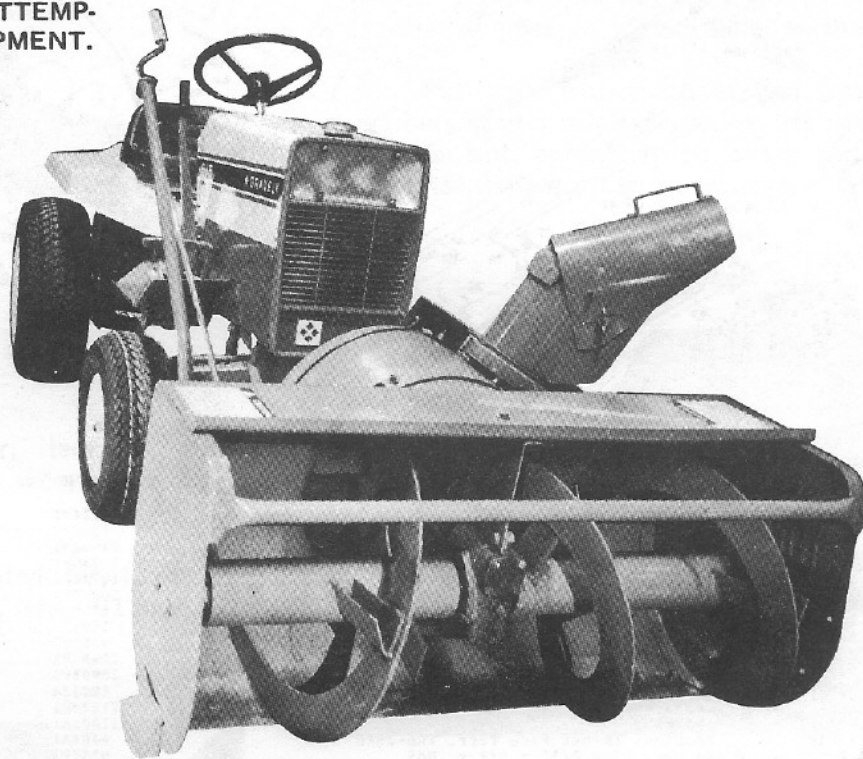


GRAVELY OPERATOR'S MANUAL

NAME: 44" & 38" SNOWBLOWER

PART NUMBER(S): 20982 - 44"
20981 - 38"

READ THIS MANUAL AND TRACTOR OWNERS MANUAL BEFORE ATTEMPTING TO OPERATE THE EQUIPMENT.



The Owners Manual includes set up, safety, operator and maintenance instructions. Item numbers used in this manual are in reference to the Illustrated Parts List, fig 1. Contact The Gravely Dealer for further information.

SPECIFICATIONS

Path Width: 38 inches or 44 inches
Extends Tractor Length: 33 inches
Weight: 250 pounds or 280 pounds

38 inch Snowblowers, recommended for single cylinder Riding tractors of 10 hp and greater with manual lift.

44 inch Snowblowers, recommended for tractors with hydraulic lift.

Drive: steel shafts, universal joints, needle bearings, cast iron housings, overload reel clutch
Construction: heavy gage steel tubing and stamping weldments

Features: 2 stage operation (reel and fan), directional discharge controlled from operators position, replaceable wearstrip and skids
Purpose: general snow removal

