# MODEL 2600 SERIES II RAISED BED PLASTIC MULCH LAYER

# OPERATING MANUAL

## Rain-Flo Irrigation

929 Reading Road East Earl, Pa 17519 PH: 717-445-3000

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### !! Safety First !!

- ⚠ No riders beyond the speed of 3 MPH. Make sure you read and understand all the precautions.
- ⚠ Be careful when turning around; machine is 8' long.
- ⚠ Do not crawl under the machine when lifted.
- ⚠ Cover discs are sharp; stay clear.
- $\triangle$  Do not adjust the machine when it is moving.
- ⚠ Do not stand on machine.
- ⚠ Do not sit on machine except designated seat.
- $\underline{\Lambda}$  Rain-Flo is not responsible for accidents if any should occur.

## **2600 Features**

- 70 hp FWD tractor size minimum.
- Minimum row centers, 54" at 3'or 64" at 4' or 74" at 5' plastic
- Adjustable plastic width from 3 ft. to 5 ft. wide plastic.
- Adjustable bed height from 5" to 9" high bed.
- Adjustable tension brake on plastic roll carriers.
- Adjustable row markers.
- Operator seat.
- Replaceable, reversible plow share blades.
- UHMW poly lined bed press.
- Bed press has adjustable side press plates, for more or less plastic coverage.
- Quality powder coated baked-on paint.

## **Options**

- Automatic self steering Ro-trak for hill sides.
- Single or double drip tape applicator.
- Crowned bed press for level field.
- Center fillers, to help fill center of bed.
- 400 lb. ground driven dry fertilizer hopper.
- Fumigation tank mounts with gas knives.

## **Soil Preparation**

- \* To build a uniform firm bed with no hollow spots, soil has to be prepared properly.
- \* All soils are different. Some (moist, sandy) soils make nicer square beds than others. You need to know what soil preparation works best with your soil.
- \* Machine performs the best if plowed 6" to 8" deep.
- \* Soil should be harrowed or roto-tilled until free of sod lumps.
- \* Proper moisture in soil is important to form nice firm beds. For best results, soil should not be powder dry or in muddy condition.

#### **Getting Started**

Before laying plastic, you may want to try out the machine in making beds only, to get the feel of the machine.

Adjust 3-point top link on tractor to level the machine.

Let full weight of machine down and regulate amount of soil with length of top link.

It is not necessary to pull more soil than needed to fill the bed. Pulling too much soil may cause tractor slippage, therefor resulting side drifting.

To get a higher, firmer bed, grower may want to pre-bed (make beds without laying plastic) then come back to lay plastic mulch. This will also help removing shallow spots in bed. Disk blades can be removed when making beds only.



### **Bed Height Adjustment**

Bed height is adjusted by lifting and lowering the bed press. Use label ruler behind pin indicator (top of pin) located on both sides of the machine to determine bed height(See below).

To adjust bed height, release the lock handles. Raising the bed is done by two people lifting the deck by hand, or by slowly driving forward with the 3-point hitch in down position; the soil will lift the bed press. To lower the bed, slowly lift 3-point hitch with the tractor to the desired height and lock the handles.

If your bed is not firm and has shallow spots in the center, add weight on the bed press, adjust the top link, and/or install the optional center of bed fillers.



Lock Handle Adjustment

**Important:** When bed height is adjusted, bed width (page 7) and trench openers (page 10) need to be adjusted accordingly.

	d 8 / 3		
3 Ft. Plastic	4 Ft. Plastic	5 Ft. Plastic	
Bed Height Bed Width	Bed Height Bed Width	Bed Height Bed Width	
4"20"	4"30"	4"40"	
6"16"	6"26"	6"36"	
8"12"	8"22"	8"32"	

Bed height and bed width can be adjusted between the above charts indications.

#### **Bed Width Adjustment**

The bed press has adjustable side plates (photo at bottom). These must be adjusted according to bed height by releasing the bolt and sliding the side plates in or out at the slot. *Make sure bolts are tight to keep them from slipping*. For setting, follow chart on machine or on page 6. It is important to maintain enough plastic at the edge for proper coverage.

