retailer sake for land's sake

OPERATOR'S MANUAL

MODEL 1000 SUBTILLER

YETTER MANUFACTURING CO.

FOUNDED 1930

Colchester, IL 62326-0358 • (309) 776-4111 Toll Free 800/447-5777

309/776-3222 (Fax)



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FOREWORD

You've just joined an exclusive but rapidly growing club.

For our part, we want to welcome you to the group and thank you for buying a Yetter implement.

We hope your new Yetter implement will help you achieve both goals — increase your productivity and increase your efficiency so that you may generate more profit.

This operator's manual has been designed into six major sections.

Foreword, Safety Precautions, Assembly Instructions, Hook up and Preparation, Field Operation, Service and Maintenance.

It is important the owner/operator knows the implement model number. Write the model number in the space provided and use it in all correspondence when referring to the implement.

Throughout the manual references may be made to left side and right side. These terms are used as viewed from the operator's seat facing the front of the tractor.

This SAFETY ALERT SYMBOL indicates important safety messages in the manual. When you see this symbol, be alert to the possibility of PERSONAL INJURY and carefully read the message that follows.

The word **NOTE** is used to convey information that is out of context with the manual text. It contains special information such as specifications, techniques, reference

information and other information of a supplementary nature.

The word **IMPORTANT** is used in the text when immediate damage will occur to the machine due to improper technique or operation. Important will apply to the same information as specified by note only of an immediate and urgent nature.

It is the responsibility of the user to read the operator's manual and comply with the safe and correct operating procedure as pertains to the operation of the product and to lubricate and maintain the product according to the maintenance schedule in the operator's manual.

The user is reponsible for inspecting his machine and for having parts repaired or replaced when continued use of the product would cause damage or excessive wear to the other parts.

It is the user's responsibility to deliver his machine to the Yetter dealer who sold him the product, for service or replacement of defective parts which are covered by the warranty policy.

If you are unable to understand or follow the instructions provided in this publication, consult your local Yetter dealer or contact:

YETTER MANUFACTURING CO. *FOUNDED 1930*

Colchester, IL 62326-0358 • (309) 776-4111 Toll Free 800/447-5777 309/776-3222 (Fax)

WARRANTY POLICY

Yetter Manufacturing warrants all products manufactured and sold by it against defect in material. This warranty being expressly limited to replacement at the factory of such parts or products as shall appear to be defective after inspection. This warranty does not obligate the Company to bear cost of labor in replacement of parts. It is the policy of the Company to make improvements without incurring obligations to add them to any unit already sold. No warranty is made or authorized to be made, other than herein set forth. This warranty is in effect for 1 year after purchase.

Model No.	Dealer	

Yetter Manufacturing warrants its own products only and cannot be responsible for damage to equipment on which mounted.

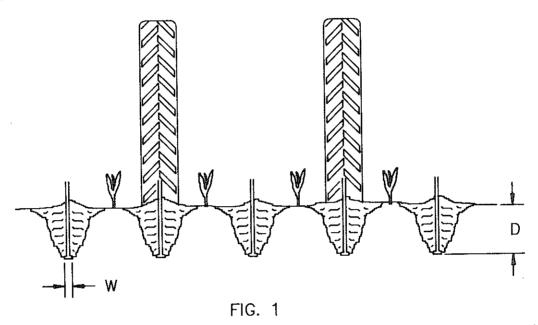
NOTE: Warranty is void if the following horsepower limitations are exceeded:

8 ft. frame	50
11 ft. frame	00
16 ft. frame	B0

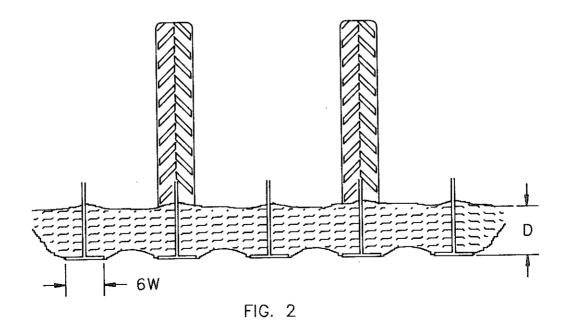
INTRODUCTION

A subsoiler is designed to break up hard layers of soil. A "hard pan" will develop in most soil types after years of repeated tillage operations such as plowing, chiseling or discing. For maximum yield potential it is necessary to break up the impervious layers below the normal tillage depth to improve root and water penetration.

The Yetter Subtiller has been designed to work in various conditions. The point is narrow so that a "ridged" finish is not left after subsoiling. The narrow point allows inter row ripping in a growing crop (SEE FIG. 1) aiding water infiltration.



For maximum soil disturbance, in fall tillage, "wings" may be attached to the foot to increase the cross-section of soil disturbed (SEE FIG. 2). Subsoiling is most effective when the operating depth is 2"-3" below the hard-pan layer.



Always remember that the point and/or wings can only lift a certain amount of soil and that it is possible to operate too deep (SEE FIG. 3). Operating too deep merely "slots" the field and wastes time and fuel. In ideal conditions, with the correct use of "wings", it is possible to disturb almost all the soil across the machine and leave a relatively even surface, although somewhat rough. In trashy conditions it may be necessary to use disc coulters to slice through the trash and aid the flow of crop residue between the legs. By using extra coulters, spread 6-8" either side of the leg coulters, it is possible to slice the surface and reduce the size of the chunks of soil in extremely dry conditions.

