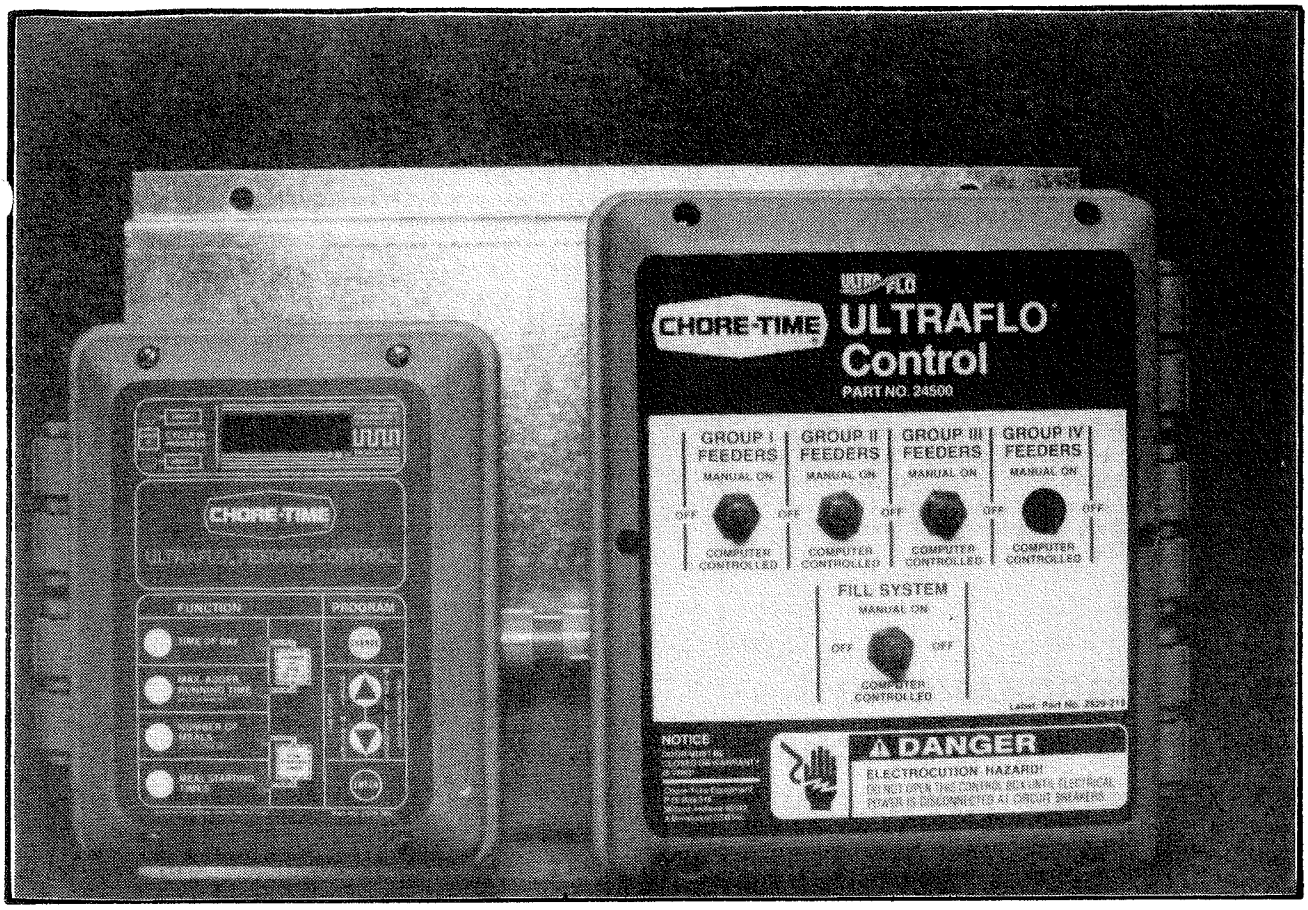


24500 ULTRAFLO CONTROL
&
ULTRAFLO CAGE FEEDING SYSTEM
OPERATOR'S MANUAL

INCLUDING :

- CONTROL INSTALLATION
- SYSTEM WIRING DIAGRAMS
- SYSTEM OPERATING GUIDELINES

24500 ULTRAFLO CONTROL INSTALLATION and ULTRAFLO CAGE FEEDING SYSTEM OPERATOR'S MANUAL

MC739B12-1287

Installation and Wiring

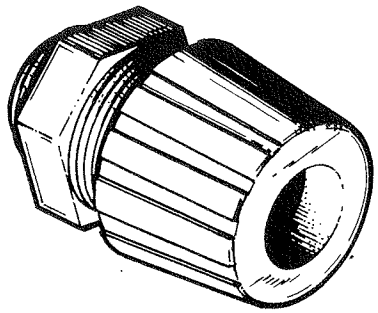
Use the lag screws provided to install the ULTRAFLO® Microprocessor-based Control Panel on a wall or partition where it can be conveniently wired to the feeding system, and where it can be easily programmed and used by the operator. CHORE-TIME recommends installation of the panel in an adjacent office or feed room rather than the room where the birds or animals are housed, to minimize dust and moisture in the control's environment.