**NOTE**; For straight beds, each side must be equally adjusted.



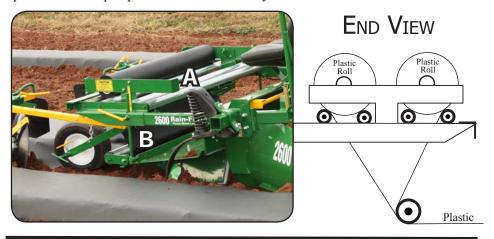
Adjustment Slot for Side Plates



Adjustable Side Plates

#### **Installing Plastic Rolls**

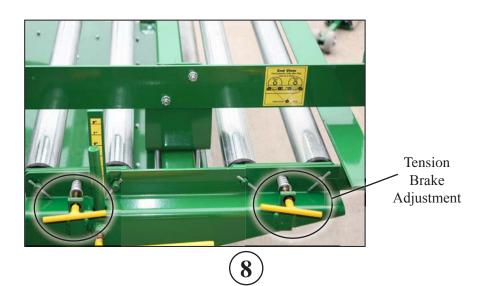
To install plastic rolls, place them on top of rollers (A). Pull end of plastic down in between rollers and underneath bottom roller (B). Secure plastic and drip tape at end of row. Only feed from one roll at a time.



#### **Plastic Tension**

Plastic rolls have a tension brake. Just a slight tension is needed.

**Note**; Setting brake tension too tight may affect the performance of the machine and can cause plastic to pull out from under press tires.



#### **Press Wheel Adjustment**

Press wheels need to run at the bottom of the trench and not on the side to stretch the plastic properly. To adjust, loosen T-handle and make in or out changes as needed.

Tilt the front of the press wheel on an inward angle to stretch the plastic.

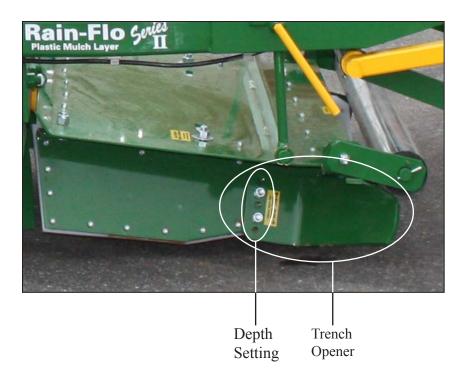
Use only high quality plastic to avoid straight line tear.

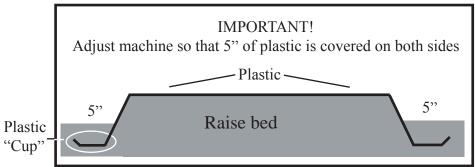


Adjustment Setting

#### **Trench Opener Adjustment**

Trench openers are to cut a trench along the sides of the bed. This will give a 'cup' at the edge of the bed to prevent the plastic from blowing off. If bed height is adjusted, the trench opener has to be adjusted accordingly.





#### **Cover Disk Adjustments**

Cover disks and dirt shields are marked right and left side (standing in back). Install shields as marked, with 'T' handle towards the center of the bed. Set disks on a 45 degree angle; make in or out adjustment as needed. For more or less coverage, tilt disk forward or backward as decal shows (pictured at bottom).

In some sandy soils the disk blades can be laid in a flatter position and turned at a 45 degree angle. However if it does not cover the plastic properly, the disks need to be set more upright or tilted back.





Tilt
Adjustment
For more or
Less soil.

#### **Chisel Tooth Adjustment**



Chisel teeth are to loosen more soil for the cover disks. Adjust so that tooth is approximately 1" to 2" below bed formers.

Adjust chisel shank in or out so they are in line with cover disks.



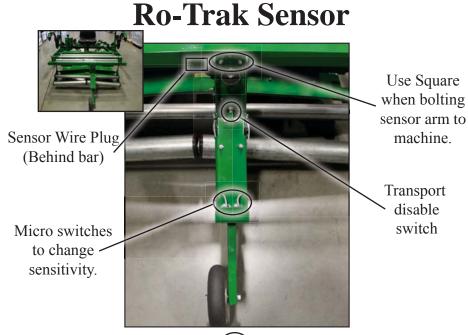
Notice the amount of soil chisel shank is loosening for cover disk.

#### AUTO RO-TRAK

- \*Ro-trak has the most benefits on hillsides and contours.
- \*Automatically steers to correct machine side drifting.
- \*Ro-trak is activated by a sensor at back of machine.

#### **Helpful Tips**

- \*When installing Hyd pump, lead hoses through 3-point A frame.
- \*Inspect and make sensor square to machine.
- \*Twelve-volts can be supplied by tractor or a separate battery.
- \*Ro-trak requires only low RPM pto speed to function.
- \*Hollow bed can effect Ro-trak performance.
- \*If machine has been setting for a period of time, it may be necessary to manually move the valve spools to get oil through the system.
- \*With pto pump running, use a Phillips screw driver and push the silver tip of the spool inward approximately 1/4" (Page 14.)
- \*Manual Ro-trak is operated with tractor Hyd. and must be steered by tractor operator.



