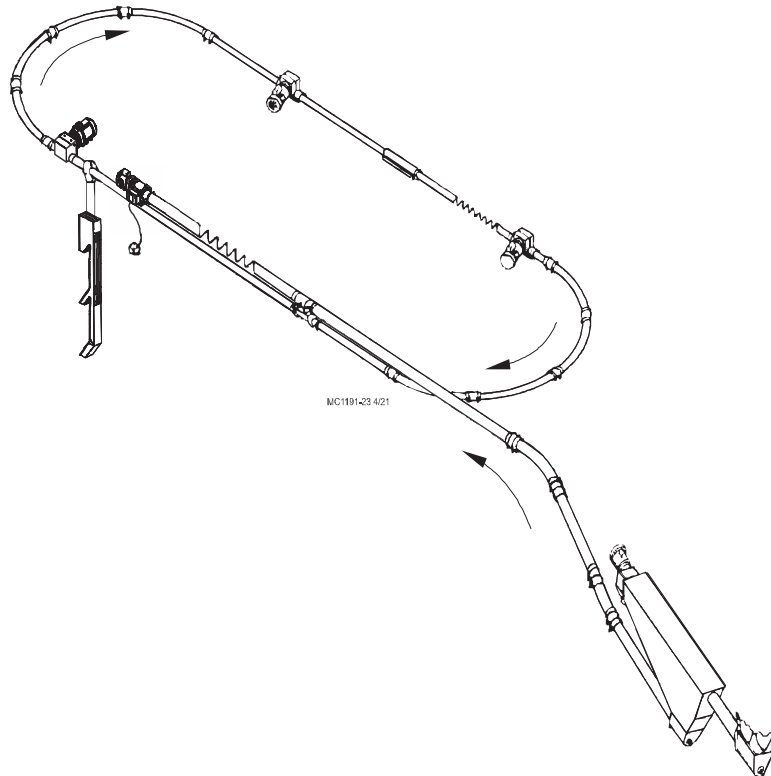




## ULTRAFLO® FILL LOOP Installation and Operators Instruction Manual



For additional parts and information, contact your nearest Chore-Time distributor or representative.  
Find your nearest distributor at: [www.choretime.com/contacts](http://www.choretime.com/contacts)

CTB, Inc.  
PO Box 2000  
Milford, Indiana 46542-2000 USA  
Phone (574) 658-4101 Fax (877) 730-8825  
Email: [choretime@choretime.com](mailto:choretime@choretime.com)  
Internet: [www.choretime.com](http://www.choretime.com)

# Contents

Topic	Page
<b>Safety and General Information</b> .....	<b>3</b>
Follow Safety Instructions .....	3
Decal Descriptions .....	3
DANGER: Moving Auger. ....	3
DANGER: Electrical Hazard .....	3
DANGER: Springing Auger. ....	3
<b>General Information</b> .....	<b>4</b>
Group Feeding .....	6
Feed Loop layout Examples .....	7
Installation of the ULTRAFLO Fill Loop .....	8
Intermediate Boot Installation .....	9
Straight Sections, Elbows, and Miscellaneous .....	10
Access Section Installation .....	10
Power Unit Installation .....	10
Fill Loop Auger Installation .....	11
Outlet Drop Installation .....	12
Feed delivery to Manifolds .....	13
<b>Wiring</b> .....	<b>15</b>
ULTRAFLO Fill Loop System Wiring (Single Phase, without Motor Starters) .....	15
ULTRAFLO Fill Loop System Wiring (Single Phase, with Motor Starters) .....	16
ULTRAFLO Fill Loop System Wiring (Three Phase, w/ Motor Starters) .....	17
<b>Parts Listing</b> .....	<b>18</b>
ULTRAFLO Fill Loop Parts List .....	18
Control Unit Assembly (46800-xx) .....	19
Intermediate Fill Kit (35007) .....	20
Fill Loop Power Unit & Driver Assembly .....	21
50 Hz. Part No.: 13232-50Hz .....	21
60 Hz. Part No.: 13232-60Hz .....	21
Access Section Parts List (48331) .....	22
Fill Loop Auger Welding Fixture (14311) .....	22

## Safety and General Information

**Caution, Warning and Danger Decals** have been placed on the equipment to warn of potentially dangerous situations. Care should be taken to keep this information intact and easy to read at all times. Replace missing or damaged safety decals immediately.

### Safety–Alert Symbol



**This is a safety–alert symbol.** When you see this symbol on your equipment, be alert to the potential for personal injury. This equipment is designed to be installed and operated as safely as possible...however, hazards do exist.

### Understanding Signal Words

**Signal words** are used in conjunction with the safety–alert symbol to identify the severity of the warning.



**DANGER** indicates an imminently hazardous situation which, if not avoided, **WILL** result in death or serious injury.



**WARNING** indicates a potentially hazardous situation which, if not avoided, **COULD** result in death or serious injury.



**CAUTION** indicates a hazardous situation which, if not avoided, **MAY** result in minor or moderate injury.

### Follow Safety Instructions

Carefully read all safety messages in this manual and on your equipment safety signs. Follow recommended precautions and safe operating practices.

Keep safety signs in good condition. Replace missing or damaged safety signs.

### Decal Descriptions

#### DANGER: Moving Auger

This decal is placed on the End Cap Weldment and Clean-out cover. Severe personal injury will result, if the electrical power is not disconnected, prior to servicing the equipment.



#### DANGER: Electrical Hazard

Disconnect electrical power before inspecting or servicing equipment unless maintenance instructions specifically state otherwise.

Ground all electrical equipment for safety.

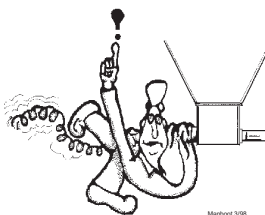
All electrical wiring must be done by a qualified electrician in accordance with local and national electric codes.

Ground all non-current carrying metal parts to guard against electrical shock.

Electrical disconnects and over current protection are not supplied with the equipment.

#### DANGER: Springing Auger

Use caution when working with Auger. Springing Auger may cause personal injury.



### Attention: Read the Manual

See the manual for detailed installation instructions.



## General Information

The CHORE-TIME ULTRAFLO® Fill Loop is designed to convey Feed to Livestock and/or Poultry. Using this equipment for any other purpose or in a way not within the operating recommendations specified in this manual will void the warranty and may cause personal injury and/or death.

This manual is designed to provide comprehensive planning, installation, wiring, and parts listing information. The Table of Contents provides a convenient overview of the information in this manual. The Table of Contents also specifies which pages contain information for the sales personal, installer, and consumer (end user).

**IMPORTANT:** CE stands for certified Europe. It is a standard which equipment must meet or exceed in order to be sold in Europe. CE provides a benchmark for safety and manufacturing issues. CE is required only on equipment sold in Europe.

CHORE-TIME Equipment recognizes CE Mark and pursues compliance in all applicable products. Any alterations to the products will violate the CE compliance, will void the warranty, and may cause personal injury and/or death.

Please include the names and address of your CHORE-TIME Distributor.



Please fill in the following information about your Chore-Time ULTRAFLO® System. Keep this manual in a clean, dry place for future reference.

**Distributor's Name** \_\_\_\_\_

**Distributor's Address** \_\_\_\_\_

**Distributor's Phone** \_\_\_\_\_ **Date of Purchase** \_\_\_\_\_

**Installer's Name** \_\_\_\_\_

**Installer's Address** \_\_\_\_\_

**Installer's Phone** \_\_\_\_\_ **Date of Installation** \_\_\_\_\_

**System Specifications** \_\_\_\_\_

**Feed Delivery System Supplying**

Thank you for purchasing a CHORE-TIME ULTRAFLO Fill System.

Carefully read all the instructions prior to beginning the installation.

White rust is caused by moisture trapped between galvanized parts. If moisture is present, separate parts and allow for good air circulation.

CHORE-TIME fill systems and feeding systems are designed to handle most common livestock and poultry feeds. However, we cannot guarantee satisfactory operation with all rations. We suggest you contact the CHORE-TIME Technical Service Department concerning the use of new or unusual formulations.

The ULTRAFLO Fill System is used to supply the ULTRAFLO Feeding System with feed. The ULTRAFLO Feeding System Installation Manual (MC656) is included with the Intake Cups and addresses the feeding system installation process.

The ULTRAFLO Fill System consist of two major portions, the ULTRAFLO Fill Loop and the FLEX-AUGER Feed Delivery System.

The ULTRAFLO Fill Loop is designed to circulate and deliver feed to the ULTRAFLO Feeder Lines as they require it. Each feeder line, as it runs, is constantly being refilled.

The FLEX-AUGER Feed Delivery System is used to deliver feed from the feed bin(s) to the ULTRAFLO Fill Loop as required. The FLEX-AUGER Feed Delivery System may be either a Model 90 or Model 108, depending on the number of ULTRAFLO Feeder Lines to be supplied.

The FLEX-AUGER Feed Delivery System may be a Model 90, Twin or Dual Model 90, Model 108, or Hi-Speed Model 108, depending on the capacity required (number of ULTRAFLO Feeder Lines to be supplied). Dual Model 108 Fill Systems are also available for split-ration applications only.

The chart below shows the delivery capacities of the various Dead End Fill Systems available.

<b>Systems</b>	<b>Pounds/ Minute</b>	<b>Pounds/ Hour</b>	<b>Kg./ Minute</b>	<b>Kg./ Hour</b>	<b># of Lines Supplied</b>
<b>Model 90</b>	100	6,000	45	2,700	4
<b>Twin/Dual Model 90</b>	200	12,000	90	5,400	8
<b>Model 108</b>	220	13,200	98	5,800	8
<b>Hi-Speed Model 108</b>	250	15,000	113	6804	8

\*These calculations are based on 40 pounds/ft<sup>3</sup> or 64 kg/m<sup>3</sup> feed density. Conveying capacity is based on Power Units using the standard 348 RPM Gearhead (except on Hi-Speed Model 108 which uses a 425 RPM Gearhead).

