WHEEL HORSE

OWNERS MANUAL

18 HP AUTOMATIC

SAFETY SUGGESTIONS

IMPORTANT

Safe Operation Practices — Riding Vehicles

Recommended by Outdoor Power Equipment Institute

PLEASE READ AND FOLLOW THE SAFETY SUGGESTIONS LISTED BELOW

1. Know the controls and how to stop quickly — READ THE OWNER'S MANUAL.
2. Do not allow children to operate vehicle. Do not allow adults to operate it without proper instruction.
3. Do not carry passengers. **Keep children and pets a safe distance away.**
4. Clear work area of objects which might be picked up and thrown.
5. Disengage all attachment clutches and shift into neutral before attempting to start engine (motor).
6. Disengage power to attachments and stop engine (motor) before leaving operator position.
7. Disengage power to attachment(s) and stop engine (motor) before making any repairs or adjustments.
8. Disengage power to attachments when transporting or not in use.
9. Take all possible precautions when leaving vehicle unattended; such as disengaging power-take-off, lowering attachments, shifting into neutral, setting parking brake, stopping engine and removing key.
10. Do not stop or start suddenly when going uphill or downhill. Mow up and down the face of steep slopes; never across the face.
11. Reduce speed on slopes and in sharp turns to prevent tipping or loss of control. Exercise extreme caution when changing direction on slopes.
12. Stay alert for holes in terrain and other hidden hazards.
13. 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.
14. Watch out for traffic when crossing or near roadways.
15. When using any attachments never direct discharge of material toward bystanders nor allow anyone near vehicle while in operation.
16. Handle gasoline with care — it is highly flammable.
    a. Use approved gasoline container.
    b. Never remove cap or add gasoline to a running or hot engine or fill fuel tank indoors. Wipe up spilled gasoline.
    c. Open doors if engine is run in garage — exhaust fumes are dangerous. Do not run engine (motor) indoors.
17. Keep vehicle and attachments in good operating condition and keep safety devices in place.
18. Keep all nuts, bolts, and screws tight to be sure equipment is in safe working condition.
19. Never store equipment with gasoline in the tank inside a building where fumes may reach an open flame or spark.
20. Allow engine to cool before storing in any enclosure.
21. To reduce fire hazard keep engine free of grass, leaves or excessive grease.
22. Vehicle and attachments should be stopped and inspected for damage after striking a foreign object and the damage should be repaired before restarting and operating the equipment.
23. Do not change engine governor settings or overspeed engine.
24. When using vehicle with mower:
    (1) Mow only in daylight or in good artificial light.
    (2) Never make a cutting height adjustment while engine (motor) is running if operator must dismount to do so.
    (3) Shut engine (motor) off when removing grass catcher and/or unclogging chute.
    (4) Check blade mounting bolts for proper tightness at frequent intervals.
25. Check grass catcher bags frequently for wear or deterioration. Replace with new bags for safety protection.

WHEEL-HORSE PRODUCTS, INC.

515 W. Ireland Road, South Bend, Indiana 46614

SERIAL NUMBERS

Serial and model numbers are necessary to correctly identify your tractor and engine whenever you need repair parts.

The tractor model and serial numbers are on a plate attached to the left side of the hood stand just below the control panel.

The engine model and serial numbers are on a plate attached to the engine shroud.

For your convenience and ready reference, enter these number in the spaces below.

	Model Number	Serial Number
Tractor	_____	_____
Engine	_____	_____

A separate parts manual is available on request. To obtain a parts manual for your tractor, mail a post card to the address above. Be sure to state the tractor model number and your return address.

OPERATING INSTRUCTIONS

OPERATOR CONTROLS

The controls are clearly identified on the control panels. A few minutes spent getting acquainted with them will repay you with safer, more comfortable and satisfactory operation from the start.

Refer to the accompanying illustrations for locations of the controls described below.

1. THROTTLE CONTROL

Move throttle lever forward to increase engine speed; pull lever back to decrease speed.

2. CHOKE CONTROL

Move choke lever forward to cold start position when starting the engine. Return slowly to run position after the engine starts. If the engine is warm and has been running, choking may not be necessary to restart it.