#### **Maintenance**

- 1. Periodically check oil level. Low oil level may cause air to come into the system and effect Ro-trak performance.
- 2. Change oil and filter every 200 hours or 3 years (ISO 46 Hyd. Oil).
- 3. Also check for any damaged hoses or electric wires.

#### Ro-Trak not functioning? Check for these problems.

- **1.** Is the PTO engaged?
- 2. Is a 12 volt battery properly connected?
- **3.** Is the sensor at rear of machine plugged in?
- **4.** Check oil level
- **5.** Check for any damaged hoses or wires.
- **6.** Is sensor lifted 3" or more? (Sensor has transport cut off switch).
- **7.** Do the indicator lights on solenoid light-up?
- **8.** If indicator lights light-up and Ro-trak doesn't function, push in silver pins on solenoid spools (approximately <sup>1</sup>/<sub>4</sub>" on either side).
- **9.** If indicator lights do not light up, undo plate on top of solenoid and check for loose wires.
- **10.** Steers only one way? Change bad steering switch in sensor.
- **11.** Call Rain-Flo at 717-445-3000.

## Auto Ro-Trak

Hyd. Oil Level

**Solenoid Valve** 

Valve Indicator Valve Spools Silver Tip Lights Silver Tip



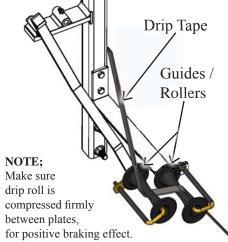


### **Drip Irrigation Roll Carrier**



Slide drip roll onto roll carrier rod so that drip emitter will be turned up toward plastic (for less clogging).

Feed drip tape through the first guide on the swing arm and through the second guide that's bolted on the drip roll carrier frame. (See sketch below.)



## **Drip Irr. Tape Placement**



Feed drip line through the guides on the spool carrier and into the drip line down pipe.

To avoid damaging drip tape with the press pan, adjust top of down pipe about 1" to 2" below the plastic mulch.

Turn drip emitters up toward the plastic for less clogging.

Drip Line Down Pipe

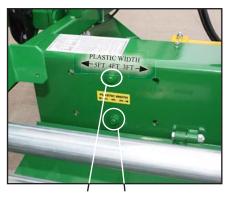
#### CHANGING THE PLASTIC WIDTH

The Model 2600 will lay 3', 4', or 5' wide plastic.

- To make these adjustments, release the lock bolts at front end of bed shapers (No.1 photo). Remove bolts at back end of bed former (No.2 photo) and slide to appropriate setting. Make sure bolts are tight.
- 2 Adjust bed press side plates; remove bolts from bed press side plates and move to appropriate setting (No. 3) photo.
- Adjust roll carrier; loosen bolts and slide bracket so plastic roll fits between bracket (No.4 photo). Adjust approximate 1½" wider than plastic width.



