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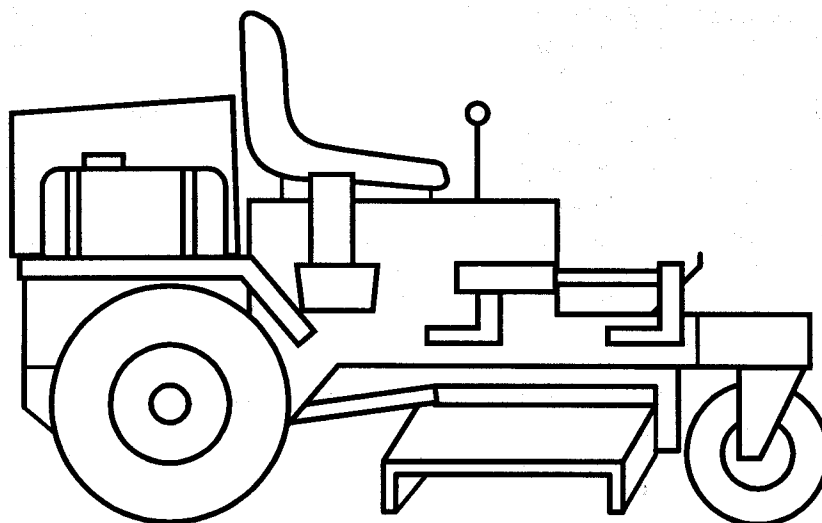
Series

▲ SAFETY MESSAGE ▲

The product for which you have requested information or replacement parts is not a current product. The replacement models incorporate product designs, safety features, safety instructions or warnings which represent the latest "State Of The Art" developments. For your safety and those around you please contact your nearest Ariens/Gravely Dealer for a demonstration of the current product safety provisions and features.

PROMASTER 200

Owner's Manual



Part No. 092261D 6/98
Supersedes 09226100,A,B,C
Printed in USA

A Message to Gravely Customers . . .

Welcome to the world of Gravely equipment. We are pleased that you have purchased the best Tractor available. The care you give your Gravely Tractor will determine the satisfaction and service life you will obtain from it. Use this manual as your guide. By observing the instructions and suggestions in this manual, your Gravely Tractor will serve you well for many years.

Your Gravely dealer will be happy to supply any service or advice which may be required to keep your Gravely Tractor operating at peak efficiency. He stocks genuine Gravely parts and lubricants; manufactured with the same precision and skill as the original equipment. His factory trained staff is kept well informed on the best methods of servicing

Gravely equipment and is ready and able to serve you. If service is required, be prepared to supply the service person with the Model and Serial Number of the Tractor, as well as a full description of the problem encountered.

NOTE: The descriptions and specifications contained in this manual were in effect at the time the manual was approved for printing. Gravely reserves the right to discontinue models without notice and without incurring obligation. The Tractor described within this manual may not be identified as either standard or optional and the various illustrations may not be applicable to your particular unit. If you have questions, always check with your Gravely dealer.

Safety Alert Symbol and Notations

The following safety notations are used throughout this manual to call attention to special information or operating procedures. Understand the message in each notation and be alert to unsafe conditions and the possibility of personal injury.

NOTE: A **NOTE** points out general reference information regarding proper operation and maintenance practices.

IMPORTANT: An **IMPORTANT** statement indicates specific procedures or information that is required to prevent damage to the machine or its attachments.



This safety alert symbol is used to attract your attention **PERSONAL SAFETY IS INVOLVED!** When you see this symbol - **BECOME ALERT - HEED ITS MESSAGE.**



DANGER: Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.



WARNING: Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



CAUTION: Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It is also used to alert against unsafe practices.

The warranty will be valid only if the machine is maintained and operated as directed in this manual. Warranty will be valid only if the machine is operated with approved attachments.



WARNING

The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

OL0010

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Specific Model and Serial Numbers are on a label located on the frame of your Tractor and on a label located on the product registration form. Record those numbers below and transfer the label from the product registration to place indicated below. Use these numbers whenever parts or service is required.

Model Number _____

Serial Number _____



Models

Model 992007

25 HP Kohler with 60" Mower
Serial No. 000101 and up

Model 992008

20 HP Kohler with 60" Mower
Serial No. 000101 and up

Model 992009

20 HP Kohler with 50" Mower
Serial No. 000101 and up

Model 992010

20 HP Kawasaki Liquid Cooled with 60" Mower
Serial No. 000101 and up

Model 992011

20 HP Kawasaki Liquid Cooled with 50" Mower
Serial No. 000101 and up

Model 992012

22 HP Kohler with 60" Mower
Serial No. 000101 and up

Model 992302

20 HP Kohler with 50" Mower (Export)
Serial No. 000101 and up

NOTE: All References to "Left", "Right", "Front" and "Rear" are given from operator's position.

Safety Precautions

Training

Read and understand this owner's manual and engine instructions as well as attachment(s) owner's manual(s) before operating this unit. Be thoroughly familiar with controls and proper use of equipment. Know how to stop unit and disengage controls quickly in an emergency.

Understand and follow each Danger, Warning, Caution and instruction decal installed on equipment.

Use only attachments or accessories designed for your unit. See your Gravely Dealer for a complete list of recommended attachments or accessories.

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

NEVER allow children to operate equipment. **DO NOT** allow adults to operate unit without proper instructions.

Safe operation of this equipment requires your complete and unimpaired attention at all times. **DO NOT** operate unit after or during the consumption of medication, drugs or alcohol.

DO NOT carry passengers.

Preparation

Thoroughly inspect and clear work area of objects which might be picked up and thrown. Remove all stones, sticks, wires, bones and other foreign objects.

Wear sturdy footwear. **DO NOT** operate tractor barefoot or when wearing open sandals or canvas shoes. **DO NOT** wear loose clothing that may get caught in rotating parts of unit. Also wear protective gear for hands, head, ears & eyes.

NEVER allow smoking materials, sparks or flame (match, pilot light, etc.) near tractor or gasoline container.

Check fuel supply before starting engine. **DO NOT** fill gasoline tank indoors, when engine is running or while engine is still hot. Wipe off any spilled gasoline before starting engine.

When hauling the equipment, connect the chassis to the transporting vehicle. Never connect from control levers, rods or like items that could be damaged.

Operation

Keep equipment in good condition. Keep all shields in place and safety devices operating properly. Check safety system prior to each use. See "Operator Presence Control" check on page 8.

Sit on seat, disengage attachment clutch and make sure T-Bar control levers are in the Neutral (N) position before attempting to start engine.

Open doors if unit is run in garage, exhaust fumes contain carbon monoxide, an odorless and deadly gas. **DO NOT** run engine in enclosed or poorly ventilated areas.

Operate equipment only when there is good visibility and light.

Disengage power to attachment when attachment is being transported or is not in use.

Look behind and use care when backing. Someone may have come up behind you.

NEVER direct discharge of material toward bystanders nor allow anyone near equipment while unit is in operation. The operator is responsible for the safety of bystanders.

Be familiar with area of operation. Stay alert for holes, rocks, roots and hidden hazards in area of operation. Keep away from drop-offs.

Exercise extreme caution when operating on or crossing gravel drives, walks or roads. Stay alert for hazards and traffic.

Tipping and/or loss of control of unit can be caused by; operating on slopes, rough terrain, turns, speed changes, slippery surfaces, and as well as any combination of them.

Reduce speed and exercise extreme caution on slopes and in sharp turns to prevent tipping or loss of control. Be especially cautious when changing direction on slopes and operating on wet or slippery surfaces.

DO NOT stop or start suddenly when going up hill or downhill. Mow up and down face of steep slopes: **NEVER** across face. If slope is too steep to back tractor up; slope is too steep for safe operation.

Safety Precautions (Continued)

Disengage power to attachment(s), stop engine, remove key, move T-Bar control levers to neutral, wait for moving parts to stop before leaving operator's position for any reason such as unclogging discharge chute, when making any repairs, adjustment, inspections or cleaning unit.