3. IGNITION SWITCH

The ignition switch has four positions from left to right: (1) off, (2) run and accessories, (3) run, (4) start. To start the engine, turn the key all the way to the right. Release the key when the engine starts and it will automatically return to "run" position. The key must be turned back manually to "run and accessories" position before the electrical accessories will function. When the switch is turned off, the engine stops and all electrical accessories are turned off as well.

4. LIGHT SWITCH

Raise toggle to turn on head and tail lights. Lower toggle to turn lights off. Lights work only when ignition switch is in "run and accessories" position.

5. HYDRAULIC LIFT LEVERS

Mid Lift Lever (Left Lever) operates attachments connected to the mid mount lift levers such as the mid mount mower and snow thrower. OPERATION: Move lever up to lift attachment. Release lever to hold attachment in position. Push lever down to lower attachment. The neutral position will hold the attachment at any position from full up to full down. **Always lower attachment before leaving the tractor unattended.**

3 Pt. Hitch (Right Lever) operates the optional 3 Pt. Hitch or other special rear mounted hydraulically controlled equipment. OPERATION: Move lever up to lift the attachment. Release lever to hold attachment in position. Push lever down to lower attachment. The neutral position will hold the attachment at any position from full up to full down. **Always lower attachment before leaving the tractor unattended.**

6. SPEED CONTROL LEVER

The speed control lever is spring loaded so that it may be moved up and down in the neutral slot. Push the lever down and ahead to go forward. Lift the lever up and pull back to reverse. The brake pedal also moves the lever to neutral for dynamic braking. The control lever also varies ground speed and pulling power independent of engine speed. To increase speed, move handle away from neutral. Increase pulling power by moving handle toward neutral.

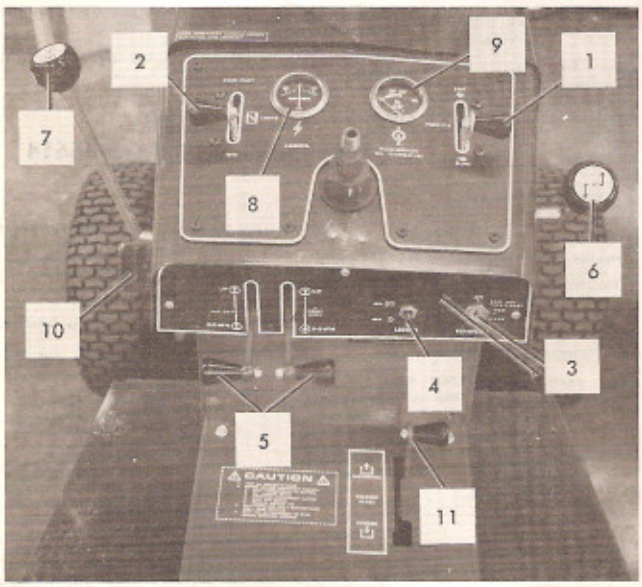


FIG. 1 — INSTRUMENTS AND CONTROLS

7. PTO CLUTCH LEVER

Power driven attachments are engaged with the PTO lever. Push lever forward to engage attachment. Pull lever back to disengage attachment. The lever must be in the disengaged position to start the engine.

8. AMMETER

Direct reading gauge indicates rate at which battery is being charged (+) or discharged (—).

9. TRANSMISSION OIL TEMPERATURE GAUGE

This gauge serves as an indicator of transmission overload or possible malfunction. Operating in the yellow range should be done only for short periods of time. Operating in the red should be strictly avoided.

10. BRAKE PEDAL

The brake pedal located on the left side of the tractor provides dynamic braking to both rear wheels through the automatic transmission. As the brake pedal is depressed, the transmission is shifted to neutral. Always depress the pedal when starting or stopping the engine. The pedal must be depressed when starting the engine as the pedal shaft arm operates the starter safety switch completing the starter circuit.

11. PARKING BRAKE LEVER

To engage parking brake, stop tractor with the brake pedal or by returning the speed control lever to neutral. Hold the brake pedal down and move the parking brake lever from the disengaged position to the engaged position. The brake pedal will remain in the applied position when the parking brake is engaged. **Caution:** Do not set parking brake while tractor is in motion as this may result in damage to the transmission. Always depress the brake pedal before releasing parking brake. The parking brake must be released before moving the speed control lever.

