

Operator's Manual

MA-210, MA-211 & MA-212

SNOWBLOWERS



GRAVELLY

TRACTOR DIVISION
Studebaker
CORPORATION

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DUNBAR,

WEST VIRGINIA 25064

OPERATING INSTRUCTIONS
FOR THE MA 210, MA 211 AND MA 212
SNOWBLOWERS

SAFETY:

Before attempting to operate the Snowblower, be sure to read the section entitled "SAFE SNOW REMOVAL IS NO ACCIDENT".

LUBRICATION:

All major bearings of the MA 210, MA 211, and MA 212 Snowblower that require lubricant are permanently lubricated, or are lubricated from the tractor transmission. However, the operator should check the oil level in the gear box by removing the upper pipe plug. Oil should come up to the bottom of this hole. If the oil level should ever be low, add worm type gear lubricant as recommended for truck worm-gear axles in your area.

ATTACHING:

The Snowblower Drive housing mounts to the front of the tractor with four bolts, the same as other Gravelly power Attachments. When attaching to the Model 'L' Tractor, the chute control crank should be attached to the top sprocket housing shaft of the Snowblower with the rubber connector and two (2) clamps which are provided. See Figure 1.

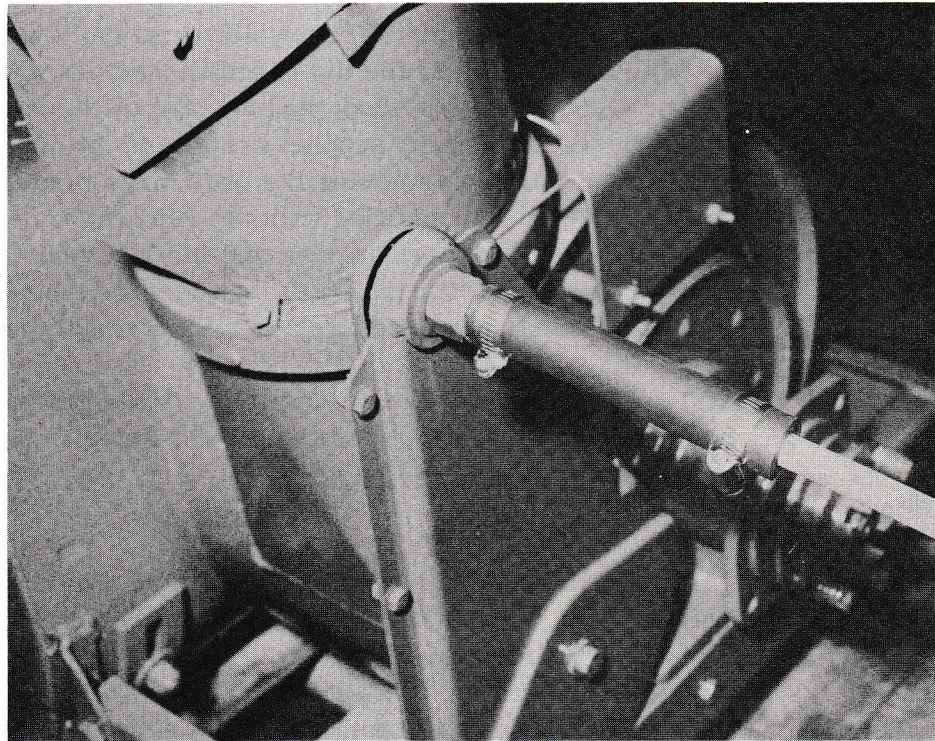


Figure 1

The crank should then be mounted to the tractor left-driving handle with the crank support and crank support clamp as shown in Figure 2.

