

**Parts List
and
Service Manual for**

Wheel-Horse

Reg. U. S. Pat. Off.

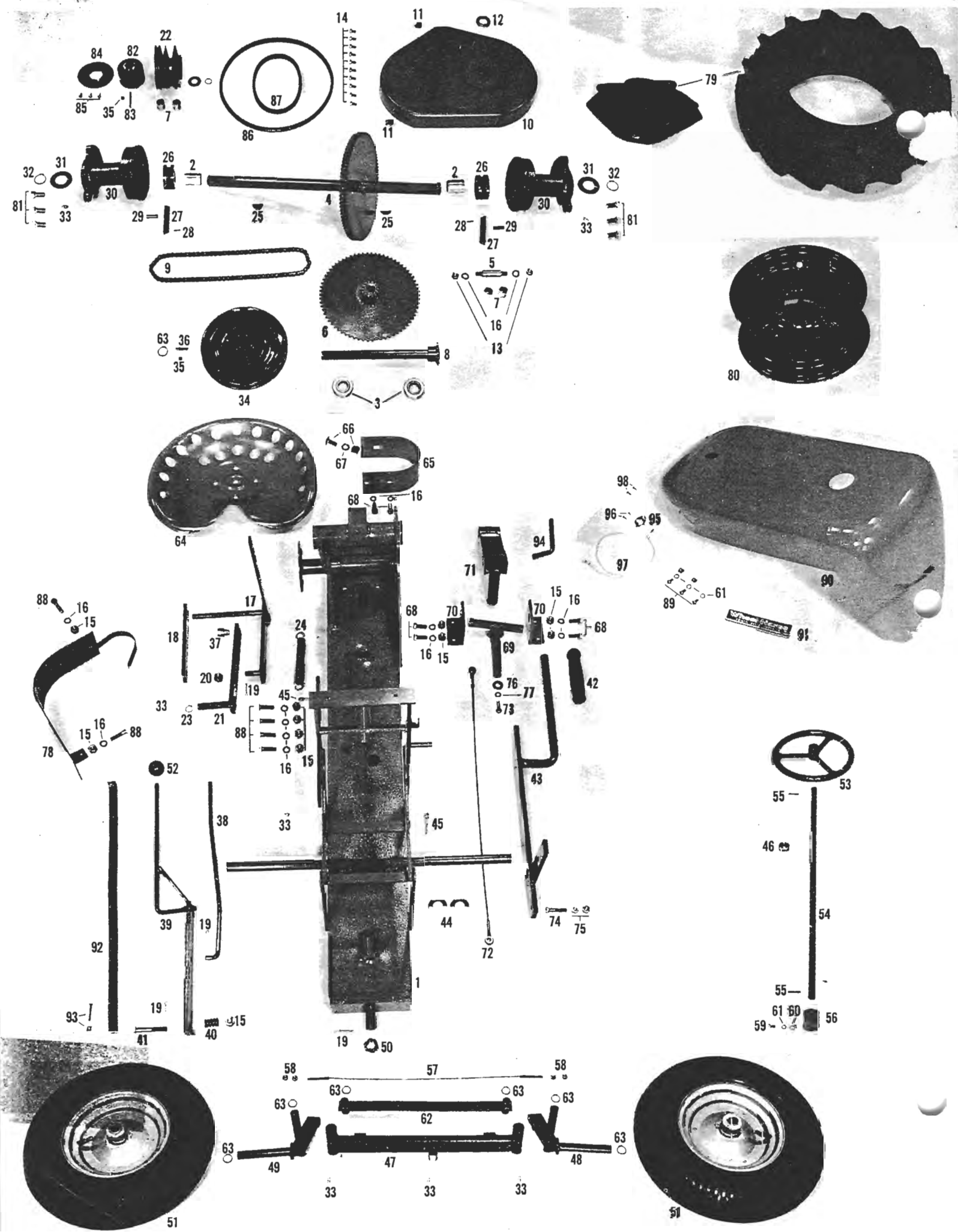
Ride-Away Jr. Garden Tractor

YOUR GUARANTEE

The "Ride-Away" is guaranteed for ninety days from the date of purchase against defective materials or workmanship. We will replace, free of charge, any defective part if returned prepaid. The engine is covered by the manufacturer's guarantee.

