

OWNERS MANUAL

8 HP Four Speed 8 - 10 - 12 - 14 HP Eight Speed

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
- Do not allow children to operate vehicle. Do not allow adults to operate it without proper instruction.
- Do not carry passengers. Keep children and pets a safe distance away.
- Clear work area of objects which might be picked up and thrown.
- 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.
- 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.
- 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.
- Do not stop or start suddenly when going uphill or downhill. Mow up and down the face of steep slopes; never across the face.
- 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.
- When using any attachments never direct discharge of material toward bystanders nor allow anyone near vehicle while in operation.
- 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.
- Keep vehicle and attachments in good operating condition and keep safety devices in place.
- 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.

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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.

Serial Number

Tractor _____

Model Number

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 location of the controls described below.

1. THROTTLE CONTROL

Raise throttle lever to increase engine speed; lower to decrease speed.

2. CHOKE CONTROL

Raise choke lever to choke when starting the engine. Lower slowly 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 optional electro-magnetic clutch or electrical accessories will function. When the switch is turned off, the engine stops and all electrical accessories are turned off as well.

4. LIFT LEVER

Depress the release button and move the lever forward or backward to lower or raise attachments used with the tractor. When it is desired to hold an attachment at a certain height above the ground, the forward (down) travel of the lever can be limited by the Dial-A-Hite selector. Turn the hand knob right or left until the stop reaches the desired position. Always lower attachments before leaving the tractor unattended.

5. P.T.O. CLUTCH LEVER

Attaching tools are started and stopped by operating the engine mounted P.T.O. Pushing the clutch lever forward engages the friction clutch. Pulling the clutch lever back disengages the clutch. Always disengage the clutch before stopping the engine. The clutch must be in the disengaged position before the engine can be started. (See safety start interlock system.)

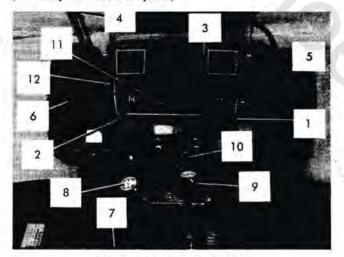


FIG. 1 - OPERATOR CONTROLS

6. CLUTCH/BRAKE PEDAL

The clutch/brake pedal combination makes declutching automatic when the brakes are applied to stop or keep the tractor from rolling. Always depress the pedal when shifting the transmission into or out of gear and when starting the engine. The pedal must be depressed when starting the engine as the pedal operates the starter safety switch completing the starter circuit.

7. PARKING BRAKE LEVER (Not Shown)

The parking brake lever is located below the left front corner of the seat. To set the parking brake, depress the clutch/brake pedal as far as possible and push down on the parking brake lever. To release the brake, depress the clutch/brake pedal.

8. GEAR SHIFT LEVER

Select any of three forward speeds or reverse by moving the lever to the position indicated on the shift pottern decal on the gear shift knob.

9. RANGE SELECTOR (8 Speed Models)

Select either high or low range by moving the lever right or left to the position indicated on the decal on the gear shift knob. Low range provides a 4 to 1 speed reduction and greater pulling power for moving heavy loads in each of the three forward speeds and reverse. Do not use a mid-point position for neutral; neutral must be selected with the gear shift lever.

10. AMMETER (8 Speed Models)

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

11. LIGHT SWITCH (Optional on 8 and 10 HP Models)

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

12. FUEL VALVE

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



FIG. 2 - CLUTCH/BRAKE PEDAL INTERLOCK SWITCH

SAFETY START INTERLOCK SYSTEM

The safety start interlock system incorporates two switches, one operated by the clutch/brake pedal and one operated by the P.T.O. clutch control lever. If the starter fails to operate check the position of the switches in relation to their respective operating levers to see that the switch plungers are pushed in when the P.T.O. clutch lever is in the disengaged position, and when the clutch/brake pedal is depressed. With the switch plungers pushed in the starting circuit from the ignition switch to the starter solenoid is completed. With the switch plungers released the starter circuit is interrupted and the starter will not operate.



