



Row Marker

OEM-290-257 / 290-257-081

IMPORTANT: Your new row marker is designed to attach to the Troy-Bilt Hiller-Furrower attachment. If you don't have Hiller-Furrower, call us or visit www.troybilt.com to place an order:

OEM-290-250 for Horse Model tillers

OEM-290-251 for Pony, Econo-Horse and Junior Model tillers

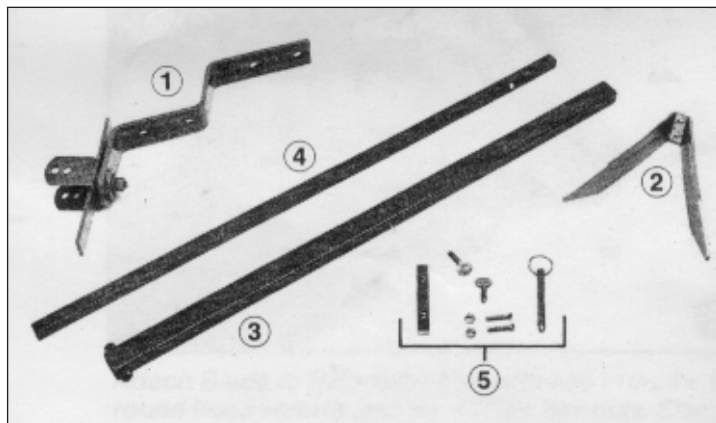
Introduction

Row Marker OEM-290-257 will help you lay out your garden with speed, accuracy and convenience — without the bother of stakes, strings, tape measures and other tools. It's fast and easy to assemble, mount and use with your TROY-BILT HORSE Model, ECONO-HORSE, PONY or JUNIOR Model tiller too! Just follow these assembly & use instructions.

NOTE: If you ordered a Hiller-Furrower with your Row Marker, be sure to install the Furrower blade first, as the Row Marker attaches directly to the Furrower blade and must be used with it. Separate assembly instructions are included with the Hiller-Furrower. If you already had a Hiller-Furrower, just attach the Furrower blade to your TROY-BILT Tiller as always and follow the Row Marker instructions here.

Be sure you received all the hardware and parts listed below. If anything is missing or damaged, please write or give us a call using the information provided on the back cover of this manual.

REF. No.	PART No.	DESCRIPTION	QTY.
1	1904522	Main Support & Yoke Assembly	1
2	GW-1594	Marker Blade	1
3	1904524	Main Marker Arm	1
4	1904523	Marker Arm Extension (w/ stop pin).	1
5	GW-1837	Hardware Package (includes below) .	1
	GW-9347	Hitch Pin	1
	GW-9828	Hex Nut, #10-24	2
	1100135	Screws, #10-24 x 1	2
	GW-9786	Thumb Screws, 1/4-20	2
	GW-1596	Nut Bar	1



Contents of Carton

WARNING

TO PREVENT INJURY FROM MOVING PARTS OR HOT SURFACES:

- Stop the engine and wait for all moving parts to stop.
- Disconnect the spark plug wire from the spark plug and allow the muffler to cool.

Tools Needed

- 9/16" wrench (or adjustable wrench)
- 3/8" wrench (or adjustable wrench)
- Pliers

Step 1: Attach Main Support to the Furrower

1. Using a 9/16" wrench or adjustable wrench, first remove the two 3/8" hex nuts and lockwashers that secure the furrower blade to its bracket.
2. Position the Row Marker Main Support on the two 3/8"-16 x 1-1/2" long bolts (A and B in Photo 1).

Note: The Stop Bar on the Main Support faces out toward the operator and the two bottom holes in the Main Support are used for mounting.

3. Replace both lockwashers and hex nuts and tighten securely.
4. Using a 9/16" wrench, remove hex nuts and lockwashers from bolts "A" and "B", install Main Support on bolts as shown. Replace nuts and washers.

