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TORO®

FOR YOUR SAFETY

Two of the most potentially serious types of accidents involving power mowers are contact with the mower blade and overturning the rider/tractor. To minimize the possibility of having these types of accidents, read and follow these instructions. Also refer to the Safe Operation Practice in this Operator's Manual for other important safety information.

BLADE CONTACT

! DANGER! Mower Blades are Designed to CUT: therefore,

ALWAYS:

- Shut off engine and set parking brake.
- Remove ignition key.
- Allow moving parts to stop before dismounting, servicing, or cleaning unit.

NEVER:

- Perform ANY work on the mower with engine running.
- Mow with other people around, especially children.
- Leave mower unattended.

RIDER/TRACTOR STABILITY

Vehicle stability changes with conditions and is affected by:

- Slope angle and length/bumps/holes, etc.
- Slippery conditions (lawn moisture and length)
- Operator size and position/how loaded/ equipment used
- Speed/braking/steering changes
- Operator physical limitations/alertness

ALWAYS:

- Use good judgement when operating the rider/ tractor, especially on slopes.
- Maintain the vehicle in good operating condition.
- Be attentive to changing conditions affecting vehicle stability.

NEVER:

- Operate vehicle on extreme slopes.
- Operate vehicle across slopes.
- Abruptly change speed or direction.

CONTENTS

⚠ CAUTION ⚠

This symbol marks important instructions relating to your personal safety. To avoid the possibility of injury, read and follow such instructions carefully.

When the manual refers to the left or right side of the vehicle, it means your left and right when sitting in the driver's seat.

SAFE OPERATION PRACTICES — RIDING VEHICLES

GENERAL

1. This machine is capable of amputating hands and feet and can throw objects that can cause injury and damage. KNOW the controls and how to stop machine quickly. READ THIS OPERATOR'S MANUAL and instructions furnished with attachments. Read, understand, and obey all safety messages appearing on the machine and in the operator's manual. LEARN from your operator's manual and from careful EXPERIENCE how to operate your equipment correctly. Know your machine's limitations.
2. Keep hands, feet, hair and loose clothing away from attachment discharge area, underside of mower deck or any moving parts while engine is running.
3. The use of drugs or alcohol while operating any equipment will place your safety in peril. Do not attempt operation of this machine while taking drugs or medication or while drinking alcoholic beverages.
4. Only responsible persons with mature judgment and proper physical capabilities should be allowed to operate this machine, and only after instruction in the proper use of this equipment.
5. Do not allow children to operate machine.
6. Do not carry passengers.
7. The purpose of this machine is to perform work. This equipment is not intended for sport or recreation.
8. Do not mow when people or pets are around.

9. Clear work area of objects (wire, rocks, etc.) which might be picked up and thrown.
10. 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.
11. Watch out for traffic when crossing or near roadways.
12. Machine and attachments should be stopped and inspected for damage after striking a foreign object. Damage should be repaired before restarting and operating equipment.
13. Do not change engine governor settings or overspeed engine.
14. Wear appropriate protective clothing when operating equipment. Long pants and substantial footwear, not barefoot or open sandals, are essential.
15. Do not operate equipment unless properly seated with feet on footrests or pedals.
16. Keep your eyes and mind on your machine, attachment and the working area. Do not let other interests distract you.
17. Safety switch(es) are intended to stop or prevent starting of engine to help prevent accidents. OPERATOR SHOULD TAKE PRECAUTIONS AND NOT RELY ENTIRELY ON SAFETY SWITCH(ES).
18. Care should be used not to touch equipment or attachment parts which may be hot from operation. Muffler and nearby areas may exceed 150° F. Allow cooling to occur before attempting to maintain, adjust or service.
19. Use of stereo headphones, ear protection or other sound altering/dampening devices may limit your ability to hear warning sounds (horns, shouts, etc.).

FUEL/FIRE PRECAUTIONS

20. Handle gasoline with care — it is highly flammable.
21. Use approved gasoline container. Place container out of reach of children.
22. Use gasoline only as a fuel — never as a cleaner.
23. Never remove fuel cap or add gasoline to a running or hot engine, or an engine that has not been allowed to cool for several minutes after running.
24. Never fill fuel tank indoors. Wipe up spilled gasoline.
25. Open doors if engine is run in garage — exhaust fumes are dangerous. Do not run engine indoors.
26. Do not fill machine with gasoline while smoking or when near open flame or sparks.
27. Never store equipment with gasoline in the tank inside a building where fumes may reach an open flame or spark.
28. Allow engine to cool before storing in any enclosure.
29. To reduce fire hazard, keep engine and attachments free of grass, leaves or excessive grease.
30. Battery acid is a poison and can cause burns. Avoid contact with skin, eyes and clothes and protect your face, eyes and clothing when working around the battery.
31. Battery gases can explode. Keep cigarettes, sparks and flames away from battery.

EQUIPMENT USE AND OPERATION

32. It is recommended that first operation of equipment be done at a slow speed with attachment disengaged. Continue this practice until operator is thoroughly familiar with the controls and has developed operating skills.
33. Disengage all attachment clutches, set parking brake and shift into neutral before attempting to start engine.
34. Disengage power to attachment(s), set parking brake and stop engine before leaving operator position.
35. Disengage power to attachment(s) and stop engine before making any repairs or adjustments.
36. Disengage power to attachment(s) when transporting or not in use.
37. Disengage attachment clutch before attempting to remove the mower from a hole or other obstruction.
38. Disengage power to attachment(s) before backing. Do not mow in reverse unless absolutely necessary and then only after careful observation of the entire area behind the machine.
39. LOOK behind machine to make sure the area is clear before placing the transmission in reverse and continue looking behind while backing.
40. Always back up loading ramps and tilt bed trailers.
41. The parking brake is designed to hold tractor in place at rest, with engine off. Parking brake **will not** restrain tractor with engine running and transmission engaged.

STABILITY/TIPOVER/TRACTION

42. Know the terrain on which you are operating your equipment. There are areas on which your equipment can not be safely operated.
43. Avoid operating equipment on hillsides, slopes or rough terrain. DO NOT operate machine on hillsides or slopes exceeding 15° (27% grade). If safety is in doubt — **STAY OFF THE SLOPE.**
44. Reduce speed and exercise extreme caution on slopes above 10° (18% grade) to prevent tipping or loss of control. Never mow uphill on these slopes — mow downhill only. If a steep hill must be ascended, back up the hill, and drive forward down the hill, keeping tractor in gear. If necessary to turn on hill, always turn downhill.
45. Mow up and down the face of slopes greater than 5° (9% grade), never across the face. Be especially cautious when changing directions on all slopes.
46. Operate your machine smoothly and at a ground speed slow enough to insure complete control at all times. Avoid erratic operation and excessive speed.
47. Sharp turns on any terrain may cause loss of control. Reduce speed and use caution when making sharp turns.

48. Do not stop or start suddenly when going uphill or downhill. Avoid uphill starts. If machine is stopped going up a slope, turn the attachment off and back slowly down the slope keeping the machine in gear. Do not stop or change gears (speed) on slopes.
49. Know the terrain on which you are working. Find hidden obstacles by walking through and inspecting the area prior to operating your equipment in that area. Plainly mark obstacles, such as rocks, ruts or holes and **stay well clear of these obstacles** when operating.
50. While operating, stay alert for holes, rocks or roots, which may cause damage to equipment or upset. Keep at least 3 ft. away from drop-offs, ditches, creeks, culverts, washouts and public highways.
51. Exercise care when mowing around a fixed object to prevent the equipment or attachment from striking the object. When mowing never deliberately run over any foreign object.
52. Areas wet with dew, rain or snow will be more slippery than when dry. Areas covered with loose gravel are more slippery than firm dry ground. Greater stopping distances are required in these slippery areas.
53. Learn to expect changes in operating conditions. Adding or removing attachments or weight to your equipment will make your machine perform differently. Rain, snow, loose gravel, wet grass, etc., change the tractive conditions of the terrain requiring changes in your operating technique, which may include a decision not to operate on that terrain.
54. 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 operator's manual.

ATTACHMENT USE

55. When using attachments never direct discharge of material toward bystanders nor allow anyone near vehicle while in operation.
56. When using machine with mower:
    A. Mow only in daylight or in good artificial light.
    B. Never make a cutting height adjustment while engine is running if operator must dismount to do so.
    C. Shut engine off when unclogging chute.
    D. Check blade mounting bolts for proper tightness at frequent intervals.
57. Keep hands and feet away from rotating blade(s) underneath mower deck. Never place foot on ground when mower is engaged or when mower is in motion.
58. DO NOT operate mower attachment without the chute deflector or complete bagger in place.
59. Exercise care while maneuvering with grass catcher. Front to rear stability may change.
60. When using machine with snowthrower and auger becomes plugged or jammed:
    A. Declutch snowthrower and stop tractor engine immediately.
    B. Disconnect spark plug wire(s).
    C. Clear snow from discharge chute if plugged.
    D. If auger is jammed, remove foreign object and repair any damage to snowthrower before continuing.
    E. Reconnect spark plug wire(s) and resume operation.
61. Never permit anyone to stand near snowthrower auger or discharge opening. Objects may be present in snow, which when thrown, could cause injury.
62. When using snow/dozer blades:
    A. Avoid hitting solid objects. This can damage blade and injure operator.
    B. Always travel at a safe, slow speed.
63. Keep all persons a safe distance away when operating tillers. Always disengage the PTO, lower the attachment and remove the ignition key before making any adjustments.
64. If tiller starts to push tractor, disengage PTO clutch immediately.
65. Use chains, counterweight(s) or wheel weights when suggested in the operator's manual.

MAINTENANCE

66. Keep all nuts, bolts, fasteners and screws tight to be sure equipment is in safe working condition and check them frequently. Repair or replace worn, damaged, distorted or broken parts as needed.
67. Keep vehicle and attachments in good operating condition and keep safety devices in place and working.
68. Under normal usage, grass catcher bag material is subject to deterioration and wear. It should be checked frequently to determine need for bag replacement.
69. Use only genuine Wheel Horse replacement parts to assure that original standards are maintained.
70. Shields, deflectors, switches, blade controls and other safety devices must be in their proper position and functional.
71. Do not operate without muffler or tamper with the exhaust system. Damaged mufflers or spark arresters can create a fire hazard. Periodically inspect and replace if necessary.
72. If equipment begins to vibrate abnormally, disengage power to attachments and stop engine at once. Repair any damage before starting or continuing operation.
73. Periodically inspect all shafts, levers, friction devices and other moving parts subject to wear. Make required adjustment or replace these parts if damaged, distorted or broken, or as soon as wear affects the normal operation of the vehicle or attachment. DO NOT operate equipment that is not functioning properly.

