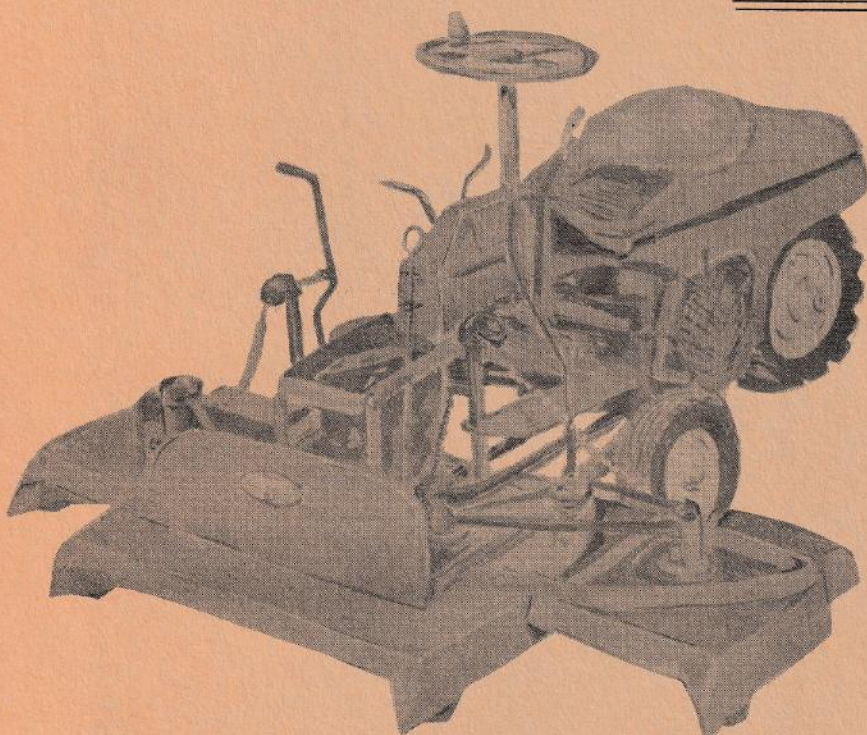


GRAVELY CLEAN-CUT

70



USER MANUAL

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GRAVELY **CLEAN-CUT MOWER**

LUBRICATION

Use Only High Grade Lubricants
Such As —

Grease Fittings - Mobilgrease MP
Gear Housings - Mobilube 140

FILL TO CHECK PLUG LEVEL

Engine -----Mobiloil A (SAE 30)

