

# Operating/Service Instructions

## 20" SNOW THROWER

Model Nos.

313-205 & 313-230

### WARRANTY

For one year from date of purchase, MTD Products Inc., will replace for the original purchaser, free of charge, F.O.B. factory or authorized service firm, any part or parts found to be defective in material or workmanship. All transportation charges on parts submitted for replacement under this warranty must be paid by the purchaser. This warranty does not include replacement of parts which become inoperative through misuse, excessive use, accident, neglect, improper maintenance or alterations by unauthorized persons. This warranty does not include the engine, motor, battery, battery charger or any component parts thereof. For service on these units refer to the applicable manufacturer's warranty.

The above warranty will apply only to the original owner and will be effective only if the warranty card has been properly processed. It will not apply where the unit has been used commercially.

Warranty service is available through your local authorized service dealer or distributor. UNDER NO CIRCUMSTANCES WILL THE RETURN OF A COMPLETE UNIT BE ACCEPTED BY THE FACTORY UNLESS PRIOR WRITTEN PERMISSION HAS BEEN EXTENDED.

### SAFETY RULES

1. Know the controls and how to stop quickly—READ THE OWNER'S MANUAL.
2. Disengage power and stop motor before cleaning discharge, removing obstacles, making adjustments, or when leaving operation position.
3. Never direct discharge at bystanders nor allow anyone in front of machine—debris may be hidden in the snow.
4. Keep children and pets a safe distance away.
5. Do not allow children to operate machine nor allow adults to operate it without proper instruction.
6. Adjust height to clear gravel or crushed rock surface.
7. Exercise caution to avoid slipping or falling, especially when operating in reverse.
8. Handle gasoline with care — it is highly flammable.
  - A. Use approved gasoline container.
  - B. Never add gasoline to a running motor — fill tank out of doors and wipe up spilled gasoline.
  - C. Replace gasoline cap securely.
  - D. Open door if motor is run in garage — exhaust gases are dangerous.
9. Disengage all clutches and shift into neutral before starting motor. Keep hands, feet and clothing away from power driven parts.
10. Use a grounded three wire extension cord for all plug-in electric units.
11. Keep machine in good operating condition and keep safety devices in place.

## ASSEMBLY INSTRUCTIONS

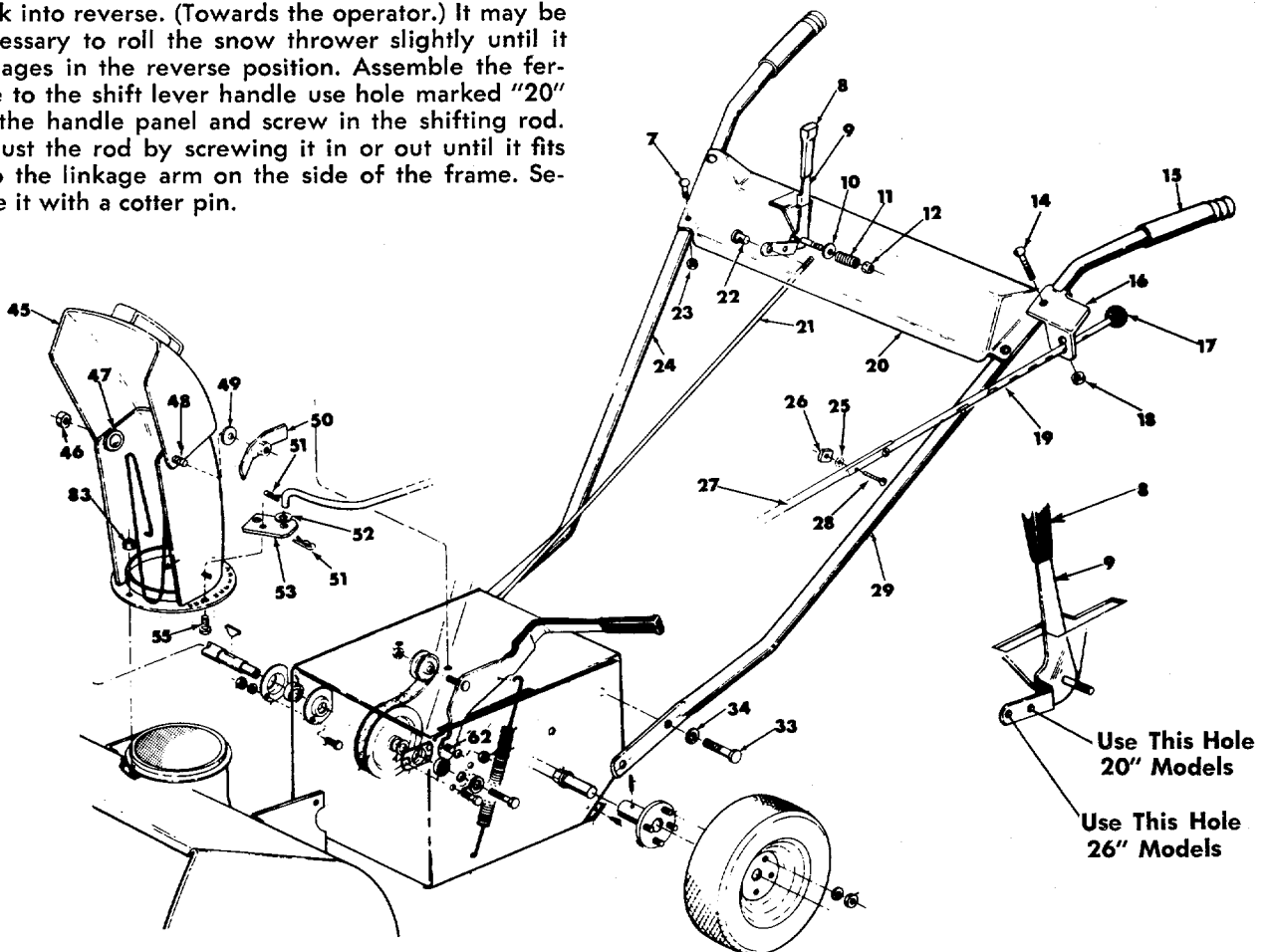
Right hand (R.H.) and left hand (L.H.) are as observed from the operating position.

