

# *Silo-Matic*

## 10" U-TROUGH CONVEYOR

### OPERATING INSTRUCTIONS & PARTS MANUAL



Valesco Manufacturing, Inc.  
7857 N 1100 E  
Loogootee, IN 47553  
(812) 636-6001  
[www.silo-matic.com](http://www.silo-matic.com)

REV. 07-2006

## LIMITED WARRANTY

Valesco Mfg., Inc. (Silo-Matic) warrants new equipment of its manufacture to be free of defects in materials and workmanship under normal use and service.

This warranty applies only to the original purchaser of the equipment.

Under no circumstances will Silo-Matic be responsible for labor charges associated with Product warranty.

Silo-Matic will not be liable for any direct, incidental or consequential damages arising in connection with any use, inability to use, misuse or misapplication of this equipment.

### Warranty Period

Silo-Matic will repair or replace, at its option, without charge any parts of the equipment found by Silo-Matic to be defective within (1) one year from sale or installation.

### Owner's Obligation

To be covered by warranty, all new equipment must be properly registered with Silo-Matic within 30 days of original purchase date of sale. (A warranty registration card is provided in the Owner's Manual for each machine.)

It is the responsibility of the owner, at owner's expense, to transport the equipment to the place of business of an authorized Silo-Matic dealer or to alternately reimburse the dealer for any travel or transportation expense involved in fulfilling this warranty.

### Exceptions

Electronic Scales, submersible pumps, tires, electrical components and motors are warranted by the respective manufacturer and not Silo-Matic. Due to uncontrollable conditions, auger knives and liners are not covered under this warranty.

### Conditions that Void Warranty

This limited warranty shall not apply to equipment which:

- \*Has had unauthorized repair or modification, gearboxes that have had the covers removed.
- \*Has been subject to misuse, negligent handling, improper adjustment, accident, fire damage, or other acts of God.
- \*Has had repair or replacement parts not manufactured, supplied or authorized by Silo-Matic.

THIS IS THE ONLY WARRANTY MADE BY SILO-MATIC AS TO THE EQUIPMENT. THIS WARRANTY IS IN LIEU OF ALL WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OTHER WARRANTIES, EXPRESSED OR IMPLIED.

Supercedes previous subject matter  
June 1, 1997

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## INTRODUCTION

The Silo-Matic 10" U-TROUGH, Manufactured by Valesco Manufacturing is designed to convey bulk forage, grain or mixed feeds up to 100 feet and can be installed up to a 20 degree angle incline/decline. The instructions in this manual provide procedures for assembly and installation of the feeder and include recommendations for motor placement. It also contains information on safety suggestions, Operation, Trouble Shooting and Repair Parts.



This SAFETY ALERT SYMBOL indicates important safety messages. When you see this symbol, be alert to the possibility of personal injury.

In this manual some covers and guards have been removed for illustrative purposes only.



CAUTION: NEVER OPERATE WITHOUT ALL COVERS, SHIELDS AND GUARDS IN PLACE.

Any reference to Left or Right side of unit is related to as seen from the drive end of the conveyor and looking forward toward the discharge end.

Some common abbreviations which may be used in this manual are as follows:

Assy ---Assembly	Crg ---Carriage	LW ----Lock Washer(s)
Brg --- Bearing	Frt ---Front	RH ----Right Hand
Brkt --- Bracket	LH ----Left Hand	Wldmt--Weldment

You are urged to study this manual and follow the instructions carefully. If you don't understand the contents of this manual, contact your dealer or





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Valesco Manufacturing reserves the right to make changes or improvements to its products without incurring any obligation with respect to previously manufactured products.

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SAFETY ALERTS, WARNINGS AND DANGERS ASSOCIATED WITH ROTATING AUGERS	
Throughout this manual and on the auger there are symbols used to show important safety messages. Please read these and understand their contents. Failure to follow these safety instructions could lead to Personal Injury, Death or severe damage to the auger.	
 <p>This SAFETY ALERT SYMBOL is found throughout this manual and indicates important safety messages. When you see this symbol, be alert to the possibility of PERSONAL INJURY or even DEATH.</p>	 <p><b>DANGER</b> : Indicates an imminently hazardous situation that if not avoided will result in death or serious injury.</p>
 <p><b>WARNING</b>: Indicates a potentially hazardous situation that if not avoided, could result in death or serious injury and alert against unsafe practices.</p>	 <p><b>CAUTION</b>: Indicates a potentially hazardous situation that if not avoided, may result in minor or moderate injury and alert against unsafe practices.</p>

### CAUTION

This equipment can be hazardous in the hands of an unfamiliar, untrained, or careless operator. For your safety you must not operate, service, inspect or otherwise handle this equipment unless you have read the Owner's Manual and have been properly trained in its intended usage.

Do not allow children to operate machine.

Require all personnel who will operate this machinery or perform service to read and understand the safe operating practices and safety precautions in this manual.

Keep all shields in place. Do not operate until all shields and guards are in place.


Never attempt to clean, adjust, or lubricate machine while it is in motion.

Stop machine and lockout power source before adjusting and servicing.

Keep hands, feet and clothing away from moving parts.

Make certain everyone is clear of equipment before applying power.

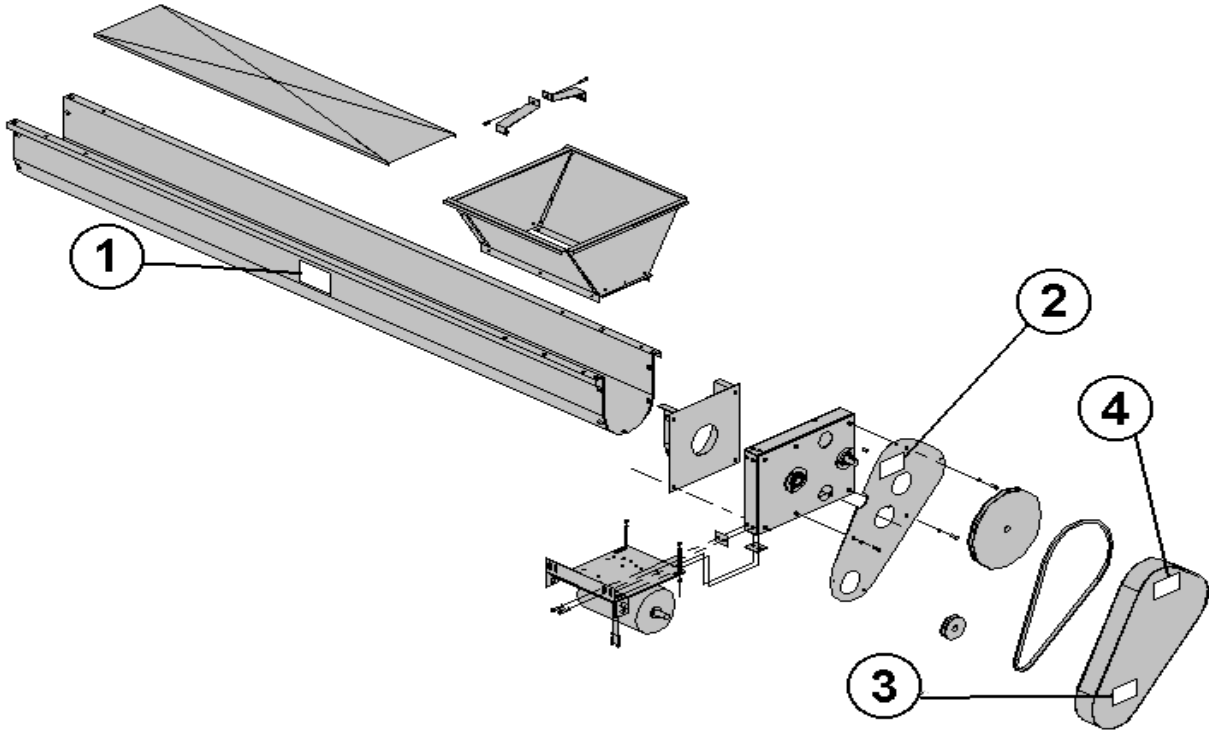
Disconnect Power before resetting motor overload.