Model Number

Serial Number

Manufactured by
GRAVELY CLEAN-CUT MOWERS

DIVISION STUDEBAKER CORPORATION

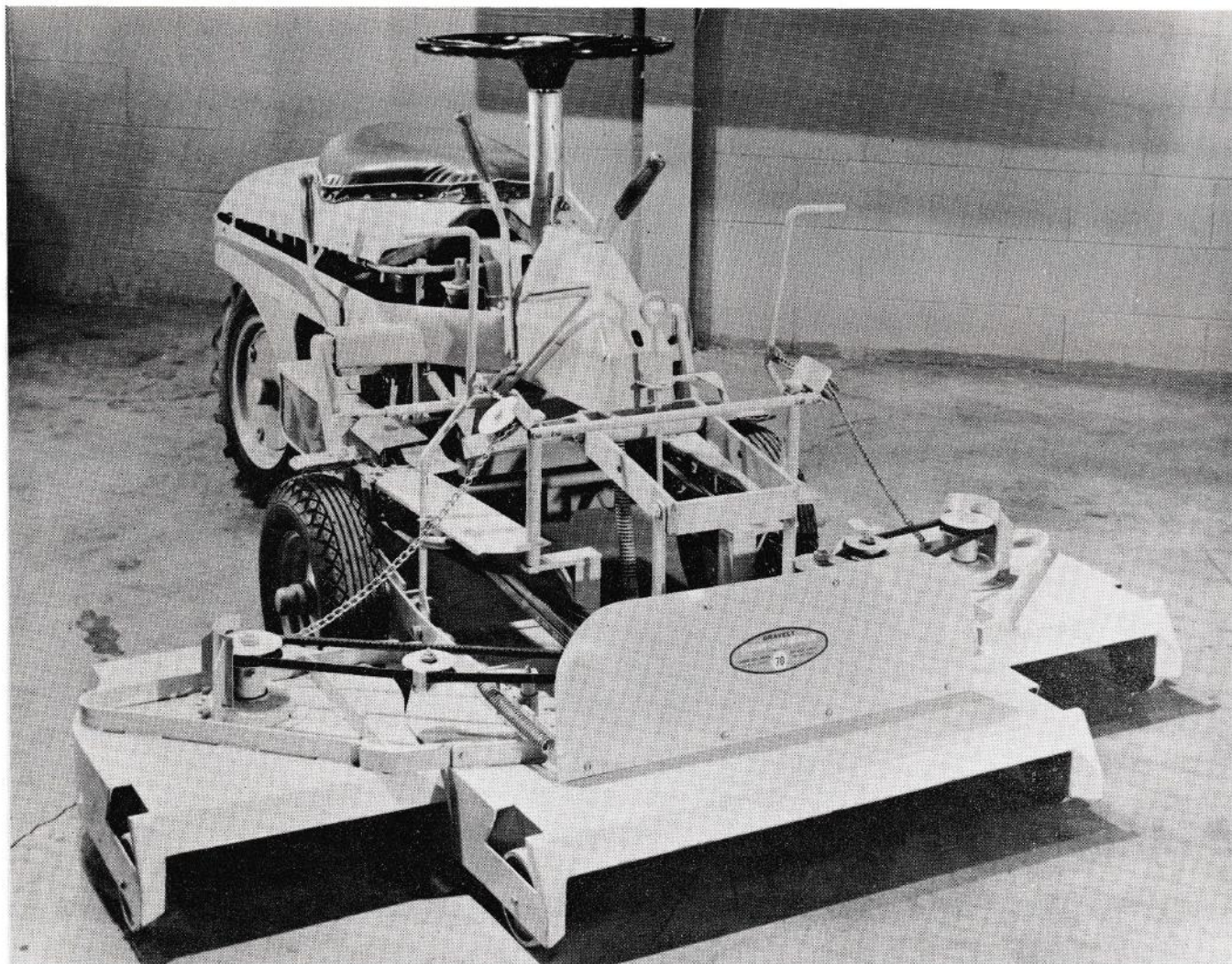
DUNBAR, WEST VIRGINIA

INTRODUCTION

Your Gravely Clean-Cut 70 is a rugged, dependable, quality-built mower that will give you dependable, satisfying performance for years to come. We are happy to welcome you to the growing family of discerning Gravely Clean-Cut users.

The Clean-Cut 70 is designed for large-area mowing jobs. It is especially useful where plantings, fences, buildings, and other obstacles make necessary a mower with extra maneuverability and nimble, responsive performance.

By following these simple operation and maintenance instructions, you'll make sure you get all the top mowing performance your Clean-Cut 70 is designed to give you.



TRACTOR UNIT CONTROLS

The Tractor Unit has these simple controls:

Clutch. Push the Clutch Lever, 1 in Figure 1, forward to put the Tractor Unit in Gear. Push the Lever slowly to avoid a jerking start. Pull the Lever all the way back to take the Tractor Unit out of gear.

Throttle. Push the Throttle Lever, 2 in Figure 1, forward to increase speed; pull it back to decrease speed.

Brake. Press the Brake Lever, 3 in Figure 1, with your foot to brake the Tractor Unit. NOTE: The Brake Lever will stop

the Tractor Unit only when it is out of gear. To make a quick stop with the Tractor Unit in gear, pull the Clutch Lever all the way back and step on the Brake Lever.

Starter. With the Shorting Switch on and the Throttle Lever pushed forward slightly, simply press the Starter Button, 1 in Figure 2, to start the Engine.

Shorting Switch. When working with any part of your Clean-Cut 70, make sure the Shorting Switch, 1 in Figure 3, is off. This prevents accidental starting of Engine.