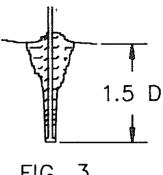
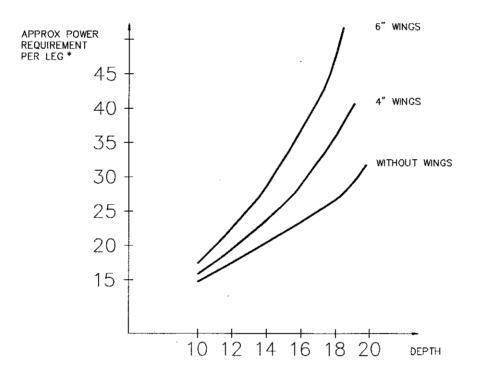


FIG.

In hard, dry conditions, or situations where the soil has not been deep loosened ever or recently, it may be necessary to make two passes over the ground to achieve the depth of loosening desired due to excessive power requirements.



^{*} AT 5 MPH IN AVERAGE SOIL DEPENDS ON SOIL TYPE, SPEED, AND NUMBER OF LEGS THIS IS NON SPECIFIC INFORMATION, FOR GUIDANCE ONLY

SAFETY

A brief description of signal words that may be used in this manual:

CAUTION: Used as a general reminder of good safety practices or to direct attention to unsafe practices.

WARNING: Denotes a specific potential hazard.

DANGER: Denotes the most serious specific potential hazard.

SAFETY PRECAUTIONS

You can make your farm a safer place to live and work if you observe the safety precautions given. Study these precautions carefully and insist that they be followed by those working with you and for you.

Finally, remember this: an accident is usually caused by someone's carelessness, neglect or oversight.



Inspect and replace worn or frayed hydraulic hose, keep all connections tight. Escaping hydraulic fluid under pressure can have sufficient force to penetrate the skin and cause serious personal injury. Fluid escaping from a small hole can be almost invisible. Use a piece of cardboard or wood rather than the hands to search for suspected leaks.

A WARNING

When raising subtiller watch tractor clearance.

Beware of buried objects such as telephone lines, drain tiles and various utility lines.

Never clean, lubricate or adjust a machine that is in motion. Always lower or block the implement before performing service.

If machine must be serviced in the raised position, jack or block it up to prevent it from accidentally falling and injuring someone.

Do not allow children to operate this equipment.

Do not allow riders on the tractor or implement.

Use speeds and caution dictated by the terrain being traversed. Do not opeate on any slope steep enough to cause tipping or loss of control.

Be sure all personnel are clear of the immediate area before operating.

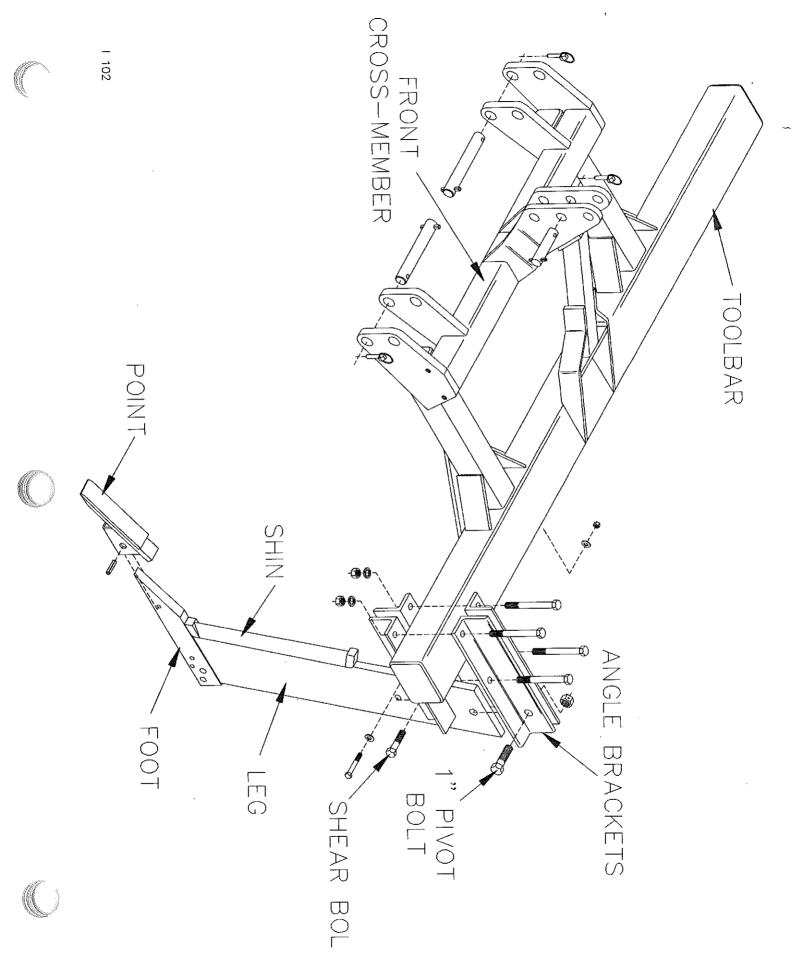
Read and understand the operator's manual and require all other persons who will operate the equipment to do the same.

If operating on public roadways, where legal, be certain all lighting is operating properly and observe all traffic laws. Ensure slow moving vehicle emblem on tractor is visible.

Beware of increased stopping distances and control effort when operating with implements attached.

Be familiar with all tractor and implement controls and be prepared to stop engine and implements quickly in an emergency.