SPECIFICATIONS:

ENGINE:

MACHINE MODEL	ENGINE MODEL*	RATED H.P.**	DISPLACEMENT cu. in./cc	BORE in./mm	STROKE in./mm	IGNITION
724-Z	P-224G-I10966C	24	60/983	3.56/90.48	3.0/76	Electronic

*Letter Prefix: P=TORO POWER PLUS. Basic engine model number shown; type and serial numbers from engine I.D. plate are required to completely identify engine.
**Engine manufacturer's rating at 3600 RPM

TRANSMISSION:

TYPE: HYDROSTATIC

APPROXIMATE GROUND SPEEDS (at FullThrottle)

FORWARD - Variable 0-8.0 mph (11.3 kph)
REVERSE - Variable 0-8.0 mph (11.3 kph)

ELECTRICAL SYSTEM:

	ALL MODELS
Type:	12 Volt D.C., Negative Ground
Alternator:	12 Volt, 20 amp. Regulated
Battery:	12 Volt, 400 CCA

TIRES:

	SIZES - FRONT	SIZES - REAR	PRESSURE - FRONT	PRESSURE - REAR
724-Z	13x 5.00-6	22 x 11.00	12 psi (.85 kg/cm²)	6 psi (.43 kg/cm²)

PHYSICAL DATA:

MODEL	HEIGHT	LENGTH	OVERALL WIDTH	WHEEL BASE	INSIDE TURNING RADIUS	NET WEIGHT (Approximate)
724-Z	48.0 in. (120.0 cm)	72.0. (182.9 cm)	48 in. (121.9cm)	42 in. (106.7 cm)	0 in. (0 cm)	714 lbs. (325 kg)

TUNE-UP/GENERAL MAINTENANCE SPECIFICATIONS:

ENGINE:

MACHINE MODEL	POINT GAP in./mm	TIMING MARK LOCATION	IGNITION TIMING (BTDC)	SPARK PLUG TYPE*	SPARK PLUG GAP in./mm	DIRECTION OF ROTATION	IDLE RPM (No Load)	GOVERNED MAX. RPM (No Load)
724-Z	N/A	N/A	Fixed	RS14YC	.025/.64	Counterclockwise	1400	3600

* Or equivalent (Champion number shown)

LUBRICANT/FUEL CAPACITIES:

CRANKCASE:
2.5 qts. (2.4l) w/o Filter
3.0 qts. (2.8l) w/Filter

FUEL TANK:
Right Side 3 Gallons (11.2l)
Left Side 3 Gallons (11.2 L)

CHASSIS:
Zerk Fittings: 12

VEHICLE IDENTIFICATION NUMBER (VIN) LOCATIONS

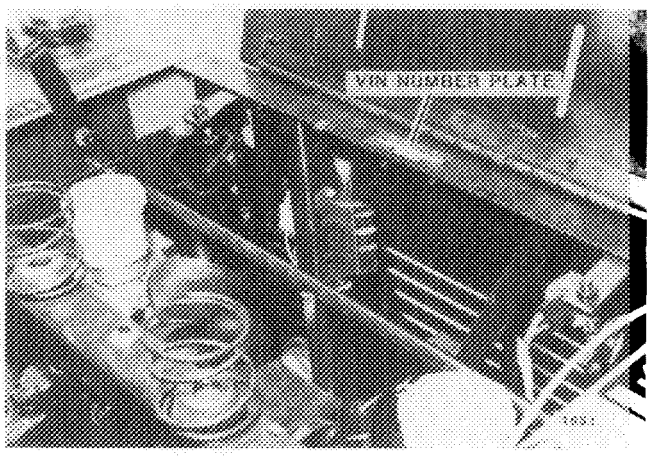
Vehicle identification numbers are used to identify your new tractor and major attachments. These numbers should always be referred to when consulting dealer or factory concerning service, parts, or other information you may require. If these plates are removed during repair operations, they should always be replaced.

Tractor vehicle identification number plate is located just below seat on rear fender.

Engine identification numbers are located on engine shrouding and indicate model, specification or type number and serial number of tractor's engine.

Major attachments also have a vehicle identification number plate attached to them.

For your convenience and ready reference, enter tractor and engine numbers below.



VIN Plate Location

Tractor Identification Number

TORO Wheel Horse
P.O. BOX 2649 SOUTH BEND, INDIANA 46680
I.D. NUMBER
MADE IN U.S.A.

Engine Identification Number

Model _____

Type or Spec. No. _____

Serial Number _____

OWNER REGISTRATION AND WARRANTY

Service and warranty assurance is as important to Toro Wheel Horse as it is to you, the owner. To facilitate warranty service at an Authorized Toro Wheel Horse Dealer, Toro Wheel Horse requires factory registration. A registration card is supplied with each new tractor and attachment. **Either you or your dealer must fill in required information and mail card to Toro Wheel Horse.**

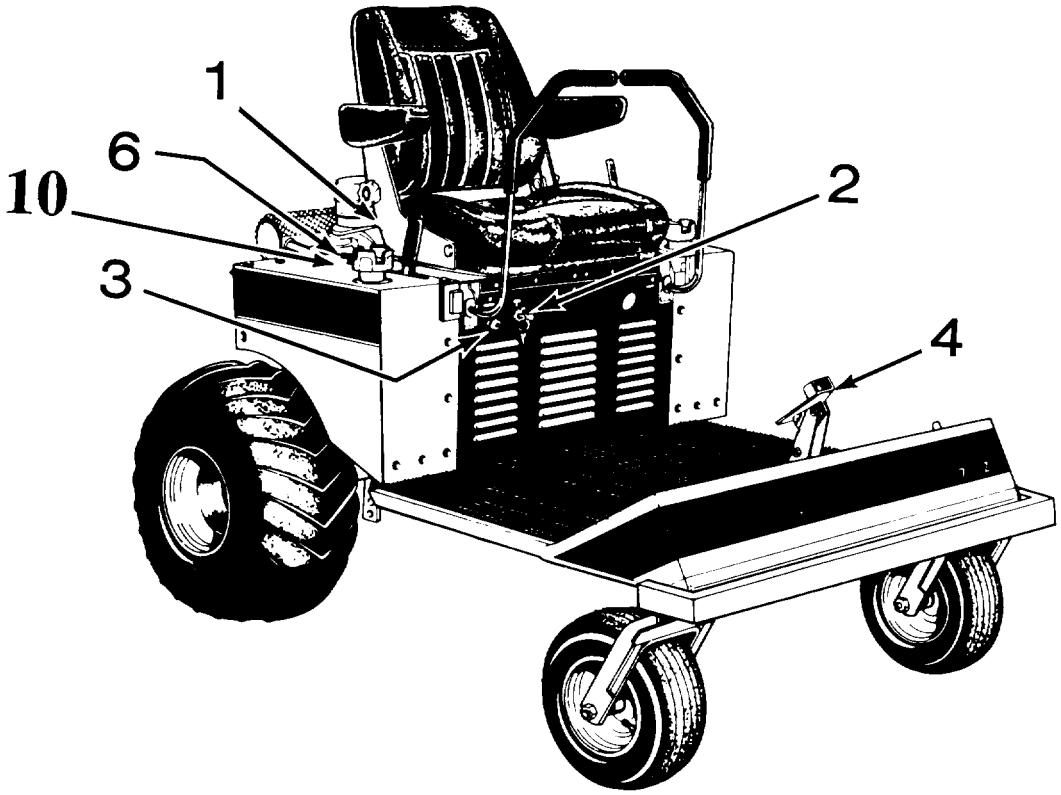
Toro Wheel Horse Limited Warranty Statement is on a "hang tag" attached to each product. This statement describes what items are covered by the Toro Wheel Horse Limited Warranty, your rights and obligations, and procedure to follow to obtain warranty service. Please familiarize yourself with the warranty statement. **All of us at Toro Wheel Horse want you to be satisfied with your Toro Wheel Horse tractor; please don't hesitate to contact us for assistance.**

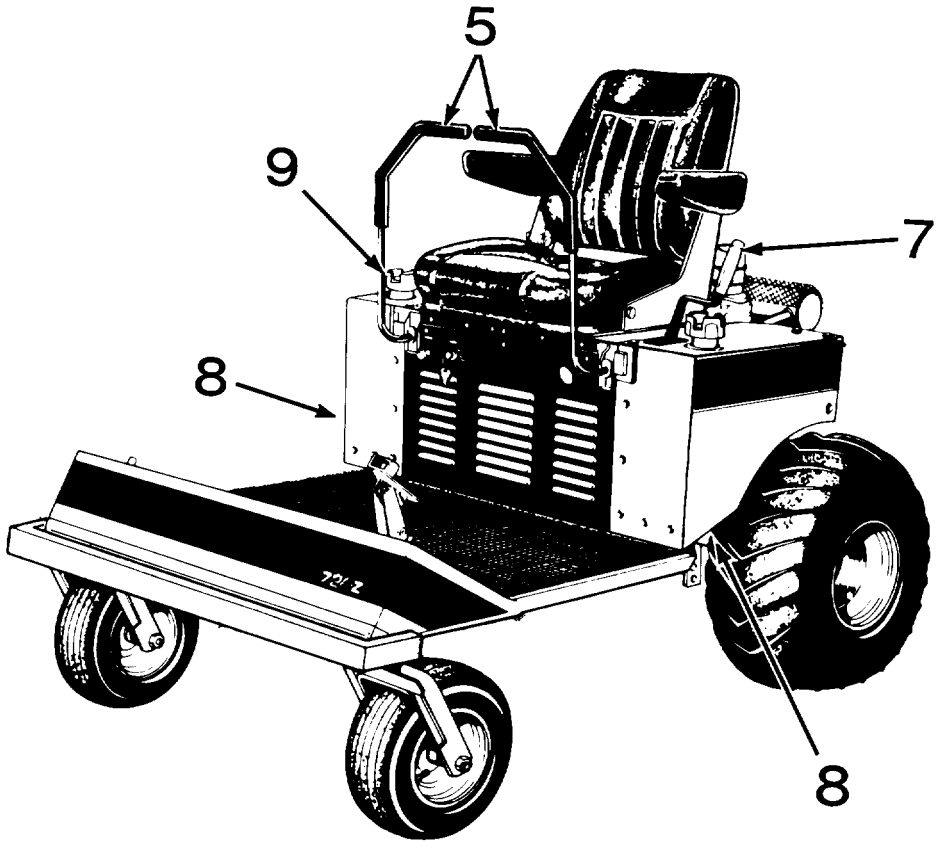
PARTS MANUAL

A separate parts manual is available for your Toro Wheel Horse equipment. To obtain a parts manual, see ordering information at end of this publication.

BE SURE TO INCLUDE VEHICLE IDENTIFICATION NUMBER OF EQUIPMENT.

MACHINE CONTROLS





MACHINE CONTROLS

1. THROTTLE CONTROL

Throttle is located on top of right fuel tank just ahead of fuel cap. Move throttle forward all the way to operate or start machine. Move throttle all the way to rear before shutting engine off.

2. IGNITION SWITCH

Ignition switch is located on right side of front panel below seat. Ignition switch has three positions: (1) Off, (2) Run, (3) Start. To start engine turn key all the way to Start. Release key when engine starts and it will automatically return to Run position. Turn switch to Off position to stop engine.