DO NOT touch equipment parts which might be hot from operation. Before attempting to maintain, adjust or service, allow such parts to cool.

If equipment vibrates abnormally, disengage attachment(s), stop engine at once and remove key. Abnormal vibration is a warning of trouble. Repair any damage before restarting unit. (See your Gravelly Dealer.)

After striking a foreign object, disengage attachment(s), stop engine and wait for moving parts to stop before leaving operator's position. Thoroughly inspect unit for any damage and repair damage before restarting and operating unit.

Take all possible precautions when leaving unit unattended. Disengage power to attachment, stop engine, set parking brake and remove key to prevent unauthorized use.

Maintenance and Storage

DO NOT change engine governor setting or over speed engine.

Keep all nuts, bolts and screws tight and be sure equipment is in safe working condition. Check all hardware at regular intervals.

To reduce fire hazard and overheating, keep equipment free of grass, leaves, debris or excessive grease.

Worn out mufflers are more than just a noise nuisance and should be replaced immediately. Continued use could result in fire or explosion.

NEVER store equipment with gasoline in tank inside a building where fumes may reach an open flame or spark. Allow engine to cool before storing in any enclosure.

Refer to Storage Section of this owner's manual for important instructions if unit to be stored for extended periods.

Replace all parts that become damaged or lost.

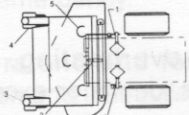
Safety Decals

PRO-MASTER 1000/200 MAINTENANCE INSTRUCTIONS
SEE OPERATOR'S MANUAL FOR FULL INSTRUCTIONS

ENGINE
CHECK OIL DAILY
CHANGE OIL AND FILTER EVERY 100 HOURS WITH SAE 10W30

AIR CLEANER
REPLACE FUEL FILTER EVERY 300 HOURS
KEEP ENGINE AND COOLING FINS CLEAN
CHECK COOLANT LEVEL DAILY IN OVERFLOW TANK
CHECK AND/OR CLEAN DAILY
REPLACE ELEMENT WHEN CLOGGED
OR EVERY 300 HOURS

HYDRO SYSTEM
CHECK OIL LEVEL DAILY BY LOOKING AT TANK
AND ADD OIL AS REQUIRED
CHANGE OIL & FILTER EVERY 500 HOURS
USING MOBIL SUPER HP 20W50 OR
CASTROL 10W50
KEEP OIL COOLER FINS CLEAN
CLEAN HYDRAULIC PUMP HOUSINGS AS REQUIRED



REF	LUBRICATION	QTY	DESCRIPTION	LOCATION	INTERVAL
1	GREASE	2	PUMP ARM BUSHINGS		Daily (50 Hrs)
2	GREASE	1	PIVOT PIN		
3	GREASE	2	CASTER PIVOT		
4	GREASE	2	WHEEL BEARING		
5	GREASE	3	MOWER SPINDLE		Twice
	OIL		ALL PIVOT POINTS PIN CONNECTIONS		

IMPORTANT: USE LITHIUM BASE GREASE
TIRE PRESSURE: FRONT 20-25 PSI (138-172 KPa)
REAR 12-15 PSI (83-102 KPa)

GRAVELY® PROMASTER 200 SERIES

07707800



05350100
(Domestic)

07717400A



07712100
(992301)

! WARNING

Do not operate mower unless
guards are in operating
position or bagger is attached.

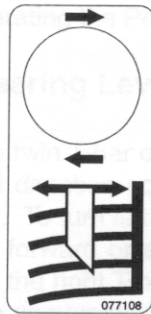
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07893700



07852100

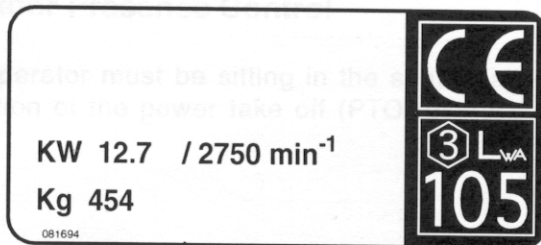
Safety Decals



07710800

1995

07712400



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(992301)

**HEIGHT
OF CUT**

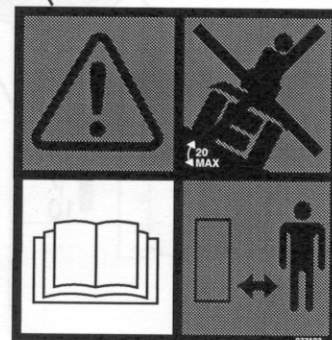
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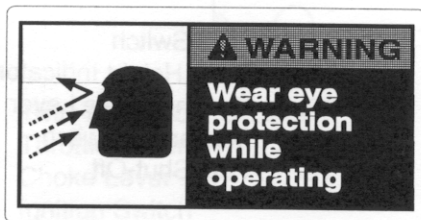
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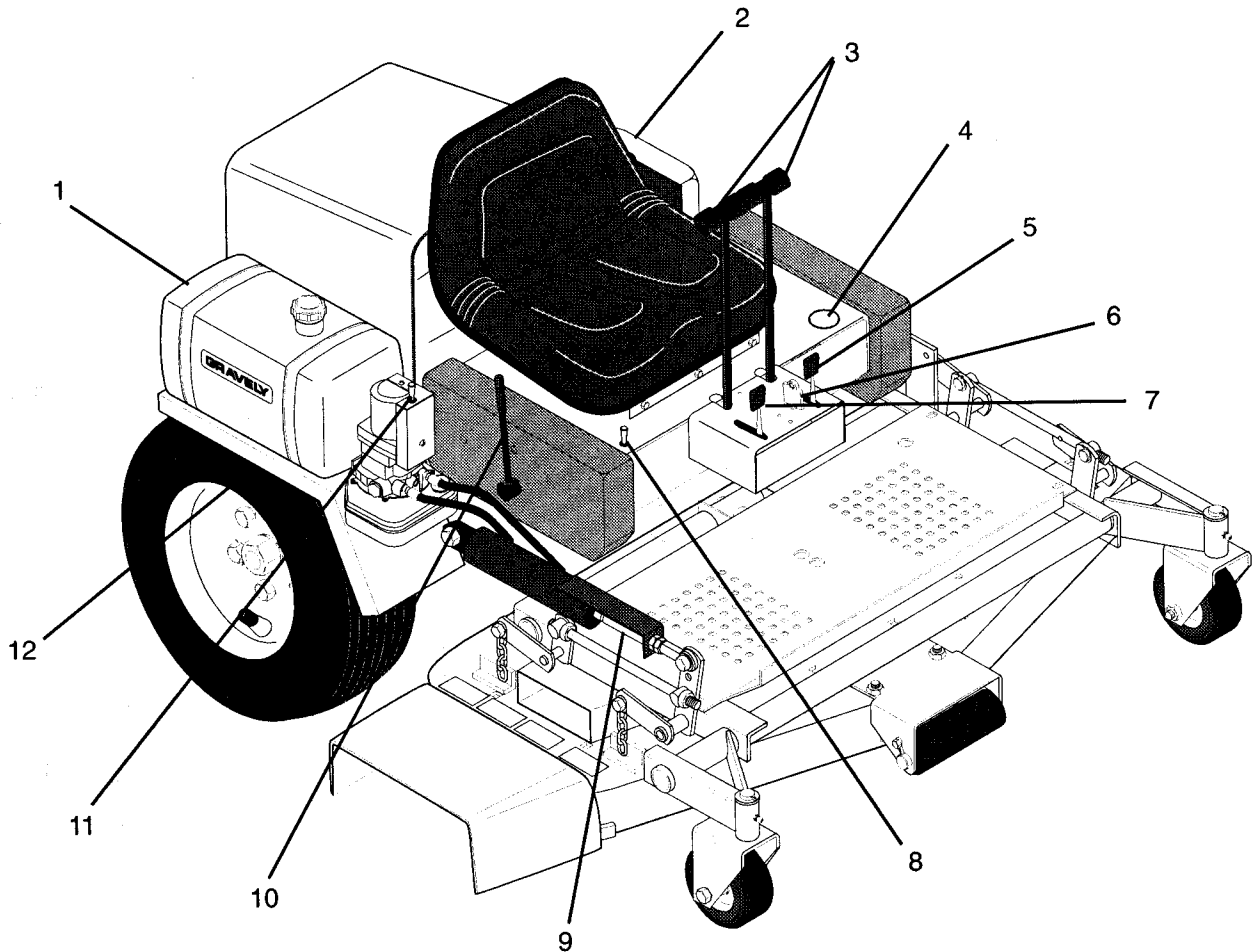