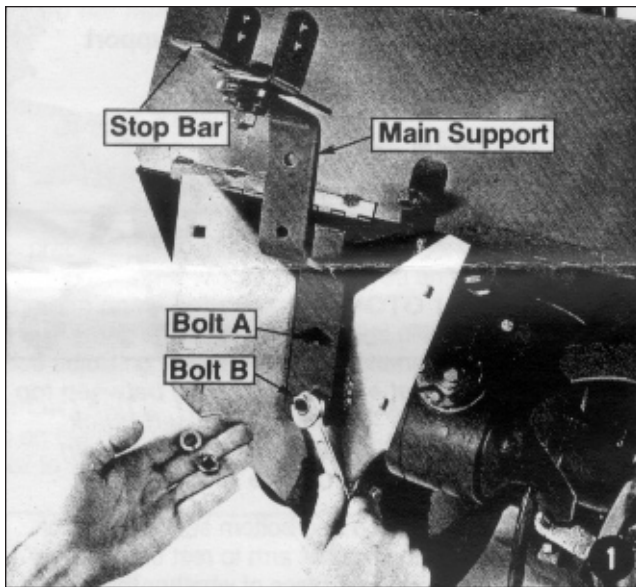


Photo 1

Step 2: Mount the Marker Blade on the Marker Arm Extension

1. The Marker Arm Extension is the 27" long solid steel shaft with a stop pin at one end and two mounting holes at the other end. Place this arm on a flat surface (table, etc.) for working ease.
2. Slide the extension arm into the "V-shape" of the blade (see Photo 2), aligning the holes in the arm with the holes in the blade. Be sure the stop pin at the other end of the arm and the points of the blade are facing you.
3. Insert two #10-24 x 1" lg. round head screws through the blade and the arm holes and secure them with two #10-24 hex nuts (the nuts have permanently attached star washers) as shown in Photo 3. The star washer side of the hex nut should face the Extension Arm. Tighten firmly with a 3/8" wrench. Use a screwdriver, if necessary, to keep the screws from turning while the nuts are being tightened.

Step 3: Slide Marker Arm Extension into the Main Arm

1. With the stop pin at the end of the Extension Arm and the holes facing you, slide the Extension Arm into the hollow Main Arm. See Photo 4.

Note: You may push the Extension Arm in as far as you wish for now. When completely assembled, you'll be able to immediately adjust to whatever widths between rows you may want just by retracting or extending the Extension Arm.

