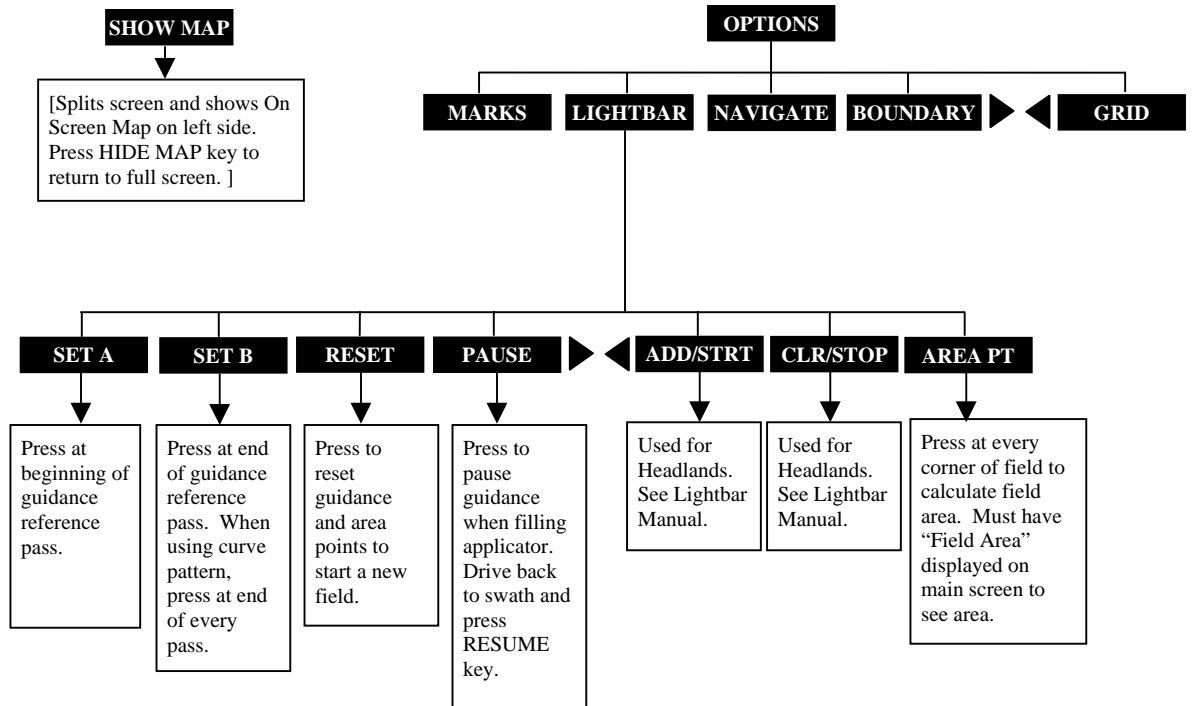
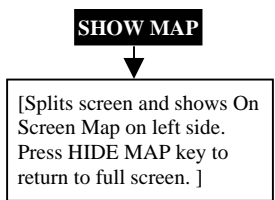
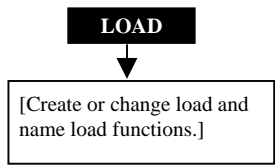
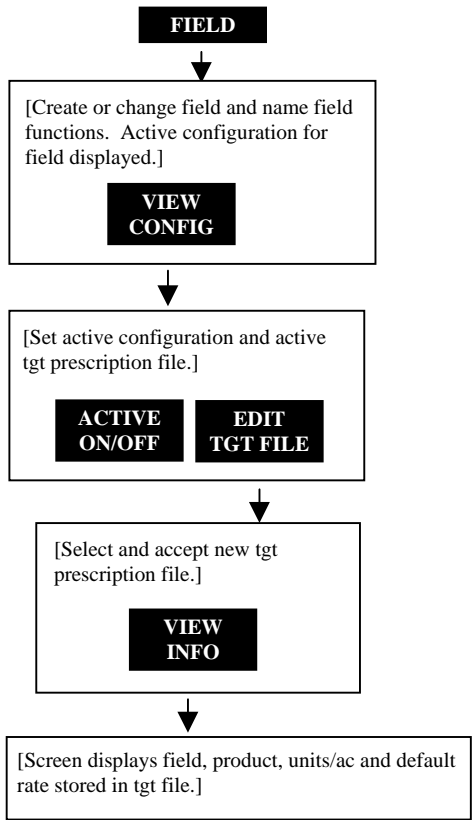