05350200



05350300

Controls and Features



- | | | | |
|----|--|-----|-----------------------|
| 1. | Fuel Tank | 8. | PTO Switch |
| 2. | Hydraulic Oil Tank | 9. | Deck Height Indicator |
| 3. | Steering T-Bar Control Levers | 10. | Parking Brake Lever |
| 4. | Ammeter | 11. | Mower Lift Switch |
| 5. | Choke (003,004,007,008,009,301,302) | 12. | Fuel Shut-Off |
| 6. | Ignition/Keyswitch | | |
| 7. | Choke & Throttle (005,006,010,011) | | |
| | Throttle (003,004,007,008,009,301,302) | | |

Figure 1: Control and Feature Locations

Operation

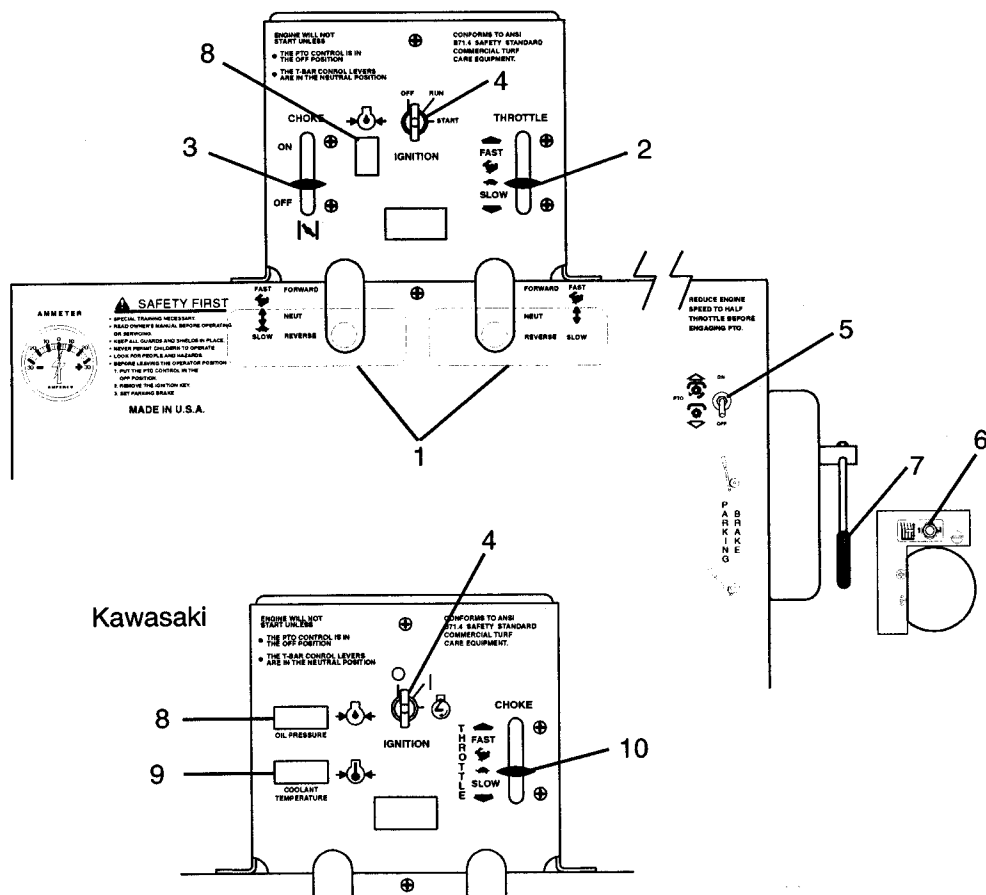
Read this operator's manual carefully before operating the Promaster 200.

Steering Levers

The twin T-bar control levers are used for both speed and direction control. In addition, they will stop the unit. To turn left, pull the left T-bar or push the right T-bar forward or a combination of both. To turn right, pull the right T-bar back or push the left T-bar forward or a combination of both. To stop, return both T-bars to the neutral position. When released T-bars should automatically return to neutral position.

Operator Presence Control

The operator must be sitting in the seat to allow operation of the power take off (PTO) or traction drive.



- | | |
|------------------------------|---|
| 1. Twin T-Bar Control Levers | 6. Mower Lift Switch |
| 2. Throttle Lever | 7. Parking Brake Lever |
| 3. Choke Lever | 8. Oil Pressure light |
| 4. Ignition Switch | 9. Coolant Temperature Light (Kawasaki) |
| 5. PTO Switch | 10. Throttle Choke Lever (Kawasaki) |

Figure 2: Controls

Operation (Continued)



CAUTION: The operator presence control is intended to stop the engine whenever the operator is not seated and the PTO and/or T-bar controls are not in the disengaged (PTO - Off, T-Bar Controls - Neutral) positions. Test this system each time the Promaster 200 is operated. If this system does not function as described do not operate until repairs are made. **NOTE:** Engine must not start unless PTO is disengaged and T-Bar control levers are in neutral.

Ignition Switch

The ignition switch is operated with a removable key. The switch has three positions: "Off", "On" and "Start".

To start the engine, the key must be in the "Start" position. Once the engine has started release the key and it will return to the run position. To stop the engine, turn the key to the "Off" position.

Throttle Lever (Also Choke Lever On Kawasaki Engine)

The throttle lever is used to change the speed of the engine. Moving the throttle lever to the "Fast" position increases the engine speed. Moving the lever to the "Slow" position decreases the engine speed.

Choke Control (Kohler Engine)

The choke control is used to start a cold engine. Push the choke lever forward to choke the engine. Pull the choke lever to the rear when the engine gets warm.

Power Take Off (PTO) Switch

The power take off (PTO) switch is used to engage and disengage the mower. When the PTO switch is in the "On" position, mower is engaged; when the PTO switch is in the "Off" position, mower is disengaged. See figure 2.

Mower Lift Switch

The mower lift switch is used to raise and lower the mower deck. The lift switch is located on the lift pump. Move the switch inboard to raise, and outboard to lower the deck.

Oil Pressure Indicator

This will light up "Red" if the oil level is low or if the oil pressure is low. Check oil level and add if necessary. Refer to engine manual.

Coolant Temperature Indicator (Kawasaki)

This will light up "Red" if the coolant temperature becomes excessive. Check coolant level and add if necessary. Refer to engine manual.

If a light comes on while operating, stop the unit and engine as quickly as possible. Check the engine or electrical systems. Check for a clogged radiator and clean if necessary.

Ammeter

The ammeter indicates the condition of the charging system. Normal operation will show the indicator needle slightly to the "Plus" side of zero.

Fuel Shut-Off Valve

This valve is used to control the flow of fuel leaving the fuel tank. The valve must be open for the engine to operate. It should be closed if the unit is to be stored for extended periods.

NOTE: The engine will not start unless the twin T-bar control levers are in the neutral position and the PTO switch is in the "Off" position.

Starting and Stopping the Engine

To start the engine:

- Make sure the twin T-bar control levers are in the neutral position. See figure 2.
- Put the PTO switch in the "Off" position. See figure 2.