# Group Feeding

The ULTRAFLO Fill Loop allows the ULTRAFLO Feeding System to feed in stages. Since each line is supplied independently of the other lines, the stages may be set up to feed rows or tiers (See Figure 1)

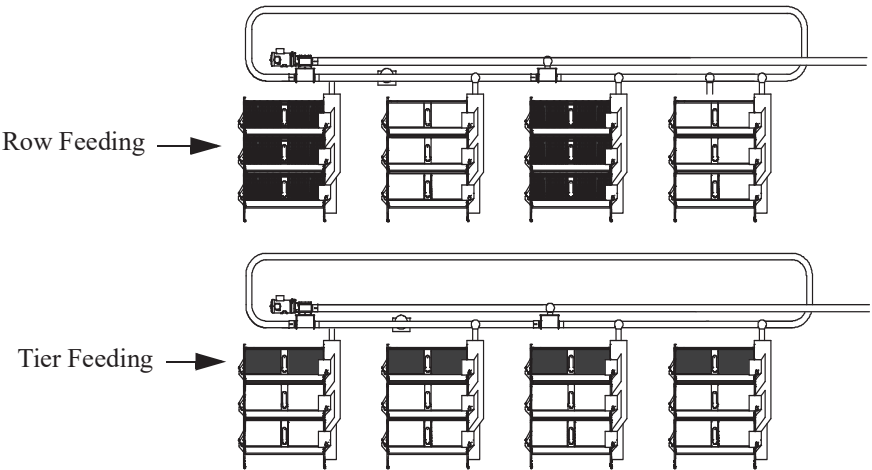


Figure 1.Tier or Row Feeding

1191-27 4/21

## Model 90 FLEX-AUGER Feed

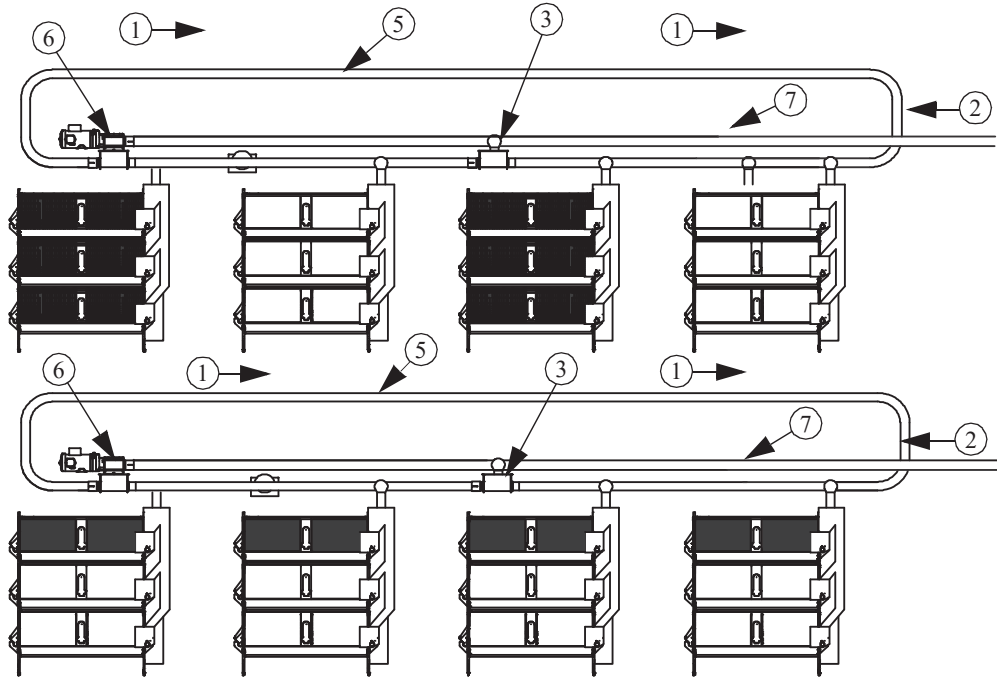
**Delivery Systems:** Fill Loops supplied by a single Model 90 FLEX-AUGER System do not require an Intermediate Fill Assembly. Enough feed can be supplied to the fill loop to adequately keep four feeder lines filled with the Control Unit Fill Assembly.

Locate the Control Unit Fill Assembly (**Item 6**) so that when it is installed, the fill loop auger tubes will be above the ULTRAFLO Feeder Intake Cups. It should be placed above the second or third cage row aisle-way in from the building wall, for easy access.

**Model 108 FLEX-AUGER Feed Delivery Systems:** Fill Loops supplied by a Model 108 FLEX-AUGER System require an Intermediate Fill Assembly and a Control Unit Fill Assembly. Enough feed can be supplied to the fill loop to keep eight feeder lines filled.

The Intermediate Fill Assembly and the Control Unit Fill Assembly should be located so that each will be supplying feed to approximately same number of feeder lines, as shown in **Figure 2**. Notice that the Control Unit and the Intermediate Fill Assembly are located so that each supplies the same number of lines. See

Locate the Intermediate and Control Unit Fill Assemblies so that the fill loop auger tubes will be above the feeder line Intake Cups. They should be placed near the aisle ways for easy access.



1191-27 4/21

Figure 2.Recommended fill locations to balance groups

Item	Description
1	Direction of Fill Loop Auger travel
2	Direction of Fill System Auger travel
3	Intermediate Fill Assembly
4	Cage Row
5	Fill Loop Auger Tube
6	Control Unit Fill Assembly
7	Fill System Auger Tube