Requires: Front Drive Kit

Recommended Accessories for Manual Lift Tractors

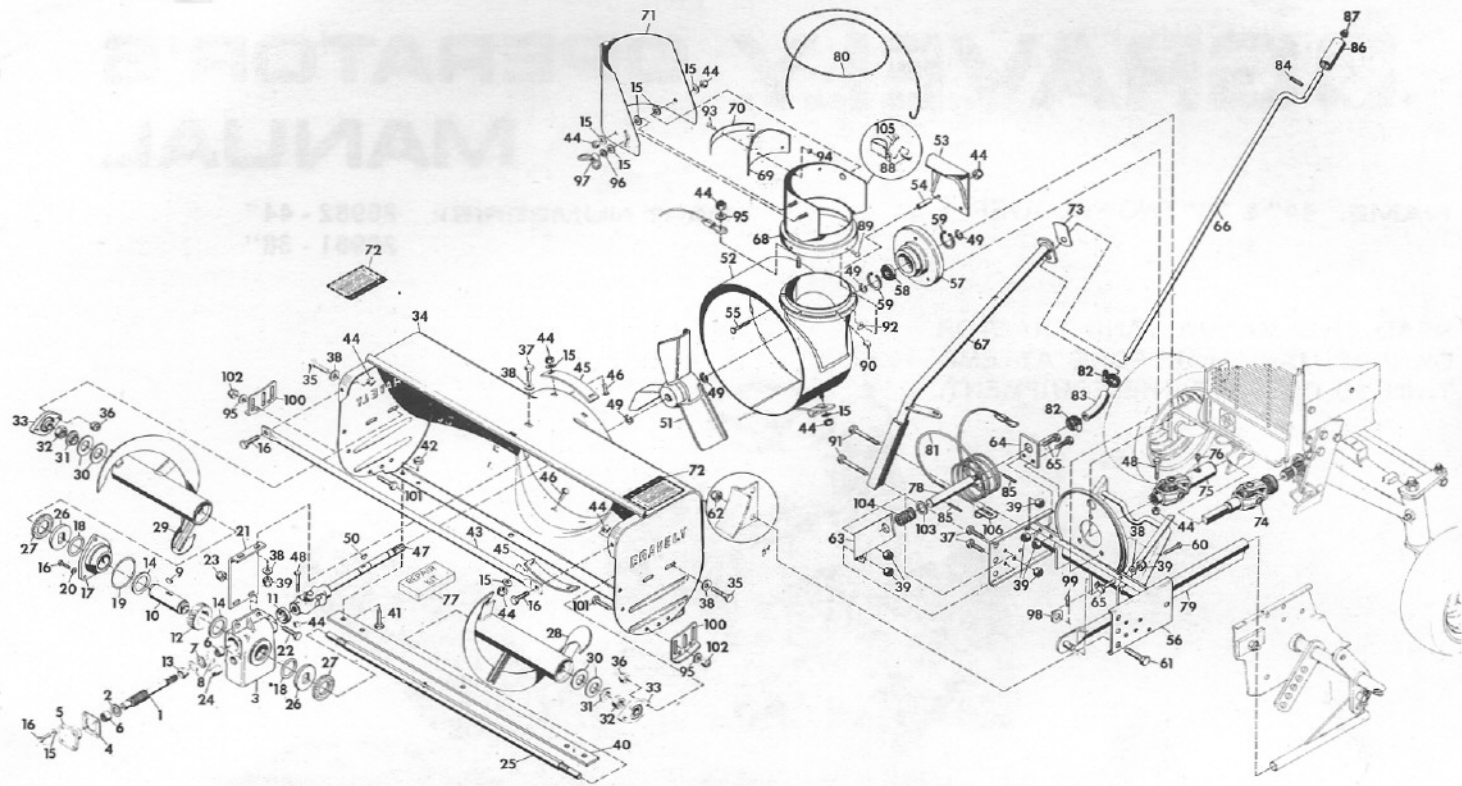
- Lift Assist Kit
- Auxiliary Lift Assist
- Front Wheel Weights
- Rear Wheel Weights
- Tire Chains