Wire the ULTRAFLO Control Panel to the incoming power supply and the ULTRAFLO System power units. See the wiring diagrams in this manual. All wiring must meet local and national electrical codes and should be done by a qualified electrician. Use water-tight connectors (not supplied but available through CHORE-TIME) at the control panel.

READ ALL PROGRAMMING AND OPERATING INSTRUCTIONS CAREFULLY BEFORE OPERATING THE CONTROL PANEL

USE OF WATERTIGHT CONNECTORS AT THE CONTROL PANEL IS REQUIRED FOR WARRANTY PROTECTION. THESE CONNECTORS ARE NOT SUPPLIED AND SHOULD BE ORDERED SEPARATELY. THEY ARE AVAILABLE FROM CHORE-TIME PER THE PARTS INFORMATION SHOWN BELOW.

CONNECTOR	PART NO.
For 14/3,12/3,10/3 UF Wire with ground	8420
For 14/2,12/2,10/2 UF Wire with ground	8421



Controls and Displays

The ULTRAFLO Control Panel features complete, easy to read LED Displays which show the unit's programmed settings. Refer to **Figure 1** during the following explanation of the panel's functions.

Group I -This indicator light shows when the first group of feeders is activated.

Group II -This indicator light shows when the second group of feeders is activated. The second group will run immediately after the first group is finished feeding.

Group III -Both indicator lights show when the third group of feeders is activated. The third group will run immediately after the second group is finished feeding.

Functions

TIME OF DAY--This functions digitally; the 12 hour clock shows time in hours and minutes and is read on the LED Display. A p.m. light on the right side of the display will glow to indicate p.m. times. When the light is off, the clock is displaying a.m. times.

MAX. AUGER RUNNING TIME--This function controls the length of time the auger will run to fill the feed troughs. It can be set in one second increments from 0 to 30 minutes of running time.

NUMBER OF MEALS--This function controls the number of feedings per day. The number is programmable from 0 to 12 feedings per 24 hour period.

MEAL STARTING TIMES--This function will show the programmed hour of each feeding cycle.

NUMBER OF STIM.--This function controls the number of stimulation feeding cycles. Each stimulation cycle lasts 10 seconds. 0 to 10 cycles may be programmed per 24 hour period,

STIM. STARTING TIMES--This function will show the programmed hour of each stimulation cycle.