3. CHOKE CONTROL

Choke control is located on right side of front panel next to ignition switch. Pull choke knob out when starting engine. Slowly push knob in after engine starts. If engine is warm and has been running, choking may not be necessary to restart engine.

4. MOWER LIFT PEDAL

Mower foot lift pedal is located on left side of foot platform. To raise mower, push down on front of pedal. To lower mower, push down and rotate foot to move bottom of pedal down; remove foot from pedal when desired height is obtained.

5. RIGHT AND LEFT MOTION CONTROL LEVERS

Motion control levers move to right, left, forward and rearward. To enter seat, move levers all the way left and right into neutral lock position. Enter seat and move levers in toward center of machine. Left lever controls left rear wheel and right lever controls right rear wheel. To go forward, push both levers forward evenly; further levers are pushed forward, faster machine will travel. To go in reverse, pull both levers to rear evenly; further levers are pulled, faster machine will travel. To turn, slow machine down and slow speed of wheel in direction you want to turn.

6. PTO (POWER TAKE-OFF) ELECTRIC CLUTCH/BRAKE SWITCH

PTO switch is located above right fuel tank next to seat. Mower is engaged and disengaged with PTO switch.

To engage PTO raise switch cover and move switch to "ON" position. To disengage PTO, lower switch cover. This will move switch to "OFF" position. PTO switch must be in "OFF" position in order to start engine.

7. PARKING BRAKE LEVER

Parking brake lever is located above left fuel tank. To engage parking brake move lever back. To disengage parking brake move lever forward.

Parking brake must be in engaged position to start engine.

8. FUEL TANK VALVES

Fuel tank valves are located at bottom of each tank. Fuel valves are normally left open except when service on fuel system becomes necessary.

9. RIGHT HAND FUEL TANK CAP VENT

Right hand gas cap vent should be closed when both tanks are full of fuel to keep fuel at proper level. When left fuel tank approaches 1/4 full, open right cap vent. To close vent, turn knob clockwise. To open vent, turn knob counterclockwise.

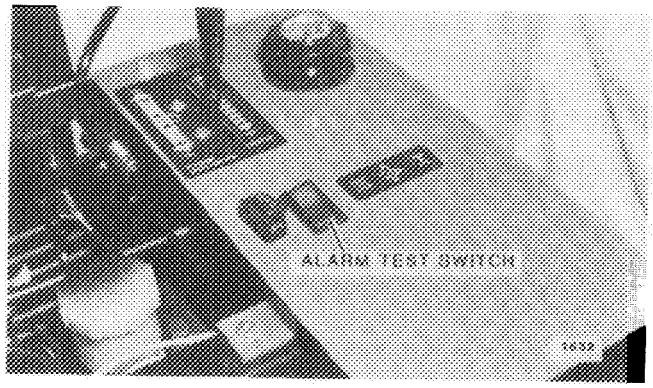
10. ENGINE TEMPERATURE ALARM TEST SWITCH

Test switch is located above right fuel tank next to PTO switch. To test engine temperature alarm, turn ignition key to On position and push down on switch to sound horn.

OPERATING YOUR MACHINE

ENGINE HIGH TEMPERATURE ALARM

Horn alarm must be tested periodically. To test alarm turn ignition key to On position, push down on test switch and horn alarm must sound.



Engine High Temperature Test Switch

SAFETY INTERLOCK SWITCHES

Each machine has two interlock switches. Switches are actuated by parking brake and seat. Parking brake switch prevents engine from starting when parking brake is disengaged. Seat switch will stop engine when seat is vacated with PTO switch in "ON" position. PTO switch must be "OFF" and parking brake engaged before engine will start.

If machine will not start, check that parking brake is engaged and PTO switch is in "OFF" position.

Safety interlock system must be tested periodically. To test operation, following functions must be observed. If not, immediate repairs must be performed by an Authorized Toro Wheel Horse Dealer for your protection.

1. Engine should NOT start if:
   a. Parking brake is disengaged.
   b. PTO switch is "ON".

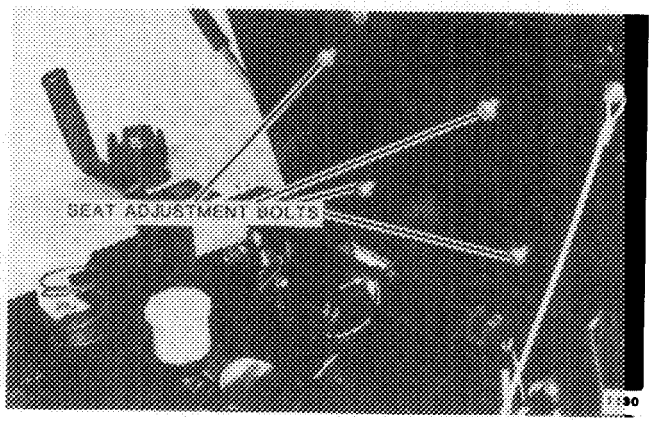
Test each of the above one at a time.

2. With engine running and PTO switch in "ON" position, test operate seat switch by rising off seat. Engine should shut off.

SEAT ADJUSTMENT

The seat can be adjusted for optimum operator comfort.

1. Loosen four bolts.
2. Slide seat to desired position.
3. Tighten all four bolts securely.



Seat Adjustment

CORRECT ENGINE OPERATION

⚠ CAUTION ⚠

Before starting engine, become familiar with all controls. Read this Operator's Manual thoroughly. Always check engine oil level before starting engine.

⚠ DANGER ⚠

Care should be taken to avoid inhaling exhaust gases as they contain carbon monoxide gas which is colorless and odorless. Carbon monoxide is a dangerous gas that can cause unconsciousness and is potentially lethal. Do not run engine in confined areas such as a closed garage.

STARTING ENGINE

Because of a built-in safety interlock system, your machine will not start unless parking brake is engaged and PTO switch is "OFF".

To start engine, engage parking brake. Move throttle control lever to slow position. Pull choke control all the way out to Cold position. Turn ignition key to "Start" position to engage starter. When engine starts, release key. Switch is spring loaded and will return to "Run" position automatically.

If the engine fails to start after 30 seconds of continuous cranking, turn the key to the Off position and allow the starter motor to cool. Check for the cause of hard starting; consult the Troubleshooting Checklist.

Once engine has started, slowly return choke control to operate position. If engine stalls or hesitates during operation, choke should be applied as necessary until engine reaches normal operating temperature.

STOPPING ENGINE

To stop engine; move throttle lever to Idle position and turn ignition key to "Off" position. If engine has been working hard or engine is hot, allow engine to idle a short

time before turning key off. This practice will help cool engine before stopping.

Note: In case of emergency engine may be stopped by turning ignition key to "Off" position.

Engine is equipped with a high temperature horn alarm. During operation if horn sounds, disengage PTO and allow engine to cool. Check cause of engine overheating and correct as necessary or contact your nearest Toro Wheel Horse Dealer for service.

⚠ CAUTION ⚠

Always remove key and set parking brake when leaving machine unattended, even if for just a few minutes. Prevent accidents; don't give children or unauthorized persons an opportunity to operate this machine.

THROTTLE CONTROL

Throttle control regulates speed of engine as measured in RPM (Revolutions Per Minute). This control **Should not** be used to regulate the ground speed.

Engine has been designed with a special governor that limits engine RPM. Unlike an automobile, this governor allows engine to operate most efficiently at a set speed and protects it from damage caused by excessive RPM. Always operate machine with throttle control set at full speed.

CHOKE CONTROL

Choke control activates a "butterfly" valve in carburetor. When choke is partially or completely closed, less air is admitted to engine. This results in a higher fuel-to-air (richer) mixture that is easier to ignite when engine is cold. Choking engine is required when engine is started cold. Warm engines may not need choking.

FUEL RECOMMENDATION

Use clean, fresh, unleaded gasoline. Regular leaded gasoline may also be used but it is not a preferred fuel. Do not use highly leaded premium gasoline. Use of unleaded gasoline results in less maintenance.

⚠ DANGER ⚠

Ignition of fuel can cause serious personal injury or death by fire or explosion. Do not permit any flame, cigarette, or other igniter near the fuel system. Handle fuel with care - it is highly flammable.

If regular leaded gasoline is used continually, carbon and lead deposits should be removed from the cylinder heads as required because of engine power loss. Unleaded gasoline may be used safely after lead deposits have been removed.

⚠ CAUTION ⚠

Do not use gasoline de-icers. Gasoline de-icers can cause internal damage to carburetor and fuel pump parts. Do not use fuels containing alcohol concentrations greater than ten percent. Fuel containing alcohol may cause poor engine performance and internal engine damage.

⚠ DANGER ⚠

Spilled fuel can ignite and cause serious personal injury or death. Never fill the fuel tank when the engine is running. Fill fuel tanks outdoors with extreme care. Never fill fuel tanks indoors. Replace gasoline cap(s) securely and wipe up all spilled fuel.

OIL SPECIFICATION

To protect your machines engine check engine oil level before each use. Complete information concerning recommended oils and how to check oil level is given in "Maintenance" section of this manual.

CORRECT TRANSMISSION OPERATION

TO GO FORWARD OR REVERSE

Machine is equipped with a separate transmission for each rear wheel. Transmissions are controlled with "Motion Control Levers" one for each wheel.

⚠ CAUTION ⚠

Always release parking brake slowly when starting the machine in motion. Sudden starts can be damaging to equipment and could cause loss of operator control.

For safe operation, never move the motion control lever too rapidly, especially on grades.

To go forward, release parking brake and push both levers forward evenly.

To go in reverse, release parking brake and pull back on both levers evenly.

TO CHANGE SPEED OR DIRECTION

To change direction of machine, slowly move levers to neutral and move levers in direction you want to go.

Further levers are moved away from neutral position, faster machine will travel. To turn machine left or right, slow machine down and then slow speed of wheel in direction you want to turn.

TO STOP

To stop machine, return both levers evenly to neutral position. Always engage parking brake, shut off engine and remove ignition key before leaving machine.

CORRECT MACHINE USAGE

⚠ CAUTION ⚠

Read manuals provided with attachments before operating. These manuals give a detailed description of operation and point out other areas of caution. Familiarize yourself thoroughly with equipment before attempting to use it.

OPERATION OF MACHINE:

WITH MOWER

IMPORTANT

Keep all shields and mower discharge chute in place. Never attempt to clear discharge areas or mower blades without disengaging mower and removing ignition key.

IMPORTANT

Each time mower is installed, check for proper operation of PTO clutch and brake.

For best operation on average lawns, operate engine at full throttle, control ground speed with transmission. Uneven cutting is often a result of excessive ground speed. To correct, reduce ground speed. Average lawns are usually cut at a height between 2 and 3 in. (5-7.6 cm). Tall grass and weeds should be cut with the mower in its highest position, making a second pass cutting to height desired. Always keep mower blades sharp.