1. Assemble chrome handles (Ref. No. 24 and 29) to the frame with four hex head cap screws  $\frac{3}{8}$ -16 x  $\frac{3}{4}$  long and four lock washers  $\frac{3}{8}$ ". DO NOT TIGHTEN.
2. Assemble handle panel (Ref. No. 20) to the handles with the four carriage bolts  $\frac{1}{4}$ -20 x  $1\frac{1}{2}$  lg. and hex locknuts  $\frac{1}{4}$ -20 thd. Assemble handle panel so you can read the instructions on the handle panel from the operating position. LIFT HANDLE UP AS YOU TIGHTEN ALL BOLTS AND NUTS ON THE HANDLE ASSEMBLY.

NOTE: Model 313-205 has no Reverse.

3. The linkage arm (Ref. No. 21) for the transmission is located on the R.H. side of the frame. Pull the arm back into reverse. (Towards the operator.) It may be necessary to roll the snow thrower slightly until it engages in the reverse position. Assemble the ferule to the shift lever handle use hole marked "20" on the handle panel and screw in the shifting rod. Adjust the rod by screwing it in or out until it fits into the linkage arm on the side of the frame. Secure it with a cotter pin.

4. **Chute Crank.** Assemble the chute crank (two parts) into the two holes in the handle panel being sure the rod passes through the chute control bracket. Push the rod all the way through and assemble it to the chute bracket with two cotter pins and flat washers.
5. Remove the wing nut, washer, and carriage bolt  $\frac{5}{16}$ -18 x  $\frac{5}{8}$  lg. from the chute assembly. Lift the deflector and reassemble. If the deflector will not move, loosen the screw and nut slightly so it pivots freely.



## CONTROLS

**MAIN Clutch.** This clutch shuts off the power to the wheels and auger. When the handle is up it is in the disengaged position. It is shown in the disengaged position in the photo. (See figure 1.)

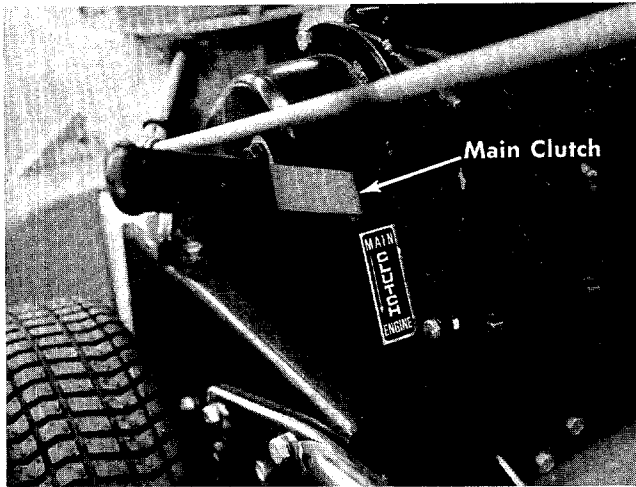


FIGURE 1

**CAUTION**

Main Clutch must be disengaged when starting.