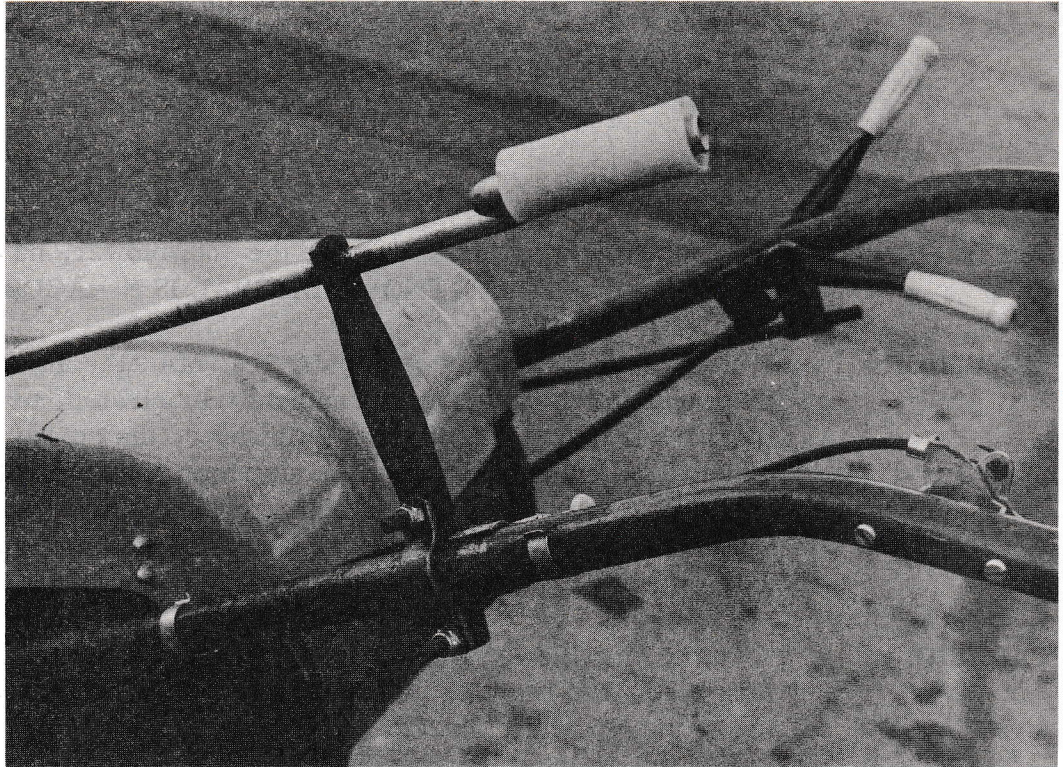


Figure 2

When attaching the 34" Snowblower to the Westchester Tractor, connect the control rod to the top sprocket-housing shaft with one of the two rubber connectors provided, and use two of the four clamps provided. Mount the control crank support bracket to the Westchester left side body hinge pivot point by removing the body hinge pivot bolt and installing the special locking bolt included with the Snowblower. Include the spacer between the crank support bracket and the Westchester body. Pass the crank through the crank support bracket and mount the crank to the control rod with the second rubber connector and the remaining two clamps.

NOTE: If the Snowblower is uneven with the ground after mounting on tractor, check the air pressure in the tractor tires.

ADJUSTMENTS:

Discharge Chute

To position the Discharge Chute, turn the control crank. The Discharge Chute will rotate approximately 165 degrees from extreme left, through the vertical position, to the extreme right. As the crank is turned, the deflector opening is also rotated from the extreme left position through a forward position approximately 180 degrees to the extreme right position.

Deflector

To provide accurate placement of the blown snow near the blower on

either side or forward throw, loosen the large wing nut on the deflector and adjust the deflector position.

Skids

To raise or lower the Snowblower cutting edge, first disengage the power take-off and stop the tractor engine. Then loosen the skid mounting bolts and slide the skids up or down as desired, and tighten the skid mounting bolts securely. This adjustment can be made more accurately if the cutting edge is placed on blocks while the adjustment is made.

Reel Clutch

The Reel Clutch is properly adjusted at the factory. If it should become necessary to tighten the protective friction clutch in the reels, turn off the tractor engine, disengage the power take-off, and block the rotation of the fan. Now tighten the large nut on the left end of the reel shaft (as viewed from the rear of the Snowblower).