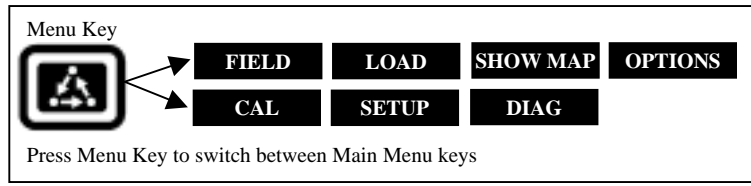
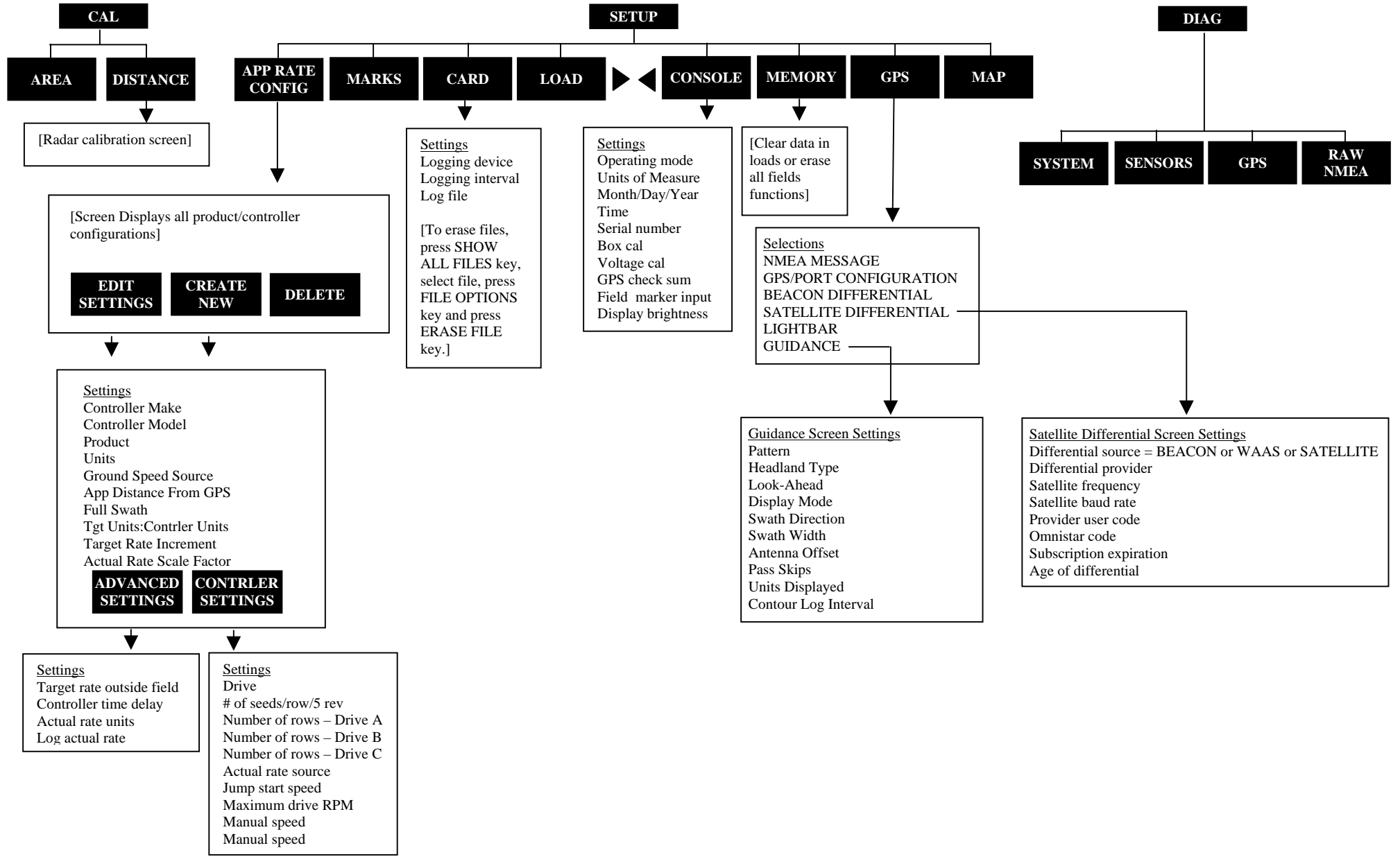
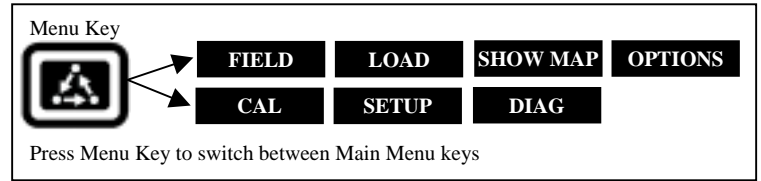