FAILURE TO HEED MAY RESULT IN PERSONAL INJURY OR DEATH.

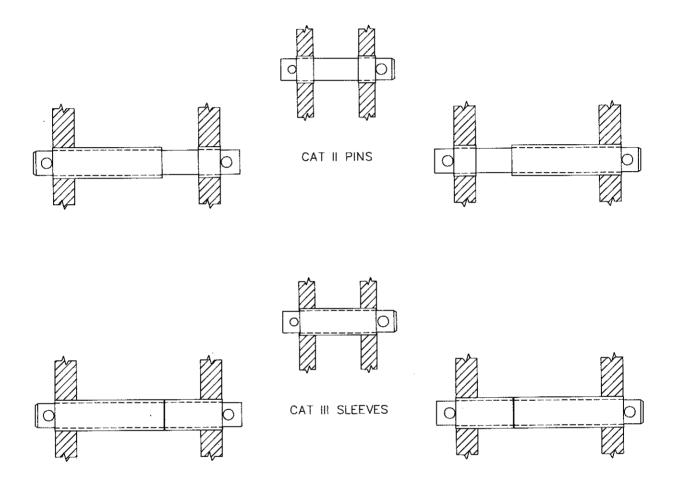


SUBSOILER FRAME ASSEMBLY

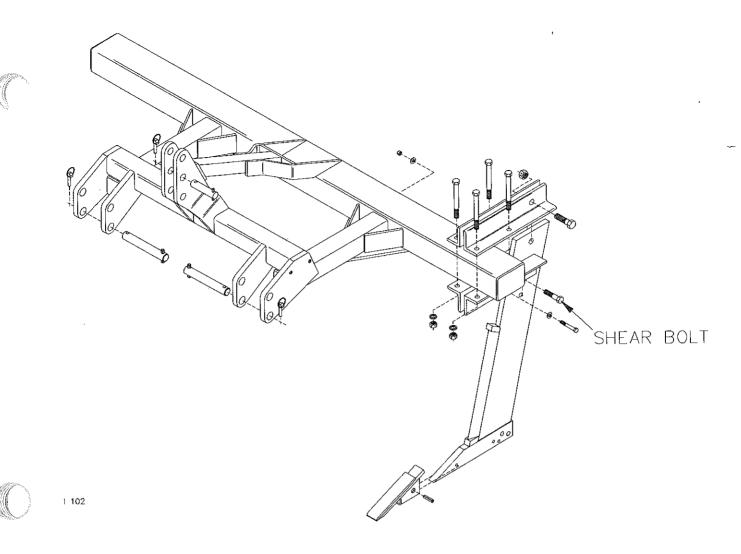
1. To attach the Subtiller frame to tractors with CAT II, CAT III or CAT III N Quick Coupler or CAT III lift arms, use the 1000-100 hitch pins bag.

For attachment to CAT II lift arms, use 1000-102 CAT II hitch pins bag. As assembled in this bag, the pin assemblies are for CAT II lift arms. Extra sleeves are provided to use these pins for Quick Couplers if necessary.

NOTE: Use 1-7/16" pins whenever possible.



- 2. Raise frame on tractor 3 pt. and level the frame from side to side by adjusting the lift link on the tractor. Lower the frame onto stands placed at each end of the toolbar. Stands should be 33"-36" tall.
- Find center of toolbar and mark with chalk. Measure from this mark and chalk mark the positions of the subsoiler legs according to number and spacing desired.



- 4. Remove contents of 1000-111 subsoiler leg parts box. Loosely attach the four angle brackets to the toolbar with the 3/4 x 7" bolt facing down as shown. Center this assembly on the required chalk mark. With aid of assistant or hoist, lift subsoiler leg into position and place 1 x 3" bolt through upper angle bracket. Tighten 1" locknut until snug tight. Place shear bolt through leg and lower angle brackets, then tighten.
- 5. Install 1/2 x 3-1/2" bolt through holes just in front of leg. This bolt will prevent angle irons from spreading when the shear bolt breaks and help when installing new shear bolt.
- 6. Slide point onto foot of leg and drive 1/2" spring pin into hole to retain the point.
- 7. To complete the leg assembly, check location and squareness of leg on toolbar and tighten the four 3/4 x 7" bolts through the angle brackets.
- 8. Assemble other legs onto frame as required.
- 9. Assemble rear parking stand to center section of frame with 3/4 x 7 x 7" U-bolts. See Page 20.



DANGER: Do not unhook machine without lowering the rear parking stand.

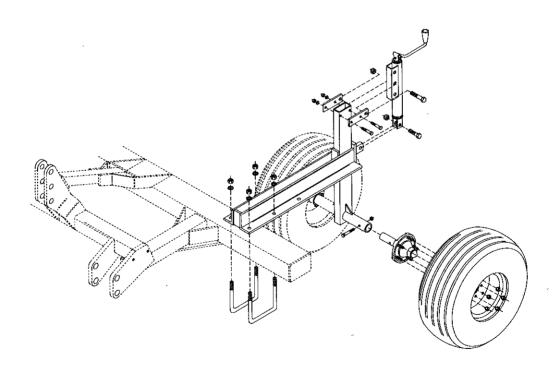


DEPTH WHEELS ASSEMBLY

NOTE: Depth wheels may be installed in front or behind the toolbar. Normally the depth wheels are installed to the rear.