Feed Loop layout Examples

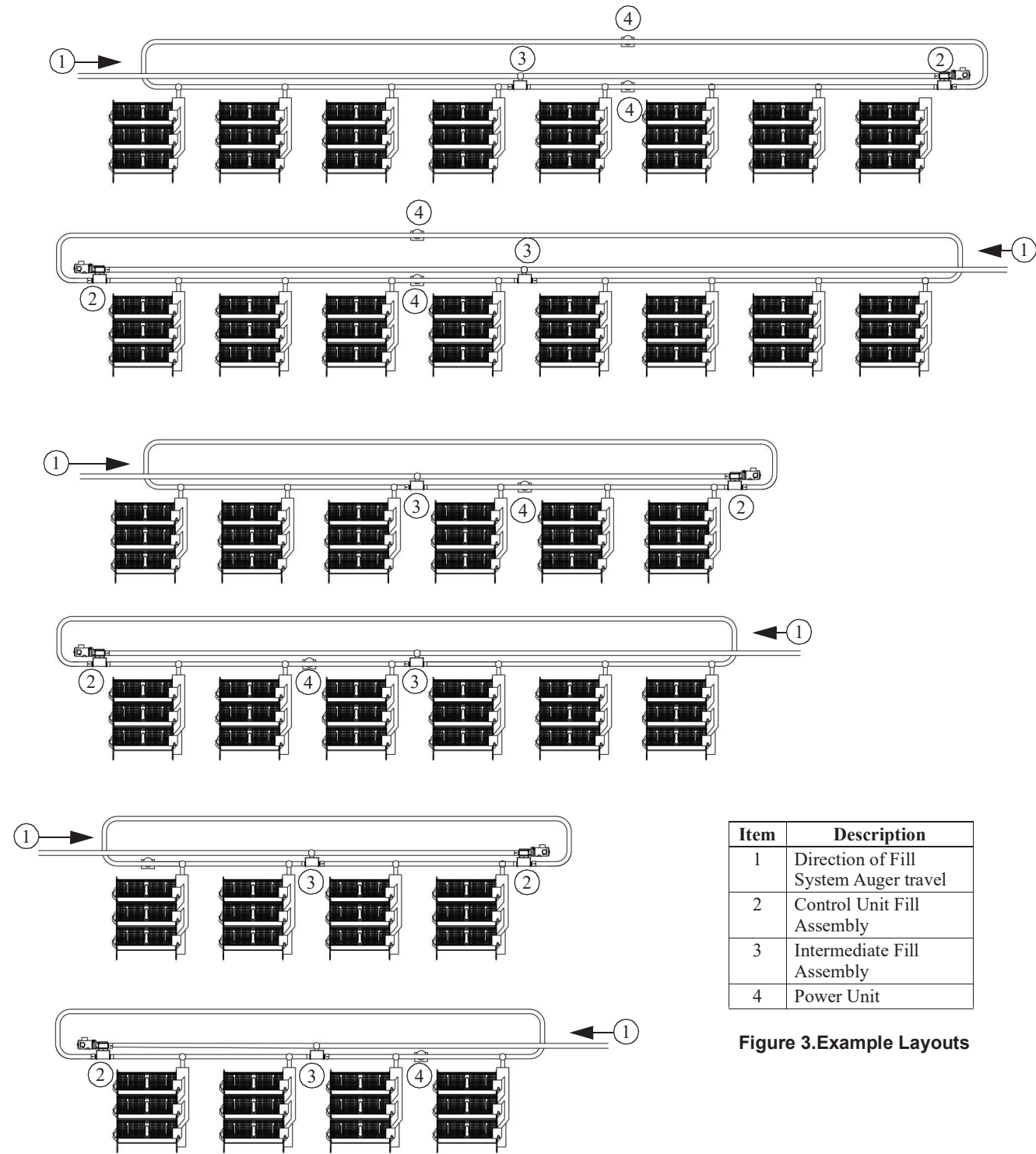


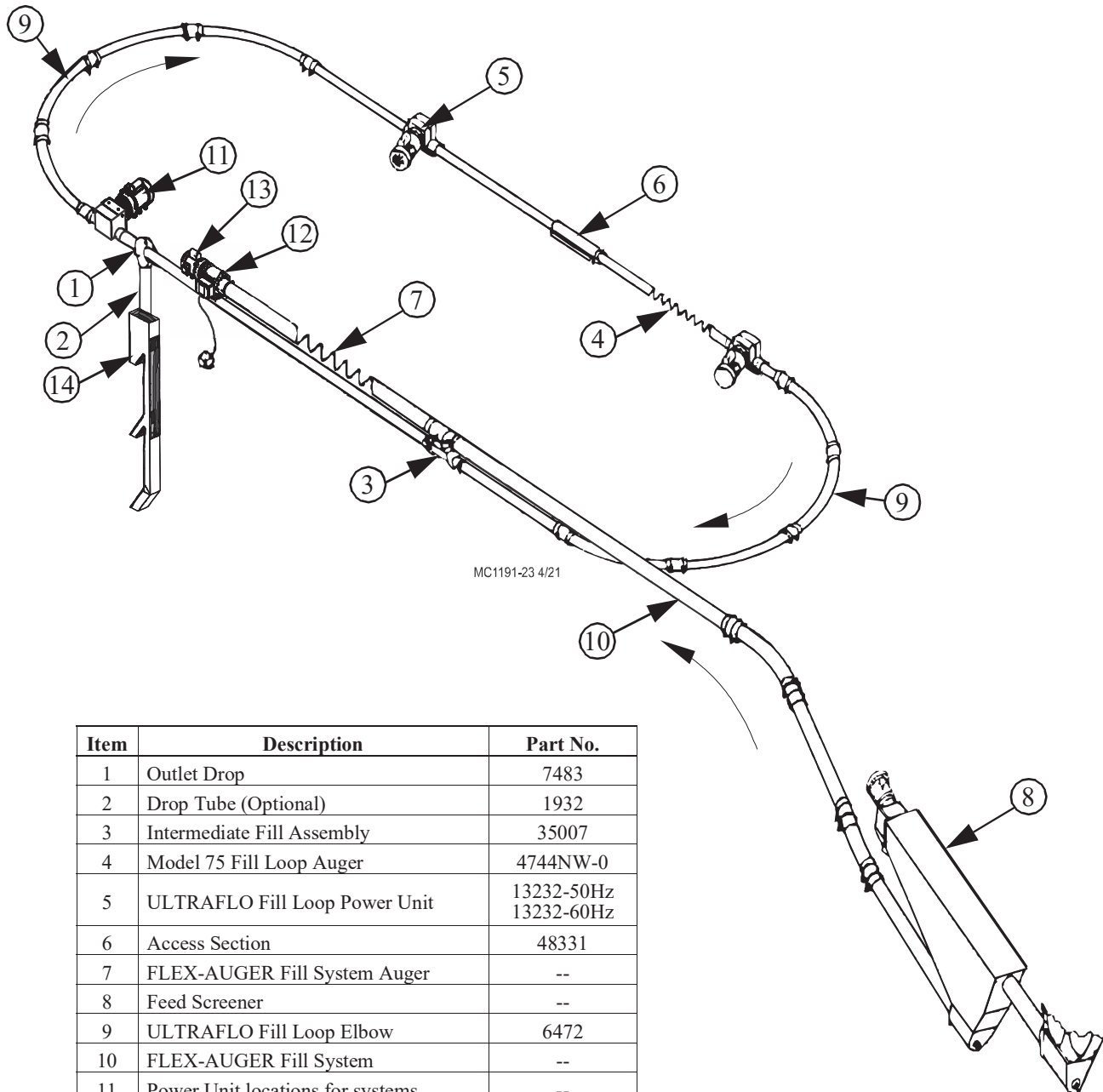
Figure 3.Example Layouts

Install the FLEX-AUGER Feed Delivery as specified in the appropriate Fill System Manual (MA1702 for Model 90, MA1714 for Model 108). Install the Screener as specified in the Screener Installation Manual (MA1712).

Note: The Model 90 is a single outlet system. The Model 108 is a dual outlet system utilizing an Intermediate Fill Assembly. **Figure 4** provides an overview of the primary Fill System and ULTRAFLO Fill Loop components. Model 108 shown.

## Installation of the ULTRAFLO Fill Loop

Refer to **Figure 4** as necessary when installing the ULTRAFLO Fill Loop.



Item	Description	Part No.
1	Outlet Drop	7483
2	Drop Tube (Optional)	1932
3	Intermediate Fill Assembly	35007
4	Model 75 Fill Loop Auger	4744NW-0
5	ULTRAFLO Fill Loop Power Unit	13232-50Hz 13232-60Hz
6	Access Section	48331
7	FLEX-AUGER Fill System Auger	--
8	Feed Screener	--
9	ULTRAFLO Fill Loop Elbow	6472
10	FLEX-AUGER Fill System	--
11	Power Unit locations for systems	--
12	Fill System Control Unit	46800-xx
13	Fill System Power Unit	--
14	Manifold	--

**Figure 4. Fill Loop System Overview**

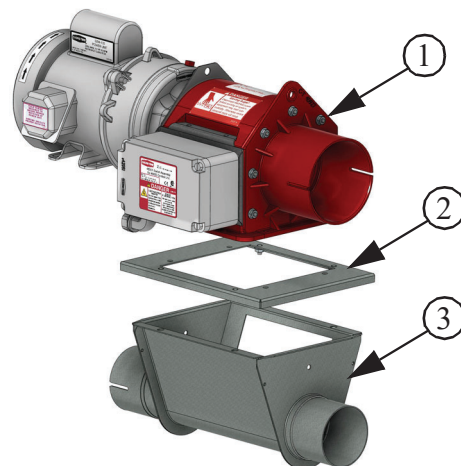


Refer to **Figure 5** as necessary when installing the ULTRAFLO Fill Loop.

1. Attach an Adapter Plate to the Boot Body Weldment, using hardware supplied with the Boot. See Figure 3.
2. Secure the Boot Body Weldment/Adapter Plate to the bottom of the FLEX-AUGER Fill System Control Unit, using hardware supplied. (See **Figure 5**)

Item	Description
1	Fill System Control Unit
2	Adapter Plate
3	ULTRAFLO Fill Loop Receiving Boot

**Figure 5. Adapter Plate Installation**



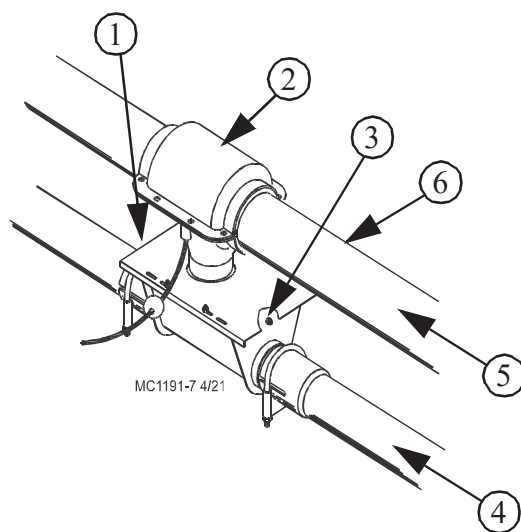
## Intermediate Boot Installation

### Model 108 Systems Only

1. Secure the Boot Body Weldment/Adapter Plate to the bottom of the FLEX-AUGER Fill System Control Unit, using hardware supplied.
2. Secure the Boot Body Top Plate to the Intermediate Boot Body, using hardware supplied. Slots are provided in the Top Plate to help align the hole with the outlet opening. (See **Figure 6**).
3. Locate the Intermediate Boot Body directly below the Intermediate Outlet Assembly.
4. Use the chain and “S” Hooks, supplied, to suspend the Intermediate Boot Body from the ceiling or Fill System Auger Tubes.

Item	Description
1	Boot Body Top Plate
2	Model 108 Outlet Drop
3	Baffle Adjustment Screw
4	Direction of feed flow around the Fill Loop
5	Direction of Feed Flow in the Fill System
6	Fill System Auger Tube
7	Fill Loop Auger Tube

**Figure 6. Intermediate Boot Installation**



## Straight Sections, Elbows, and Miscellaneous

1. Install the straight sections, elbows, and other miscellaneous ULTRAFLO Fill Loop components similar to the Fill System components.

- The Fill Loop must be supported every 10' (3 m).

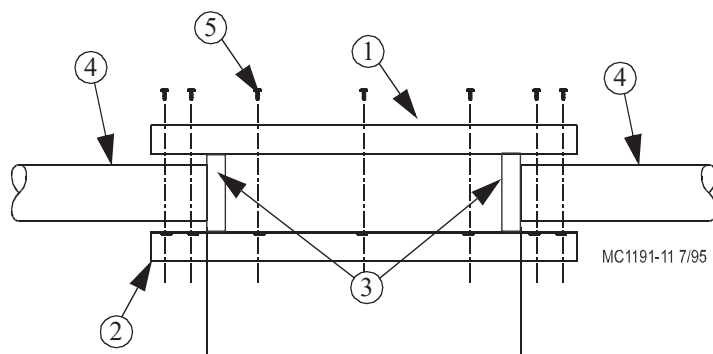
**Note:** Up to 10' (3 m) of straight Auger Tube may be added between the Elbows to facilitate various rafter spacings and other considerations.