	<p><b>WARNING!</b> An exposed rotating Auger can crush and dismember, Provide guarding to completely shield Auger.</p>
---	--



**DANGER** Electricity can kill, shock or burn. Disconnect and lock out power source before servicing electrical components. **FAILURE TO HEED WILL RESULT IN DEATH OR PERSONAL INJURY!**

PLACEMENT OF SAFETY STICKERS



1. S1182

	<b>! DANGER</b>
	<p><b>ROTATING AUGER CAN KILL OR DISMEMBER</b></p> <p>KEEP ALL GUARDS, COVERS AND SHIELDS IN PLACE.</p> <p>STAY WELL CLEAR OF AUGER AND KEEP OTHERS AWAY WHEN OPERATING.</p> <p>DISCONNECT &amp; LOCKOUT POWER SOURCE BEFORE SERVICING.</p> <p>FAILURE TO HEED MAY RESULT IN PERSONAL INJURY OR DEATH</p>

2. S1035

	<b>! WARNING</b>
	<p>YOU ARE EXPOSED TO MOVING PARTS THAT CAN CRUSH AND DISMEMBER.</p> <p><b>SHIELD IS OFF</b></p> <p>DO NOT OPERATE WITHOUT SHIELD IN PLACE.</p> <p>FAILURE TO HEED MAY RESULT IN PERSONAL INJURY OR DEATH.</p>

3. S0934

<b>! CAUTION</b>
<ol style="list-style-type: none"> <li>1. KEEP ALL SHIELDS IN PLACE</li> <li>2. DISCONNECT POWER SOURCE TO ADJUST OR SERVICE.</li> <li>3. MAKE CERTAIN EVERYONE IS CLEAR OF EQUIPMENT BEFORE APPLYING POWER</li> <li>4. DISCONNECT POWER BEFORE RESETTNG MOTOR OVERLOAD</li> <li>5. KEEP HANDS, FEET, AND CLOTHING AWAY FROM POWER DRIVEN PARTS IN MOTION.</li> </ol> <p>FAILURE TO HEED MAY RESULT IN PERSONAL INJURY</p>

4. S0935

<b>! WARNING</b>
<p><b>KEEP HANDS AND FEET AWAY FROM MOVING PARTS.</b></p>

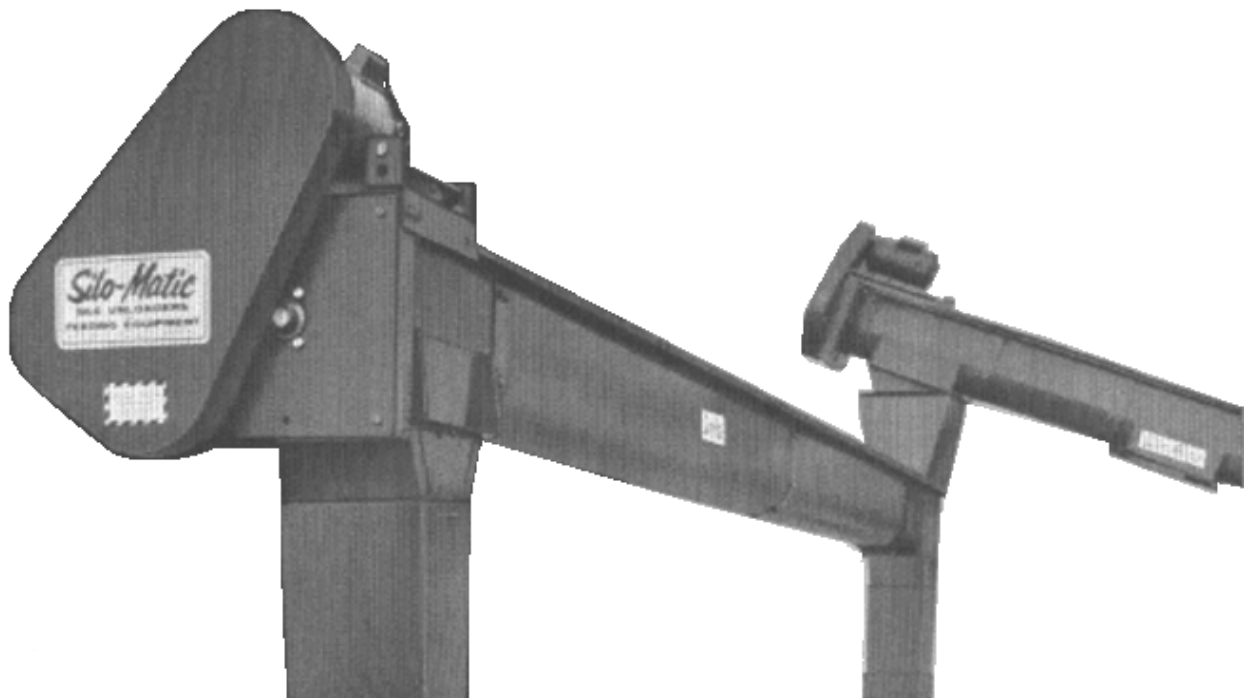
## GENERAL INFORMATION

The 10" U-trough provides a versatile conveying system, equally efficient when conveying roughage, mixed feeds or grains.

The auger floats in the trough with no hanger bearings to allow the material being conveyed to flow unrestricted. Covers are provided to enclose the trough sections and all moving parts are enclosed providing maximum safety for operator, children and livestock.

The drive assembly is designed to allow the motor to be mounted in various positions allowing flexibility in installation. The drive assembly can be mounted to either end of the feeder as feedlot demands dictate.

Silo-Matic U-trough has a maximum design length of 100 feet and a 2-4 hp motor is required in most applications. An optional trough poly liner is available and in most applications will help in freezing conditions and minimizing wear, adding to the lifetime of the trough.



## OPERATION

### Start Up

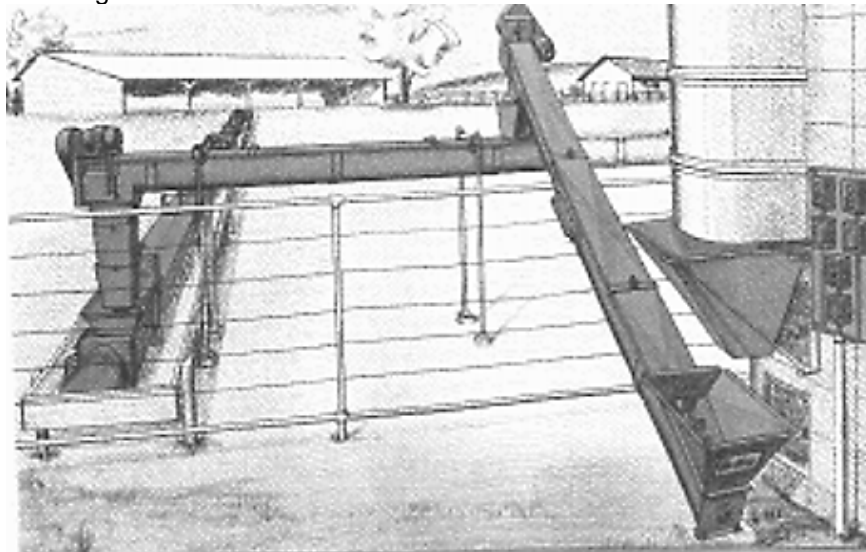
In most feeding or material handling systems, the last unit in the system should be started first, for example a silo unloader discharging into a conveyor which discharges into a feeder. The sequence of starting would be feeder first, conveyor second and the silo unloader last. This will prevent any plug-ups from material dropping into a non-functioning unit. Actual priority of start-up may vary with the individual system, depending on the units involved.



**WARNING: AN EXPOSED ROTATING AUGER CAN CRUSH AND DISMEMBER. PROVIDE GUARDING TO COMPLETELY SHIELD AUGER.**

### Performance

Monitor the performance of the conveyor to observe that it is handling the amount of material being fed into it. Adjust the input of material if possible, to maximize the amount of material being conveyed without plugging. Pay careful attention to changing material conditions that can effect the discharge capacity rate. Some materials will convey easier when they are not frozen. Operating practices must be adjusted to compensate for changes of weather or seasons.



**For most feeding systems, start the feeder first, then the conveyor and finally the silo unloader.**



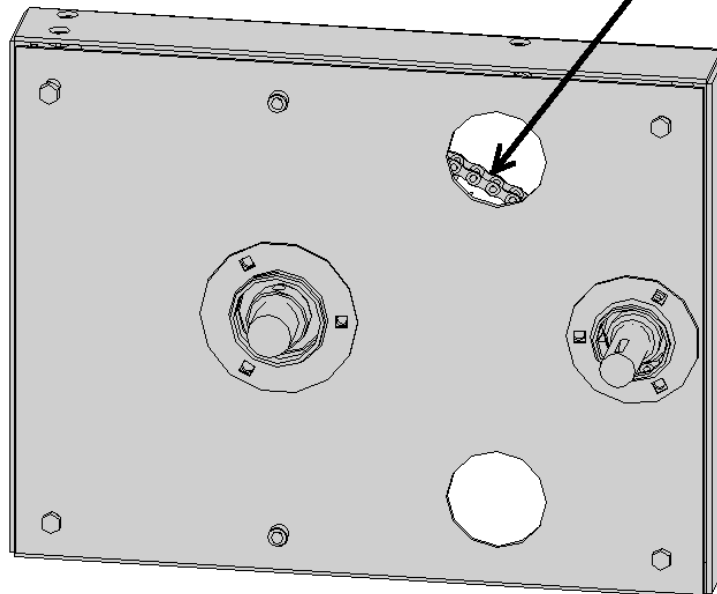
## LUBRICATION



CAUTION: NEVER ATTEMPT TO CLEAN, ADJUST OR LUBRICATE MACHINE WHILE IT IS IN MOTION.


