO Drive Belt Replacement

1. Refer to Figure 58 and carefully note the relative position of the double drive pulley belt guard to the double drive pulley.
2. Remove the bolt and washer which secure the double drive pulley belt guard. Remove the belt guard.
3. Remove the front PTO drive belt from the double drive pulley, and replace with a new belt.

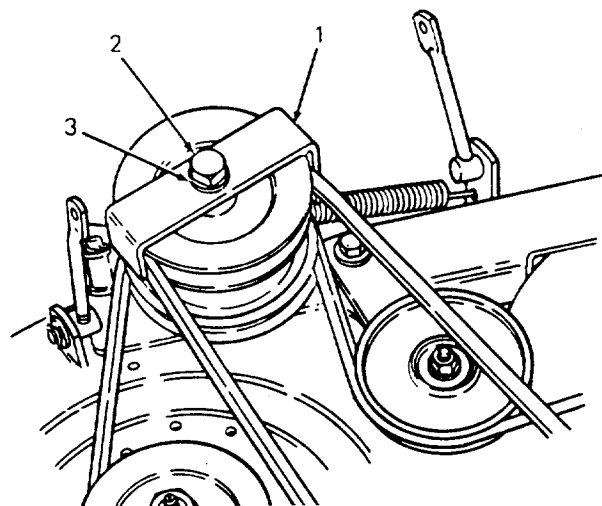


Figure 58

1. Double Drive Pulley Belt Guard
2. Bolt
3. Washer

4. Install the double drive pulley belt guard in the same position noted in step 1. Secure the belt guard in proper position using the washer and bolt.

When the PTO drive belt has been replaced, the mower deck reinstalled onto the tractor, and the front PTO drive belt positioned onto the engine drive pulley and the idler pulley, refer to "DOUBLE DRIVE PULLEY BELT GUARD ADJUSTMENT" on page 27 to check for proper adjustment.

SECTION VII. MOWING

STARTING THE MOWER



If the operator leaves the seat while the PTO engagement lever is in the "ON" position, or the unit is shifted into reverse when the PTO engagement lever is in the "ON" position, the engine will automatically shut off. To restart the engine, shift into neutral "N", move the PTO engagement lever to the "OFF" position, and restart the engine while seated.

While the operator is seated, and the engine running, move the throttle lever to the "FAST" position. Push the PTO engagement lever forward to the "ON" position. The mower deck should normally be operated with the throttle lever in the "FAST" position.

STOPPING THE MOWER

Move the power take-off (PTO) engagement lever to the "OFF" position and reduce engine speed.

CUTTING HEIGHT

The mower can be set in multiple positions. Proceed as follows:

1. Pull the lift handle back slightly and depress the button on the top of the lift handle.
2. Release the button when the desired mower position is obtained.



To return the mower to a specific position, note position of the lift lever indicator in relation to the lever position decal before raising or lowering the mower.

MOWING



WARNING

To avoid possible injury, do not allow anyone in the area opposite the discharge chute while mowing. Although the area has been supposedly cleared of foreign objects, small objects may be discharged by the mower.



WARNING

Never direct discharge of material toward bystanders or allow anyone near the machine while in operation.

For best results it is recommended that the first two laps should be cut with the discharge thrown towards the center. After the first two laps, reverse the direction to throw the discharge to the outside for the balance of cutting. This will give a better appearance to the lawn.

Do not cut the grass too short, as the mower will tend to scalp the grass. Short grass invites weed growth and yellows quickly in dry weather.

Mowing should be done with the engine at full throttle. Do not mow at high ground speed.

During certain times of the year and under some conditions, the mower may leave streaks of uncut material.

Streaking may occur when attempting to mow heavy weeds and tall grass. Under these conditions it may be necessary to go back over the cut area a second time to get a clean cut.

The following practices will help eliminate streaking:

1. Mow the area more often so the grass doesn't get too tall and heavy.
2. Operate the tractor at full throttle and lower forward speeds.
3. Keep the blades sharp and replace blades when worn.
4. Follow the mowing procedure shown in Figure 59.