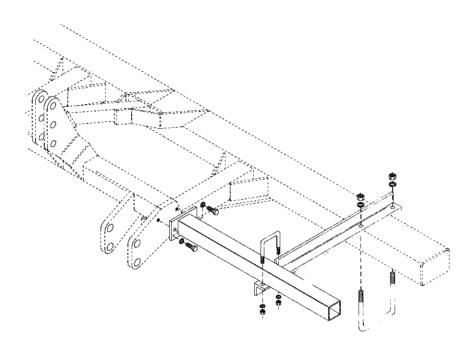
- 1. Attach depth wheel bracket to toolbar with two 3/4 x 7 x 7" U-bolts. Position bracket so that wheel and tire will clear the leg when shear bolt breaks. When installing brackets to use wheels in front of toolbar (e.g. Inter-row ripping) it may be necessary to use alternative U-bolt holes to clear tractor rear tires.
- 2. Insert the depth wheel slide through the bracket from underneath and bolt two mounting plates to top end with 1/2 x 3-1/2" bolts.
- 3. Attach gauge wheel adjust jack lower clevis to tab on bracket with 3/4 x 3-1/2" bolts.
- 4. Attach gauge wheel adjust jack to mounting plates with 3/4 x 3-1/2" bolt and locknut. Do not overtighten. Usually the middle hole will provide correct range of depth adjustment.
- 5. Insert spindle into mounting tube and secure with 1/2 x 3" bolt and locknut.
- 6. Mount tire and wheel assembly to hub.

NOTE: Use flat side of wheel nuts against wheel for wheel rims not having countersunk holes.



RESIDUE CUTTING COULTER BRACKET ASSEMBLY

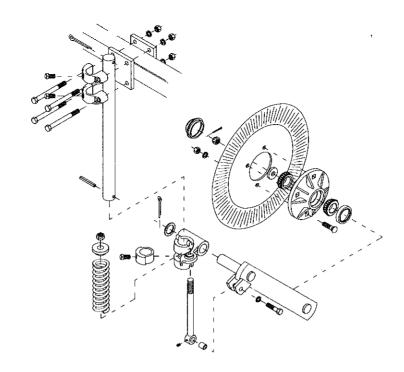
- 1. Assemble coulter bar bracket and 3/4 x 7 x 7" U-bolt to toolbar as shown.
- 2. Bolt flange on end of coulter bar to outer hitch plate on subsoiler frame with two 5/8 x 1-1/2" bolts and lockwashers.
- 3. Secure coulter bar to coulter bar bracket with 5/8 x 3 x 4-1/2" U-bolt and 5/8" nuts & lockwashers.
- 4. Coulters may be assembled onto bar where required.



- a. Mount a set of clamp plates to the bar at each coulter location using (4) 1/2" x 6" bolts, lockwashers and (2) shank clamp castings as shown on page 12. Before tightening be sure to square every set of clamp plates to the tool bar.
- b. Insert a locking collar casting into the pivot casting of the spring loaded coulter arm assembly. Drive roll pin through bottom hole of the shank for a retainer.
- c. Tighten the 5/8" square head set bolt into the locking collar (max. 100 ft. lb. torque) so that this collar just carries the weight of the coulter instead of the roll pin carrying the weight.
- d. Slide the shank up through the shank clamp casting and retain by installing a 5/16" x 2-1/2" cotter pin in the top hole of the shank. Set coulter depth by loosening setscrews in clamp castings and slide shank to desired position.
- e. Mount coulter blade to the coulter hub using (4) 1/2" x 1-1/2" carriage bolts, lockwashers and nuts. Rotate the blade and check for wobble. If blade wobble is excessive check for burrs on hub mounting surface and remove them.

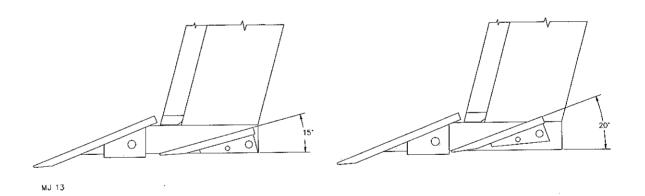
NOTE: Do not allow the roll pin to set into the notch of the casting since that will lock the coulter from pivoting.

5. Use 5-1/2" offset shank (offset forwards) and shank clamps on rear side of front cross member when installing center coulter. This is necessary to leave clearance for upper hook on Quick Coupler when hitching and unhitching.

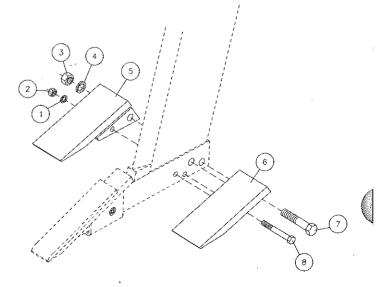


'LIFT' WING ASSEMBLY

NOTE: Two sets of mounting holes are provided on the foot for mounting the wings. The lower pair of holes set the wings at 15°. The upper pair of holes set the wings at 20° for maximum soil shatter and loosening.



Assemble pair of wings onto foot using one $1/2 \times 3-1/2$ " and one $3/4 \times 3-1/2$ " bolt.



HOOK-UP & PREPARATION FOR USE

A. SUBSOILER

Inspect whole implement for loose or broken parts. Tighten or replace as necessary. Check tire pressure of gauge wheels if equipped (25 PSI).

