

**M-C**

**CONTINUOUS  
GRAIN DRYER**

**ASSEMBLY-OPERATION AND  
MAINTENANCE INSTRUCTIONS**

**MODELS 300-400-600-800-1600  
FROM SERIAL NO. 13,236—**

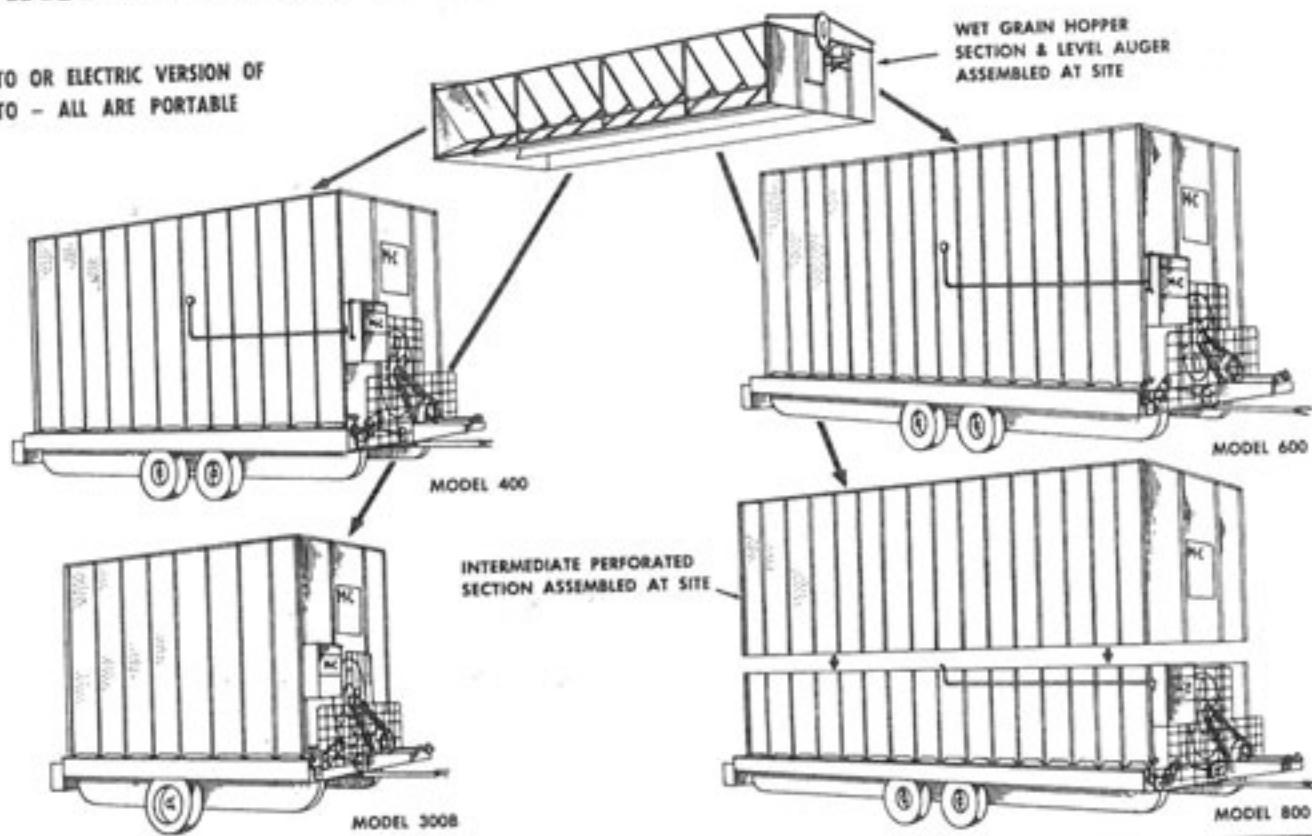
**DM 67**

**MATHEWS COMPANY**

**CRYSTAL LAKE ILL., 60014 U.S.A.**

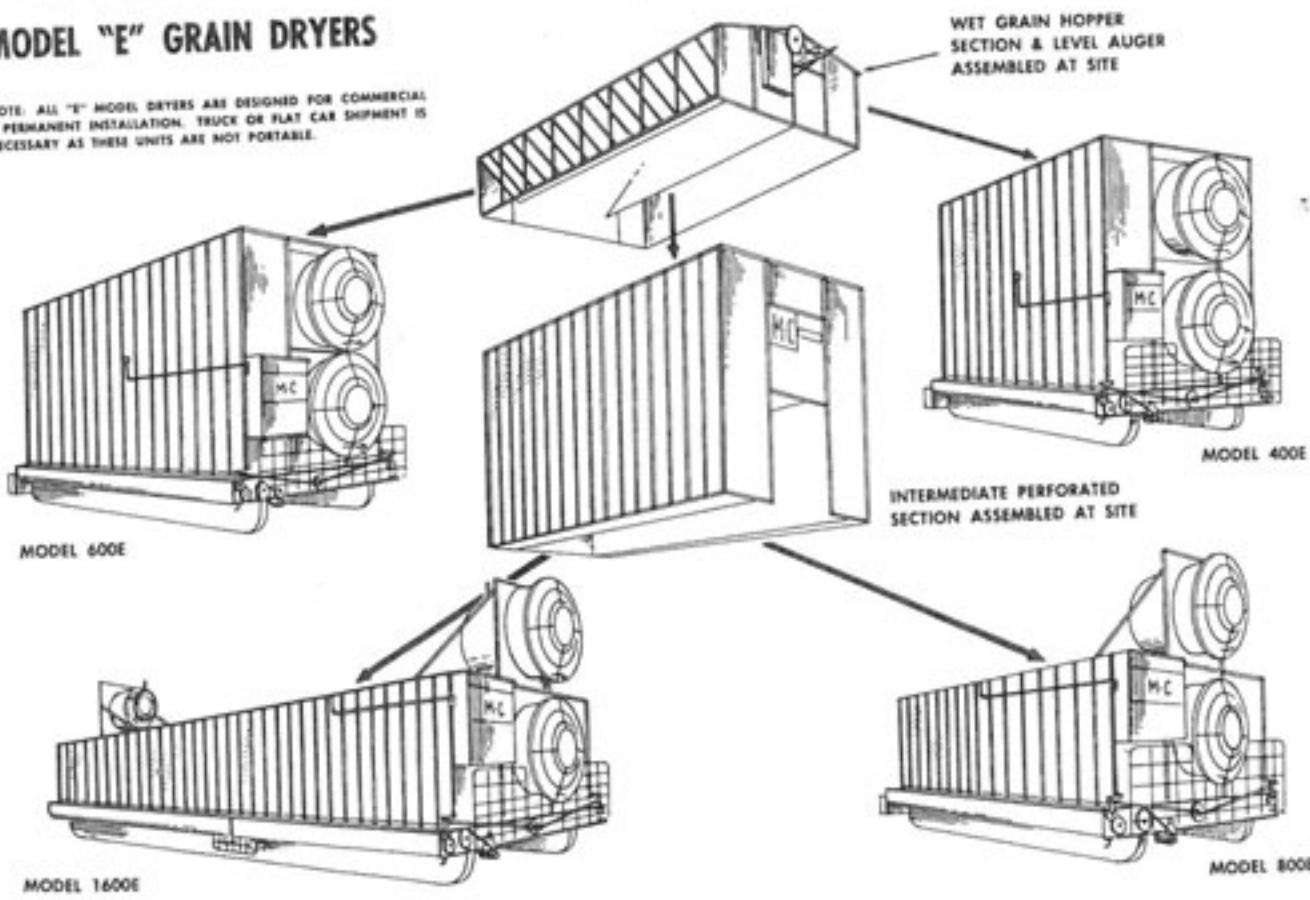
# TRANSPORTATION & GENERAL ASSEMBLY INFORMATION