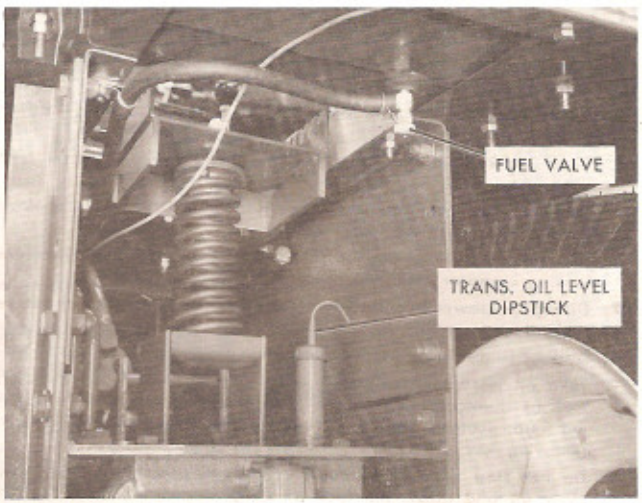


FIG. 2 — FUEL VALVE

12. FUEL VALVE (Located at bottom of tank) Fig. 2

To shut off fuel turn valve clockwise. To open turn valve counterclockwise.

SEAT ADJUSTMENTS Fig. 3

The seat has three adjustments:

1. The back cushion is adjusted by loosening the knob at the rear of the cushion permitting it to slide up and down as desired. Retighten the knob to secure the cushion in place.
2. The seat assembly may be moved back and forth by lifting the back of the seat — sliding it forward or rearward into the desired notch.
3. The seat may be adjusted to the driver's weight by adjusting the L shaped adjusting rod located under the seat which increases or decreases the support spring tension. Turning the handle clockwise increases the tension. Turning the handle counter clockwise decreases the tension.

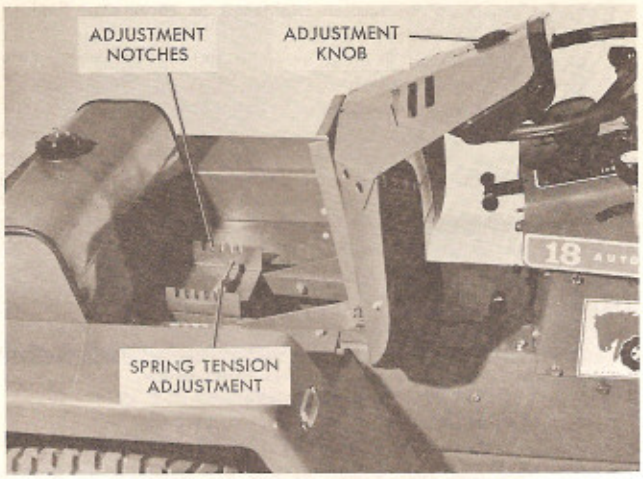


FIG. 3 — SEAT ADJUSTMENTS

SAFETY START INTERLOCK SYSTEM

The dual safety interlock system prevents starting the engine unless, (1) the brake pedal is depressed and (2) the PTO clutch is disengaged. If the starter should fail to operate check the position of the switches to make sure the switch plungers are pushed in when the brake pedal is depressed and when the PTO lever is in the disengaged position. Both switches must make contact so that the starter circuit from the ignition switch to the starter solenoid is completed. The Brake Pedal Safety Switch is located on a bracket inside the frame rails and is actuated by the brake pedal shaft arm. The PTO Clutch Safety Switch is located on the clutch handle bracket at the inside of the left console plate.

STARTING THE ENGINE

Before starting the engine, fill the fuel tank with a good grade of regular gasoline (do not add oil to the gasoline). Open the fuel shutoff valve at the bottom of the tank. Check the engine oil level and add oil if necessary. Do not overfill the crankcase.

Lower attachments and disengage the P.T.O. clutch. Depress the clutch pedal and set the parking brake. Move the throttle lever about halfway forward. Move the choke lever forward to the cold start position. With the brake pedal fully depressed turn the ignition key to the right to operate the starter. When the engine starts, release the key and lower the choke lever. Regulate engine speed with the throttle.

OPERATING THE HYDROSTATIC TRANSMISSION

Tractor speed, direction and braking are controlled by the speed control lever.

- To go forward, push the lever forward.
- To go backward, pull the lever back.
- To stop, put the lever in neutral position. (Pressing the brake pedal does this automatically.)

For safest operation, never move the lever too rapidly, especially on grades.