**Shift Lever.** Move the shift lever into either forward or reverse rapidly on model 313-230 only. Engaging slowly causes wear on the clutch collars. There is no clutch to engage the drive wheels.

To stop the snow thrower move the shift lever into neutral (N). Move this control only when the engine is operating. (See figure 2.)

**Chute Controls.** Raise the chute control knob and push or pull to rotate the chute. Loosen the wing nut to adjust the deflector. (See figure 2.)

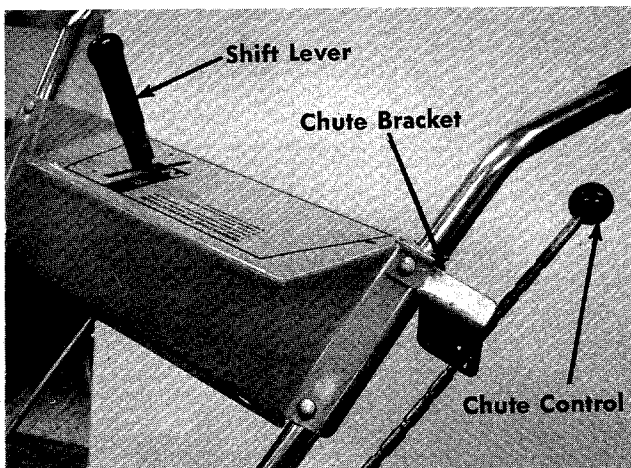


FIGURE 2.

## SKID SHOES

The skid shoes on each side of the thrower are adjustable by loosening the bolts and nuts.

**Low Position**—Close snow removal.

**Middle or High Position**—Use when road is uneven. The skid shoes and shave plate should be replaced when worn.

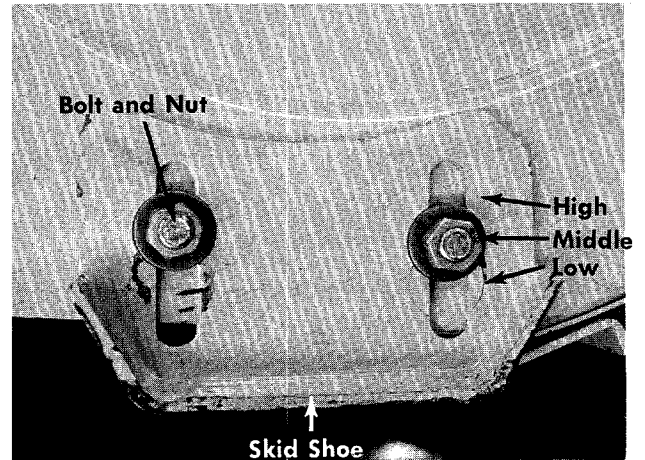
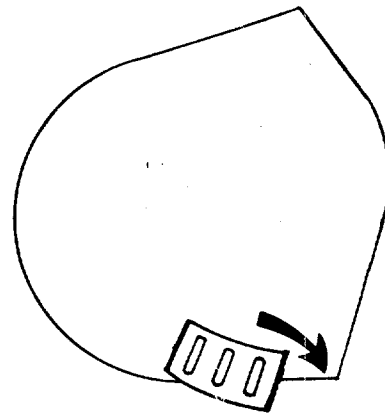
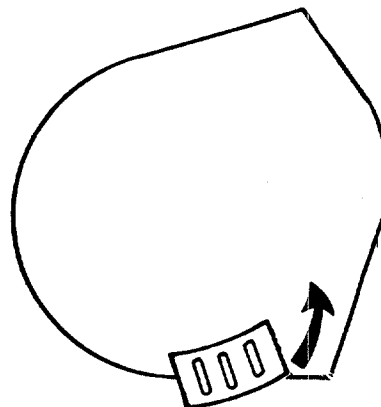


FIGURE 3.

The skid shoes may be tipped for better operation.



Tip front of skid shoe **down** when operating in hard packed snow.



Tip front of skid shoe **up** when operating in loose stone or soft areas.

## STARTING YOUR SNOW THROWER

1. Follow your engine instructions for lubrication and gasoline.
2. Disengage the main clutch (Lever UP).
3. Put the shift lever in neutral position (N).
4. Start the engine in accordance with the engine manual.

## OPERATION

1. SLOWLY engage the main clutch.
2. Move the shift lever into FORWARD (F) position.
3. To stop the forward drive of the snow thrower pull the shift lever into NEUTRAL (N).