B. TRACTOR 3 PT. MOUNTED

The Subtiller may be attached to tractors having CAT II, CAT III or CAT III N Quick Coupler or directly to CAT III lift arms. To use with smaller tractor equipped with CAT II lift arms, use 1000-102 CAT II hitch pin bag. After subsoiler is attached to tractor and raised clear of ground, pin the rear parking stand in the raised position.

Sway blocks should be set to permit side sway in the down (operating) position and eliminate side sway in the raised (transport) position.



CAUTION: It is important to set sway blocks to allow side sway on four wheel drive tractors to prevent damage to implement due to minor steering corrections.

Top link and lift links need to be adjusted correctly so that the points clear the ground sufficiently for safe transport.

If so equipped, the lift links should be set to float when the implement is equipped with gauge wheels—SEE TRACTOR OPERATOR'S MANUAL. Lift links should be pinned in no float position when implement is not equipped with gauge wheels.

Rear wheel weights may be necessary to achieve satisfactory traction to use this implement correctly. Consult Tractor Operator's Manual for details on ballast.

Front ballast may be necessary for safety and stability of two wheel drive tractors. All tractors require adequate front end weight for satisfactory performance of the 3-pt. hitch draft sensing system. Consult Tractor Operator's Manual.



CAUTION: Additional ballast may be needed for transporting heavy integral implements. When implement is raised, drive slowly over rough ground.

Draft Control. The draft control should be set at "0" or "position" during hook-up. In the field, draft control is used to improve traction and minimize rockshaft control level adjustments.

Correct setting of the draft control will reduce wheelspin and ensure maximum tractor performance. Use tractor hydraulics to control depth, do not rely 100% on depth wheels for depth control.



C. ATTACHED TO YETTER 6600 COULTER CART



WARNING: Coulter Carts are not intended for use where rocks or other obstructions are present and are subject to the following limitations: subsoiler no larger than 7 shanks, tractor not to exceed 280 HP and the self leveling mechanism must be disconnected.



CAUTION: Use 6600-135 Rear Brace Kit when using a subsoiler on 6600 Coulter Cart.

NOTE: 6600-240 Adapter Link WA Cart End is required for hook-up to Coulter Cart.

NOTE: SEE COULTER CART OPERATOR'S MANUAL.

FIELD OPERATION



WARNING: Do not allow children to operate this equipment. Do not allow riders on the tractor. Failure to heed may result in serious personal injury or death.

Subsoiling should be done when the soil is relatively dry to give the best shattering action of the hardpan. In damp conditions the soil becomes more "plastic" and a narrow slot will be sliced through the ground.

Level the subsoiler from side to side initially with the lift arms by adjusting the lift links. The depth should also be leveled from side to side with the gauge wheels (if equipped).



WARNING: Never clean, lubricate or adjust a machine that is in motion.



WARNING: Beware of buried objects such as telephone lines, drain tiles and various utility lines.



WARNING: The subtiller legs can strike persons too close when shear bolt breaks. Stay clear of implement when operating.



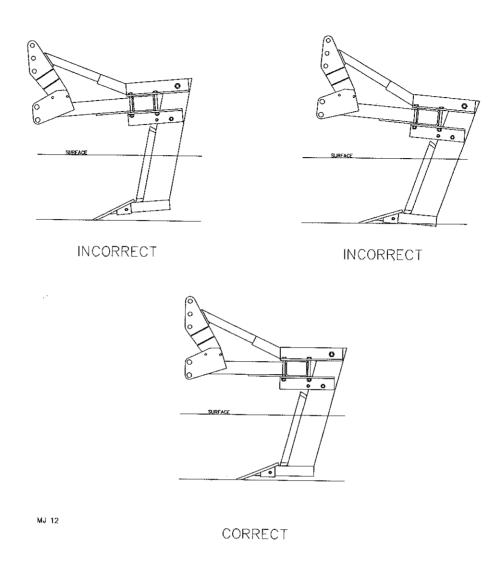
WARNING: Stay clear of legs when implement is raised from ground after shear bolt has broken. Swinging leg may strike persons too close.

NOTE: Be sure to check tightness of angle bracket clamping bolts each time shear bolt breaks.

GAUGE WHEELS. Set gauge wheels to prevent excessive subsoiling depth. Generally, depth should be controlled by the tractor hydraulic 3 pt. lift draft control system.



Level the Subtiller from front to rear by adjusting the center link. Observe the Subtiller frame while operating under load.





WARNING: Never clean, lubricate or adjust a machine that is in motion.

Draft Control. Correct setting of the draft control will improve traction and minimize the need for rockshaft adjustments to maintain even subsoiling depth. Correct use of the draft control is essential for maximum performance. Consult Tractor Operator's Manual.

Residue Cutting Coulters. In trashy conditions it may be necessary to install coulters in front of each leg to cut the trash and allow trouble free operation.

Lift Wings may be used to improve the soil loosening effect. The wings may be installed in two different positions depending on the loosening and soil disturbance required and available tractor power.

NOTE: Use of wings not recommended for inter-row ripping of crops!

SERVICE & MAINTENANCE



WARNING: Never clean, lubricate or adjust a machine that is in motion. Failure to heed may result in serious personal injury or death.



WARNING: If machine must be serviced in the raised position, jack or block it up to prevent it from accidently falling and injuring someone.

Gauge Wheels. Check wheel bearings before each season. Lubricate and adjust if necessary.

Residue Cutting Coulters. Grease 2 fittings on each coulter before operation and weekly thereafter. The hub bearings should be greased only a few times each season.

IMPORTANT: Do not adjust the coulter depth so deep that the coulter hubs are running in the soil; this will cause pre-mature bearing failure. See coulter operator manual for further information.