Most power driven attachments such as rotary mowers are designed to operate at full engine speed. The automatic transmission permits the operator to adjust tractor ground speed to suit operating conditions while continuing to drive power driven attachments at full engine speed for maximum efficiency.

For heavy pulling, moving the control lever toward neutral reduces tractor ground speed and increases pulling power much the same as shifting to a lower gear with a mechanical transmission.

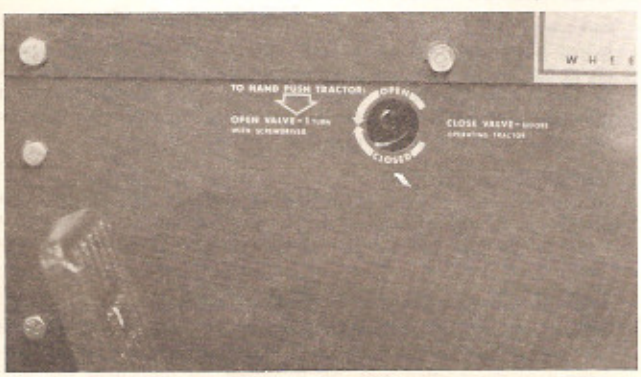


FIG. 4 — PUSH VALVE

PUSH VALVE

This tractor can be hand pushed by opening the transmission bypass valve. Access to the valve is through a hole in the left side console panel. SEE PUSH VALVE decal located adjacent to access hole. The end of the valve shaft incorporates a screw driver slot for turning the valve. TO PUSH TURN THE VALVE ONE (1) TURN COUNTERCLOCKWISE. CLOSE VALVE BY TURNING CLOCKWISE BEFORE OPERATING TRACTOR.

STOPPING THE ENGINE

Disengage the P.T.O. clutch and lower attachments. Lower the throttle lever to idle position. If the tractor has been working hard, allow the engine to idle a short time to normalize temperatures before shutting it off. Depress the brake pedal and set the parking brake. Turn the ignition key to the left to shut off the engine. Remove the ignition key from the switch.

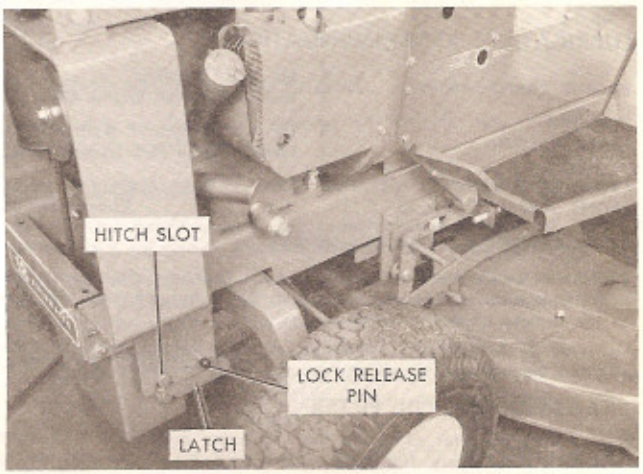


FIG. 5

FRONT AND MID ATTACHMENT HITCHES

Tach-a-matic front and mid hitches are provided for easy installation and removal of attachments without tools.

To install attachments make sure the hitch latch is in the released position — this is done by pushing in on the lock release pin, move the latch lever so the latch is open and release the lock pin to hold the latch in the open position. Insert and center the attachment shaft in the hitch slots and move the latch to the closed position allowing the lock release pin to seat the locking spacer preventing the latch from opening.

Removal of the attachment is done by pushing in on the release lock pin, which allows the latch to be moved to the open position.

REGULAR MAINTENANCE

ENGINE OIL CHANGES

The engine manufacturer recommends that the initial change of oil should be made after the first two (2) hours of operation. Thereafter, the oil should be changed after every twenty-five (25) operating hours or sooner if the tractor is operated in extremely dusty or dirty conditions.

When changing the oil, drain the crankcase after the engine has reached normal operating temperature to insure complete removal of used oil.

CAUTION: Disconnect the high tension wires at the spark plugs to prevent accidental starting of the engine. Unscrew the oil drain plug located on the side of the engine. Be sure oil drains completely.

ENGINE OIL QUALITY

For maximum engine protection under all operating conditions during the oil change intervals shown above use API Service Classification "SC" oil. Engine oils carrying the former API Service Classification "MS" may also be used.