FIG. 3 - P.T.O. CLUTCH LEVER & INTERLOCK SWITCH

STARTING THE ENGINE

Before starting the engine, fill the fuel tank with **gagood** grade of regular gasoline (do not add oil to the gasoline). Open the fuel shutoff valve at the left side of the hood stand. 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. Raise the throttle lever about half way. Raise the choke lever as far as it will go. With the clutch/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 4 & 8 SPEED TRANSMISSION

With the engine running, press the clutch/brake pedal down. On 8-speed models select either high or low range with the range selector, and move the gear shift lever into the desired speed forward or reverse. The shift pattern decal on the gear shift knob shows positions for the various speeds. Do not attempt to shift gears without depressing the clutch/brake pedal. Also, do not force the gear shift lever. If the gears do not immediately mesh, let the pedal come back and depress it again. It is neither necessary nor recommended to shift up or down through the gears after the tractor is in motion. The tractor will move out from a dead stop in any gear. To avoid sudden starts, release the clutch/brake pedal slowly, especially in 3rd gear.

The speeds and gears recommended for use with the many attachments and optional accessories are given in the separate instruction sheets for the equipment involved.

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 clutch/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.

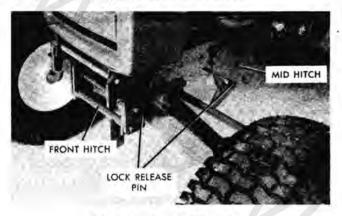


FIG. 4 - TACH-A-MATIC HITCHES

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 lack release pin, move the latch lever so the latch is open and release the lack 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 lack release pin to seat the lacking 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 wire at the spark plug to prevent accidental starting of the engine. Unscrew the oil drain plug located and 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 temperatures 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 at the right rear of the engine, 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. On 8 HP Models the oil is measured by removing the "pipe plug-dipstick". For accurate checking the dip stick assembly should not be screwed in place. 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	SAE 140 A. P. I. Service GL-5 or		
	Wheel Horse Part Number 100193		
FRONT AXLE, SPINDLES, STEERIN	IG GEAR,		
FRONT WHEEL BEARINGS	Charrie Granes		

FRONT WHEEL BEARINGS Chassis Great

TRANSMISSION OIL LEVEL

The lubricant level should be checked after every 8 to 10 hours of operation. Changing the lubricant is not required except for major service. Maintain level to mark indicated on dip stick (located under seat). On 4-speed models maintain oil level to top of filler plug hole located at rear of transmission.

CAPACITIES

Engine Crankcase	Transmission	Fuel Tank
8 HP	4 Speed	
3 Pints	3 Pints	
10-12-14 HP	8 Speed	2 Gallons
2 Quarts	2 Quarts	

AIR CLEANER

Clean element every ten (10) hours or oftener if engine is operated in dusty or dirty conditions. Remove element from housing and top lightly to dislodge dirt. Wipe inside of cover and base to remove all dirt, replace element.

CAUTION. Do not wash or oil this element.

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

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

BATTERY

- 3

Maintain the electrolyte level abave 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 specfic 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.

FILTER COVER WING NUT

AIR FILTER BASE

CHARGING SYSTEM

A 15 Amp Alternator system is used to supply electrical energy to charge the battery which in turn furnishes energy for ignition, crank ing 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 (attached to 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:

- Do not reverse the battery connections. The negative terminal should be connected to ground.
- 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.

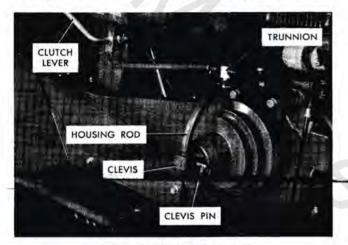


FIG. 5 - MANUAL P.T.O. CLUTCH

P.T.O. CLUTCH ADJUSTMENT

1. Move clutch operating lever fully to the rear.

2. Adjust by turning trunion in or out on the threaded rod as required to obtain γ_8 " clearance between the pulley face and the friction disc.

ATTACHMENT BELTS

Removal:

- Remove hairpin cotter from the trunnion and lift the trunnion out of the top plate.
- 2. Remove clevis pin from the clutch shaft and clevis.

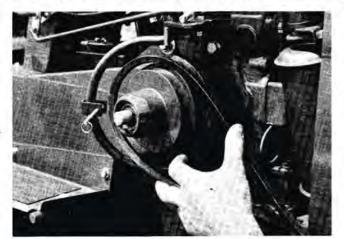


FIG. 6 - MANUAL P.T.O. CLUTCH BELT REMOVAL

 Move the top plate forward and move the pulley assembly in toward the engine enabling the clevis to clear the clutch shaft and swing the clutch housing rod (yoke) to the rear. Remove attachment belt.

Installation:

- 1. Install attachment belt.
- Swing the clutch housing rod (yoke) to the front until the clevis lines up with the clutch shaft. Move the top plate to the rear. Line up the clevis with the hole in the clutch shaft and install clevis pin.
- Insert trunnion in the top plate and secure with the hairpin cotter. If the rod to plate spring has become disengaged, reconnect spring.
- Adjust clutch tension as outlined under Manual P.T.O. Clutch Adjustment.