**PF Advantage / PF3000 Pro – Application Rate Mode - Menu Tree for Direct Drive of Rawson Accu-Rate on a planter – March 2002**



# PF3000 Pro – Application Rate Mode - Menu Tree for Direct Drive of Rawson Accu-Rate on a planter – March 2002



## PF3000 Pro – Quick Reference Setup Instructions for Direct Drive of Accu-Rate drive on a planter – March 2002

**CAUTION: When hydraulics are turned on to the hydraulic drive, the planter is ready to run. KEEP CLEAR OF MOVING PARTS!**

**MANDATORY:** You must install and use a planter monitor. It will inform you of plugged rows or rows not planting.

### Settings for Direct Control of Rawson Accu-Rate drive for planting

1.	<p>Press SETUP key. Press APP RATE CONFIG key. Press CREATE NEW key. Set the following:  <b>Controller Make:</b> Set to <i>DIRECT</i>.  <b>Controller Model:</b> Set to <i>RAWS PLANT</i>.  <b>Product:</b> Press EDIT key. You can select an existing product and press ACCEPT key or create a new product by pressing CREATE NEW key. Press EDIT NAME key and enter name of hybrid or variety. Use Left or Right Arrow keys to select a character. Use Up or Down Arrow key to change the character. Set each character and press ACCEPT key twice.  <b>Units:</b> Set to <i>SEEDS</i>. This is the Units/Acre of application.  <b>Ground Speed Sensor:</b> Set to <i>RADAR</i>. GPS is not recommended.  <b>App Distance From GPS:</b> Set to distance between planter toolbar and position of GPS antenna on tractor. Example: If toolbar is 20 feet behind GPS antenna set to 20 ft back.  <b>Full Swath:</b> Set to full swath of planter (# of rows x Row Spacing in feet). Example: 12 row planter, 30 inch row spacing. 12x2.5ft=30 ft  <b>Tgt Units: Contrler Units:</b> Set to <i>1:1.0000</i>. This ratio is used to convert the units in a target file (.tgt) to the units of application. If your planting target file is in seeds/ac set this number to 1:1.0000.  <b>Target Rate Increment:</b> Set to <i>500.0</i> or <i>1000.0</i>. This determines the increment value by which you can change the manual target rate with each press of Up or Down arrow keys.  <b>Actual Rate Scale Factor:</b> Set to <i>1.000</i>.</p>
2.	<p>Press CONTRLER SETTINGS key. Set the following:  <b>Drive:</b> If you have a single drive system set to <i>DRIVE A</i>.                    If you have a dual drive system set to <i>DRIVE AB</i>.                    If you have a three drive system, set to <i>DRIVE ABC</i>.  <b># of seeds/row/5 rev:</b>          1) Fill seed hopper with appropriate amount of seed.          2) Place container under hopper to catch seeds.          3) Press CAL DRIVE key and press START key. (Use caution, planter will run for 5 turns of the hydraulic drive).          4) Count seeds and rerun drive to find a true average value. Might need to ignore initial runs because hopper dispensing unit is not fully primed.          5) Press EXIT key and enter the correct value for this setting.</p>

	<p><b>Number of rows – Drive A:</b> Set to number of rows controlled by Drive A.  <b>Number of rows – Drive B:</b> Set to number of rows controlled by Drive B.  <b>Number of rows – Drive C:</b> Set to number of rows controlled by Drive C.  <b>Actual Rate Source:</b> Normally set to <i>DRIVE RPM</i>. Set to <i>SEED MANGR</i> if want to get the rate from a Seed Manager or Vanguard planter monitor.  <b>Jump start speed:</b> Set to 2 mph  <b>Maximum drive RPM:</b> Set to <i>300</i> rpm unless otherwise advised. The Pro will not let the drive rpm get above this setting. A message “SLOW DOWN!!” will be displayed every time the maximum rpm is reached.  <b>Manual speed:</b> Set this to your average speed if you are using manual speed in place of your radar gun.  <b>Manual speed:</b> Normally this should be set to <i>OFF</i>. The only reason to set this to <i>ON</i> is if you can not get ground speed from your radar gun or you want to run the drive in a stationary position.</p>
3	<p>Press EXIT key to return to screen with <b>ADVANCED SETTINGS</b> key. Press the <b>ADVANCED SETTINGS</b> key.  <b>Target Rate Outside Field:</b> This only pertains to using a target file.            Set to <i>ZERO</i> if want rate outside field to be zero.            Set to <i>USE LAST</i> if want rate to be the last rate used at the time the vehicle is detected outside the field. This is useful when experiencing problems with the vehicle being falsely detected outside of the field during the outside pass.            Set to <i>TGT DEFAULT</i> if want rate outside field to be the default rate stored in the target rate file.  <b>Controller Time Delay:</b> Set to <i>3</i> seconds.  <b>Actual Rate Units:</b> Set to <i>SEEDS</i>.  <b>Log Actual Rate:</b> Set to <i>YES</i> to log actual rate to card. Set to <i>NO</i>, otherwise.</p>
4	<p>Exit back to main screen.          a) Press <b>FIELD</b> key twice.          b) Select appropriate field and press <b>VIEW CONFIG</b> key.          c) Select appropriate product/controller configuration and press <b>ACTIVE ON/OFF</b> key to check it as active. (All other configs must be unchecked first).          d) If you will be using a target file, press <b>EDIT TGT FILE</b> key, otherwise press <b>EXIT</b> key and skip to step f.          e) Select target file. Press <b>VIEW INFO</b> key to ensure it is the correct one. After exiting the view info screen, press <b>ACCEPT</b> key. Press <b>EXIT</b> key.          f) Press <b>ACCEPT</b> key to accept field.</p>