Recommended Accessories for Hydraulic Lift Tractors

- Tire Chains
- Wheel Weights

Special Use Accessories for all Tractors

- Wheel Brakes
- Weight Rack



ITEM NO.	PART NO.	DESCRIPTION	ITEM NO.	PART NO.	DESCRIPTION
1	20696P1	Shaft, Snowblower Worm	54	20928P1	Spacer, Tube Guard
2	9659P1	Washer, Thrust	55	126348	Bolt, 1/4-20 x 2-1/4 RD HD SQ NK
3	10573P1	Housing, Snowblower, Gear	56	21008A1	Support Weldment
4	6339P1	Gasket, Bearing Cap	57	19740P1	Support
5	6341P1	Cap, Front Pinion Bearing	58	19741P1	Bearing, Ball 1.000 x 1.850 x .472
6	9660P1	Bearing, Torrington B-128	59	20859P1	Ring, Retaining
7	9661P1	Bearing, Torrington NTC-1427	60	180021	Bolt, Hex 1/4-20 x 7/8
8	9662P1	Bearing, Needle Thrust Race	61	180175	Bolt, Hex 1/2-13 x 1-1/4
9	12403P1	Key	62	435507	Nut, Lock 1/2-13 Washer Insert Hex
10	12402P1	Tube, Reel Gear	63	20984P1	Bracket, Support
11	9667P1	Seal, Oil Garlock 94 x 6120	64	20998P1	Support
12	12401P1	Gear, Worm	65	180124	Bolt, Hex 3/8-16 x 1-1/4
13	10325P1	Spacer	66	21022P1	Crank
14	12404P1	Bearing, Thrust Race Torr. TRD-2840	67	21005A1	Crank Support Weldment
15	120392	Washer, Flat 9/32 x 5/8 x .065	68	6400A1	Chute Weldment
16	180020	Bolt, Hex 1/4-20 x 3/4	69	6352P1	Baffle, Deflector
17	12400P1	Cap, Gear Housing	70	10496P1	Retainer, Baffle
18	9668P1	O-Ring 1-3/4 x 2-1/8 x 3/16	71	6399A1	Chute, Deflector Weldment
19	9669P1	O-Ring 3 x 3-1/4 x 1/8	72	19479P1	Decal, Caution
20	120423	Washer, Lock 1/4 INT Tooth	73	21020P1	Decal, Snowblower Discharge
21	10579P1	Bracket, Gear Box Support	74	20727P1	Joint, U, Male End
22	181666	Bolt, Hex 7/16-20 x 1	75	20728P1	Joint, U, Female End
23	274655	Nut, Lock 7/16-20 Type N Hex	76	9411027	Lube Fitting, 1/4-28
24	103880	Plug, Pipe 1/2 in. SQ HD Steel	77	12154P1	Kit, Repair Universal Joint Rockwell Std.
25	11796P1	Shaft, Reel 38 in.		20575P1	Kit, Repair Universal Joint NEAPCO 1605"
26	19794P1	Shaft, Reel 44 in.	78	20989P1	Shaft
27	12399P1	Plate, Drive	79	11809A1	Rod, Push Weldment
28	9657P1	Disc, Friction	80	6381P1	Rope, Wire
29	11802A1	Reel Weldment L.H. 38 in.	81	20997P1	Cable Assembly
30	19799A1	Reel Weldment L.H. 44 in.	82	9630P1	Clamp, Hose SAE Type F
31	11797A1	Reel Weldment R.H. 38 in.	83	9612P1	Connector
32	19795A1	Reel Weldment R.H. 44 in.	84	454563	Pin, Spring 3/16 x 7/8 Cad.
33	6493P1	Washer, Belleville Spring 1-1/4 x 2-1/2	85	456542	Pin, Spring 3/16 x 1-1/2
34	6494P1	Washer, Pilot	86	10211P1	Grip, Handle
35	426767	Nut, Hex 7/8-14	87	10210P1	Cap, Stud
36	12409P1	Bearing, Flange	88	6496P1	Clamp
37	20726A1	Body Weldment, 38 in.	89	159582	Screw, Mach. 8-32 x 3/8 Pan HD
38	20732A1	Body Weldment, 44 in.	90	10580P1	Glide
39	180080	Bolt, Hex 5/16-18 x 1-1/8	91	180130	Bolt, Hex 3/8-16 x 2
40	9419455	Nut, Lock 5/16-18 Washer Insert Hex	92	445539	Nut, Spring, Shape 8032 Type A-J
41	180122	Bolt, Hex 3/8-16 x 1	93	155886	Screw, Mach. 8-32 x 1/2 Flat HD C-Recess
42	120394	Washer, Flat 13/32 x 15/16 x .065	94	120622	Nut, Mach. 8-32 Hex
43	456004	Nut, Lock 3/8-16 Washer Insert Hex	95	446554	Washer, Flat 5/16 x 7/8 x .065
44	11788P1	Strip, Wear 38 in.	96	120380	Washer, Lock 1/4 SP
45	19791P1	Strip, Wear 44 in.	97	6464P1	Nut, Deflector Wing
46	180075	Bolt, Hex 5/16-18 x 5/8	98	131017	Washer, Flat 13/16 x 1-15/32 x .134
47	9413447	Nut, Lock 5/16-18 Type N Hex	99	10405P1	Pin, Hair Cotter
48	11789P1	Guard 38 in.	100	17261P1	Shoe-Skid
49	19792P1	Guard 44 in.	101	180075	Bolt, Hex 5/16-18 x 5/8
50	9419454	Nut, Lock 1/4-20 Washer Insert Hex	102	9413447	Nut, Lock 5/16-18 Type N Hex
51	6477P2	Ring, Bearing	103	19340P1	Bearing, Thrust Race Torr. TRA-1625
52	120518	Bolt, 1/4-20 x 3/4 RD HD SQ NK	104	20999P1	Spring, Compression
53	20992A1	Drive Shaft Weldment	105	180016	Bolt Hex 1/4-20 x 1/2
	180044	Bolt, Hex 1/4-20 x 2	106	21144P1	Eye, Single
	14987P1	Ring, Retaining Eaton 329-1			
	124553	Key, Woodruff 1/4 x 1 Hard no. 15			
	19731A1	Fan Weldment			
	20994A1	Fan Housing Weldment			
	6370A1	Guide, Cable Weldment			