PTO OR ELECTRIC VERSION OF  
PTO - ALL ARE PORTABLE



## MODEL "E" GRAIN DRYERS

NOTE: ALL "E" MODEL DRYERS ARE DESIGNED FOR COMMERCIAL  
& PERMANENT INSTALLATION. TRUCK OR FLAT CAR SHIPMENT IS  
NECESSARY AS THESE UNITS ARE NOT PORTABLE.



# OPERATING INSTRUCTIONS FOR M-C GRAIN DRYERS

## SERIES 300-400-600-800-1600

Every M-C Grain Dryer is test run before leaving the factory. Inspection is made of all moving parts, gas lines, and control systems. Therefore, your dryer should function properly when it reaches you.

We advise that you set your dryer in position and check it out before filling it with grain, in the event any damage may have occurred during shipment. The dryer should be installed on level ground. If the ground is soft, lay planks on the ground, spaced, so that the skids of dryer will rest firmly on them. Remove wheels or dig holes where wheels are to be located, and pull dryer into position. For permanent installations, pour a concrete slab.

Advise your LP gas supplier that the dryer takes liquid gas from the bottom of the tank [not vapor]. When the gas dealer hooks up the system, have him use the No. 1217021 excess flow valve [see gas flow diagram] furnished with the dryer. The No. 1217021 excess flow valve will shut off flow of gas, should the line break between tank and dryer. The valve furnished with the dryer will shut off quicker than those normally furnished by the gas supplier. We provide the valve as an extra safety precaution. Use a minimum of  $\frac{1}{2}$ " ID tubing between tank and dryer - on long runs use a larger diameter. Connect line from tank to short length of rubber hose on dryer.

For natural gas operation you need a minimum of 5 lbs. operating pressure. If you hook up for natural gas, see separate instructions [Page 6].

After dryer is set in place, bolt top hopper sections in place [See instructions on page 16]. Connect PTO shaft to tractor 540 RPM and 110 volt electric line to cord at lower left on control panel. The 3-pole fused electric plug and cord extending from the control cabinet supplies the power required to operate the dryer control circuits only. Do not under any circumstances remove this plug from the machine. For electrical leads over 50 feet [especially on models with leveling augers] be sure line is heavy enough to carry the load. For electric motor models, bring power line to magnetic starter. [See wiring diagram on page 12].

If auxiliary equipment is to be added to the dryer, such as lever or unloading augers, a separate power source will be required for these items.

**NOTE:** Turn fan over by hand before starting motor to make sure all parts are running free. Start fans in operation to make sure they are running properly. The 3-way switch for unloading should be in the "Off" position. [Ratchet pawls are then disengaged]. Shut off fans and fill dryer with grain. Enough grain should be put into dryer to fill drying and cooling columns on sides, and wet holding bin on top.



## Read Through The Following Instructions Before Attempting To Run Your Dryer The First Time

### To Operate Dryer Follow This Procedure:

1. Start fans in operation. [PTO 540 RPM]
2. Open pilot hand valve. [9]
3. When light No. 4 and No. 5 come on, open main burner hand valve [5]. Open only partially at first in cold weather until dryer warms to avoid gas line frosting. Then set modulating valve [4] to desired operating temperature. To increase temperature turn adjusting screw in, to decrease turn out. We recommend 180° for corn and milo, 160° for wheat, 120° for soybeans, barley and oats, 110° for seed grains.
4. When you start drying wet grain for the first time you must hold grain in the dryer before letting it come out. With the ratchet pawls of the grain feeding mechanism disengaged, the grain will stay in the dryer, however, the augers will be running. The 3-way switch [moisture control] should be in the "Off" position. [Ratchet pawls will be disengaged]. When drying 30% corn to 12%, leave the grain in the dryer for approximately 1½ hours. This time varies with the moisture of the grain going in. Grain with less than 30% moisture will require less pre-heat time.
5. After a sufficient amount of time, engage the ratchet pawls. The 3-way moisture control switch should be placed in the "Manual" position. This will drop the ratchet pawls into place and allow you to get your dryer operating properly before setting it on automatic control.
6. The grain in the cooling section [the lower section of the side columns below the dividing floor] has not been subjected to hot air and must be run back through the dryer. Once you have completed this cycle it is not necessary to do it again. You can leave grain in the dryer when you stop at night and the next day you can start right out drying and cooling.
- For dryer installations where it is not convenient to run wet grains back, the trap door on inside of the 400, 600 and 800 machines can be taken out, and a cardboard placed over the back fan at the beginning. In this manner, hot air will be delivered to all parts of the dryer. After about 1 hour and 15 minutes, replace trap door and remove cardboard. Run for another one half hour before engaging ratchet pawls.
7. For safe bin storage practically all grains must be reduced to 13% moisture or less.