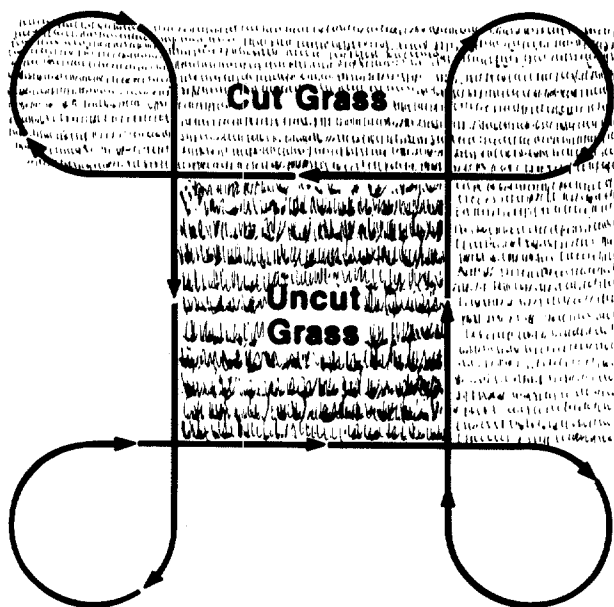


Figure 59

OPTIONAL EQUIPMENT AND ACCESSORIES

When you purchased your tractor, you probably had it completely equipped for your particular needs at the time. However, later you may wish to obtain optional equipment or accessories. These items and other allied equipment can be purchased from, and installed by, your authorized dealer.

The tractor is used for so many different types of work, and because it is called on to operate under so many different conditions, a variety of equipment is available to adapt it to the requirements of the user. Refer to equipment catalog.

MAINTENANCE CHART

Operation to be performed	Before each use	10 hours or once a month	25 hours three times a season	50 hours	100 hours or yearly	Before storage
Clean grille (front & backside) & engine inlet air screen		More often under dirty conditions X				
Check engine oil level	X					
Fill fuel tank	X					
Cylinder head cleaning		Leaded fuel — 100 – 200 hours Unleaded fuel — 200 – 300 hours				
Change engine oil	After first 5 hours		More often under dirty conditions X			
Check battery electrolyte level		X				
Grease front axle pivot bolt		X		X		
Lubricate steering knuckles (2) and steering arm		X				
Retorque rear and front wheel bolts		After first 10 hours X			X	
Lubricate brake shaft				X		
Clean cooling fins & external surfaces				X		
Service air cleaner					More often under dirty conditions	
Check spark plugs					X	X
Lubricate speed control linkage cam plates (1020 Tractor)					X	
Check and regrease front wheel bearings				X		X
Drain fuel						X
Pivot bar adjustment bolt				X		
PTO clutch bracket				X		
Steering gear				X		
Deck spindles				X		

 **NOTE**

Maintenance information for optional equipment may be found in the manual which is included with the specific piece of optional equipment.

TROUBLE SHOOTING

Possible Cause

Possible Remedy

HARD TO START

No gasoline in fuel tank or carburetor	Fill the tank with gasoline. Check the fuel line and carburetor.
Fuel line or carburetor clogged	Clean the fuel line and carburetor with commercial carburetor cleaner.
Water in gasoline	Drain the fuel tank and carburetor. Use new fuel and dry the spark plug.
Choked improperly. Flooded engine	Follow the starting instructions.
Defective ignition or loose wiring	Check the wiring, spark plug, or fuse.
Defective battery	Check and service. Refer to "BATTERY."
Spark plug dirty or improper gap	Clean, adjust the gap to .030-inch or replace the plug.

ENGINE OPERATES IRREGULARLY OR KNOCKS

Engine incorrectly timed	*
Spark plug dirty; wrong gap or wrong type	Clean, reset the gap, or replace.
Poor or weak spark	Check the spark plug and wiring.*
Carburetor setting incorrect	Adjust. Refer to "ADJUSTMENTS"
Poor grade fuel or water in fuel	Drain and use a good grade of clean fuel.
Engine overheating	Refer to "MAINTENANCE."
Engine valves at fault	*
Engine smokes	Adjust the carburetor.*
Oil level will rise due to gasoline in crankcase	Refer to "OPERATING IN COLD WEATHER."
Air filter will become oil and fuel soaked	Refer to "OPERATING IN COLD WEATHER."
Engine leaks oil	Refer to "OPERATING IN COLD WEATHER."
Misfiring	Refer to "OPERATING IN COLD WEATHER."
Other engine problems	*
Excessive oil in air cleaner	Be sure that oil dipstick is fully seated and all excess oil is squeezed out of pre-cleaner foam element.