## PF3000 Pro – Quick Reference Setup Instructions for Direct Drive of Accu-Rate drive on a planter – March 2002

5	<p>Press CAL key. Press DISTANCE key.</p> <p>a) Select <i>RADAR</i> and press ENTER DISTANCE key.</p> <p>b) Pick a good place to travel back and forth in a straight line. Measure and mark off a travel distance. A path of at least 200 feet is suggested.</p> <p>c) Select line displaying “Actual Distance” and set the distance equal to the measured distance. (To select line, press key to right of line).</p> <p>d) Position vehicle at the beginning of the path.</p> <p>e) Press CLEAR DISTANCE key if “Measured Distance” is greater than zero.</p> <p>f) Press START TRAVEL key and drive vehicle until you reach the end of the path. Stop it at the end of the path.</p> <p>g) Press STOP TRAVEL key. Press PERFORM CAL key.</p> <p>h) Repeat steps d-g to verify the accuracy of the calibration.</p> <p>i) Press EXIT key to return to main screen.</p>
---	--

### *Setting the Target Rate*

1	<p>The display item “Target Rate” must be displayed on the main screen to set the rate.</p> <p>Arrow symbols on the line displaying target rate indicate that this display item is selected for changing. Press the key to the right of the line displaying target rate if you do not see these arrows. Press it again to deselect the line (remove the box) but keep the arrow symbols.</p>
2	<p>You can either set a manual rate or use a target file to automatically control the rate based on the vehicle position in the field.</p> <p><u>Setting a manual rate</u></p> <p>a) Press Right Arrow key to highlight “man” (“m” if viewing on screen map).</p> <p>b) Use the Up or Down Arrow keys to set the manual rate.</p> <p>c) If you want to change how much the rate changes with each arrow press refer to step 1 on other side of sheet and edit the “Target Rate Increment” setting.</p> <p><u>Using a target file and setting an automatic rate</u></p> <p>a) Press Left Arrow key to highlight “auto” (“a” if viewing on screen map).</p> <p>b) You must have a target file (.tgt) selected for the field, otherwise the rate will always be zero. Refer to step 4 on other side on how to set the Target File.</p> <p>You can switch between auto and man whenever you are on the main screen and Target Rate is selected for changing.</p>

### *Selecting display items*

You can display four different items on the main operating screen. To change what is displayed, press the key to the right of the line you want to change. Scroll through the list of display items shown on the bottom by pressing the bottom left and right arrow keys. Press the key on the bottom to pick which display item you want.

Useful display items (more available than listed here)

**Target Rate** (required)

**Actual Rate** – based on RPM of drive

**Ground Speed**

**Drive Status** – displays when drive is on or off

**Drive RPM**

**Total Units**

### *Turning Drive(s) On/Off*

**Use the external on/off toggle switch (provided by Rawson) to turn the drive(s) on or off.** Rawson does offer an optional Whisker Switch (Part Number: 300779) for installing on the implement. When the drive is on, the green light on the switch located on the lower right of the front panel of the Pro will be on. When the drive is off, the red light will be on.

#### Dual Drive system

A special dual drive selector switch provided by Rawson will come wired in with the master on/off toggle switch if you have a dual drive system. The Pro uses this switch to turn Drive A or B off independently or keep them both on (as long as master on/off switch is on). The Pro also automatically adjusts the swath based on which drives are on for accurate area counting.