See Figure 3

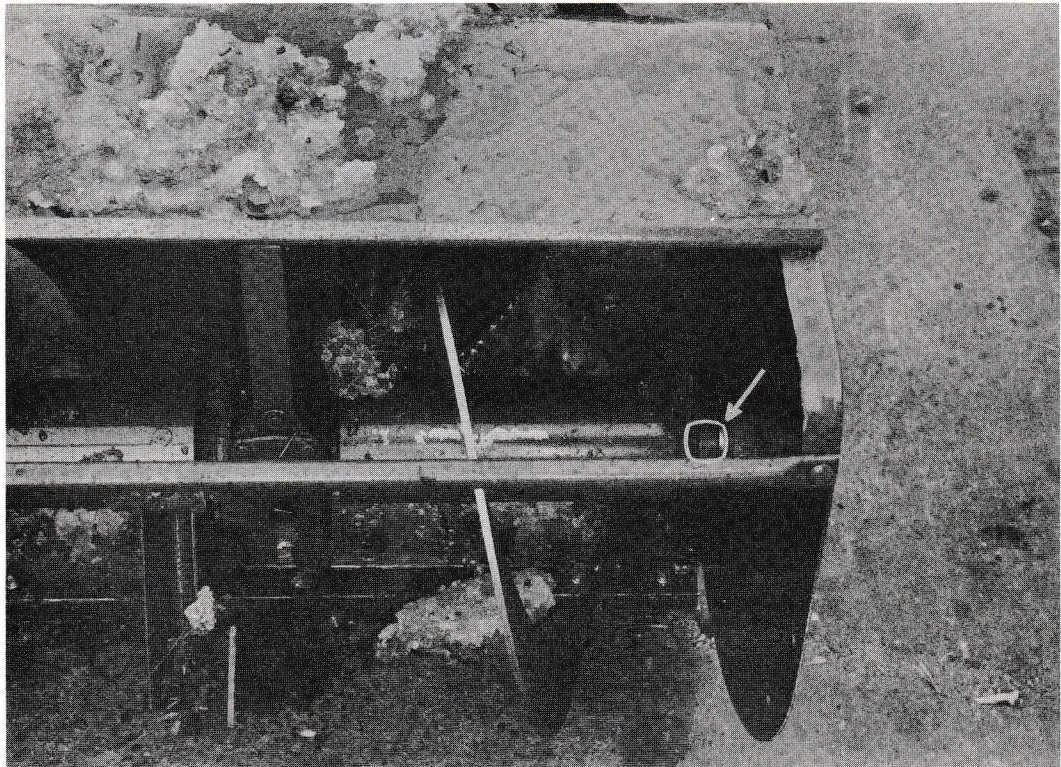


Figure 3

The nut should be tightened to 85 to 95 lb. feet of torque. This would be 90 lbs. force at the end of a 12" wrench, or 72 lbs. at the end of a 15" wrench, or 60 lbs. at the end of an 18" wrench. Over tightening can cause damage to the Snowblower.

Control Shaft Clutch

The fan housing is prevented from rotating by a small friction clutch on the top sprocket housing shaft, except when the control crank is turned by the operator. The resistance of the clutch may be varied by adjusting the nut on the top sprocket housing shaft. Adjust the nut so that it is just tight enough to prevent the fan housing from rotating during operation of the Snowblower except when the fan housing is rotated by the control crank.

ACCESSORIES:

A special Accessory Kit is available which includes:

Drift Cutters

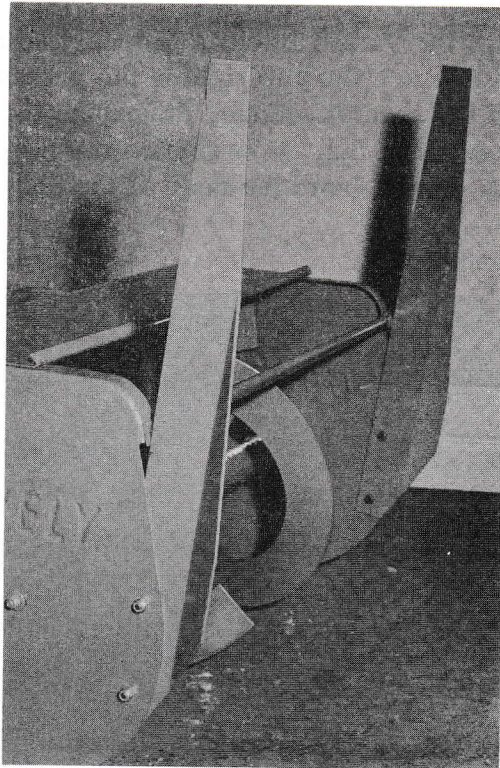


Figure 4

Two Drift Cutters are provided. These mount inside the reel housing ends and extend upward to slice through snow up to 30" deep. The Drift Cutters are flared to assist in turning in deep snows. No adjustment is necessary.

Casters

Two caster weldments and mounting brackets are included. These bolt to the inner sides of the frame and may be used in place of the skids.