Steering. The Steering Wheel, 4 in Figure 1, controls the direction of your

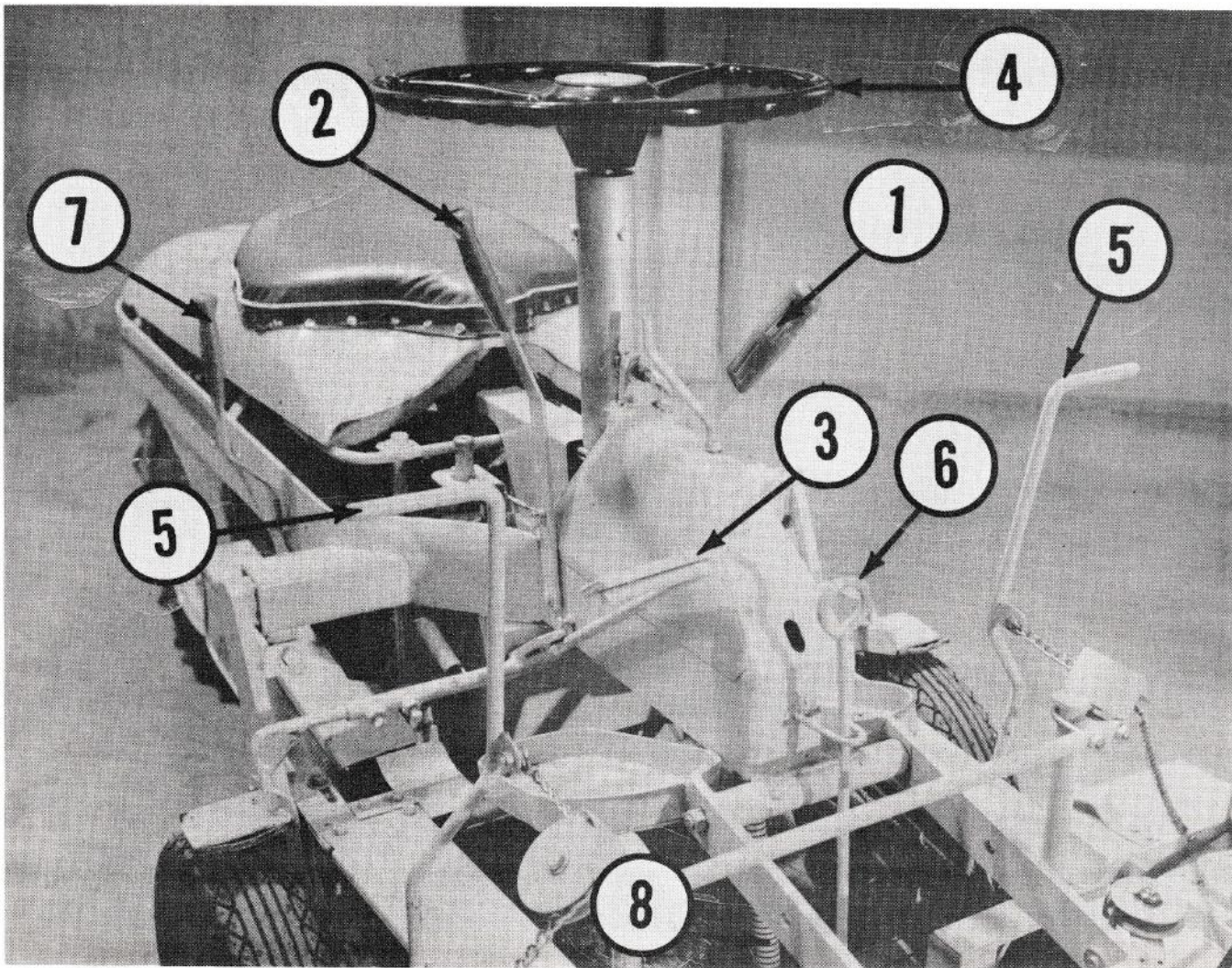


Figure 1

Clean-Cut 70. After you have made a turn, the Steering Wheel remains in the same position until you turn it again; it does not return automatically to a "straight" position when you release the Wheel.

Reverse. To operate in reverse, turn the Steering Wheel two complete revolutions. It is not necessary to come to a stop to go into reverse. With the small turning radius of your Clean-Cut 70, you'll find it seldom necessary to go into reverse.

Speed Range Selection. The Tractor Unit has two speed ranges: high (approximately 4.5 MPH) and low (approximately 3 MPH). The procedures for selecting speed ranges are discussed on page 5, under "Speed Range Selection".

MOWER UNIT CONTROLS

Mowing action is controlled by the following:

Wing Unit Handles. To raise either Wing Unit momentarily, pull the appropriate Wing Unit Handle, 5 in Figure 1, back toward you. Release the Handle to lower the Wing Unit back into the normal position. To mow for a longer period of time with the Wing Unit raised, pull the Handle back and lock it into the locking bracket on the Upper Deck of the Wing Unit. Raising either Wing Unit automatically stops its Blade from rotating. NOTE: Lock the Wing Units while running your Clean-Cut 70 to and from mowing jobs.

Foot Stirrups. Exerting pressure on the Foot Stirrups (which serve as a comfortable foot-rest for the operator), 2 in Figure 2, will raise the entire Mower Unit. This should be done to miss obstacles or to mow in very high grass. To lock the entire Mower Unit in the raised position, press the Stirrups until the hook on the back of the Lock Rod, 6 in Figure 1, engages into the hole on front of the Steering Housing Hood. To lower the Mower Unit, push the Lock Rod

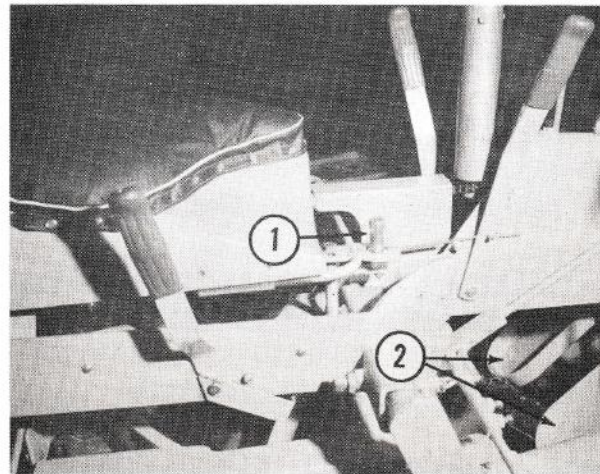


Figure 2

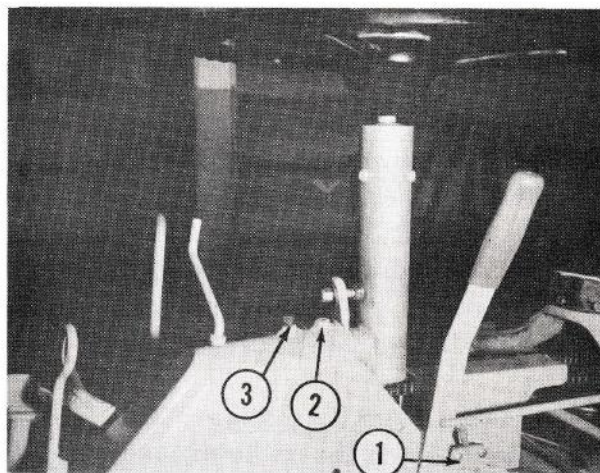


Figure 3

forward to release the hook, and then release pressure on the Stirrups.

Blade Clutch Lever. To stop Blades without stopping the Engine, pull the Mower Blade Clutch Lever, 7 in Figure 1, all the way back. Push the Lever all the way forward to re-engage the Blades.

LUBRICATION

Following is a guide to aid you in setting up a lubrication schedule for your Clean-Cut 70. A complete list of lubricating agents may be found on the front cover of this Manual.

Grease Fittings. The following grease fittings should be lubricated daily (based on an 8-hour operating day) with Mobilgrease

MP: Wing Unit Idler Pulleys, 1 in Figure 4, Tension Idler, 1 in Figure 5; Mower Spinles, 2 in Figure 4; Upper Rear Axle (located under the Sprocket Wheels under the Engine Hood); Lower Rear Axle, 1 in Figure 6; and the Idler Pulley, 3 in Figure 8.