As the dried grain begins to come out of your dryer, check it with a moisture tester for moisture content. If the moisture content is too high, slow the unloading mechanism down. If the moisture content is too low, increase the speed of the unloading mechanism.

NOTE: Wait from 30 to 45 minutes after making adjustments before testing moisture again.

8. The speed of the unloading mechanism can be increased or decreased with a combination of two adjustments.
  - [a] The speed of the feed rolls and side augers can be adjusted together by adjusting the hand lever on the "Variable Drive Pulleys". Pull the hand lever to the left to increase speed - push to the right to decrease speed.
  - [b] The feed rolls can be adjusted independently of the side augers by sliding the "Eccentric Connecting Rod" along the slotted bracket on the eccentric sprocket. The eccentric sprocket is located at the center of the base on the drive end of the dryer. Moving the eccentric connecting rod towards the center of the sprocket will decrease the stroke and slow down the feed rolls. Moving it away from the center of the sprocket will increase the stroke and speed up the feed rolls.

All dryers are set at the factory to have the ratchet pawls engage one tooth on the ratchet wheels.

The variable speed pulleys are used for finer adjustments than you can obtain by setting the eccentric connecting rod.

**CAUTION:** The Variable Drive Belts should not be kept too tight.

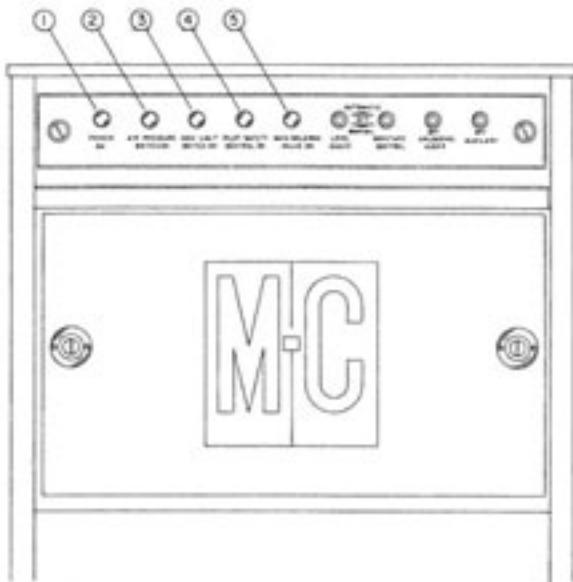
To insure continued trouble free operation of the variable drive assembly, it is a good idea to run through the full cycle from slow to fast, at least once every other day. This will keep rust from forming on the shaft. **Important:** Should trouble occur within the variable drive, do not attempt to repair it. Remove the unit and return it to your M-C Dealer.

**IMPORTANT - ADJUST VARIABLE SPEED PULLEY ONLY WHEN MACHINE IS OPERATING.** Variable drive will not operate [pulleys will not change diameter] if machine is not running. To increase pulley speed, pull handle out [toward side of dryer] and push in [toward fans] to reduce pulley speed.

9. If you are drying at high capacity, taking out small amounts of moisture, it may be necessary

to increase the speed of the unloading mechanism CONSIDERABLY. Pulling the hand lever on the variable speed drive pulleys to the left will increase the rate of feeding grain out of the dryer. Should more unloading speed be needed [grain still coming out to dry], slide the eccentric connecting rod farther away from the center of the eccentric sprocket. This will

cause the ratchet pawls to engage every second or third tooth on the feed roll ratchet wheels. In making these adjustments BE CAREFUL NOT TO RUN MORE GRAIN OUT OF THE FEED ROLLS THAN THE SIDE AUGERS CAN CARRY AWAY! Four teeth is about the maximum adjustment that the augers can handle.



## CONTROL PANEL - ELECTRIC AND GAS CONTROL

The Control Panel consists of temperature and safety controls. There are five lights wired in series with the controls to indicate operation.

### Control Lights

No. 1 Lights when electric power is on.

No. 2 Lights when fan is running [air pressure completes circuit to pilot valve letting gas flow to pilot].

No. 3 Lights when high limit control circuit is closed.

*This indicates the high limit temperature safety device is operating.*

No. 4 Lights in 60 to 90 seconds after flame at pilot tip has heated thermocouple establishing circuit at pilot control.

No. 5 Lights when the temperature control calls for heat.

10. Regulate your drying to correspond with your harvesting. If you find you cannot keep up with the Dryer, reduce the temperature of the air by using a lower temperature setting on modulating valve, [4] thus slowing the drying down. In this way you can operate very efficiently.

11. **IMPORTANT:** Never let the level of the grain in your Dryer go below the bottom edges of the upper wet holding bin. When this happens the air pressure inside of the Dryer will drop, and the heat will automatically shut off.

Your dryer is a Continuous Flow Dryer and it is necessary to HOLD THE GRAIN IN THE

DRYER FOR A PERIOD OF TIME WHEN FINISHING A RUN. Ratchet pawls should be disengaged as described in Instruction No. 4. This will give the grain remaining in the Dryer time to become dried before the heat is automatically turned off. Allow about 30 minutes of drying time for high moisture grain [30%] and proportionately less for drier grain.

