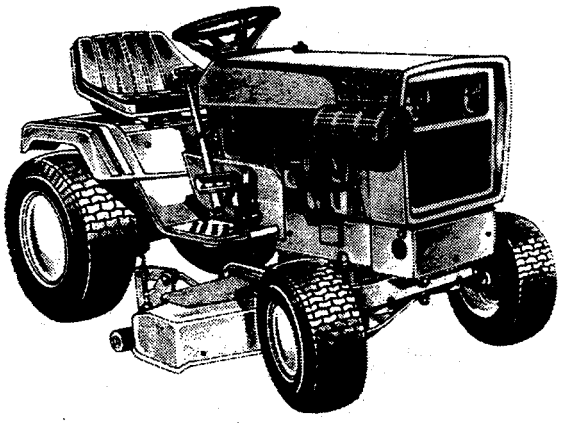
Operator's Manual

Model 7790



DIESEL GARDEN TRACTOR

MFG. NO. 1690890

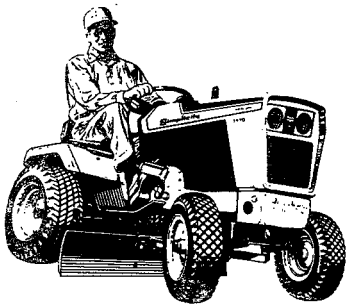
Simplicity

8410

FORM - 1673820

Contents

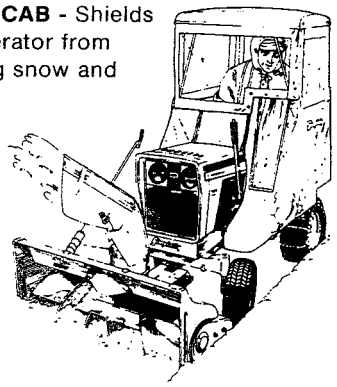
Optional Attachments & Accessories



42" GRADER BLADE - For grading and levelling jobs.

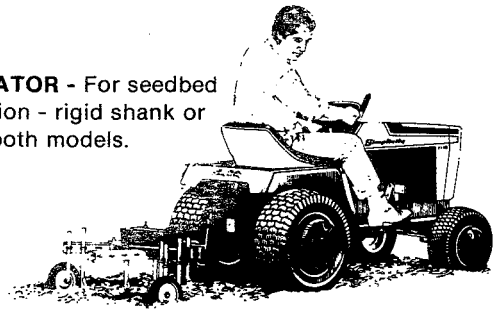
36" & 38" TILLER- Powered by tractor PTO. Self-sharpening tines, enclosed ends, levelling tail gate. Tine extension available for 36" tiller.

SNOW CAB - Shields the operator from blowing snow and wind.

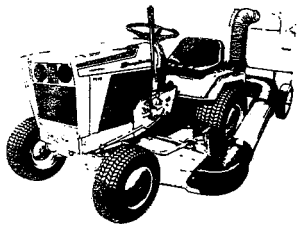


36" & 42" SNOWTHROWER - Efficient single stage operation to handle the heaviest of snow.

CULTIVATOR - For seedbed preparation - rigid shank or spring tooth models.



PTO DRIVEN VACUUM COLLECTOR - For big job grass and leaf collection.



Not Illustrated

ROVING NOZZLE used with vacuum collector to collect leaves in hard-to-reach places.

DUMP CART for vacuum collector and hauling chores.

42" & 46" DOZER BLADE for snow removal or dozing.

48" MOWER for smooth lawn cutting.

MOLDBOARD PLOW for turning the earth.

TIRE CHAINS for traction on slippery surfaces.

HOURMETER to record operating time.

FRONT AND REAR WHEEL WEIGHTS improve traction and stability. Required with some attachments.

HUB CAPS

DUAL LIFT LEVERS when using front & rear attachments simultaneously.

540 RPM POWER TAKEOFF for use with 540 RPM attachments.

REAR LIGHT improves visibility to rear of tractor.

ELECTRIC LIFT raises and lowers attachments by use of a switch.

ELECTRIC SPOUT ROTATOR for control of snowthrower chute. Replaces manual rotator.

TURF TIRES AND AG TIRES

REAR BALL HITCH

REAR LIFT

NOTE: Some attachments require certain accessories.

Safety Rules

Read these safety rules and follow them closely. Failure to obey these rules could result in loss of control of vehicle, severe personal injury to yourself or bystanders, or damage to property or equipment. The triangle ⚠ in the text signifies important cautions or warnings which must be followed.

GENERAL

•Read the Operators Manual carefully. Be thoroughly familiar with the controls and the proper use of the equipment.

•Never allow children to operate the machine. Do not allow adults to operate it without proper instruction.

•Do not carry passengers.

•Use only attachments or accessories designed for your machine. See your dealer for a complete list of recommended attachments or accessories.

•Keep the area of operation clear of all persons, particularly small children, and pets.

•Never direct discharge of material toward bystanders.

•Make sure:

a. tractor and attachments are in good operating condition.

b. all safety devices and shields are in place and in good working condition, and

c. all adjustments are correct.

PREPARATION

•Handle fuel with care - it is highly flammable.

a. Use approved fuel container.

b. Never remove the fuel tank cap or add fuel to a running or hot engine, or fill the fuel tank indoors. Wipe up spilled fuel.

•Do not run the engine indoors. Exhaust fumes are deadly.

•Clear the work area of objects which might be picked up and thrown by attachments.

•Disengage all attachment clutches and shift into neutral before attempting to start the engine.

•Wear heavy footwear. Do not operate tractor when barefoot or when wearing open sandals or canvas shoes.

OPERATION

•Before leaving the operator's position for any reason, such as to unclog attachment chutes or to make repairs or adjustments, do the following: lower the attachment, shut off engine and remove key, disengage power to attachments, set parking brake, and shift transmission into forward range.

•Stop tractor and attachments and inspect for damage after striking a foreign object. Repair any damage before restarting and operating the equipment.

•Watch out for traffic when crossing or operating near roadways.

•Operate only in daylight or in good artificial light.

•Never make any adjustment while the engine is running.

•Avoid using brake to control downhill speed. Select low transmission and engine speed before starting downhill.

•Be especially careful not to touch tractor or attachment parts which might be hot from operation. Allow such parts to cool before attempting to maintain, adjust, or service.

•Stay alert for holes in the terrain and other hidden hazards. Be extra careful when operating on wet or slippery surfaces.

•If equipment begins to vibrate abnormally, disengage power to attachments and stop engine at once. Inspect for damage and correct before starting up tractor.

•Use care when pulling loads or using heavy equipment.

a. Use only drawbar hitch point.

b. Limit loads to those you can safely control.

c. Do not turn sharply. Use care when backing.

d. Use weights when recommended in the tractor or attachment Operators Manual.

⚠ WARNING

Slope Operation

Never operate on slopes greater than 35 percent (19.3°) which is a rise of 3.5 feet (1067 mm) vertically in 10 feet (3.1 m) horizontally. When operating on slopes that are greater than 20 percent (11.3°) use rear wheel weights (see your dealer). Select slow ground speed before driving onto slope. Do not use brakes to control speed. Mow UP and DOWN the slope, never across the face, use caution when changing directions and DO NOT START OR STOP ON SLOPES.

•Disengage power to attachment(s) when transporting or not in use.

•Reduce speed before approaching sharp turns to avoid tipping or loss of control.

MAINTENANCE & STORAGE

•Keep all nuts, bolts and screws tight to be sure the equipment is in safe working condition.

•To reduce fire hazard, keep engine and mower free of grass, leaves and excess grease.

•Never store the equipment with fuel in the tank inside of building where fumes may reach an open flame or spark. Allow the engine to cool before storing in any enclosure

ALL WARNING, CAUTION and instructional messages on your tractor and mower should be carefully read and obeyed. Personal bodily injury can result when these instructions are not followed. The information is for your safety and it is important. The safety messages on the following pages are on your tractor and mower.

•Keep hands away from leaks in high pressure fuel lines. The finely atomized fuel can be ejected with sufficient force to penetrate the skin. This can cause serious personal injury. If injured by escaping high pressure fuel, seek prompt medical attention.

•Diesel fuel can be dangerous. Never fill fuel tank when engine is running, when engine is hot, while near an open flame or when operator is smoking.

Decals

⚠ DANGER

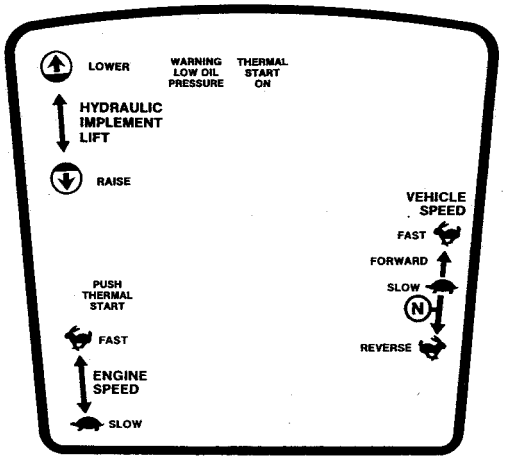
1. Stand clear of discharge opening.
2. Do not operate mower without discharge deflector or entire grass collector system properly installed.