Operation (Continued)

- If the engine is cold, move the choke control to the "On" position. If the engine is warm or hot, do not use choke. Move the throttle to the "Fast" position. See figure 2. (**NOTE:** The choke control is part of the throttle control on the Kawasaki engine).
- Put the ignition key in the switch and turn it to the "Start" position. See figure 2.
- As soon as the engine starts, release the key and move the choke control to the "Off" position from the "Choke" position. Wait until the engine is running smoothly before operating the Promaster 200.

To stop the engine, move the throttle lever to the "Slow" position and turn the ignition key to the "Off" position.

Operating

Operate the unit only when in the operator's position which is in the seat.

NOTE: The operator presence control switch located under the seat must be held down at all times whenever the T-Bar control levers are not in neutral and/or the PTO switch is in the "On" position.

To operate the Promaster 200:

- Start the engine. Wait until the engine is running smoothly.
- Move the throttle lever to the "Half throttle" position. See figure 2.
- To move the unit forward, move the control levers forward. To stop the unit, pull the T-bar control levers back until you feel the decent. To move in reverse, pull the levers past the decent. See figures 2.



WARNING: Move the control levers slowly and keep the throttle control lever at slow speed until you learn how to operate the unit.

- The twin T-bar control levers are used for both speed and direction control. In addition, they will stop the unit. Moving both T-bar levers

simultaneously will cause the unit to move in a straight line when traveling forward. Moving the right T-bar forward of the left T-bar will cause a left turn. Moving the left T-bar forward off the right T-bar will cause a right turn. The sharpness of turn will depend on the relative position of the two T-bar levers. To stop, return both T-bars to the neutral position.

- To mow with the Promaster 200, move the control levers to the neutral position. Slow the engine down to about half speed. Move the PTO switch to the "On" position to engage the mower. Move throttle control to fast. Move the T-bar control levers forward to obtain a slow ground speed. See figure 2.

NOTE: Never engage the PTO if the mower is plugged with grass or other material. This may cause damage to the electric clutch.

- To disengage the mower, move the PTO switch to the "Off" position. See figure 2.
- When you know how to operate the Promaster 200, select a speed appropriate to your mowing conditions. See figure 2.

To stop the Promaster 200:

Move the control levers to the neutral position, disengage the mower. Move the throttle lever to the "Slow" position and turn the ignition key to the "Off" position. See figure 2. Remove the ignition key to prevent unauthorized use or when servicing.

Parking

To park the Promaster 200:

- Move the control levers to the neutral position. See figure 2.
- Move the throttle lever to the "Slow" position. See figure 2.
- Turn the ignition key to the "Off" position and remove the key.
- Set the parking brake.

Operation (Continued)

Moving the Promaster 200 with the Engine Not Running

To move the Promaster 200 without the engine running, rotate the bypass valve levers located on the left side of the pumps approximately 1/2 turn. Levers must be returned to their original position in order to operate the unit. See figure 3.

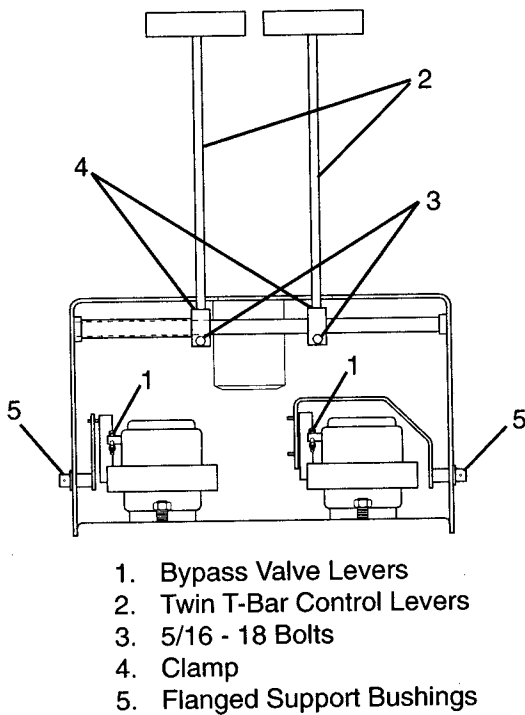


Figure 3: Control and Bypass Levers

Lubrication and Maintenance

Engine

Correct maintenance can increase the life of the engine. See your engine manual for information on the operation and maintenance of your engine.

- Each day before operating, check the level of the oil in the engine. Never operate the engine when the oil level is below the add mark. See your engine manual.
- Each day before operating, check the air cleaner element. Dirt can decrease the flow of air to the engine. Your engine manual tells how to clean the air cleaner element.
- Each day before operating, check the air cooling system on the engine. Debris can decrease the flow of air cooling the engine. Your engine manual tells how to clean the cooling system.

- Each day before operating check the engine coolant by looking at the coolant overflow tank. (Kawasaki engine only).
- Follow the maintenance instructions in your engine manual concerning oil changes and engine coolant changes.

Filling the Fuel Tank



WARNING: Use caution with fuel. Fuel is very flammable. Keep fuel in a clean and tight container. Keep fuel away from fire or heat. Never put fuel in the fuel tank while the engine is running or hot. Clean up any spilled fuel before starting the engine.

Lubrication and Maintenance (Continued)

Add fuel to the fuel tank as needed. See your engine manual for the correct type and grade of fuel. To add fuel to the fuel tank:

- Refuel the unit only in a well ventilated open area.
- Stop the engine.
- Clean the fuel cap and the area around the fuel cap to prevent dirt from entering the fuel tank. Remove the cap from the fuel tank.
- Fill the fuel tank. Be careful not to spill the fuel. Do not overfill, allow for fuel expansion.
- Install the cap on the fuel tank and tighten.
- Clean up any spilled fuel before starting the engine.

Checking the Tires

Before each use make a visual check of tires. The correct air pressure is 12-15 psi (83-103 kN/m²) for the rear tires and 20-25 psi (138-172 kN/m²) for the front tires.

Lubricating the Promaster 200

Apply a small amount of oil to the pivot points as required for smooth and proper operation.

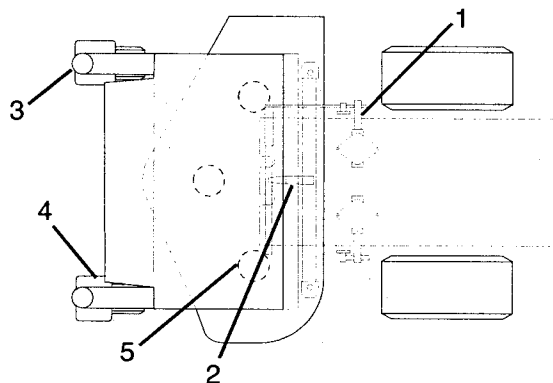
Apply high quality lithium base grease to the lube fittings in each of the pump arm bushing and the front frame pivot every 50 hours of operation. See figures 3 and 4.

Every eight hours of operation apply grease to the lube fittings on: See figure 4 and 6.

- each mower spindle (3)
- each wheel bearing (2)
- each caster pivot (2)

Checking the Fasteners

Each day before operating, check all nuts, bolts, and other fasteners. Replace fasteners that are missing or damaged. Tighten all nuts and bolts to the torque shown in chart 2 unless shown differently.