Oil enclosed roller chain through inspection hole every 6 months.


**OIL ENCLOSED ROLLER CHAIN  
THROUGH INSPECTION HOLE AT  
LEAST EVERY 6 MONTHS.**




CAUTION: KEEP ALL SHIELDS IN PLACE. DO NOT OPERATE UNTIL ALL SHIELDS AND GUARDS ARE IN PLACE

## ADJUSTMENTS

	CAUTION: NEVER ATTEMPT TO CLEAN, ADJUST OR LUBRICATE MACHINE WHILE IT IS IN MOTION.
---	---

	CAUTION: STOP MACHINE AND LOCK-OUT POWER SOURCE BEFORE ADJUSTING AND SERVICING.
---	---

## TROUBLESHOOTING

	DANGER: NEVER ATTEMPT TO CLEAN, ADJUST OR LUBRICATE MACHINE WHILE IT IS IN MOTION.
---	--



TROUBLE:	REMEDY:
Motor hums or does not start.	Check fuses. Check & reset motor overload.
Fuses burn out or circuit breakers kick off repeatedly.	Conveying too heavy; Motor overloaded. Low voltage or incorrectly wired motor.
Loss of Capacity	Belt loose or in poor condition. Low Voltage or incorrectly wired motor.

The listed TROUBLE/REMEDY occurrences are not necessarily all inclusive. If further help is required contact your dealer.



DANGER: ELECTRICITY CAN KILL, SHOCK OR BURN. DISCONNECT AND LOCK-OUT POWER SOURCE BEFORE SERVICING ELECTRICAL COMPONENTS.

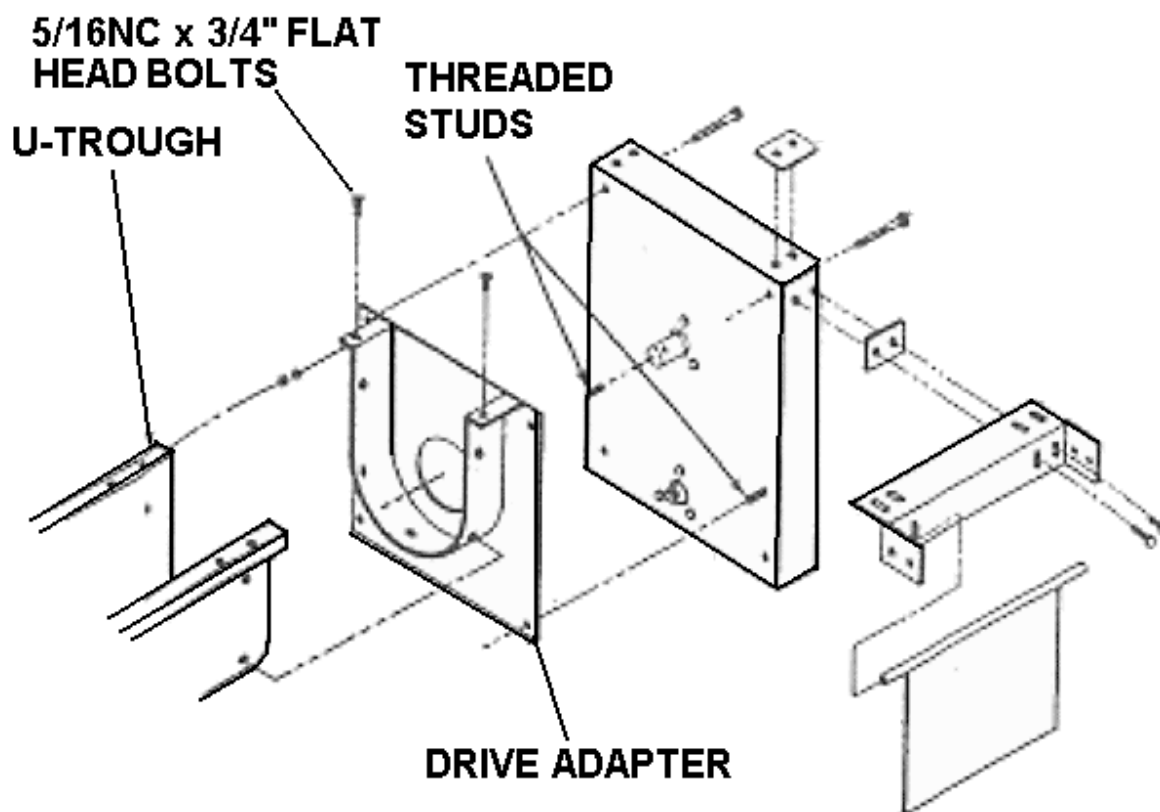
## INSTALLATION

### SETTING UP THE DRIVE

The drive end of the conveyor is assembled on the ground by attaching the adapter plate, to the U-Trough, with seven 5/16" x 3/4" Flat head bolts and hex nuts. See Figure 1.

NOTE: All trough sections have holes pre-punched to mount the drive, hoppers at one end only.

The installer must drill holes for hoppers and adapters at other locations.



### SETTING UP THE DRIVE

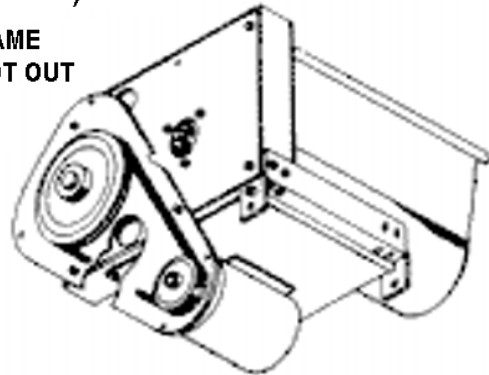
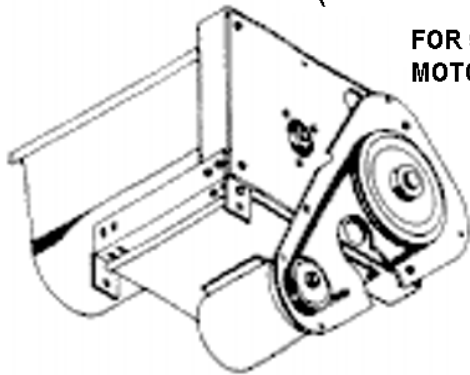
Figure 1

## MOUNTING THE DRIVE

Refer to figure 2 and select one of the six ways shown to assemble the drive. Assemble the motor support angle and motor mount adjusting bolt on the drive housing being sure that the lock nut on the adjusting bolt is tight. Bolt the drive housing assembly to the drive adapter. Have the motor mount pivot weldment prepared for fastening to the motor support angle as shown in Figure 5 for the drive mounting installation that you are using.

### MOTOR MOUNTED UNDER DRIVE (USE WHENEVER POSSIBLE)

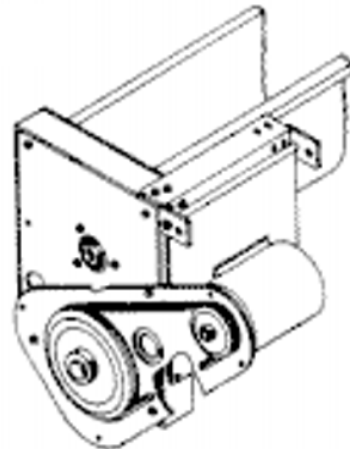
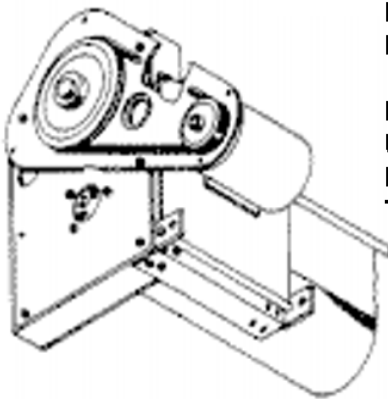
FOR 56, 182, & 184 FRAME  
MOTORS, MOVE PIVOT OUT



### MOTOR MOUNTED ON RIGHT SIDE

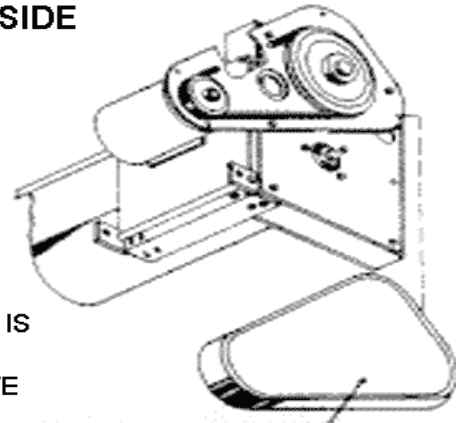
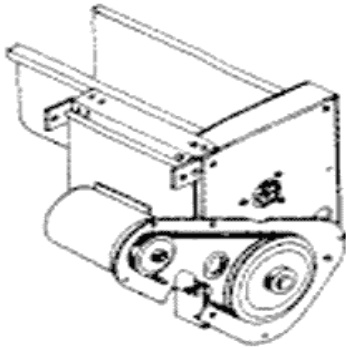
FOR 56, 182 & 184 FRAME  
MOTORS, MOVE PIVOT DOWN

NOTE: IF AGITATOR IS TO BE  
USED IN THE HOPPER, THE  
DRIVEN SHEAVE MUST BE ON  
TOP.