CAUTION: Clean the paint from the grease fittings as soon as you receive your Clean-Cut 70. Paint chips introduced through the fittings can damage the bearings.

Suspension Spring Crank. Use Mobil-oil 30 on the Suspension Spring Crank (located immediately forward of the Steering Wheel Column) often enough to allow Crank to turn freely within the spring to which it is attached.

Pillow Block Bearing. Use Mobil-grease MP for the grease fitting on the Pillow Block Bearings that support the Jack-shaft. Use only one or two shots when needed--as a rough guide, every 40 to 50 hours of operation. Avoid overpacking, as this will blow the grease seals.

Gearbox Lubrication. The Gearbox should be kept filled to the proper level with Mobiloil 140 (SAE 140). Check daily for proper oil level by removing the Oil Level Plug, 1 in Figure 8. If oil is not level with the Oil Level Hole, add oil until it begins to

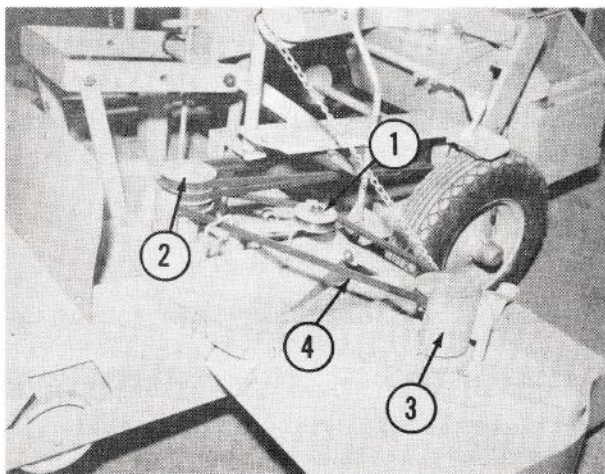


Figure 4

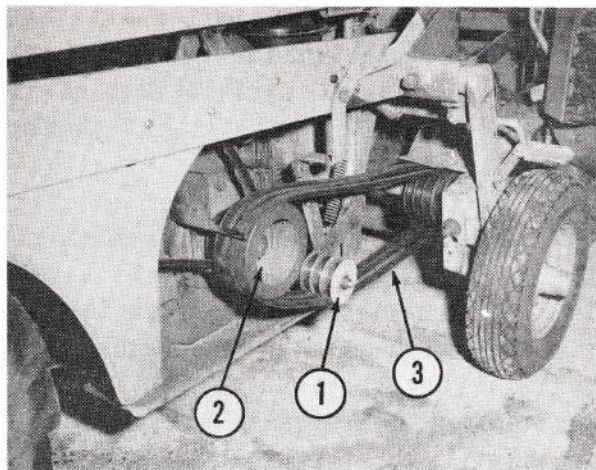


Figure 5

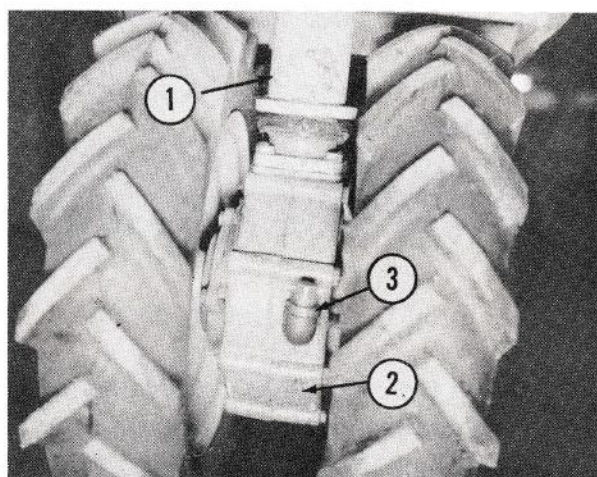


Figure 6

run out. Make sure the Oil Level Plug is replaced.

Final Drive Assembly. Check the oil level of the Final Drive Assembly daily by removing the Oil Level Plug, 2 in Figure 6. If oil is not level with the Oil Level Hole, add oil by removing the Oil Filler Plug, 3 in Figure 6. Stop when oil begins to run out the Oil Level Hole. Use Mobiloil 140 (SAE 140). Make sure both the Oil Level Plug and Oil Filler Plug are replaced.

ENGINE CARE

Service the Engine in accordance with the Engine manufacturer's instruction manual. In case of Engine trouble, consult the near-

est authorized service dealer listed in the manual.

Fuel. Use a good grade regular gasoline, such as Mobilgas Regular. Fuel Tank capacity is three gallons.

Keep the Engine Clean. Keep the Engine clean, especially the Cooling Fins and Intake Screen. If available, use compressed air to blow cut grass and other debris from the Engine. Keeping the Engine clean increases Engine efficiency and eliminates a possible fire hazard.

BELTS

Your Clean-Cut 70 has four Belt systems:

Propelling Unit Drive Belt. The Propelling Unit Drive Belt, 2 in Figure 8, runs from the Main Engine Pulley, 2 in Figure 5, to the Gearbox. The part number is 6695.

Jackshaft Pulley Belts. The Jackshaft Pulley Belts, 3 in Figure 5, run from the Main Engine Pulley to the Jackshaft Pulley. Three Belts are used; the part number is 6691.