fig 1 ILLUSTRATED PARTS LIST

ASSEMBLY INSTRUCTIONS 38" AND 44" SNOWBLOWER

1. Open carton, remove snowblower and miscellaneous pieces.

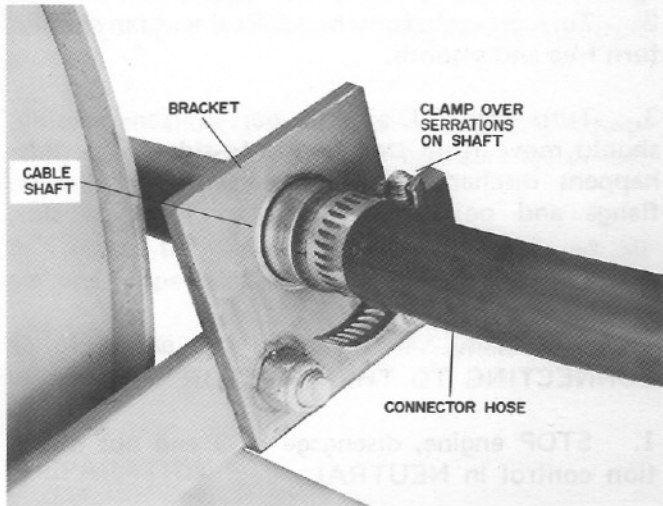


fig 2

2. Position rubber connector, item 83, over small end of control shaft and secure with hose clamp, item 82. See fig 2.
3. Assemble crank support, item 67, to snowblower with two bolts and nuts, items 91 and 39.

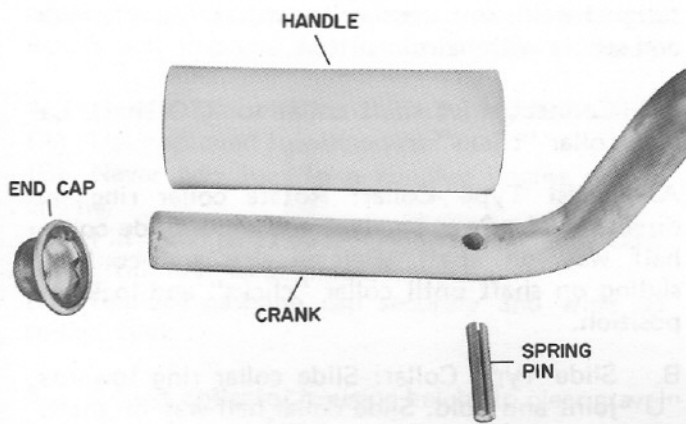


fig 3

4. Insert spring pin, item 84, into crank, item 66. Assemble handle grip and stud cap, items 86 and 87. See fig 3.
5. Position second hose clamp, item 82, over rubber connector. Position crank into both holes of crank support and into connector. Secure with hose clamp.

Building Up The Chute Deflector

1. Fasten rubber baffel onto chute with retainer strap, nuts and bolts, items 69, 70, 93 and 94.
2. Dab inside of deflector (about the holes and slot) with general purpose grease, item 71.
3. Slide a washer on each mounting stud of chute, item 15; do not use a washer on adjusting stud that goes in sloted hole of the deflector.
4. Put deflector on chute and fasten it with washers and locknuts, items 15, 44 and 71. Tighten nuts enough to be secure and then back off until deflector can be pivoted.