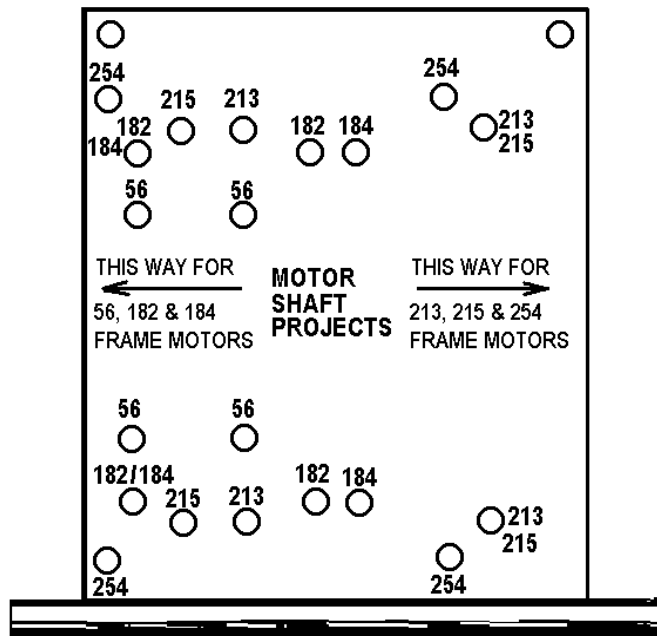
**MOTOR MOUNTED ON LEFT SIDE**

**FOR 56, 182 &  
184 FRAME  
MOTORS,  
MOVE PIVOT  
DOWN**



**NOTE: IF AGITATOR IS  
USED IN HOPPER,  
THE DRIVEN SHEAVE  
MUST BE ON TOP.**

FIGURE 2



Assemble motor to motor mount using Figure 3.

Figure 3

Assemble motor mount to drive using Figure 2 to determine method of assembly to mounting angle and to select correct pivot hole. (Note: It may be necessary to bend adjusting bolt slightly.) Assemble the Guard Backing Plate to Drive Housing as shown in Figure 1. Assemble sheaves to drive shaft and motor shaft, hubs out.

Assemble belt on sheaves and adjust for correct tightness. Recheck tightness approximately 2 weeks after putting into service and then periodically.

Install Belt guard to guard backing plate with 4 wing screws.

Oil enclosed roller chain though inspection hole every 6 months.

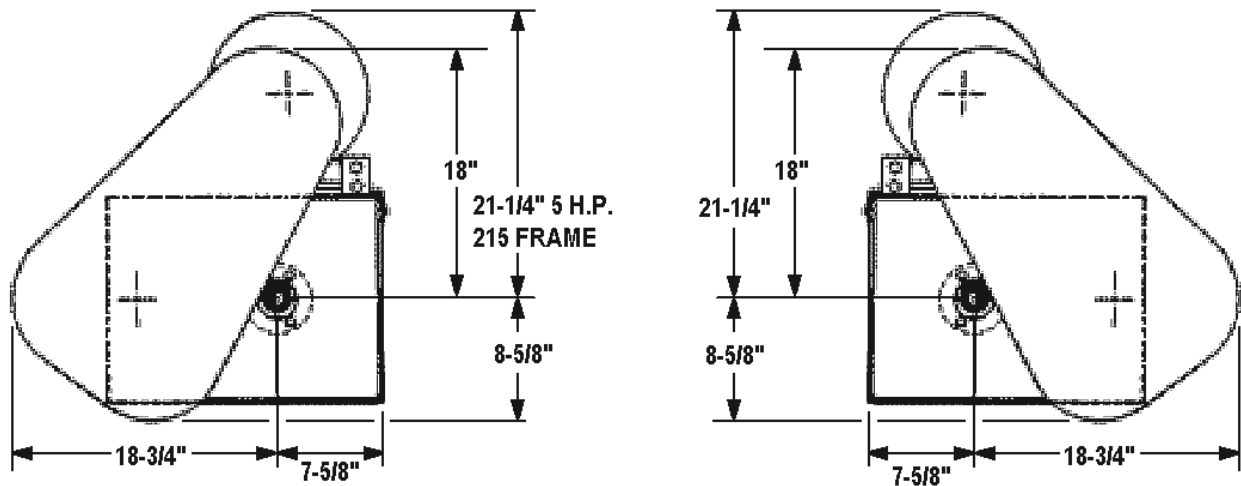


Figure 4

### HANGING THE U-TROUGH

Before assembling the U-trough, thought should be given to the method of hanging the unit. The unit should be assembled in small portions so it can be lifted into operating position easily. There are 3 recommended supports for hanging the trough sections which are shown below. The drive support is also depicted below. In all cases if more than the maximum height is desired, a large diameter post or pipe must be used. (See Figure 5)

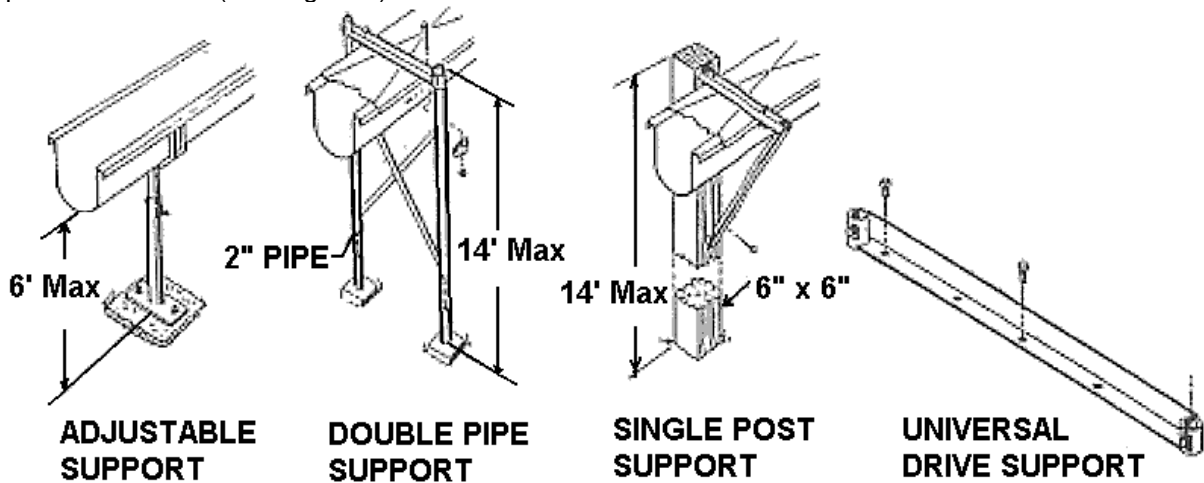
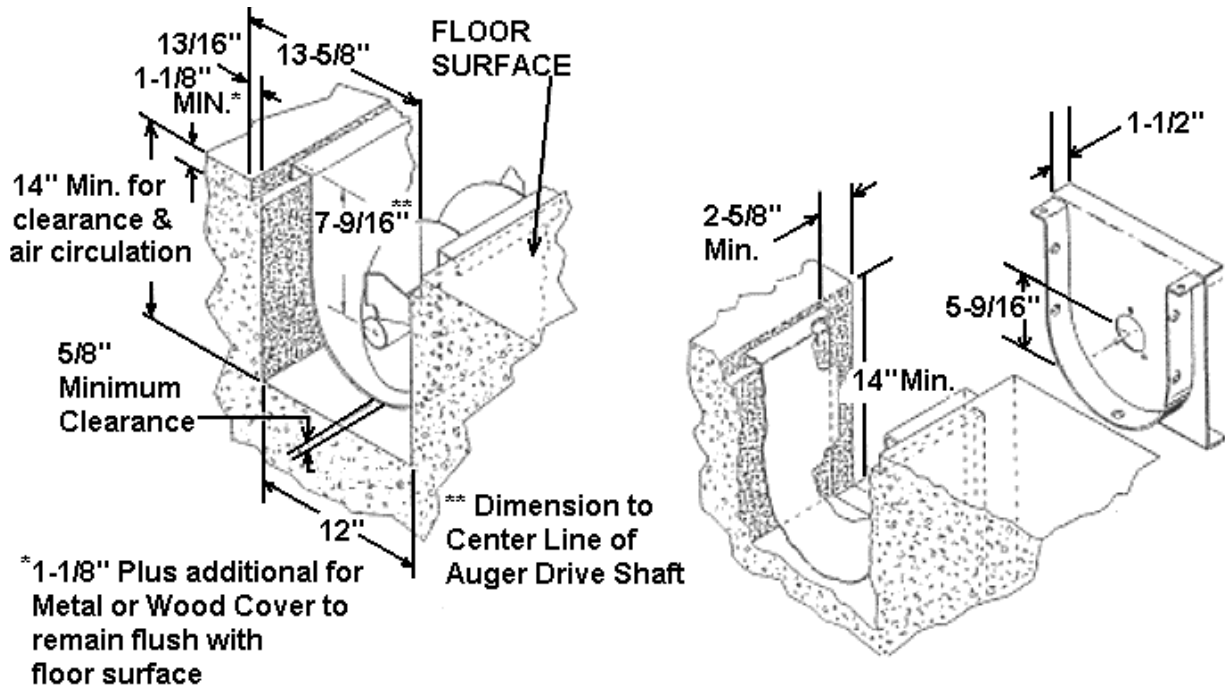