(No.1) Lock bolt



(No.2) Remove bolts on back side of bed former

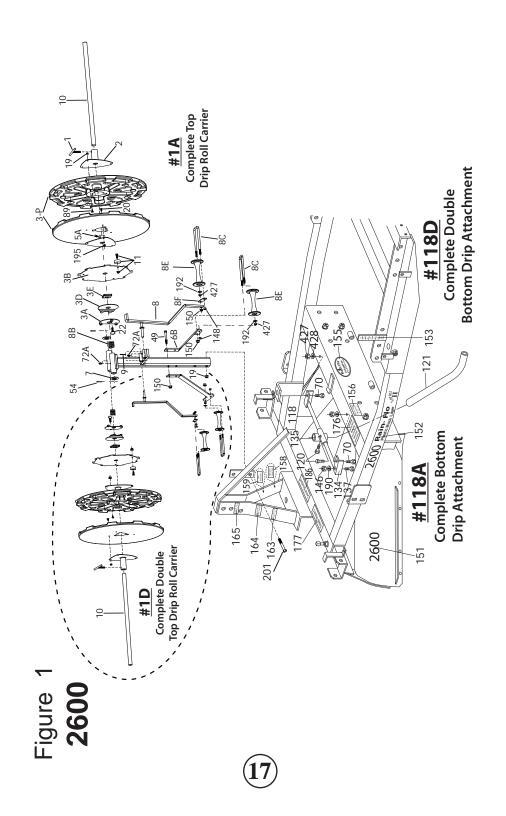


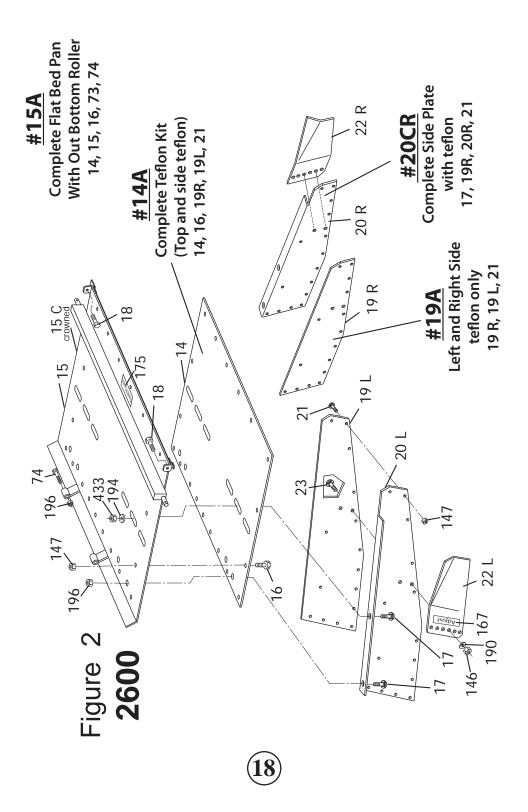
(No.3) Remove bolts from bed press side plates and move to appropriate setting. **NOTE**; For straight beds, each side must be equally adjusted.

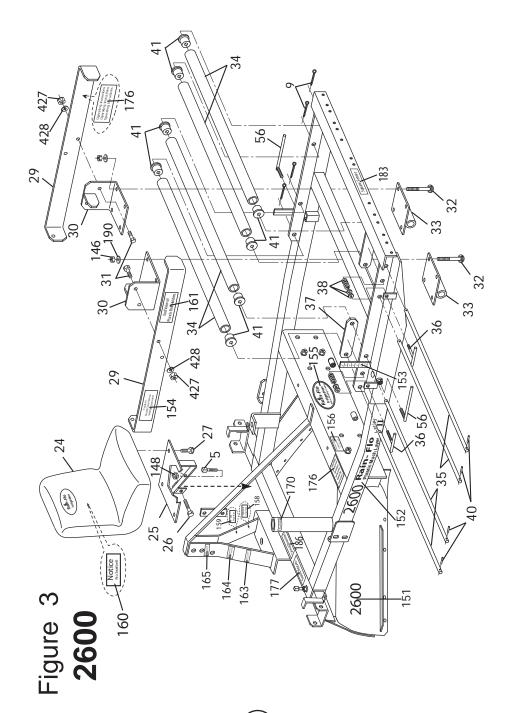


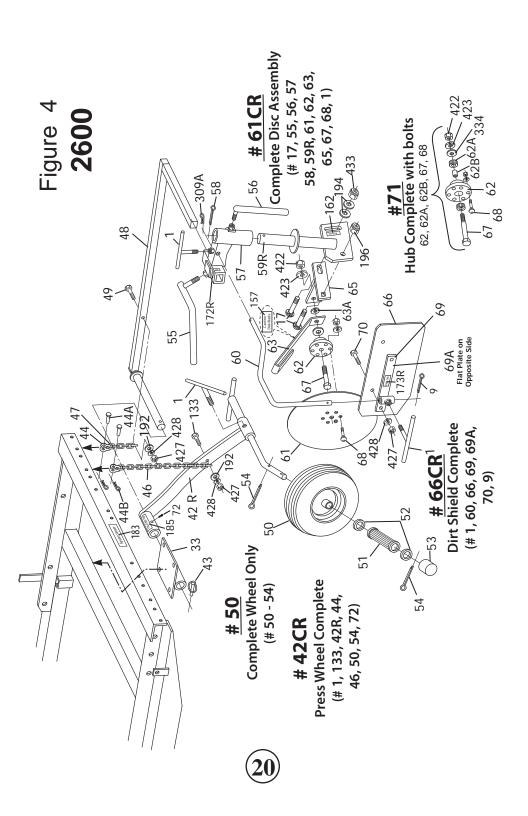
(No.4) Rear Cover Disk and Plastic Width Adjustment