Point. The point is protected from extensive wear by a chrome alloy casting and cannot be hardsurface welded. Replace point when worn to the extent of not protecting the foot. To replace point, drive out 1/2" spring pin with a straight punch, remove point and then replace with new point and spring pin. Point with wear cap part no. 1000-221. Spring pin part no. 2530-219.

Shin. The shin casting is reversible end for end. The shin will ususally wear about one third the way up from the bottom. Reverse the shin when worn thin to prevent wearing the leg material. Shin part no. 1000-363.

Shear Bolt. CAUTION: Always replace shear bolt with Grade 2 bolt (no markings on bolt head). Failure to observe the warning may cause damage to machine. Shear bolt part no. 2502-505.

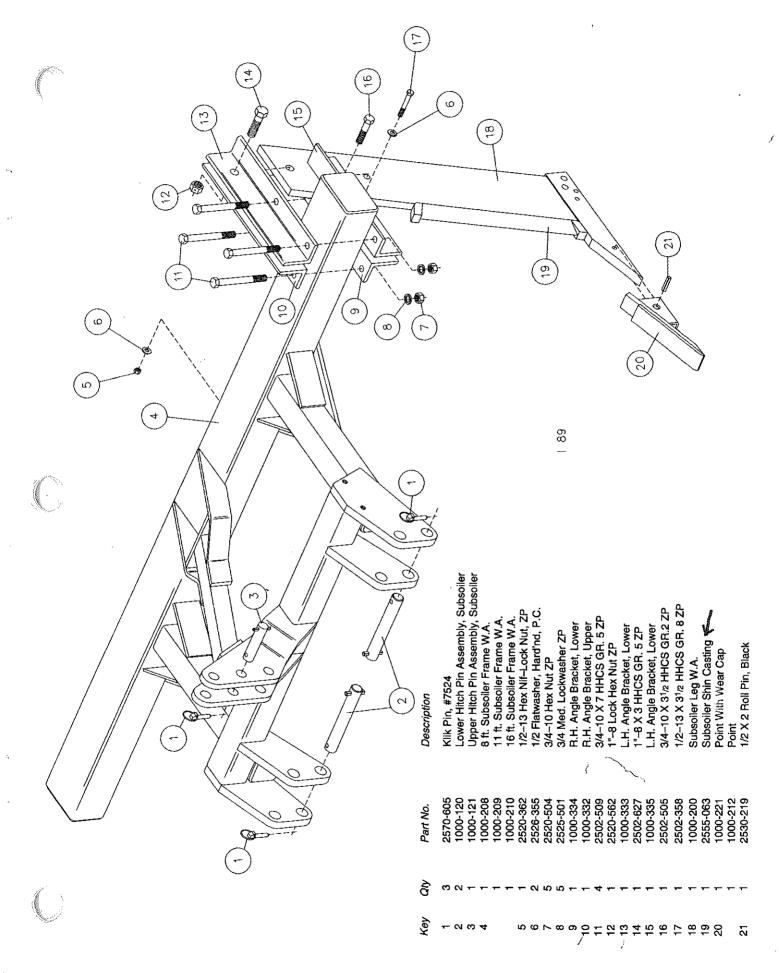


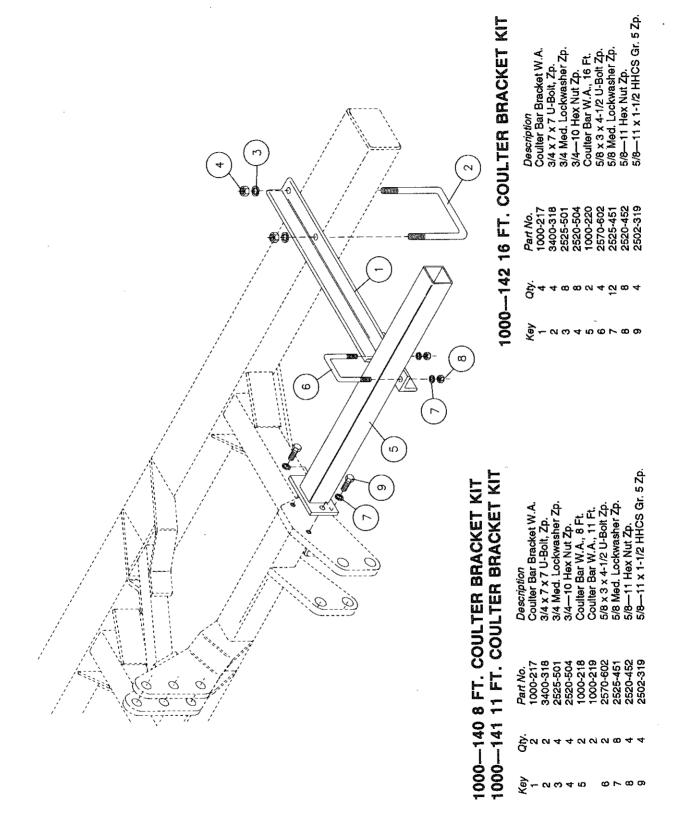
Wings. Periodically check tightness of wing mounting bolts.