Figure 5

### RECESSING THE U-TROUGH IN CONCRETE



**U-TROUGH RECESSED IN CONCRETE**

**CLEARANCE REQUIREMENTS FOR IDLER END**

Figure 6

**AUGER INSTALLATION:** Attach the 10' Auger section to another auger with a coupler shaft, and turn it so that the flighting slides up behind the flighting on the first auger as shown in Figure 7. Fasten with (2) 1/2" x 3" cap screws and hex lock nuts.

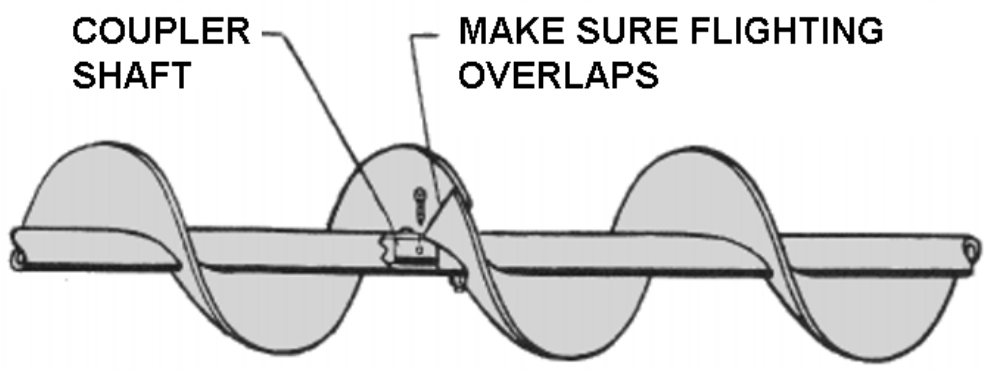
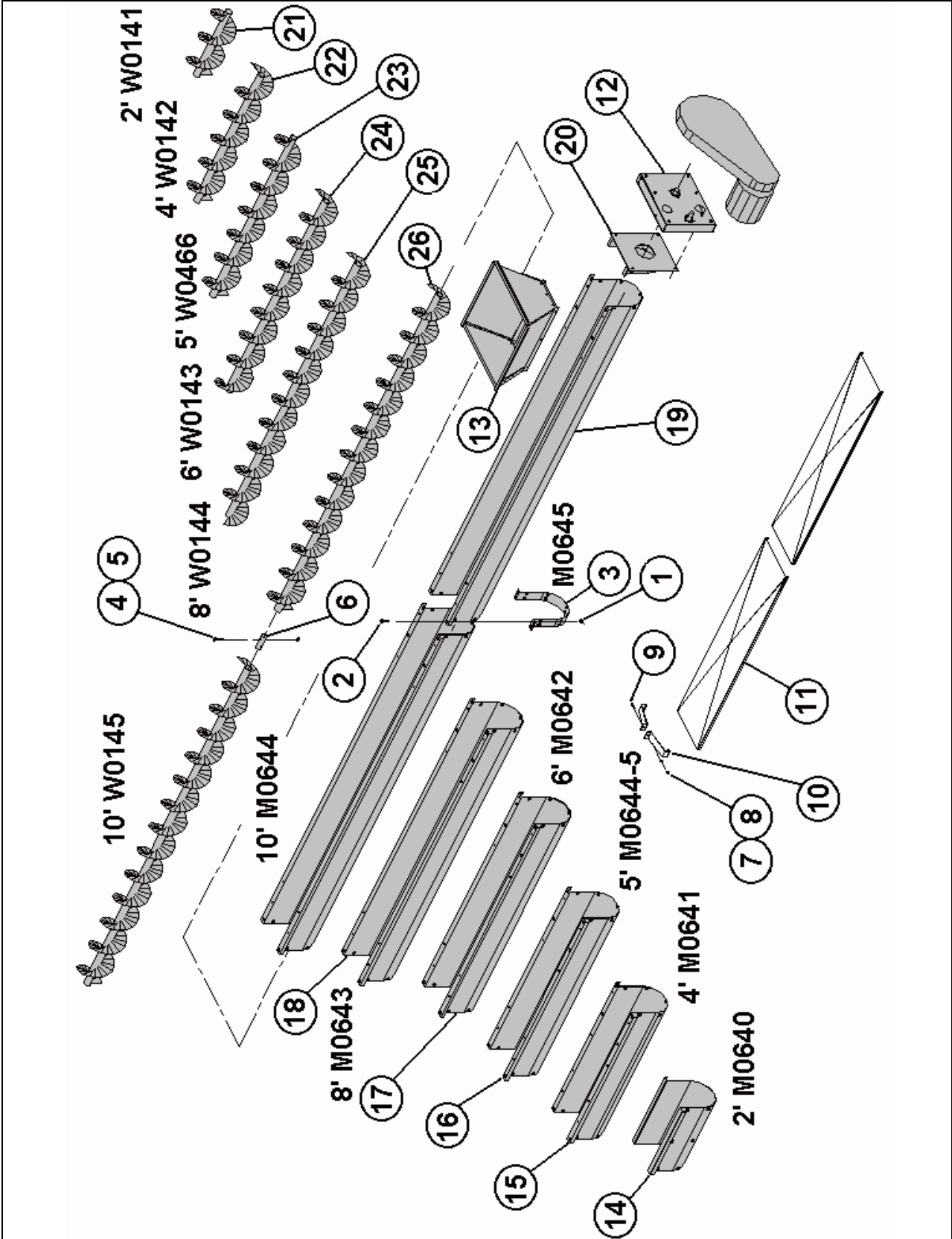


FIGURE 7

Slip these augers all the way into the trough sections and repeat this assembly procedure with remaining augers. Fasten the auger to the drive shaft with one 1/2" x 2-1/2" cap screw and hex lock nut. Assemble the hopper and install it on the starting trough as shown in figure 1 using 1/4" x 1/2" Stove bolts with lock washers and hex nuts.