ENGINE OIL VISCOSITY

Oil viscosity number used should be determined by the lowest anticipated temperature before the next oil change period.

TEMPERATURE — VISCOSITY CHART

Air Temperature	Oil Viscosity	Oil Type
Above 30°F.	SAE 30	API Service SC
30°F. to 0°F.	SAE 10W-30	API Service SC
Below 0°F.	SAE 5W-20	API Service SC

ENGINE OIL LEVEL

Form the habit of checking the oil level regularly. Check oil level every five (5) operating hours or each time the tractor is used. To check the oil, position the tractor so that the engine is level, remove the dip stick and add oil if necessary to bring the level up to the mark indicated on the dip stick. When measuring oil level, be sure dip stick is inserted into the filler opening as far as it will go. **Note:** Do not overfill crankcase.

LUBRICATION

The steering mechanism, front wheel bearings, and front axle pivot are equipped with fittings to facilitate lubrication with a pressure grease gun. Lubricate these points after every 8 to 10 hours of operation. Lubricate more frequently under severe dust conditions. All other pivoting arms and levers should be lubricated at the same intervals with either general purpose grease or machine oil applied directly to wear surfaces.

LUBRICATION RECOMMENDATIONS

ENGINE CRANKCASE ..... { SC or MS Certified Sequence-Tested Engine Oil

TRANSMISSION ..... { Dexron or Type F Hydraulic Oil (Wheel Horse Part Number 8827)

FRONT AXLE, SPINDLES, STEERING GEAR,
FRONT WHEEL BEARINGS ..... Chassis Grease

TRANSMISSION OIL CHANGES

Drain and refill transmission once each year or after every 100 hours operation whichever occurs first. Drain by removing the plug at the bottom of the transaxle.

Use care to prevent dirt, clippings or other foreign material from entering the transmission when changing oil or replacing the oil filter.

TRANSMISSION OIL FILTER

Replace the oil filter after the first 10 hours operation. Thereafter, replace it after every 100 hours operation or once per year whichever occurs first.

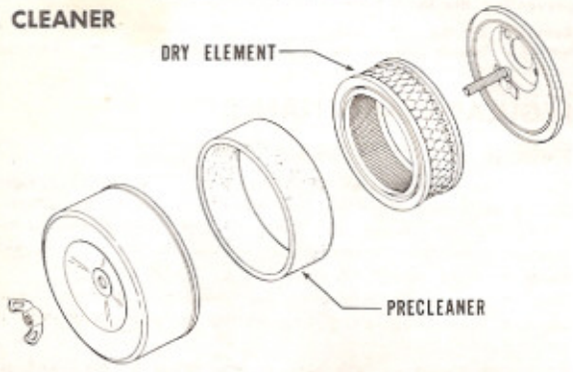
TRANSMISSION OIL LEVEL

The lubricant level should be checked after every 8 to 10 hours of operation. Maintain level to mark indicated on dip stick located in a stand pipe coming from the transmission case accessible from the rear of the tractor.

CAPACITIES

Engine Crankcase	Transmission	Fuel Tank
3 Quarts	6 Quarts	5.7 Gallons

AIR CLEANER



Dirt induced through improperly installed, poorly serviced or inadequate air cleaner elements wears out more engines than does long hours of operation. Even a small amount of dirt will wear out a set of piston rings in a few hours. Also, a clogged element causes a richer fuel mixture which may lead to formation of harmful sludge deposits. Always cover carburetor or air horn when air cleaner is removed.

SERVICE — REPLACEMENT: Dry type elements should be replaced after 100 to 200 hours if engine is operated under good clean air conditions — service and replace element more frequently under extremely dusty or dirty conditions. Dry elements should be cleaned after about each 50 hours of operation — remove element and tap lightly on a flat surface to remove loose surface dirt. Replace element if dirt does not drop off easily. **Do not** wash dry elements in any liquid or attempt to blow dirt off with air hose as this will puncture filter element. When replacing element, use only genuine Kohler elements. Carefully handle new element — do not use if gasket surfaces are bent or twisted. Check the following when installing new or serviced element:

1. Back plate must be securely tightened to carburetor. Replace back plate if bent or cracked.
2. Gasket surfaces of element must be flat against back plate and cover to seal effectively.
3. Wing nut must be finger tight — don't overtighten.