Inboard Spindle Belts. The Inboard Spindle Belts, shown in Figure 9, run from the Jackshaft Pulley to the Inboard Spindle Pulley. Two of these Belts are located on each side; there are four in all. The part number of the right Belts (right, as operator is seated) is 6690; the left Belts part number is 6692.

Wing Unit Belts. The Wing Unit Belts, 4 in Figure 4, transmit power to the Wing Unit Blades. There are two of these Belts, one for each Wing Unit. The part number of the Left Wing Unit (left, as the operator is seated) is 6693; the part number of the Right Wing Unit is 6694.

Following are Belt adjustment and replacement instructions:

These principles apply to all Belts on your Clean-Cut 70:

➤ Keep Belt tension just tight enough to do the job, but not too tight. Experience will enable you to judge the proper degree of Belt Tension.

➤ On multiple-groove Pulleys, whenever the Belts are removed for any reason, make sure the same Belt is returned to the same groove.

➤ If any Belt is adjusted or replaced, make sure you adjust all Belts.

➤ Always make sure the Engine is stopped--with the Shorting Switch in the off position--when working with the Belts.

Propelling Unit Drive Belt. No adjustment is required, as the Idler Pulley, 3 in Figure 8, keeps proper tension on the Belt at all times. However, the Belt must be kept in proper alignment on its Pulleys; alignment procedures are discussed under "Tightening the Drive Chain" on page 8.

Speed Range Selection. To run the Tractor in the high speed range, place the Belt in the smaller groove on the Gearbox Pulley and in the second groove from the Engine on the Engine Pulley; to run in the low speed range, place the Belt in the larger groove on the Gearbox Pulley and in the groove next to the Engine on the Engine Pulley. By pulling the Clutch Lever, 1 in Figure 1, all the way back, you should have adequate slack to make this change.

Belt Replacement. To replace Belt: (1) Raise the Mower Unit by depressing the Foot Stirrups until the Lock Rod hook engages in the hole in the Steering Housing Hood. (2) Slip the Jackshaft Pulley Belts off the Engine Pulley. (3) Remove the Idler

Pulley and slip the Belt from it. (4) Slip the Belt off the Engine and Gearbox Pulleys and remove from the Engine. (5) Put the new Belt on the Engine and Gearbox Pulleys, keeping in mind whether you desire to run in the high or low speed range. (6) Put the new Belt on the Idler Pulley (making sure the keeper is in place) and re-attach the Idler Pulley. (7) Slip the Jackshaft Pulley Belts back onto the Engine Pulley and lower the Mower Unit. (8) Check for proper alignment. (9) Check all Belts for proper adjustment and alignment, adjusting as required.

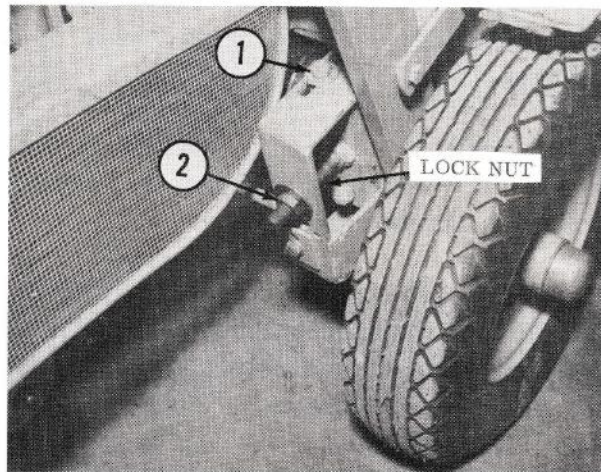


Figure 7

Jackshaft Pulley Belts. Before adjusting, make sure the Mower Unit is on the ground (not in the raised position) and the Mower Blade Clutch Lever is pushed all the way forward. To tighten the Belts, loosen Nut 1, in Figure 10, and tighten Nut 2, against Bracket 3. To loosen the Belts, reverse this procedure. NOTE: Adjustment is made on both sides of the Jackshaft, and the same amount of adjustment must be made at both sides. Make sure each nut is given the same number of turns as given its counterpart.

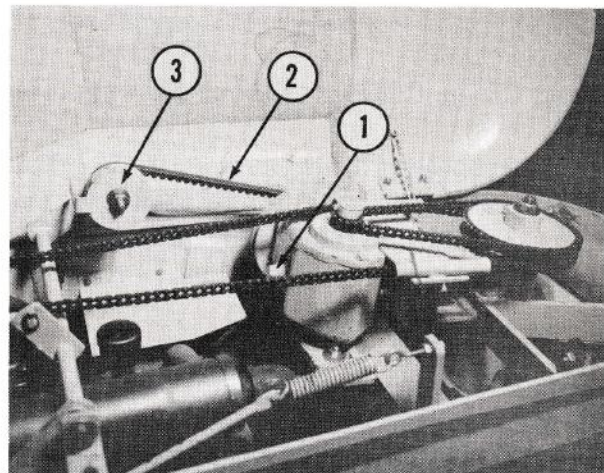


Figure 8

Belt Replacement. To replace the Jackshaft Pulley Belts: (1) Remove wire-mesh Belt Guard. (2) Pull the Blade Clutch Lever all the way back. (3) Remove the keepers from the Engine Pulley and Idler Pulley, and slip the Belts off these Pulleys. (4) Detach the Jackshaft by removing Nut 1, Figure 7, and Bolt 2. The Jackshaft must be detached at both sides. Pull the Jackshaft forward after detaching to free it. (5) Slip the Belts off the Jackshaft Pulley. (6) Put the new Belts on the Jackshaft Pulley and re-attach the Jackshaft. (7) Put the new Belts on the Engine Pulley and Idler Pulleys, re-attaching the keepers. (8) Re-attach the Belt Guard. (9) Check for proper adjustment and alignment. (10) Adjust and align all belts as required.