10" U-TROUGH SECTION ASSEMBLY

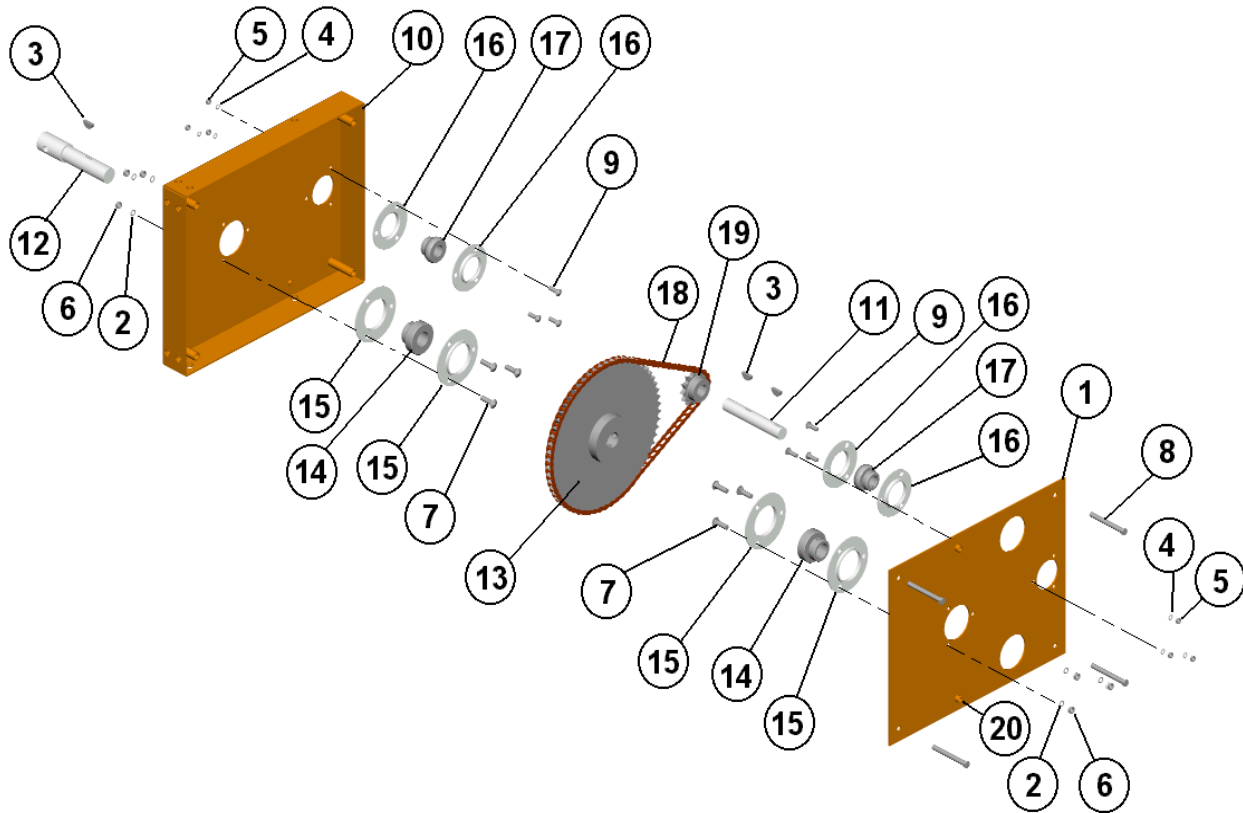
PC #	Part #	Description	Qty.
	4162X	Connector Band Bundle (includes pc's 1,2,3)	AR
1	G120376	Nut, 5/16NC Hex ZP	14
2	G133827	MachScrew, 5/16NC x 3/4" FH	14
3	M0645	Connector Band-10"UT	1

PC #	Part #	Description	Qty.
	4169X	Coupler Shaft-Feeders (includes pc's 4,5,6)	AR
4	G180185	HHCS 1/2NC x 2 1/2" G5 ZP	2
5	G9416450	Nut, 1/2NC Hex Centerlock	2
6	M0666	Coupler Shaft	1

PC #	Part #	Description	Qty.
	4164X	Cover Clamp Bundle (includes pc's 7,8,9,10)	AR
7	G120214	Washer, Lock 5/16" ZP	1
8	G120376	Nut, 5/16NC Hex ZP	1
9	G180081	HHCS 5/16NC x 1 1/4" G5 ZP	1
10	M0649	Cover Clamp-10+13" UT	2

PC #	Part #	Description	Qty.
11	M0648	Trough Cover, 5'-10" UT	AR
12	A0086	Drive Housing Assembly Feeders	See Page 18 1
13	4108X	Horizontal Hopper	See Page 21 1
14	M0640	Trough, 2' 10" UT	AR
15	M0641	Trough, 4' 10" UT	AR
16	M0644-5	Trough, 5' 10" UT	AR
17	M0642	Trough, 6' 10" UT	AR
18	M0643	Trough, 8' 10" UT	AR
19	M0644	Trough, 10' 10" UT	AR
20	W0277	Drive Adapter	1
21	W0141	Auger, 2'-10" UT+CF	AR
22	W0142	Auger, 4'-10" UT+CF	AR
23	W0466	Auger, 5'-10" UT+CF	AR
24	W0143	Auger, 6'-10" UT+CF	AR
25	W0144	Auger, 8'-10" UT+CF	AR
26	W0145	Auger, 10'-10" UT+CF	AR
27	S0934	Decal, Caution-Failure To	1
28	S0935	Decal, Warning-Keep Hands & Feet Away	1
29	S1182	Danger Rotating Auger	1