CAUTION

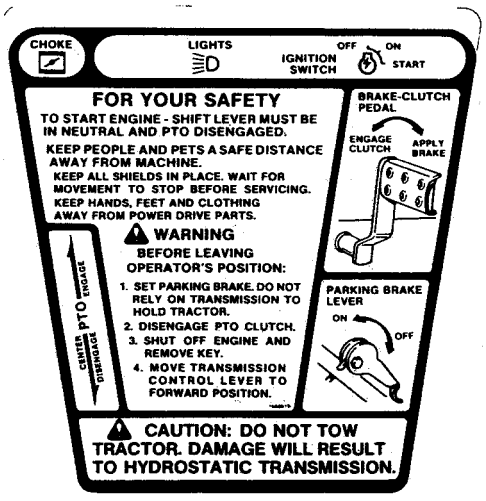
DISCONNECT GROUND (-) TERMINAL WHEN WORKING ON ELECTRICAL SYSTEM TO PREVENT SHORT CIRCUIT

⚠ DANGER
keep hands & feet from under mower

⚠ WARNING
TO AVOID INJURY DO NOT RUN ENGINE WITH SEAT DECK RAISED



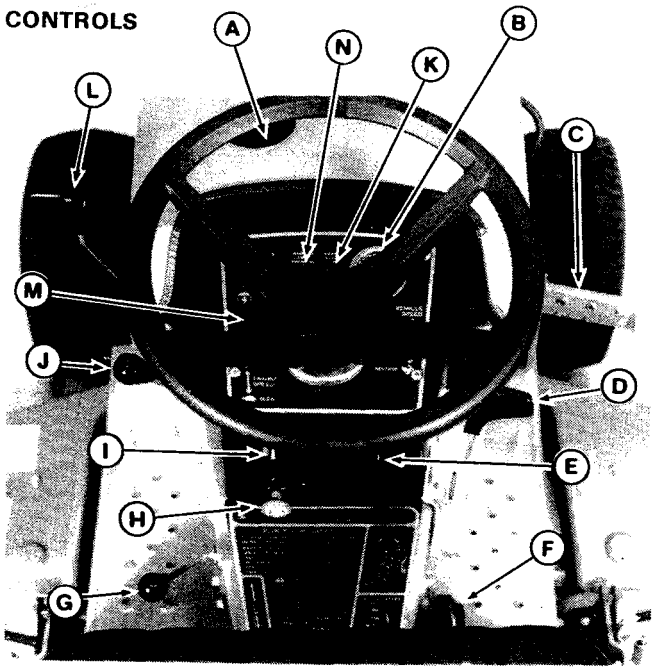
Location: Dash



Location: Console

Operation

CONTROLS



ITEM	NAME	FUNCTION
A	Diesel Gauge	Shows fuel level and serves as tank cap.
B	Ammeter	Shows when battery is being charged or discharged.
C	Clutch-Brake Pedal	Disengages clutch when depressed at least halfway. Applies brake when depressed fully.
D	Transmission Control Lever	Controls tractor speed and direction of travel (forward or reverse).
E	Ignition Switch	Operates with key to start or run engine.
F	Parking Brake Lever	Locks brake to hold tractor in parked position.
G	PTO Lever	Engages and disengages power to attachments.
H	Shut-Off Knob	Pull out to stop engine.
I	Light Switch	Switches headlights on or off.
J	Engine Speed Control	Controls engine speed.
K	Thermal Start Light	Lights up when thermal start is activated.
L	Hydraulic Lift	Lifts and holds attachments in transport position.
M	Thermal Start	Activate to warm up fuel for starting.
N	Oil Light	Lights up when oil pressure is low.

Figure 1. Controls

PRIMING FUEL SYSTEM (Initial Start or After Running Out of Fuel)

1. Add fuel.
2. Loosen bleed screw (B, figure 2) at top of fuel filter. Pump primer lever (A, figure 3) on fuel feeding pump until fuel spills out without air bubbles. Tighten screw.
3. Loosen bleed screw (D, figure 3) at injector pump inlet. Repeat pumping procedure in step 2.
4. Loosen injector lines (A, figure 2) at each injector, then crank engine until fuel appears. Tighten the lines.
5. Engine can now be started.

⚠ WARNING

Refer to your attachment Operator's Manual for special requirements. When mowing with a vacuum collector attachment, always use the front wheel weights.

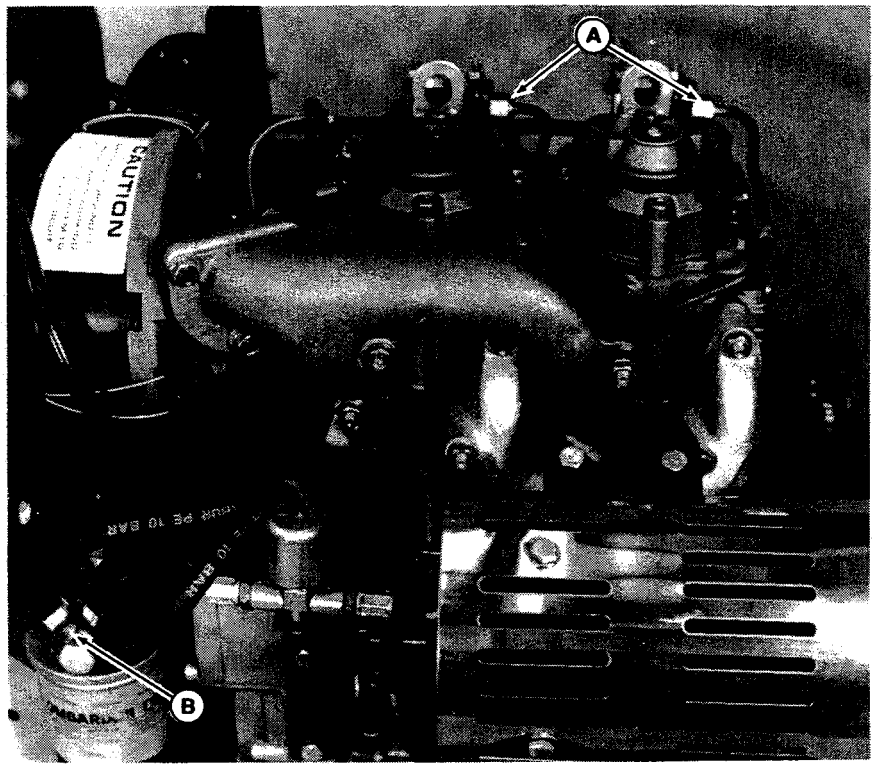


Figure 2. **A. Injector Lines** **B. Screw**

WARNING

Slope Operation

Never operate on slopes greater than 35 percent (19.3°) which is a rise of 3.5 feet (1067 mm) vertically in 10 feet (3.1 m) horizontally. When operating on slopes that are greater than 20 percent (11.3°) use rear wheel weights (see your dealer). Select slow ground speed before driving onto slope. Do not use brakes to control speed. Mow UP and DOWN the slope, never across the face. Use caution when changing directions and DO NOT START OR STOP ON SLOPES.

WARNING

To reduce fire hazard, keep the engine and mower free of grass, leaves and excess grease.

STARTING AND STOPPING THE ENGINE

Checks Before Starting

1. Check oil level and check diesel fuel level, as described in Normal Care schedule.
2. Make sure all nuts, bolts, screws and pins are in place and tight.

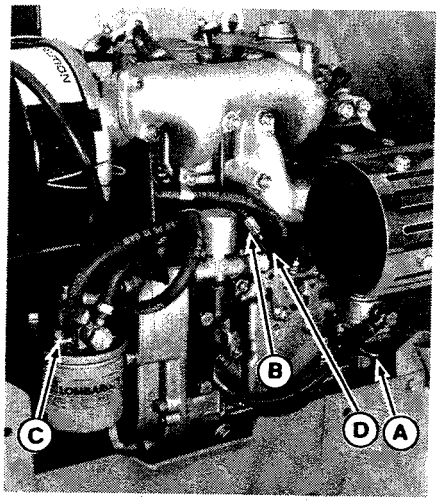


Figure 3. Priming Engine
A. Lever, Fuel Pump
B. Injection Pump
C. Screw, Fuel Filter
D. Screw, Injector Pump

CAUTION

Do not push Thermal Start button when engine is running.

NOTE

Be sure free wheeling latch on hydrostatic pump in engaged. See "Moving Tractor Without Engine Power".

Starting the Engine

1. Place hydrostatic-control lever in neutral. Place PTO lever in disengaged position.
2. Place throttle lever fully forward, especially in cold weather. Also in cold weather, depress clutch-brake pedal.
3. Push shut-off knob in.
4. Turn key to ON.
5. For cold starting (below 32° F) activate Thermal Start Switch and hold for 10 seconds, then release.
6. Turn key to START. Release when engine starts.
7. Allow engine to warm up for a few minutes.

CAUTION

Always pull out shut-off knob to stop engine. Do not turn key to OFF with engine running.

Stopping the Engine

1. Allow engine to idle for a few minutes, then pull out Shut-Off Knob to stop engine.
2. Turn key to OFF to stop power to accessories.

OPERATING THE TRACTOR

Moving Tractor Without Engine Power

Normally, the hydrostatic transmission will not allow the tractor to be pushed. To push the tractor, push the free wheeling latch (figure 9) down. This will disengage the transmission. To engage the transmission, pull the latch up.

Starting & Stopping

1. Start the engine. Set engine speed control between 1/4 and 1/2. Make sure transmission control lever is in neutral, then release clutch-brake pedal. The attachment can be raised to transport position, if desired.
2. Make sure path in desired direction of travel is clear. Release parking brake.
3. Push transmission control lever to the right to clear the neutral notch. Move lever slowly forward to move tractor forward or pull lever back to move tractor rearward.

CAUTION

Towing the hydrostatic tractor will cause transmission damage. Do not use another vehicle to push or pull the tractor.

Mowing Conditions	Engine Speed Control	Hydrostatic Lever Position
Rotary Mower (Smooth terrain-normal grass)	S F	N R F
Rotary Mower (Rough terrain-heavy or wet grass)	S F	N R F

Table 1. Hydrostatic Operation Chart

4. Adjust engine speed control for desired engine speed. Adjust transmission control lever to desired ground speed. See Table 1. Engage the PTO with moderately fast motion to avoid belt wear.
5. **To stop** tractor motion, move transmission control lever to the neutral position notch. You can also stop by depressing clutch-brake pedal.
6. **Before leaving tractor seat,** do the following:
   a. Lower the attachment.
   b. Disengage power to attachment.
   c. Move engine speed control to SLOW. Allow to idle momentarily then pull out Shut-Off Knob to stop engine.
   d. Turn key to OFF and remove it.
   e. Set parking brake.
   f. Move transmission control lever to forward position.