12. If you should accidentally get a foreign object in the grain feeding mechanism, shear pin on sprocket No. 1216401 at lower left side [as you face drive end of Dryer] will help to protect the feeding parts from breakage. Replace this pin when necessary. Do not use a shear pin larger than the 3/16" Cotter Pin put on sprocket at the factory.

13. AFTER YOU HAVE YOUR DRYER OPERATING PROPERLY AND DRYING YOUR GRAIN TO THE DESIRED MOISTURE CONTENT, you are ready to switch it to "Automatic Moisture Control."

Refer to the following Chart if you are drying shelled corn and set your moisture control dials, located on each side of your Dryer, at the correct number

APPROXIMATE SETTING  
FOR SHELLED CORN

Thermostat Setting	Set Control Dial At - -	To Get -- Percent Moisture
140°	3.5	13 - 14%
180°	4.0	14 - 15%
180°	4.5	13 - 14%
180°	5.0	12 - 13%

14. Place 3-way switch for moisture control in the "Automatic Position".
15. When the combined temperatures of the air passing through the grain and the grain temperature are equal to the calibrated setting on the control dial, the ratchet pawls will engage the ratchet wheels and feed grain out of the Dryer. Check the moisture content of the grain coming out of EACH side auger by taking a moisture test. EACH SIDE OF DRYER SHOULD BE TESTED AND CONTROL DIAL FOR THAT SIDE ADJUSTED SEPARATELY. If the moisture is too high, in-

crease the setting of the control one point at a time until the correct moisture content is reached. Allow ample time between adjustments for the machine to correct itself, suggested time to be  $1\frac{1}{2}$  hours.

Adjust the grain unloading mechanism to correspond with the rate of feeding of the grain by the Automatic Moisture Controls [see Instructions No. 9 and No. 10]. THESE ADJUSTMENTS WILL ONLY BE SLIGHT IF YOU HAVE YOUR DRYER OPERATING CORRECTLY BEFORE SWITCHING IT TO "AUTOMATIC MOISTURE CONTROL". The speed of the variable drive should be fast enough to cause the Automatic Moisture Controls to operate intermittently. If the unloading mechanism is working too slowly, then the moisture controls will operate constantly and the grain will come out drier than the chart indicates.

It is most desirable to have just enough speed on the unloading mechanism to cause the grain to be fed out of the Dryer almost constantly. If for some reason you want to disengage the ratchet pawls - for instance, at the beginning or ending of a run, to hold the grain in the Dryer a longer period of time, put the 3-way moisture control switch in the "off" position [See Instructions No. 4 and No. 11]. The ratchet pawls will be disengaged and no grain will be fed out of the Dryer.

16. If you have followed the instructions carefully, your Dryer will operate CONTINUOUSLY without watching or adjusting as long as you keep it running and full of grain. "NO BABY SITTER NEEDED."



## If You Have Trouble - Here Are Things To Look For!

Problem	Solution
1. Cannot Light Pilot	<ul style="list-style-type: none"><li>1. [a] - Broken wire from transformer to spark plug.</li><li>[b] - Too much gap between spark plug wire and pilot tip. [Short circuit elsewhere]. Set gap at 3/16".</li><li>[c] - Electric power is not turned on.</li><li>[d] - Air Pressure switch is not functioning.</li><li>[e] - Push reset button on high limit control</li><li>[f] - Orifice in pilot is plugged. Remove and clean.</li><li>[g] - Check pilot solenoid valve to be sure it is opening up. Coil may be burned out.</li></ul>
2. Air pressure switch not functioning	<ul style="list-style-type: none"><li>2. [a] - Dryer must be full of grain to operate. If Dryer runs out of grain, the air will escape freely and loss of air pressure causes air pressure switch to open circuit.</li><li>[b] - Air tube from pressure switch into Dryer may be filled with chaff.</li></ul>
3. Main burner will not light	<ul style="list-style-type: none"><li>3. [a] - Thermocouple from pilot control is not getting hot enough. Adjust pilot safety control bulb into flame enough to heat bulb sufficiently to establish contact, or regulate pressure in pilot pressure regulator.</li><li>[b] - You do not have enough gas flow from tank. Check, make sure all valves from tank are full open. When burner is operating, pressure gauge will indicate flow of gas.</li></ul>
4. Heat shuts off	<ul style="list-style-type: none"><li>4. [a] - Dryer has run low of grain</li><li>[b] - Modulating valve may be faulty.</li><li>[c] - High limit control may have cut out.</li><li>[d] - Solenoid may be faulty.</li></ul>
5. Not enough heat.	<ul style="list-style-type: none"><li>5. [a] - Valves from tank are not full open.</li><li>[b] - Increase pressure at pressure regulator. [This is set at factory, however, to increase gas flow, adjust screw at side of pressure regulator.]</li><li>[c] - Orifice in main burner partially plugged. Remove and clean.</li></ul>

6. Main valve sticks.
7. Gas lines frosting up.
8. Lights do not work.
9. Electric circuit out of order.
10. Automatic Moisture Control does not work.
6. [a] - Remove top portion of valve and polish piston.
7. [a] - When first starting burner, open the main hand valve only partially until the unit becomes warm.
8. [a] - No electricity. Light bulbs burned out. Replace.
9. [a] - Check circuit with wiring diagram furnished with instructions.
10. [a] - Solenoid is burned out or a wire is broken. Check and make replacement. In the meantime OPERATE DRYER MANUALLY.

### **Instructions For Changing Over LP To Natural Gas Operation**

For natural gas operation, a minimum of 5 lbs. of operating pressure is required on all models.

To convert an LP dryer to natural gas operation, it is advisable to purchase the complete pipe and control assembly within the cabinet. [The valves are larger, and 1-1/4" I. D. pipe is used to assure an adequate flow of gas.] However, if natural gas line pressure is 20 lbs or more, it may be possible to oper-

ate efficiently with LP piping and controls, by removing the 1217004 pressure regulator.

The main burner orifice is  $\frac{1}{4}$ " in diameter on LP units, and  $\frac{3}{8}$ " on natural gas models. The pilot orifice holes on both natural and LP models are the same.