### **NOTE**

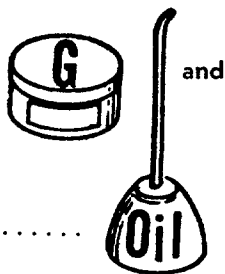
For more traction, chains are recommended.

| Order Model     | Part No.<br>of Chains | Tire Size |
|-----------------|-----------------------|-----------|
| 313-205 and 230 | 393-988               | 10 x 2.75 |

## LUBRICATION

Refer to the parts drawings. Lubricate after each 25 hours of operation the parts indicated. Use multipurpose

automotive grease on parts marked



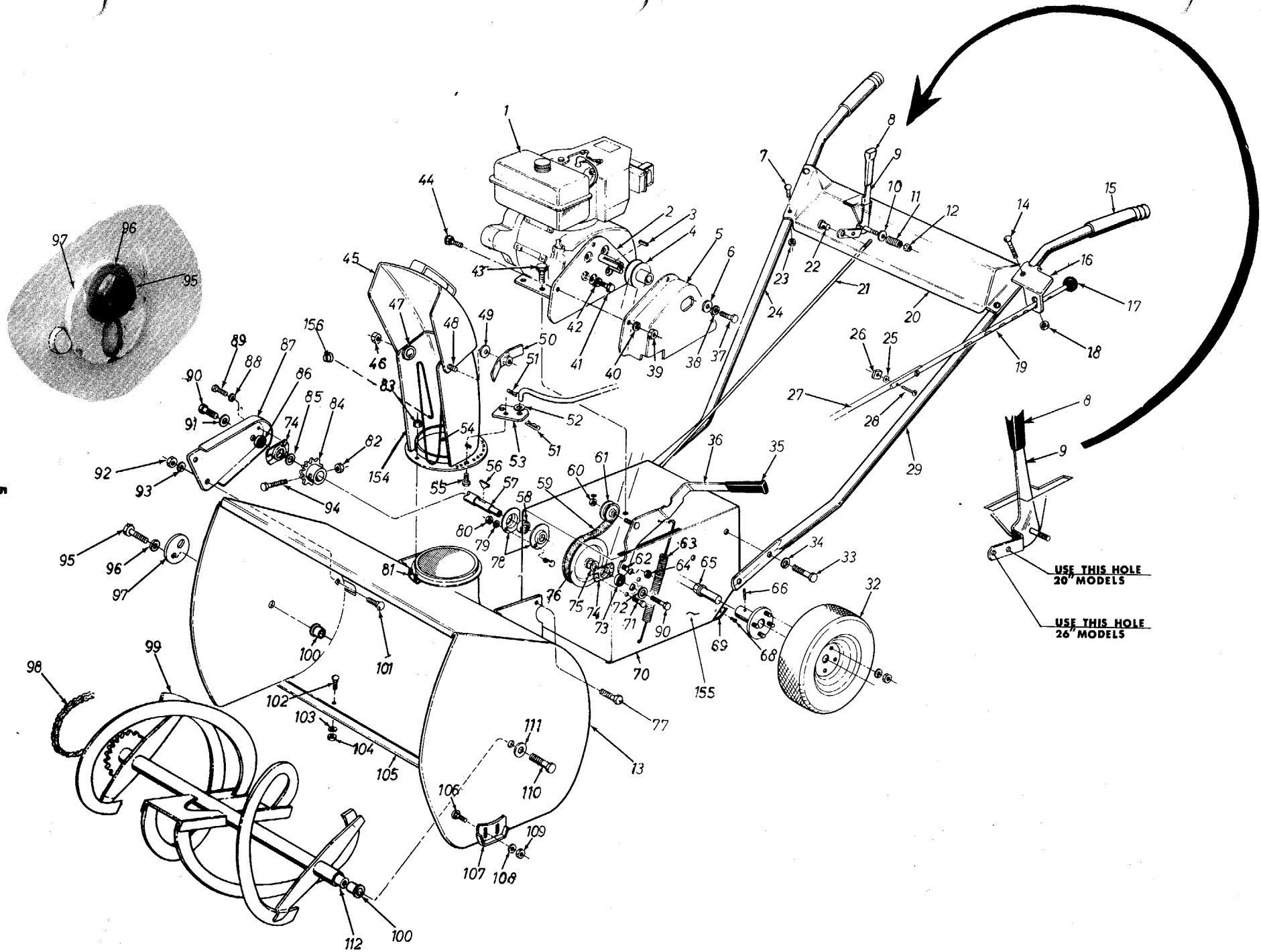
SAE 30 engine oil on parts marked .....