DRIVE BELT REPLACEMENT

- 1. Remove the belt guard from the tractor.
- 2. Remove hairpin cotter from the trunnion and lift trunnion out of top plate.
- 3. Remove clevis pin from the clutch shaft and clevis.
- Move top plate forward, and the pulley assembly in toward the engine enabling clevis to clear clutch shaft and swing housing rod (yoke) to the rear.
- 5. Engage the parking brake to release the belt tension.
- 6. Remove the old belt and install new belt in its place.
- 7. Release parking brake to apply tension to the new belt.
- Reinstall belt guard making certain the upper and lower belt guides run along the under edge of the belt.
- 9. Swing the clutch housing rod (yoke) to the front until the clevis lines up with the clutch shaft. Move the top plate to the rear. Line up the clevis with the hole in the clutch shaft and install clevis pin.
- Insert trunnion in the top plate and secure with hairpin cotter. If the rod to plate spring has become disengaged reconnect spring.
- Adjust clutch tension as outlined in Manual P.T.O. Clutch Adjustment

RELT. GUIDE ADJUSTMENT

For proper declutching, the belt guides mounted on the belt guard should clear the belt by no more than $\frac{1}{32}$ of an inch (see illustration). To make this adjustment, bend the belt guides with pliers until the clearance is as shown in the illustration.

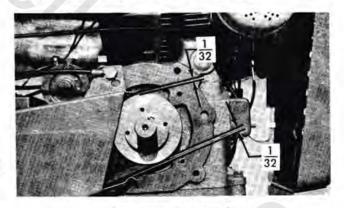


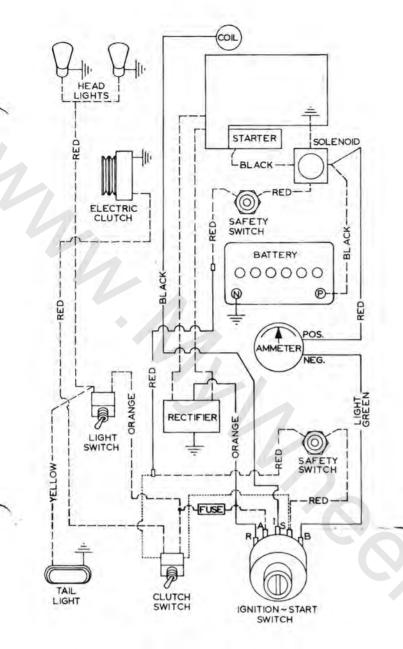
FIG. 7 - BELT GUIDE ADJUSTMENT

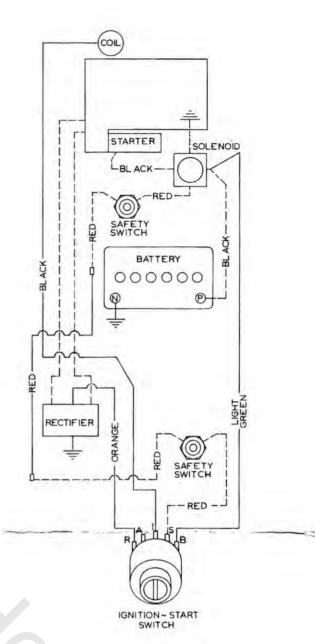
BRAKE ADJUSTMENT

The brake band, located on the left side of the transmission, brakes the transmission shafts and, in turn, brakes the rear wheels.

To adjust the brakes, depress the clutch/brake pedal and move the parking brake lever forward into the engaged position. Tighten the nut on the brake rod until both rear wheels skid when the tractor is pushed — parking brake engaged. Then tighten the nut another $\frac{V_2}{2}$ turn. The brake and parking brake are now properly adjusted.

The clutch/brake rod may be adjusted to set pedal height and travel to suit the operator. To adjust pedal height, remove the cotter pin from the pedal end of the clutch/brake rod and turn the rod in or out until the pedal is in the desired position.