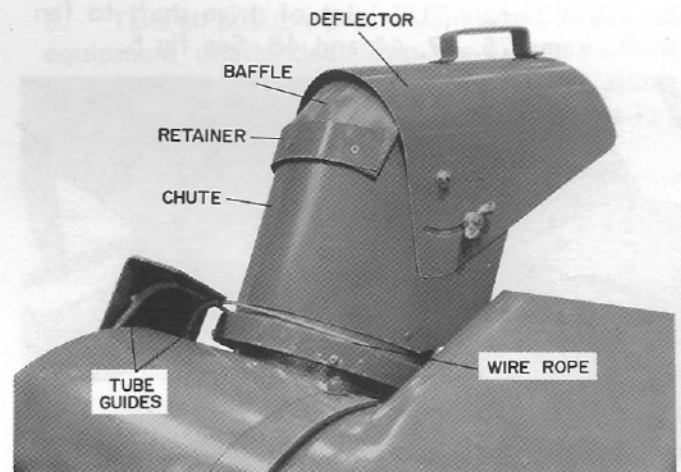


fig 4

5. Put a flat washer, lockwasher, and wingnut on the adjusting stud, items 15, 96 and 97. Make the wingnut finger tight. See fig 4.
6. Crank fan housing to maximum left position; discharge chute will rest on frame. Chute/deflector assembly should point to the exact left. If adjustments need to be made, loosen cable hold-down bolt, item 105, to make adjustment. Retighten, making sure retaining clamp, item 88, under bolt is in place.

Final Assembly

7. Bolt skids onto reel housing, items 95, 100, 101 and 102.

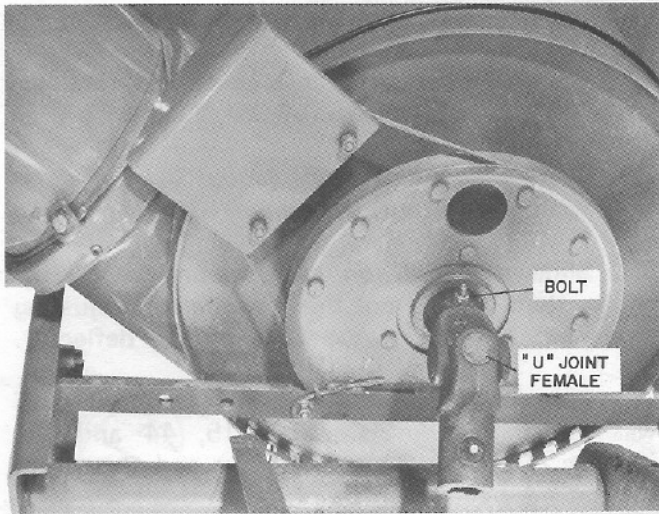


fig 5

8. Bolt female "U" joint of drive shaft to fan shaft, items 75, 47, 44 and 48. See fig 5.

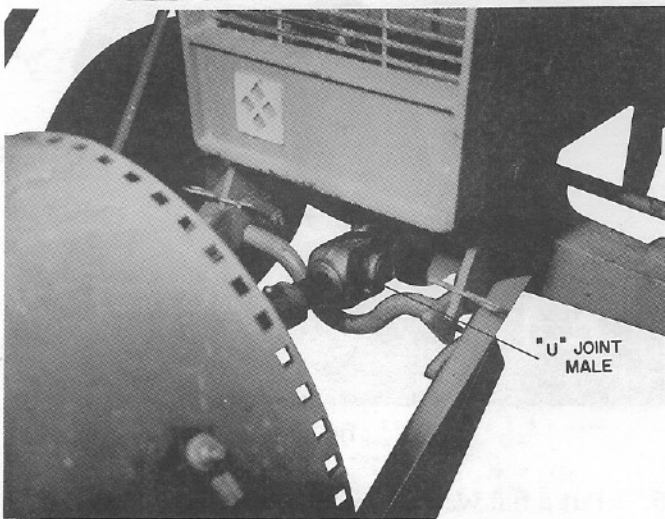


fig 6

9. Coat rectangular male "U" joint shaft with general purpose grease and slide it into female shaft, items 74 and 75. See fig 6.

10. Connect push rod to frame with washer and hairpin cotter, items 79, 56, 98 and 99. See fig 1.

LUBRICATION

1. Oil wire rope, item 80, where it goes through tube guides, item 53.
2. Lubricate drive shaft through grease fitting with general purpose grease, items 74, 75 and 76. Add grease until it comes out about rectangular shaft. Remove excess grease.