### **NOTE**

This instruction manual covers various models and all accessories shown do not necessarily apply to your model snow thrower.

If repairs or service is needed on the engine or engine controls such as the primer, choke or throttle control, contact your nearest authorized engine service outlet. Check the "Yellow Pages" of your telephone book under "Engines—Gasoline".

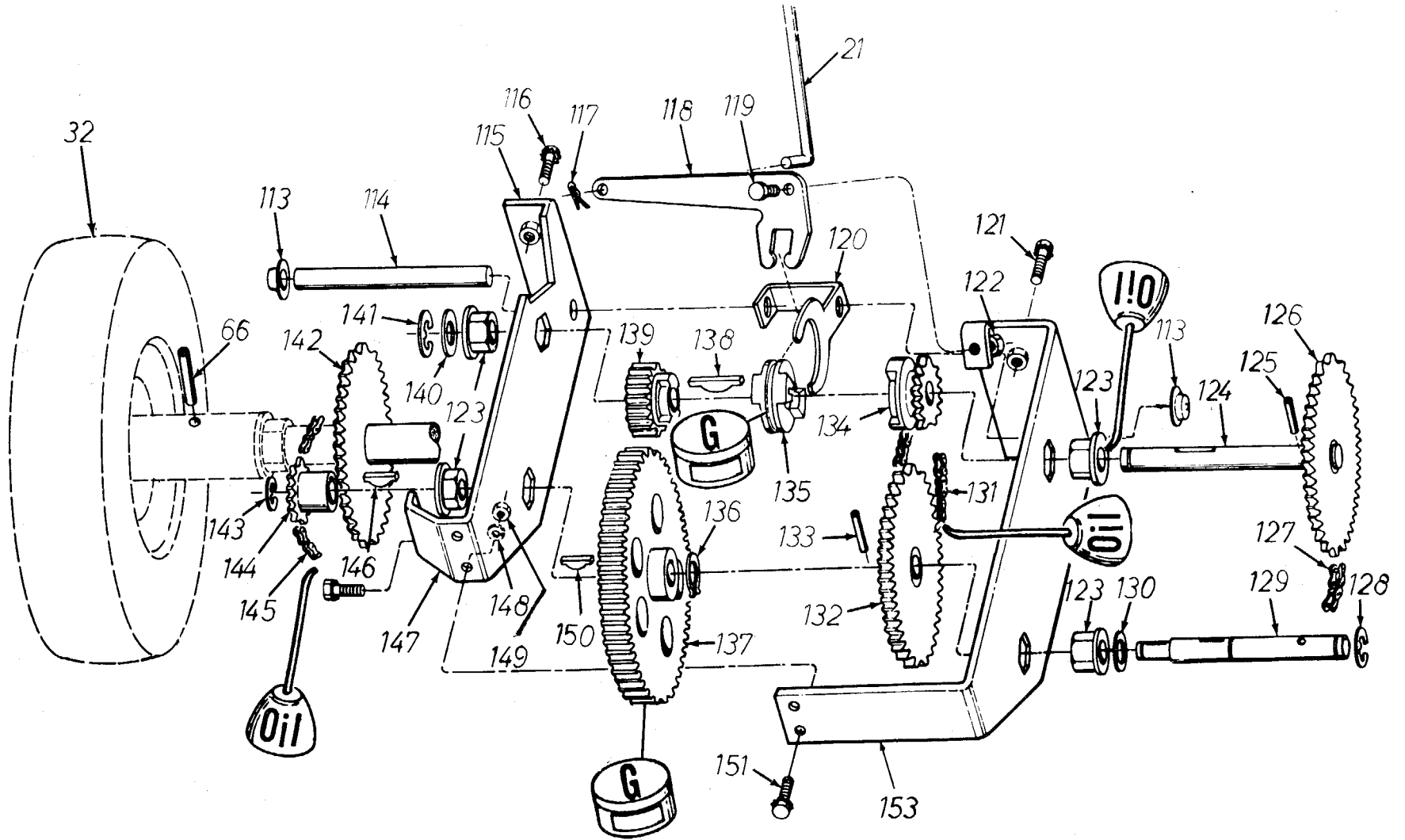




5

USE THIS HOLE  
20 MODELS

USE THIS HOLE  
26 MODELS



PARTS LIST FOR SNOW THROWER MODELS 313-205 AND 313-230

| REF. NO. | PART NO. | COLOR CODE | DESCRIPTION                           | REF. NO. | PART NO. | COLOR CODE | DESCRIPTION                             | REF. NO. | PART NO. | COLOR CODE | DESCRIPTION   |
|----------|----------|------------|---------------------------------------|----------|----------|------------|---|----------|----------|------------|---|
| 1        |          |            | Engine                                | 35       | 720-142  |            | Flat Bar End Grip                       | 68       | 710-224  |            | Sems Hex Hd. Self Tap Scr. Type A #10-32 x 1/2" Lg. |
| 2        | 5228     |            | Belt Guard Assembly                   | 36       | 5058     |            | Idler Bracket Assembly                  |          |          |            | Gear—Housing Assembly                               |
| 3        | 714-105  |            | Square Key 3/16 x 3/16 x 1" Lg.*      | 37       | 710-152  |            | Hex Hd. Cap Scr. 3/8-24 x 1" Lg.*       | 69       | 5051     |            | Frame Assembly                                      |
| 4        | 756-170  |            | 2 3/4 Pulley                          | 38       | 736-169  |            | Spring Lock Washer 3/8" Scr.*           | 70       | 5041     |            | Hex Hd. Cap Scr. 1/4-20 x 1/2" Lg.*                 |
| 5        | 5230     |            | Top Belt Guard Assembly               | 39       | 712-287  |            | Hex Nut 1/4-20 Thd.*                    | 71       | 710-289  |            | Flat Washer 5/16 Scr.*                              |
| 6        | 736-235  |            | Flat Washer                           | 40       | 736-329  |            | Spring Lock Washer 1/4" Scr.*           | 72       | 736-264  |            | Ball Bearing 1/2" I.D.                              |
| 7        | 710-262  |            | Carriage Bolt 5/16-18 x 1.50" Lg.     | 41       | 710-237  |            | Hex Hd. Cap Screw 5/16-24 3/8" Lg.*     | 73       | 741-133  |            | Bearing Housing Assembly                            |
| 8        | 720-142  |            | Flat Bar End Grip                     | 42       | 736-119  |            | Spring Lock Washer 5/16" Screw*         | 74       | 5245     |            | Flat Washer   |
| 9        | 5131     |            | Shift Grip                            |          |          |            | Hex Hd. Cap Screw 5/16-18 x 1 1/2" Lg.* | 75       | 736-192  |            | 5" Dia. Pulley with Sprocket                        |