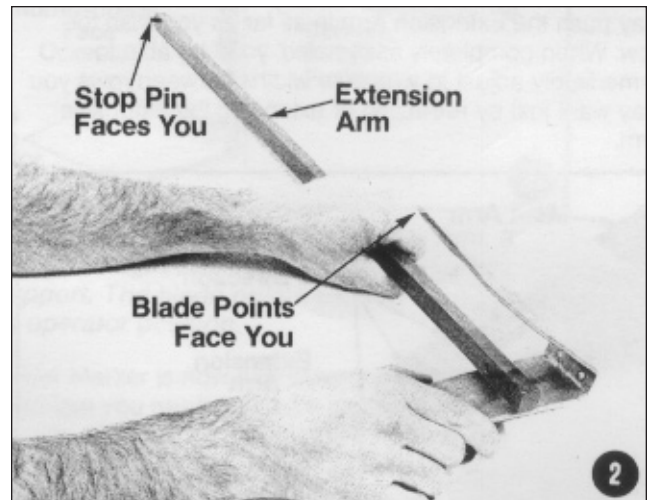


Photo 2

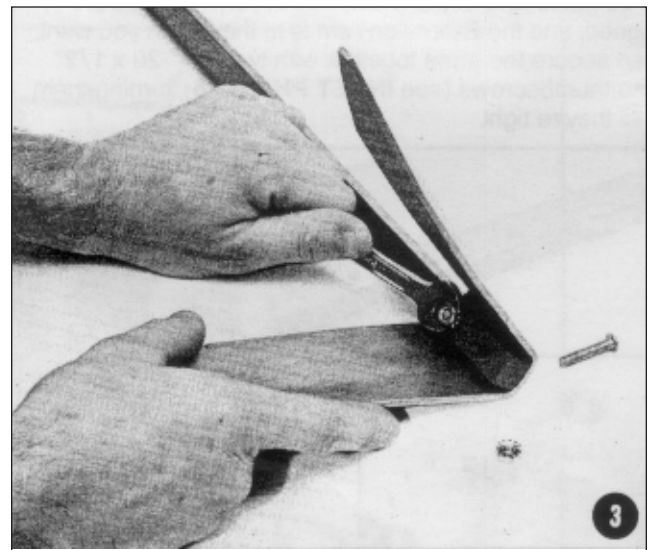


Photo 3

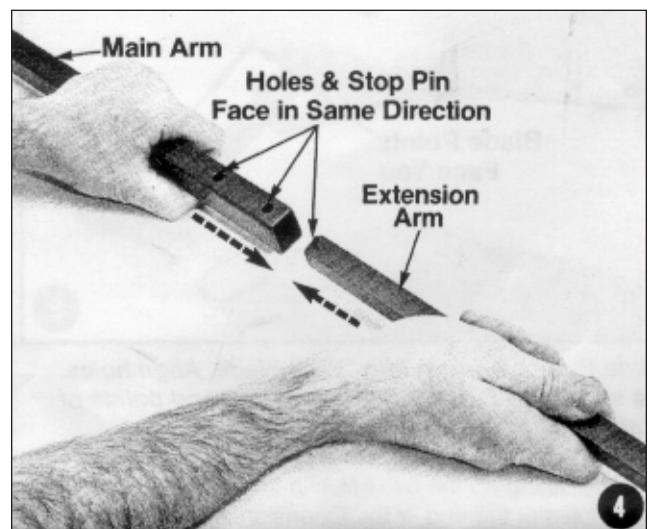


Photo 4



Photo 5 & Photo 6 (inset)

2. Insert the Nut Bar lengthwise into the Main Arm as shown in Photo 5. Continue to slide the bar in until the two tapped holes in the Nut Bar are aligned with the two holes at the end of the Main Arm. When the holes are aligned, and the Extension Arm is at the length you want, then secure the arms together with two 1/4"-20 x 1/2" long thumbscrews (see Photo 6 inset) turning them until they're tight.

Note: To adjust the Marker Extension Arm in or out to suit a row width for your application, simply unthread the thumbscrews one full turn, then adjust the arm length before retightening the thumbscrews. Fully extended, the Row Marker is 49-3/4" long; fully retracted, 28".

Step 4: Attach Main Marker Arm to the Main Support

The Main Marker Arm connects to the Yoke at the top of the Main Support with a quick-release pin.

1. Align the sleeve located at the end of the Main Arm between either the top set or bottom set of holes on the yoke sides. See Photo 7.
2. Once the sleeve is lined up, insert the quick release pin (Photo 8, Inset). At this point, the Main Arm rests on the Stop Bar and points straight back from the rear of the tiller.

IMPORTANT: The top and bottom sets of holes on the yoke sides allow the marker arm to rest on the Stop Bar at the proper angle regardless of whether the Extension Arm is fully extended or retracted. **When the extension arm is more than 50% extended, use the bottom set of holes, otherwise use the top set of holes.**

3. Pivot the Marker Arm from its "straight back" position a full 90° to either the right or the left in order to get the Marker Arm to point out to the side of the Tiller. Whether you decide to pivot right or left, just **be sure the points of the Marker Blade face back toward the operator after the arm has been pivoted.** See Photo 9 and Photo 10 for the correct in-use position.

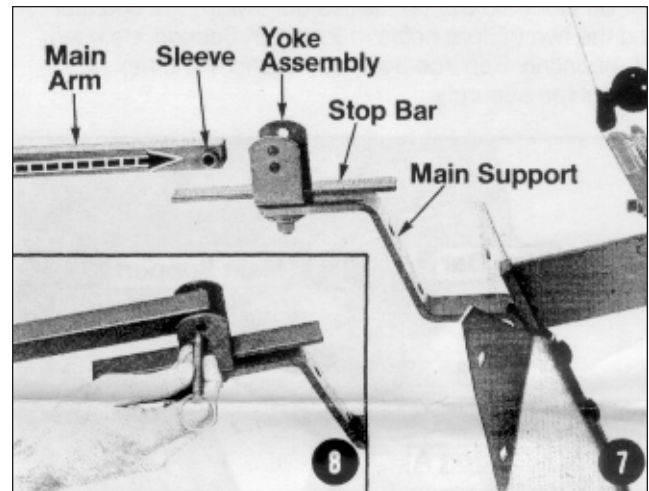


Photo 7 & Photo 8 (inset)