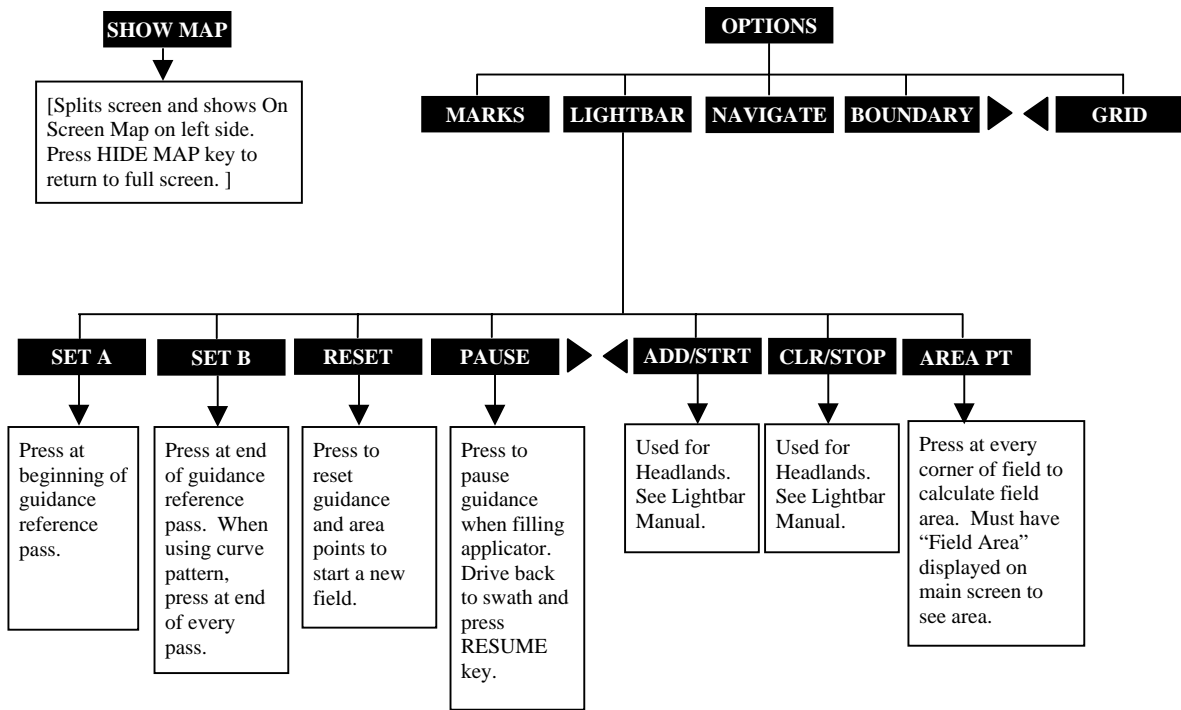
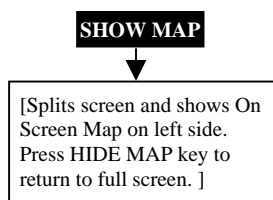
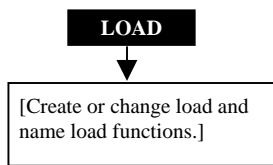
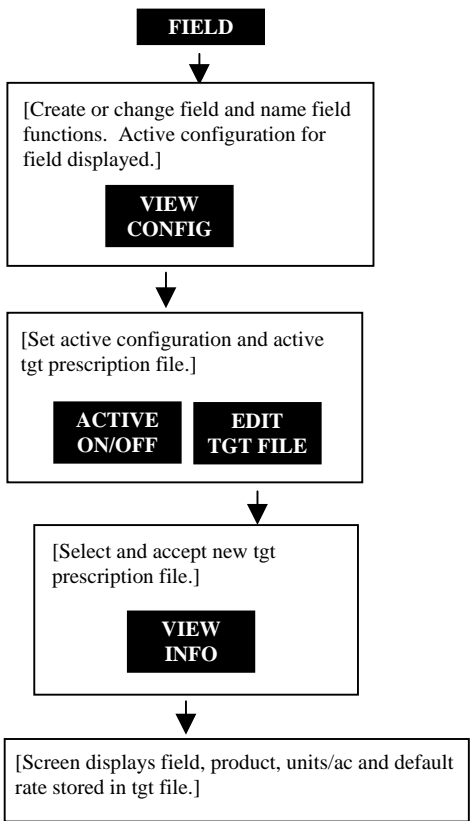
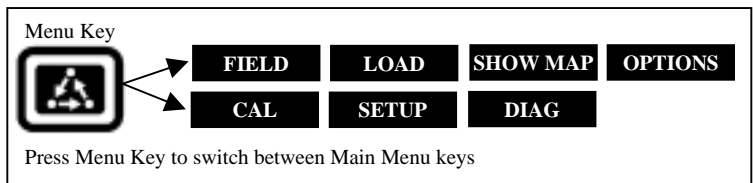
#### Three Drive system

A special three drive switch console provided by Rawson comes with your three drive system. This console works in conjunction with the master on/off switch. The Pro automatically adjusts its swath based on which drives are on.