PRECLEANER: The precleaner used with this air cleaner traps much of the dirt, preventing it from entering the dry element thereby extending its life. The precleaner slips over the dry element. Servicing of the precleaner is accomplished by washing it in soap and water then, after rinsing and squeezing out excess water, allowing it to air dry (whenever possible), then reinstall it over element. DO NOT oil the precleaner.

TIRES

The Turf Saver tires front and rear are designed and thoroughly tested to meet all normal operating requirements within the tractor's capacity when inflated to the pressures listed below.

TIRE PRESSURES

Front ..... 12 p.s.i.
Rear ..... 12 p.s.i.

Optional front and rear wheel weights are available to provide and control for operating ground engaging attachments. See accessories list at back of this manual for part numbers for these accessories.

BATTERY

Maintain the electrolyte level above the plates in each cell by adding distilled water as necessary. The best time to add water is just prior to operating the tractor so the water will mix with the solution. Do not overfill the battery. The electrolyte solution is corrosive, and overfilling can cause it to overflow the case and damage surrounding metal parts. The battery should be maintained at 1.260 specific gravity charge. When the battery has been out of the tractor for servicing, take care to connect the wires to the battery exactly as they were before removal.

CHARGING SYSTEM

A 15 Amp Alternator system is used to supply electrical energy to charge the battery which in turn furnishes energy for ignition, cranking and electrical accessories. Regulation is provided by solid state (no moving parts) electronic devices which "sense" the condition of the battery and control or limit the charging rate. Since heat is generated in the operation of these electronic devices, cooling fins are provided on the rectifier-regulator (under the hood stand) to help dissipate the heat. The rectifier-regulator should be kept uncovered to allow proper ventilation when the tractor is in operation.

No service or adjustments are required on this system, but observe the following precautions to protect it from accidental damage:

1. Do not reverse the battery connections. The negative terminal should be connected to ground.
2. Disconnect the rectifier-regulator plug when charging the battery in the tractor or when using a booster battery to start the engine.

SERVICE AND ADJUSTMENTS

ENGINE

Instructions for engine service and maintenance are contained in the engine owner's manual which is provided by the engine manufacturer and furnished with your tractor.
For engine services and adjustments of a technical nature beyond the scope of the owner's manual, see your Wheel Horse dealer.

GRILLE

Note: The grille is located adjacent to the mufflers and engine where considerable heat is generated, therefore, BE SURE THAT GRILLE IS COOL ENOUGH TO HANDLE.

Removal:

Grasp grille near the center with both hands. Lift up to compress the grille spring permitting bottom of the grille rods to come out of their seating holes in the front cover. Pull the bottom of the grille forward and remove the top of the grille rods from their seating holes at the top of the grille shroud.

Installation:

To install insert the top of the grille rods in their seating holes in the top of the grille shroud, lift up to compress the spring and insert the bottom grille rods in their respective holes in the bottom cover.

THROTTLE — FRICTION ADJUSTMENT

The tension has been adjusted at the factory and should need little or no attention. If the lever does not stay where it is set during operation, the friction may be increased by tightening the double adjusting nuts on the throttle bracket.

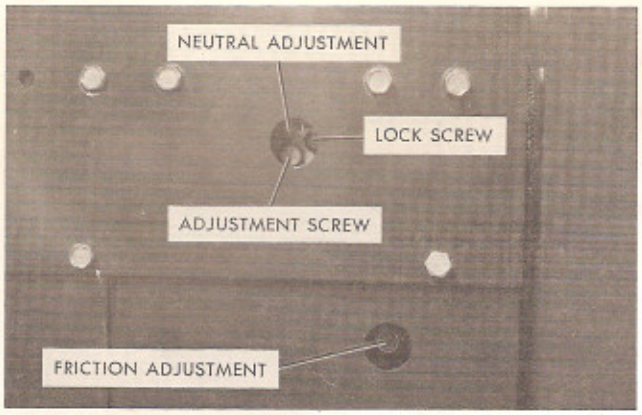


FIG. 7 — SPEED CONTROL ADJUSTMENTS

SPEED CONTROL ADJUSTMENTS

NEUTRAL ADJUSTMENT

An access hole is provided in the right console panel for setting the neutral adjustment. See Fig. 7.