| 10       | 736-105  |            | Belleville Washer                     | 43       | 710-442  |            | Hex Hd. Cap Screw 1/4-20 x 1/2" Lg.*    | 76       | 756-136  |            | Pilot Scr. 3/8-16 x .88" Lg.                        |
| 11       | 732-193  |            | Compression Spring                    |          |          |            | Hex Hd. Cap Screw 1/4-20 x 1/2" Lg.*    | 77       | 710-555  |            | Housing   |
| 12       | 712-116  |            | Hex Elastic Stop Nut 3/8-24 Thd.      | 44       | 710-289  |            | Top Chute Assembly                      | 78       | 5244     |            | Spring Lock Washer 5/16" Scr.*                      |
| 13       | 5258—435 |            | Spirol Housing Assembly               | 45       | 5225—435 |            | Hex Center Lock Nut 5/16-18 Thd.        | 79       | 736-119  |            | Hex Nut 5/16-18 Thd.*                               |
| 14       | 710-256  |            | Carriage Bolt 1/4-20 x 1 1/2" Lg.*    | 46       | 712-158  |            | Flat Washer                             | 80       | 712-267  |            | Chute Flange Keeper Ass'y.                          |
| 15       | 1166     |            | Grip                                  | 47       | 736-179  |            | Carriage Bolt 5/16-18 x 5/8" Lg.*       | 81       | 5031—435 |            | Hex Center Lock Nut 1/4-20 Thd.                     |
| 16       | 5266—435 |            | Chute Control Bracket                 | 48       | 710-260  |            | Belleville Washer                       | 82       | 712-107  |            | Hex Center Lock Nut 1/4-20 Thd.                     |
| 17       | 722-115  |            | Ball—Knob                             |          |          |            | Chute Wing Assembly                     | 83       | 712-107  |            | 10 Tooth Sprocket                                   |
| 18       | 712-107  |            | Center Lock Nut 1/4-20 Thd.           | 49       | 736-105  |            | Cotter Pin 3/32 Dia. x 1" Lg.*          | 84       | 5156     |            | Flat Washer .530 I.D. x .930 O.D.                   |
| 19       | 5269     |            | Chute Control Rod                     | 50       | 5140—435 |            | Flat Washer .406 I.D. x .734 O.D.       | 85       | 736-192  |            | Ball Bearing 1/2" I.D. x 1 3/8 O.D.                 |
| 20       | 5125—435 |            | Handle Panel Ass'y.                   | 51       | 714-111  |            | Chute Bracket                           | 86       | 741-133  |            | Chain Guard   |
| 21       | 711-374  |            | Shifting Rod                          |          |          |            | Chute Guard                             | 87       | 5267—435 |            | Spring Lock Washer 1/4" Scr.*                       |
| 22       | 711-179  |            | Adjustment Ferrule                    | 52       | 736-300  |            | Hex Hd. Cap Scr. 1/4-20 x 1/2" Lg.*     | 88       | 736-329  |            | Hex Hd. Cap Screw 1/4-20 x 1/2" Lg.*                |
| 23       | 712-158  |            | Center Lock Nut 5/16-18 Thd.          | 53       | 5265—435 |            | Hi Pro Key #606                         | 89       | 710-289  |            | Hex Hd. Cap Screw with Lock 5/16-18 x .62" Lg.      |