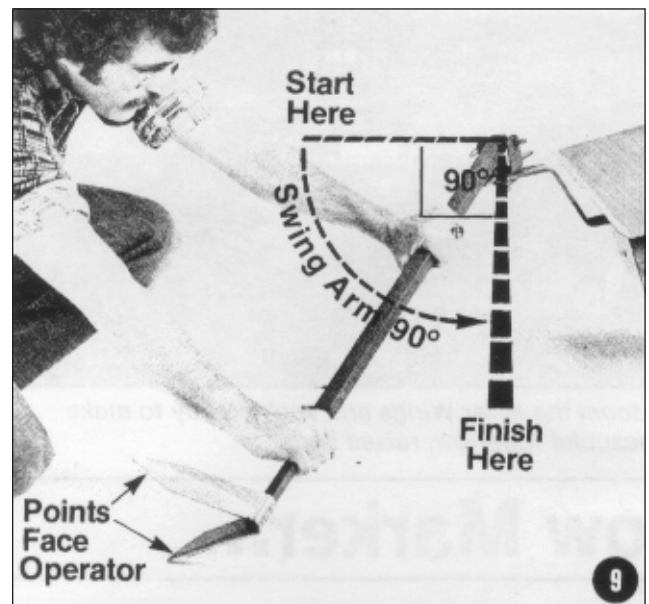


Photo 9

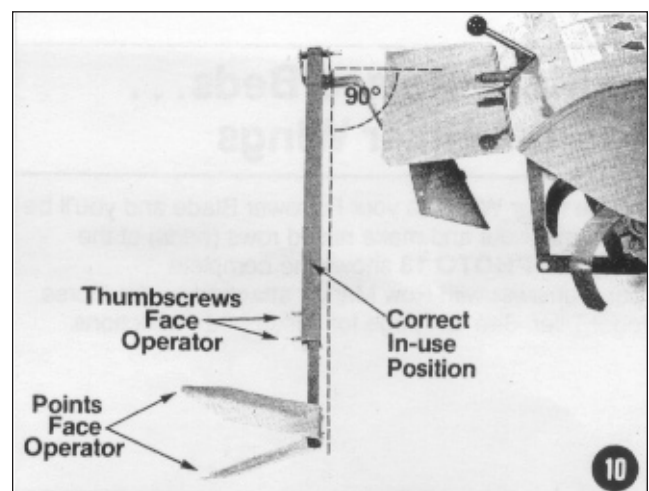


Photo 10

NOTE: the points of the Marker Blade **must** be facing back toward the operator, not toward the front of the Tiller.

Practice Pivoting The Row Marker Arm

Start with the arm on the left side (see Photo 11), then just lift up and swing it over to the right side (Photo 12).

IMPORTANT: Before turning your Tiller, always lift up on the handlebars to raise the Marker Blade out of the soil to avoid damaging it.

IMPORTANT: Never put the tiller in reverse unless the Marker Blade is out of the soil; damage could result.

NOTE: When using The Row Marker with your PONY, ECONO-HORSE, or JUNIOR Tiller, be sure the handlebar height is adjusted to **one of the three highest settings** so the Marker Arm has sufficient clearance to swing past the handlebar grips.

To Make Raised Beds . . . Add the Hiller Wings

Add the Hiller Wings to your Furrower Blade and you'll be able to mark out and make raised rows (beds) at the same time. Photo 13 shows the complete Hiller/Furrower with Row Marker attached on the Horse Model Tiller. See last page for raised bed instructions. Mount the Hiller Wings and you're ready to make wide-row, raised beds.

How To Use Your Row Marker...

Before using your Row Marker, remember the following:

1. All nuts and bolts (and the thumbscrews) should be tight on the Row Marker and Hiller/Furrower attachments.
2. Don't put the tiller in reverse unless the marker blade is raised up off the ground.