WHEEL-HORSE PRODUCTS

SOUTH BEND, INDIANA



RIDE-AWAY JR. PARTS LIST

| Key No. | Part No. | Name | No. Req. | List Price |
|---------|----------|--|----------|------------|
| 1 | 3424 | Frame Assembly | 1 | \$32.00 |
| 2 | 1503 | Bronze Bearing, 1 1/8 O.D. x 1 I.D. x 1 1/2 long..... | 2 | .75 |
| 3 | 1502 | Ball Bearing | 2 | 1.25 |
| 4 | 1878 | Axle and Gear Assembly..... | 1 | 11.00 |
| 5 | 1853 | Jack Shaft Stud..... | 1 | .55 |
| 6 | 1879 | Gear & Sprocket Ass'y. w/brgs. | 1 | 6.00 |
| 7 | 1513 | Needle Bearing | 4 | .80 |
| 8 | 1880 | Cross Shaft Assembly..... | 1 | 2.60 |
| 9 | 1809 | Chain, Roller | 1 | 4.60 |
| 10 | 1801 | Housing, Casting Gear..... | 1 | 9.50 |
| 11 | 1013 | Pipe Plug | 2 | .15 |
| 12 | 1011 | Oil Seal | 1 | .40 |
| 13 | 1110 | Hex Nut, 3/8 - 24..... | 2 | .05 |
| 14 | 1009 | Hex Head Cap Screw, 1/4 - 20x1/2 | 10 | .05 |
| 15 | 1016 | Hex Nut, 3/8-16..... | 11 | .05 |
| 16 | 1039 | Washer, Spring Lock, 3/8..... | 14 | .02 |
| 17 | 1865 | Secondary Pivot Bar Assembly. | 1 | 1.60 |
| 18 | 1866 | Brace Bar, Secondary | 1 | .40 |
| 19 | 1002 | Cotter Pin 1/8 x 1..... | 5 | .01 |
| 20 | 1044 | Hex Nut, Slotted, 1/2-20..... | 1 | .05 |
| 21 | 1852 | Primary Pivot Bar Assembly... | 1 | 1.30 |
| 22 | 1851 | Variable Speed Pulley w/brgs. | 1 | 18.00 |
| 23 | 1126 | Snap Ring, 3/8..... | 1 | .10 |
| 24 | 1129 | Spring, Tension | 1 | .35 |
| 25 | 1008 | Woodruff Key, No. 15..... | 2 | .10 |
| 26 | 1846 | Pawl Hub | 2 | 1.80 |
| 27 | 1847 | Pawl | 2 | .95 |
| 28 | 1130 | Spring, Pawl | 2 | .15 |
| 29 | 1881 | Pin, Pawl | 2 | .12 |
| 30 | 1845 | Wheel Hub Casting | 2 | 6.05 |
| 31 | 1076 | Washer, Shim (State thickness: .010" .020" .040")..... | 2 | .06 |
| 32 | 1128 | Snap Ring, 1" | 2 | .10 |
| 33 | 1030 | Grease Fitting, 1/4-28 thread ... | 7 | .10 |
| 34 | 1600 | Pulley, Tractor | 1 | 2.50 |
| 35 | 1042 | Set Screw, Socket Head, Cup Point, 5/16-18 x 5/16..... | 3 | .10 |
| 36 | 1005 | Key, Square, 3/16 x 1..... | 1 | .05 |
| 37 | 1861 | Shoulder Pin | 1 | .25 |
| 38 | 3434 | Fore and Aft Rod..... | 1 | .65 |
| 39 | 3405 | Selector Lever Assembly..... | 1 | 1.75 |
| 40 | 1131 | Spring, Selector Lever | 1 | .20 |
| 41 | 1152 | Hex Head Cap Screw, 3/8-16x2 1/4 | 1 | .10 |
| 42 | 1082 | Grip, Rubber Handle, 3/4" I.D.... | 1 | .35 |
| 43 | 3410 | Tool Lift Lever Assembly..... | 1 | 2.10 |
| 44 | 1040 | Washer, Flat, 3/4" SAE..... | 2 | .10 |
| 45 | 1137 | Cotter Pin, 3/16 x 1..... | 2 | .02 |
| 46 | 1085 | Shaft Collar, 3/4" I.D..... | 1 | .45 |
| 47 | 3435 | Front End Assembly | 1 | 3.60 |
| 48 | 3400 | Front Spindle Assembly (Left)... | 1 | 2.75 |
| 49 | 3401 | Front Spindle Assembly (Right)... | 1 | 2.75 |
| 50 | 1010 | Hex Nut, Slotted, 3/4-16..... | 1 | .25 |
| 51 | 1709 | Front Tire and Wheel Assembly. | 2 | 22.00 |
| | 1514 | Bearing for front wheel..... | | .75 |
| 52 | 1001 | Knob | 1 | .25 |