| 24       | 5124     |            | Handle—R.H.                           | 54       | 732-211  |            | Drive Shaft                             | 90       | 710-538  |            | Flat Washer   |
| 25       | 736-147  |            | Ext. Lock Washer #10-24 Screw*        | 55       | 710-289  |            | Ball Bearing                            | 91       | 736-264  |            | Hex Nut 5/16-18 Thd.*                               |
| 26       | 712-425  |            | Square Nut 10-24 Thd.*                | 56       | 714-126  |            | 3 V-Belt 31.5                           | 92       | 712-267  |            | Spring Lock Washer 5/16 Screw*                      |
| 27       | 5268     |            | Chute Rod                             | 57       | 711-519  |            | Hex Elastic Stop Nut 3/8-24 Thd.        | 93       | 736-119  |            | Hex Hd. Cap Screw 1/4-20 x 1 1/2" Lg.*              |
| 28       | 710-467  |            | Truss Hd. Mach. Screw 10-24 x 1" Lg.* | 58       | 741-162  |            | Flat Idler                              | 94       | 710-606  |            | Hex Hd. Cap Screw 1/4-20 x 1 1/2" Lg.*              |
| 29       | 5123     |            | Handle—L.H.                           | 59       | 754-133  |            | Shoulder Bolt 3/8-16 Thd.*              | 95       | 710-152  |            | Hex Hd. Cap Screw 3/8-24 x 1" Lg.*                  |
| 32       | 734-468  |            | Wheel Assembly Complete               | 60       | 712-116  |            | Tension Spring                          | 96       | 736-169  |            | Spring Lock Washer 3/8 Scr.*                        |
|          | 734-296  |            | Rim Assembly Only                     |          |          |            | Hex Center Lock Nut 3/8-16 Thd.*        | 97       | 6605—435 |            | Chain Adjuster                                      |
|          | 734-297  |            | Tire—Only 10. x 2.75                  | 61       | 756-137  |            | Flange Bearing 3/4" Dia.                | 98       | 713-106  |            | Roller Chain #41 x 31.5 Lg. without Master Link     |
| 33       | 710-216  |            | Hex Hd. Cap Scr. 3/8-16 x 3/4" Lg.*   | 62       | 738-147  |            | Spirol Pin                              | 99       | 5251—435 |            | Spiral Assembly                                     |
| 34       | 736-169  |            | Spring Lock Washer 3/8" Scr.*         | 63       | 732-185  |            |   |          |          |            |   |
|          |          |            |                                       | 64       | 712-375  |            |   |          |          |            |   |
|          |          |            |                                       | 65       | 748-151  |            |   |          |          |            |   |
|          |          |            |                                       | 66       | 715-107  |            |   |          |          |            |   |