BREAK-IN PERIOD

During the first 100 hours of operation, you should observe the following general rules.

a. Avoid unnecessary idling of engine, as this will cause engine operating temperature to fall below its normal operating range, forming deposits on valves and piston rings. It is best to stop engine if tractor is to be idling for longer than five minutes.

b. Check oil levels frequently. Watch for signs of leakage.

c. Change the engine oil after the first 20 hours of operation. After the first 50 hours, change oil and filter.

d. After first 20 hours, check all external bolts for tightness.

e. Use sufficient engine speed to avoid "lugging."

Normal Care

NORMAL CARE SCHEDULE

See Table for a schedule of normal care for tractor and mower.

WARNING

Before performing maintenance, lower the attachment, shut off engine and remove key, disengage power to attachments, set parking brake, and move hydrostatic control lever into forward range.

LUBRICATE TRACTOR

1. There are six grease fittings on the tractor. Wipe fittings clean before greasing.
   a. One fitting in each front axle spindle (right-hand spindle shown in figure 4).
   b. One fitting on clutch-brake pedal (figure 4);
   c. One fitting on steering gear under tractor (figure 5);
   d. Two fittings on the right hand rear axle (figure 6).

(cont'd on page 13)

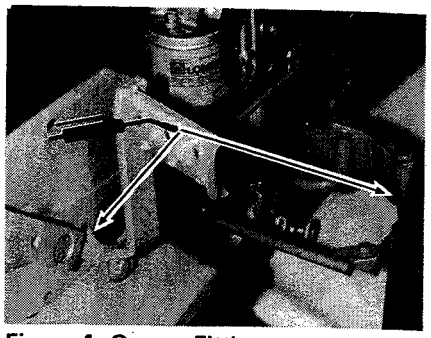


Figure 4. Grease Fittings

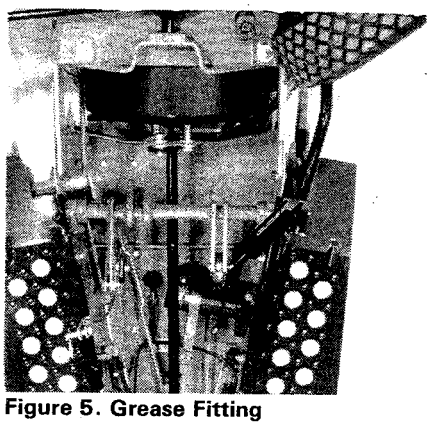


Figure 5. Grease Fitting

	Schedule						
Care Required	See Page	Before Starting	Every 5 Hours	Every 25 Hours	Every 100 Hours Or Yearly	Every 300 Hours	Every 600 Hours*
Check for loose hardware.	—		•				
Check tires.	13			•			
Lubricate tractor.	12			•			
Check bevel gear box fluid level.	13			•			
Check transmission fluid.	14				•		
Check trans. screen.	13		•				
Clean and check battery.	13			•			
Repack front wheel bearings.	14				•		
Lubricate mower idler pulley pivot.	16				•		
Clean, sharpen & balance blades.	17				•		
Check/add oil.	18	•	•				
Check air cleaner. Replace as needed.	18	•	•		•		
Refueling.	19	•					
Change oil.	19				•		
Tighten fuel lines.	20					•	
Replace fuel filter.	20					•	
Clean fuel pump.	20					•	
Clean oil filter.	19					•	
Clean cooling fins.	20					•	
Set rocker arms, clean injectors.	20						•
Check cylinder head torque. 33.5 ft. lbs.							•

***See your dealer for assistance.**

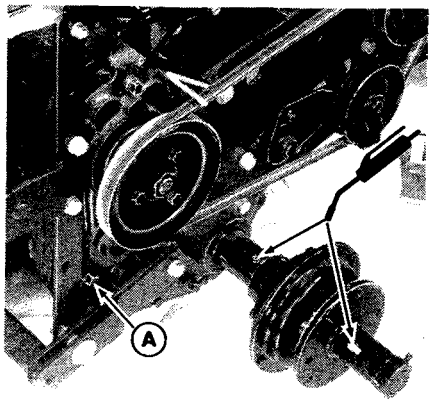


Figure 6. Grease Fittings
A. Oil Level/Fill Plug

2. A few drops of engine oil should be placed on the numerous pivot points and moving parts of the tractor and mower. Keep oil off belts and pulleys to prevent belt damage. Place oil at all points where metal parts rub together, such as rods and rod guides, levers, etc.

CHECK BEVEL GEAR BOX FLUID LEVEL

Check the bevel gear box fluid level. Remove the fill plug (A, figure 7) and wipe oil off attached pin. Insert the fill plug loosely in hole (do not screw in). In this position the fluid should just touch the bottom of the pin. If not, add *Simplicity* Multi-Purpose oil or Allis-Chalmers Power Fluid 821. Do not overfill.

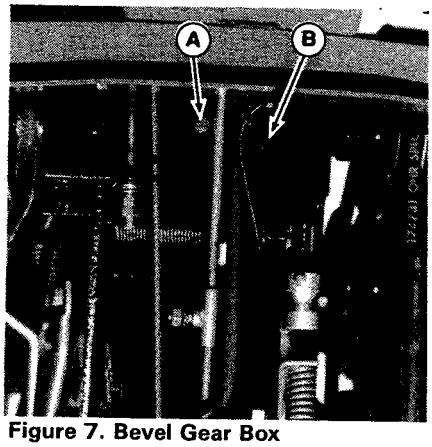


Figure 7. Bevel Gear Box
A. Oil Fill/Check Plug
B. Bevel Gear Box

CLEAN AND CHECK BATTERY

WARNING

Always disconnect the negative cable FIRST and reconnect it LAST. The positive terminal can easily be shorted to the tractor frame by a wrench or other tool if this is not done. Avoid spilling electrolyte. Keep flames and sparks away from the battery to avoid an explosion. After reconnecting the cables, make sure the cover is in place over the positive terminal.

1. The battery and cables can be cleaned with baking soda and water. Clean the terminals and clamps with a wire brush. Coat the clamps with grease or petroleum jelly to inhibit corrosion.
2. Remove the caps to check the fluid level. The fluid should be even with the split ring full mark. If not, add distilled water.

CHECK TIRES

Check the air pressure of all four tires. Front tire pressure should be 12 to 15 psi (82 to 103 kPa). Rear tire pressure should be 6 to 8 psi (41 to 55 kPa).

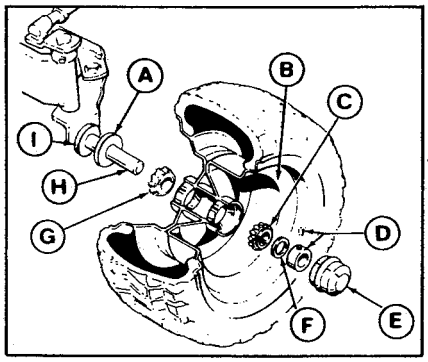


Figure 8. Repack Front Wheel Bearings

A. Seal	**F. Washer**
B. Wheel	**G. Inner Bearing**
C. Outer Bearing	**H. Spindle**
D. Collar & Setscrew	**I. Spacer**
E. Grease Cup	

REPACK FRONT WHEEL BEARINGS

1. Block or jack up front of tractor for wheel removal.
2. Pry off grease cup with a screwdriver or a claw hammer (figure 8).
3. Loosen collar setscrew using an Allen wrench.
4. Remove collar, washer and outer bearing.

NOTE

Keep the two bearings separated. Each should be put back in its original place.

5. Remove wheel and inner bearing.
6. Wash spindle, bearings and internal part of wheel. Use a solvent and remove all old grease. Wipe dry.
7. Inspect seal. If seal is damaged, replace it.

NOTE

Use only a prime quality wheel bearing grease. Keep grease clean and free of dirt.

8. Coat seal and spindle with grease.
9. Lubricate bearings completely with grease. Use hand to force grease and fill spaces between bearing rollers.
10. Install inner bearing, washer and collar.
11. Install outer bearing, washer and collar.
12. Press collar towards tractor and spin wheel slowly to seat bearing.
13. When wheel and bearings are seated and against seal, hold collar and tighten setscrew securely.
14. Test seating by attempting to wobble wheel. If wobble is more than just evident, loosen setscrew and repeat steps 12, 13 and 14.
15. Replace grease cup and wipe up any excess grease.
16. Repeat entire procedure for other wheel.

CHECK TRANSMISSION FLUID

1. The tractor must be on a level surface and the free wheeling latch (A. figure 9) must be completely down.
2. Wipe the transmission fill cap (C) and fill tube (D) clean. Remove the cap (C).
3. Lift and hold the relief valve (E) open.
4. Fluid should be at top of filler pipe. If not, add *Simplicity* Multi-Purpose Hydraulic/Transmission Oil or Allis Chalmers Power Fluid 821.

NOTE

The filter should be replaced every 400 hours of operation.

CHANGE TRANSMISSION FLUID & FILTER

NOTE

The filter is shown in figure 9. Replace filter every 400 hours of operation or whenever changing transmission fluid. Transmission fluid should be changed only when performing repair work on transmission or hydrostatic unit or if it becomes discolored from over-heating.

1. With hydrostatic transmission fluid hot, park tractor on level ground, place transmission control lever in neutral, place any PTO clutch levers in the disengaged position, engage parking brake, and stop engine. Press free wheeling latch (figure 9) down firmly to disengage the hydrostatic pump.
2. Remove hydrostatic transmission drain plug (B, figure 10) from lower right hand side. Remove dirt from around the fill cap (C, figure 9) and loosen cap to permit air to enter transmission.