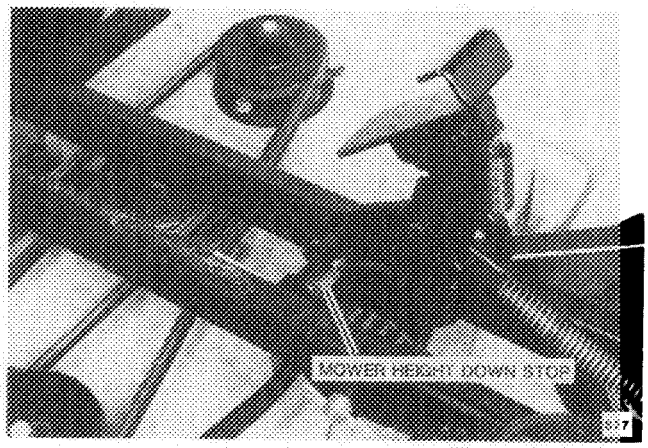
MOWING SPEED

Mower is designed to operate most efficiently at maximum blade speeds. Speed of machine should allow mower blades to maintain this maximum speed while mowing across turf. Slow machine for cutting tall grass, grass which is heavy with moisture, or when moving uphill. If ground speed is too fast, or blade speed is too slow, mowing will be uneven because mower blades will not be able to lift grass into cutting position as mower passes over ground.

MOWING HEIGHT

Best cutting height for your lawn has probably been established from previous experience. First time you mow, set mower to cut a little higher than you have in past. This will help you determine best approach to uneven areas, to be sure wider cut does not result in scalping high spots. In general, recommended cutting height is 2 to 3 in. (5 to 7.6 cm).

Very tall or wet grass can be cut without difficulty by using a little care. Set mower in its highest cutting position and enter area slowly. If necessary, take a cut one half width of mower, overlapping previously cut area on each pass. Then,with mower set to desired height, make a finish cut over entire area.

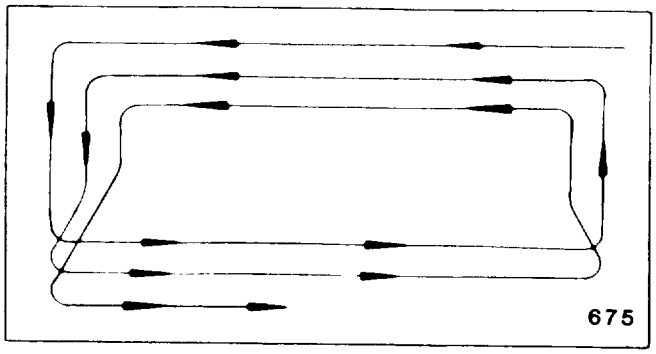


Mower Height Down Stop

Mower is equipped with a height down stop. Loosen bolt and move stop up or down to adjust. Retighten bolt.

MOWING PATTERN

Machine will cut an area quickly and efficiently if mowing pattern is planned to take full advantage of machines capabilities. Use a pattern that will permit as much continuous forward motion and long straight runs as possible. Avoid necessity of repeated tight turns whenever you can by swinging wide over previously cut areas at ends of each pass. Progressive system illustrated below can be used on most lawns and eliminates tight turns and constant direction changes. Leave tight corners and close trimming until last.



Efficient Mowing Pattern

WITH DRAWBAR TYPE ATTACHMENTS

Many attachments simply use machine as a towing vehicle. They are attached or removed from machine by installation or removal of a single drawbar hitch pin.

Some of these attachments are powered by a separate gasoline engine, some are "ground driven" and some are simply towed, such as a lawn sweeper or dump cart.

In any case, all these attachments should be ap-

proached with same amount of caution given any mechanical device. Always read each "Operating Instruction Manual" carefully before attempting to use attachment. Keep children and pets away from machine when in operation. Never allow any unauthorized personnel to operate equipment.

DUMP CART LOAD LIMITS

Wheel Horse recommends the following load limits be observed when using machine with a dump cart. Load limits have been set to provide for safe braking on slopes.

275 lbs. (127 kg)

WITH A REAR VACUUM

Optional rear mount vacuum can effect the way machine is operated. Because of added weight of vacuum, and extra power required to blow grass into container, it may be necessary to operate machine at a slower speed.

WITH A SNOW BLADE

Care should be taken and a slow ground speed should be maintained whenever blade is used. Impact with a solid object may result in injury to operator and/or damage to blade.

MAINTENANCE

⚠ CAUTION ⚠

To minimize chance of injury, perform all maintenance and adjustments on your machine with engine off and ignition key removed, unless instructed otherwise in this section. Use extreme care when working near operating machinery. Do not wear loose fitting clothing. Remove watch and jewelry before beginning work and observe common safety practices when using tools.

MAINTENANCE CHECKLIST

NOTE: These service intervals are considered MAXIMUM under normal conditions. Increase frequency under extremely dirty or dusty conditions.	Before Each Use	After Each Use	Every 25 Hours	Every 50 Hours	Every 100 Hours	Every 200 Hours/1 Year(2)	Every 1000 Hours
CHECK:							
Safety Interlock System	X						
Engine Oil Level	X						
Battery Water Level (3)				X			
Auto. Trans. Oil Level	X						
General Unit Condition	X	X					
Parking Brake Adj.					X		
Tire Pressure(3)			X				
Fasteners Placed & Tight			X				
PTO Electric Clutch & Brake Adjustment					X		
Valve Clearance (4)				X		X	
CLEAN:							
Air Filter/Precleaner			X				
Engine Chaff Screen	X						
Engine Exterior & Fins				X			
Breather Valve & Baffle							X
Cylinder Head Deposits							X
REPLACE:							
Engine Oil Filter					X		
Spark Plugs					X		
Air Filter						X	
LUBRICATE:							
Chassis			X				
CHANGE:							
Engine Oil (1)					X		

(1) Refer to text for initial service interval for new tractors.
(2) Which ever occurs first.
(3) Or monthly
(4) Initial break-in valve clearance check must be performed at 50 hrs.

ENGINE

Cooling

Check chaff screen on engine every time machine is used. Restricted air flow through engine can cause overheating and engine damage. If high temperature alarm sounds frequently, consult your Toro Wheel Horse Dealer for Service.

Oil Quality

For maximum engine protection under all operating conditions use API Service Classification SF oil. This letter will appear on oil can.

Oil Level

Form a habit of checking oil level regularly.

Check oil level of engine every 8 hours or before each use. An improper oil level can cause extensive internal damage to engine.

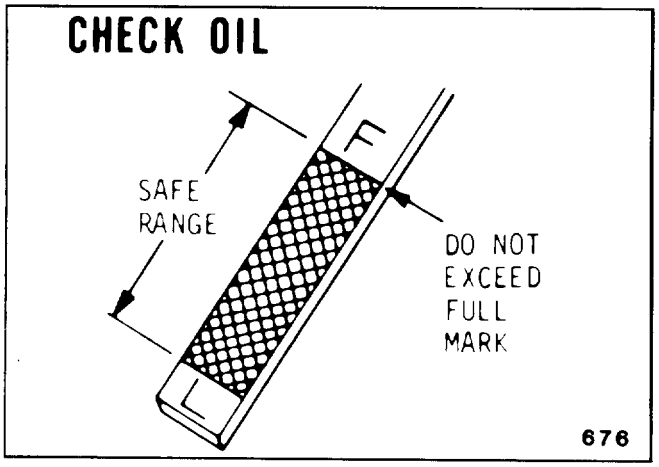
Oil filler dipstick and oil drain location for engine is illustrated in following illustrations.

To check engine oil level, stop machine where engine is level. Shut off engine, set parking brake, and remove ignition key.

⚠ DANGER ⚠

Crankcase pressure can blow out hot oil and cause serious burns. Do NOT check oil while engine is operating.

Remove oil dipstick from engine.



Correct Oil Level

Wipe dipstick with a clean lint free rag; insert it into engine block as far as it will go. Remove dipstick again and read scale on lower portion of stick.

Add oil through oil dipstick tube.

⚠ CAUTION ⚠

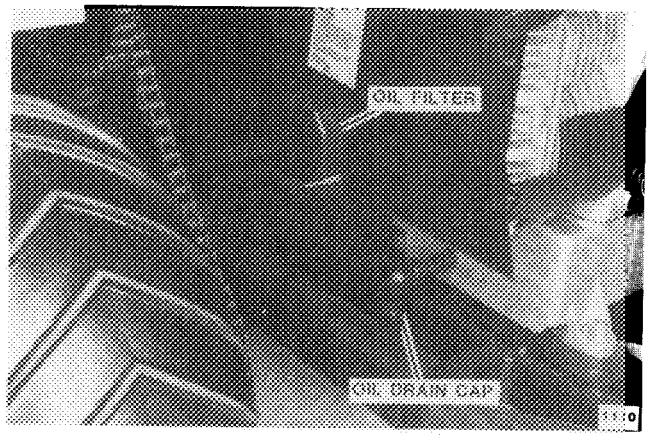
Do not overfill crankcase. Excess oil causes high oil consumption and oil accumulation in air cleaner housing.

Oil Changes

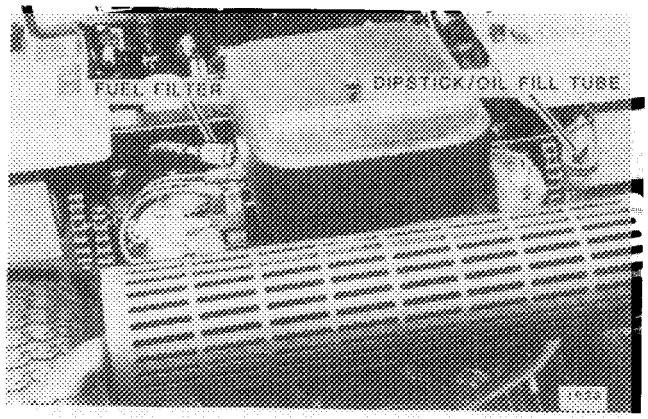
Engine oil in your machine should be changed after first 25 hours of operation. Thereafter, oil should be changed at 50 operating hour intervals. Oil filter should be changed every 100 hours. If operating conditions are extremely dusty or dirty frequency of oil changes should be increased.

Failure to change engine oil at recommended intervals can lead to serious damage to engine. This is especially true when using detergent oils which are designed to hold impurities in suspension; when saturation point is reached, oil may suddenly break down to form a gelatin-like substance which seriously impairs and can even stop flow of oil. Increase frequency of oil changes if machine is operated under extremely dusty conditions.

Before changing oil, start engine and allow it to warm up. This will allow oil to flow more freely. Shut off engine and remove key. Open oil drain. After oil has drained completely, reinstall drain cap.