A list of required parts for conversion is shown on pages 8 and 9.

### **Lubrication**

All bearings on the grain augers are pre-lubricated and require no further attention. The bearing on the fan shaft of the dryers should be lubricated with regular gun grease every 100 hours of operation. On the "B" model dryers, there are universal joint drive shafts connecting the hot air fan and cool air fan. These are reached by opening the trap door to the cooling chamber. **DO NOT OVER GREASE.**

One or two shots are sufficient. Caution: Excess greasing blows out seals. All other parts - ratchets, ratchet drive and chains, should be oiled with number 10 oil. When you stop using the dryer, grease and oil all parts.

Care should be taken to avoid getting oil into the ratchet pawl solenoids.



## **Instructions For Ordering Parts**

1. ALL PARTS MUST BE ORDERED FROM YOUR DEALER.
2. GIVE MODEL NAME, NUMBER and SERIAL NUMBER that is stamped on the NAME PLATE of your machine.
3. Order parts from your PARTS LIST as this is the ONLY means we have of identifying the parts you need. Order by the QUANTITY DESIRED, the PART NUMBER and the DESCRIPTION OF PART.

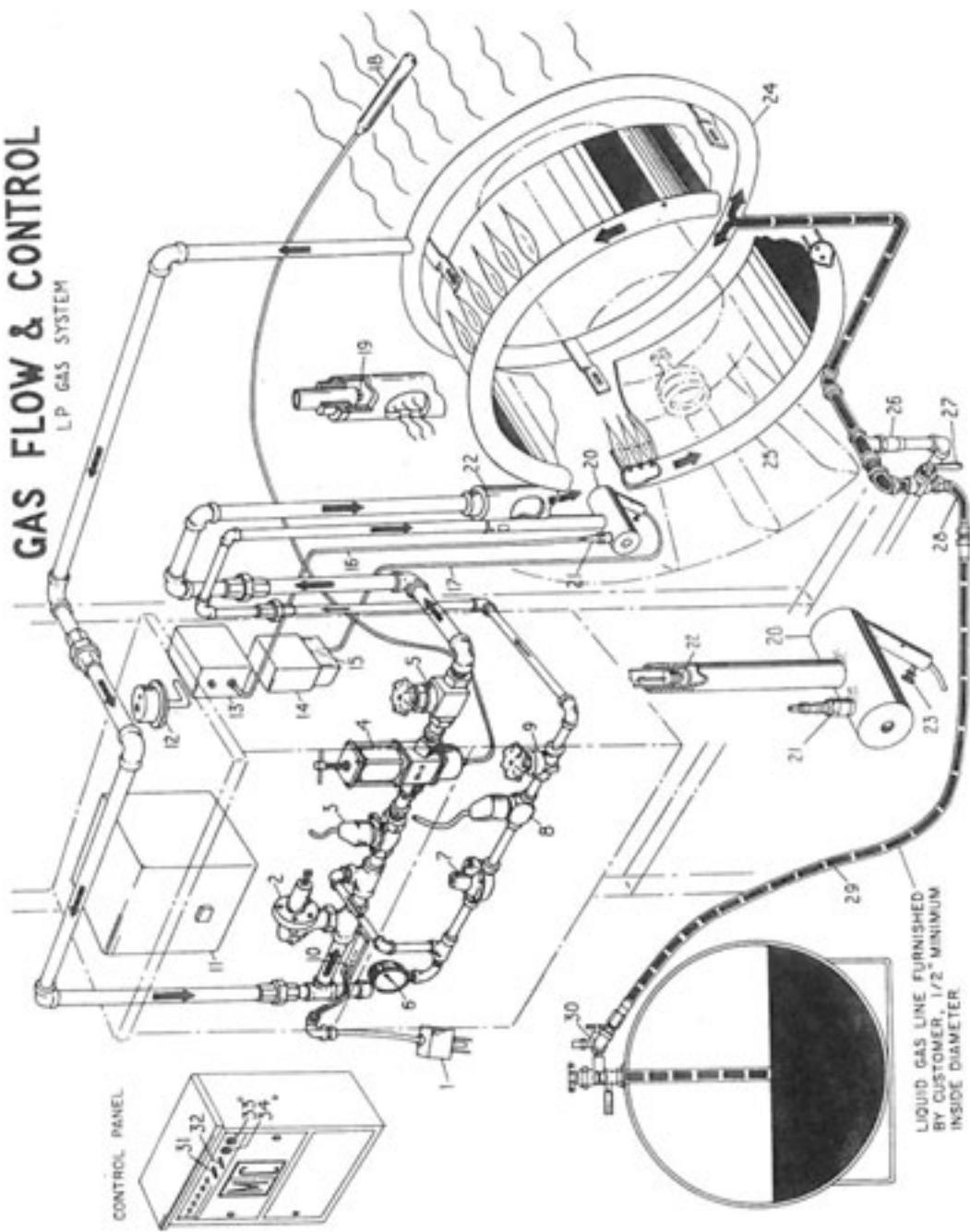
Note: The Mathews Company reserves the right to incorporate any changes in design without obligation to make these changes on units previously sold.