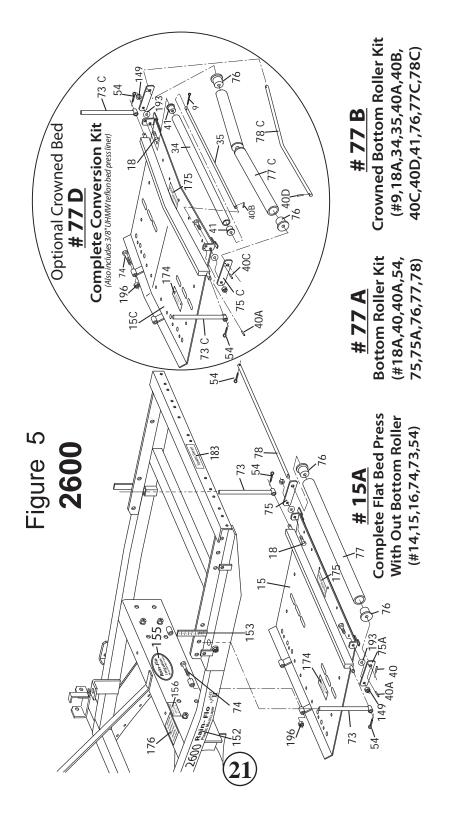


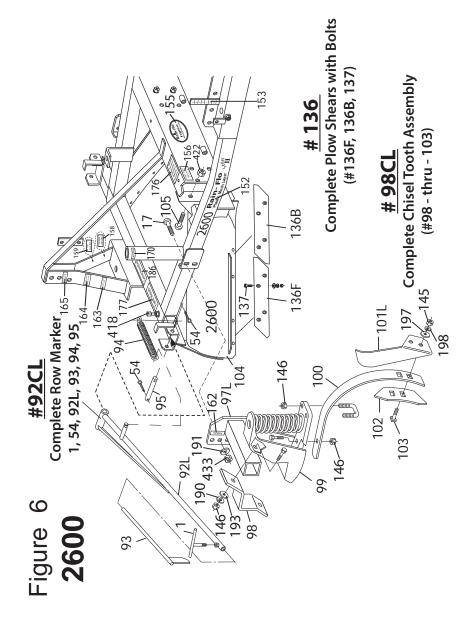


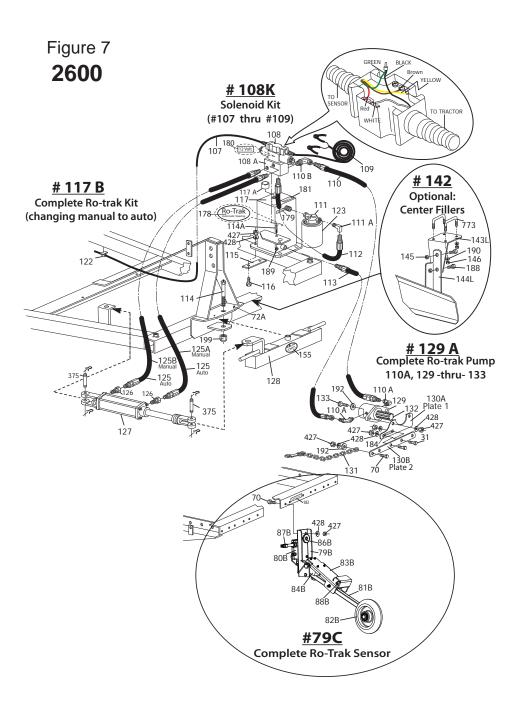












# Model 2600 Raised Bed Layer TEM # DESCRIPTION

ITEM#

		DESCRIPTION
1	(9)	Tee handle
1A		Complete top drip roll carrier
		Complete double top drip roll carrier
2		Roll carrier clamp
3A		Drip attach adjustable brake tension plate
3B		Drip attach brake plate
3C		Drip attach mounting for brake plate
3D		Drip attach brake tension plate rotation stop
		Drip attach teflon continues brake washer
3-P	(2)	Drip roll side plates
5 A	(2)	3/8" x 1/2" Set Screw
		3/8" x 3/4" plate set screw
		Drip roll carrier frame (Single and Double)
		Drip attach arm to guide drip tape
6C		Drip attach arm to guide drip tapeDrip attach arm to guide drip tape for double drip
7		1" SAE washer
0		Swing arm
0 0D		
8D	(2)	Drip attach brake tension spring for 1" rod
8C	(2)	Drip Attach Arm U-Bolt 3/8" x 2" x 6-1/2"
8E	(2)	Drip attach arm plastic roller
		Drip attach arm U-bolt plate only
9	( / )	Cotter pin[1/8"]
		Drip roll shaft
		Rubber brake assembly.
13		Straight grease fitting
		3/8" UHMW teflon (machine serial # needed)
		Complete teflon kit with side plates
15		Bed press plate [flat]
15A		Bed press complete without bottom roller
15C		Bed press plate [crowned]
16		1/4" x 7/8" machine screw
17	(12)	5/8" x 2" carriage bolt
18	(2)	<sup>1</sup> / <sub>2</sub> " x 1 <sup>3</sup> / <sub>4</sub> " bolt
19	(3)	1/2" Flange Nut
		Complete set 1/2" UHMW teflon side plate(serial # needed)
		Left side 1/2" UHMW teflon side plate
19R		Right side 1/2" UHMW teflon side plate
20	(3)	5/16" x 3/4" Carriage Bolt
20CL		Left side complete side plate with teflon
20CR		Right side complete side plates with teflon
20L		3/8" bed side press plate (machine serial # needed)