Engine Oil Filter and Drain Cap



Engine Oil Dipstick/Fill and Fuel Filter

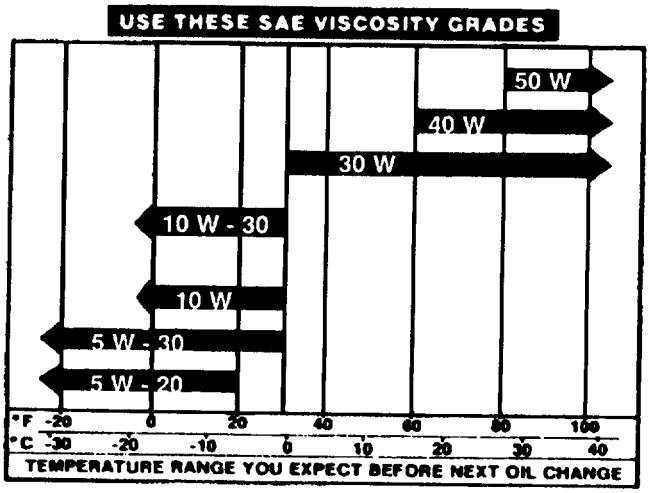
If oil filter is to be replaced, unscrew used filter and install new filter on engine.

Remove dipstick/oil fill cap and add about 80% of amount of oil specified in following chart. Also shown are charts for selecting correct oil type and oil viscosity. When using temperature - viscosity chart, select air temperature most likely to be encountered within next 50 hours of operation.

ENGINE OIL CHANGE

Machine Engine	Crankcase Oil Capacity
724-Z	2.5 qts. (2.4 l) w/o Filter 3.0 qts. (2.8 l) w/Filter

ENGINE OIL TEMPERATURE - VISCOSITY CHART



ENGINE OIL TYPE

Engine	
TORO POWER PLUS	API Service SF or SF/CC

After adding 80% of prescribed amount of oil, check oil level. Add oil as necessary to bring oil to "Full" level.

Never overfill engine crankcase with oil. Oil level must not exceed "F" level on dipstick.

Air Filter

Dirt induced through improperly installed, poorly serviced, or inadequate air filter elements, is more often cause of a worn out engine than long hours of operation. A small amount of dirt will destroy a set of piston rings in a matter of hours. A clogged element causes a richer fuel mixture which wastes gasoline, and may lead to formation of harmful sludge deposits.

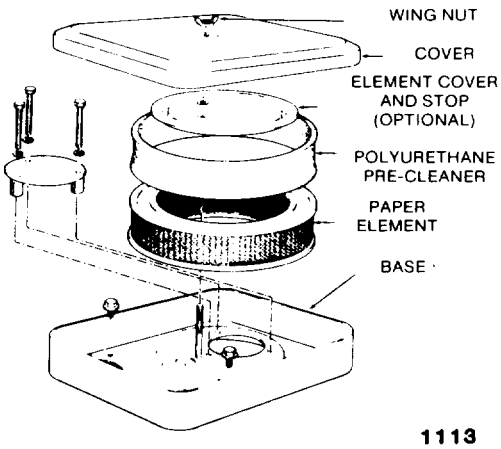
Clean engine air filter after every 25 hours of operation (more often if machine is operated under extremely dusty conditions).

Replace filter elements at 200 hour intervals. Replace more frequently in dusty operating conditions. To protect your engine, use only manufacturer's replacement filter, or replacement filters with equivalent specifications.

Check following when installing a new or serviced element:

1. Base must be securely tightened to carburetor. Replace base if bent or cracked.
2. Gasket surfaces of element must be flat against base and cover to seal effectively.
3. Tighten screws securely.
4. Be sure cover seals and gaskets are in good condition and will seal properly. bad gaskets and seals can let unfiltered air into carburetor.

To prevent any dirt or other contaminates from entering engine, always cover carburetor air horn when air cleaner is removed.

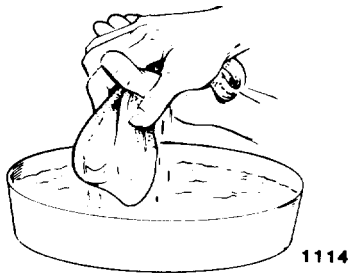


Air Cleaner Assembly

Dry type air filter element is cleaned by tapping it lightly on a flat surface to remove loose dirt particles. Replace element if dirt does not drop off easily. **DO NOT** wash elements in liquid. Do not attempt to blow dirt off with compressed air as this can puncture filter element.

Foam precleaners are used over filter elements on engine. clean precleaner at 25 hour intervals, when air cleaner is serviced. Wash precleaner in a solution of liquid dishwashing detergent and water. Squeeze out excess water and allow it to dry. Coat precleaner evenly with two tablespoons of SAE 30 engine oil. Knead into and wring out excess oil from precleaner. Install precleaner over air cleaner element.

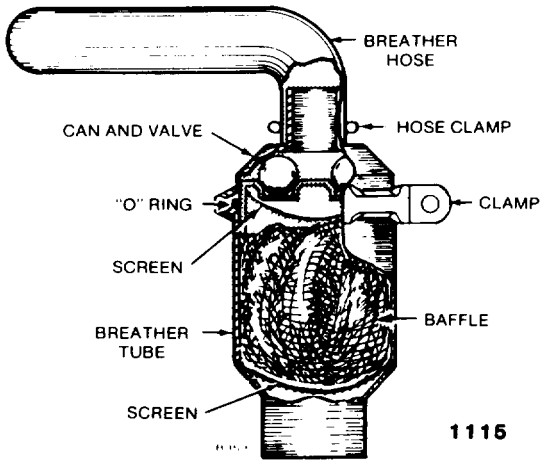
1. WASH
2. SQUEEZE DRY
3. COAT WITH OIL - WRING OUT EXCESS
4. INSTALL OVER PAPER ELEMENT



Pre-Cleaner Service

CRANKCASE BREATHER

A crankcase breather valve is used for maintaining crankcase vacuum. If the crankcase becomes pressurized as evidenced by oil leaks at the seals, clean baffle pack and valve in a suitable solvent. Check and clean valve screens and baffle every 200 hours of operation.



Crankcase Breather

Spark Plug

Engine misfires, or generally poor operation, is often caused by spark plugs in poor condition or with incorrect spark plug gap setting. Check spark plugs at 200 operating hour intervals. Replace if inspection reveals fouling or excessive deterioration.

Always clean area around spark plugs before removing them to prevent dirt form entering engine. Use a spark plug wrench to remove and install plugs.

Check condition of plug(s). Good operating conditions are indicated by a light coating of gray or tan deposit. A dead white, blistered coating could indicate engine overheating. A black coating could indicate an

"overrich" fuel mixture caused by a clogged air cleaner, or improper carburetor adjustment.

Replace spark plugs that are not in good condition. **Never sandblast, wire brush, scrape or otherwise service a spark plug in poor condition. Best results are obtained with a new plug.**

Always check spark plug gaps before installing a new plug or reinstalling original plug. Use a spark plug gap gauge to adjust electrode air gap to .025 (.64 mm) for 724-Z. Torque plugs at 15 ft. lbs. (20mm).

Carburetor Adjustment

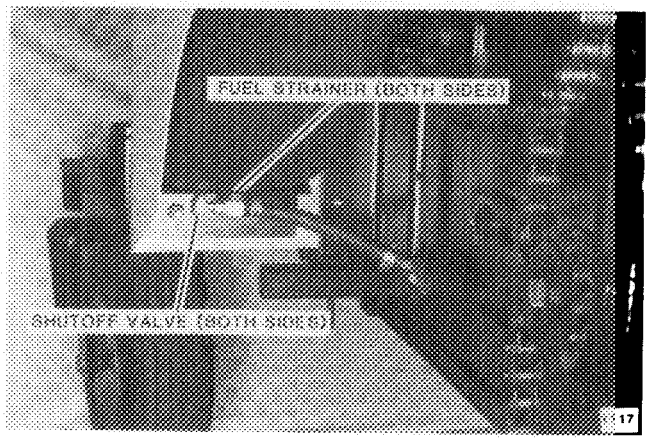
Carburetors are adjusted at factory and should not have to be reset. If however, one of following conditions is noted, carburetor should be readjusted immediately as continued operation with incorrect setting can lead to fouled spark plugs, overheating, excessive valve wear or other problems. If black exhaust smoke is noted, check air cleaner first - an "overrich" mixture is usually caused by a poorly serviced, clogged air cleaner element, not an improperly adjusted carburetor.

CONDITION
A. Black, sooty exhaust smoke, engine sluggish.
B. Engine misses and backfires at high speed.
C. Engine starts, sputters and dies under cold weather starting.
D. Engine runs rough or stalls at idle speed.
POSSIBLE CAUSE/PROBABLE REMEDY
A. Mixture too rich - readjust idle fuel mixture.
B. Mixture too lean - readjust idle fuel mixture.
C. Mixture too lean - readjust idle fuel mixture.
D. Idle speed too low or improper idle adjustment - readjust speed then idle fuel needle if needed.

Carburetor Adjustment Chart

Correct carburetor adjustment requires significant amount of knowledge as well as special equipment, such as a good tachometer, In addition, other adjustments, such as governor settings, may also be necessary after adjusting carburetor. For these reasons, it is suggested that carburetor adjustments be performed by an authorized dealer.

Fuel System



Fuel Strainer

A fine-mesh screen type strainer, incorporated into fitting at bottom of each fuel tank, and an inline fuel filter, both filter foreign matter from gasoline before it reaches the carburetor. This strainer and fuel filter normally require service only if fuel supply becomes severely contaminated.

Always clean area around fuel cap before removing it to prevent excessive amounts of dirt from entering fuel system. Also insure that fuel storage container you are using is clean and in good condition.

Keep fuel tank full during winter operation, when cold and damp weather conditions can cause moisture to condense in tank.

EXHAUST SYSTEM

Make regular visible and audible inspections of exhaust system throughout entire life of the machine. Locate leaks in muffler and piping while engine is operating. Repair all leaks immediately after they are detected for personnel safety.

⚠ DANGER ⚠

Inhalation of exhaust gases can result in serious personal injury or death. Inspect exhaust system audibly and visually for leaks daily. Repair any leaks immediately.

CHARGING SYSTEM

An alternator is used to charge battery. Alternator charging system normally requires no service other then periodically checking that all exposed wiring and electrical connections on machine are clean, tight and in good condition.

⚠ CAUTION ⚠

Never run engine if battery is removed, or if battery is not connected to charging system. Serious damage to charging system components may result.

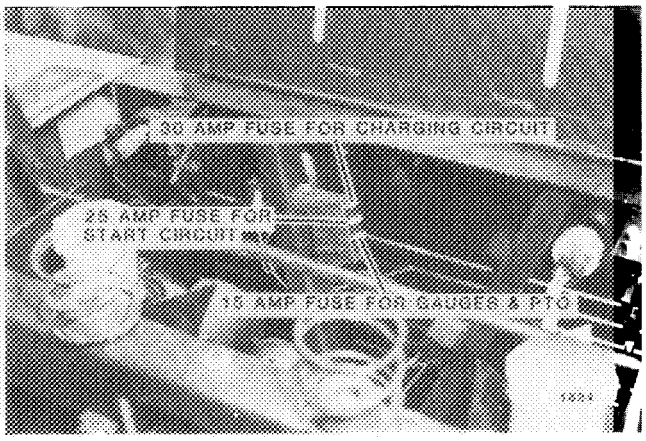
⚠ CAUTION ⚠

Proper polarity is critical with an alternator equipped charging system. Always disconnect battery ground cable (negative) before working on any part of electrical system. Verify all components are connected correctly before reconnecting ground cable (negative) or damage to alternator system components will result.