LACK OF POWER

Air cleaner clogged	Service the air cleaner element. Refer to "MAINTENANCE."
Engine overload	Reduce the load.
Engine overheated	Make sure air intake screen, shrouding, engine fins, and grille are free of accumulated dirt and trash. Refer to "MAINTENANCE."
Poor fuel, too rich, or too lean a mixture	Refer to "ADJUSTMENTS."
Fuel tank air vent clogged	Open the vent in the cap.
Air leakage between carburetor and engine	Remove air cleaner. Tighten the carburetor and manifold mounting nuts. Replace as indicated in "MAINTENANCE."

*See your authorized dealer.

TROUBLE SHOOTING

Possible Cause

Possible Remedy

LACK OF POWER (Cont)

Incorrect timing or faulty ignition	*
Brake drags	Adjust the brake. Refer to "ADJUSTMENTS."
Belt slipping (1015 Tractor Only)	Adjust the free travel of the pedal. Refer to "ADJUSTMENTS."*

ENGINE OVERHEATING

Insufficient cool air, dirty air intake screen, shroud, cooling fins, or dirty grille	Keep the air intake area and cooling fins clean; refer to "MAINTENANCE."
Lean carburetor adjustment	Readjust. Refer to "ADJUSTMENTS."
Oil level incorrect	Engine oil level must not be over the "FULL" mark or below the "LOW" mark. Refer to "MAINTENANCE."

*See your authorized dealer.

LUBRICATION TABLE

Point of Lubrication	Check at Hours	Change at Hours	Capacity	Anticipated Air Temperature		
				Above +40°F	+32° to 0°F	Below 0°F
Engine crankcase	Check before each use	25	3 pints	<i>Cub Cadet</i> Low Ash Engine Oil S.A.E. 30	<i>Cub Cadet</i> Low Ash Oil S.A.E. 10W-40 or 10W-30	<i>Cub Cadet</i> Low Ash Engine Oil S.A.E. 5W-20 or 5W-30
Steering knuckles & front axle pivot bolt	10		Use 251H EP grease or equivalent No.2 multi-purpose lithium grease and apply two or three strokes or sufficient grease to flush out old grease and dirt.			
Front wheel bearings	50					
Steering gear	50		Turn the steering wheel fully to the right and brush on 251H EP grease or equivalent No. 2 multi-purpose lithium grease to the steering gear. Turn the steering wheel in both directions to disperse the grease.			
Deck spindles	50		Use 251H EP grease or equivalent No. 2 multi-purpose lithium grease and apply sufficient grease to flush out old grease and dirt.			

LUBRICATION GUIDE

The life of any machine depends upon the care it is given. Proper lubrication is a very important part of that care.

Be certain that all lubrication fittings are assembled in place, using the lubrication illustrations as a guide.

Always lubricate the deck thoroughly before taking it to the field. Use a pressure lubricating gun.

Be sure all fittings are free from dirt and paint so the lubricant is certain to enter the bearing.

Miscellaneous working parts not provided with lubrication fittings should be oiled daily with a good grade of lubricating oil.

Lubricant is cheap. Use plenty of it. Worn parts can be expensive to replace.

Keep your supply of lubricating oil and grease stored in clean containers, and covered to protect from dust and dirt.

Keep the lubricating gun nozzle clean and wipe dirt from grease fittings before lubricating.

The symbol in the illustration indicates the method of application and the hourly intervals to apply the lubricant.



Use a pressure lubricating gun and apply 251H EP grease (or equivalent No. 2 multi-purpose lithium grease). Lubricate at hourly intervals indicated on symbols.

LUBRICATION GUIDE

—BEFORE EACH USE

1. Engine filler cap and dipstick

Check the oil (with the engine stopped) and add sufficient new oil to bring it to the "FULL" mark on the dipstick. Do not overfill. Do not operate the engine if the oil level is below the "LOW" mark on the dipstick.

—AFTER EVERY 10 HOURS OF OPERATION

2. Steering knuckles (2)
(Both sides)
3. Front axle pivot bolt
(Right side)

Use 251H EP grease or equivalent No. 2 multi-purpose lithium grease and apply sufficient grease to flush out old grease and dirt.

Use 251H EP grease or equivalent No. 2 multi-purpose lithium grease and apply sufficient grease to flush out old grease and dirt.

NOTE: It may be necessary to rotate the front axle to reach the grease fitting.