2. Install the ULTRAFLO Fill Loop so that the Power Unit and Access Section are easily accessible.

## Access Section Installation

1. It is preferable to have the Access Section centered over one of the aisles on the return side of the loop. (See **Item 6, page 8, and Figure 7**)

2. Secure the Access Section to the ULTRAFLO Loop Auger Tubes using hardware supplied



Item	Description
1	Access Body
2	Access Body Weldment
3	Tube Stop
4	Auger Tube (Fill Loop)
5	1/4-20 x 1/2" Fastener

**Figure 7. Access Section Installation**

## Power Unit Installation

3. **Power Unit Installation:** It is preferable to have the Power Unit located over one of the aisles on the return side of the loop. ULTRAFLO Fill Loops over 53' (16.1 m) require two Power Units located as specified in **Figure 4, on page 8**

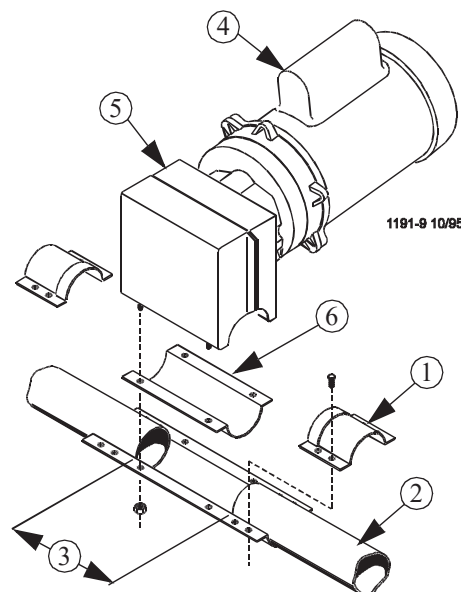
- The Power Unit should be toward the inside of the ULTRAFLO Loop. **Figure 4, on page 8**

4. For ease of installation, remove the (4) nuts securing the Driver Assembly to the Base Connector. (See **Figure 8**)

5. Cut the Auger Tube to install the Base Connector in the line.

6. Secure the Base Connector to the tubes using the hardware provided, as shown.

Item	Description
1	Cover Tube
2	Access Body Weldment
3	Butt the Tube Ends to the Wear Tube
4	Auger Tube (Fill Loop)
5	1/4-20 x 1/2" Fastener



**Figure 8. Power Unit Installation**

Fill Loop Auger Installation

- 7.Remove the (4) nuts securing the Driver Assembly to the Base Connector, if it has not been previously removed.
- 8.If the leading end of the auger is deformed or kinked, use bolt cutters or hacksaw to cut out the damaged section of auger.
- 9.Open the Access Section and feed the Auger into the Auger Tubes, all the way around the loop.
- 10.Push and pull the Auger a few times to allow it to relax to its natural length.
- 11.Cut the Auger so that there is 8 to 10 inches (203 to 254 mm) between the ends. (See Figure 9)

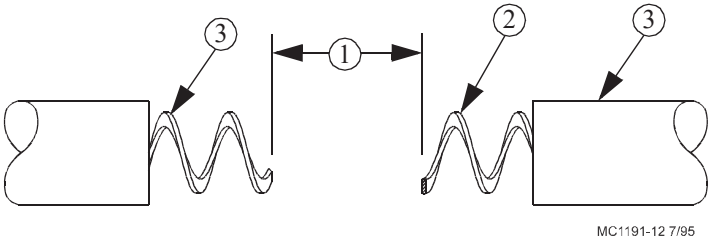


Figure 9.Fill Loop Auger Installation

Item	Description
1	8 - 10 Inches [203 - 254 mm]
2	Fill Loop Auger
3	Auger Tube (Fill Loop)

Auger Brazing

The methods for brazing FLEX-AUGER augers and ULTRAFLO augers are DIFFERENT. Follow these instructions to obtain a strong joint.

- 1.Screw the Auger together about 120 degrees, as shown in **Figure 10**. Clamp the Auger in the Welding Fixture, as shown.
- Note:**Be sure to lap the auger ends together. Do not butt the Auger ends together.
- 2.Slowly heat the Auger and apply a braze to the inside of the Auger. Allow it to cool slightly, then rotate the Welding Fixture and braise the outside of the Auger.
- 3.The braze should extend from 1/8" to 1/4" (3 to 6 mm) from the end of each auger. **DO NOT BRAZE ALL THE WAY TO THE END (See Figure 10)**. This allows the auger to flex in either direction as it travels around the elbows without becoming weakened.

Things to remember when brazing the Auger

- 1.To insure a good braze, clean dirt, oil, etc., off both ends of the auger.
- 2.A bronze, flux coated filler rod is recommended.
- 3.The joint should be smooth and well filled.
- 4.Do not over heat the auger; apply just enough heat to melt the filler rod.
- 5.Allow the auger to air cool.
- 6.File all edges smooth.
- 7.The outside diameter of the braze should not be larger that the rest of the auger.

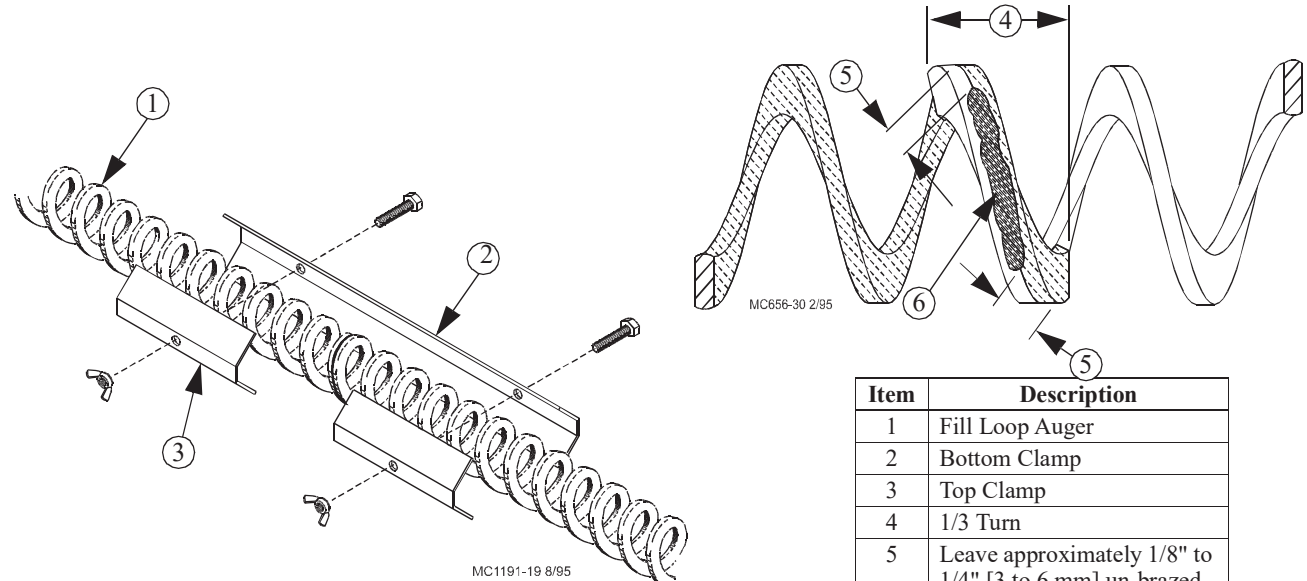
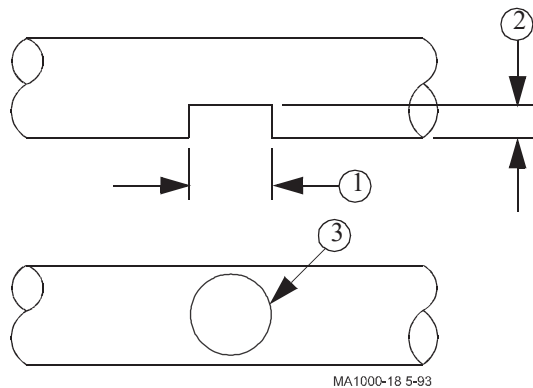


Figure 10.Auger Clamping and Brazing

Item	Description
1	Fill Loop Auger
2	Bottom Clamp
3	Top Clamp
4	1/3 Turn
5	Leave approximately 1/8" to 1/4" [3 to 6 mm] un-brazed
6	Braze Filler

Outlet Drop Installation

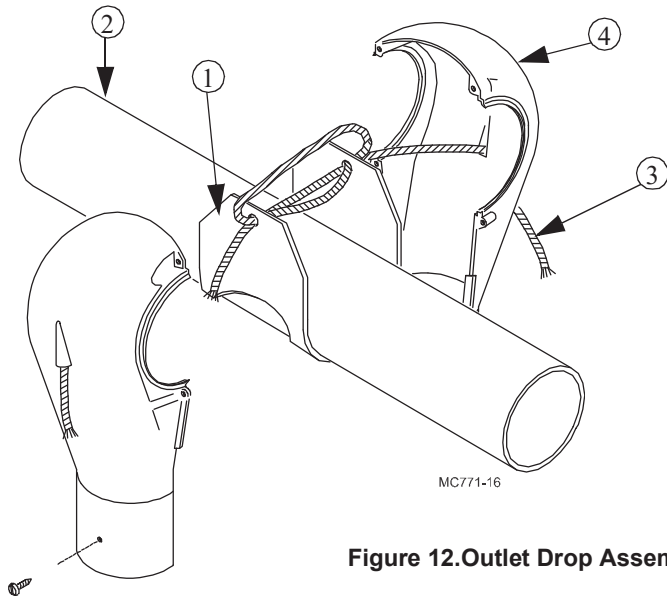
- 1. Install the Model 90 Outlet Drops as directly over the Intake Cups as possible.
- 2. Cut the outlet holes in the auger tube. A sabre saw or hacksaw is handy for making the cuts when total feed dropout is desired. See the diagram and related chart for dimensions of outlet holes.
- 3. The outlet hole may be either square or round, as shown in **Figure 11**