## **OWNERS NOTICE**

**TO INSURE WARRANTY CLAIMS, BE CERTAIN TO FILL OUT AND MAIL WARRANTY CARD WITHIN 30 DAYS.**

# GAS FLOW & CONTROL

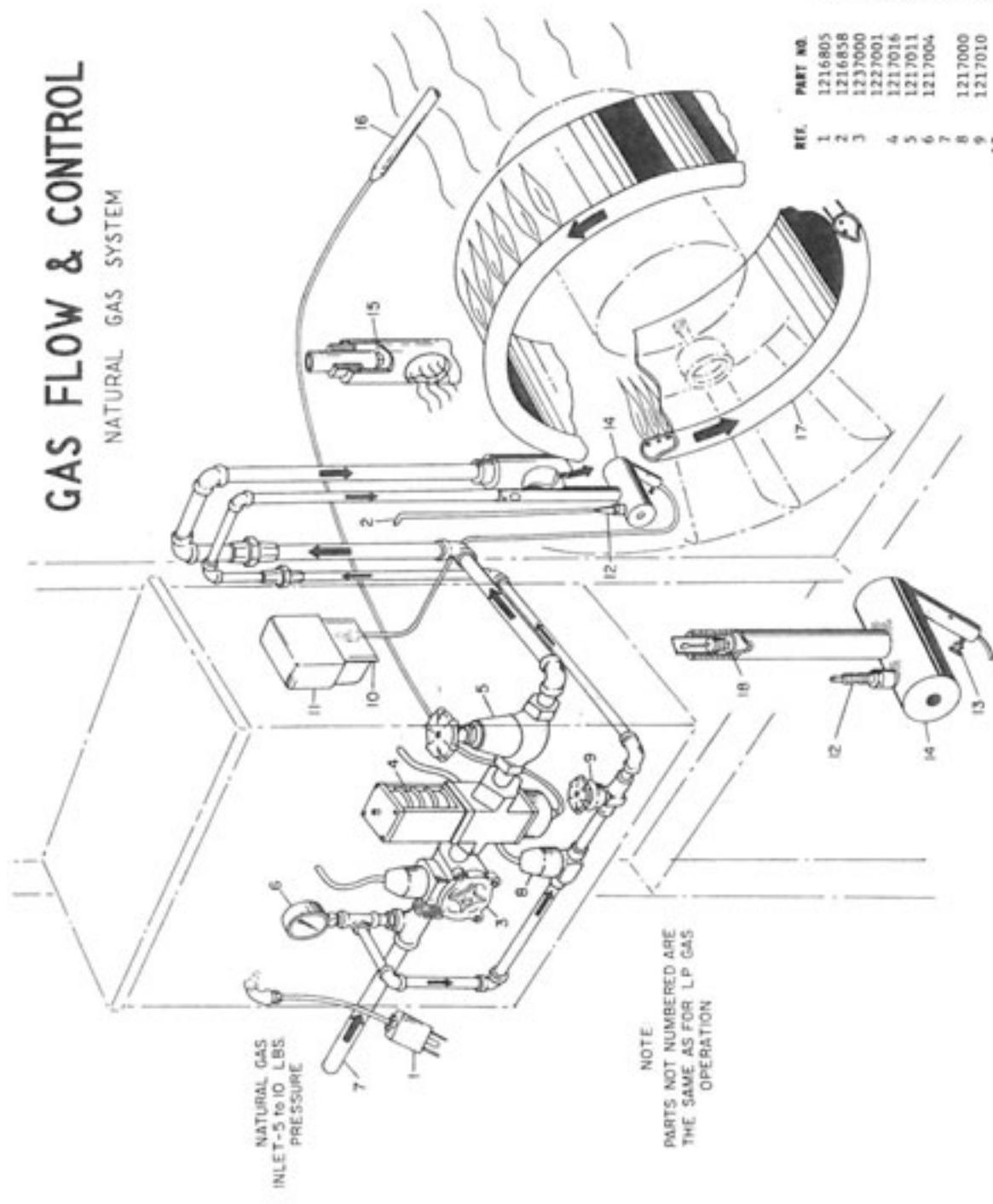
L.P. GAS SYSTEM



REF.	PART NO.	DESCRIPTION
1	1216805	1.5 Amp. fuse
2	1217006	Pressure Regulator (L.P. Only)
3	1217002	Main Solenoid Valve L.P.
4	1217012	Modulating Valve L.P.
5	1217011	Main Gas Hand Valve
6	1217006	Gas Pressure Dial Gauge
7	1217009	Pilot Gas Pressure Regulator
8	1217000	Pilot Solenoid Valve
9	1217010	Pilot Hand Valve
10		Terminal Blocks (Order by Color & No. of Holes 3 or 6)
11	1216802	Magnetic Starter for L.S. 1 or 3 phase
12	1216849	Air Pressure Switch
13	1217020	Ignition Transformer
14	1217019	Base Pilot Safety Control Bar on Thermocouple (Not Replaceable)
15	1216858	Ignition Wire
16	1216844	Thermocouple Lead Wire
17	1216844	Modulating Valve Bulb (Not Replaceable)
18	1215530	Main Burner Orifice for L.P.
19	1210167	Pilot Burner Orifice
20	1216842	Spark Plug
21	1211047	Pilot Orifice
22	1211047	Auxiliary Switch (Optional)
23	1218100	Unloading Auger Switch (Optional)
24	1210113	Vaporizer Ring Weldment
25	1210115	Pressure Relief Valve
26	1217013	Pressure Relief Valve
27	1217013	Liquid Line Hand Shut-Off Valve
28	1217005	Flexible "L" Gas Line Inlet Hose
29	1217013	Liquid Gas Line (Furnish by Customer)
30	1217021	1/2" Min. I.O. L.P. Gas Tank Valve (Excess Flow)
31	1216806	3-Way Toggle Switch (Level Auger)
32	1216807	Toggle Switch (A.M.C.)
33	1216806	Auxiliary Switch (Optional)
34	1216806	Unloading Auger Switch (Optional)