ELECTRICAL SYSTEM

Fuses

Three fuses protect the machines electrical system and components from excessive current and short circuits.



Fuse locations

A 25 amp fuse protects the electric start circuit. A 15 amp fuse protects the hourmeter and PTO electric clutch circuit. A 30 amp fuse protects the machine's charging system. Fuses are contained in fuse holder clipped to the frame under seat.

A "blown" fuse is an indication of short circuits of current overloads. Refer to the wiring diagram in the back of this manual and become familiar with the machine's electrical system before attempting to troubleshoot. Check all wiring for shorts or other damage before replacing any fuses.

Battery

⚠ CAUTION ⚠

When servicing battery or any other part of electrical system, or if battery must be removed for any reason, always disconnect negative (ground) cable FIRST and reconnect it LAST to avoid possibility of electrical shorts.

Batteries produce flammable hydrogen gas. Avoid creating sparks and open flames and do not smoke when working near batteries.

⚠ CAUTION ⚠

Battery electrolyte solution is poisonous and can be injurious to eyes, skin and clothing. In event of an accident, flush affected area immediately with a solution of one part baking soda to four parts water. Notify physician immediately. If baking soda is not immediately available, flush affected area with water. Notify physician immediately.

Maintain electrolyte level above plates in each cell by adding distilled water as necessary. Best time to add water is just prior to operating machine so water will mix with solution. Do not overfill battery. Electrolyte solution is corrosive and overfilling can cause damage to surrounding metal parts. Battery should be maintained at 1.265 specific gravity charge. When battery has been removed for servicing, take care to connect cables to battery exactly as they were before removal.

For longest service life battery should be kept clean by wiping it off with a paper towel. Any corrosion around battery terminal should be removed by applying a solution of one part baking soda to four parts water. A light coating of grease or petroleum jelly may be applied to all exposed terminal surfaces to prevent corrosion.

At temperatures below 32°F (0°C), full charge state must be maintained to prevent cell electrolyte from freezing and causing permanent battery damage.

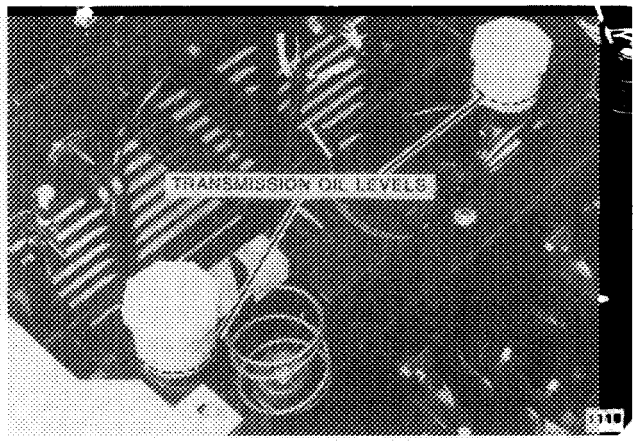
TAPPET ADJUSTMENT

Valve clearance must be checked at first 50 hrs.and thereafter every 200 hrs. of operation. Consult your Toro Wheel Horse dealer for service.

HYDROSTATIC TRANSMISSION

Each rear wheel is controlled by a separate transmssion.

Lubricant levels should be checked before each use. Check oil levels when oil is COLD. Transmission oil level should be 1 3/4 inches down from top of filler neck.



Transmission Oil Level

Use care to prevent dirt, clippings or other foreign material from entering transmission during oil level checks, oil fillings, or oil changes.

Changing oil in hydrostatic transmissions are not recommended except for major service. If oil must be frequently added, a leak is indicated and should be corrected immediately.

For information purposes, oil capacity is:

Hydrostatic transmission - 3/4 qt. (.7 Liters)

Oil Specifications are:

SAE 20 A.P.I. Service SC, SD, SE, SF

Cooling Fan

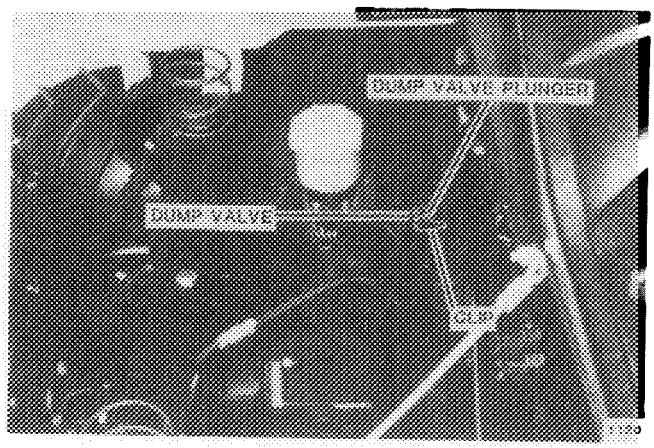
A cooling fan is bolted to each transmission input shaft. Fan forces air over transmission cooling fins to cool transmission oil. Replace cooling fan if it becomes cracked or broken. Be sure to install it so that maximum air flow is directed across transmission.

Cooling fins on transmission should also be kept clean for best cooling efficiency. Periodically inspect for dirt buildup, and brush or wash out any accumulated dirt or clippings. If pressure washing equipment is used, avoid directing spray at joints and seal areas, to prevent forcing water into system.

HAND PUSHING MACHINE

Hand push machine only. Do not tow. Towing can cause severe damage to the hydrostatic transmissions.

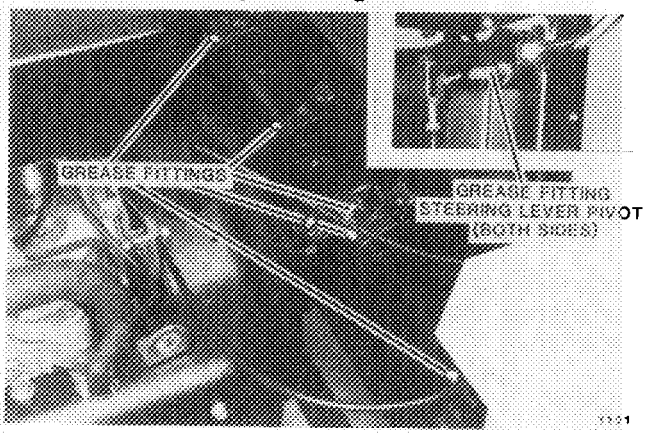
Automatic transmission machines can be pushed at a slow speed. To do this push each transmission dump valve in, valves are located on side of transmissions, and move clip over end of valve to hold valve in position.



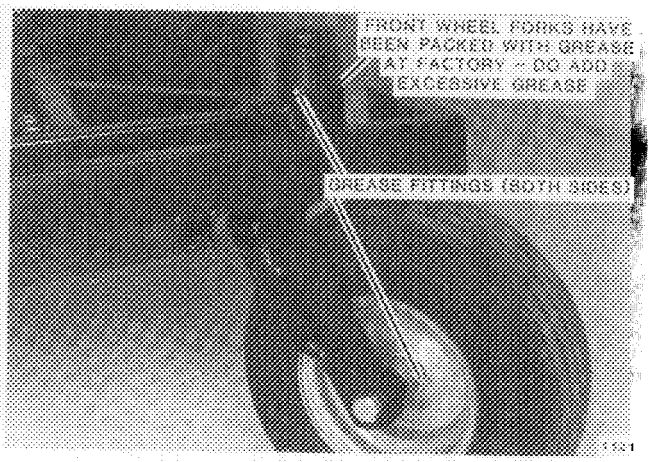
Transmission Dump Valve

MACHINE LUBRICATION

Lubricate all grease fittings after each 25 hours of operation with #2 multi-purpose lithium base grease using a pressure grease gun. Other pivoting arms and levers should be lubricated at same intervals with light machine oil applied directly to wear surfaces. Before applying grease gun, clean zerk fittings carefully to prevent dirt from being forced into fitting. After inserting grease, wipe off any excess grease.



Drive Grease Fittings



Front Grease Fittings

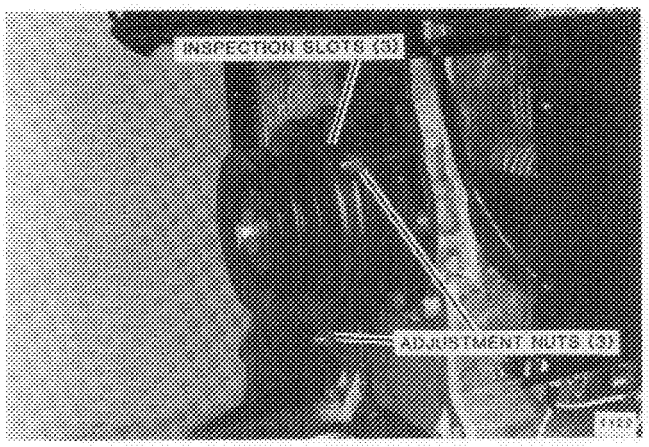
PTO ELECTRIC CLUTCH/BRAKE

PTO electric clutch/brake may require periodic adjustment due to normal wear of friction surfaces. Check PTO electric clutch/brake adjustment every 100 hours.

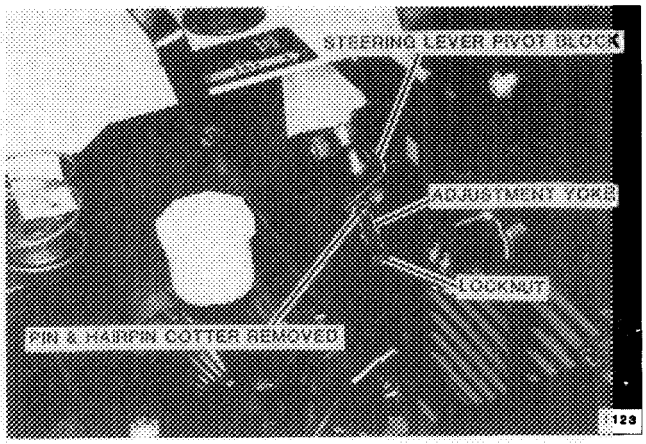
To adjust PTO Electric Clutch/Brake:

1. Stop engine, set parking brake and remove ignition key.
2. Clutch has three springs and adjustment nuts. All three must be adjusted equally.

3. Insert a .010" feeler gauge into the three air gap inspection slots. Turn three adjustment nuts until a small amount of resistance is felt on feeler gauge.