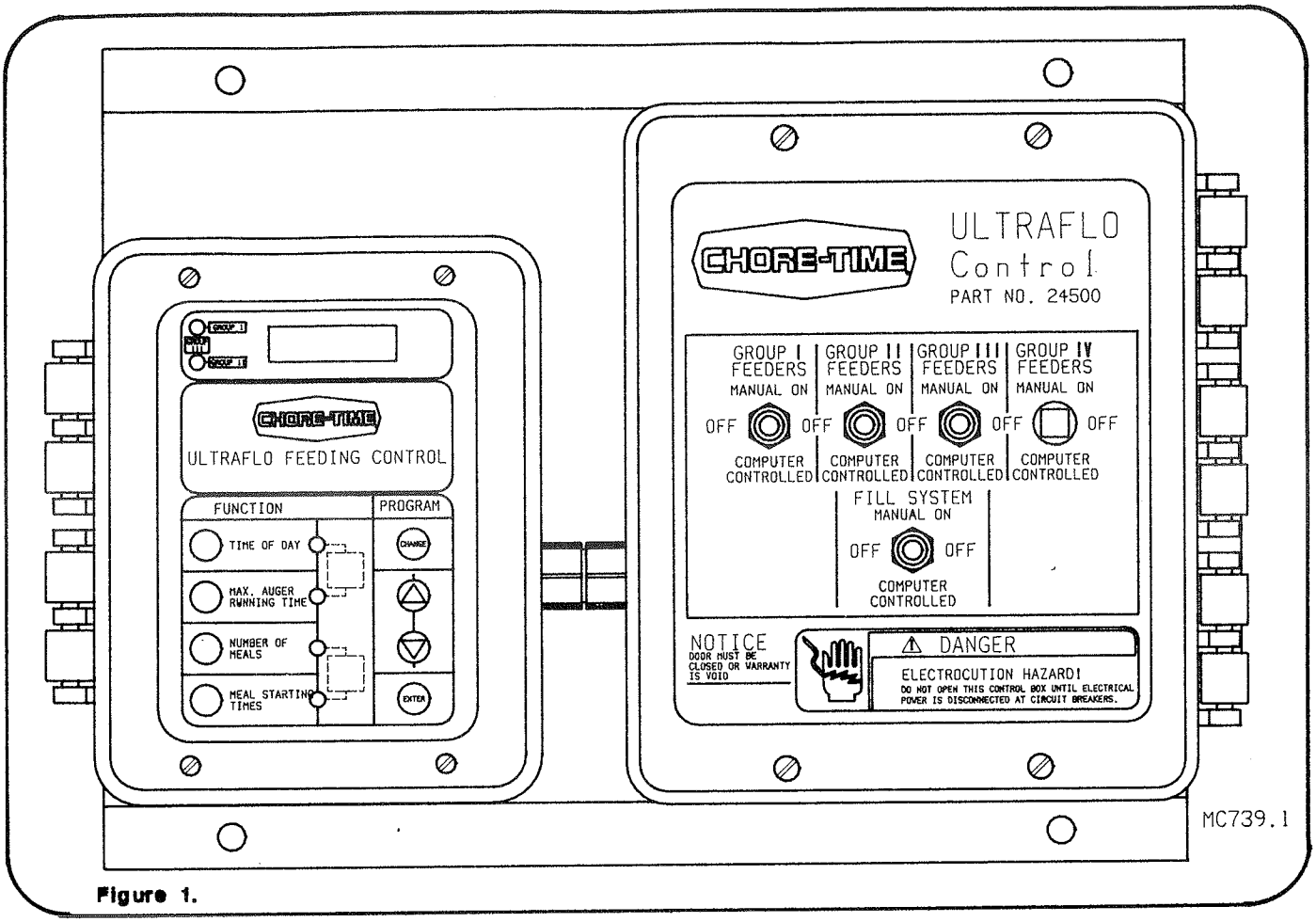


Figure 1.

Program Keys

Use the Program Keys in conjunction with the function keys and the LED display to enter information into the control panel for a specific feeding program.

CHANGE--Use the Change Key in conjunction with the function keys to program new information into the control panel. Information is subject to change ONLY when the display is flashing. To do this, push the desired function first and then push the change key.

TIME SET KEYS--The two Time Control Keys are used to change the LED display when programming new information. The upper key controls hours or counts up. The lower key controls minutes or counts down.

ENTER--When the display is properly programmed, push the Enter Key and hold it for a moment to enter the information into the control panel.

Manual Bypass Switches

These switches allow each group of feeders or the Fill System to either be automatically controlled by the computer, be turned off, or be turned on manually.

OFF

Any group of feeders or the Fill System may be turned off at any time by turning its switch to the "OFF" position.

COMPUTER CONTROLLED

For automatic operation as programmed with the program keys, all Manual Bypass Switches must be in the "COMPUTER CONTROLLED" position.

MANUAL

Each Group of Feeders may be run manually by turning that group's switch to the "MANUAL" position. Only run one group of feeders at a time manually. Switching a Group Feeder Switch to "Manual" will also cause the Fill system to run, unless the Fill Sytem Switch is turned to the "OFF" position.

The Fill System may be run manually by turning its switch to the "MANUAL ON" position. **DO NOT RUN THE FILL SYSTEM WITH FEED IN IT, UNLESS A GROUP OF FEEDERS IS ALSO RUNNING. OTHERWISE THE FILL LOOP WILL PLUG.**

Turning On and Resetting the Control

The ULTRAFLO Control has a battery backup that will "remember" the information that you program into it when the electric power is disrupted.

When first turning on the control, it should be reset. It can be reset by holding, the NUMBER OF STIM., the STIM.STARTING TIMES, and the ENTER buttons down all at the same time. Hold them all down until the display shows 8.00.

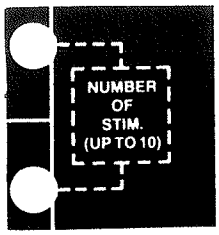
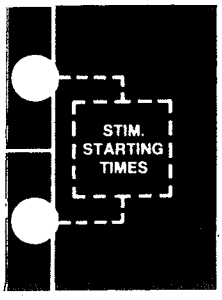
Programming the CHORE-TIME

Use the following step-by-step procedure to program the CHORE-TIME ULTRAFLO Control Panel. The programming procedure takes one **FUNCTION** at a time and leads you through the **STEPS** required to program the necessary information into that function. After each action taken, check the display to see that it shows what is shown in the DISPLAY column of the programmming procedure.