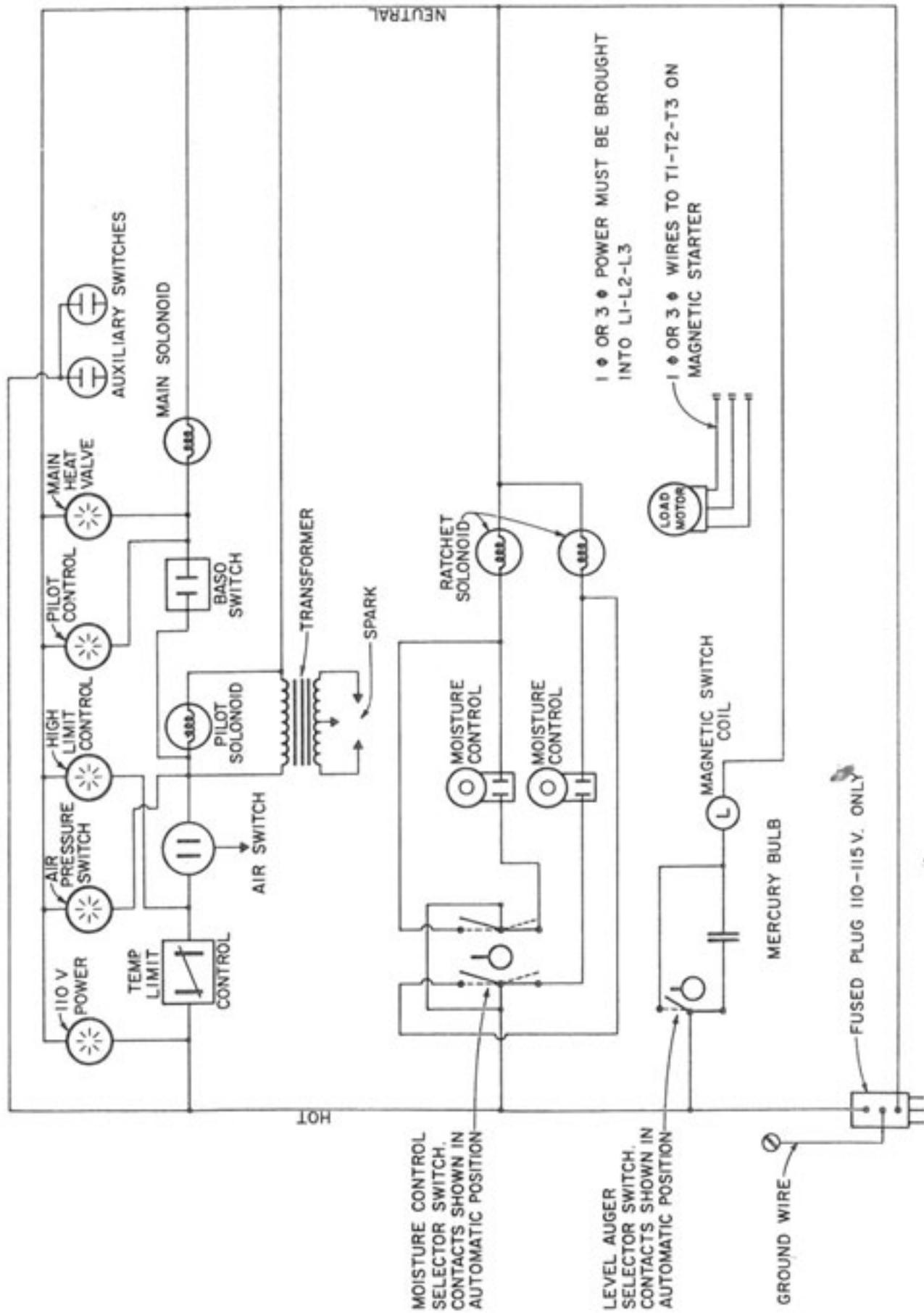
# GAS FLOW & CONTROL

## NATURAL GAS SYSTEM

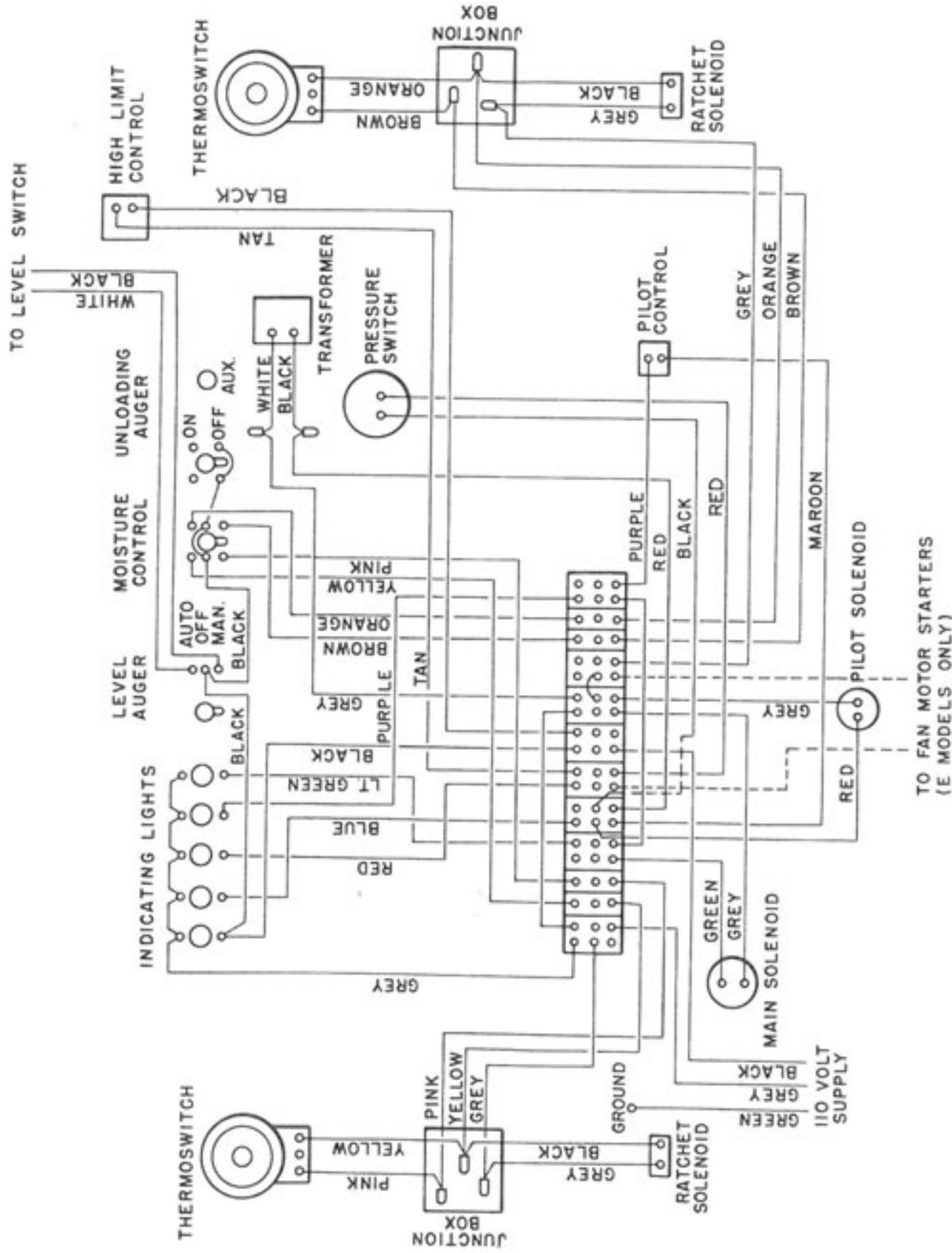


REF.	PART NO.	DESCRIPTION
1	1216805	15 Amp. Fuse
2	1216858	Ignition Wire
3	1237000	Main Solenoid Valve Replacement Bulb Only
4	1217016	Main Modulating Valve
5	1217011	Main Gas Hand Valve
6	1217004	Gas Pressure Dial Gauge
7		Min. of 1-1/4" Pipe from Motor & Regulator
8	1217000	Pilot Solenoid Valve