—AFTER EVERY 25 HOURS OF OPERATION

4. Engine oil drain plug

While the engine oil is warm, remove the drain plug and drain all of the oil from the crankcase. Replace the drain plug. Refer to "MAINTENANCE" "FILLING THE CRANKCASE" for proper oil filling procedure. Refer to "LUBRICATION TABLE" for the proper quantity and viscosity to use.

—AFTER EVERY 50 HOURS OF OPERATION

5. Steering gear

Turn the steering wheel fully to the right and brush on 251H EP grease or equivalent No. 2 multi-purpose lithium grease to the steering gear. Turn the steering wheel in both directions to disperse the grease.

6. Front wheel bearings

Use 251H EP grease or equivalent No. 2 multi-purpose lithium grease and apply two or three strokes or sufficient grease to flush out old grease and dirt.

7. PTO clutch bracket

Use 251H EP grease or equivalent No. 2 multi-purpose lithium grease and apply sufficient grease to flush out old grease and dirt.

8. Deck spindles

Use 251H EP grease or equivalent No. 2 multi-purpose lithium grease and apply sufficient grease to flush out old grease and dirt.

—EVERY 100 HOURS OF OPERATION

Speed Control Linkage

9. Cam plates
(1020 Tractor)

Once a year, apply a small amount of 251H EP grease or equivalent No. 2 multi-purpose lithium grease in the slots.

Miscellaneous

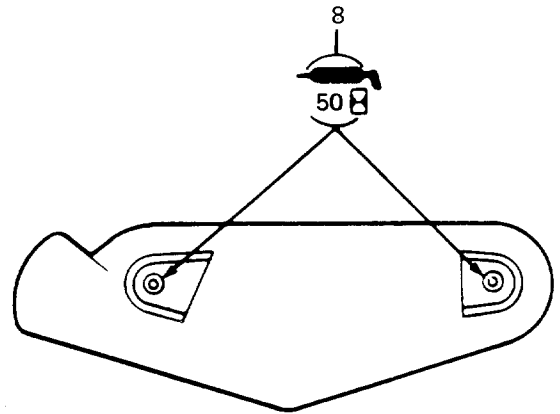
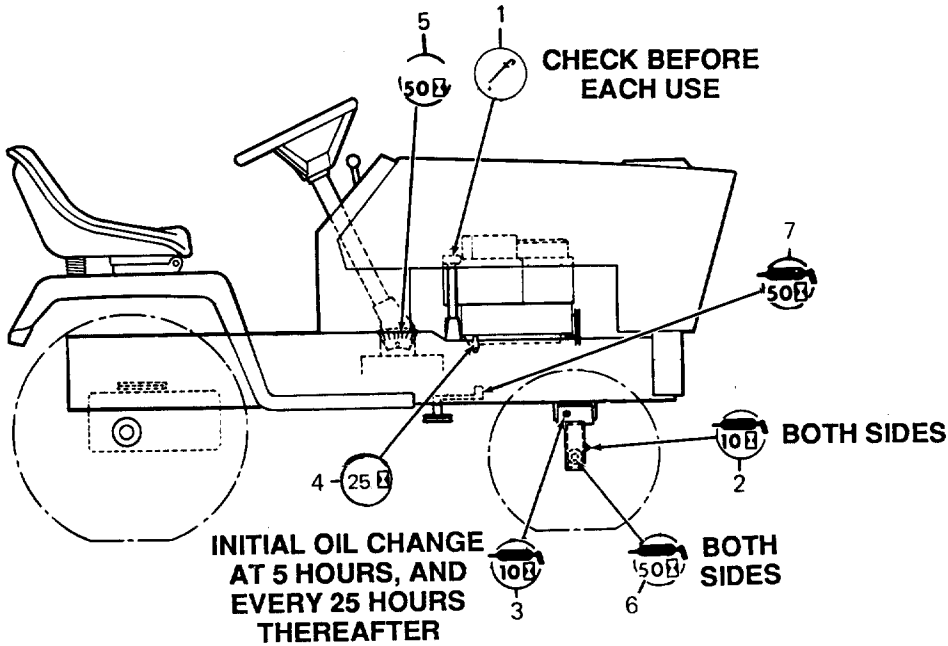
- Brake pedal shaft

Lubricate the brake pedal shaft and linkage with eight or ten drops of engine oil.