If tractor should creep while in neutral position, adjust as follows:

1. Block rear wheels off ground.
2. Loosen lock screw holding eccentric assembly with a screw driver.
3. Depress brake pedal fully and hold during adjustment.
4. With tractor engine running and parking brake disengaged insert screw driver through hole in the side panel and rotate the eccentric cam pin until rear wheels stop. Retighten lock screw holding eccentric assembly.

FRICTION ADJUSTMENT

The speed control lever is friction loaded to hold selected speeds in either direction. The tension has been adjusted at the factory and should need little or no attention. If the lever does not stay where it is set during operation the friction may be increased by tightening the adjusting nut located through the access hole in the right panel. See Fig. 7.

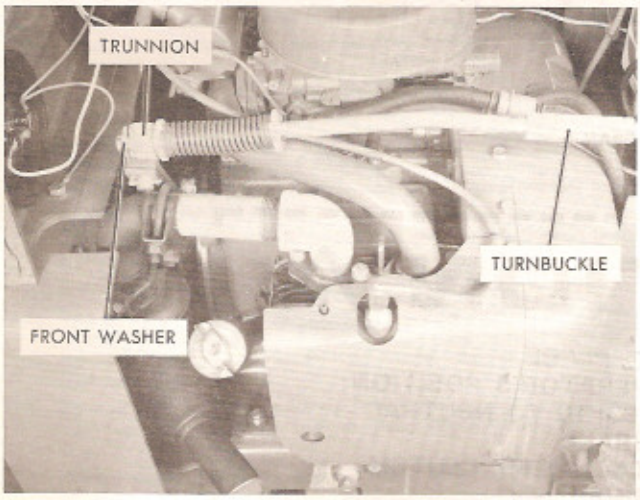


FIG. 8 — POWER TAKE OFF ADJUSTMENT

PTO CLUTCH ADJUSTMENT

1. With the clutch control lever pulled all the way back loosen lock nuts and adjust turnbuckle so that the rear clutch plate facing just clears the pulley allowing it to be turned freely by hand
2. Tighten both lock nuts against turnbuckle.
3. Engage Clutch and Check tension. The front washer on the front clutch rod should just clear the trunnion so it can be turned by hand.

FUEL PUMP

A pulse type fuel pump is mounted on the inside of the left frame panel. It is accessible for servicing by removing the access cover plate. (The plate through which the parking brake handle operates.)

ELECTRICAL SYSTEM — LIGHT CIRCUIT

Fuse:

Lights and accessories are protected by a 20 amp fuse located in a fuse capsule just below the edge of the instrument panel. If the fuse should blow an overload or short circuit is indicated. To eliminate further problems the cause of the fuse blowing should be determined and corrected before installing a new fuse.

HEAD LAMP REPLACEMENT

The sealed beam headlamp units are easily replaced by disconnecting the terminal wires and pushing the bulbs forward from their rubber grommet. **Note: Use care in handling sealed beam units particularly if they are broken.** The bulbs are replaced by inserting them into the rubber grommets from the front making sure the locating tab on the bulbs are seated properly in the notch provided in the rubber grommet. Reconnect wires to same terminal from which they were removed. Looking at the sealed beam units from the rear, the yellow (hot) wire connects to the left terminal and the red (ground line) wire connects to the right terminal. (See wiring diagram.)

TAIL LIGHT BULB REPLACEMENT

To replace the tail light bulbs unsnap lens (cover), remove and replace bulb and reinstall cover.

WHEEL ALIGNMENT

1. Set steering gear on center by counting exact number of turns of the steering wheel. Stop wheel in center of the travel.
2. With the gear centered the rear edge of the bell crank assembly should be at right angles to the frame. If it is not, correct by adjusting the length of the drag link.
3. With the gear centered and the bell crank set as in step 2 adjust tie rods as required to set wheels straight ahead with a small amount of toe-in (1/16-1/8"). When adjusting toe-in keep both tie rods the same length.
4. Turn steering all the way in both directions to see if the steering spindle arms are equally spaced from their respective axle stops. When correct the steering gear will bottom in the end of its travel just before the steering spindle arms touch their stops.