PTO Electric Clutch/Brake Adjustment



Steering linkage adjustments

DRIVE ADJUSTMENTS

Check steering and motion controls. Steering and motion controls should be uniform in all speeds forward and reverse.

To check:

1. Check air pressure in tires. Equal tire pressure is critical for proper drive operation.

	Front	Rear
PSI	12	6
kg/cm²	.85	.43

CAUTION: Turn off engine before making adjustments.

2. Check linkage for excessive play.

3. Raise rear of machine until rear wheels are off ground.

4. Put control levers in neutral lock position (control levers swung outward).

5. Start engine, wheels should not rotate. If one or both rear wheels are turning, perform procedures under "Neutral Adjustment" for side(s) that wheel turns.

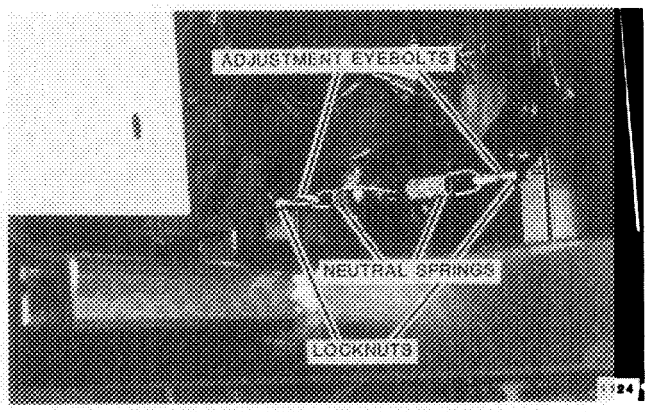
NEUTRAL ADJUSTMENT

1. Support rear of unit so that both wheels are off ground.

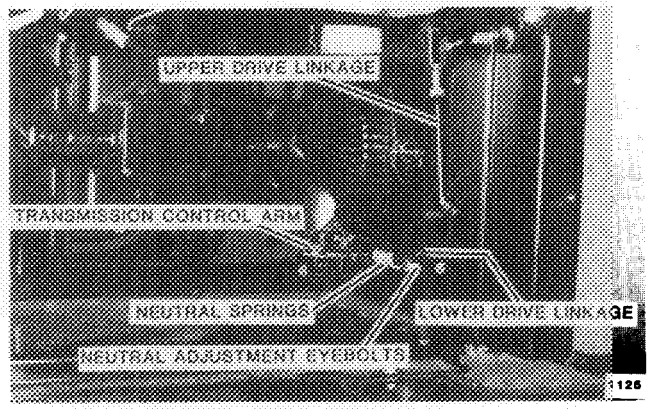
2. Remove clevis pin from neutral adjustment yoke at steering lever pivot.

3. Steering Linkage Adjustments

4. Neutral spring eye bolts should be adjusted so that minimum equal spring tension is exerted on transmission control arm. Loosen each eye bolt locknut located on spring side.



Neutral Springs



Neutral Spring Adjustments

5. Hold front eye bolt and turn adjusting nut one turn clockwise if wheel turns in reverse or counterclock wise if wheel turns forward.

6. Hold rear eye bolt and turn adjusting nut in opposite direction the same number of turns as front eye bolt adjustment nut.

7. Hold each eye bolt and tighten locknuts.

8. Loosen jam nuts on forward lever stop and screw bolt up into bracket far enough so lever clears yoke with control handle all the way forward.

9. Loosen locknut on adjustment yoke and turn yoke so that clevis pin can be reinstalled without force when control handle is in neutral lock position.

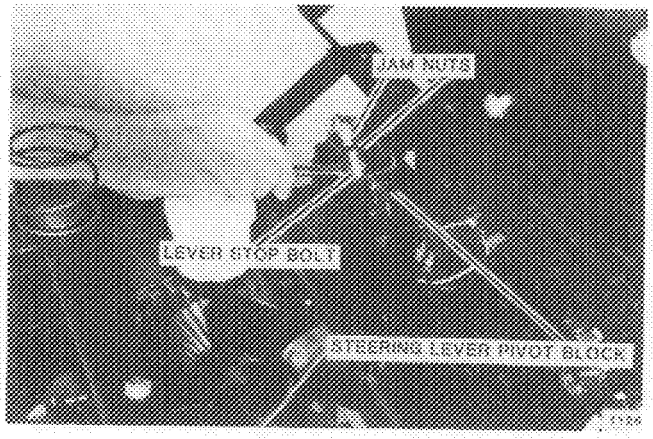
10. Start engine, operate tires in forward, reverse and return lever to neutral lock position, tires should not move. If tires still turn repeat the above procdure.

Forward Lever Stop Adjustment

1. Make sure engine is shut off.

2. Move control lever to full forward position applying gentle pressure.

3. With control lever in full forward position, hold lower jam nut against adjustment bracket and turn forward lever stop bolt down until it contacts steering lever pivot block arm. Once contact is made, give additional 1/4-1/2 turn. Retighten jam nuts.



4. Test drive machine and observe operation at full forward on level surface. If machine does not go straight correct by slowing fast wheel (lengthen forward lever stop). Adjust forward lever stop until unit travels a straight path with both control levers fully forward.

5. Align control levers by swinging into neutral position and bending levers until handle grips are parallel. Both control levers should be spaced evenly at rest and should travel together and reach full forward uniformly.

6. Lubricate steering lever pivot block with pressure grease gun.

DRIVE CHAINS

Review all sections on chain operation and adjustment before servicing.

Following instructions are for one side, repeat steps for opposite side.

1. Rear wheels are driven by primary and secondary chains. Check these chains periodically. Lubricate with light chain oil as necessary.

2. Primary chain should not require periodic adjustment.

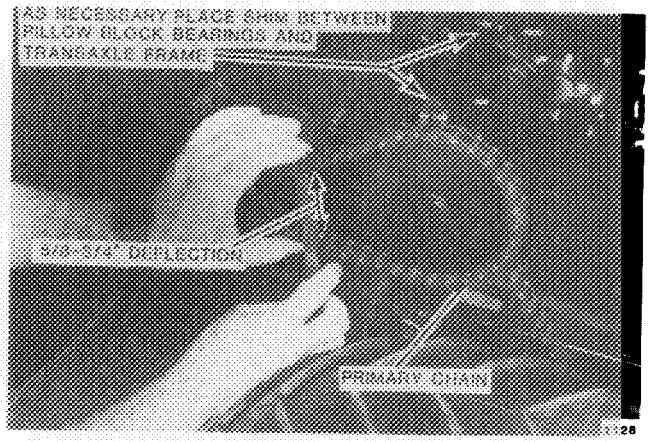
3. Replacement of both chains and sprockets is recommended when either exhibits excessive wear.

4. Check secondary chain deflection periodically and adjust chain tensioning idler as necessary to maintain proper chain deflection.

PRIMARY CHAIN ADJUSTMENT (Service Only)

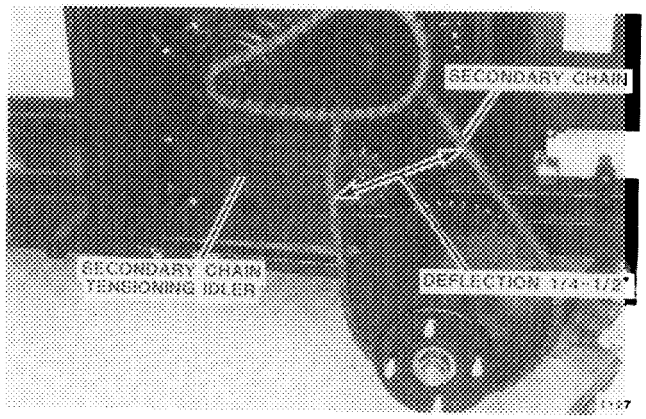
1. If not already done, close LH and RH fuel shutoff valves, remove fuel tank and securely plug fuel line.

2. To adjust primary chain, loosen two bolts on outside and inside pillow block bearings. Add or remove equal number of shims at pillow block bearing mounting locations.



3. After chain deflection of 5/8 to 3/4" (loose) is achieved midway between sprockets, tighten two (2) bolts on inside and outside pillow block bearings.

4. Always maintain jackshaft alignment so jackshaft sprocket is in line with hydro output sprocket. Also inner secondary drive sprocket must be in-line with drive hub on axle.



5. Measure chain deflection midway between sprockets. Secondary chain should have deflection range 1/4-1/2 inches.

6. If service is necessary to adjoining pillow block

bearings, jackshaft or transmission adjustment to both chains may be necessary.

SECONDARY CHAIN ADJUSTMENT

1. With idler bolts loose, slide idler sprocket bracket to obtain 1/4-1/2 inch of chain deflection.

2. Maintain secondary chain deflection of 1/4-1/2 inch while tightening idler bolts.

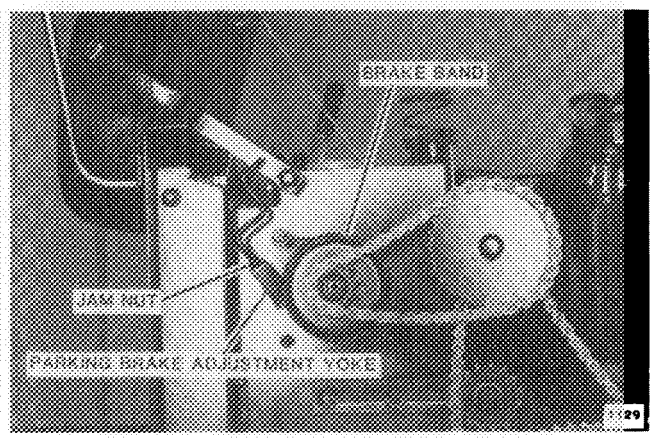
PARKING BRAKE ADJUSTMENT

Each rear wheel has a separate parking brake. Adjust both sides at same interval.

To adjust parking brake:

1. Loosen yoke jam nut and tighten or loosen yoke so that parking brake may be engaged without excessive effort and when engaged, prevents units movement.

2. Adjust opposite side using same procedure.



Parking Brake Adjustment

CLEANING AND STORAGE

After 30 days, painted surfaces may be waxed to protect the lustre of the original finish. Machine should be washed regularly with a mild automotive type detergent and water. Exposed bare metal surfaces should be coated with oil or a light coating of grease to prevent rust until permanent repairs can be made. Aerosol cans of touch up paint are available through your Authorized Dealer.