TESTING

1. Remove check plug, item 24, from gear box, item 3. Add SAE 90W EP gear lubricant (if necessary) to bring level up to plug. Replace plug.
2. Turn drive shaft by hand. Reel and fan should turn free and smooth.
3. Turn crank. Discharge port of fan housing should move from side to top to side and as this happens discharge chute should rotate on port flange and point from side to front to side.

CONNECTING TO THE TRACTOR

1. STOP engine, disengage PTO and put direction control in NEUTRAL.
2. Install Front Drive Kit on the tractor. Coat PTO shaft of transaxle and PTO of front axle with general purpose grease.
3. Remove hairpin cotters and open equipment latches on front of the tractor.
4. Guide the tractor up to snowblower. Join support weldment crossbar to latches. Close latches and secure with hairpin cotters.
5. Connect drive shaft collar to PTO shaft. Be sure collar "clicks" in position.
 - A. Twist Type Collar: Rotate collar ring (in direction of arrow on ring) and hold. Slide collar half way on shaft. Release ring and continue sliding on shaft until collar "clicks" and locks in position.
 - B. Slide Type Collar: Slide collar ring towards "U" joint and hold. Slide collar half way on shaft. Release ring and continue sliding on shaft until collar "clicks" and locks in position.
6. Slide male pushrod of Front Drive Kit into female pushrod of snowblower, item 79, and install in top hole of the lift lever weldment of the tractor as shown in fig 1.

SAFETY OPERATING PRACTICES

TRAINING

1. Read the tractor owner's guide instruction manual carefully. Be thoroughly familiar with the controls and proper use of the equipment. Know how to stop the unit and disengage the controls quickly.
2. Never allow children to operate the equipment. Never allow adults to operate equipment without proper instruction.
3. Keep the area of operation clear of all persons, especially small children and pets.
4. Exercise caution, especially when operating in reverse.

PREPARATION

1. Thoroughly inspect the area where the equipment is to be used and remove all door mats, sleds, boards, wires and other foreign objects.
2. Disengage all clutches and shift into neutral before starting engine or motor.
3. Do not operate equipment without wearing adequate winter outer garments. Wear footwear which will improve footing on slippery surfaces.
4. Handle fuel with care, it is highly flammable.
 - (A) Use approved fuel container.
 - (B) Never add fuel to a running engine or hot engine.
 - (C) Fill fuel tank outdoors with extreme care. Never fill fuel tank indoors.
 - (D) Replace gasoline cap securely and wipe up spilled fuel.
5. Adjust collector housing height to clear gravel or crushed rock surfaces.
6. Never attempt to make any adjustments while engine is running.
7. Let engine and machine adjust to outdoor temperature before starting to clear snow.

OPERATION

1. Do not put hands or feet near rotating parts. Keep clear of discharge opening at all times.
2. Exercise extreme caution when operating on or crossing a gravel drive, walks or roads. Stay alert for hidden hazards or traffic. Do not carry passengers.

3. After striking a foreign object, disengage power take off, lower attachment, stop the engine, set the parking brake, then thoroughly inspect the snowblower for any damage, repair the damage before restarting and operating the snowblower.

4. If the unit should start to vibrate abnormally, stop the engine, disengage the power take off, set parking brake and check for the cause. Abnormal vibration is generally a warning of trouble. If unable to locate cause, call your service dealer.

5. Before cleaning, repairing, inspecting or unclogging the collector/impeller housing or discharge guide, or making any repair adjustments or inspections, stop engine (motor) lower attachment, disengage power take off and set parking brake.

6. Take all possible precautions when leaving the equipment unattended. Stop the engine (motor), disengage the power take off, lower the attachment, set the parking brake and remove the key.

7. Do not run engine indoors, except when starting engine and for transporting equipment in or out of building. Open outside doors as exhaust fumes are dangerous.

8. Do not clear snow across the face of slopes. When clearing slopes, operate equipment going up and down the slope. Exercise extreme caution when changing directions on slopes. Do not attempt to clear steep slopes.

9. Never operate snowblower without guards, plates, or other safety protection devices in place.

10. Never operate snowblower near glass enclosures, automobiles, window wells, drop offs, etc. without proper adjusting of the snow discharge angle.

11. Do not overload machine capacity by attempting to clear snow at too fast a rate.

12. Never operate machine at high transport speeds on slippery surfaces. Use care when backing.

13. Keep area of operation clear of all persons, especially small children and pets. Never direct the discharge toward bystanders or allow anyone in front of the unit.