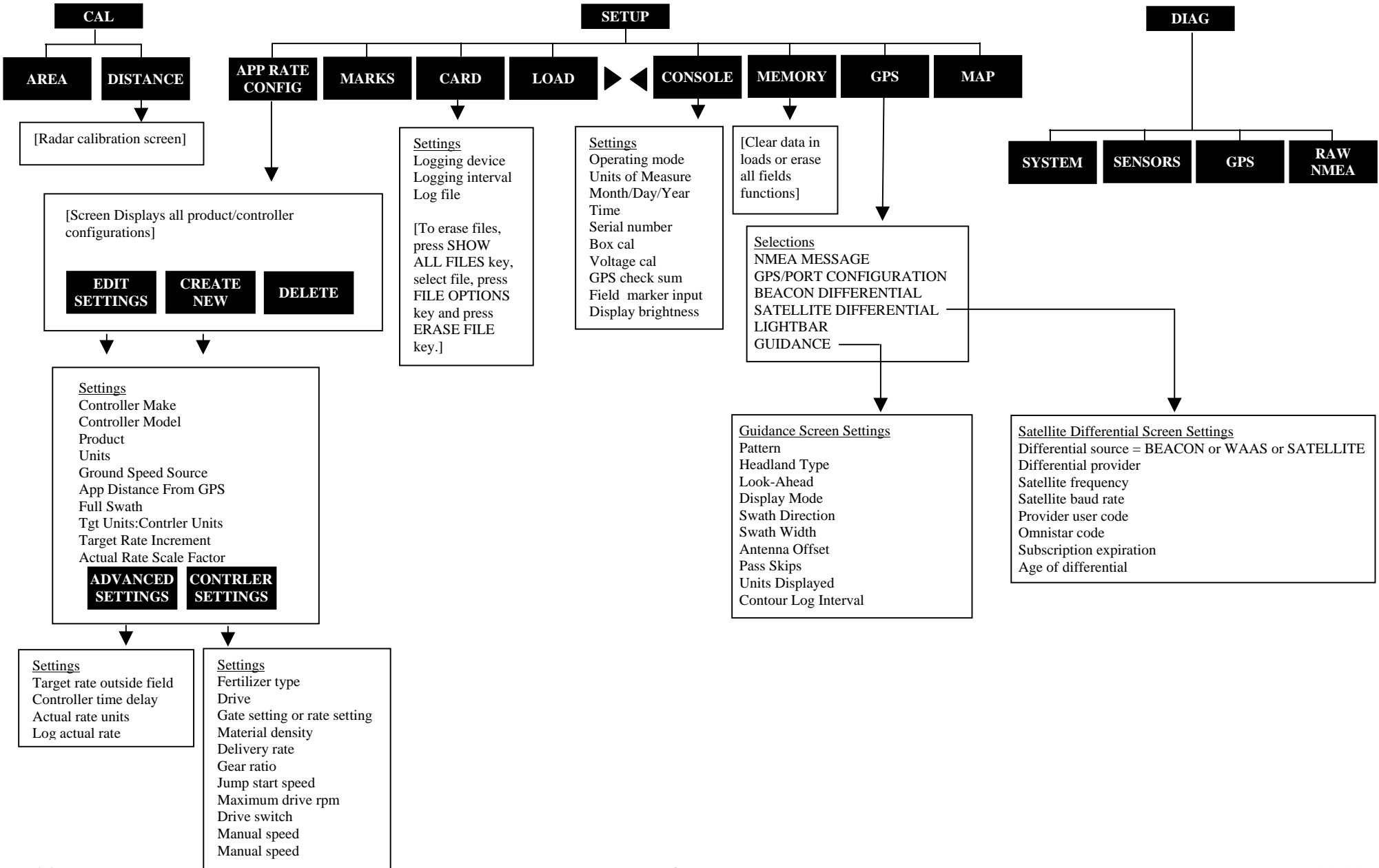
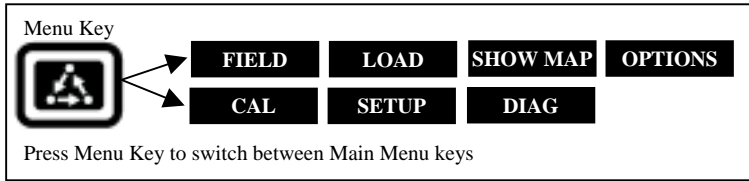
#### Using jump start speed

When you start planting from a stationary position, you should push and hold the master on/off toggle switch in the fully on or forward position. The Pro will set the ground speed equal to the jump start speed set in step 2 (see other side) until the speed from the radar gun gets above the jump start speed. You will only have to hold the switch down for a short time. Using jump start speed prevents skips when starting from a stand still.