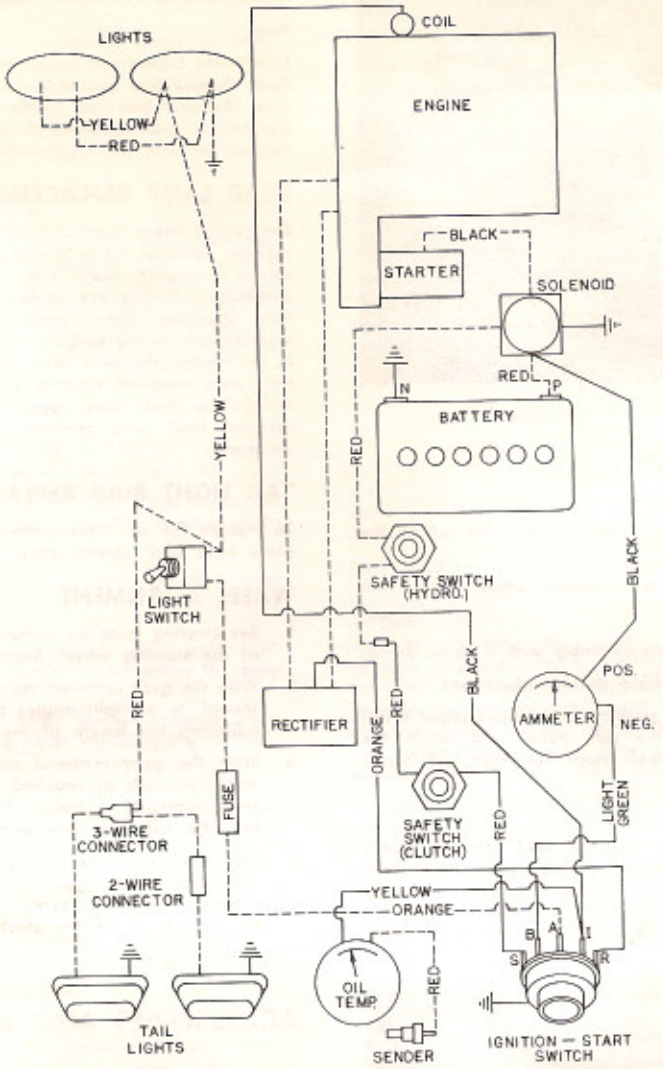
ACCESSORIES AND ATTACHMENTS

ACCESSORIES

	Part Number
GREASE GUN	8-0411
TILLER TINE EXTENSION KIT	8-1001
REAR WHEEL WEIGHTS	8-1141
FRONT WHEEL WEIGHTS	8-1211
TURNING BRAKES	8-1901
TIRE CHAINS	8-2631
8:50 x 15 AGRICULTURAL TIRE ASSEMBLY	8-2821
12:00 x 12:00 WIDE XTRA TRACTION TERRA TIRE	8-2831
REAR PTO	8-3221
3 POINT HITCH (INCLUDES INDEPENDENT HYDRAULIC LIFT)	8-5421

ATTACHMENTS

	Part Number
48" SIDE DISCHARGE MOWER	5-1220
60" REAR MOUNTED MOWER Requires 8-5421 3 Point Hitch and 8-3221 Rear PTO Kit	5-0900
54" DOZER BLADE COMPLETE	6-1131
42" SNOW THROWER COMPLETE	6-7351
48" SNOW THROWER COMPLETE	6-7451
38" TILLER Requires 8-5421 3 Point Hitch and 8-3221 Rear PTO Kit	7-1241
UTILITY WAGON	7-2111
DUMP TRAILER	7-2211
32" LAWN ROLLER	7-2311
36" AERATOR	7-2411
31" LAWN SWEEPER	7-2512
38" LAWN SWEEPER	7-2521



WIRING DIAGRAM

⚠ CAUTION ⚠

1. KEEP ALL SHIELDS IN PLACE.
2. BEFORE LEAVING OPERATOR'S POSITION:
   - A. SHIFT TRANSMISSION TO NEUTRAL
   - B. SET PARKING BRAKE.
   - C. DISENGAGE ATTACHMENT CLUTCH.
   - D. SHUT OFF ENGINE.
   - E. REMOVE IGNITION KEY.
3. KEEP PEOPLE AND PETS A SAFE DISTANCE AWAY FROM MACHINE.
4. WAIT FOR ALL MOVEMENT TO STOP BEFORE SERVICING MACHINE.

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