14. Disengage the tractor power take off when transporting or not in use.

15. Use only attachments and accessories approved by the manufacturer of the snowblower (such as wheel weights, counter weights, cabs, etc.).

16. Never operate the snowblower without good visibility and light.

17. Never store machine with fuel in fuel tank inside a building where open flames or sparks are present. Allow the engine to cool before storing in any enclosure.

18. Run machine a few minutes after throwing snow to prevent freeze up of collector/impeller.

ROUTINE MAINTENANCE

1. Check oil level in gearbox before first use and then once a season, item 3. Check more often if signs of leakage are present. Visually inspect for leaks before each use. A repair should be made if leakage is substantial. Level must be up to check plug, item 24, use SAE 90W EP gear oil.

Procedure for checking oil level.

- A. Have snowblower level.
- B. Unscrew plug, item 24.
- C. Add gear oil (if necessary) to bring level up to hole.
- D. Replace plug.

2. Adjust reel overload clutch as necessary, see ADJUSTMENTS.

3. After each use inspect reel, fan, skids and wearstrip for wear or damage. Repair or replace as necessary. Periodically check all fasteners for tightness. Maintain snowblower in safe operating condition.

4. Periodic oiling of the tube guide, item 53, and areas where the fan housing meets the reel housing will aid operation, items 52 and 34.

ADJUSTMENTS

1. DISCHARGE DIRECTION CONTROL: Push in and turn the crank to direct-blown snow left, forward or right. Since this adjustment is made from the operators position, it can be done any time during normal operation of the unit.

2. CHUTE DEFLECTOR: Used in conjunction with the discharge chute. Because the operator must leave the operator's position to adjust it. STOP the tractor and put the PTO in the OUT position before adjusting the deflector. Normally, the deflector is used to limit the distance the snow is blown. Procedure: Loosen wingnut, adjust deflector, tighten wingnut finger tight.

3. GROUND CLEARANCE: Adjusted by the positioning of the skids, item 100, on the sides of the reel housing, item 34. Generally, the snowblower can be fully lowered when removing snow from pavement. When using snowblower on crushed rock or gravel surfaces, adjust the skids so the snowblower will not pickup and throw stones. Procedure:

- A. Raise the snowblower to the transport position allowing the skids to be above the ground.
- B. STOP engine, disengage PTO.
- C. Loosen nuts and bolts fastening skids to reel housing.
- D. Adjust each skid the same amount.
- E. Tighten fasteners.

4. REEL OVERLOAD CLUTCH: Needs adjustment when reel stalls under moderate load while fan still turns.

Procedure:

- A. STOP engine, disengage PTO.
- B. Block fan with piece of wood or facsimile to keep it from turning when adjusting reel clutch.
- C. Tighten reel nut, item 32, to approximately 85 ft. lbs. of torque. Similar tightness can be reached with an 18" handle wrench when used by an average man.
- D. Remove "block" from fan.

OPERATION

1. Read the tractor Owners Manual. Know how to operate and stop the tractor quickly in an emergency.

2. Before starting the engine adjust the skids for adequate ground clearance.

A. On smooth, paved surfaces the snowblower may be lowered to where the wearstrip is flush with the pavement.

B. On loose or gravel surfaces, adjust the snowblower high enough to clear the gravel so it will not pick up and throw stones.

See ADJUSTMENTS section for procedure.

3. On hydraulic tractors, lower snowblower to the "float" position. Adjust discharge chute and deflector to desired position: see ADJUSTMENTS section for procedure.

4. Start engine; allow it to warm up a few minutes.

5. To begin, select the tractors slowest ground speed. Engage PTO, move throttle to FULL THROTTLE and start forward.

6. Generally, on the first pass, a full width swath must be made.

A. In snow that is deep and/or wet (most difficult for the snowblower to handle) stop forward motion as necessary until the unit clears itself. Keep the engine at full throttle.

B. In light snow that moves freely (dry and not very deep), change to a higher gear. Keep the engine at full throttle.

7. During the second and remaining passes, take the widest possible cut the snowblower can handle without having to stop and wait for it to clear. Keep the engine at full throttle.