PF3000 Pro – Application Rate Mode - Menu Tree for Direct Drive of Rawson Accu-Rate on a fertilizer applicator – March 2002



PF3000 Pro – Application Rate Mode - Menu Tree for Direct Drive of Rawson Accu-Rate on a fertilizer applicator – March 2002



# PF3000 Pro – Quick Reference Setup Instructions for Direct Drive of Accu-Rate drive on a fertilizer applicator – March 2002

**CAUTION: When hydraulics are turned on to the hydraulic drive, the applicator is ready to run. KEEP CLEAR OF MOVING PARTS!**

## Settings for Direct Control of Rawson Accu-Rate drive for fertilizing

1. Press SETUP key. Press APP RATE CONFIG key. Press CREATE NEW key. Set the following:  
**Controller Make:** Set to *DIRECT*.  
**Controller Model:** Set to *RAWS FERT*.  
**Product:** Press EDIT key. You can select an existing product and press ACCEPT key or create a new product by pressing CREATE NEW key. Press EDIT NAME key and enter name of product. Use Left or Right Arrow keys to select a character. Use Up or Down Arrow key to change the character. Set each character and press ACCEPT key twice.  
**Units:** Set to the Units/Acre of application.  
**Ground Speed Sensor:** Set to *RADAR* or *GPS*.  
**App Distance From GPS:** Set to distance between where product exits applicator and position of GPS antenna on vehicle. Example: If fan or spinner on fertilizer buggy is 20 feet behind GPS antenna set to 20 ft back.  
**Full Swath:** Set to full swath of applicator in feet.  
**Tgt Units: Contrler Units:** Normally this is set to *1:1.0000* and only pertains to using a target file. This ratio is used to convert the units in a target file (.tgt) to the units of application. Example: If your lime target file is in lbs/ac and you apply based on tons/ac your ratio will be 1:0.0005.  
**Target Rate Increment:** This determines the increment value by which you can change the manual target rate with each press of Up or Down arrow keys.

**Actual Rate Scale Factor:** Use chart below for setting.

Avg. Speed	Swath	Application Rate between	Scale Factor
0-25 mph	0-80 ft	0-10 units/ac	1.000
0-10 mph	0-80 ft	11-100 units/ac	1.000
11-15 mph	0-50 ft	11-100 units/ac	1.000
11-15 mph	51-80 ft	11-100 units/ac	0.100
16-25 mph	0-80 ft	11-100 units/ac	0.100
0-25 mph	0-80 ft	101-500 units/ac	0.100
0-10 mph	0-80 ft	501-1000 units/ac	0.100
11-15 mph	0-50 ft	501-1000 units/ac	0.100
11-15 mph	51-80 ft	501-1000 units/ac	0.010
16-25 mph	0-80 ft	501-1000 units/ac	0.010
0-25 mph	0-80 ft	1001+ units/ac	0.010

- When the data is mapped, the rate will be 1/10<sup>th</sup> of the real rate when the Actual Rate Scale Factor is 0.100. It will be 1/100<sup>th</sup> of the real rate when the Actual Rate Scale Facotr is 0.010. The rate actually applied and rate that appears on Pro is unaffected by this setting.
2. Press CONTRLER SETTINGS key. Set the following:  
**Fertilizer type:** Set to *DRY* or *LIQUID*.  
**Drive:** Set to *DRIVE A*.  
**Gate Setting (dry) or Rate Setting (liquid):** If applying dry product, enter the feed gate opening in inches. If applying liquid and using a John Blue piston pump enter the stroke setting (usually between 1-10).  
**Material density:** If applying dry product, enter the density of product in lbs/cubic feet. If applying liquid product, this number will be automatically set to 1.0 and it can not be changed.  
**Delivery rate:** If applying dry product, enter the cubic feet/rev per 1 inch of gate setting of applicator (not hydraulic drive). If applying liquid product and using a John Blue piston pump, enter the gal/rev per one stroke of pump.  
 If pump is model LM-2450, enter .0047.  
 If pump is model LM-4450, enter .0076.  
 If pump is model LM-4950, enter .0152.  
**Gear ratio:** Enter ratio of sprockets from applicator to hydraulic drive. See Rawson manual for selecting proper sprockets.  
**Jump start speed:** Set to 2 mph  
**Maximum drive RPM:** Set to 500 rpm unless otherwise advised. The Pro will not let the drive rpm get above this setting. A message “SLOW DOWN!!” will be displayed every time the maximum rpm is reached.  
**Drive Switch:** Set this to *EXTERNAL* to turn drive on/off using On/Off/Jump start switch or whisker switch from Rawson. Set to *INTERNAL* to shut drive on/off using switch on bottom right of Pro’s front panel.  
**Manual speed:** Set this to your average speed if you are using manual speed in place of your radar or GPS ground speed source.  
**Manual speed:** Normally this should be set to *OFF*. The only reason to set this to *ON* is if you can not get ground speed from your radar or GPS or you want to run the drive in a stationary position.