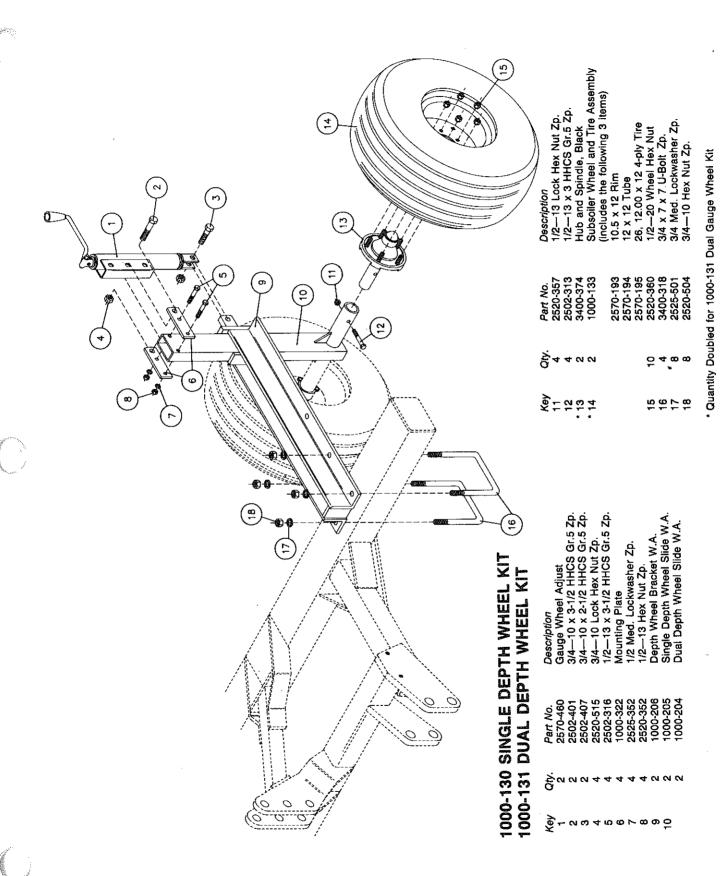
When wings become worn, apply hardsurface weld to front edge and outer corner of wing to increase life.

STORAGE

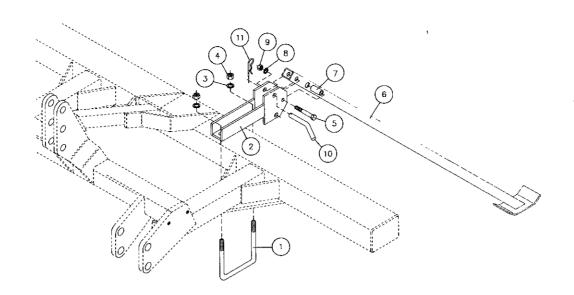
After use, clean off the machine. When storing for extended periods of time, coat the point, shin and wings with oil/grease or plow bottom paint to prevent rust.







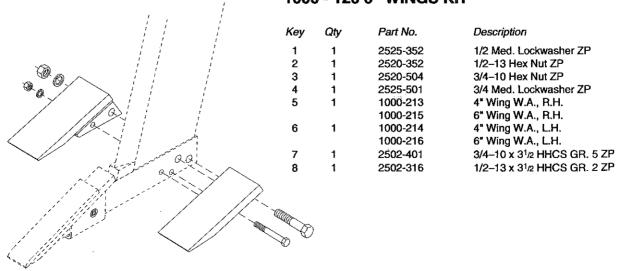
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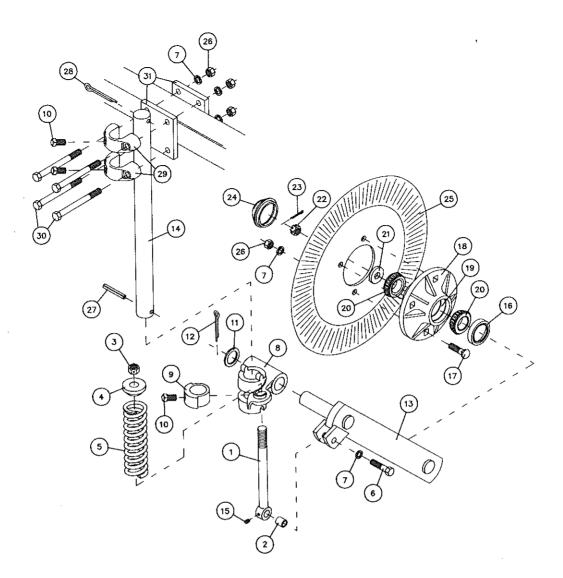


1000-138 REAR PARKING STAND ASSEMBLY

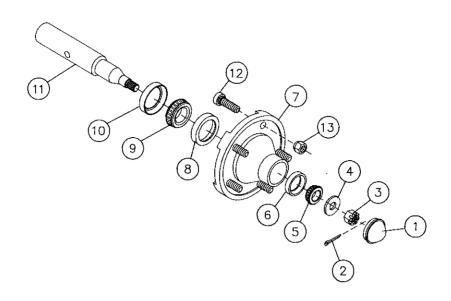
Key	Qty.	Part No.	Description
1	í	2570-477	3/4 x 7 x 7 U-Bolt, Zp.
2	1	3500-229-BB	Rear Parking Stand Bracket, Black
3	2	2525-501	3/4 Med. Lockwasher Zp.
4	2	2520-504	3/4—10 Hex Nut Zp.
5	1	2502-336	5/8-11 x 4 HHCS Gr.5 Zp.
6	1	3500-230-BB	Rear Parking Stand W.A., Black
7	1	3500-384	Pivot Bushing, Park Stand, Zp.
8	1	2525-451	5/8 Med. Lockwasher Zp.
9	1	2520-452	5/8—11 Hex Nut Zp.
10	1	3500-333	Stand Pin, Zp.
11	1	2570-465	7 Ga. Hairpin Cotter Zp.