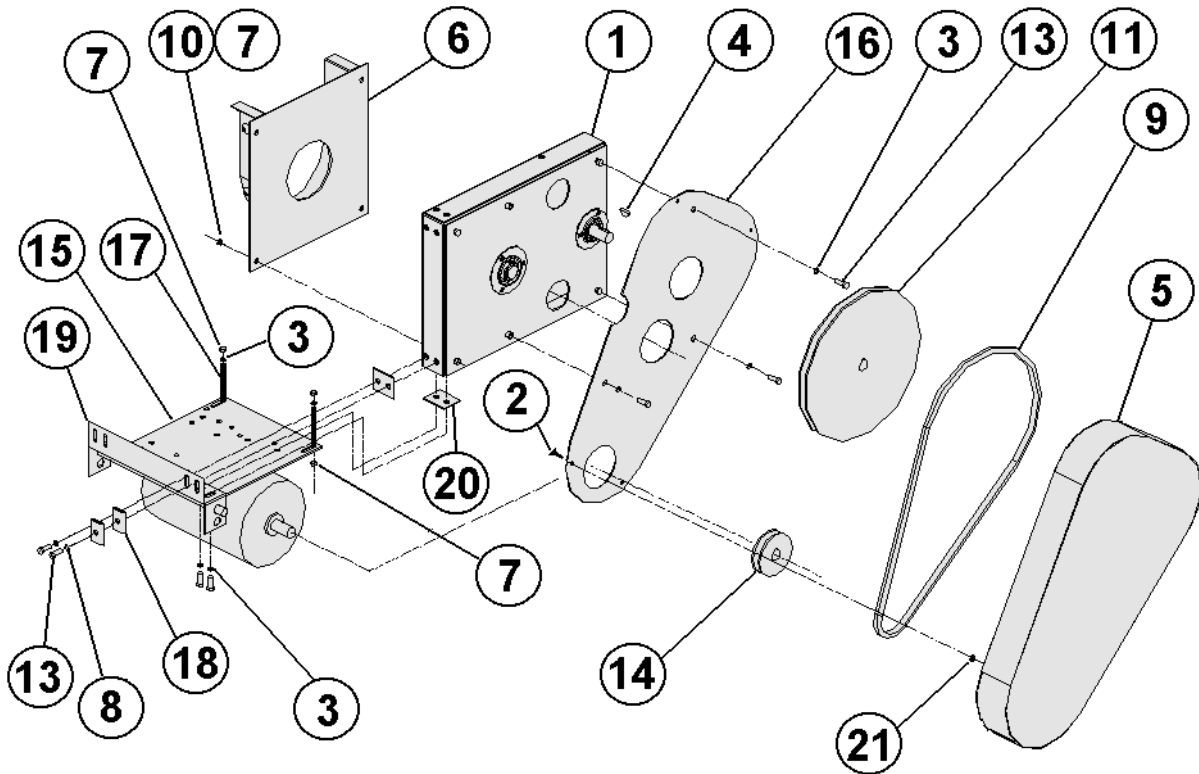
**Silo-Matic** A0086 DRIVE ASSEMBLY



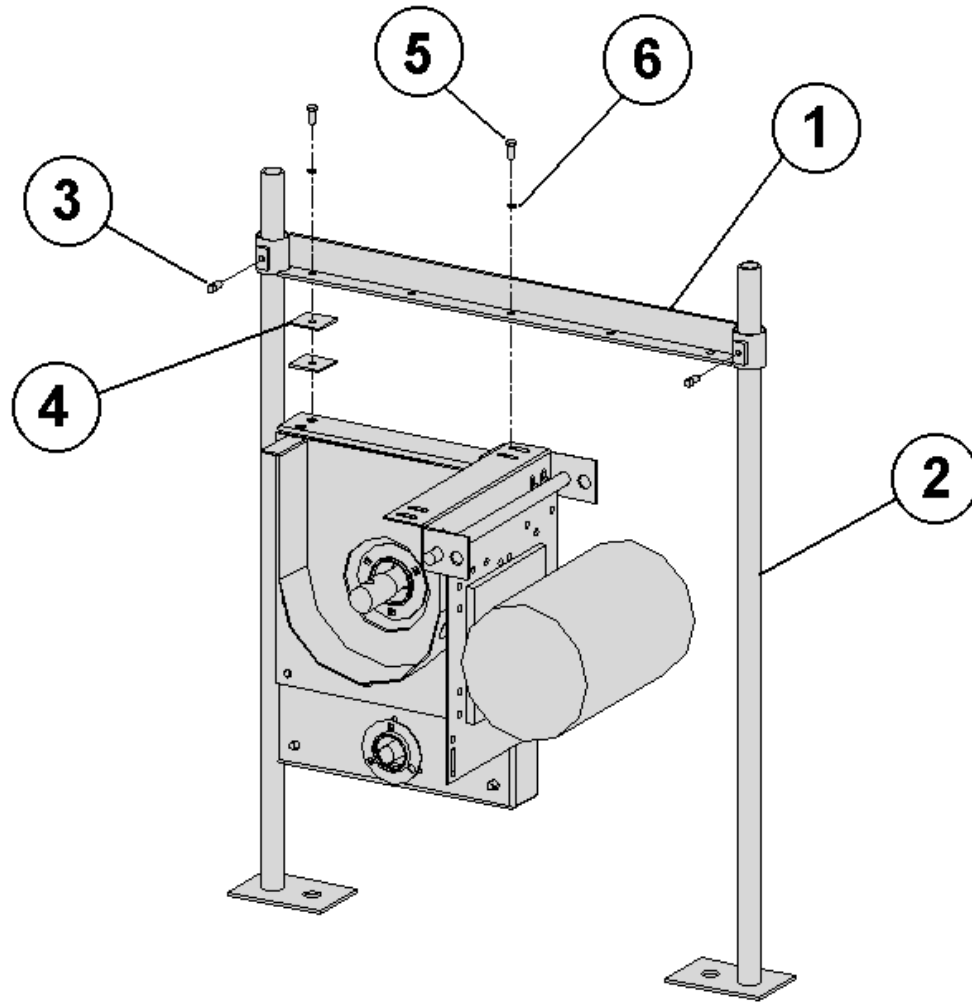
PC#	PART#	DESCRIPTION	QTY.
1	A0753	Drive Housing Cover	1
2	G103321	Washer, Lock 3/8" ZP	10
3	G113782	Woodruff Key, #15	2
4	G120214	Washer, Lock 5/16" ZP	6
5	G120376	Nut, 5/16NC Hex ZP	6
6	G120377	Nut, 3/8NC Hex ZP	10
7	G120915	Carriage Bolt, 3/8NC x 1" ZP	6
8	G125973	HHCS 3/8NC x 3 1/2" G2 ZP	4
9	G126216	Carriage Bolt, 5/16NC x 3/4" ZP	6
10	W0111	Drive Housing for A0086	1
11	M0548	Shaft, Motor Drive (1")	1
12	M0547	Auger Drive Shaft (1 9/16")	1
13	S0002	Sprocket, 50B60 x 1-1/4"	1
14	S0006	Bearing, Insert, 1 1/4"	2
15	S0007	Flange, Three Bolt ZP 1-1/4"	4
16	S0009	Flange, Three Bolt ZP 1"	4
17	S0010	Bearing, Insert, 1" Bore	2
18	S0027	Chain, #50 Roller 44.5"+Connector	1
19	S0029	Sprocket, 50B13x 1" (2)Set Screw	1
20	S0440	Nutsert, 3/8NC	12

**Silo-Matic**

4107X BELT DRIVE ASSEMBLY



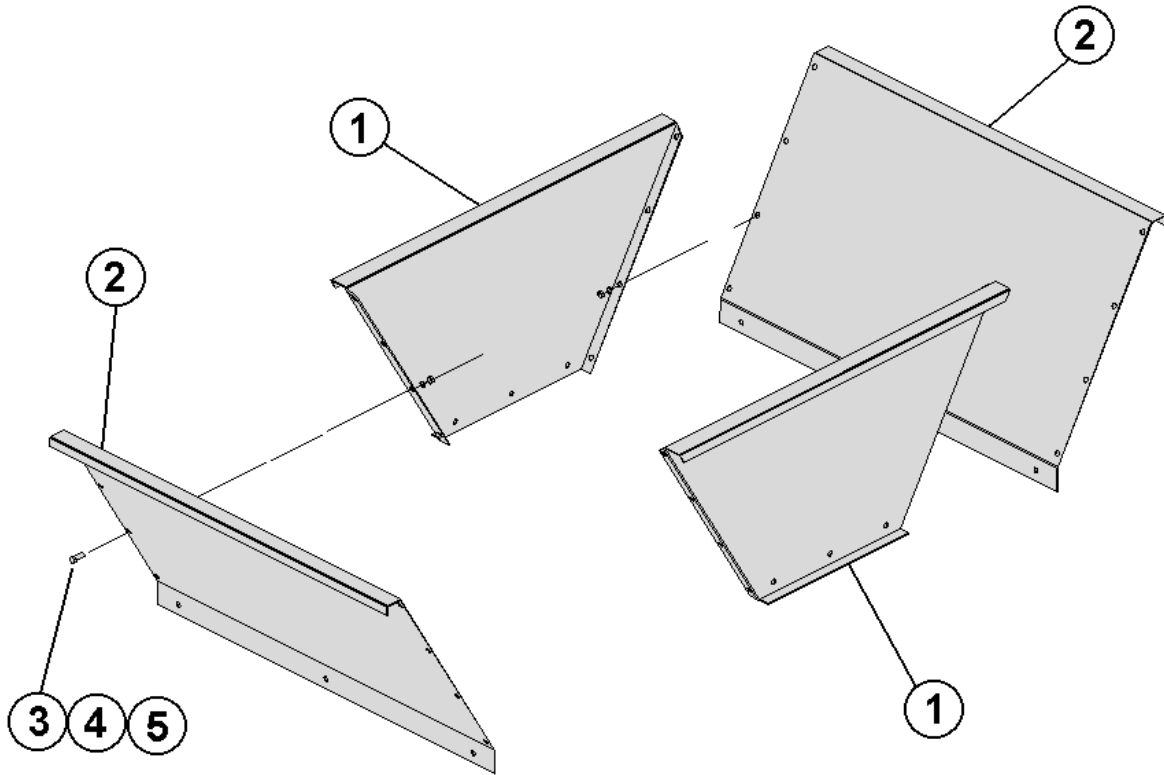
PC#	PART #	DESCRIPTION	QTY.
1	A0086	CF Drive Assembly	1
2	S0108	Thumb Screw 1/4-20NC x 3/4"	4
3	G103321	Washer, Lock 3/8" ZP	12
4	G113782	Woodruff Key, #15	1
5	W0125	Belt Guard	1
6	W0277	Drive Adapter	1
7	G120377	Nut, 3/8NC Hex ZP	9
8	G120394	Washer, Flat 3/8" ZP	8
9	S0127	Belt B-62	1
10	G138489	Washer, 3/8" External Tooth Lock	4
11	S0115	Sheave, 14" OD	1
12	G180120	HHCS 3/8NC x 3/4" G5 ZP	1
13	G180122	HHCS 3/8NC x 1" G5 ZP	3
14	S0016-xx	Sheave, 4" OD (xx=bore size)	1
15	W0112	Motor Mount-CF+UT	1
16	M0599	Belt Guard Back-Feeders	1
17	M0604	Belt Tightener Bolt, 3/8 x 4"	1
18	M0920	Washer, 2" Square	4
19	M1044	Universal Motor Support	1
20	M1045	Motor Support Shim	2
21	S0087	Speed Nut, 1/4-20NC	4



UNIVERSAL DRIVE

MOTOR CAN BE MOUNTED IN 4 DIFFERENT POSITIONS. SEE FIGURE 5 ON PAGE 11.

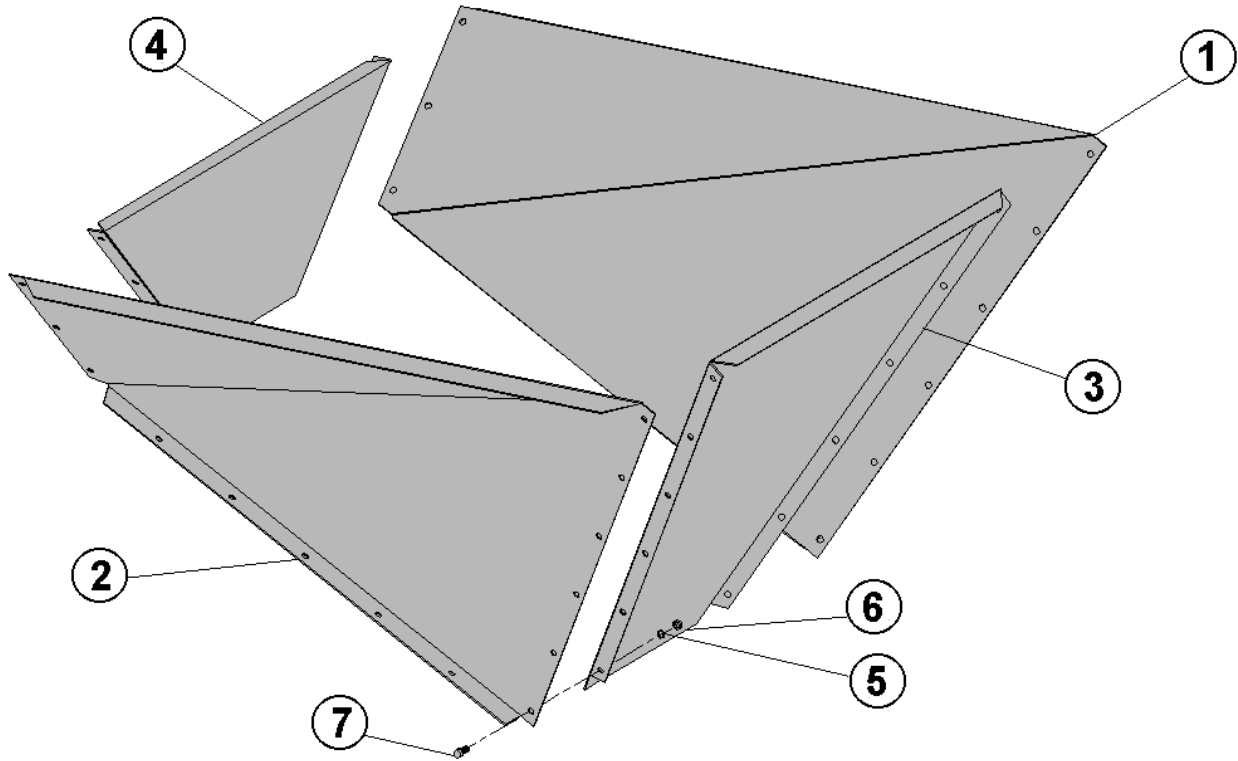
PC#	PART #	DESCRIPTION	QTY.
1	W0275	Drive Mounting Angle Support	1
2	W0542	Leg	2
3	G102894	Square Head Set Screw 3/8NC x 3/4"	2
4	M0920	Square Washer	2
5	G122119	3/8NC x 3/4" Hex Bolt	2
6	G103321	3/8" Lockwasher	2