REF.	LUBRICATION	QTY.	DESCRIPTION-LOCATION	INTERVAL	
				Daily	50 Hrs.
1	GREASE	2	PUMP ARM BUSHINGS	●	
2	GREASE	1	PIVOT PIN		●
3	GREASE	2	CASTER PIVOT	●	
4	GREASE	2	WHEEL BEARING	●	
5	GREASE	3	MOWER SPINDLE	●	
	OIL		ALL PIVOT POINTS, PIN CONNECTIONS	●	

Figure 4: Lubrication

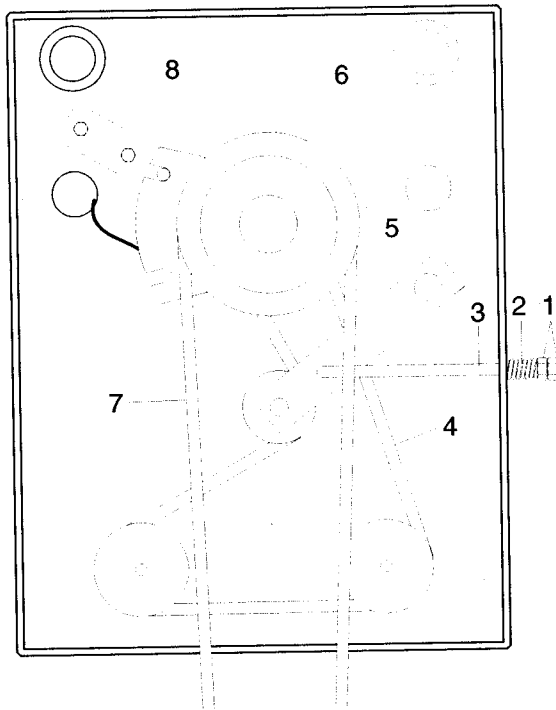
Replacing Mower Belt

NOTE: The following procedure applies to both the long mower belt and the short mower belt.

- Stop the engine. Remove the ignition key.
- Remove the footboard from the support frame.
- Loosen and remove the two nuts, the flat washer and the spring from the idler rod and remove the old belt.
- Arrange the new mower belt on the spindle sheaves and the idler pulley. Put the belt on the mower clutch sheave (long mower belt only). Put the idler rod back through the spring support. Put the spring, flat washer and two nuts back on the idler rod. See figures 5 and 6.
- Set mower cut height to 3.5 inches and adjust belt. To tighten the mower belt, turn the adjusting nut on the idler rod until the gap between the coils of the spring is .010" to .015" (.25mm to .38mm). When the belt is tight, hold the adjusting nut and lock the jam nut against it.

Lubrication and Maintenance (Continued)

- Put the footboard back on the support frame.

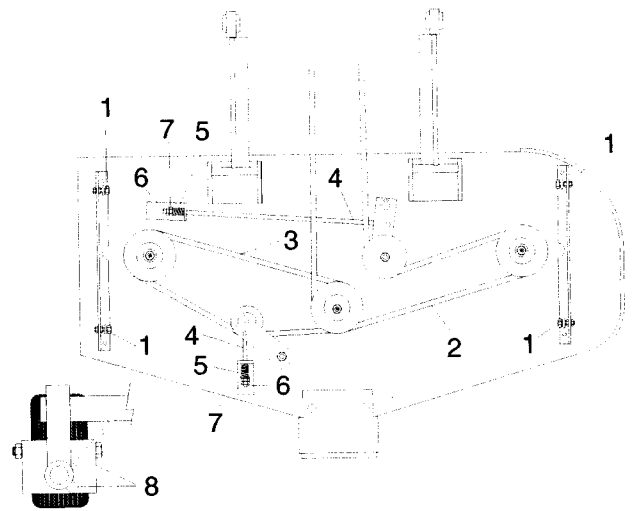


1. Jam Nut
2. Spring
3. Idler Rod
4. Hydro Pumpbelt
5. Belt Tension Idler Arm
6. PTO Clutch
7. Mower Belt
8. Clutch Anchor Weldment

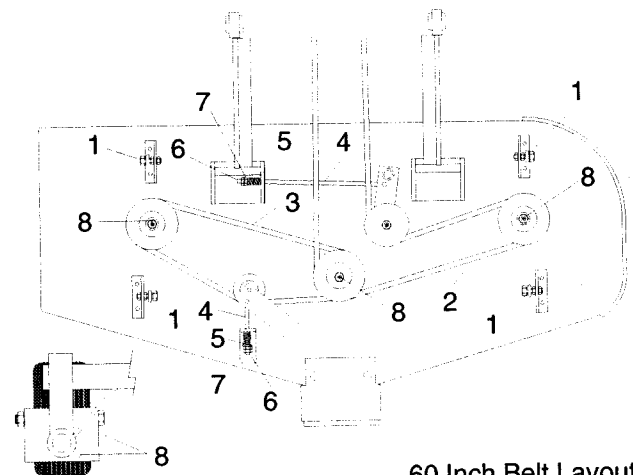
Figure 5: Hydro Pump Belt

Replacing the Hydro Pump Belt

- Stop the engine. Remove the ignition key. Put the PTO switch in the "Off" position. Put the speed control lever in the neutral position.
- Remove the mower belt from the mower clutch sheave. See "Replacing Mower Belt" page 11.
- Remove the electric clutch anchor weldment by removing two bolts.
- Remove the two jam nuts, flat washer and spring from the idler rod which is used to tension the hydro pump belt. See figure 5.
- Remove the old hydro pump belt and install the new belt.



50 Inch Belt Layout



60 Inch Belt Layout

1. Lift Chains
2. Long Mower Belt
3. Short Mower Belt
4. Idler Rod
5. Spring
6. Jam Nut
7. Adjusting Nut
8. Lubrication Fitting

Figure 6: Mower Belt Layout

- Install the spring, flat washer and jam nuts on the idler rod and tension the hydro pump belt. See "Adjustment Section on page 19.
- Reinstall the electric clutch anchor weldment. See figure 5.

Lubrication and Maintenance (Continued)

- Put the mower belt back on the mower clutch sheave. Tighten the belt. See "Replacing Mower Belt" on page 11.

Checking the Hydraulic Fluid Level

A visual check of the hydraulic fluid level should be made daily.

NOTE: The oil level can be seen thru the plastic tank.

The oil level should be almost to the top of the divider in the tank

- To add oil, first remove any dirt that may be around the cap on the tank.
- Add oil until the level is almost to the top of the divider in the tank and install tank cap.

Changing Hydraulic Fluid

The hydraulic oil filter and hydraulic oil should be changed after the first 50 hours. They both should be changed every 500 hours thereafter. Use Mobil Super HP 20W-50 or Castrol 20W-50 for best component life.

- Clean around oil filler cap and remove.
- Remove oil filter and let one side of oil tank drain. Install new oil filter. **NOTE:** Fill new oil filter with clean oil before installing.
- Remove oil tank mounting bracket.
- Disconnect oil tank inlet hose at the oil cooler.
- Disconnect oil tank outlet hose at the oil filter.
- Remove oil tank and drain out all oil.
- Reinstall oil tank and hoses.
- Add new oil to the oil tank. It will take about 4 quarts. Use Mobil Super HP 20W-50 or Castrol 20W-50 for best pump and wheel motor life.

Using Hydraulic Devices



WARNING: Keep body and hands away from pin holes or nozzles which effect hydraulic fluid under pressure. Use paper or cardboard and not hands to search for leaks.

Be sure to stop the engine before doing any work on hydraulic parts.



WARNING: Make sure all hydraulic fluid connections are tight and all hydraulic hoses and lines are in good condition before applying pressure to the system.

Hydraulic fluid escaping under pressure may have sufficient force to penetrate skin and cause serious injury. Foreign fluid injected into the skin must be surgically removed within a few hours by a doctor familiar with this form of injury or gangrene may result.

Sharpen the Mower Blades



CAUTION: Use sturdy gloves or padding to protect hands when working with mower blades.

- Turn the engine off. Remove the ignition key. Remove the ignition wire from the spark plug.
- Remove the lock nuts, the flat washers, and the blades from the spindle shafts.
- Sharpen the beveled edges of the blades in a straight line. Do not change the angle of the beveled edge. If more than 0.5 inches (12.7mm) are removed from the width of a blade, discard the blade. Make sure the sharpened blades are balanced. Balance must be held within 1.3 inch ounces.
- Put the blades, the washers, and the lock nuts back on the spindle shafts.
- Tighten the lock nuts to a torque of 120 ft. lbs. (163 N.m).
- Put the ignition wire back on the spark plug.