Item	Description
1	2.5" to 3.0" [64 to 76 mm]
2	1" [25 mm]
3	2.5" to 3.0" [64 to 76 mm]

Figure 11.Outlet Hole Cutting Diagram

- 4. Wrap the rotary slide around the auger tube.
- 5. POSITION SLIDES IN SAME DIRECTION FOR ALL DROPS SO THAT THE SLIDES WILL ALL OPERATE THE SAME WHEN ROPES ARE PULLED.
- 6. Thread the rope through the ends of the rotary slide.
- 7. Tie the ends of the rotary slide together so that the ends of the rope are the same length.
- 8. Open rope guide holes molded into the drop halves with a 3/16" (4.8 mm) drill bit.
- 9. Thread the rope ends through the guide holes in the drop halves.
- 10. Position drop halves over the rotary slide and fasten the two halves together using the hardware supplied.
- 11. Test the operation of the rotary slide by pulling on the ends of the rope. Be sure the outlet drop is centered over the outlet hole, then move the rotary slide to the open position (check by looking up through the drop opening) and mark the short end of the rope where it goes through the guide hole.
- 12. Tie a knot in the rope at the marked spot to act as a stop for the rotary slide.
- 13. Install green and red indicator balls on the ends of the rope. Tie knots in the rope to hold the balls in place. Use the green ball on the rope to open the outlet drop. Use the red ball on the rope to close the drop. The ball will show at a glance if the slide is open.
- 14. Use a small amount of PVC cement on the auger tube around the drop to prevent the drop from shifting.



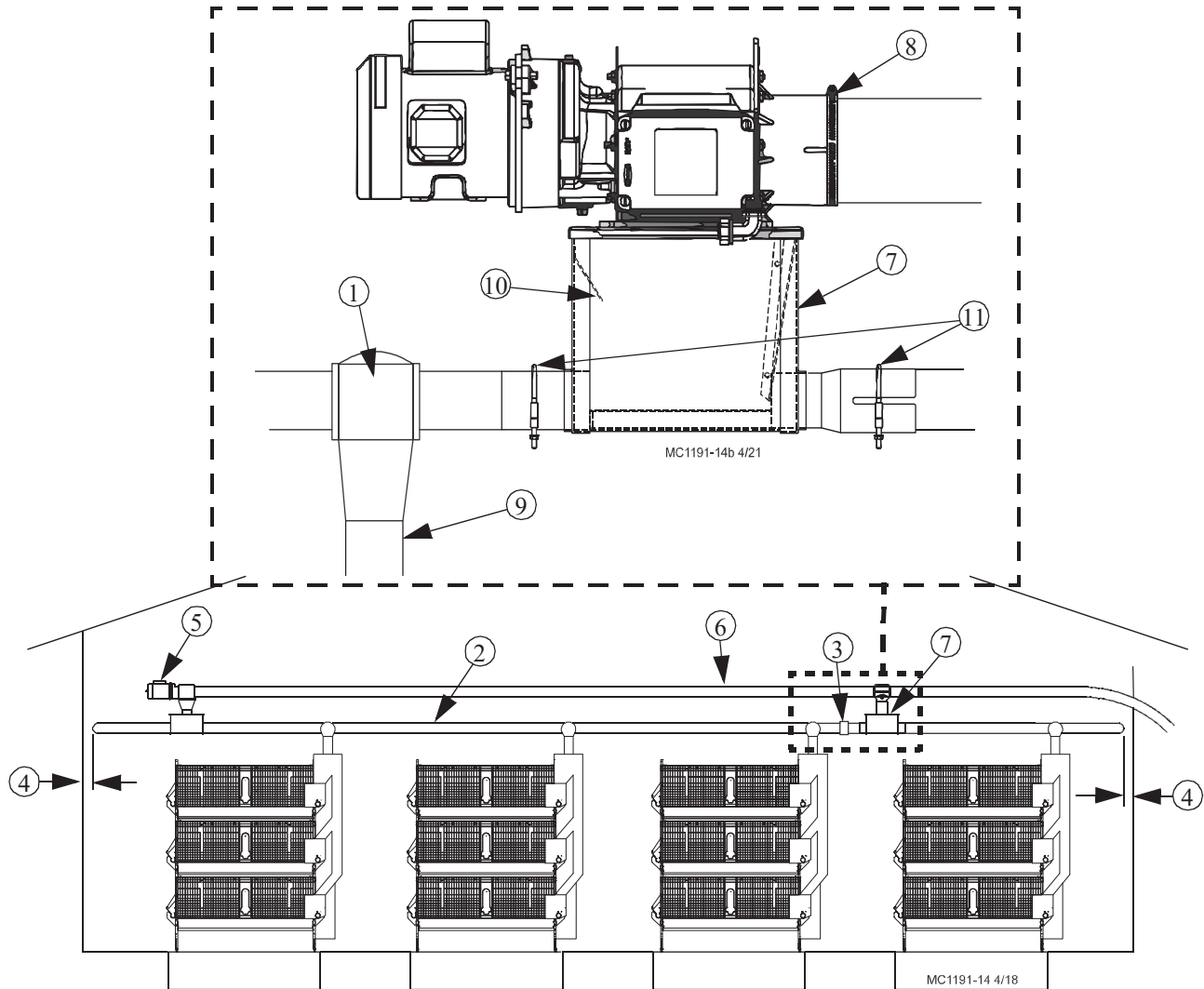
Item	Description
1	Rotary Slide
2	Auger Tube
3	Rope
4	Drop Half

Figure 12.Outlet Drop Assembly

## Feed delivery to Manifolds

Drop Tubes may be used to route the feed from the ULTRAFLO Fill Loop to the Manifolds. **Figure 13** shows some possible ways of routing/connecting the Drop Tubes. **Note:** In some installations Drop Tubes are not necessary.

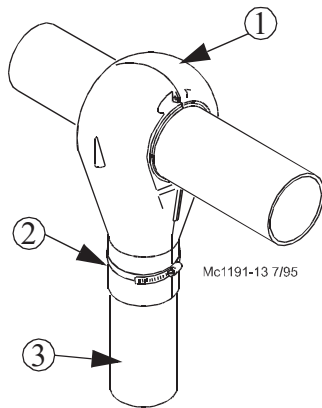
1. Measure the distance from the bottom of the Outlet Drop to the top of the Manifolds. Add approximately 3" (75 mm) to that figure and cut the Drop Tube using a hacksaw.
2. Attach the Drop Tube to the Outlet using a Hose Clamp. (See **Figure 14**)
3. The Drop Tube should extend approximately 1" (25 mm) into the Manifold as well as the Manifold into the Intake Cup **Figure 15. on page 14.**



Item	Description
1	Outlet Drop Assembly
2	Fill Loop Auger Tube
3	Locate the tube joints so that they do not interfere with the Outlet Drop Assemblies.
4	3-1/2" (90 mm) Minimum
5	Fill System Power Unit
6	Fill System Auger Tube
7	Fill Loop Boot Weldments
8	Hose Clamp
9	Drop Tube (Optional)
10	Restrictor (On Outgoing side of Boot)
11	Tube Clamp

**Figure 13.Outlet Drop Layout/Assembly**

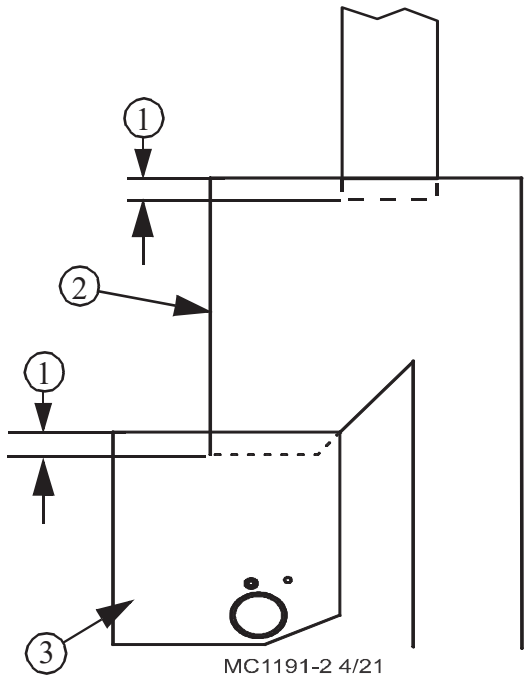
4. Attach the Drop Tube to the Outlet using a Hose Clamp, as shown in **Figure 14**.  
**Note:** Drop Tubes are optional.