3. Lift up on the tiller handlebars before making a turn to prevent Row Marker damage.
4. If you accidentally hit an obstruction causing the marker arm to shift out of alignment, adjust the arm back to its original position before continuing (remember, the arm forms a perfect right angle with the Main Support when it's adjusted properly). See Back Cover for how to adjust the tension on the Yoke Assembly.

General Use for Deep Furrows

1. Prepare a good seedbed with your tiller.
2. Adjust the marker length for the spacing you want between rows for planting and cultivation.
3. Start with your tiller on the edge of your garden where you want your first furrow.
4. Place the Row Marker arm on the side where the second furrow will be.
5. Proceed to make the furrow as you normally would, walking in the furrow directly behind your tiller, using both hands.
6. To get the first furrow straight, pick out a distant object in line with your row. Then, look straight ahead and aim toward it. The quicker you make the furrow (high speed, open throttle) the straighter the furrow and row marker guideline will be.
7. At the end of the first row, lift up on the handlebars, turn the tiller around, and center your tiller on the Row Marker guideline you just made.

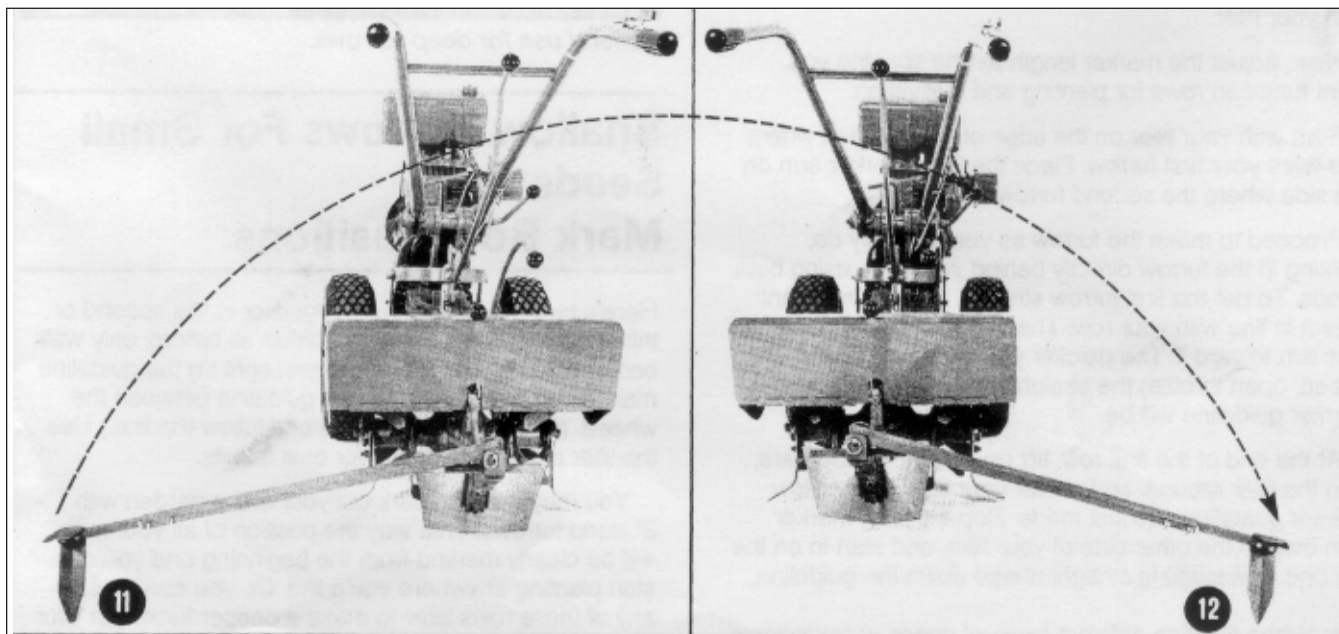


Photo 11 & Photo 12

Pivot the Row Marker arm over to the other side of your tiller, and start in on the second row, sighting straight ahead down the guideline.

Tip: When planting different types of seeds or transplants in the new row, make the necessary adjustment in the depth of the Furrower before starting the new row.