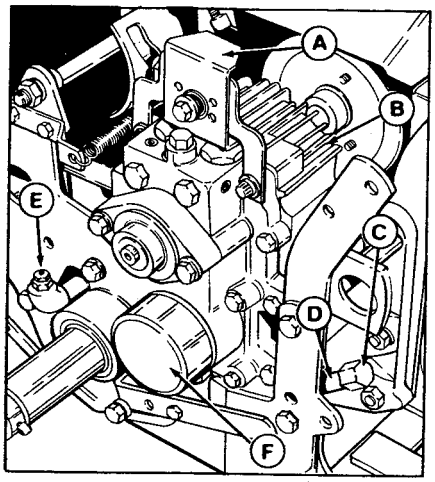


Figure 9. Hydrostatic Transmission
A. Free Wheeling Latch
B. Cooling Fins
C. Fill Cap
D. Fill Tube
E. Relief Valve
F. Filter

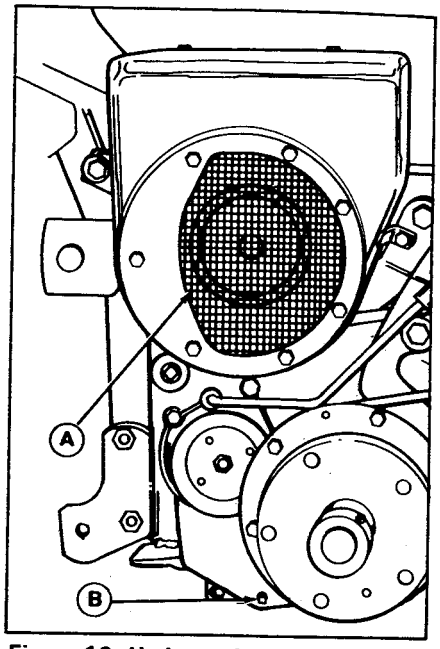


Figure 10. Hydrostatic Transmission
A. Cooling Fan Screen
B. Drain Plug

3. Clean dirt from the hydrostatic transmission filter and filter holder into which it is mounted and remove and discard filter.
4. When fluid has drained out of transmission, install new hydrostatic transmission filter in the following way:
   Fill the filter with *Simplicity* Multi-Purpose Hydraulic Transmission Oil or Allis-Chalmers Power Fluid 821. Coat gasket with transmission fluid, screw filter on until gasket contacts base, then tighten 1/2 to 3/4 turn more. Use no tools. Turn by hand only. Install and tighten drain plug securely.
5. Remove the fill cap (C, figure 9) and clean dirt away from the relief valve (E). Using a clean funnel, add *Simplicity* Multi-Purpose Hydraulic/Transmission Oil or Allis-Chalmers Power Fluid 821 into the fill tube while holding the relief valve up until fill tube will accept no more fluid. Replace the fill tube hand tight.

NOTE

Vent rod must be held fully up for the entire time that fluid is being added.

6. Start engine and set it at idle speed, or slightly above.

⚠ CAUTION

Make sure that free wheeling latch is firmly down and that parking brake is fully engaged before starting the engine.

7. Let engine run at least five minutes, then stop engine and immediately lift relief valve and remove fill tube cap. While relief valve is up, pour more fluid into the transmission fill tube until level reaches the "run-over" point of the tube. Then install and tighten the fill tube cap. Total fluid installed should be three quarts or more. Be extremely careful to keep all dust and dirt out of transmission while changing oil and filter. Check filter and drain plug for leaks.

LUBRICATE MOWER IDLER PULLEY PIVOT

1. Remove mower from tractor.

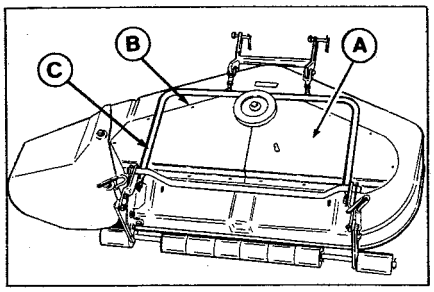


Figure 11A. Mower
A. Cover
B. Taptites
C. Bail Assembly

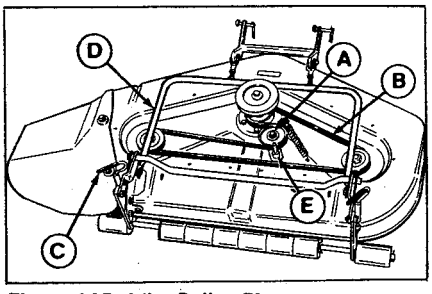


Figure 11B. Idler Pulley Pivot
A. Idler Pulley
B. Belt
C. Height Lever
D. Bail Assembly
E. Idler Pulley Pivot

2. Remove cotter pins to lift the bail assembly (C, figure 11A).
3. Remove the taptite screws to remove the right-hand cover (figure 11B shows both covers removed). Pull bail up enough to remove right-hand cover.
4. Apply a few drops of oil to idler pulley pivot (E). Be sure idler pivots freely.
5. Reinstall cover and taptite screws. Be sure the belt fits inside the belt guide which is located on bottom of cover.
6. Reinstall bail assembly and secure with cotter pins. Be sure to spread legs of cotter pins.

CLEAN, SHARPEN & BALANCE BLADES

1. Remove mower from tractor.
2. Check each of the three blades. Blades should be sharp and free of nicks and dents. If not, sharpen blades as described in remaining steps.

⚠ WARNING

For your personal safety, do not handle the sharp mower blades with bare hands. Careless or improper handling of blades may result in serious injury.

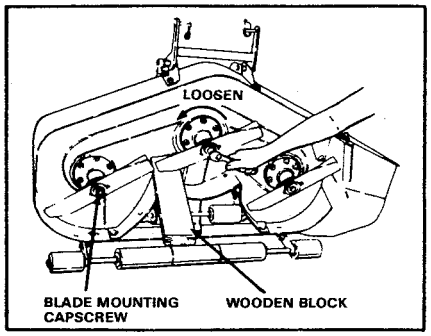


Figure 12. Loosen Blade

3. To remove blade for sharpening, use wooden block to hold blade while removing its blade mounting capscrew (figure 12).
4. Use a file to sharpen blade to fine edge. Remove all nicks and dents in blade edge. If blade is severely damaged, it should be replaced.
5. Balance the blade as shown in figure 13. Center the blade's center hole on a nail lubricated with a drop of oil. A balanced blade will remain level.

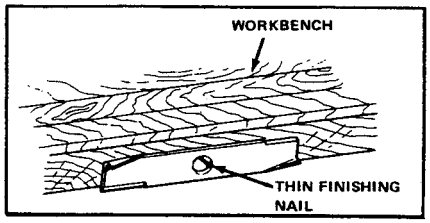


Figure 13. Balance Blade

⚠ WARNING

For your personal safety, blade mounting capscrews must be installed with the cup washer and spline washer and then securely tightened. Torque blade mounting capscrews to 55 ft. lbs. (74.6 N.m.).

6. Reinstall each blade with the tabs pointing up toward deck and secure with a capscrew, cup washer, and spline washer. Be sure spline washer is aligned with shaft splines. Use a wooden block to prevent blade rotation (figure 14) and torque capscrews to 55 ft. lbs. (74.6 N.m).

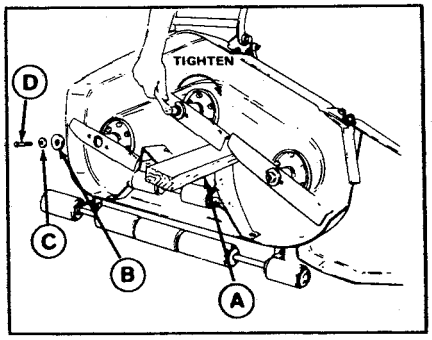


Figure 14. Install Blade

A. Wooden Block **C. Cup Washer**
B. Spline Washer **D. Capscrew**

CHECK/ADD ENGINE OIL

1. Remove dipstick (A, figure 15) and wipe off.

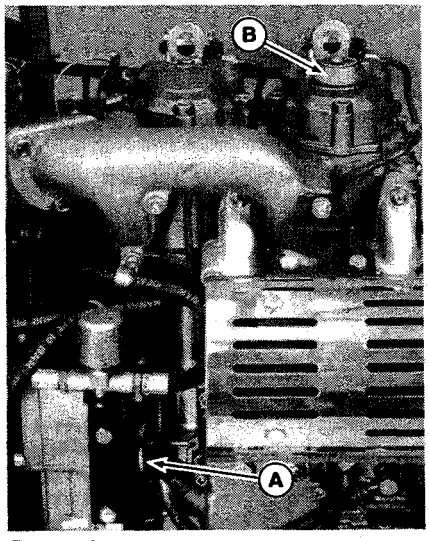


Figure 15.
A. Dipstick **B. Oil Fill Cap**

2. Insert dipstick fully and remove to check level. Level should be between notches.
3. To add oil, remove cap (B). Do not overfill. See page 20 for oil recommendations.

AIR CLEANER

1. Remove cover (A, figure 16) by removing three clips. Disconnect hose from wire holder (A, figure 17).

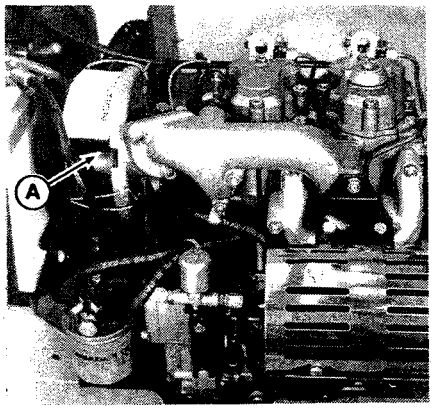


Figure 16. Air Cleaner.
A. Cover

2. Remove the element and felt liner.
3. Check O-ring in housing.
4. To re-install, align notch in cover with notch in base plate.
5. Connect hose to wire holder (figure 17).

WARNING

Diesel fuel can be dangerous and must be handled with care. Never fill the tank when the engine is still hot from recent operation. Do not allow open flame, smoking or matches in the area. Avoid spilling and wipe up any spills.