## PARTS LIST FOR SNOW THROWER MODELS 313-205 AND 313-230

| REF. NO. | PART NO. | COLOR CODE | DESCRIPTION                                 | REF. NO. | PART NO. | COLOR CODE | DESCRIPTION                                      |
|----------|----------|------------|---|----------|----------|------------|--|
| 100      | 748-110  |            | Flange Bearing 5/8 I.D.                     | 129      | 711-355  |            | Shaft  |
| 101      | 710-260  |            | Carriage Bolt 5/16-18 x 5/8" Lg.*           | 130      | 736-116  |            | Flat Washer .625 I.D. x .937 O.D.                |
| 102      | 710-260  |            | Carriage Bolt 5/16-18 x 5/8" Lg.*           | 131      | 713-131  |            | Roller Chain with Master Link #41 x 17" Lg.      |
| 103      | 736-119  |            | Spring Lock Washer 5/16" Scr.*              | 132      | 5093     |            | Shaft Assembly                                   |
| 104      | 712-267  |            | Hex Nut 5/16-18 Thd.*                       | 133      | 715-114  |            | Spirol Pin 1/4" Dia. x 1.50" Lg.*                |
| 105      | 5001—435 |            | Shave Plate                                 | 134      | 748-164  |            | 10 Teeth Spur Gear                               |
| 106      | 710-389  |            | Carriage Bolt 3/8-16 x 3/4" Lg.*            | 135      | 748-161  |            | Clutch Collar                                    |
| 107      | 5002—435 |            | Slide Shoe                                  | 136      | 716-106  |            | "E"—Ring Truarc #5133-62 5/8" Dia.*              |
| 108      | 736-105  |            | Belleville Washer                           | 137      | 748-162  |            | 62 Teeth Spur Gear (313-230 Only)                |
| 109      | 712-798  |            | Hex Nut 3/8-16 Thd.*                        | 138      | 714-137  |            | Key 3/16 Thick x 3/4" Dia. 1.062                 |
| 110      | 710-152  |            | Hex Hd. Cap Screw 3/8-24 x 1" Lg.*          | 139      | 748-163  |            | 21 Teeth Spur Gear (313-230 Only)                |
| 111      | 736-169  |            | Spring L-Wash. 3/8" Scr.*                   | 140      | 736-116  |            | Flat Washer .625 I.D. x .937 O.D.                |
| 112      | 711-520  |            | Spiral Axle                                 | 141      | 716-106  |            | "E"—Ring Truarc #5133-62 5/8" Dia.*              |
| 113      | 726-100  |            | Push Nut 3/8 Rod Pal Nut                    | 142      | 5090     |            | Wheel Axle Assembly                              |
| 114      | 5057     |            | Rod   | 143      | 716-104  |            | "E"—Ring Truarc #5133-50 1/2" Dia.*              |
| 115      | 5051     |            | Gear Housing Assembly                       | 144      | 748-852  |            | 8 Tooth Sprocket                                 |
| 116      | 710-259  |            | Sems Hex Hd. Cap Scr. 5/16-18 x 5/8" Lg.*   | 145      | 713-131  |            | Roller Chain with Master Link #41 x 17" Lg.      |
| 117      | 714-111  |            | Cotter Pin 3/32 x 1" Lg.*                   | 146      | 714-129  |            | Woodruff Key #503                                |
| 118      | 5053     |            | Shifting Bracket                            | 147      | 5051     |            | Gear Housing Assembly                            |
| 119      | 738-140  |            | Shoulder Bolt 5/16-18 Thd.                  | 148      | 736-119  |            | Spring Lockwasher 5/16" Screw*                   |
| 120      | 5054     |            | Shifting Yoke                               | 149      | 712-267  |            | Hex Nut 5/16-18 Thd.*                            |
| 121      | 710-259  |            | Sems Hex Hd. Cap Screw 5/16-18 x 5/8" Lg.*  | 150      | 714-126  |            | Hi Pro Key #606 (313-230 Only)                   |
| 122      | 712-429  |            | Hex Elastic Stop Nut 5/16-18 Thd.           | 151      | 710-322  |            | Hex Sems Scr. 5/16-18 x 1.00" Lg.                |
| 123      | 748-227  |            | Flange Bearing 5/8 Dia.                     | 152      | 713-723  |            | Master Link for #41 Chain (Use with Ref. No. 98) |
| 124      | 711-354  |            | Shifting Shaft                              | 153      | 5049     |            | Gear Hsg. Half Ass'y.                            |
| 125      | 715-114  |            | Spirol Pin 1/4" Dia. x 1" Lg.*              | 154      | 5223     |            | Chute Ass'y.                                     |
| 126      | 5137     |            | Spacer Hub Assembly                         | 155      | 5055     |            | Frame Cover                                      |
| 127      | 713-129  |            | Roller Chain with Master Link #41 x 24" Lg. | 156      | 726-111  |            | Push Cap .188 Rod                                |
| 128      | 716-106  |            | "E"—Ring Truarc #5133-62 5/8" Dia.*         |          |          |            |  |

\*For faster service obtain standard nuts, bolts, and washers locally. If these items cannot be obtained locally, order by part number and size as shown on parts list.