Shallow Furrows For Small Seeds or to Mark Row Positions

- Put your depth regulator in the second or third notch and use the Row Marker as before, only walk beside the tiller and run one wheel right on the guideline mark rather than centering the guideline between the wheels. (It will be easier to see and follow the line.)
- For best results, use the tiller at a higher speed .
- Mark out your entire garden with 1"-2" deep furrows. That way the position of all your rows will be clear from the beginning and you can start planting anywhere you'd like. Or, you can go over any of these rows later to make a deeper furrow, or tiller swath for wide-row planting. Just follow the Row Marker guidelines.

Deep Furrows For Fertilizing or Trench Composting

- Mark out all your rows with 6"-8" furrows, using the Row Marker as described for making deep furrows under General Use. Now you can fill in these deep furrows with compost or manure (plus a covering of soil) and plant right on top. This method concentrates all the nutrients where the plants need them and does not waste them in the walkways.

Raised Beds

- To help make raised beds, set the Row Marker arm to between 40" and 49-3/4" long and add the Hiller Wings to your furrower. Make several passes with the Hiller/Furrower-Row Marker, as described in General Use. The wings throw up ridges between furrows. Level off the ridges with a rake and you'll have raised beds all ready to plant. Add Hiller Wings for raised beds.

IMPORTANT: Check and Adjust the Tension Setting on the Yoke Assembly regularly. The Yoke Assembly on the Main Support has been factory tightened to allow the Yoke to pivot when the Marker Blade meets a certain amount of resistance. This prevents damage to the Row Marker components. If the setting should ever loosen, you should retighten the hex nut on the Yoke Assembly as tight as possible.

- Use a 9/16" socket or box end wrench to tighten the nut with one hand, and use the other hand on the Row Marker arm to steady the Yoke and keep it from pivoting. Turn nut counter-clockwise.

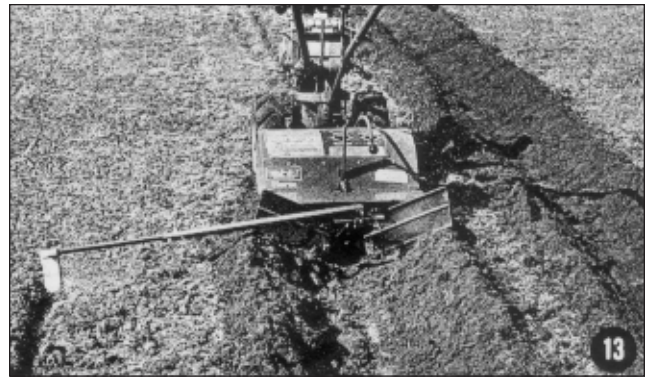


Photo 13

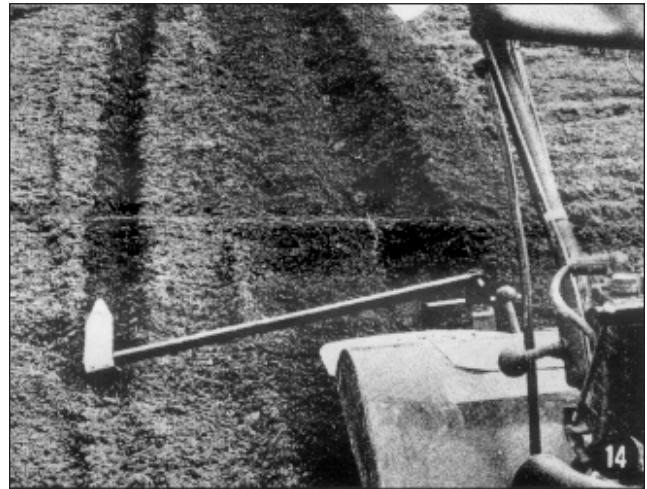


Photo 14



Photo 15

NOTES

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For Discount Troy Bilt Parts Call 606-678-9623 or 606-561-4983

For customer assistance, visit www.troybilt.com, contact your nearest authorized dealer or:

TROY-BILT LLC, P.O. BOX 361131, CLEVELAND, OHIO 44136-0019, 1-866-840-6483

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www.mymowerparts.com