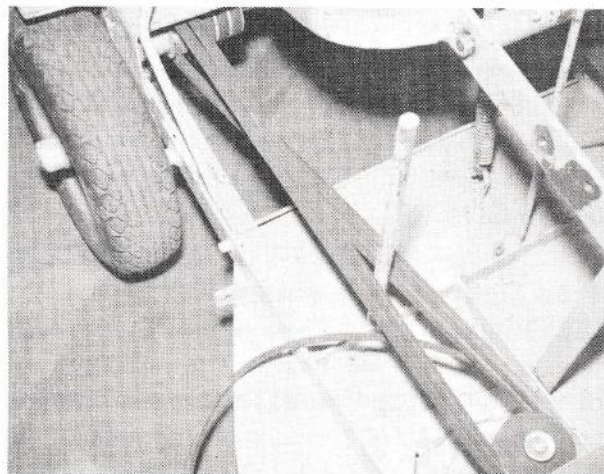


Figure 9

Inboard Spindle Belts. The Left Inboard Spindle Belts are adjusted on the left side of the Tractor (left, as the operator is seated); the Right Inboard Spindle Belts are adjusted on the right side of the Tractor. To adjust, first loosen Bolt 1, Figure 7. To increase Belt tension, back off the lock nut (this is not visible in Figure 7, but its location behind the bracket is indicated by the arrow) from the bracket and tighten Nut 2 against the Bracket. When proper tension is reached, tighten the lock nut against the bracket and tighten Bolt 1. To decrease tension, back off Nut 2 from the bracket and tighten the lock nut until proper tension is reached. Then tighten Nut 2 against the bracket and tighten the Bolt 1.

Belt Replacement. To replace the Inboard Spindle Belts: (1) Detach the Jackshaft and slip the Belts from the Jackshaft Pulleys. (2) Remove the Spindle Guard, 3 in Figure 4, and slip the Belts off. (3) Put the new Belts on the Pulleys, making sure the Belts are turned as shown in Figure 9. (4) Re-attach the Jackshaft and replace the Spindle Guard. (5) Check for proper adjustment and alignment. (6) Check all Belts for proper adjustment and alignment.

Wing Unit Belts. Each Wing Unit Belt has an Idler Pulley, 1 in Figure 4, which keeps it in adjustment at all times. No other adjustment is required.

Belt Replacement. To replace a Wing Unit Belt: (1) Remove the Spindle Guards from the Wing Unit Pulley and Inboard Spindle Pulley and remove the keeper from the Idler Pulley. (2) Slip the Belt from the Wing Unit Pulley and Idler Pulley. (3) Loosen the Jackshaft (on both sides) and pull it forward as far as possible. (4) Slip the Inboard Spindle Belts and Wing Unit Belt off the Inboard Spindle Pulley. (5) Put the new Wing Unit Belt onto its Pulleys, replacing the keeper on the Idler Pulley. (6) Put the Inboard Spindle Belts back on the Inboard Spindle Pulley. (7) Replace the Spindle Guards. (8) Adjust the Inboard Spindle Belts

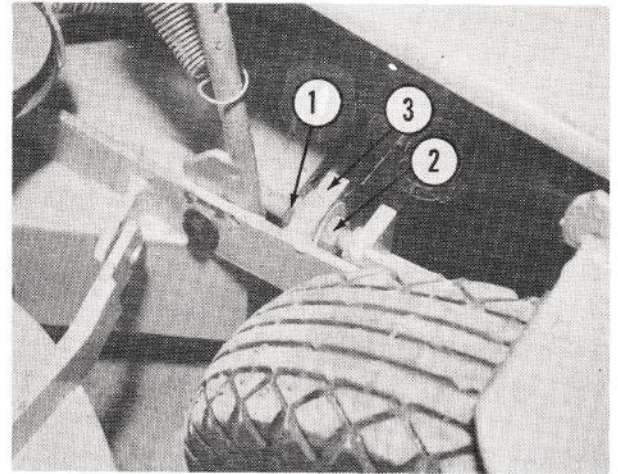


Figure 10

by tightening the Jackshaft. (9) Check all Belts for proper adjustment and alignment.

MOWER BLADES

Your Clean-Cut 70's Blades, of the new, improved "air-lift" design, are made of the finest crucible spring steel.

Blade Removal. To remove the Blade from its Spindle, remove the nut and flange washer which secure it to the Spindle. When removing the Blade, do not hold the Blade with your hand to steady it, as you may cut yourself. Instead, steady the Blade by holding the nut atop the Spindle by a wrench or vice-grip pliers. When you have replaced the Blade, the flange washer will automatically adjust the Blade for stubble clearance.

Blade Sharpening. To sharpen a Blade, remove it and use the original sharpened edge as your guide. Sharpen only the extreme ends of each cutting edge (only the end of the cutting edge does the cutting; the rest of the Blade pulverizes the cuttings). Test for proper balance by holding the Blade upright on a nail, pencil, or similar object. If one side dips noticeably, that side is too heavy and should be ground further.

