APPENDIX POTATO PLANTER

SCS 662 063-0171-804 SCS 750 063-0171-687

ATTENTION: ZERO SPEED SHUT OFF CHANGE

The time has changed from 10 seconds to 20 seconds for the operator to get above 0.8 MPH. **CAUTION:** Shut MASTER switch and hydraulic pump off when exiting the vehicle. For detailed description, see Zero Speed Shut Off in New Features.

NEW FEATURES

1. SELECTING VALVE TYPE

Pulse Width Modulated (PWM) valve has been added to the valve selection. If PWM is needed, it can be selected when initially programming the console by

momentarily depressing (to step through:

C-Sd (Standard Valve) C-F (Fast Valve) C-FC (Fast Close Valve) C-P (PWM Valve)

When **C-P** (PWM Valve) is in the data display, momentarily depress to select PWM valve. The initial control valve calibration number is 43 for **C-P**.

2. ADJUSTING PWM VALVE

After the console is calibrated, the PWM valve can be adjusted. Under the DATA MENU, there are three items to adjust for the PWM valve.

PWM	FREQUENCY	122	The	operating	frequency	of	the	valve	recommended	by	the
			mar	nufacture.(Default 12	22 F	Iz)				

Low PWM Offset keeps the low end of the valve in the active area. (Default 1)

High PWM Offset keeps the high end of the valve in the active area. (Default 253)

3. SETTING LOW OFFSET

- a. Place the flow control switch to MAN and boom switch to ON.
- **b.** Hold INC/DEC switch to INC until system starts to run.
- c. Hold INC/DEC switch to DEC until system stops running.
- d. Increase the number in Low PWM Offset by 10.
- e. Repeat steps b, c and d until system will not stop running when holding INC/DEC, switch to DEC.
- f. Decrease the number in Low PWM Offset by 10.
- g. Hold INC/DEC switch to DEC.
- h. Repeat steps **f** and **g** until system stops running.
- i. Decrease the number in Low PWM Offset by 10. Low Offset is now set.

4. SETTING HIGH OFFSET

- a. Place the flow control switch to MAN and boom switch to ON.
- **b.** Hold INC/DEC switch to INC until desired maximum RPM of system is reached.
- c. Hold INC/DEC switch to DEC until RPM of system starts to slow down.
- d. Decrease the number in High PWM Offset by 10.
- e. Repeat steps b, c, and d until desired maximum RPM cannot be reached when holding INC/DEC switch to INC.
- f. Increase the number in High PWM Offset by 10.
- g. Hold INC/DEC switch to INC.
- h. Repeat steps **f** and **g** until maximum RPM is reached.
- i. Increase the number in High PWM Offset by 10. High Offset is now set.

5. SEED MONITOR

To activate the seed monitor feature, there are two items under DATA MENU to adjust.

PLANTER ROW The number of rows of the planter. (Default 0) (Max 12) **SEED GAP ALARM DELAY** This sets the alarm delay. (Default 16)

With the system running and no seeds are passing through the sensor, an audible alarm will sound and the rate display will show the fault row. The rate display will alternate between ROW and the number of the fault row. To change the alarm time delay between seeds falling through the sensor, adjust the number in **SEED GAP ALARM DELAY**. **SEED GAP ALARM DELAY** can be set from 0 to 255 (0 to 30 seconds). Each step is 0.128 seconds.

6. OFF RATE PERCENT

Used to set the percent of off target value. Alarm sounds when the actual rate is off from the target rate by a specified percent. The off target value is preset to 30%, but may be changed to a different number.

- a) Display will show OFF RATE PERCENT 30. Press ENTER.
- b) Display will show OFF RATE PERCENT E. Enter new off rate percent and press ENTER.
- c) Momentarily depress up arrow to advance to PRESET PWM OFFSET.

7. PRESET PWM OFFSET

Preset of how far the hydraulic valve will open when the master is turn on. Choose offset number between 1 and 255 depending on desired output when master is turn on.

8. ZERO SPEED SHUT OFF

The control valve will go to full closed if the console is in automatic control and the speed drops below 0.8 MPH when Fast Close Valve (C-FC) or PWM Valve (C-P) is used. Once the valve closed, the booms or master must be turned OFF and back ON again. The operator then has 20 seconds to get above 0.8 MPH. Otherwise, the control valve will go to full closed.

CALCULATING METER CAL FOR HARRISTON PLANTER

INFORMATION REQUIRED:

1) Number of pulses from the encoder per revolution of pick wheel.

- 2) Number of planter pick arms per planter wheel.
- 3) Number of rows.

Encoder 063-0171-071 has 180 pulses per revolution.

One revolution of the pick wheel turns encoder shaft 3.345 revolutions.

NOTE: Encoder is mounted on the counter shaft that is geared 3.345 to 1 in relation to the pick wheel.

Meter Cal = <u>number of pulses from encoder per 1 rev. of planter pick wheel x 10</u> number of planter pick arms per pick wheel x number of rows

Multiply the result of the above calculation by 100 for rate per 100 plants.

Example: METER CAL FOR A 4 ROW PLANTER with 24 pick arms per wheel. One revolution of the pick wheel turns encoder shaft 3.345 revolutions.

Meter Cal = $180 \times 3.345 / 24 \times 4 = 6.272 \times 10 = 62.72$ Meter Cal = $62.72 \times 100 = 6272$ (rate in hundreds of plants).

METER CAL FOR A 6 ROW PLANTER with 24 pick arms per wheel.

Meter Cal = $180 \times 3.345 / 24 \times 6 = 4.181 \times 10 = 41.81$ Meter Cal = $41.81 \times 100 = 4181$ (rate in hundreds of plants).

METER CAL FOR A 8 ROW PLANTER with 24 pick arms per wheel.

Meter Cal = $180 \times 3.345 / 24 \times 8 = 3.136 \times 10 = 31.36$ Meter Cal = $31.36 \times 100 = 3136$ (rate in hundreds of plants).

CALCULATING RATE CAL FOR HARRISTON PLANTER

Rate Cal = <u>plant spacing x row spacing</u> = sq.ft. per plant 144

Plants per Acre = 43560 / sq.ft. per plant.

Rate cal must be divided by the same factor as the Meter Cal is based on

Example: plant spacing 5" and plant row spacing 36"

Rate cal = 5 x 36 / 144 = 1.25 plants per acre = 43560/1.25 = 34848 100 plants per acre = 34848/100 = 348.48

The chart below shows the rate cal for different plant spacings at 36" inch row

Plant Spacing	Rate in 100rds of plants per acre
5"	348.5
6"	290.4
7"	248.9
8"	217.8
9"	193.6
10"	174.2
11"	158.4
12"	145.2
13"	134.0
14"	124.4
15"	116.2
16"	108.9
17"	102.5
18"	96.8
19"	91.7
20 "	87.1
21"	82.9
22"	79.2