| Key No. | Part No. | Name | No. Req. | List Price |
|---------|----------|---|----------|------------|
| 53 | 3415 | Steering Wheel | 1 | 7.50 |
| 54 | 3438 | Rod, Steering | 1 | 1.40 |
| 55 | 1134 | Rollpin, 3/16 x 1 1/4..... | 2 | .05 |
| 56 | 3409 | Spool, Steering | 1 | 1.20 |
| 57 | 3441 | Steering Cable | 1 | 2.60 |
| 58 | 1034 | Hex Nut, 1/4-20..... | 4 | .05 |
| 59 | 1009 | Hex Head Cap Screw, 1/4-28x1/2 (Spool) | 1 | .05 |
| 60 | 1119 | Washer, Flat, 1/4 SAE..... | 1 | .02 |
| 61 | 1067 | Washer, Shakeproof, 1/4..... | 4 | .05 |
| 62 | 3456 | Tie Rod Bar Assembly..... | 1 | 1.25 |
| 63 | 1127 | Snap Ring, 3/4 | 7 | .10 |
| 64 | 2510 | Seat | 1 | 2.60 |
| 65 | 3414 | Spring, Seat | 1 | 2.85 |
| 66 | 1106 | Carriage Bolt, 1/2-13 x 1..... | 1 | .10 |
| 67 | 1115 | Washer, Spring Lock, 1/2..... | 1 | .05 |
| 68 | 1062 | Cap Screw, Hex Head, 3/8-16x1. | 6 | .05 |
| 69 | 3447 | Draw bar "T" Assembly..... | 1 | 1.00 |
| 70 | 3419 | Angle block, Draw bar mounting | 2 | .60 |
| 71 | 3442 | Lift cradle assembly..... | 1 | 2.40 |
| 72 | 3448 | Lift cable | 1 | 2.70 |
| 73 | 1090 | Cap screw, Hex head, 5/16-18x1 | 1 | .05 |
| 74 | 1006 | Cap Screw, Hex head, 5/16-18x1 1/4 | 1 | .05 |
| 75 | 1007 | Hex nut, 5/16-18 | 2 | .05 |
| 76 | 1041 | Washer, Flat, 3/8 | 1 | .05 |
| 77 | 1045 | Washer, Spring lock, 5/16.... | 1 | .05 |
| 78 | 3449 | Fender Assembly, Belt | 1 | 2.50 |
| 79 | 1650 | Tire and Tube Assembly, 6-12.. | 2 | 22.50 |
| 80 | 1700 | Rim Assembly, 5JA..... | 2 | 5.50 |
| 81 | 1004 | Bolt, Wheel (Special), 7/16-20 x 3/4 | 6 | .10 |
| 82 | 1609 | Pulley, 2-Groove, 2 1/2 A x 3/4 Bore | 1 | 2.70 |
| 83 | 1120 | Key, Pulley, 3/16 Sq x 2..... | 1 | .10 |
| 84 | 1882 | Reverse Disc | 1 | 4.00 |
| 85 | 1147 | Drive Screw, Type U, No. 10x1/2. | 3 | .05 |
| 86 | 1552 | V Belt, 37-A | 1 | 1.50 |
| 87 | 1556 | V Belt, 20-A..... | 1 | 1.24 |
| 88 | 1028 | Cap screw, Hex head, 3/8-16 x 1 1/4 | 6 | .05 |
| 89 | 1153 | Stove bolt, Round head, 1/4x1/2.. | 3 | .05 |
| 90 | 1869 | Hood | 1 | 13.00 |
| 91 | 1144 | Decal (WHEEL-HORSE) | 2 | N/C |
| 92 | 3457 | Strap, Tank mounting..... | 1 | .35 |
| 93 | 1104 | Stove bolt, Round head, 3/16x1 1/4 | 1 | .05 |
| 94 | 1813 | Tool pin | 1 | .45 |
| 95 | 3279 | Stop button | 1 | .90 |
| 96 | 1145 | Screw, Stop button mounting, No. 6x1/2 | 2 | .05 |
| 97 | 1146 | Wire, Stop lead | 1 | .10 |
| 98 | 1150 | Screw, Throttle control mounting No. 7 x 1/2..... | 2 | .05 |
| | 1654 | Inner Tube, Tire (6-12)..... | 2 | 4.85 |
| | 1781 | Engine, 3 1/2 h.p..... | 1 | 89.00 |
| | 1782 | Throttle control assembly | 1 | 1.90 |