20R		3/8" bed press side plate (machine serial # needed)
21	(4)	1/4" x 1" machine screw
22	(3)	5/16" x 1" Thumb Screw
		Left side trench opener
22R		Right side trench opener (24)
23	(4)	½" x 1½" carriage head bolt
	· /	$\varepsilon$

# Model 2600 Raised Bed Layer TEM # DESCRIPTION

ITEM#

24	Cushion seat	
25		
26(3)	2/9" v 23/" halt	
20(3)	3/6 X 37/4 UUIL	
27(4)	5/16" X ½" bolts	
28	Frame	
29(2)	Roll support plate	
30(2)	Roll width adjustment plate	
31(6)	3/8" v 1" holt	
22 (2)	1/2" x 4" carriage bolt	
32(8)	1/2 X 4 Calliage bolt	
33(2)	Bottom plate roll width adjustment	
34(4)	Plastic mulch support roll	
35(4)	Roll holder rod	
26 (2)	Tangian too handla	
37 (2)	Tension plate	
38 (2)	Tension spring and washers	
40 (0)	2/16" yr 2" mall min	
40(9)	Tension tee nandleTension plateTension spring and washers3/16" x 2" roll pin	
40A(2)	3/10" X 1" FOII DIN	
40B	3/16" x 1-1/2" roll pin	
40C	1/4" x 1" roll pin	
40D	1/4" x 2" roll nin	
41(8)	IJHMW bushing	
	Left side press wheel arm complete	
	Right side press wheel arm complete	
42L	Left side press wheel arm	
42R	Right side press wheel arm	
43(2)	Lynch pin	
44 (4)	Chain shackle complete	
44A	Chain shackle nin	
44D	Chair shootle sofety hitch min	
445	Chain shackle safety hitch pin	
46(2)		
47(2)	Cover arm chain	
48(2)	Cover disk support arm	
49(4)	3/8" x 3" Zinc grade 5 hex bolt	
50 (2)	Press wheel tire (#50 -thru- #54)	
51(2)		
52(4)		
53(2)	Hub cap	
54(10)	Cotter pin	
55(2)	Adjustable handle	
56(4)	Ell lock handle	
57 (2)	Sliding adjustable bracket	
59 (2)	Cottor nin	
58(2)		
	Left side cover disk shank	
59R	Right side cover disk shank	
60(2)	Dirt shield support arm	$\sim$
61(2)	20" disk blade	()=
61CL	Left side complete disk assembly	(43)
01 CL	Lett side complete disk assembly	