FUNCTION	STEP	DISPLAY
	1 Press TIME OF DAY key	Time of Day
	2 Press CHANGE key	Flashing Time
	3 Press ▲ key to set hours Press ▼ key to set minutes	
	4 Press ENTER key	Correct time NOTE: Red Dot lit on right side of display indicates P.M.
	1 Press MAXIMUM AUGER RUNNING TIME key	Maximum auger running time
	2 Press CHANGE key	Flashing Time
	3 Press ▲ key to set minutes Press ▼ key to set seconds	
	4 Press ENTER key	Correct Maximum auger running time
	1 Press NUMBER OF MEALS key	Number of meals
	2 Press CHANGE key	Flashing number
	3 Press ▲ key to set number of meals	
	4 Press ENTER key	Correct number of meals
	1 Press MEAL STARTING TIMES key	Alternate flashing of meal number and meal starting time
	2 Press ▲ key until 1 is on display	Alternate flashing of 1 and starting time for meal 1
	3 Press CHANGE key	Flashing Time
	4 Press ▲ key to set hours Press ▼ key to set minutes	
	5 Press ENTER key	Alternate flashing of 1 and correct starting time for 1
	6 Press ▲ key	Alternate flashing of 2 and starting time for meal 2
	7 Repeat steps 2-6 until preset NUMBER OF MEALS are programmed with correct meal starting times. NOTE: Any meal may be reprogrammed by going to that meal number and following steps 2-5.	

ULTRAFLO Feeding Control

It is easy to program the CHORE-TIME ULTRAFLO Control Panel. The control cannot be damaged by pushing the wrong button. Once a program has been entered into the control, the program will not be affected by pushing any of the buttons unless the **CHANGE** button has been pressed first. Even if you should accidently push the **Change** button and then push another button, only the information in the illuminated function will be changed. That function can be reprogrammed easily. So do not be afraid to try the different buttons to see what they do.

FUNCTION	STEP	DISPLAY
	1 Press NUMBER OF STIMULATION key	Number of stimulation cycles
	2 Press CHANGE key	Flashing number
	3 Press ▲ key to set number of stimulation cycles	
	4 Press ENTER key	Correct number of stimulation cycles
	1 Press STIM. STARTING TIME key	Alternate flashing of stimulation cycle number and starting time for cycle
	2 Press ▲ key until 1 is on display	Alternate flashing of 1 and starting time for stimulation cycle 1
	3 Press CHANGE key	Flashing Time
	4 Press ▲ key to set hours Press ▼ key to set minutes	
	5 Press ENTER key	Alternate flashing of 1 and correct starting time for 1
	6 Press ▲ key	Alternate flashing of 2 and starting time for stimulation cycle 2
	7 Repeat steps 2-6 until preset number of stimulation cycles are programmed with correct starting times. NOTE: Any stimulation cycle starting time may be reprogrammed by going to that stimulation cycle number and following steps 2-5.	

Reviewing the Program

To review your program, press the desired function key(press ▲ or ▼ to step through functions IV and VI). To return to TIME OF DAY function, press the TIME OF DAY key. Once programmed, all keys, except the CHANGE key, may be pressed without affecting your program.

Initial Start-up Procedure

Following this Start-up Procedure will prevent the Fill System from plugging with feed. It will also remove manufacturing greases and oils from the equipment.

1. Turn off electrical power to all feeder lines, the Fill Loop, and the Fill System. CLOSE THE INTERMEDIATE FILL DROP ON THE FILL LOOP.

2. Check all feeder lines for foreign objects in trough.

3. a. Open all Clean Out Assemblies on the feeder lines.
   b. Switch **Group** 1 Feeders to the **Manual On** position and allow the auger to make at least one complete loop.
   c. Switch Group 1 off.
   d. Repeat this step for all groups.

4. Close all Clean Out Assemblies.

5. a. Open the bin slide approximately three inches.
   b. Switch the Fill system to the **Manual On** position. Check to see that all motors are running and the system is bringing feed into the house.
   c. Run the Fill System only long enough to fill all of the drop tubes.
      CAUTION: The Fill System will jam if it is allowed to run after the drop tubes are all full and no feeder lines are running.
   d. Switch the incoming Feed Screener motor and the Fill System motors off.
   e. Run the Fill Loop for approximately 15 minute to clean the grease and oil off of it. Then turn Fill Loop motor(s) off.

6. a. Open the bin slide wide open.
   b. Switch Fill System and Feed Screener back on.
   c. Switch Group I feeders and the Fill System to the **Manual On** position.
   d. Run the feeders until the augers have completed one loop or the augers are approximately half full.
   e. Switch Group I off. Repeat these steps for the remaining groups of feeders.
   f. Switch Fill System off.