TRACTOR INSTRUCTIONS

ASSEMBLY

1. Uncrate tractor and find bag containing 6 wheel bolts, 2 snap rings, and 1 roll pin.
2. Bolt on the rear wheels, with the tread pointing forward on top. The arrows on the side of the tires point the proper forward direction of rotation. The wheels should also be bolted on widest way with the tire valves on the inside for more stable operation, unless there is some reason for wanting the tread of the tractor as narrow as possible.
3. Slip on the two front wheels and secure with the snap rings provided. Install the snap rings with the sharp edge out.
4. Place steering wheel in place. Line up the hole through the hub of the wheel with the hole through the steering column and drive the roll pin provided through the lined up holes.

SERVICING

1. See engine manual for servicing engine.
2. Fill gear housing with No. 90 gear lube to level of check plug (located on front side of casting near the bottom). Check the level of oil in gear housing each time the motor oil is changed. Add No. 90 gear lube if needed.
3. Grease all grease fittings with a pressure gun until grease is forced out between bearing surfaces. Repeat about every 50 operating hours. CAUTION: Do NOT over grease the variable speed pulley, as grease will escape into the grooves of the pulley and get on the belts causing slipping and excessive wear of belts.
4. Heavy wheel bearing grease has been packed around the pawl of each wheel at the factory. It will be necessary to repeat this operation about every 50 operating hours. This heavy grease keeps the pawl from "flopping." During a turn, the outside wheel must speed up (which automatically drives the pawl into the neutral position) and if the pawl in the outside wheel "flops" into the reverse position, it locks the wheel and prevents it from turning any faster than the inside wheel can turn. This forces the tractor to skid straight forward. Do not confuse this condition with the skidding of the front wheels under some conditions because of insufficient friction between the front wheels and the ground.
5. Occasionally oil all other moving parts with an oil can.
6. Rear tires should be inflated to six pounds pressure. Front tires to 22 pounds. The tires of the front wheels can be filled with calcium chloride solution to add about 18 pounds of weight to each wheel. This will improve the steering qualities of the tractor for lawn use. The rear tires can also be filled in a like manner which will add about 49 pounds to the weight of each of these wheels. Normally, it is not necessary to fill the rear tires because the weight of the operator adds sufficient weight for plenty of traction.

OPERATION

After the engine and tractor have been properly serviced, your tractor is ready to operate. Refer to your engine instruction manual for starting and running of engine.

Before starting engine, make sure speed selector lever (located on right side) is in neutral position. While sitting on the tractor seat, reach around the outside of your left leg and grasp the retractable starter handle with your left hand. CAUTION: Take care not to scrape hand on seat as you pull upward to start engine. To stop engine, press on stop button (located in rear of hood) until engine stops.

To drive forward, move the selector lever forward. The further forward the selector lever is moved, the faster the tractor will move. CAUTION: Do not attempt to move the selector lever past the stop at the end of the forward position. Such action will cause damage to the belts. There are five different speeds forward and any speed may be selected while the tractor is in motion. If the belts should slip under a hard pull, shift to a lower speed. Do not allow the belts to continue slipping as this will cause them to wear out fast.