NOTE

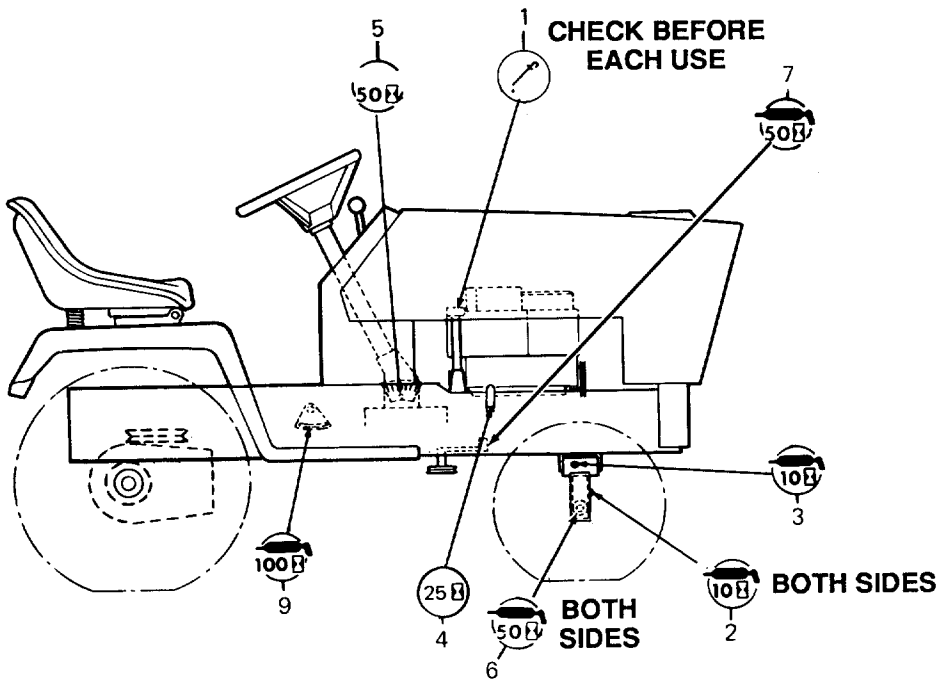
Lubrication information for optional equipment may be found in the manual which is included with the specific piece of optional equipment.

**LUBRICATION GUIDE
MODEL 1015**



(32 INCH DECK)

**LUBRICATION GUIDE
MODEL 1020**



INITIAL OIL CHANGE AT 5 HOURS, AND EVERY 25 HOURS THEREAFTER.