Battery



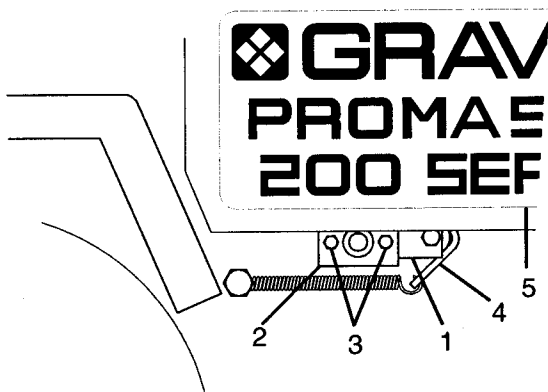
WARNING: Batteries produce explosive gases which can cause personal injury. DO NOT allow flames, sparks or any ignited object to come near the battery. When charging or working near a battery, always shield your eyes and provide ventilation.

Adjustments

Adjusting the Twin T-bar Control Levers

The control levers can be adjusted for alignment and the control levers can be adjusted for neutral position.

- Move the control levers to the neutral decent position. Stop the engine.
- Loosen the 5/16-18 bolt in the clamp at the base of each control lever. (Loosen the bolts just enough to rotate the control levers on their shaft with some resistance). See figure 3.
- Position the control levers in the desired location and tighten the 5/16-18 bolt in each one.
- Move the control levers forward and backward as far as they will travel to check for interference in the instrument panel slots. If there is interference, readjust the neutral position.



- | | |
|--------------------------------|-------------------------|
| 1. Speed Control Arm | 3. 1/4 - 20 Hex Bolts |
| 2. Neutral Adjustment Weldment | 4. Neutral Decent Strap |
| | 5. Linkage Guard |

Figure 7: Steering Control Neutral Adjustment

Steering Control Neutral Adjustment

If the Promaster 200 has excessive creep when the twin T-bar control levers are in neutral, adjust as follows. See figures 2, 3 and 7.



WARNING: This adjustment requires operation of the engine and removal of guards. Use extreme care to avoid contact with moving parts and hot surfaces. Be sure rear of unit is well supported and secure before starting engine.

- Stop the engine.
- Make sure both twin T-bar control levers are in the neutral decent. (This is important).
- With the unit facing a wall, jack the Promaster 200 up so that both drive wheels are off the ground. (you may want to remove the linkage guards). See figure 7.
- Loosen the two 1/4-20 hex bolts holding the neutral adjustment weldment. Loosen the bolts just enough so that the weldment can be rotated by tapping on one of the bottom corners with a wrench or small hammer. See figure 7.
- Start the engine and run at about half throttle or faster.
- Tap on one bottom corner or the other of the neutral adjustment weldment until the wheel stops turning. Try to adjust neutral to the center of the neutral band. Tighten the two 1/4-20 bolts.
- Move the control levers, from forward to reverse several times to make sure it is adjusted to neutral. Readjust if necessary.
- Stop the engine.

Adjusting Mower Belt

Check the mower belt after the first 8 hours of operation for proper tension. Thereafter, check the mower belt for proper tension every 25 hours of operation.

To tighten the mower belts:

- Set mower cut height to 3.5 inches.
- Stop the engine. Remove the ignition key.
- Remove footboard from support frame. (On 60" mower only).
- Loosen the jam nut on the idler rod. See figure 6.
- Turn the adjusting nut on the idler rod until the gap between the coils of the spring is .010" to .015" (.25mm to .38mm).
- Hold the adjusting nut and lock the jam nut against it.

Adjustments (Continued)

- Adjust the other mower belt the same way.
- Replace the footboard.

Adjusting the PTO Clutch

- No adjustment necessary.

Tensioning the Hydro Pump Belt

- See figure 5.
- Loosen the two jam nuts on the end of the idler rod.
- Tighten the two nuts until the gap in the coils of the spring is approximately .010 inches (.25mm). Lock the two jam nuts on the end of the idler rod.

Adjusting the Promaster 200 to Track Straight

There are two main reasons for not tracking straight.

- Orientation of the T-bar levers is not adjusted identically relative to the hydraulic pump neutral band. Each Sundstrand pump has a .031 inch diameter orifice in both the forward and reverse circuit, the neutral band has some width to it.
- The tires vary in size and adjusting the air pressure slightly can compensate for this.
- Check the air pressure in each tire before attempting to make any adjustments.

If the Promaster 200 tends to turn slowly to the right when the twin T-bar control levers are held in the same forward position, try some of the following steps until the unit tracks straight.

- Adjust the neutral closer to reverse on the left wheel.
- Adjust the neutral closer to forward on the right wheel.
- Reduce the air pressure slightly in the left tire.
- Increase the air pressure slightly in the right tire.

If the Promaster 200 tends to turn slowly to the left when the twin T-bar control levers are held in the

same forward position, try some of the following steps until the unit tracks straight.

- Adjust the neutral closer to forward on the left wheel.
- Adjust the neutral closer to reverse on the right wheel.
- Reduce the air pressure slightly in the right tire.
- Increase the air pressure slightly in the left tire.

Height of Cut Adjustment

- The mower height of cut is adjusted by using the lift switch. The decal on the mower lift cylinder indicates the height of cut. See figures 1 and 2.

Leveling the Mower Deck

The mower deck can be leveled front to rear and from side to side. These adjustments should be made on a level surface with the tires inflated to the correct air pressure.

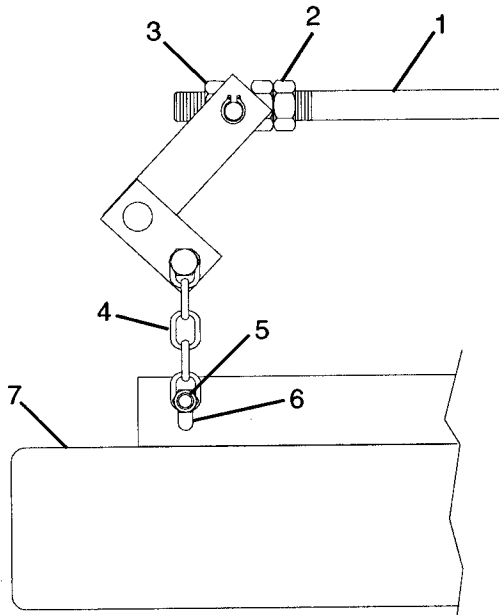
The mower is leveled from side to side with the slots where the 4 chains fasten to the mower mounting brackets. See figure 8.

- Level the mower with blocks of equal height such as pieces of 2 x 4's.
- Attempt to raise the mower with the lift until the chains on one side are tight.
- Loosen the locknuts on the side where the chains are slack and slide the bolt down the slot until the chain is tight.
- Tighten the locknut.

The mower is leveled from front to rear by adjusting the rod running down each side of the frame.

- Loosen and screw back the rear hex nut on the front end of each rod.
- Turn the front hex nut on each rod until the mower is leveled.
- Tighten the rear hex nut that was loosened in step 1.

Adjustments (Continued)



1. Rod
2. Rear Hex Nut
3. Front Hex Nut
4. Chain
5. Lock Nut
6. Slot
7. Mower Deck

Figure 8: Leveling the Mower Deck

Storage

To Store the Promaster 200



WARNING: Never store the Promaster 200 in an enclosed area where fuel fumes may reach flame, sparks, pilot lights or an ignited object. Drain fuel outdoors away from any ignition source. Use only approved fuel containers.

- Do the maintenance described in the Lubrication and Maintenance Section.
- Clean the unit thoroughly.



WARNING: Do not use harsh or abrasive cleaners on any painted surface. Do not allow gasoline or oil to remain on any silk screened surfaces.

- Put paint or lubricant where ever paint has been removed.
- See your engine manual for engine storage instructions.



WARNING: Fuel is very flammable. Make sure the muffler and other engine parts are cool before removing the fuel from the fuel tank. Clean up spills immediately.

- Remove and charge the battery.

To Take the Promaster 200 Out of Storage, do the following:

- Put fresh, clean fuel in the fuel tank.



WARNING: Fuel is very flammable. Clean any spilled fuel before starting the engine.

- Begin the maintenance schedule specified in the Lubrication and Maintenance section.
- Remove and charge the battery.