7. Switch all groups to the **Manual On** position. Run all of the groups of feeders for approximately one-half hour. This cleans off the oil on the troughs and augers.

8. a. Switch all groups to the **Manual Off** position.
   b. Open all Clean Out Assemblies.
   c. Switch all groups to the **Manual On** position. Run the feeder lines long enough to empty the oily feed.
   d. Switch all groups to the **Manual Off** position.
   e. Close all Clean Out Assemblies.

9. When it is time to house birds:

   LAYERS

   a. Switch the fill system to the **Manual On** position and fill all of the drop tubes.
   b. On the rows that will have birds that day, switch one group of feeders to the **Manual On** position. Allow the Auger to make one loop and then switch that group off.
   c. Repeat for each group of feeders with birds.

   PULLETS

   a. Close the slides on the drop tubes supplying feeder lines that will not have birds during the brooding cycle.
   b. Close the Intermediate Fill Assembly on the fill loop. It should remain closed until the birds are consuming enough feed that the Control Unit Fill Assembly cannot keep up.
   c. Follow the procedure for LAYERS above. At least four feeder lines must be taking feed away from the fill loop to prevent the fill loop from jamming.

10. Run the feeders and fill system manually for the first few days after the birds have been housed until the amount of feed they consume has stablized.

11. Program the ULTRAFLO Control following the procedure in this manual. Once it is programmed, switch only the groups that are to being used, and the Fill System, to the **Computer Controlled** position. ALL OTHER SWITCHES SHOULD REMAIN IN THE OFF POSITION.

Developing a Feeding Program

The CHORE-TIME ULTRAFLO Feeding System is designed to povide efficient, economical feeding for caged birds. Feeding times and the number of feeding cycles are dependant on many variables such as; flock supervisors, birds, density, seasons ,etc.. The following information and examples are offered only as guidelines to assist you in developing a feeding program that fits your conditions.

It is recommended that the feed level in the trough never be above the top of the auger. **See Figure 2.** During a feeding cycle, inspect the auger 10 to 20 feet down the line from the outgoing side of the intake cup to determine the feed level. Too high of a feed level causes feed wastage and uses excessive power.

Based on 40 lb/ft^3 feed density, there is approximately 1/2 pound of feed per foot of trough, when the feed level is as shown in **Figure 2a.** The birds should eat approximately 1/2 to 2/3 of the feed in the trough between feeding cycles.

The following examples show how to calculate the required number of feeding cycles per day. A feeding may need to be added or deleted from the examples due to the type of bird or season of the year, etc..

Stimulation Feedings may be incorporated into your feeding program, if there is several hours between regular feedings, or the birds are off feed because of hot weather or other reasons.

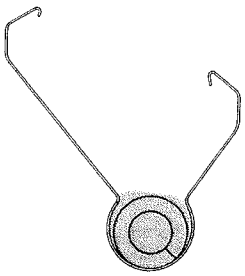


Figure 2.

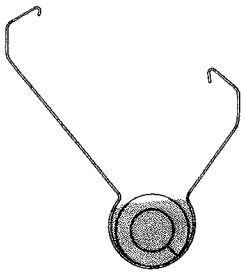


Figure 2a.

Layers

24" wide x 20 " deep cage with 9 birds per cage.

20 lbs. feed per hundred birds = 1.80 lbs. feed per cage = 3 feedings per day
22 lbs. feed per hundred birds = 1.97 lbs. feed per cage = 3 feedings per day.
24 lbs. feed per hundred birds = 2.16 lbs. feed per cage = 4 feedings per day.

24" wide x 20" deep cage with 10 birds per cage.

20 lbs. feed per hundred birds = 2.00 lbs. feed per cage = 3 feedings per day.
22 lbs. feed per hundred birds = 2.20 lbs. feed per cage = 4 feedings per day.
24 lbs. feed per hundred birds = 2.4 lbs. feed per cage = 4 feedings per day.