REFUELING

Fuel used in this Diesel Engine should be Grade No. 2-D as defined by ASTM D975 specification for diesel fuel oils. For maximum performance and fuel filter life, sulfer content should be less than 0.5 percent and water and sediment content should be less than 0.1 percent.

For cold weather operation, below +20° F (—6.7° C). Grade No. 1-D fuel should be used to ensure ease of starting and proper fuel flow. Fuel pour point should be +10° F (5.6° C) below lowest expected ambient temperature.

To add fuel, remove fuel cap (figure 18).

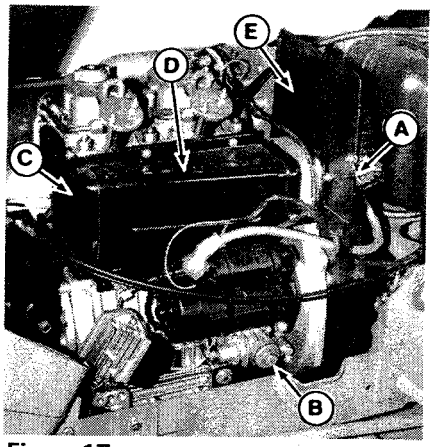


Figure 17.
A. Wire Holder, Air Cleaner Hose
B. Oil Filter Cover
C. Front Cover
D. Side Cover
E. Rear Cover

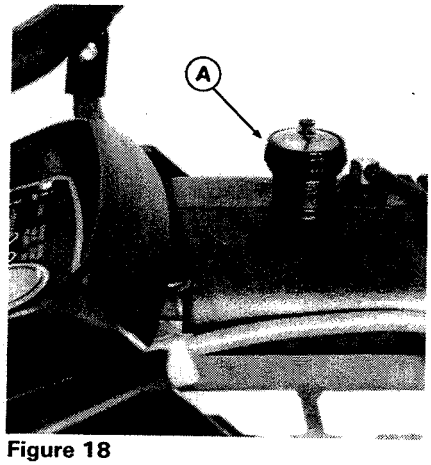


Figure 18
A. Fuel Tank Cap

OIL CHANGE

1. Remove the drain plug (A, figure 19) to drain the oil.
2. Re-install the plug.
3. At 300 hour intervals, clean the oil filter. Remove cover (B, figure 17). Grasp tab to pull out filter.

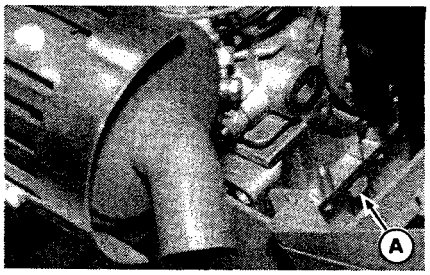


Figure 19.
A. Drain Plug

4. Remove oil filler cap to add oil (2500 mililiters) (figure 15). Do not overfill. Do not use multi-viscosity oils. **Use oils of the CD (DS Series 3) service classification.** Use the following viscosity, depending on temperature.

TIGHTEN DELIVERY UNIONS

1. Locate the two unions on injector pump (figure 20) and tighten. (Lines are metal.)

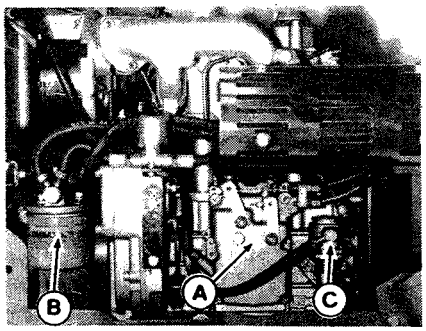


Figure 20.
A. Injector Pump
B. Fuel Filter
C. Fuel Feeding Filter

ENGINE OIL

Expected Temperature	Oil Viscosity
68° and above (20° C and above)	SAE 40
32° to 68° F (0° to 20° C)	SAE 20W
-4° to 32° F (-20° to 0° C)	SAE 10W
-4° F and below (-20° C and below)	SAE 5W

REPLACE FUEL FILTER

Remove fuel filter cannister (B, figure 20) with a filter wrench. Fill the new cannister with fuel before installing.

CLEAN FUEL PUMP

Disassemble fuel feeding (pump) filter (C, figure 20) by removing nut on top. Clean the screen with an air gun. (See your dealer).

CLEAN COOLING FINS

1. To remove front cover (C, figure 17) remove two screws at top and one at bottom.
2. To remove side cover (D) remove three screws at top and one at bottom.
3. Wipe off grass and debris. To clean inside the rear cover, use a thin wire or air gun. (Rear cover can be removed if desired.)

SET ROCKER ARMS/CLEAN INJECTORS

Take tractor to an authorized service center.

STORAGE (UP TO 6 MONTHS)

Replace fuel filter (see procedure on page 20.)

Change oil (see procedure on page 19).

Change oil filter (see procedure on page 19).

Clean cooling fins (see procedure on page 20).

Cover the intake hose.

STORAGE (MORE THAN 6 MONTHS)

If tractor is stored for more than 6 months few precautionary measures are helpful in preserving various parts, also in avoiding future difficulty.

1. Store the tractor under cover. If it is impossible to place under cover, be sure to cover the exhaust pipe.
2. Leave fuel cap slightly loose to protect the gaskets.
3. Block the tractor up to remove the weight from the tires and to keep the tires from contact with the moist floor.
4. Remove the battery and store it in a cool, dry place. Keep it fully charged.
5. Fill the fuel tank to the top to prevent condensation. The fuel should be treated with the proper amount of Diesel fuel conditioner to prevent formation of gum or wax. Run engine long enough to be sure all filters and injection equipment is filled with conditioned fuel.
6. When tractor is removed from storage, it should be serviced throughout, including draining and refilling the engine oil sump with fresh clean oil.

NOTE

If this storage procedure is not followed, operate the tractor for one (1) hour at operating temperature once every three (3) weeks.

TROUBLESHOOTING & BELT REPLACEMENT

For problems not covered in this manual, contact your dealer.

⚠ WARNING

Before performing maintenance, lower the attachment, shut off engine and remove key, disengage power to attachments, set parking brake, and shift transmission into gear (for hydrostatic tractor, shift into forward range.)

TROUBLE SHOOTING CHART

1. **Engine does not crank.**
   - **A.** Transmission control lever not in neutral.
   - **B.** PTO lever(s) not disengaged.
   - **C.** Circuit breaker tripped. Wait one minute for automatic reset. If defective, see your dealer.
   - **D.** Wiring loose or broken. Replace broken wires and tighten connections.
   - **E.** Battery discharged or terminals corroded. Clean terminals or have battery charged.
   - **F.** Faulty electrical system.

2. **Engine cranks but does not start, or is hard to start.**
   - **A.** Out of fuel.
   - **B.** Cold air temperature. (See instructions for Thermal Start Switch.)
   - **C.** Crankcase oil too heavy.
   - **D.** Water in fuel or fuel is stale. Drain and fill with fresh fuel.
   - **E.** Faulty fuel system. See Engine Manual. See your dealer.
   - **F.** Shut-off knob out. Push in knob.
   - **G.** Insufficient fuel.
   - **H.** Air traps.
   - **I.** Loss of compression.
   - **J.** Dirty nozzles.
   - **K.** Battery charge low.
   - **L.** Valve clearance incorrect.
   - **M.** Fuel injection pump faulty.

3. **Hydrostatic Control** - Tractor creeps forward or backward with hydrostatic control lever in neutral position. Perform hydrostatic neutral adjustment.

4. **Engine runs, but will not drive tractor or lacks power.**
   - **A.** **Hydrostatic -** Free wheeling latch down; push latch up. Hoses kinked; check and correct. Clutch idler pivot sticking; lubricate.
   - **B.** Parking brake engaged.
   - **C.** Transmission oil cold. Allow three minutes for warmup.
   - **D.** Transmission fluid low. Add as required. Check for leaks.
   - **E.** Drive belt slipping. See problem no. 5.
   - **F.** Oil too hot.

5. **Drive belt slips.**
   - **A.** Clutch free travel or belt tension out of adjustment. Adjust.
   - **B.** Pulleys or belts greasy or oily. Clean.
   - **C.** Clutch rod binding in guide; oil clutch rod.
   - **D.** Belt stretched or worn. Replace belt.

6. **Brake will not hold.**
   - **A.** Brake (foot pedal or parking) out of adjustment.
   - **B.** Brake lining worn. Replace.

7. **Loss of power.**
   - **A.** Insufficient fuel.
   - **B.** Air in fuel line.
   - **C.** Restriction in fuel line.
   - **D.** Clogged fuel filters.
   - **E.** High idle RPM too slow.
   - **F.** Loss of compression.
   - **G.** Clogged air cleaner.
   - **H.** Sticking valves.
   - **I.** Valve clearance incorrect.
   - **J.** Faulty nozzles.

8. **Irregular operation.**
   - **A.** Governor control linkage binding.
   - **B.** Compression pressure uneven.
   - **C.** Valves not seating properly.
   - **D.** Faulty fuel nozzles.
   - **E.** Low fuel pressure.
   - **F.** Low operating temperature.

9. **Excessive exhaust smoke.**
   - **A.** Engine overloaded.
   - **B.** Clogged air cleaner.
   - **C.** Too much fuel to engine.
   - **D.** Faulty fuel nozzles.
   - **E.** Oil consumption.
   - **F.** Dirty fuel filter.

10. **Engine knocking.**
    - **A.** Engine overload.
    - **B.** Incorrect fuel.
    - **C.** Engine RPM too slow.

11. **Tractor handles poorly.**
    - **A.** Steering linkage loose. Tighten any loose connections.
    - **B.** Improper tire inflation.
    - **C.** Wheels spinning or slipping. Use weights.
    - **D.** Driving too fast for land conditions. Reduce speed.
    - **E.** Steering requires lubrication.