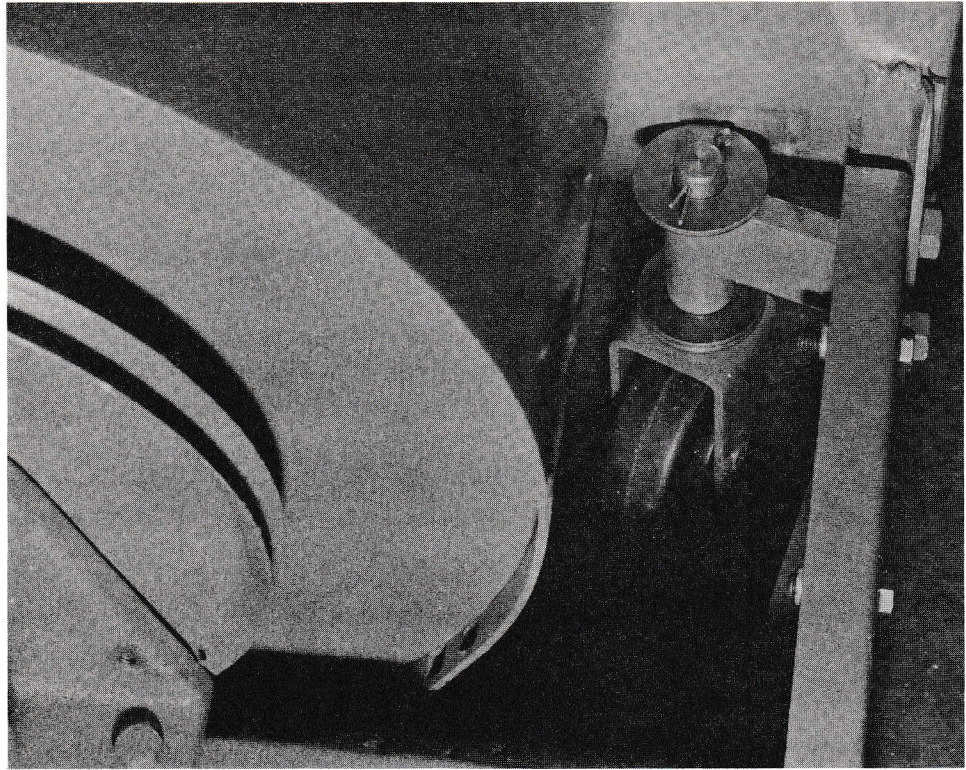


Figure 5

The caster bracket holes are slotted, and three (3) pairs of holes are provided in the frame for height adjustment.

Model No. Decal

This decal is shipped with the accessory kit, and is to be installed in a protected location on the caster mounting bracket or drift cutters.

OPERATING HINTS: Keep the engine under full load when using the Snowblower. With the Swiftamatic Transmission, use low axle range which slows ground speed to a virtual crawl, but permits the Snowblower to run fast in direct relation to the engine revolutions per minute.

If you have standard transmission, you will have to shift between high and low in keeping with snow depth and density. For extended operation in heavy snows, we recommend use of the Gravelly gear-reduction wheels.

If the tractor stops suddenly while operating the Snowblower, check the vent in the fuel tank cap. Sometimes snow will clog this small opening, especially on older tractors with hoods that do not cover the fuel tank. We recommend use of anti-ice fuel additives, and keeping the fuel tank as full as possible at all times to minimize condensation, and subsequent fuel line or carburetor freezing.

When blowing snow into the wind, the discharge chute should be adjusted to blow the snow low, and just over the top of unmoved snow.

There are several silicon-base products available that you can use to coat the working surfaces of the Snowblower, making it more difficult for snow and ice to adhere to these parts. Regular floor or ski wax is also effective.

When blowing snow from gravel or other non-paved surfaces, the Snowblower should be raised by adjusting the skids or casters. This will minimize chances of rocks and other objects being picked up and thrown by the blower.

CAUTION:

With the Deluxe Snowblower, only one adjustment can be made safely with the attachment running. The discharge spout can be adjusted horizontally by turning the control crank rod at the rear of the tractor.

To adjust the discharge spout vertically (on both the Deluxe and earlier models), disengage the attachment, and wait until the fan and reel both are fully stopped.

For any other adjustment or repair, disengage the Snowblower and stop the tractor engine. Be sure the Snowblower has stopped completely.

Use extreme caution when operating on gravel and other non-paved surfaces. The Snowblower can pick up and expel heavy objects with sufficient velocity to injure persons or damage property. Skids should always be used for work on non-paved surfaces, and care should be used in selecting the direction of the discharge spout.

Safe Snow Removal
Is No Accident

Improper use of snow removal equipment on the part of the operator can result in injury. To reduce this possibility, give complete and undivided attention to the job at hand.

Protect yourself and others by following these safety tips:

1. Stop motor before cleaning discharge, removing obstacles, making adjustments (except with the control crank or when adjusting the deflector), or when leaving the operating position.
2. Disengage the power take-off and wait till the fan stops before adjusting the deflector. Never direct discharge at bystanders, or allow anyone in front of machine -- debris may be hidden in the snow.
3. Keep children and pets a safe distance away.
4. Do not allow children to operate machine, nor allow adults to operate it without proper instruction.
5. Adjust height to clear gravel or crushed rock surface.
6. Exercise caution to avoid slipping or falling, especially when operating in reverse.
7. Know the controls and how to stop quickly -- read the Owner's Manual.
8. Handle gasoline with care. It is highly flammable.
 - A. Use approved gasoline container.
 - B. Never add gasoline to a running engine. Fill the tank outdoors, and wipe up spilled gasoline.
 - C. Replace gasoline cap securely.
 - D. Open doors if engine is run in garage. Exhaust fumes are dangerous.
9. Disengage all clutches and power take-off before starting motor. Keep hands, feet, and clothing away from power driven parts.
10. Keep machine in good operating condition, and keep safety devices in place.

11. Use a grounded three (3) wire extension cord for all plug-in electrical heating units.
12. Never walk off and leave a running tractor -- always stop the engine if you must leave the machine.