Pullets

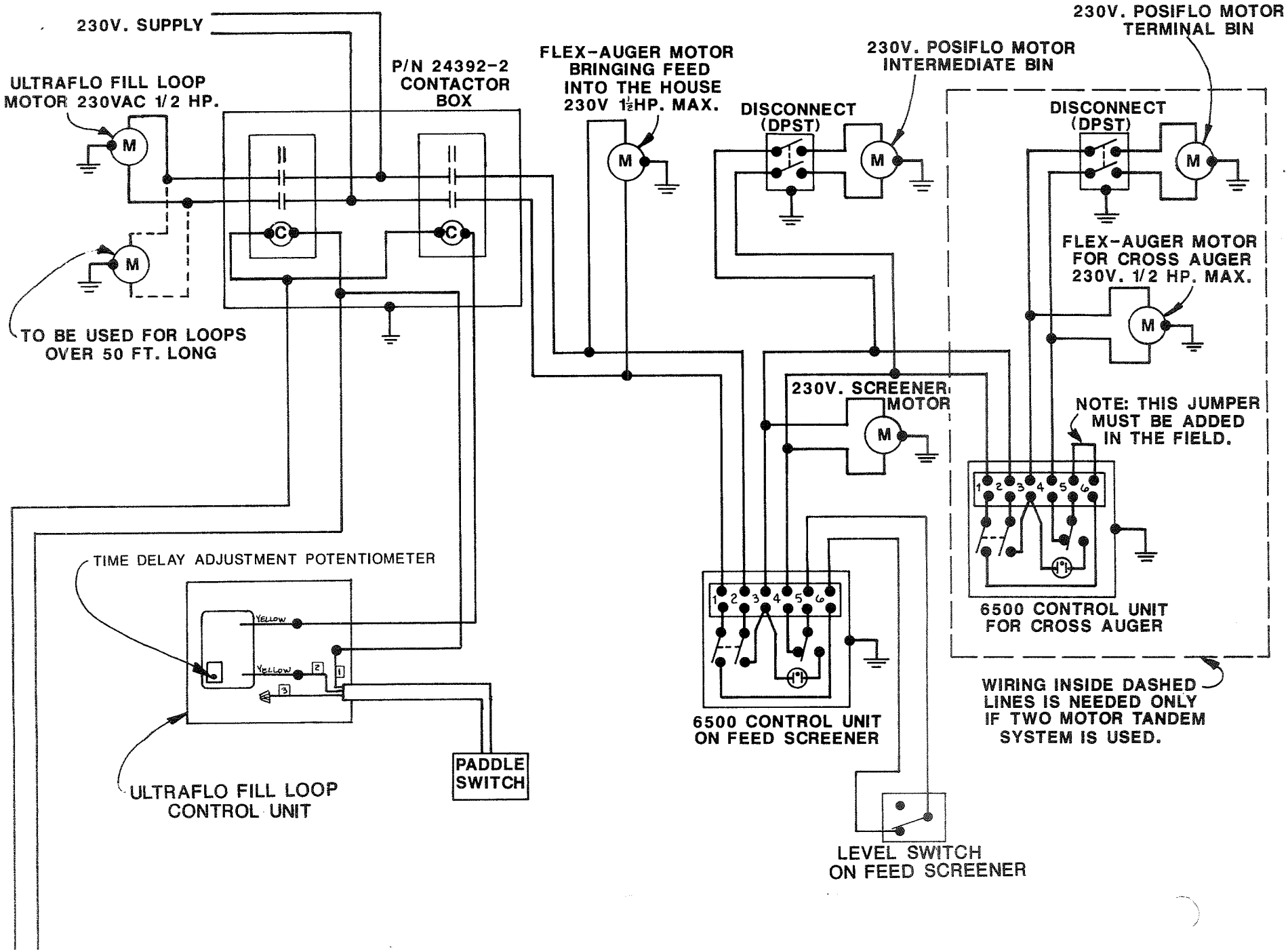
The ULTRAFLO feeding System is an excellent feeder for starting pullets. In most cases it is not necessary to top dress the trough for day old birds. If the feeder is run normally and feed is put on paper on the cage floor, the birds will find the feed in the trough.