TROUBLESHOOTING (MOWER)

1. **Mower will not raise.**
   - **A.** Lift cable not attached or broken. Attach or replace as necessary.
   - **B.** Lift lever problem. See your dealer.
   - **C.** Hydraulic lift system faulty. See your dealer.

2. **Mower cut is uneven.**
   - **A.** Mower not leveled properly. Perform "Mower Levelling", page 32.
   - **B.** Tractor tires not inflated properly. See tractor manual for correct pressures.
   - **C.** Missing pin on mower hitch. Install pin.

3. **Mower cut is rough looking.**
   - **A.** Engine speed too slow. Use 3/4 to full throttle.
   - **B.** Tractor ground speed too fast. Use slower tractor ground speed.
   - **C.** Blades dull and require sharpening.
   - **D.** Mower drive belt oily or worn. Clean or replace belt as necessary.
   - **E.** Mower idler pulley pivot sticking. Check/lubricate as necessary (See Normal Care).
   - **F.** Mower internal drive belt worn or broken.

4. **Engine stalls easily with mower engaged.**
   - **A.** Tractor ground speed too fast, use slower tractor ground speed.
   - **B.** Engine speed too slow. Use 3/4 to full throttle.
   - **C.** Cutting height set too low when mowing tall grass. Cut tall grass at maximum cutting height during first pass.
   - **D.** Discharge chute jamming with cut grass. Mow grass with discharge pointing toward previously cut area or wait for drier conditions.

5. **Excessive mower vibration.**
   - **A.** Blade mounting capscrews are loose. Torque capscrews to 55 ft. lbs. (74.6 N.m).
   - **B.** Mower blades are bent. Replace.
   - **C.** Mower blades are out of balance. Remove, sharpen & balance blades

6. **Excessive belt breakage occurs.**
   - **A.** Loose or rough pulleys. File off rough edges or replace as necessary.
   - **B.** Incorrect belt. Use belt designed for your mower.
   - **C.** Damaged mower pulley. See your dealer.
   - **D.** Mower not levelled properly. Level the mower.
   - **E.** Operating mower with lift lever in raised position. Operate mower only with lift lever in lowered position.
   - **F.** Belt out of adjustment. See "Mower Installation" procedure.

7. **Belt slips.**
   - **A.** Pulleys or belt greasy or oily. Clean.
   - **B.** Belt stretched. Replace belt.
   - **C.** Belt out of adjustment. See "Mower Installation" procedure.

Adjustments

WARNING

Before performing maintenance, lower the attachment, shut off engine and remove key, disengage power to attachments, set parking brake and shift transmission into forward range.

RAISING THE SEAT DECK

Reach under the seat deck and locate the locking levers (one on each side). Press upward at the tips of both levers and raise the seat deck.

SEAT ADJUSTMENT

1. Lift up the seat.
2. Loosen the four capscrews under the seat and slide the seat forward or back. Tighten the capscrews firmly.
3. The springs can be moved to different holes in the deck for maximum riding comfort. A lighter person will want to move the springs more forward. To change position, lift the springs and move to desired holes.

PTO CLUTCH ADJUSTMENT

The PTO clutch is properly adjusted when the clutch pulley (C, figure 21) moves away from clutch cone (D) 1/16 inch (1.5 mm) when clutch is disengaged. To adjust, proceed as follows.

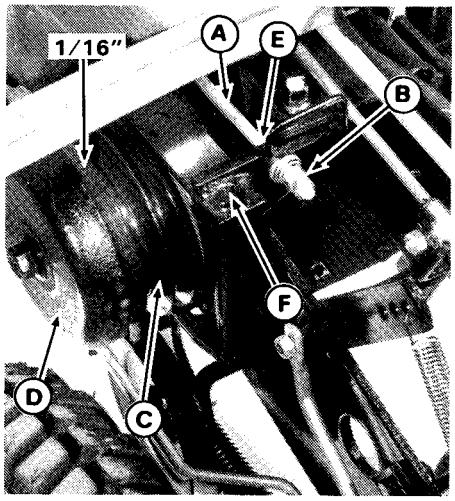


Figure 21. PTO Clutch Adjustment - All Models

A. PTO Clutch Rod
B. Jam Nuts
C. Clutch Pulley
D. Clutch Cone
E. Locknut
F. Pivot Arm

1. Loosen the rear nut (B).
2. Turn the front nut slightly clockwise to increase pulley travel or counterclockwise to decrease pulley travel.
3. Tighten the rear nut against the front nut and repeat the check.
4. Adjust locknut (E) so there is 1/8" between locknut (E) and pivot arm (F) when clutch is disengaged.

ADJUSTMENTS - TRACTOR

1. **To adjust parking brake,** loosen the jam nut (E, figure 22) at parking brake rod end. Rotate the parking brake handle (B) clockwise until it is tight and pulled up against footrest as shown. Operate the brake handle to see if it is too loose or too tight. It should be tight against footrest when set but not too tight to operate. When proper adjustment is made, tighten the jam nut.
2. **To adjust the foot brake,** engage the parking brake. Adjust jam nuts (H) on end of foot brake rod to provide 1/2 inch (12.7 mm) spring length between washers. Depress the pedal to engage

the brake. The drive belt should be slack and free of idler pulley. If not, check clutch adjustment (step 3). Test operate the tractor. If brake doesn't stop the tractor, see your dealer.

3. **To adjust tractor clutch,** adjust jam nuts (J) on clutch rod so there is 1/2 inch spring length between washers with clutch-brake pedal in up position.
4. **Hydrostatic Neutral Adjustment.** If the tractor creeps forward or back when the hydrostatic control lever is in neutral, adjust as follows.

CAUTION

Always stop engine before leaving operator's position. Do not perform adjustment with engine running.

a. Park tractor on level ground, make sure hydrostatic control lever is firmly seated in the neutral notch of quandrant, stop engine and set parking brake.

b. Raise the seat deck and check if the pump control arm roller (E, figure 23) is exactly centered with the cen-

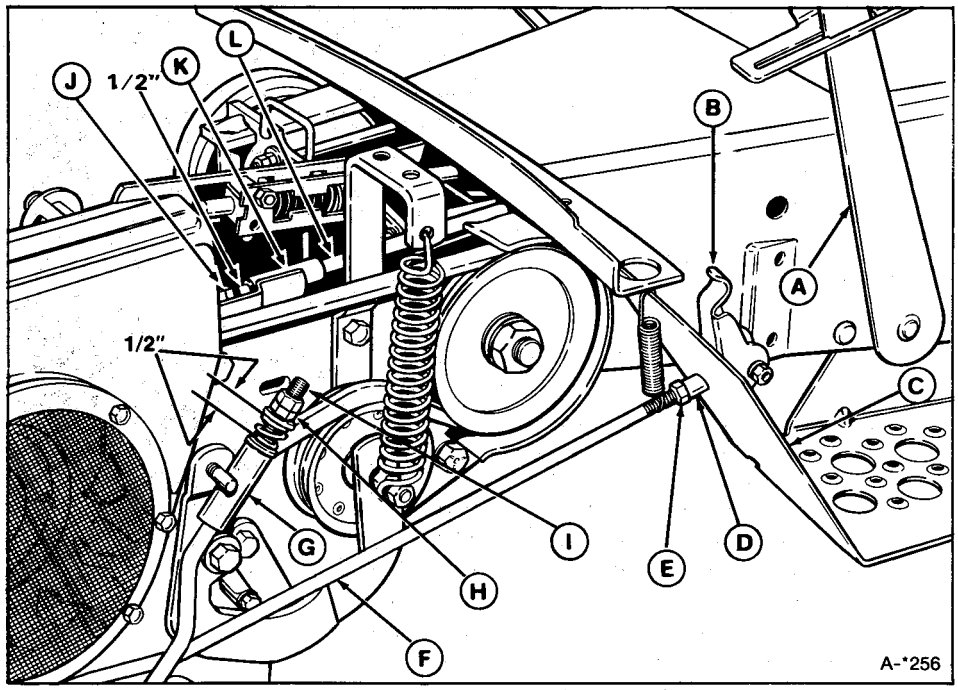


Figure 22. Brake & Clutch Adjustments - Hydrostatic

A. Hydrostatic Control Lever
B. Parking Brake Handle
C. Footrest
D. Parking Brake Rod End
E. Jam Nut
F. Parking Brake Rod
G. Foot Brake Rod Guide
H. Jam Nuts
I. Foot Brake Rod
J. Jam Nuts
K. Clutch Rod Guide
L. Clutch Rod

tering mark (D). If not, loosen bolt (C) and move the control cam (B) until centering mark (D) is centered on roller (E). Tighten the bolt (C).

c. Lower the seat deck, get in operator's seat, start engine and release parking brake. If tractor still creeps with hydrostatic control lever in neutral, note which direction it creeps and proceed with next steps.

d. Stop the engine, set parking brake, and raise seat deck. Loosen the jam nut (H) on end of cam pivot shaft (G). If tractor creep had been in reverse turn adjusting nut (I) 1/8 to 1/4 turn clockwise when viewed from right side of tractor. If tractor creep had been forward, turn nut 1/8 to 1/4 turn counterclockwise. Lock jam nut, lower seat deck, get in operator's seat, start engine, and release parking brake. If tractor still creeps, repeat step "d" turning nut (I) a little at a time until no creep occurs.