To reverse tractor, pull the selector lever backward as far as it will go. As a safety feature, the selector lever must be held in the reverse position firmly for as long as you want to move backward. As soon as it is released, the selector lever will move forward to neutral.

Do not attempt to shift into the forward position while rolling free backward down a hill. The sudden change in direction and the incline of the hill is very apt to cause the front of the tractor to rear up and come over backward.

When rolling freely forward down a hill, you may shift momentarily into the reverse position to "brake" the tractor from "running away." This action should be taken before the tractor is moving too fast. If the tractor is allowed to gain momentum before shifting to reverse, there is danger of breaking a pawl or stripping the ratchet teeth from the wheel hub.

When pushing the tractor forward or backward by hand, the pawls may lock in the drive position and make it hard to push. This is perfectly normal and does not indicate any trouble or change the performance of the tractor when the power of the engine is applied. If desired, the pawls can be freed by turning the tractor pulley a few revolutions either direction until the pawl spring passes by the knob on the pawl plate that causes the pawl to be held in the drive position. Sometimes, just rocking the tractor back and forth will free the pawl from the drive position.

When pulling a load, always pull from the cradle hitch provided. Any attempt to pull from a make-shift hitch on the rear of the frame will cause the front to rear under heavy pulling conditions.

ADJUSTMENTS

1. **Steering Cable:** The cable is installed with one loop around the steering spool. The ends lead off the bottom side of spool to the tie rod pins in each end of the tie rod. The studs on the end of the cable pass through the hole in the tie rod pins and are secured and adjusted by two nuts on the outside of each tie rod pin. The two nuts on each end are locked together to keep them from vibrating loose. The cable should be adjusted for tension until one side or the other (not both sides at the same time) can just be pressed down with the thumb or touch the tie rod. The cap screw holding the cable to the spool must be in the dead center position when the wheels are straight forward. If it is not, loosen the cap screw and allow the cable to slip under the washer and retighten in proper position. Slight adjustments for the position of this cap screw can be made by loosening and tightening the nuts on opposite ends of the cable. If the cable is too loose, it may slip off the end of the spool and break. If it is too tight the cable may bind and break.
2. **Speed Selector Lever:** With the engine stopped, move the speed selector lever slightly to the right until spring tension carries it forward as far as it will go without the operator's pushing on it. This will tighten both belts. The position lug in the speed selector lever should now be about $\frac{1}{4}$ inch behind the neutral hole, but not in the neutral hole. If it is not, remove the front end of the "fore and aft" (Part No. 3434) rod and screw in or out until properly adjusted.
3. **Belt Guard:** Be sure the belt guard follows around the engine pulley to within $\frac{1}{4}$ inch of belt. If this guard hangs too far away from the belt, the belt may jump out of the groove while shifting into reverse, and cause trouble.
4. **Front End:** If the front end cross bar should wear and become loose, remove the cotter pin from the retaining nut and tighten nut until all the play is gone. Replace the cotter pin.
5. **Pawl Mechanism:** Both rear wheels should drive both forward and reverse. If one or the other wheels do not drive, it is an indication that something is wrong in the ratchet mechanism. To inspect, remove the snap ring which will allow the wheel and hub to be withdrawn and expose the pawl and pawl hub assembly. The pawl hub should be against the pawl plate. This will insure that the pawl spring will be close enough to the pawl plate to make contact with the ring of knobs in the pawl plate for proper operation. When the wheel hub is replaced, shim washers should be used to take out any end play between the pawl hub and retaining snap ring.
6. **Snap Rings:** When replacing any snap ring, be sure to install the sharp edge toward the outside. Be sure, also, that the groove is clean and free of any grit, so the ring can seat properly.
7. **Tension Spring:** Adjust to the lowest hole in the lever of the pivot mechanism to keep the belts tightest for maximum pulling. The spring on the lift lever (left side) should be removed to plow, cultivate, or disc; otherwise these attachments will have a tendency to lift out of the ground.

WHEEL-HORSE PRODUCTS CO.

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