Adjusting Blade Cutting Height. To adjust the cutting height of a Blade, first loosen the Tightening Screw, 1 in Figure 11 and then grasp the top-most Pulley and move complete Spindle Housing, 2 in Figure 11, up or down as required. If the Spindle Housing is stiff, a sharp tap on top of the Pulley will free it. Raise or lower the Idler Pulley (for the Wing Unit Blades only) by means of the small set-screw on the Idler Pulley Arm. The Idler Pulley should be moved only enough to keep the Belt properly aligned.

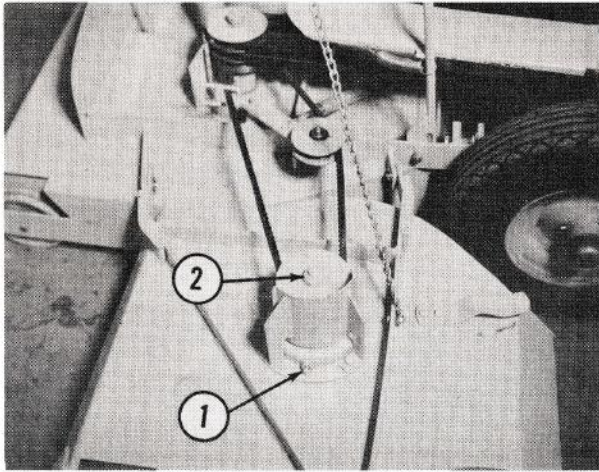


Figure 11

CHAIN ADJUSTMENT

The Propelling Unit uses two chains: the Drive Chain and the Steering Chain. Both can be seen when the Engine Hood is raised, with the Steering Chain being the longer of the two.

Tightening the Drive Chain. The Drive Chain is in proper adjustment when there is approximately 1/8-inch deflection to each side at a point half-way between the Sprockets. To adjust, loosen the lock nuts, 1 in Figure 12. To tighten the Chain, back off Nuts 2, Figure 12, from the bracket and tighten Nuts 3 toward the Bracket. To loosen the Chain, reverse this procedure. After the Chain is in proper adjustment,

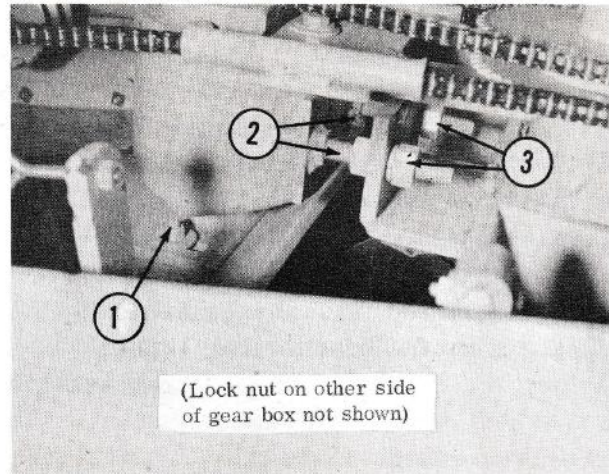


Figure 12

tighten the lock nuts. NOTE: The same amount of adjustment must be made to each side of the Gearbox.

Two-Groove Pulley. The two-groove Pulley, on which the Propelling Unit Drive Belt runs, is affected by adjustment of the Gearbox described above. Movement of the Gearbox may move this Pulley out of alignment with the Belt. Check to see if further slight adjustment is needed to keep the Belt and Pulley in alignment.

Tightening the Steering Chain. The Steering Chain is in proper adjustment when there is approximately 1/2 to 3/4-inch deflection to each side, measured at the Oil Dip Stick. To adjust, first loosen Set-Screw 3, Figure 3. To tighten the Chain, tighten Nut 2 against the bracket; to loosen, back off Nut 2 from the bracket. Make sure you tighten Set-Screw 3 after proper adjustment is reached.

OPERATING HINTS

Follow these operating hints to get top performance from your Clean-Cut 70:

Suspension Spring Adjustment. The Suspension Spring, 8 in Figure 1, works in conjunction with the Foot Stirrups to raise the entire Mower Unit. The Spring should

be adjusted by means of the Suspension Spring Crank, located in front of the Steering Wheel Column, to the point where the operator can raise the Mower Unit easily and comfortably by exerting pressure on the Foot Stirrups.

Mowing Tall Grass. When cutting exceptionally tall or heavy grass, you can get better results by raising one or both Wing Units the first time over, or by raising the Mower Unit by exerting pressure on the Foot Stirrups. When the grass has been cut "down to size", lower the Mower Unit to its normal position and go over the area again.

Mulcher Screens. Your Clean-Cut 70 has a Mulcher Screen immediately behind each Blade under the Deck. These are designed to shred cut grass finely and distribute it evenly. You may find, however, when mowing tall, wet grass that the Screens make mowing difficult. If so, detach the

Screens by removing the nuts and bolts by which these are secured.

Keep Your Clean-Cut 70 Clean. The accumulation of cut grass on or around the Engine can produce a fire hazard. Keep the Engine area free of these cuttings and other debris. Also, keep underside of the Mower Unit clean, as grass cuttings and other material collecting in this area may cause improper suspension of the Mower Unit. The entire Mower Unit should be kept clean to prevent this area from rusting.

Adjustment Soon After Initial Use. When your Clean-Cut 70 is new, you may find it somewhat stiff. However, a few hours of operation will make it "loosen up". During the initial period of operation, Belts and Chains will become loose and thus require adjustment; adjust these after the first few hours of use.