**PF3000 Pro – Quick Reference Setup Instructions for Direct Drive of Accu-Rate drive on a fertilizer applicator – March 2002**

3	<p>Press EXIT key to return to screen with ADVANCED SETTINGS key. Press ADVANCED SETTINGS key.</p> <p><b>Target Rate Outside Field:</b> This only pertains to using a target file.          Set to <i>ZERO</i> if want rate outside field to be zero.          Set to <i>USE LAST</i> if want rate to be the last rate used at the time the vehicle is detected outside the field. This is useful when experiencing problems with the vehicle being falsely detected outside of the field during the outside pass of the field.          Set to <i>TGT DEFAULT</i> if want rate outside field to be the default rate stored in the target rate file.</p> <p><b>Controller Time Delay:</b> Set to 3 seconds.  <b>Actual Rate Units:</b> Set to Units/ac of application.  <b>Log Actual Rate:</b> Set to <i>YES</i> to log actual rate to card. Set to <i>NO</i>, otherwise.</p>
4	<p>Exit back to main screen.</p> <p>a) Press FIELD key twice.          b) Select appropriate field and press VIEW CONFIG key.          c) Select appropriate product/controller configuration and press ACTIVE ON/OFF key to check it as active. (All other configs must be unchecked first).          d) If you will be using a target file, press EDIT TGT FILE key, otherwise press EXIT key and skip to step f.          e) Select target file. Press VIEW INFO key to ensure it is the correct one. After exiting the view info screen, press ACCEPT key. Press EXIT key.          f) Press ACCEPT key to accept field.</p>
5	<p>Press CAL key. Press DISTANCE key.</p> <p>a) Select <i>RADAR</i> and press ENTER DISTANCE key.          b) Pick a good place to travel back and forth in a straight line. Measure and mark off a travel distance. A path of at least 200 feet is suggested.          c) Select line displaying “Actual Distance” and set the distance equal to the measured distance. (To select line, press key to right of line).          d) Position vehicle at the beginning of the path.          e) Press CLEAR DISTANCE key if “Measured Distance” is greater than zero.          f) Press START TRAVEL key and drive vehicle until you reach the end of the path. Stop it at the end of the path.          g) Press STOP TRAVEL key. Press PERFORM CAL key.          h) Repeat steps d-g to verify the accuracy of the calibration.          i) Press EXIT key to return to main screen.</p>

<i>Setting the Target Rate</i>	
1	<p>The display item “Target Rate” must be displayed on the main screen to set the rate.            Arrow symbols on the line displaying target rate indicate that this display item is selected for changing. Press the key to the right of the line displaying target rate if you do not see these arrows. Press it again to deselect the line (remove the box) but keep the arrow symbols.</p>
2	<p>You can either set a manual rate or use a target file to automatically control the rate based on the vehicle position in the field.</p> <p><u>Setting a manual rate</u></p> <p>a) Press Right Arrow key to select “man” (“m” if viewing map).            b) Use the Up or Down Arrow keys to set the manual rate.            c) If you want to change how much the rate changes with each arrow press refer to step 1 on other side of sheet and edit the “Target Rate Increment” setting.</p> <p><u>Using a target file and setting an automatic rate</u></p> <p>a) Press Left Arrow key to highlight “auto” (“a” if viewing map).            b) You must have a target file (.tgt) selected for the field, otherwise the rate will always be zero. Refer to step 4 on other side on how to set the Target File.</p> <p>You can switch between auto and man whenever you are on the main screen and Target Rate is selected for changing.</p>

<i>Selecting display items</i>	
<p>You can display four different items on the main operating screen. To change what is displayed, press the key to the right of the line you want to change. Scroll through the list of display items shown on the bottom by pressing the <u>bottom</u> left and right arrow keys. Press the key on the bottom to pick which display item you want.</p>	
<p><u>Useful display items (more available than listed here)</u></p> <p><b>Target Rate</b> (required)  <b>Actual Rate</b> – based on RPM of drive  <b>Ground Speed</b>  <b>Drive Status</b> – displays when drive is on or off  <b>Drive RPM</b>  <b>Total Units</b>  <b>Tgt File Rate</b> – Shows rate from target file. This will be different from rate shown Target Rate display item if Tgt Units:Contrler Units ratio is not 1:1.0000.</p>	

*Turning Drive On/Off*

**Use the external on/off toggle switch (provided by Rawson) to turn the drive on or off.** Rawson does offer an optional Whisker Switch (Part Number: 300779) for installing on the implement. When the drive is on, the green light on the switch located on the lower right of the front panel of the Pro will be on. When the drive is off, the red light will be on.

Using jump start speed

When you start applying from a stationary position, you should push and hold the master on/off toggle switch in the fully on or forward position. The Pro will set the ground speed equal to the jump start speed set in step 2 (see other side of sheet) until the speed from the radar gun or GPS gets above the jump start speed. You will only have to hold the switch down for a short time.