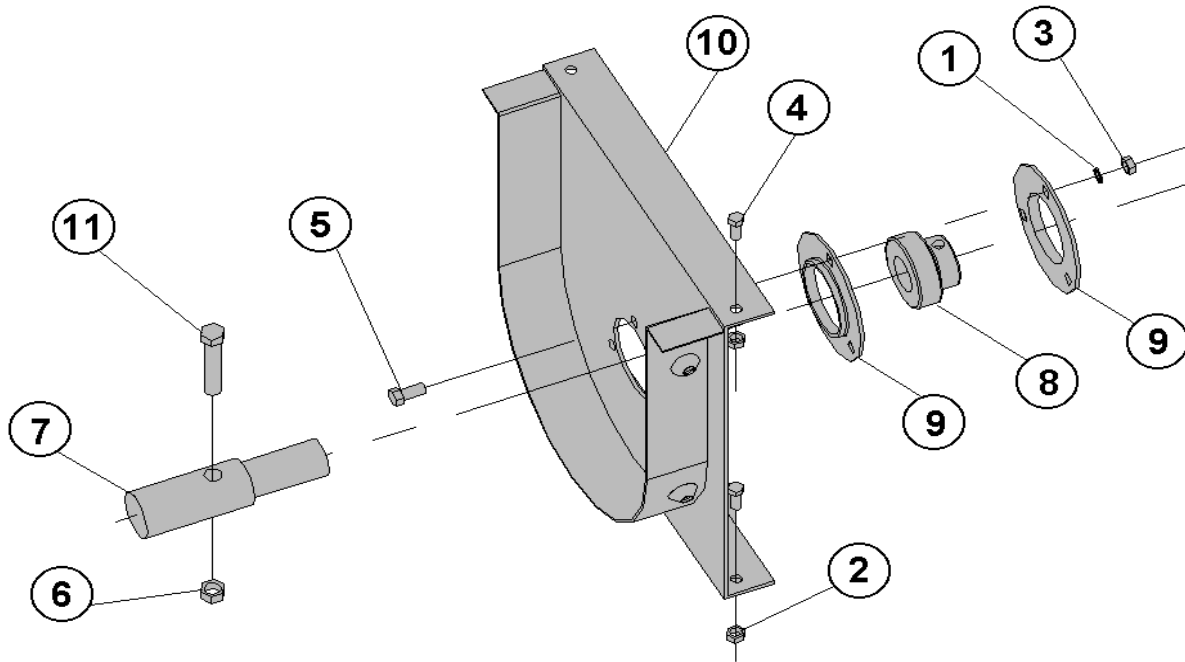
PC #	PART #	DESCRIPTION	QTY.
1	M0539	Hopper End, Horizontal	2
2	M0540	Hopper Side, Horizontal	2
3	G103319	Washer, Lock 1/4" Zinc Plated	25
4	G120375	Nut, 1/4NC Hex Zinc Plated	25
5	G120583	Machine Screw, 1/4NC x 5/8"	25

**Silo-Matic**

INCLINE HOPPER 4155X

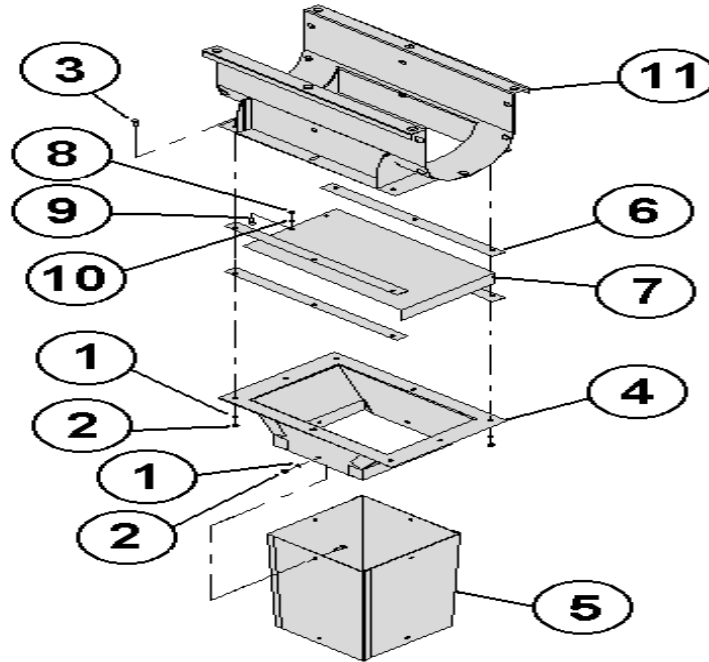


PC #	PART #	DESCRIPTION	QTY.
1	M0652	Incline Hopper Side, RH	1
2	M0651	Incline Hopper Side, LH	1
3	M0654	Incline Hopper End, Lower	1
4	M0653	Incline Hopper End, Upper	1
5	G103319	Washer, Lock 1/4" Zinc Plated	25
6	G120375	Nut, 1/4NC Hex Zinc Plated	25
7	G120583	MachScrew, 1/4NC x 5/8" RH SL ZP	25



PC #	PART #	DESCRIPTION	QTY.
1	G103321	Washer, Lock 3/8" Zinc Plated	3
2	G120376	Nut, 5/16NC Hex Zinc Plated	7
3	G120377	Nut, 3/8NC Hex Zinc Plated	3
4	G133827	MachScrew, 5/16NC x 3/4" Flat Head	7
5	G180120	HHCS 3/8NC x 3/4" Grade 5 Zinc Plated	3
6	G9416450	Nut, 1/2NC Hex Centerlock	1
7	M0660	Idler Shaft, End Plate	1
8	S0006	Bearing, Insert, 1 1/4"	1
9	S0007	Flange, Three-Bolt	2
10	W0151	Conveyor End Weldment	1
11	G180185	HHCS 1/2NC x 2 1/2" Grade 5	1





DOWNSPOUT ADAPTER 4158X			
PC#	PART #	DESCRIPTION	QTY.
1	G120214	Washer, Lock 5/16" ZP	6
2	G120376	Nut, 5/16NC Hex ZP	6
3	G180077	HHCS 5/16NC x 3/4" Grade 5 ZP	6
4	W0132	Discharge Extension , Downspout	1
DOWNSPOUT 4159X			
PC#	PART #	DESCRIPTION	QTY.
1	G120214	Washer, Lock 5/16" ZP	6
2	G120376	Nut, 5/16NC Hex ZP	6
3	G180077	HHCS 5/16NC x 3/4" Grade 5	6
5	W0133	Downspout Section	1
SLIDE GATE 4157X			
PC #	PART #	DESCRIPTION	QTY.
1	G120214	Washer, Lock 5/16" ZP	6
2	G120376	Nut, 5/16NC Hex ZP	6
3	G180077	HHCS 5/16NC x 3/4" Grade 5	6
6	M0635	Slide Gate Spacer	4
7	M0661	Slide Gate	1
8	G103319	Washer, Lock 1/4" Zinc Plated	1
9	G120375	Nut, 1/4NC Hex Zinc Plated	1
10	G120583	MachScrew, 1/4NC x 5/8" Round Head	1
11	W0135	Discharge Outlet	1