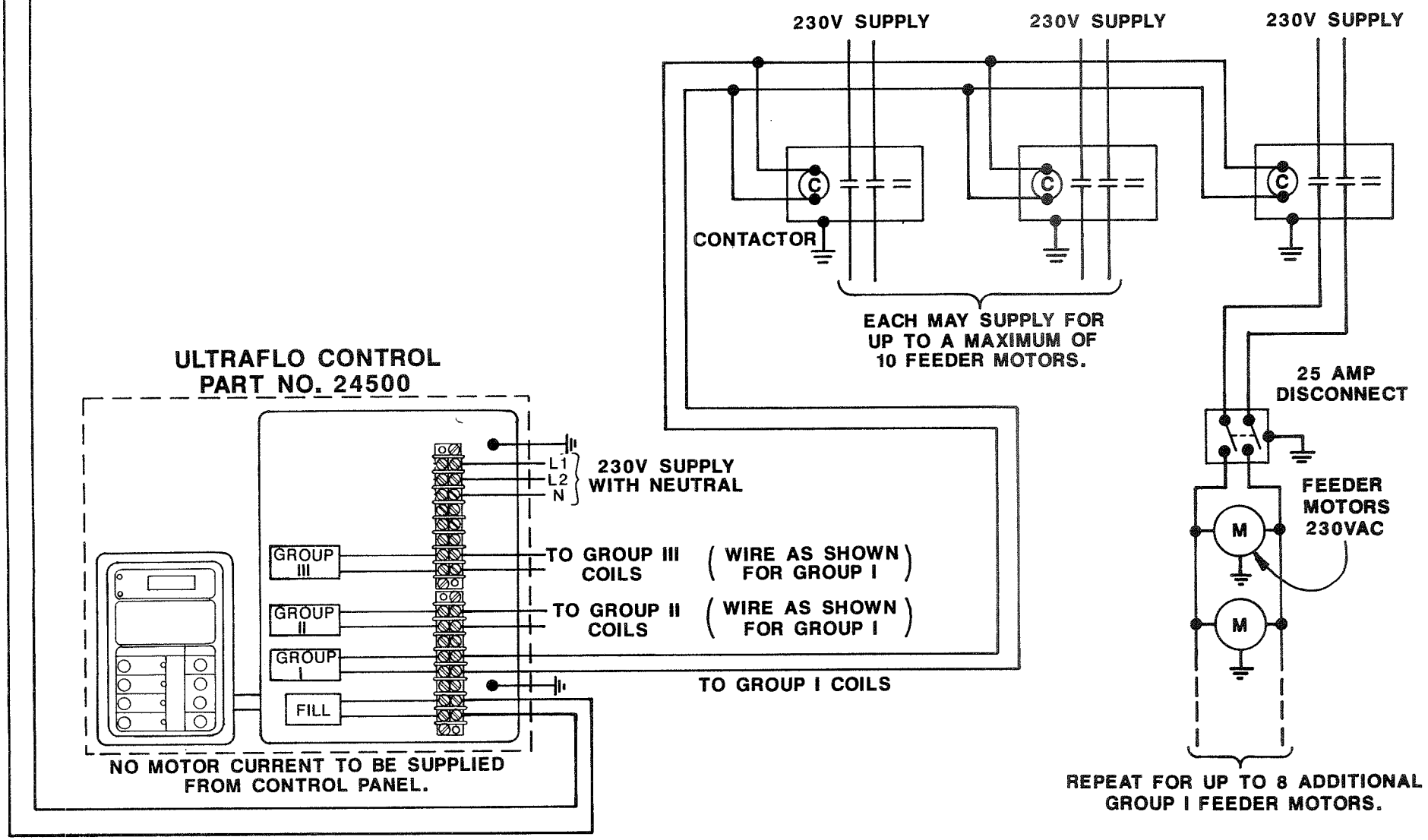
Day old to 2 weeks....Run the feeder manually.
2 weeks to 10 weeks...Run the feeder four times a day on automatic, utilizing stimulation cycles between meals as needed.
10 weeks onward.....Run feeder every 2 1/2 to 3 1/2 hours with stimulation cycles programmed between every feeding.

When establishing a feeding program :

1. There is no reason to run the feeder more than 10 seconds longer than the time required to make one complete loop.
2. Feed in the trough should cover no more than half of the auger at the beginning of a feeding cycle.
3. When moving birds, avoid running the feeder a full loop on a partially filled row of birds. Run the feeder only long enough to put feed in front of the the birds.
4. The fill system should only be run when feeder loops are running.