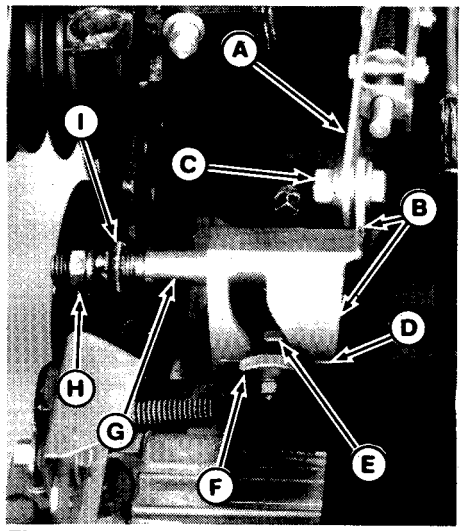


Figure 23. Hydrostatic Neutral Adjustment

A. Control strap
B. Control Cam Assy.
C. Bolt
D. Centering Mark
E. Pump Control Arm Roller
F. Pump Control Arm
G. Cam Pivot Shaft
H. Jam Nut
I. Adjusting Nut

MOWER INSTALLATION

1. Place the mower on a flat, hard, surface. Park your tractor to the right of the mower, and position the tractor front wheels for a sharp right hand turn. Lower the attachment, shut off engine and remove key, disengage power to attachments, set parking brake, and shift into forward range.

WARNING

It will be necessary to start the engine to raise or lower the lift cable. Before starting the engine, always seat yourself in operator's position, shut off the engine, remove the key and wait for moving parts to stop.

2. Make sure the front idler pulley (L, figure 24A) is installed in top mounting tab for mower installation.

3. Start the engine. With vehicle speed lever in NEUTRAL, release the clutch-brake pedal. Push the lift lever forward to lower the cable. Shut off the engine.

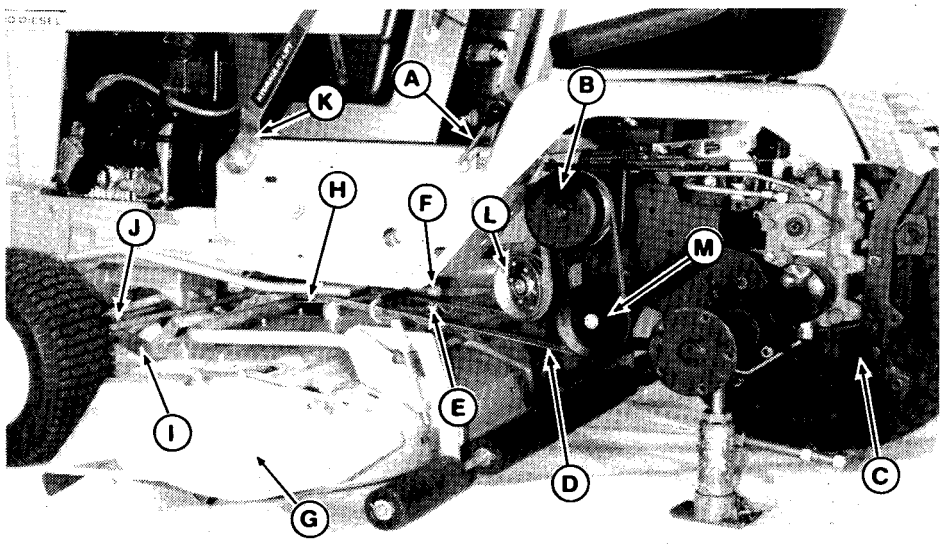


Figure 24A. Mower Installation

A. PTO Clutch Lever
B. Tractor Drive Pulley
C. Belt Tensioning Lever
D. Drive Belt
E. Lift Anchor
F. Lift Cable Clevis
G. Deflector
H. Mower Driven Pulley
I. Rocker Arm
J. Tractor Front Hitch
K. Lift Lever
L. Front Idler Pulley
M. Rear Idler Pulley

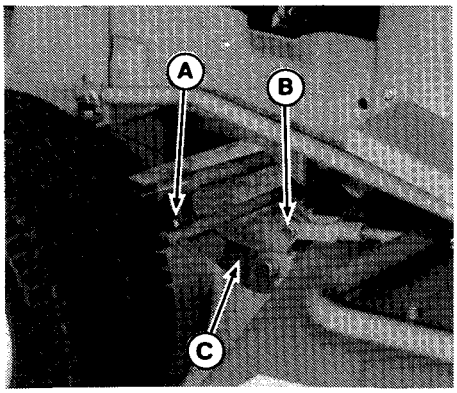


Figure 24B.
A. Pin
B. Pin
C. Mower Hitch

Reach under the tractor to grasp the lift cable and pull it straight down. (The lift cable will not lower if no weight is on it.)

4. Slide the mower under the tractor, then turn the front wheels to face straight ahead. Use the lift cable pin and spring clip to attach the tractor lift cable clevis (F) to mower lift anchor (E).

5. Raise the mower using the lift lever. (Be sure to shut off engine before leaving the seat).

WARNING

Keep hands and feet from under mower.

6. Lift the front of the mower and attach the mower hitch to the tractor hitch (J) using two pins and safety clips. See close-up view in figure 24B. Install the pins from the outside. It is easier to install the left-hand pin first.

7. Lower the mower fully using the lift lever. (Be sure to shut off engine before leaving seat.)

8. Push the belt tensioning lever (C, figure 24A) fully down and forward.

9. Raise the tractor seat to gain access to the PTO pulley.

10. Install the mower drive belt provided on the mower pulley and the tractor pulleys. The belt must be seated in the inner groove of the drive pulley (B). Make sure that flat side of the belt contacts the front idler pulley (L).

11. Pull the belt tensioning lever fully back and up to put tension on the mower drive belt.

12. Pull the belt tensioning lever (C, figure 24) up to tighten the belt. If the belt is new the rear edge of the idler bracket (A, figure 25) should be aligned with the front edge of the green zone show in figure 25. The distance between idler bracket (A) and stop (C) will be approximately 1-3/16 inch (30 mm).

    If the belt has been used before, the rear edge of the idler bracket (A, figure 25) should be in the middle of the green zone shown in figure 25. The distance between idler bracket (A) and stop (C) will be approximately 7/8 inch (22 mm).

    If adjustment is required, go to step 13. If adjustment is not required, go to step 14.

13. Push the belt tensioning lever down to release belt tension. Loosen the nut that secures the rear idler pulley (D, figure 25) in the slot. To move the idler bracket (A) forward, move rear idler pulley (D) toward rear. To move the idler bracket (A) toward rear, move the idler pulley (D) forward. Tighten the nut to secure pulley. Pull the belt tensioning lever up and recheck position of idler bracket (A). Readjust if necessary.

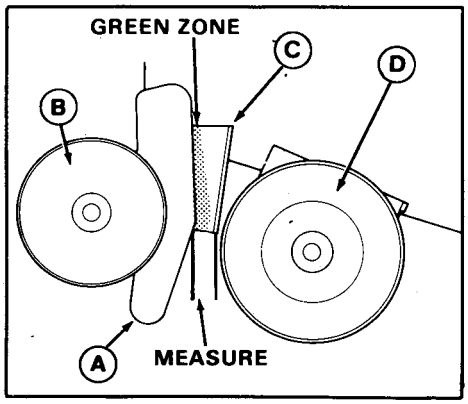


Figure 25. Belt Adjustment

A. Idler Bracket
B. Front Idler Pulley
C. Stop
D. Rear Idler Pulley

14. Operate the tractor with mower engaged for 15 to 30 minutes with a new belt or about two minutes with a used belt. Then stop the engine, remove the key, shift into neutral, set the parking brake

and disengage the PTO. Check position of idler bracket (A, figure 25). If the rear edge of idler bracket is in middle of green zone, the belt adjustment is acceptable. If not, readjust the belt as described in step 13.

15. If a new belt or mower was installed, level the mower as described in following procedure.

NOTE

Check belt adjustment periodically during mower season. Drive belt must be readjusted when rear edge of idler bracket aligns with rear edge of green zone or goes into the red zone.

MOWER LEVELING PROCEDURE

This adjustment is normally required only when installing the mower for the first time or when reinstalling the mower after repairs were made to the tractor or mower hitches which might have affected the level. To level the mower, place tractor and mower on a level surface, set the parking brake, then proceed as follows.

WARNING

For your personal safety, do not handle the sharp mower blades with bare hands. Careless or improper handling of blades may result in serious injury.

1. Check tractor tire pressures. The front tires should have 12. 15 psi and the rear tires should have 6 to 8 psi.

2. Turn both mower height adjustment handles (A, figure 26) fully clockwise to the highest cutting height position.

3. Rotate the mower blades so the tips point straight forward and backward as shown in figure 26.

4. Measure and note the distance from the front tip of the center blade to the ground.

5. Measure the distances from the rear tips of the two side blades to the ground. The side blade measurements should be the same, and the rear measurement should be 1/8 to 1/4 inch (3 to 6 mm) less than the measurement for the center blade front tip made in step 4.

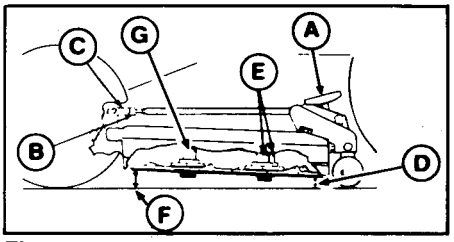


Figure 26. Level Mower

A. Height Adjustment Handle
B. Jam Nut
C. Yoke or Eyebolt
D. Height of Side Blades
E. Side Blades
F. Height of Center Blade
G. Front Blade

NOTE

If the measurements taken are satisfactory, the mower is level and needs no adjustment. If the measurements are incorrect, the mower bail assembly yokes (48" mower) must be adjusted according to step 6. Both yokes must be adjusted to level the mower front to back. If only slight side-to-side level-ing of the two side blades is required, the yoke of only one side need be adjusted.

WARNING

To avoid possible injury when performing step 6, block up the front of the mower before removing the yokes so the mower will not drop down.

6. Level the mower according to the following.
   a. Loosen the jam nuts (B, figure 26).
   b. Remove the cotter pins and then disconnect the yokes (C, figure 26) from the mower hitch.
   c. Turning the yokes changes the length of the bail assembly arms. shorten the bail assembly arms to decrease the front height of the mower. Lengthen the arms to increase the front height. Be sure to give both yokes an equal number of turns for front to back leveling.
   d. Reinstall the yokes on the hitch (the cotter pins need not be reinstalled yet) to check the blade tip measurements. Continue the adjustment and check until the center blade front tip is 1/8 to 1/4 inch (3 to 6 mm) higher than the side blade rear tips.
   e. Reintall the eyebolts or yokes on the hitch and reinstall the cotter pins. Spread the cotter pins around the hitch pins. Then retighten the jam nuts (B).