SPECIFICATIONS

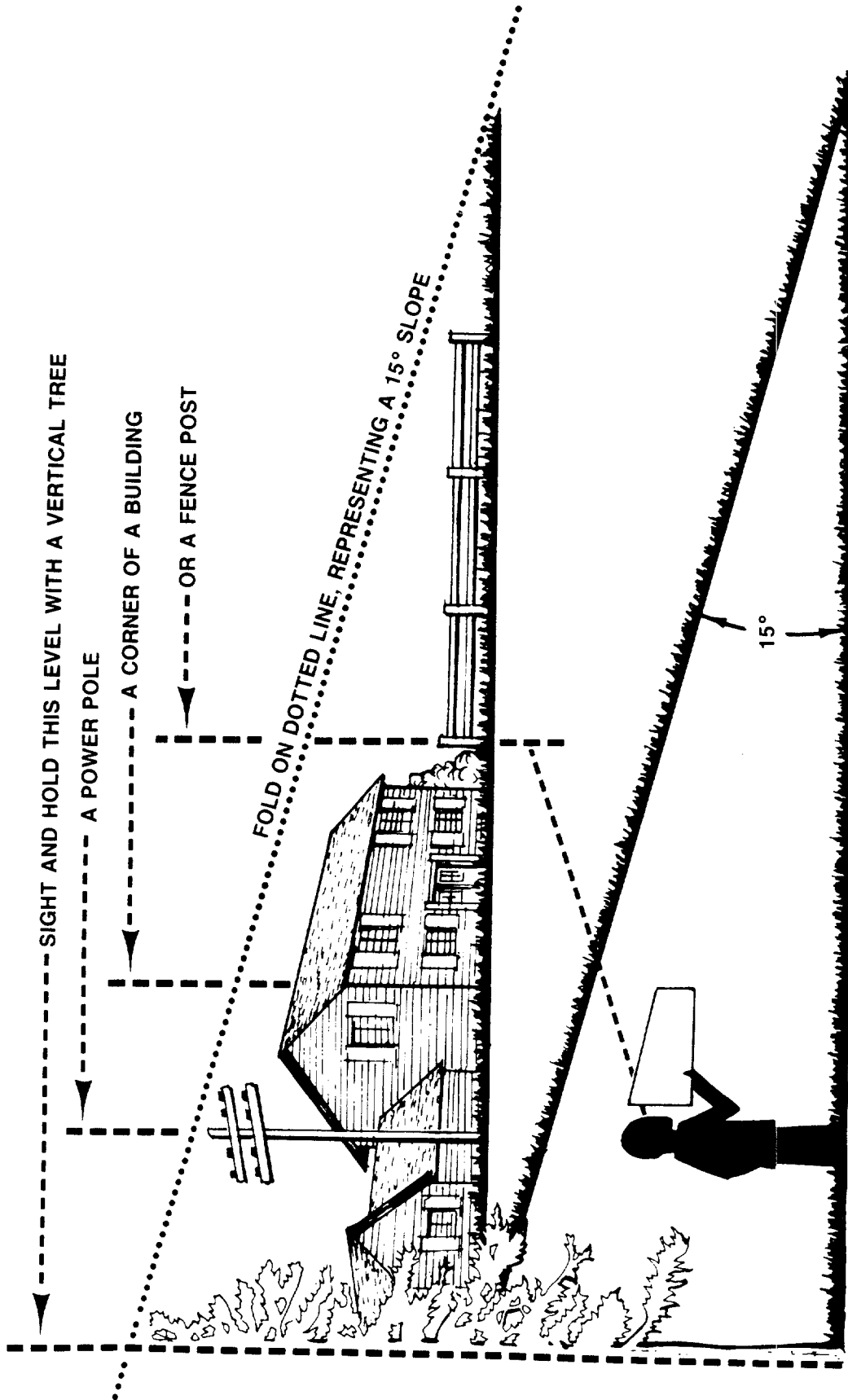
	1015	1020
CAPACITIES		
Fuel Tank		3 gals.
Crankcase		3 pints
TRANSMISSION GEARS		
Speed: Forward	5 forward speeds and 1 reverse	
Reverse	0 to 5.5 mph	
	0 to 2.35 mph	
HYDROSTATIC DRIVE		
Speed: Forward		0 to 5.5 mph
Reverse		0 to 3.0 mph
ENGINE		
Make and model	Briggs and Stratton	
(electric starting)	10 HP	
Cylinders	1	
Bore	3.44 in.	
Stroke	2.62 in.	
Displacement (cubic inches)	24.36	
Engine speed	(governed)	
Low speed	1750 RPM	
High idle speed (no load)	3300 RPM ±100	
Ignition	Battery	
Spark plug	<i>Cub Cadet No. 759-3331</i>	
Spark plug gap030 in. gap	
ELECTRICAL SYSTEM		
System voltage	12 volt neg. ground	
Battery	1 HPRLU	
Alternator	Tri-circuit	
Fuse (auto type)	20 amp	
Headlights (bulb)	GE 12 volt 1156	
BRAKES	Single disc, external	
CLUTCH	V-belt	
TIRE SIZES		
Front	15 x 6 x 6	
Rear	18 x 8.5 x 8	
GENERAL		
Wheelbase	45.0 in.	
Length, over-all	68.50 in.	
Turning radius	29.00 in.	
Mower size	32 inches	
Adjustable cutting height (approx)	1-1/2 to 4 inches	
Mower drive	V-belt with manual clutch	

Specifications are subject to change without notice.

SLOPE GAUGE

(Keep this sheet in a safe place for future reference.)

USE THIS SHEET AS A GUIDE TO DETERMINE SLOPES WHERE YOU MAY NOT OPERATE SAFELY.



Do not mow on inclines with a slope in excess of 15 degrees (a rise of approximately 2½ feet every 10 feet). A riding mower could overturn and cause serious injury. If operating a walk-behind mower on such a slope, it is extremely difficult to maintain your footing and you could slip, resulting in serious injury.

Operate RIDING mowers up and down slopes, never across the face of slopes.
Operate WALK-BEHIND mowers across the face of slopes, never up and down slopes.