Service Manual

Service manuals are available for owners who wish to perform some of their own maintenance and service operations. Should a complete service manual be desired, order under the following part number.

When ordering parts always include the Model and Serial Number of your unit to assure prompt service. A parts manual is included in your literature package to make ordering of service parts easier.

Promaster 200 Service Manual

Part No. 00029194

Tractor Model Number _____
Tractor Serial Number _____

Mail Request to:

Ariens Service
655 West Ryan Street
P.O. Box 157
Brillion, WI 54110-0157

Trouble Shooting

1. If the engine will not start.

NOTE: The engine will not start unless the twin T-bar control levers are in the neutral position and the PTO lever is in the "Off" position.

Turn the ignition key to the "Off" position. Make sure twin T-bar control levers are in the neutral position. Push the PTO lever to the "OFF" position.

Adjust, if necessary, the PTO interlock switch so that the switch is closed when the PTO lever is in the "Off" position. (Switch ball must be pushed in).

Adjust, if necessary, the interlock switches at the control levers so that the switches are closed when the control levers are in the neutral position. (Switch ball must be pushed in).

Check and clean the spark plugs. If necessary, replace the spark plug (s). Adjust the spark plug gap. See your engine manual.

Check the fuel tank for fuel. Add fuel if necessary. Check the fuel for water or dirt. If necessary, replace the fuel with clean, fresh fuel.

Check the air cleaner. Clean or replace the filter elements if necessary. See your engine manual.

Check fuel shut-off valve. See "Operation Section" on page 8.

2. If the Promaster 200 will not move or mow when the engine is running, do the following:

Stop the engine. Remove the ignition key.

See if the hydro pump belt is broken or off the pulleys. Adjust or replace if necessary.

See if the mower belt is broken or off the pulleys. If necessary, adjust or replace the mower belt.

Check to see if the bypass valves have been left open. See figure 3.

3. If there are changes in the sound or vibrations of the Promaster 200, do the following:

Stop the engine. Remove the ignition key. Remove the ignition wire from the spark plug.

Check the mower blades. If either is damaged, replace that blade.

See that the fasteners holding the blades are tightened to a torque of 120 ft lbs. (163 Nm).

Check all the fasteners on the Promaster 200.

Specifications

Model No. Description Name	992007 PM200 25 HP Kohler With 60" Mower	992008 PM200 20 HP Kohler With 60" Mower	992009 PM200 20 HP Kohler With 50" Mower
Length	74.5"	74.5"	74.5"
Height	42.8"	42.8"	42.8"
Width	63.4	63.4"	52.5"
Weight Actual	998 lbs.	998 lbs.	914 lbs.
Battery	12 Volt	12 Volt	12 Volt
Brakes	Hydro/Dynamic Disc-Parking	Hydro-Dynamic Disc-Parking	Hydro-Dynamic Disc-Parking
Steering	Twin T-bar Levers	Twin T-bar Levers	Twin T-bar Levers
Turing Radius	0"	0"	0"
Tire Size			
Front	13x5-6	13x5-6	13x5-6
Rear	20 x 10-10	20x10-10	20x10-10
Engine-Manufacture	Kohler	Kohler	Kohler
Model Number	CV25S	CV20S	CV20S
Cycle	4	4	4
Horsepower	25	20	20
Starting System	Electric	Electric	Electric
Fuel Tank Cap.	7 gal.	7 gal.	7 gal.
Fuel	See engine manual	See engine manual	See engine manual
Idle RPM	1800 RPM	1800 RPM	1800 RPM
Governed RPM	3600 RPM	3600 RPM	3600 RPM
Crank Case Cap.	4 pts.	4 pts.	4 pts.
Air Cleaner	Large Capacity Duel Element	Large Capacity Duel Element	Large Capacity Duel Element
Cooling Capacity			
Engine Oil Type	See engine manual	See engine manual	See engine manual
Spark Plug Gap	See engine manual	See engine manual	See engine manual
Transmission	Hydrostatic Drive	Hydrostatic Drive	Hydrostatic Drive
Speed-Forward Max.	7 mph	7 mph	7 mph
Reverse Max.	1.8 mph	1.8 mph	1.8 mph
Transmission Lube	Mobil Super HP 20w50 or Castrol 20w50	Mobil Super HP 20w50 or Castrol 20w50	Mobil Super HP 20w50 or Castrol 20w50
Drive Clutch	Hydrostatic	Hydrostatic	Hydrostatic
Tire Pressure			
Front	20-25 psi	20-25 psi	20-25 psi
Rear	12-15 psi	12-15 psi	12-15 psi
Lift System	Hydraulic	Hydraulic	Hydraulic
Power Take Off	Electric Clutch Clutch/Brake	Electric PTO Clutch/Brake	Electric PTO Clutch/Brake
Mower Deck			
High Performance			
Cutting Width	60"	60"	50"
Cutting Height	1" to 5"	1" to 5"	1" to 5"
Cut Increments	Infinite Between 1" & 5"	Infinite Between 1" & 5"	Infinite Between 1" & 5"
Leaf Mulcher	788009	788009	788009
Grass Mulcher	788009	788009	788008
Roller Kit 60"	792002	792002	N/A

Specifications

Model No. Description Name	992010 Promaster 200 20 HP Kawasaki With 60" Mower	992011 Promaster 200 20 HP Kawasaki With 50" Mower	992012 PM200 22 HP Kohler With 60" Mower
Length	74.5"	74.5"	74.5"
Height	42.8"	42.8"	42.8"
Width	63.4"	52.5"	63.4"
Weight Actual	995 lbs.	911 lbs.	998 lbs.
Battery	12 Volt	12 Volt	12 Volt
Brakes	Hydro/Dynamic Disc-Parking	Hydro/Dynamic Disc-Parking	Hydro/Dynamic Disc-Parking
Steering	Twin T-bar Levers	Twin T-bar Levers	Twin T-bar Levers
Turing Radius	0"	0"	0"
Tire Size			
Front	13 x 5-6	13 x 5-6	13 x 5-6
Rear	20 x 10-10	20 x 10-10	20 x 10-10
Engine-Manufacture	Kawasaki	Kawasaki	Kohler
Model Number	FD590V	FD590V	CV22S
Cycle	4	4	4
Horsepower	20	20	22
Starting System	Electric	Electric	Electric
Fuel Tank Cap.	7 gal.	7 gal.	7 gal.
Fuel	See engine manual	See engine manual	See engine manual
Idle RPM	1550 RPM	1550 RPM	1800 RPM
Governed RPM	3400 RPM	3400 RPM	3600 RPM
Crank Case Cap.	3.6 pts.	3.6 pts.	4 pts.
Air Cleaner	Duel Element with Pre-Clean Screen	Duel Element with Pre-Clean Screen	Large Capacity Dual Element
Cooling Capacity	3.2 qts	3.2 qts.	
Engine Oil Type	See engine manual	See engine manual	See engine manual
Spark Plug Gap	See engine manual	See engine manual	See engine manual
Transmission	Hydrostatic Drive	Hydrostatic Drive	Hydrostatic Drive
Speed-Forward Max.	7 mph	7 mph	7 mph
Reverse Max.	1.8 mph	1.8 mph	1.8 mph
Transmission Lube	Mobil Super HP 20w50 or Castrol 20w50	Mobil Super HP 20w50 or Castrol 20w50	Mobil Super HP 20w50 or Castrol 20w50
Drive Clutch	Hydrostatic	Hydrostatic	Hydrostatic
Tire Pressure			
Front	20-25 psi	20-25 psi	20-25 psi
Rear	12-15 psi	12-15 psi	12-15 psi
Lift System	Hydraulic	Hydraulic	Hydraulic
Power Take Off	Electric PTO Clutch/Brake	Electric PTO Clutch/Brake	Electric PTO Clutch/Brake
Mower Deck			
High Performance			
Cutting Width	60"	50"	60"
Cutting Height	1" to 5"	1" to 5"	1" to 5"
Cut Increments	Infinite Between 1" & 5"	Infinite Between 1" & 5"	Infinite Between 1" to 5"
Leaf Mulcher	788009	788008	788009
Grass Mulcher	788009	788008	788009
Roller Kit 60"	792002	N/A	792002