Key	Description
1	Outlet Drop Assembly
2	Hose Clamp
3	Drop Tube

**Figure 14.Outlet Drop Clamping**

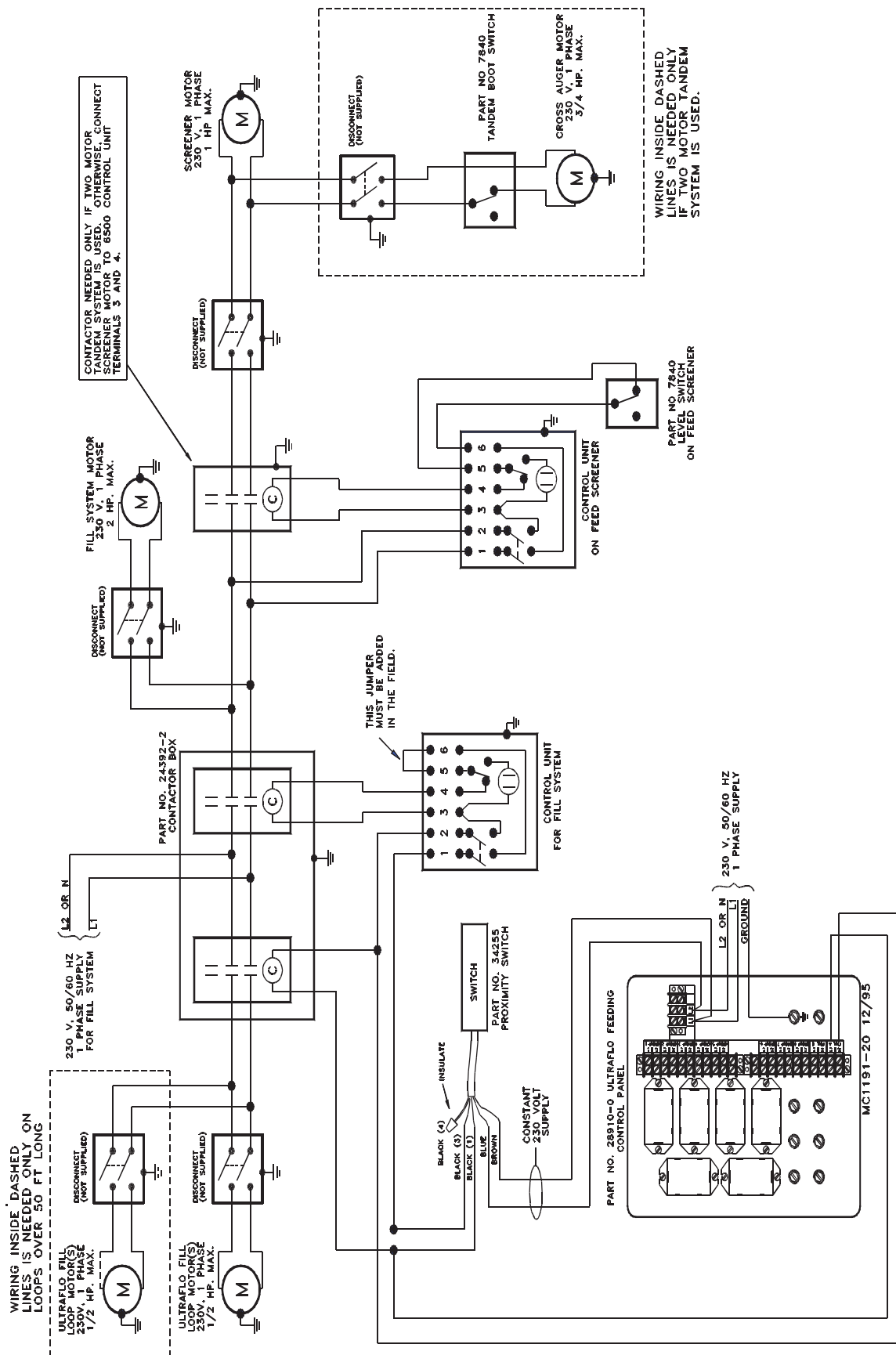
**Note:** The Manifold should extend approximately 1" (25 mm) into the Intake Cup, and the Drop Tube into the Manifold 1" (25 mm) as shown in **Figure 15**.



Key	Description
1	1" (25 mm)
2	Manifold
3	Intake Cup

**Figure 15.Manifold**

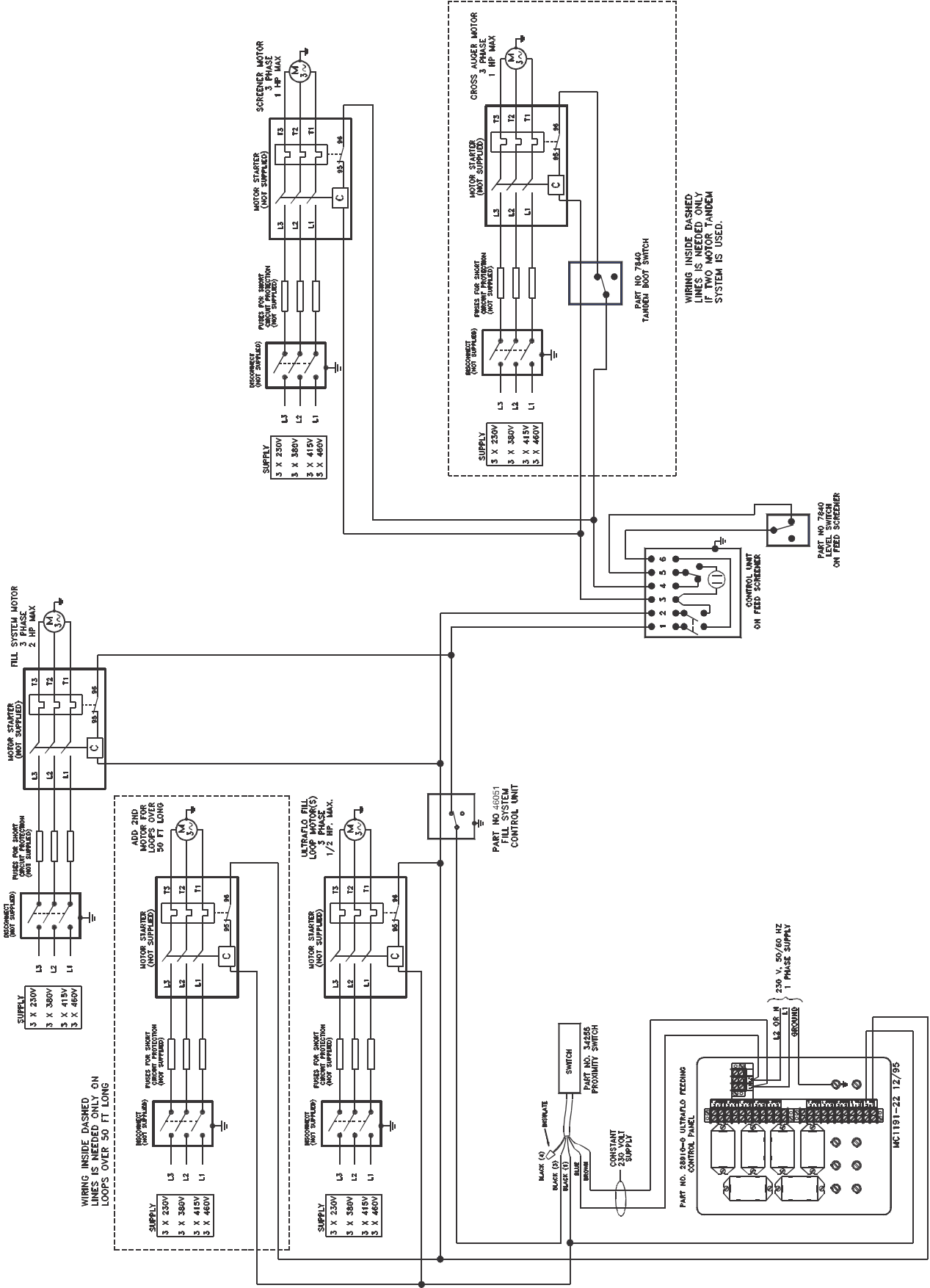
## ULTRAFLO Fill Loop System Wiring (Single Phase, without Motor Starters)