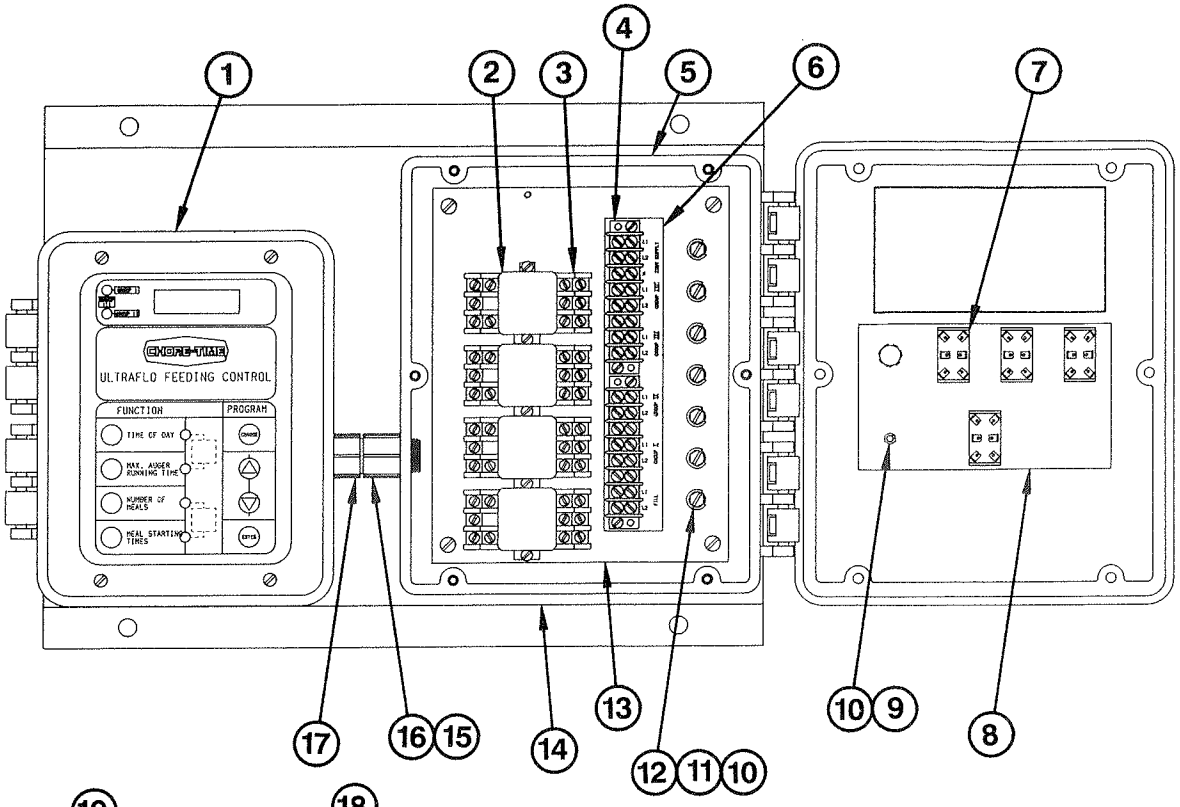
ULTRAFLO FEEDING SYSTEM WIRING DIAGRAM

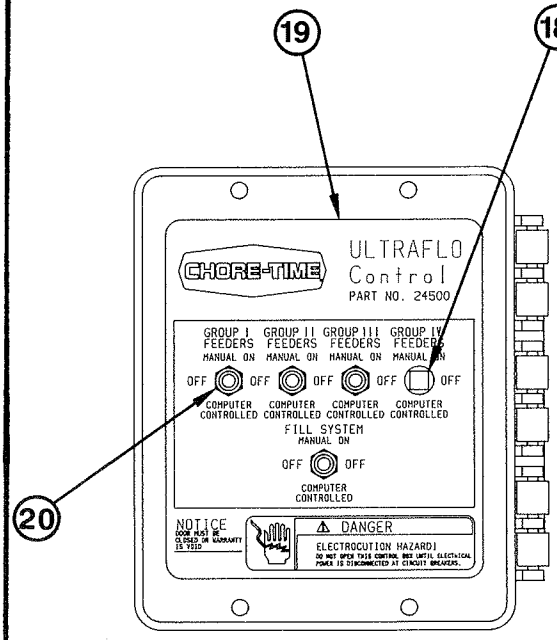




NOTES FOR WIRING DIAGRAM

1. GROUND ALL ELECTRICAL EQUIPMENT FOR SAFETY.
2. ALL WIRING SHOULD BE DONE BY A QUALIFIED ELECTRICIAN ACCORDING TO LOCAL AND NATIONAL ELECTRICAL CODES.
3. A TOGGLE SWITCH (NOT SUPPLIED) FOR THE POSIFLO FEED FLOW CONTROL SHOULD BE LOCATED NEAR THE UNIT TO DISCONNECT POWER FOR MAINTENANCE. THE SWITCH SHOULD BE MOUNTED IN A WATERPROOF BOX FOR SAFETY.





24500-1
ULTRAFLO CONTROL
PARTS LIST

Key	Description	Part No.
1	Microprocessor Time Clock	8308-5
2	Relay (3PDT)	6099
3	Relay Socket	20480
4	Terminal Block	7270
5	Box & Cover	24461
6	Terminal Bracket	24394
7	Toggle Switch	20135
8	Swtich Plate	24451
9	#10-32 Hex Nut	4297
10	#10 External Lockwasher	305
11	Cup Washer	5775
12	#10-32 Grounding Screw	4968
13	Back Mount Panel	24408
14	Base Plate	24459
15	Fitting Tube Ass'y	7833
16	PVC Cement	----
17	1/2" Conduit Fitting	7830
18	Pipe Plug	24458-1
19	Ultraflo Control Decal	2629-219
20	Toggle Switch Boot	1739

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REPLACEMENT PARTS.
Made to work.
Built to last.

Made to work.
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