When the machine will not be used for an extended period of time, following steps will help insure minimum difficulty when unit is returned to service:

1. Perform required maintenance steps called for inthe "Maintenance Checklist".

2. Check tires for proper inflation.

3. Wash machine and repaint all bare metal surfaces.

4. Start machine and engage mower for approximately 1 minute to remove excess water from belts and pulleys. Let engine run out of gas. As gasoline grows old, it becomes less volatile and forms harmful gum and varnish deposits in carburetor and fuel system. **DO NOT STORE GASOLINE FOR MORE THAN 2 MONTHS.**

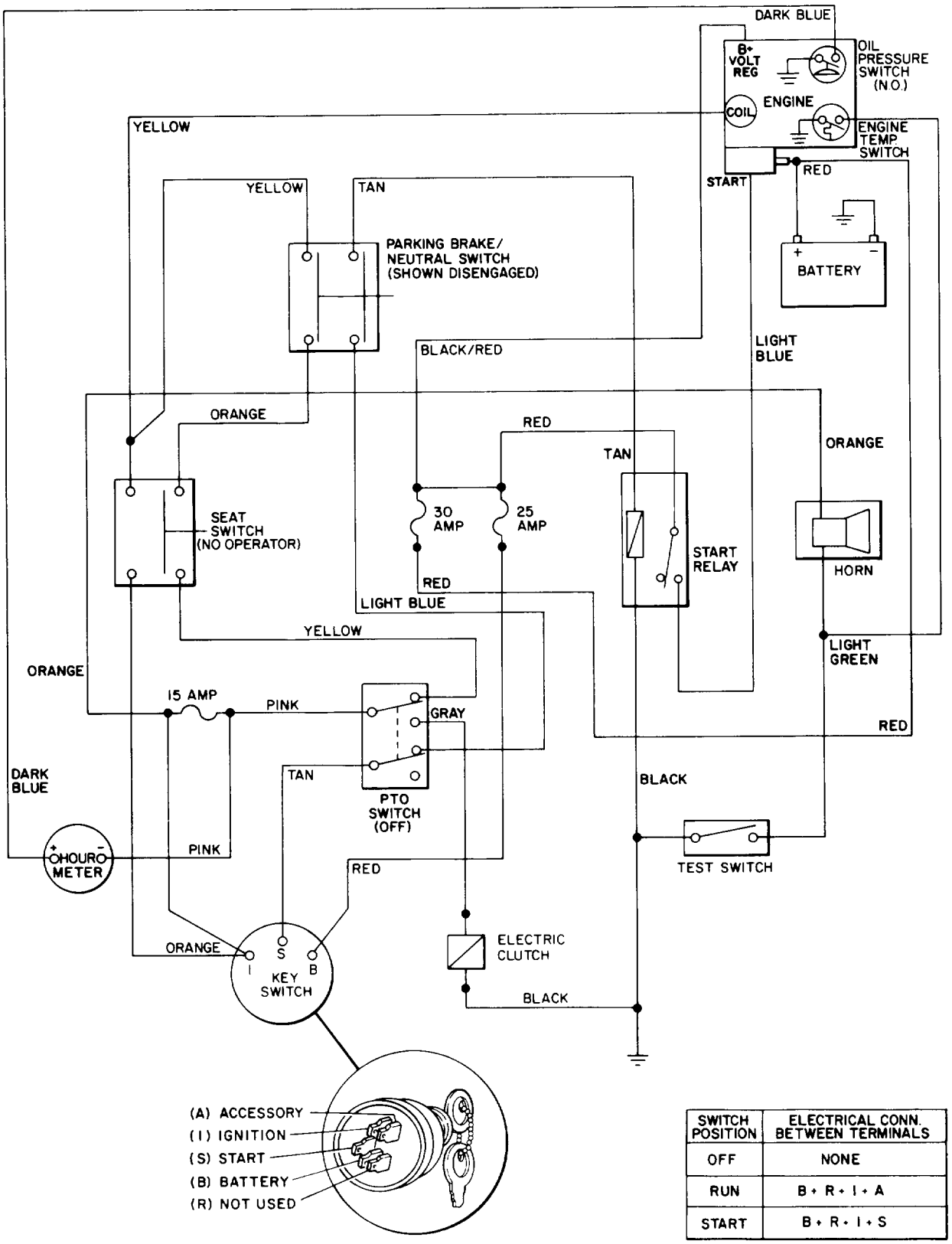
5. If applicable, charge battery. In temperatures lower than 40°F (40°C) a battery will maintain a charge for about 60 days. In temperatures above 40°F (40°C) water level should be checked and battery "trickle charged" every 30 days (more often in higher temperatures). Battery must be fully charged to prevent freezing and internal damage in weather below 32°F (0°C).

6. Remove key from machine.

TROUBLESHOOTING CHECKLIST

SYMPTOM	POSSIBLE CAUSE	POSSIBLE REMEDY
Engine will not turn over/Engine turns over but will not start.	Dead battery.	Charge or replace battery.
	Safety interlock switch.	Be sure mower is disengaged and parking brake is engaged.
	Fuse.	Replace fuse.
	Starter or Solenoid.	Consult authorized dealer.
	Ignition switch.	Consult authorized dealer.
	Spark plug not firing.	Check spark plug condition and reset gap.
	Ignition system.	Consult authorized dealer.
	No fuel in tank.	Refuel fuel tanks.
	Improper carburetor adjustment.	Reset carburetor adjustment.
Engine hard to start.	Spark plug wire grounded or loose.	Check spark plug wire.
	Ignition system.	Consult authorized dealer.
	Spark plug faulty or improperly gaped.	Check spark plug condition and reset gap.
	Fuel line clogged.	Clean fuel line; replace filter.
	Carburetor dirty or improperly adjusted.	Readjust carburetor. Consult dealer for authorized carburetor service.
Engine starts, but operates erratically.	Clogged fuel line.	Clean fuel line; replace filter.
	Water in fuel.	Drain old fuel and replace with fresh supply.
	Vent in fuel cap closed or plugged.	Check vent.
	Improper carburetor adjustment.	Readjust carburetor.
Engine knocks.	Fuel octane too low.	Drain fuel and replace with higher octane supply.
	Ignition system.	Consult authorized dealer.
	Engine overheated.	Shut off engine and allow to cool.
Engine occasionally "skips" at high speed.	Spark plug fouled, faulty or gap too wide.	Check spark plug condition and gap.
	Ignition system.	Consult authorized dealer.
	Incorrect carburetor adjustment.	Readjust carburetor.
Engine overheating and horn alarm sounds.	Air intake screen or fins clogged.	Clean intake screen and fins.
	Oil level too high or too low.	Adjust oil level as necessary.
	Fuel mixture too lean.	Readjust carburetor.
	Ignition system.	Consult authorized dealer.
	Engine overloaded.	Reduce load on rider.
Engine idles poorly.	Improper carburetor adjustment.	Readjust carburetor.
	Improper spark plug gap.	Check the condition and gap of spark plug.
Engine backfires.	Improper carburetor adjustment.	Readjust carburetor.
	Ignition system.	Consult authorized dealer.
Engine runs fine, but machine will not move.	Faulty transmission.	Consult authorized dealer.
	Transmission "Dump Valve" pushed in.	Release "Dump Valve"

WIRING DIAGRAM



SWITCH POSITION	ELECTRICAL CONN. BETWEEN TERMINALS
OFF	NONE
RUN	B + R + I + A
START	B + R + I + S

A separate Parts Manual for your Wheel Horse Mowing Machine can be obtained by completing order form below and sending it, along with a check or money order, to:

PUBLICATIONS
WHEEL HORSE PRODUCTS, INC.
P. O. Box 2649
South Bend, Indiana 46680

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P.O. BOX 2649 SOUTH BEND, INDIANA 46680
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MAILING LABEL — PLEASE PRINT CLEARLY

To:

Name

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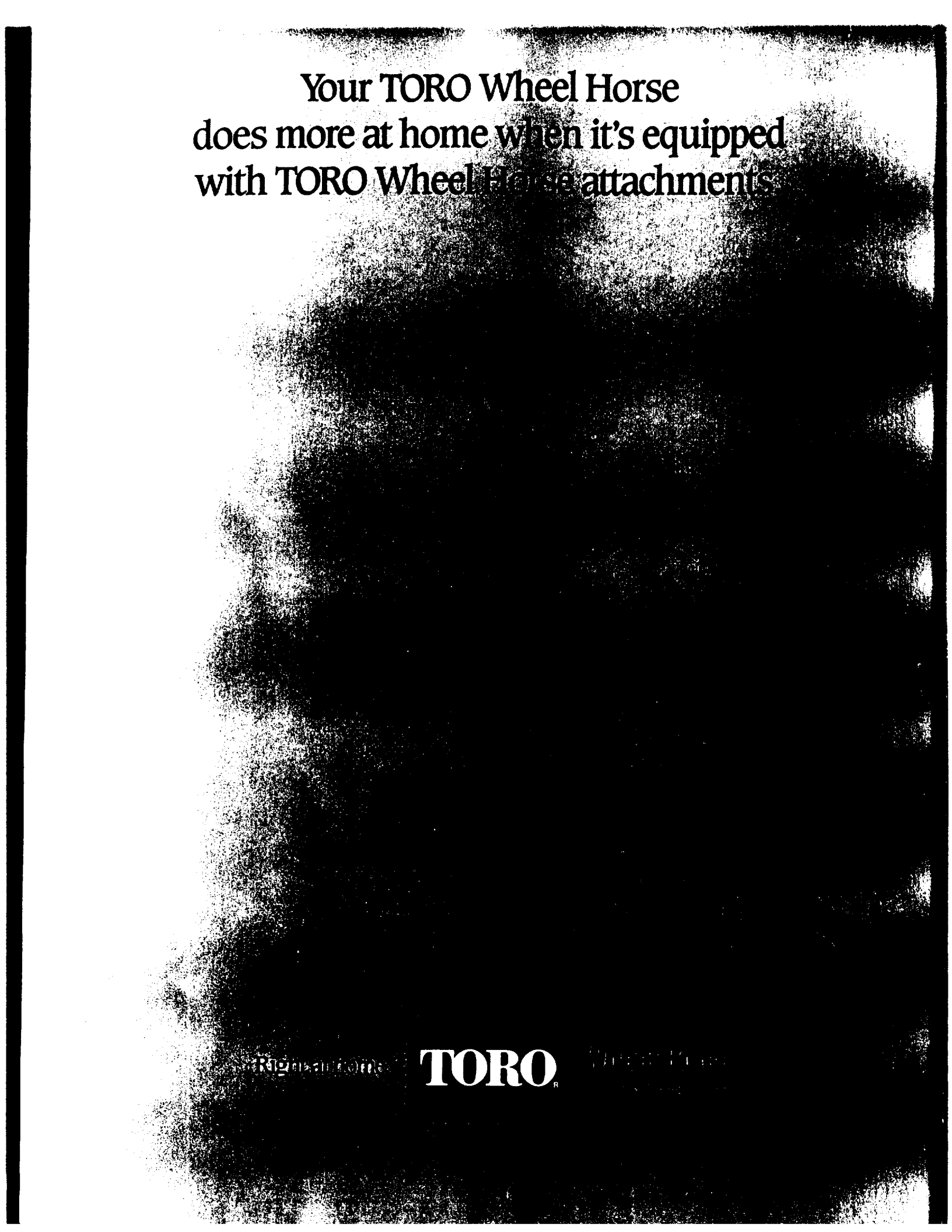
City State Zip

Your TORO Wheel Horse does more at home when it's equipped with TORO Wheel Horse attachments.



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