Specifications

Model No.	992302(Export)
Description Name	PM200 20 HP Kohler With 50" Mower
Length	189.2 CM
Height	108.7 CM
Width	133.3 CM
Weight Actual	414.6 kg
Battery	12 Volt
Brakes	Hydro/Dynamic Disc-Parking
Steering	Twin T-bar Levers
Turning Radius	0"
Tire Size	
Front	13 x 5-6
Rear	20 x 10-10
Engine-Manufacture	Kohler
Model Number	CV20S
Cycle	4
Horsepower	12.7 FW @ 2750 Min-1
Starting System	Electric
Fuel Tank Cap.	26.5 L
Fuel	See engine manual
Idle RPM	1800 Min-1
Governed RPM	2750 Min-1
Crank Case Cap.	1.9 L
Air Cleaner	Large Capacity Dual Element
Cooling Capacity	
Engine Oil Type	See engine manual
Spark Plug Gap	See engine manual
Transmission	Hydrostatic Drive
Speed-Forward Max.	11.2 km-hr
Reverse Max.	2.9 km/hr
Transmission Lube	Mobil Super HP 20w50 or Castrol 20w50
Drive Clutch	Hydrostatic
Tire Pressure	
Front	(138-172 kn/m ²)
Rear	(83-103 kn/m ²)
Lift System	Hydraulic
Power Take Off	Electric PTO Clutch/Brake
Mower Deck	
High Performance	
Cutting Width	127 CM
Cutting Height	2.54 to 12.7 CM
Cut Increments	Infinite Between 2.54 & 12.7 CM
Leaf Mulcher	788008
Grass Mulcher	788008
Roller Kit 60"	N/A

Dealer Preparation

Consumer Note: Your Gravely Dealer is expected to complete these preparation steps and review important information, including this manual, with you before or upon delivery of unit.

The preparation information is included here so that you and your dealer may review it together.

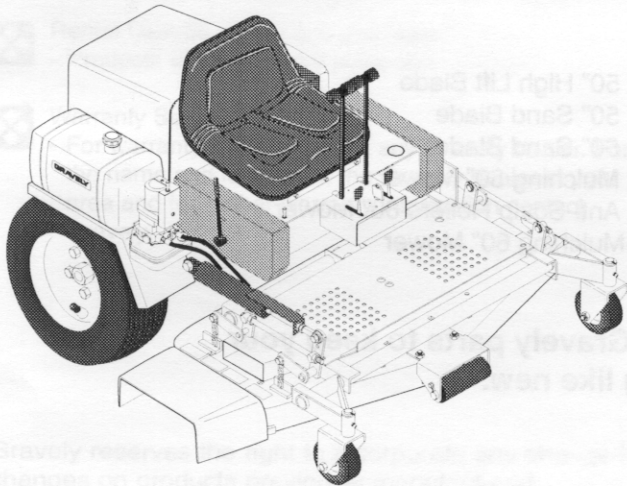


WARNING: Failure to follow all instructions could result in personal injury and/or damage to tractor. Remove wire from spark plug before attempting any adjustment or assembly procedures.

Tools Required:

None.

Package Contents:



To push the tractor on a level surface, rotate the bypass valve levers located on the pumps. See figure 3.

NOTE: When removing the tractor from the carton, push manually only a short distance (10-15 feet).

IMPORTANT: NEVER push or pull (tow) the tractor with another vehicle. Transmission damage will occur. When transporting, use truck or trailer.

Step 1

Remove the power unit from shipping container.

Step 2

Check to see if the battery has been filled with electrolyte. Remove the battery and place on a bench or other place which is well ventilated and an acid spill will not create damage. Follow the instructions to charge battery. Follow charger manufacturer's instructions for safe procedure. If the battery has not been filled with electrolyte, fill each cell with electrolyte to level indicator before charging battery.

Step 3

Adjust tire pressure to between 12-15 psi (83-103 kN/m²) for rear tires. Adjust to between 20-25 psi (138-172 kN/m²) for front tires.

Step 4

Add engine oil. See engine manual for specifications.

Step 5

Check the adjustments outlined in the Adjustments Section.

Step 6

Add clean fuel to the fuel tank. See engine manual for grade.

Step 7

Check for loose hardware.

Dealer Preparation (Continued)

Step 8

Check to see that interlock systems operate correctly.
See page 8.



DANGER: Failure of interlock, together with improper operation of unit, could result in severe personal injury.

Step 9

Check to see that the Promaster 200 tracks straight.
If necessary, adjust it to track straight as instructed in the Adjustments Section.

Step 10

The unit should already be lubricated. Check the unit as outlined in the Lubrication and Maintenance Section.

Accessories

Enhance your Promaster 200 with these Gravely Accessories.

78506700	Kit, 50" High Lift Blade
78506900	Kit, 50" Sand Blade
78705600	Kit, 60" Sand Blade
78800800	Kit, Mulching 50" Mower
79200200	Kit, Anti-Scalp Rollers 60" Mower
78800900	Kit-Mulching 60" Mower

Be sure to always use genuine Gravely parts to keep your tractor running like new.










Two Year Limited Warranty

PRO AND PROMASTER PRODUCTS

Gravely hereby warrants to the original purchaser that all Pro and Promaster products shall be free of defects in material and workmanship for **two years** from date of purchase or **1000 hours**, whichever comes first. Gravely will provide for the replacement of any part found to be defective. Such repair or replacement will be free of charge to the original purchaser (labor and parts), except as noted below.

This warranty is subject to the following exceptions and limitations.

-  **Purchaser Responsibilities:**
 - Maintenance and minor adjustments per Operators Manual.
 - Notification of need for warranty service.
 - Transportation of the product to and from the place of warranty repair.
-  **Product Registration:**
 - Return of Registration card to validate warranty.
-  **Rental Use: 90 days** parts and labor.
 - Products used for rental purposes.
-  **Warranty Service:**
 - For warranty service contact any Gravely dealer. For the name and location of the Gravely dealer in your area and for further warranty information contact Gravely.
-  **Engines, engine accessories.**
 - Covered only by engine manufacturers warranty.
-  **Batteries - One year** pro rated.
-  **Exclusions: - No Warranty**
 - No warranty is extended for normal maintenance, services and normal replacement items such as Spark Plugs, Oil, Oil Filters, Air Filters, Mufflers, Blades, Belts, Seats, Bags, Skids, Mower Deck Rollers, Skids, Light Bulbs, Headlights, etc.
 - No warranty is extended on any product that has been altered, misused, mis-assembled, improperly adjusted, neglected or damaged by accident.
 - No warranty is extended for service completed by someone other than an Authorized Gravely Dealer.
 - No warranty is extended on any attachment not approved by Gravely nor any parts that are not genuine Gravely parts.
 - No warranty is extended on engines and engine accessories.

Gravely reserves the right to incorporate any change in design into its products without obligation to make such changes on products previously manufactured.

DISCLAIMER OF FURTHER WARRANTY

Gravely makes no warranty, express or implied, other than this warranty. The implied warranties of merchantability and fitness for particular purpose are hereby disclaimed. Repair or replacement of parts proving to be defective in material or workmanship shall be the exclusive remedy for breach of this warranty. Gravely shall not be liable for incidental or consequential damages, including but not limited to damages for inconvenience, rental or purchase of replacement equipment, or for loss of profits or other commercial loss, resulting from a breach of this warranty.

Some states do not allow limitations on how long an implied warranty lasts, so the above statement may not apply to you. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights, and you may have other rights which vary from state to state.

655 West Ryan Street, P.O. Box 157
Brillion, WI 54110-1098
Phone: 920-756-4400 • Fax: 920-756-4477

OL3810 2/98

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