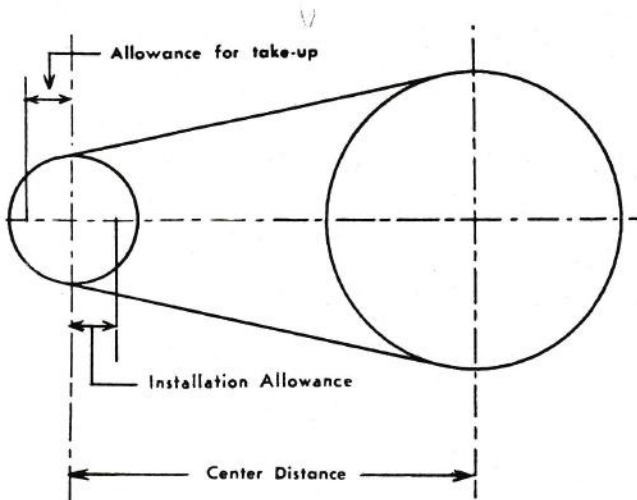
suggestions and terms

TAKE UP—

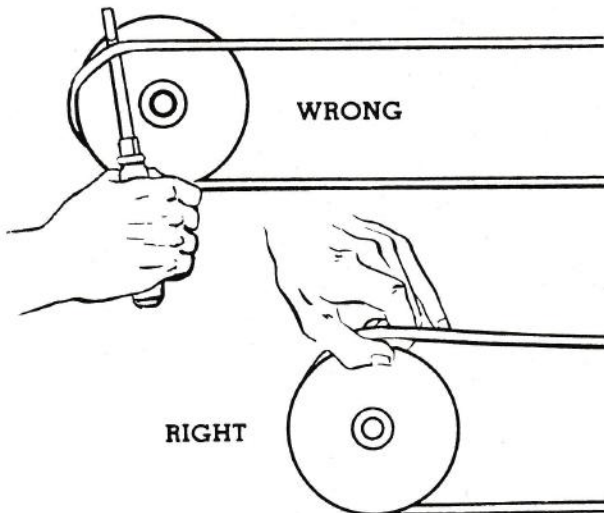
Making allowance for belt stretch.

INSTALLATION ALLOWANCES—

Setting the motor or driven pulley so that it can be moved to permit belt to fit into groove. Relation of take-up to installation allowance is illustrated below:



Due to variations in Belt Lengths and Pulley Diameters the Center Distance shown in Table VI may vary. For this reason it is good practice to make a trial installation



before setting your permanent Center Distances. Prying or forcing may damage belts internally and reduce life. When proper provision is made for installation, belt can be laid in groove as shown.

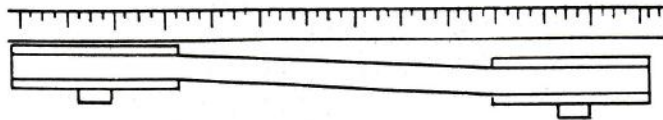
BELT TENSION—

A properly installed belt is snug but not so tight as to throw unnecessary strain on bearings.

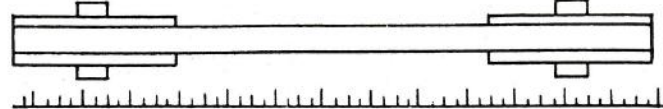
ALIGNMENT—

Take time to line up pulleys properly. Misaligned pulleys wear sides of belt unduly, and reduce belt life.

WRONG

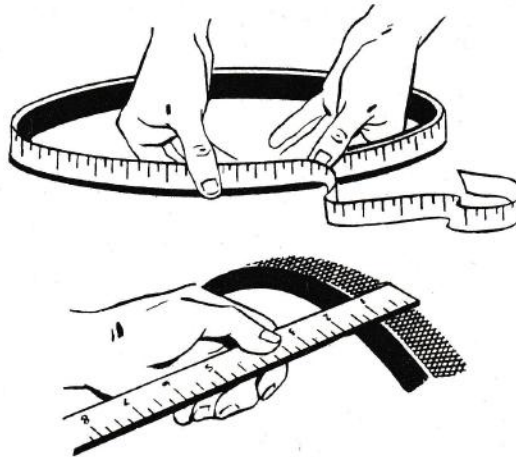


RIGHT



REPLACING WORN BELTS—

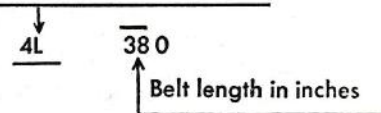
To determine proper replacement for an old belt from which markings have been obliterated, requires two simple measurements. First, the outside circumference, and second the top width. Both of these can be obtained using an ordinary tape measure as illustrated.



BELT DESIGNATIONS—

New belt numbers, now standard, are based on the two measurements indicated above. With outside circumference and top width complete belt number is arrived at thus:

Approximate top belt width in 8ths of an inch



WORN PULLEYS—

When pulleys become worn through service it is usually most economical to install a new pulley before installing a new belt.

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GUARANTEE

All GRAVELY Clean-Cut Mowers are guaranteed to be free from defective material and workmanship for a period of ninety (90) days and all defective parts will be replaced without charge, provided such parts are returned to the seller, transportation charges prepaid, and in the seller's opinion, after inspection are defective, and have not been damaged by abuse, neglect, or accident.

IMPORTANT

This is your guarantee, but it is not valid or effective unless within seven days after delivery of your equipment you complete the "Guarantee Registration Card" and mail it to

GRAVELY TRACTORS

DUNBAR, WEST VIRGINIA

**Be Sure To Mail Your
Guarantee Registration Card**