## Model 2600 Raised Bed Layer

ITEM	#	DESCRIPTION  Right side complete disk assembly
61CR		Right side complete disk assembly
62A	(4)	205KR3 bearing
62B	(2)	Spacer
63	(2)	Disk dirt scraper
63 A	(2)	<sup>3</sup> / <sub>4</sub> " extension tooth lock washer
65	(2)	
66	(2)	Dirt shield
66CI	(2)	Left side dirt shield complete
66CR		
67	(2)	3/4" x 4-1/2" Hub center bolt
69	(∠) (12	)3/8" x 1½" button socket cap bolt
60	(12)	Dirt shield breeket
		Dirt shield bracket
09A	(2)	Dirt shield flat plate bracket
/0	(8)	3/8" x 1 <sup>1</sup> / <sub>4</sub> " bolt
/1	(2)	6-bolt hub, complete
72	(3)	
72A	(4)	
73	(2)	Bed height adjustment rod [flat bed]
73C	(2)	Bed height adjustment rod [crowned bed]
74	(2)	
75		Right side bottom roller flex plate [flat bed]
75A		Left side bottom roller flex plate [flat bed]
75C	(2)	Bottom roller flex plate [crowned bed]
76	(2)	UHMW bushing, bottom roller
77		3" galvanized bottom roller [flat bed]
		Complete flat bed bottom roller kit
77B		Complete crowned bed bottom roller kit
77C		3" galvanized bottom roller [crowed bed]
77D		Raised bed crowned press pan conversion kit
		Bottom roller mounting rod [flat bed]
78C		Bottom roller mounting rod [crowned bed]
79B		Sensor vertical mounting bracket
79C		
80B		Box enclosure
80A		
		Ro-Trak sensor arm
		Sensor tracking wheels
82D		
		Sensor body frame
03D		Ro-trak sensor aluminum block bearing
0/D	•••••	Sensor electric plug-in 4 -square
99B	·····	
δ9	(3)	
90	• • • • • • • • • • • • • • • • • • • •	

92L. Left side row marker

## Model 2600 Raised Bed Layer

ITEM #	DESCRIPTIONRight side row marker
92R	Right side row marker
92CL	Left side complete row marker
92CR	Right side complete row marker
93(2)	Row marker extension
94(2)	Row marker spring
95(2)	Row marker hinge pin
971.	Left side shovel mounting bracket
97R	Right side shovel mounting bracket
98(2)	Mounting clamn
98CL	Left side complete chisel tooth assembly w/ shovel
98CR	Right side complete chisel tooth assembly w/ shovel
99 (2)	Shovel spring assembly
100(2)	Shank
1011	Left side dirt spill plate
101D	Right side dirt spill plate
101(2)	Shovel tooth
102(2)	7/16" x 2" tooth shovel bolt
103(4)	Scraper mold board
104(2)	3/2 v 22 corrigge helt
103(4)	<sup>3</sup> / <sub>4</sub> " x 2" carriage bolt
107	Colonaid valva
108	Aluminum monifold
100Z	Aluminum manifold
100	Solenoid kit (includes wiring harness)
109	Sensor wire to battery
110	Hose, pump pressure side
110A(2)	Hydraulic pump ell
110B	Hydraulic block ell
111	
111A	Hyd filter head ell fitting, 1/2" M x 3/8" F
	Hydraulic hose, filter to solenoid manifold
113	Hydraulic hose, pump intake side
114	
114 A	$5/16$ " x $2\frac{1}{2}$ " socket head cap bolt
115(2)	Hydraulic tank mounting plate
116(4)	Hydraulic tank mounting plate3/8" x 4" bolt
117	Oil reservoir
117A	
117B	Complete ro-trak kit (manual to auto)
118	Drip line cross bar
	Bottom drip attachment complete
118D	Complete double bottom drip attachment
120(2)	½" x 1½" hex bolt
	Drip line down pipe
122	Sensor wire holder
123	Oil filter
	Hydraulic cylinder hose
	Hyd cylinder hose [manual ro-trak], front hose
	, , , , , , , , , , , , , , , , , , ,

Model 2600 Raised Bed Layer TEM # DESCRIPTION ITEM#

125B		Hyd cylinder hose [manual ro-trak], back hose
126	(2)	Hydraulic elbow with flow orifice
127		Hydraulic cylinder
128		Steering bar
129		Hydraulic pump
		Ro-trak pump complete
		Pump support (plate number one)
130B		Pump support (plate number two)
131		Chain with snap
132		PTO coupling
133	(5)	3/8" x 1½" bolt
		Bot. drip bolted angle iron
135		Drip pipe holder bracket
136	(4)	Plow Shears
136B	(2)	Back plow shears
136F	(2)	Front plow shears
137	(9)	3/8" x 1-1/4" plow bolt
142		Center filler set complete
		Left side top center filler bracket
143R		Right side top center filler bracket
144L		Left side center filler plow bracket
144R		Right side center filler plow bracket
145	(2)	7/16" hex nut
146	(16)	1/2" hex nut
147	(10)	1/4" nylon lock nut
148	(3)	3/8" nylon lock nut
149	(2)	1/2" nylon lock nut
150	(2)	3/8" Flange Nut
		Mold board label
		Side label
153	(2)	Bed height label
154	(2)	Caution label for roll holder
155	(2)	Rain-Flo oval logo labelPlastic width label
156	(2)	Plastic width label
15/	(2)	Disc scraper caution label
158		Center of bed filler label on 'A' frame
		Sway bar label on 'A' frame
		Important notice label on seat
161	(2)	End view label for roll holder
162	(4)	More coverage label
		Keep front of machine full of soil label
		Top link instruction label
		Use top hole for high lift label
10/	(2)	Deeper trench label
168		
108A		Turn Drippers Up For Less Clogging Tabel
109		Direction arrow for drip attach