1000 - 124 4" WINGS KIT 1000 - 126 6" WINGS KIT





Key	Qty.	Part No.	Description
1	1	2990-103	Pressure Rod Assembly (incl. No. 15)
2	1	2990-309	Pressure Rod Bushing
3	1	2520-515	3/4-10 Lock Hex Nut Zp.
4	1	2555-112	2910 Spring Bushing Casting
5	1	2550-708	7/16 Wire x 2-1/8 O.D. x 1-1/4 I.D. Comp. Sprg.
6	1	2502-317	1/2-13 x 1-3/4 Hex Hd. Capsc. Gr.5 Zp.
7	10	2525-352	1/2 Med. Lockwasher Zp.
8	1	2990-311	Coulter Pivot Casting
9	1	2910-301	Locking Collar,
10	3	2503-379	5/8-11 x 1 Sq. Hd. Cup Point Setscr. Zp.
11	1	2526-561	1-17/64 I.D. x 1-7/8 O.D. x 14 Ga. Mach. Bush.
12	1	2531-151	1/4 x 1-3/4 Cotter Pin, Black
13	1	2990-202	Arm W.A. (2991)
14	1	3010-303	Straight Coulter Shank 22",
15	3	2533-110	1/4—28 Straight Self-Tap Grease Zerk
16	1	2550-115	Seal
17	4	2505-339	1/213 x 1-1/2 Car Bolt Gr.5 Zp.
18	1	2900-102	Hub Sub-Assembly
19	2	2550-029	Cup (Pre-Assembly, W/No. 18)
20	2	2550-027	Cone
21	1	2526-449	5/8 Flatwasher, 11/16 l.D. x 1-3/4 O.D. x 1/4 ±
22	1	2520-461	5/8-18 Slotted Hex Nut, Black
23	1	2531-102	1/8 x 1-1/4 Cotter Pin, Black
24	1	2570-375	Hub Cap
25		2571-076	20" Ripple Coulter Blade
			(To Be Used Only With 2990-202 Arm)
26	8	2520-352	1/2-13 Hex Nut Zp.
27	1	2530-208	3/8 x 2-1/2 Roll Pin Zp.
28	1	2531-161	5/16 x 2-1/2 Cotter Pin Zp.
29	2	2990-360	Clamp Casting Drilled
30	4	2502-373	1/2-13 x 6 Hex Hd. Capscrew Gr.5 Zp.
31	2	2990-339	Clamp Plate 3" Sq. Bar



HUB AND SPINDLE ASSEMBLY 3400-374-BB

Ref.	Qty.	Part No.	Description
1	ĺ	2570-308	Hub Ćap
2	1	2531-108	5/32" x 1-1/4" Cotter Pin Black
3	1	2520-469	5/8" - 18 Slotted Hex Nut Black
4	1	2526-452	5/8" SAE Flatwasher Black
5	1	2550-012	Cone W.G. (LM-11949)
6	1	2550-013	Cup W.G. (LM-11910)
7	1	2570-309	Hub 4" Pilot 5-1/2" Dia. Bolt Circle
8	1	2550-029	Cup (LM-67010)
9	1	2550-027	Cone (LM-67048)
10	1	2550-115	Seal (104078)
11	1	3400-378	1-5/8" Dia. Spindle (104989), 2570-310
12	5	2512-356	1/2" - 20 x 1-1/2" Hub Bolt, Black
13	5	2520-360	1/2" - 20 Wheel Hex Nut

TROUBLESHOOTING

	Problem	Cause	Remedy
	Poor depth control	Tractor set up incorrect. Subtiller set up incorrect.	Adjust draft control. Check leveling side to side and front to rear. Use depth wheels.
À	Poor penetration	Tractor set up incorrect. Subtiller not level front to rear. Worn or broken points.	Adjust draft control. Adjust center link (shorter). Replace.
	Unequal depth of legs	Gauge wheels not adjusted correctly. Lift links on tractor not equal.	Check both adjusters set same. Check lift links on tractor.
	Wear on foot	Subtiller not level front to rear. Point worn.	Adjust center link (shorter). Replace point.
	Excessive shear bolt breakage	Angle brackets not clamping the leg. Too many rocks.	Shear bolts must be tight. Operate shallower.
	Excessive power requirement	Operating too deep. Subtiller not level front to rear. Wings too wide. Soil too tough.	Reduce depth. Adjust center link (lengthen). Use 4" instead of 6" or remove. Reduce depth.
	Wheelspin	Tractor hydraulic system incorrectly set.	Adjust sensitivity of draft control to obtain correct weight transfer.
		Insufficient axle weight.	Add rear wheel weights or fluid to tires.

Our name Is getting known

Just a few years ago, Yetter products were sold primarily to the Midwest only. Then we embarked on a program of expansion and moved into the East, the South, the West, and now north into Canada. We're even getting orders from as far away as Australia and Africa.

So, when you buy Yetter products . . . you're buying a name that's recognized. A name that's known and respected. A name that's become a part of American agriculture and has become synonymous with quality and satisfaction in the field of conservation tillage.

hank you

YETTER MANUFACTURING CO.

Colchester, IL 62326-0358 • (309) 776-4111 Toll Free 800/447-5777 309/776-3222 (Fax)

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