8. Some trials may be necessary to find an optimum ground speed and width of cut. Keep the engine at full throttle.

9. Disengage PTO (OUT position) when transporting.

OPERATING TIPS

1. Clear the work area of foreign objects and debris before snow falls to assure safe operation.

2. Direct discharge over snow yet to be moved to avoid blowing snow on cleared areas.

3. Winterize the tractor: Maintain battery at full charge, use proper viscosity oil in engine. Keep fuel tank full to prevent condensation of water vapor inside the tank.

4. Use accessories (listed on cover page) to increase control and safety of operation.

5. Operate the engine at FULL THROTTLE when running the snowblower.

REMOVAL FROM THE TRACTOR

1. STOP engine, disengage PTO, lower snowblower, and put direction control in NEUTRAL.

2. Disconnect snowblower driveshaft from front axle PTO.

3. Disconnect pushrod lift weldment and remove from snowblower pushrod.

4. Open equipment latches on the tractor.

5. Separate the tractor from snowblower.

6. Replace hairpin cotters in latches.

EXTENDED STORAGE

1. Remove snowblower from tractor.

2. Check oil level in gearbox, item 3. Add oil if necessary (see LUBRICATION).

3. Thoroughly dry snowblower.

4. Inspect reel and fan for wear or damage. Replace any worn out parts such as skids or wear-strip.

5. Paint or grease any exposed metal surfaces that might rust.

GRAVELY.

ATTACHMENT LIMITED WARRANTY

This Limited Warranty is issued by Clarke-Gravely Corporation, Gravely Division, and consists of the following terms:

1. Only the original purchaser of new Gravely manufactured attachments is covered by this Warranty.
2. This Warranty covers repair or replacement of parts manufactured by Gravely which are defective in material or workmanship. Gravely will pay for parts and labor only.
3. The Warranty starts the date of purchase and lasts for NINETY (90) DAYS for attachments used in Roofer applications, and TWELVE (12) MONTHS for products used in all other applications.
4. Some components of Gravely attachments are not covered by the Gravely Warranty. These components are covered by the original manufacturer's warranty. They are:
 - (a) Tires - Goodyear, Goodrich, Armstrong, General and Firestone
5. To obtain warranty service on Gravely attachments including components not manufactured by Gravely, use this procedure:
 - (a) Notify the Gravely dealer from whom you purchased the attachment.
 - (b) If you have moved and it is not convenient to notify the selling dealer, notify the nearest Gravely dealer. You should supply this dealer with a copy of the bill of sale as proof of the date of purchase.
 - (c) Make arrangements to have the attachment delivered to the dealer (refer to paragraph 6(a) below).
 - (d) If you have any questions concerning the Gravely Warranty, they should be referred to:

Gravely
Clarke-Gravely Corporation
A Studebaker-Worthington Company
One Gravely Lane
Clemmons, N. C. 27012
Attn: Manager of Customer Services
 - (e) Warranty service on Gravely attachments must be performed by an authorized Gravely dealer or Gravely factory branch.
6. This Warranty does not cover the following:
 - (a) Transportation between owner's home or place of business and the dealership. If the dealer provides the transportation of the attachment, he will charge the owner his usual rate for such service.
 - (b) Normal maintenance services and normal replacement of items such as belts lubricants, mower, plow or cultivator blades.
7. GRAVELY MAKES NO OTHER EXPRESS WARRANTIES. ANY IMPLIED WARRANTIES, INCLUDING WARRANTIES AS TO MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED IN DURATION TO THE PERIOD SET OUT IN PARAGRAPH 3 ABOVE. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE STATEMENT MAY NOT APPLY TO YOU.
8. GRAVELY SHALL HAVE NO RESPONSIBILITY FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE BREACH OF ANY WARRANTY, INCLUDING, BUT NOT LIMITED TO, INCONVENIENCE, RENTAL OR PURCHASE OF REPLACEMENT EQUIPMENT, LOSS OF PROFITS OR COMMERCIAL LOSS. 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.
9. This Warranty gives you specific legal rights, and you may have other rights which vary from state to state.
10. A Gravely registration card is supplied with each Gravely attachment. Please complete the card and return it to Gravely at the address listed on the card. The registration card will be used by Gravely for:
 - (a) Recording date of purchase.
 - (b) Notification of owners in compliance with the Consumer Product Safety Act, should any notification be necessary. The return of registration card is not required in order to take advantage of this Warranty.
11. This Warranty is not subject to change or modification by anyone, including Gravely dealers and no Gravely dealer is authorized to make any representations or promises on Gravely's behalf.

GRAVELY.