## Model 2600 Raised Bed Layer

ITEM # DESCRIPTION

169A	Drip attach brake adjustment plate label
17/0	Shovel holder label
172L	Left side standing in back label for disk
172R	Right side standing in back label for disk
173L	Left side standing in back label for dirt shield
	Right side standing in back label for dirt shield
174(2)	Bed width label
175(2)	Feed plastic under roller label
176(2)	Operating instruction label
177(2)	Feed hoses through 'A' frame label
178	Oval ro-trak label
179	Oil level label
	12 volt system label
181	Hydraulic oil label
183	Make sensor square label
184	Ro-trak chain caution label
185(2)	
186	Serial number label
188(2)	7/16" x 1-1/2" hex bolt for center fillers
189	5/16" nylon lock nut
190(9)	1/2" locking washer
191(2)	5/8" locking washer
192(6)	3/8" flat washer
193(6)	
194(6)	5/8" flat washer
195(3)	5/16" flange nut
196(6)	5/8" nylon lock nut
197(2)	7/16" flat washer
198(2)	7/16" locking washer
199	1-1/4" nylon lock nut
201(2)	1/2" x 3-1/4" bolt
309A(2)	Safety pin
334	3/4" SAE flat washer
375(2)	Cylinder pin
418(2)	$5/8$ " x $1\frac{1}{2}$ " sq. head set screw
422(6)	3/4" hex nut
423(2)	3/4" locking washer
427(22)	3/8" nut
428(19)	3/8" locking washer
433(6)	5/8" hex nut
773	1/2" x 4" x 3-1/16" Center filler 'U' bolt

#### **Helpful Tips**

- \* Adjust 3-point top link on tractor to level machine.
- \* Periodically check for shallow spots in bed; hollow bed will effect planting and hinder plant growth.
- \* We recommend two or more people when laying plastic mulch to maintain proper machine adjustment.
- \* A sizable tractor is needed for stability and lifting power. Minimum tractor size for Model 2600 is 70 HP.
- \* This machine can also be used for a bedder only, (without laying plastic). The rear cover disks and tires can be removed for this application.
- \* Avoid over steering; rear cover disk will move far and cut into plastic. Careful steering will also provide more uniform coverage.
- \* Stretching plastic in length and side to side will help plastic from blowing off.
- \* Check drip tape down pipe for wearing to avoid damaging drip tape from sharp edges.

#### **Warranty**

All Rain-Flo mulch layers have a two year warranty against defects in material and workmanship.

If any part is found defective, return the defective part with serial No. of the machine. If Rain-Flo finds it defective, it will be replaced or repaired at no charge.

Call Customer Service at (717) 445-3000 Fax (717) 445-8304

#### **TROUBLESHOOTING**

**1.** PROBLEM Machine tends to drift sideways causing press wheels to come off the plastic.

SOLUTION \* Pull less soil. Pull just enough to fill the bed firm.

\* Adjust 3-point top link.

\* If your machine has manual Ro-Trak, make sure the sway bar is in place.

\* On Auto Ro-Trak machines, make sure Ro-Trak is functioning properly.

\* or, tractor may be too small.

2. PROBLEM Cover disk not getting enough soil to cover plastic

SOLUTION \* Tilt disk back to dig in more (page 11).

\* Set chisel shovels in line (page 12).

\* Bed press side plates not set correctly for bed height (page 6 & 7).

**3.** PROBLEM Plastic not staying under press wheel.

SOLUTION \* Tension too tight on plastic roll carrier.

**4.** PROBLEM Ro-Trak not functioning.

SOLUTION \* Follow Ro-Trak information, page 13 and 14.

**5.** PROBLEM Not firm beds and shallow spots in center.

SOLUTION \* Add weight on bed press.

 $^{st}$  Tractor's 3-point not low enough or draft control lifting up.

\* Soil not tilled deep enough.

Install optional center filler on mulch layer.

#### ~2015 Edition~

Rain-Flo Irrigation (717) 445-3000