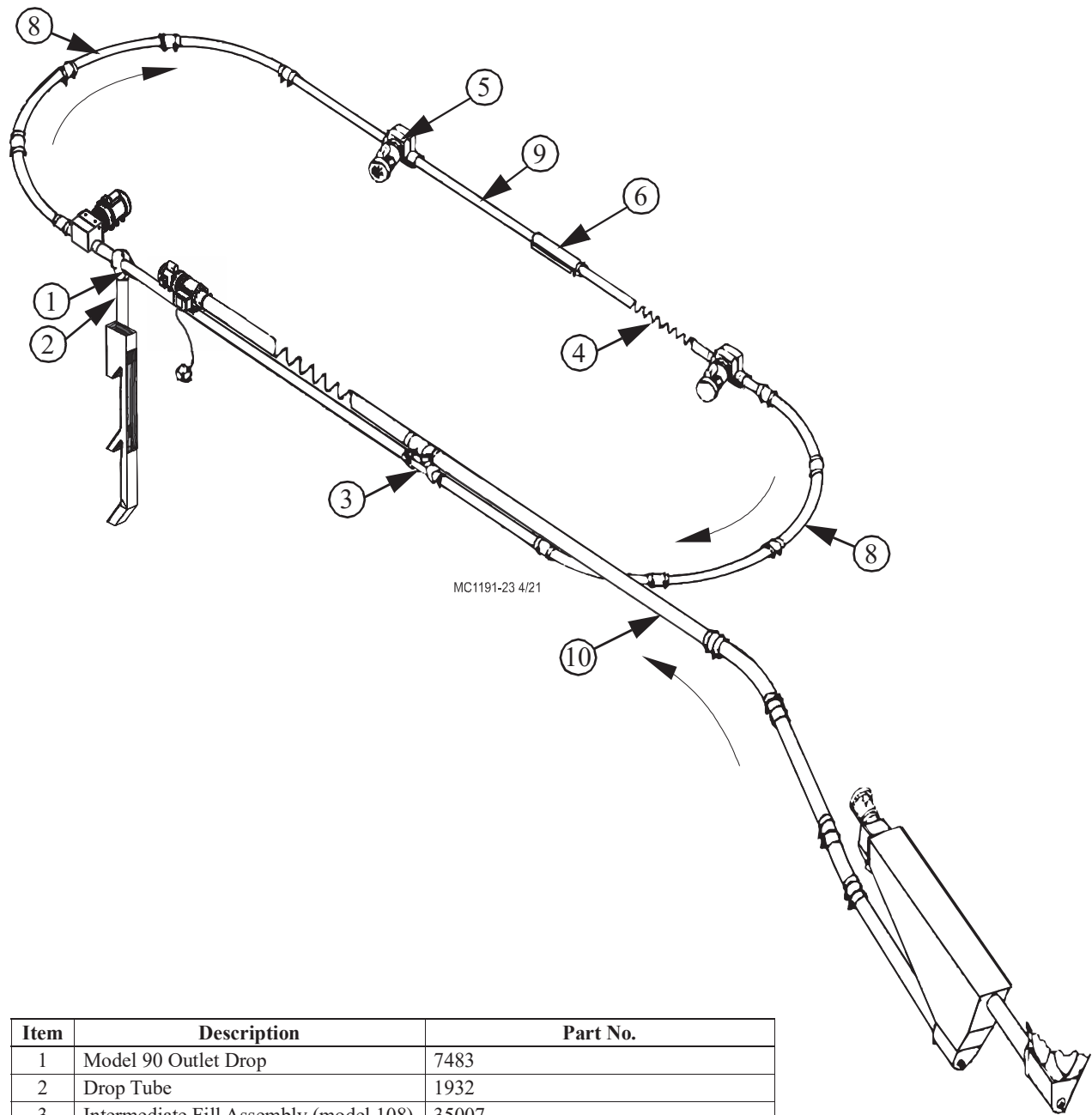


# ULTRAFLO Fill Loop System Wiring (Three Phase, w/ Motor Starters)



Parts Listing

ULTRAFLO Fill Loop Parts List

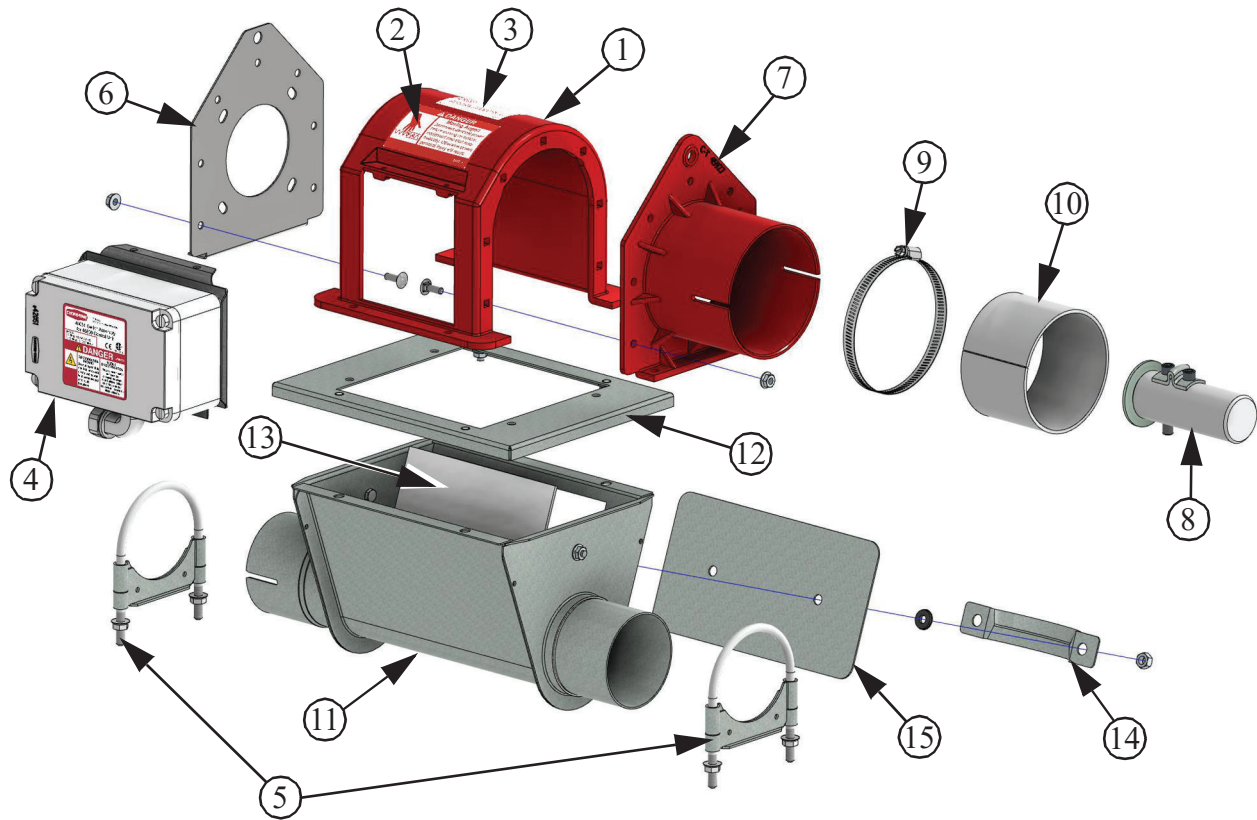


Item	Description	Part No.
1	Model 90 Outlet Drop	7483
2	Drop Tube	1932
3	Intermediate Fill Assembly (model 108)	35007
4	Fill Loop Auger	4744NW-0
5	Power Unit and Driver Assembly	13232-50Hz 13232-60Hz
6	Access Assembly	48331
8	Fill Loop Elbow	6472
9	Fill Loop Auger Tube (Steel)	5091
--	Tube Connector Kit	6595

<sup>1</sup>Auger may be ordered in lengths of 80' to 150' in 5' increments, rounded up. Add desired length as part number suffix. I.E. 4744NW-120 = 120' of auger.

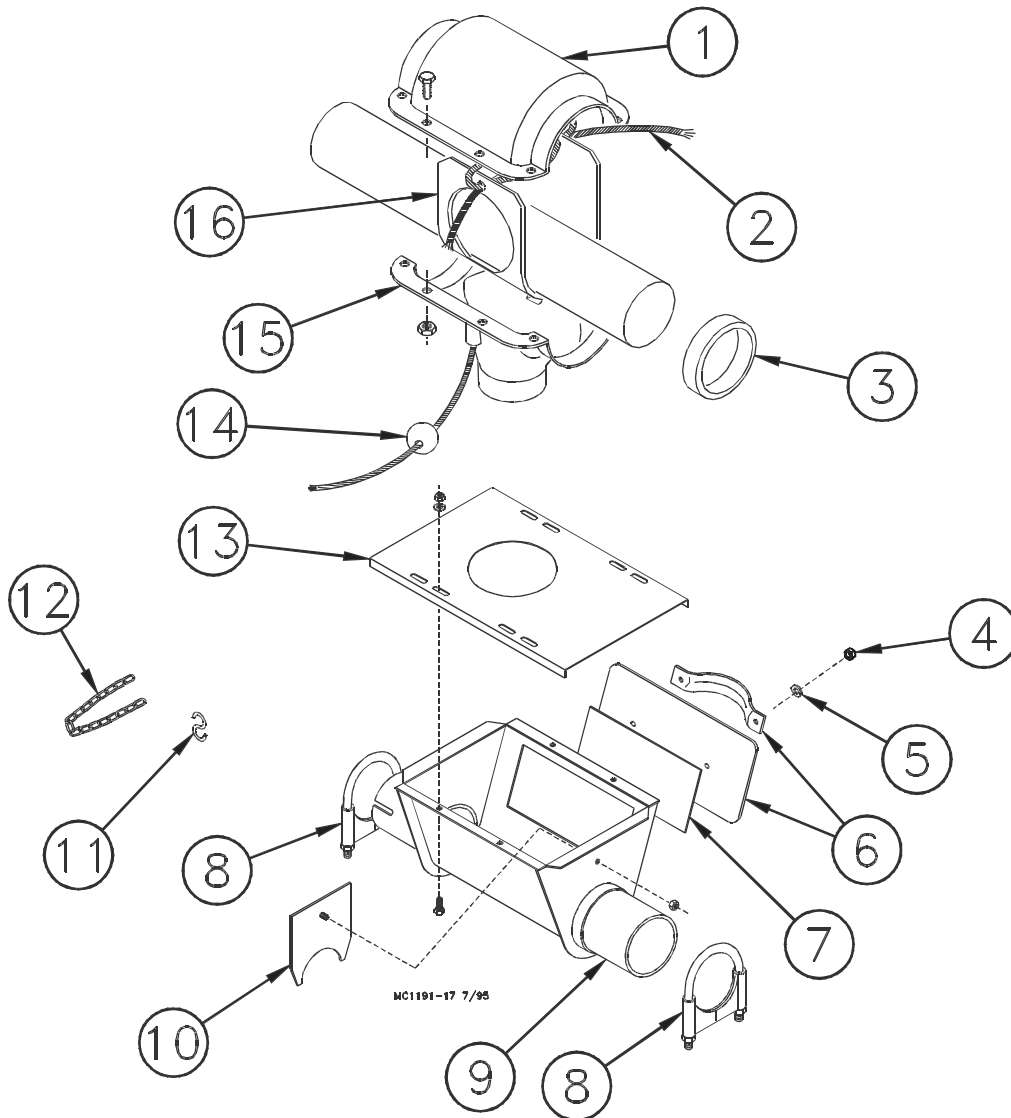
<sup>2</sup>See individual parts list for miscellaneous components.