MOWER REMOVAL

WARNING

Before leaving operator's position, lower the attachment, shut off engine and remove key, disengage power to attachments, set parking brake and shift transmission into gear.

WARNING

It will be necessary to start the engine to raise or lower the mower. Before starting the engine, always seat yourself in operator's position. Before leaving operator's position, shut off the engine and remove the key.

1. Park the tractor on a flat, hard surface where there is room to remove the mower at the left side of the tractor.
2. Push the belt tension lever, (C, figure 24A) fully down and forward to release mower belt tension.
3. Raise the tractor seat deck and remove the mower drive belt from the mower and tractor pulleys (see figure 24A). Close the tractor seat deck.
4. Use the tractor lift lever or electric lift to raise the mower.
5. Remove the safety clips and pins to detach the mower hitch from the tractor hitch. Remove the right hand side pin first. Reinstall the pins and safety clips in the mower hitch for storage.
6. Lower the mower fully.
7. Remove the spring clip and pin to detach the lift cable from the mower. Reinstall the pin and spring clip in the lift cable for storage.
8. Turn tractor wheels for a sharp right hand turn, and slide the mower out the left side of the tractor.
9. Pull the belt tensioning lever fully back and up out of the way to prevent

damaging it when using the tractor without the mower.

DRIVE BELT REPLACEMENT

1. Tie the clutch-brake pedal down in the disengaged position.
2. Raise the tractor seat deck.
3. Remove the capscrew (C, figure 27) and remove the belt guard assembly (B).

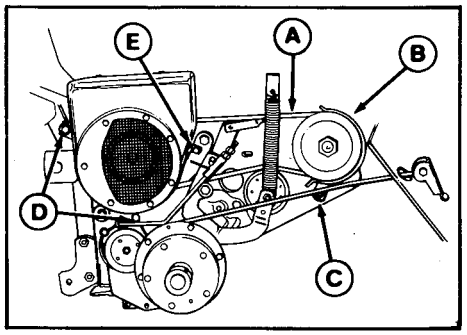


Figure 27. Drive Belt Replacement-Hydrostatic

A. Belt
B. Belt Guard
C. Capscrew
D. Fan Guard Capscrews
E. Thread Forming Screw

4. Remove the two capscrews (D) and the thread forming screw (E) to remove the fan guard assembly.
5. Remove the old belt and install the new one. Make sure the belt is in all pulley groves and is not twisted.
6. Reinstall the fan guard with the capscrews (D) and the thread forming screw (E).
7. Release the clutch-brake pedal and check to be sure belt is still seated in all pulleys.
8. Reinstall the belt guard (B) so the bracket on the back side almost touches the pulley hub. Hold the guard in place and tighten the capscrew (B).
9. Check and adjust the tractor clutch according to the instructions in the Adjustment section.
10. Lower and latch the seat deck when finished.

MOWER BELT REPLACEMENT

1. Remove mower from tractor as instructed in "Mower Removal."
2. Remove the self-tapping screws from the covers. The 48 inch mower has 14 screws.
3. Lift the bail assembly (D, figure 29) slightly to provide access for cover removal. Remove the left-hand belt cover first. Then spring the inner edge of the right-hand belt cover up over the lift anchor and slide it out from under the levelling rod.
4. Clean the interior of the mower belt housing.
5. Unhook the idler spring and then remove old belt. Install new belt and attach idler spring. Reinstall cover, being sure belt is in belt guide on bottom of cover.

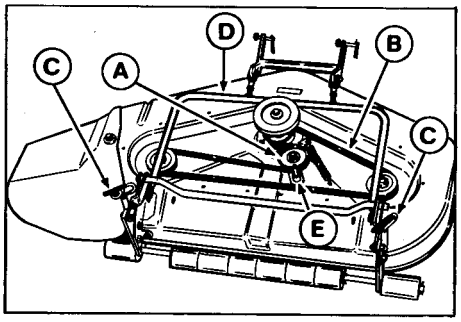


Figure 29. Mower Drive Belt - 42 Inch Mower Shown

A. Idler Pulley
B. Mower Belt
C. Height Adjusting Lever
D. Bail Assembly
E. Lift Anchor

Specifications

ENGINE

Cylinders: Two
Bore: 86 mm
Stroke: 68 mm
Displacement: 790 cm^3

STEERING - ALL MODELS

Type of Linkage: Bevel gear - spindle lever type
Steering Gear Ration: 4.66:1

GROUND DRIVE - HYDROSTATIC

Clutch: Foot operated V-belt clutch between bevel gear & transmission.
Transmission: Air cooled, hydrostatic with variable displacement axial piston pump and with fixed displacement, reversible axial piston motor. Free wheeling valve for maneuvering of vehicle without starting engine.
Transmission Oil Filter: Spin-on filter in charge pump suction line - 25 micron rating.
Final Drive: Hardened spur gears, rolling contact bearings.
Differential: Planetary spur gear, controlled traction.

DIMENSIONS

Height at Steering Wheel: 39.7 in (1008 mm)
Height at Dashboard: 35.7 in (907 mm)
Width: 36.9 in (953 mm)
Length: 70 in. (1778 mm)
Front Wheel Thread: 30 in. (762 mm)
Rear Wheel Thread: 27 in. 686 mm)
Front Axle Clearance: 8 in. (203 mm)
Wheel Base: 50.9 in (129 cm)
Front Tires: 16 x 6.50 x 8
Rear Tires: 23 x 10.50 x 12

Turning Radius: **Inside Rear Wheels - 32**
Outside Front Wheels - 85

MOWER

Effective Cutting Width: 48 in (1219 mm)
Overall Width w/ Deflector: 61 in. (1549 mm)
Cutting Height: Adjustable from 1-5/8 to 3-1/8 (40 to 79 mm)
Number of Blades: 3
Tranport Clearance: 3 in. (76 mm), maximum (low cut)

SPECIFICATIONS FOR TRACTORS AND MOWERS ARE SUBJECT TO CHANGE WITHOUT NOTICE.

Tractor & Mower Identification

When ordering parts, be prepared to give the identification number of the tractor and mower. The I.D. plate for the mower is located on the mower deck. The I.D. plate for the tractor is located on the right side of the frame.

Refer to the engine manual to locate engine I.D. plate. We suggest you record the number for easy reference.

Tractor Mfg. No. _____

Tractor Serial No. _____

Mower Mfg. No. _____

Mower Serial No. _____

Engine I.D. No. _____

Engine Model No. _____

PARTS MANUAL AVAILABLE FOR 7790 SERIES

Simplicity Parts Manuals are fully illustrated. All of the assemblies are shown in exploded views which show the relationship of the parts and how they go together. Important assembly notes and special torque values are included in the illustrations. For standard hardware, a torque specifications chart is included.

To order, enclosed the form with a check or money order made out to SIMPLICITY. Address the envelope to:

Simplicity Manufacturing, Inc.
Attn: Cashier
500 N. Spring Street
P.O. Box 210
Port Washington, WI 53074

Parts Manual TP-1087 contains 7790.

Parts Manual TP-838 contains major attachments and serviced accessories.

Extend Equipment Life - Use Only Genuine Simplicity Repair Parts

☐ I would like a parts manual (TP 1087) for my 7790 Series tractor and mower. Enclosed is a check or money order for $3.00.

☐ I would like parts manual (TP-861) for 7000 Series Attachments. Enclosed is a check or money order for $5.00.

☐ I would like both parts manuals listed below. Enclosed is a check or money order of $8.00.

Simplicity Manufacturing, Inc.
Attn: Cashier
500 N. Spring Street
P.O. Box 210
Port Washington, WI 53074

(Print clearly, this will be your mailing label.)
Allow two to three weeks for delivery.

NAME _____ Tractor Mfg. No. _____

STREET OR RFD _____

CITY _____ STATE _____ ZIP _____

Common Replacement Parts

Listed below are part numbers for the more common replacement parts. Use the order form at the back of the manual to order a complete, illustrated parts manual. Only genuine *Simplicity* replacement parts will assure optimum performance and safety. Do not attempt repairs or maintenance unless proper procedures and safety precautions are followed. For assistance in any area, see your dealer.

QTY PER UNIT	DESCRIPTION	NUMBER
1	Cotter Pin - lift cable	153058
1	Spring Clip - lift cable	918196
1	Transmission Belt - hydro	1650502
1	2 Keys with ring	122203
2	Sealed Beam Lamps	1665853
2	Interlock Switch (all models)	177522
3	Blade - 48" mower	1656143
1	Belt - 48" mower	1657044
2	Mower Hitch Pins	118053
2	Clips for mower hitch pins	176012
2	Cotter pins for levelling mechanism	918452
2	Pins - Levelling - 48" only	154305
1	Battery	1685058
	Grease Gun Kit	1685510
	8 Oz. Tube - for above	103077

QTY PER UNIT	DESCRIPTION	NUMBER
	*Touch-Up Paint Orange, Spray Can	103262
	*Touch-Up Paint White, Spray Can	103049
	Multi-Purpose Hydraulic/ Transmission Oil	1685516 **(Case of 12 qts.)

Pneumatic Tire Seal - Stops Leaks Available in following amounts:	
5½ Oz. Tube	1685522
11 Oz. Tube	1685523
Case of 24-5½ Oz. Tubes	1685524
Case of 24-11 Oz. Tubes	1685525
Split Case - 12-5½ Oz. Tubes and 12-11 Oz. Tubes	1685526

*Also available in 1/2 oz. Brush Cap Daubbers

**See your dealer to buy one-quart cans

Simplicity Manufacturing, Inc.
500 N. Spring Street
P.O. Box 210
Port Washington, WI 53074

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