WIRING DIAGRAMS





FIG. 8 - BRAKE ADJUSTMENT

SPECIFICATIONS

(Specifications subject to change without notice)

ENGINE

	8 HP 4 Speed	8 HP 8 Speed	10 HP 8 Speed	12 HP 8 Speed	14 HP 8 Speed
Make: Kohler	K-1815	K-1815	K-2415	K-3015	K-3215
Type: 4 Cycle, sing cylinder, air coole					
Bore:	215/16	215%	31/4	33/8	31/2
Stroke:	23/4	23/4	21/8	31/4	31/4
Displacement (cu. in.):	18.6	18.6	23.9	29.07	31.27
Horsepower: Engine Mfrs. Ratin @ 3600 R.P.M.	g B	в	10	12	14

Ignition: Battery

Automatic Compression Release

Air Cleaner: Dry Type

DRIVE

V-Belt - Engine to Transmission

Idler Clutch operated by combination clutch/broke pedal Clutch is automatically disengaged when broke is applied

TRANSMISSION - 4 & 8 Speed Transaxle

Automotive type, all gear drive, cast iron case All shafts rotate on needle or ball bearings Gear Ratio: Input to axles

Maximum reduction

1st gear 66.75:1 8 speed — 1st gear low range: 267.2:1

4 speed -

Speeds: 6 Forward

2 Reverse

1/2 to 6 M.P.H. Automatic Transpower Differential — Limited Slip Type (12 & 14) Conventional Differential (8 & 10)

DIMENSIONS

Length-Overall — 4 speed
Wheel Base – 4 speed
Width-Overall — 4 speed — 8 HP
Width at Front Wheels
Height-Overall
Height to Top of Hood - 4 speed
Crop Clearance — 8 speed — 10-12 HP
Frame Clearance - 8 speed - 12-14 HP
Transmission Clearance 8 speed 12-14 HP 7½" 8 speed 8-10 HP 634" 4 speed 8 HP 5½"
Turning Radius
Shipping Weight 8 HP 4 speed 570 lbs. 8 HP 8 speed 590 lbs. 590 lbs. 10 HP 8 speed 610 lbs. 610 lbs. 12 HP 8 speed 660 lbs. 661 lbs. 14 HF 8 speed 665 lbs. 665 lbs.
TINES

TIRES

ELECTRICAL

Battery: 12 volt — 42 Amp. Hr. — 10, 12, 14 HP 24 Amp. Hr. — 8 HP Charging System: Alternator w/Solid State Regulator Starter: Bendix Type Switch: Key start, 4 position, w/Accessory Terminal

ACCESSORIES AND ATTACHMENTS

ACCESSORIES

Part Number	ŕ
CHROME WHEEL DISCS - 8-10-12-14 - 8 speed 8-0512	ġ
8 HP - 4 speed 8-0551	
DUAL WHEEL KIT - 8 speed 8-0731	
ELECTRIC LIFT - 8 speed 8-4221	
ELECTRIC CLUTCH - 8 HP 8-3521	
10-12-14 HP 8-3513	ò
IMPLEMENT HITCH (Clevis Type) 8-5511	
(Slot Type) 8-5521	
LIGHT BAR KIT	į,
LIFT FOR SNOW THROWER (Spring Assist without Power Lift) 8-4311	
TIRE CHAINS (for 12 & 14 HP #8 speed) 8-2511	
(for 8 & 10 HP - 8 speed) 8-2521	
(for 8 HP - 4 speed) 8-2721	
WHEEL WEIGHTS (Rear) - 8 speed 8-1111	
····· #-1121	
(Front) 8-1211	

ATTACHMENTS

Port Number	-
CULTIVATOR (Mid & Rear)	
DISC	
42" DOZER BLADE 6-4113 w/6-9622	4
DUMP TRAILER	5
GRADER BLADE - 8 speed	**>
50" SICKLE BAR MOWER - 8 speed 7-1312	
LAWN SWEEPER - 31" 7-2511	
38" 7-2521	
LAWN ROLLER	
LAWN VACUUM (Except 8 HP)	
48" ROTARY MOWER (Side Discharge)* 5-1210	
42" ROTARY MOWER (Side Discharge)** 5-1010	
36" ROTARY MOWER (Rear Discharge) 5-0621	
(Side Discharge) 5-0721	
37" SNOW THROWER (10, 12, 14 HP 6-6212 w/6-9113	
32" SNOW THROWER (8 HP) 6-0200 w/6-9113	
EXTENSION SIDE PLATES for 6-0200 & 6-6212 8-0221	
LAWN AERATOR	
SPIKE TOOTH HARROW 7-1611	
36" TILLER (Requires 8-5521 Slot Hitch) 7-1211	
UTILITY WAGON	
PLUS OVER 40 ALLIED ATTACHMENTS	
* Not recommended for 8 & 10 HP Models	

** Not recommended for 8 HP Models