## Control Unit Assembly (46800-xx)



Item	Description	46800-21 Model 90	46800-22 Model 108
		Part No.	
1	Flex Auger Control Body	43601	43601
2	Moving Auger Danger Decal	2527-9	2527-9
3	Flex Auger Patent Decal	2528-15	2528-15
4	Flex Auger Control w/Sensor Plus	47787	47787
5	Model 90 Tube Clamp	6721-1	6721-1
6	Gearhead End Plate	46051	46051
7	Model 90 Tube Anchor End	45926	--
	Model 108 Tube Anchor End	--	45927
8	Model 90 Driver Assembly	6861	--
	Model 108 Driver Assembly	--	30313
9	Adjustable Clamp	47652-1	--
		--	47652-2
10	PVC Tube Insert	34337	34337
11	Boot Assembly	13234	13234
12	Adapter Plate	45970	45970
13*	Clean Out Cover	6153	6153
14*	Handle	3-12194	3-12194
15*	Back Plate Assembly	6298	6298
*Included in 13234 Boot Assembly			

## Intermediate Fill Kit (35007)

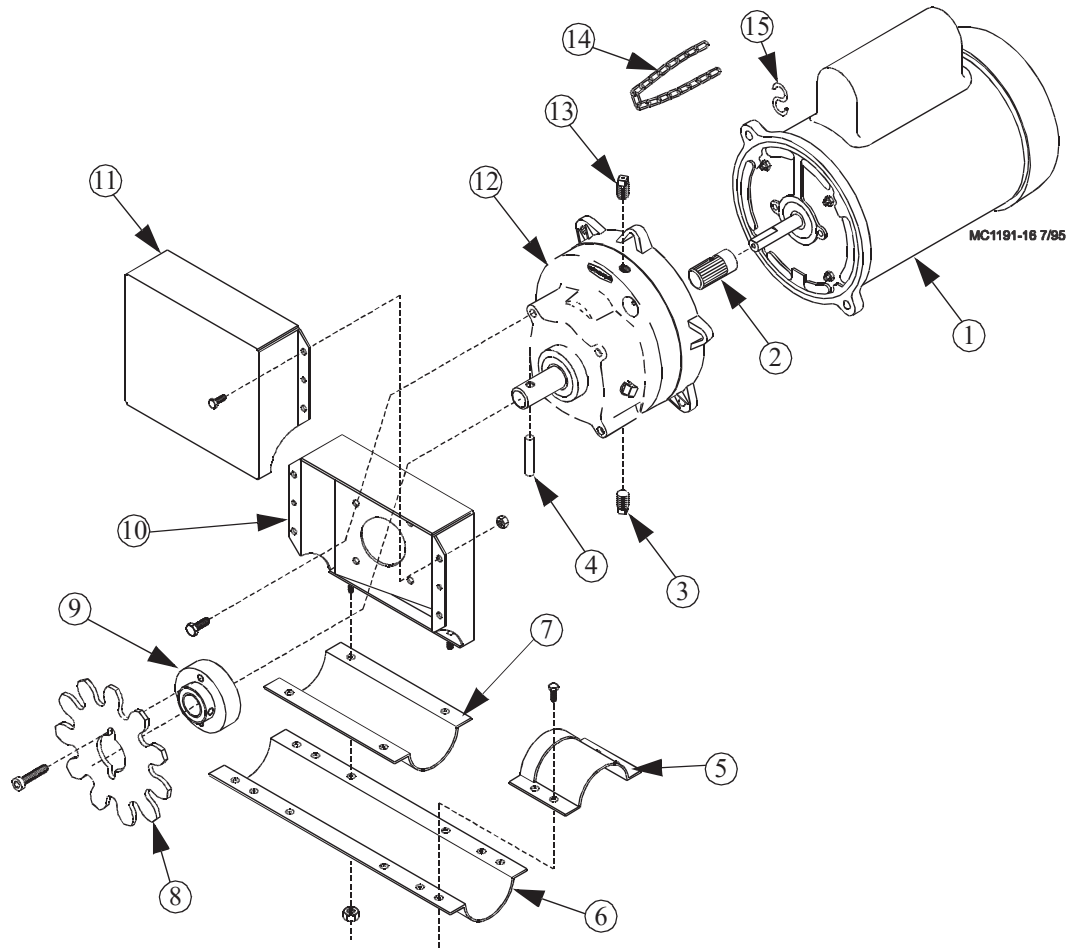


Item	Description	Part No.
1	Top Drop	13780
2	Rope	3085
3	Adapter Ring	34360
4	5/16-18 Lock Nut	2148
5	Sealing Washer	39-20155
6	Cover Weldment	6301
7	Back Plate Assembly	6298
8	Tube Clamp	6721
9	Boot Body Weldment	14189
10	Restrictor Assembly	14183
11	S Hook	723
12	Chain	2128-1
13	Boot Body Top Plate	14376
14	Indicator Ball (Red) Indicator Ball (Green)	24393-1 24393-2
15	Bottom Drop	13781
16	Slide	34359
--	Danger Decal	2527-9

## Fill Loop Power Unit & Driver Assembly

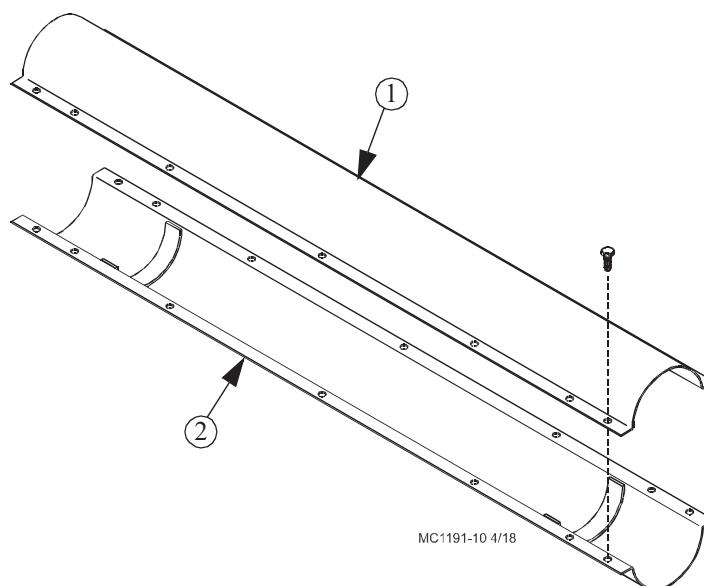
50 Hz. Part No.: 13232-50Hz

60 Hz. Part No.: 13232-60Hz



Item	Description	Part No.
1	1/2 H.P. Motor (60 Hz.)	5703
	1/2 H.P. Motor (50 Hz.)	5977
2	Pinion Assembly (for 60 Hz. P.U.'s)	3249
	Pinion Assembly (for 50 Hz. P.U.'s)	25836
3	Magnetic Pipe Plug	30160
4	Dowel Pin	8699
5	Tube Cover	13571
6	Base Connector Weldment	13570
7	Wear Shoe	13572
8	Drive Sprocket	13593
9	Drive Gear Hub	8213
10	Drive Base Weldment	13585
11	Drive Unit Cover	14724
12	Gearhead Assembly (for 60 Hz.)	3261-21
	Gearhead Assembly (for 50 Hz.)	3261-22
13	Vent Plug	3523
14	Chain	2128-250
15	S-Hook	2805
		723
--	Screw Hook	1214
--	Danger Decal	2527-9

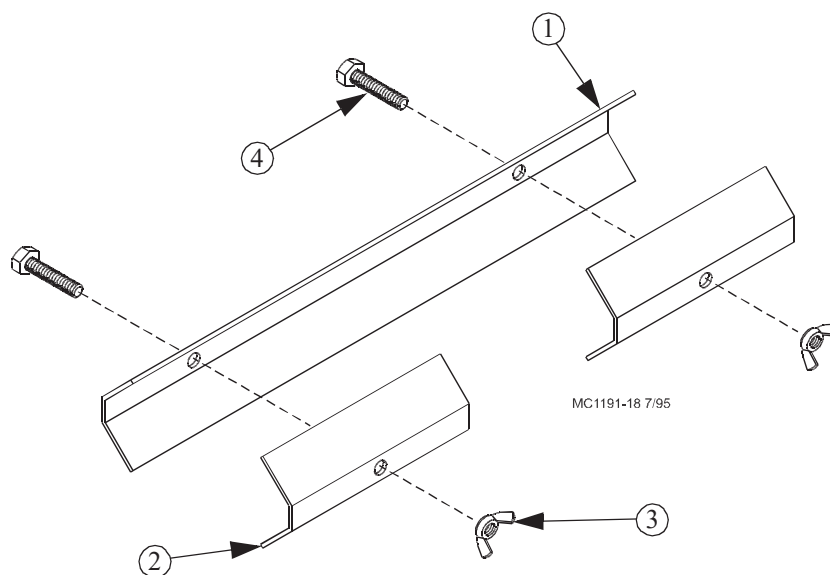
## Access Section Parts List (48331)



Item	Description	Part No.
1	Access Body	48334
2	Access Body Weldment	48335

## Fill Loop Auger Welding Fixture (14311)

**Note:** One time installation. **Does not** stay on permanently.



Item	Description	Part No.
1	Bottom Clamp	14310
2	Top Clamp	14309
3	3/8-16 Wing Nut	8928
4	3/8-16 x 4" Hex Bolt	4413-5

**This page left blank intentionally.....**



**MADE TO WORK.**

**BUILT TO LAST.®**

**Revisions to this Manual**

<b>Page No.</b>	<b>Description of Change</b>	<b>ECO</b>
Various	Updated to show Manifolds	33312
Various	Show 46800-x Control Unit	

**For additional parts and information, contact your nearest Chore-Time distributor or representative.  
Find your nearest distributor at: [www.choretime.com/contacts](http://www.choretime.com/contacts)**

CTB, Inc.  
PO Box 2000  
Milford, Indiana 46542-2000 USA  
Phone (574) 658-4101 Fax (877) 730-8825  
Email: [choretime@choretime.com](mailto:choretime@choretime.com)  
Internet: [www.choretime.com](http://www.choretime.com)