9	1217010	Pilot Hand Valve
10		Nut on Thermocouple (Not replaceable)
11	1217019	Base Pilot Safety Control
12	1216862	Spark Plug
13	1248100	Set Screw for Holding Thermocouple Bulb
14	1210167	Pilot Burner Weldment
15	1216631	Main Burner Orifice for Natural Gas
16		Modulating Valve Bulb (Not replaceable)
17	1210115	Main Burner Ring
18	1211047	Pilot Orifice

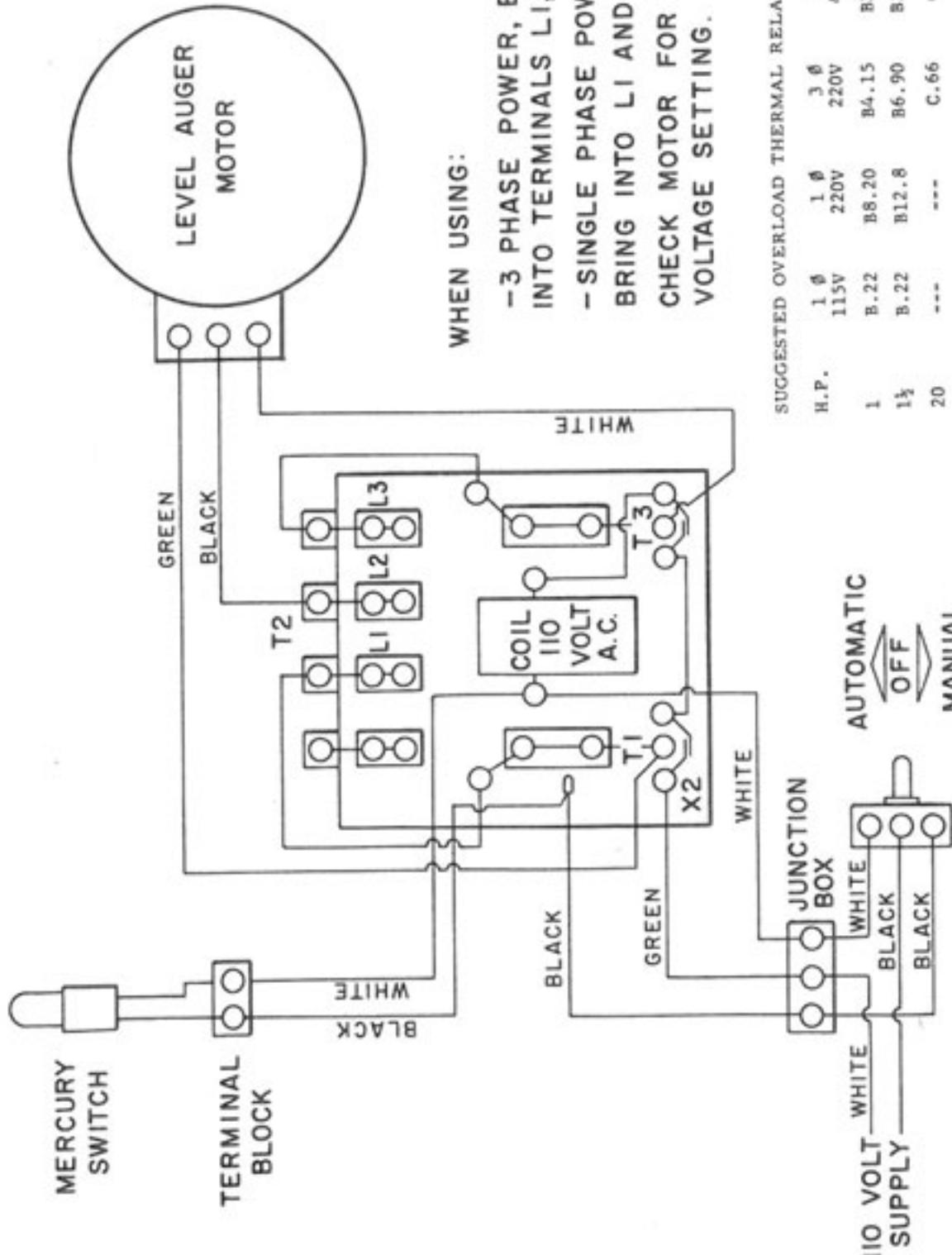
# ELECTRICAL DIAGRAM



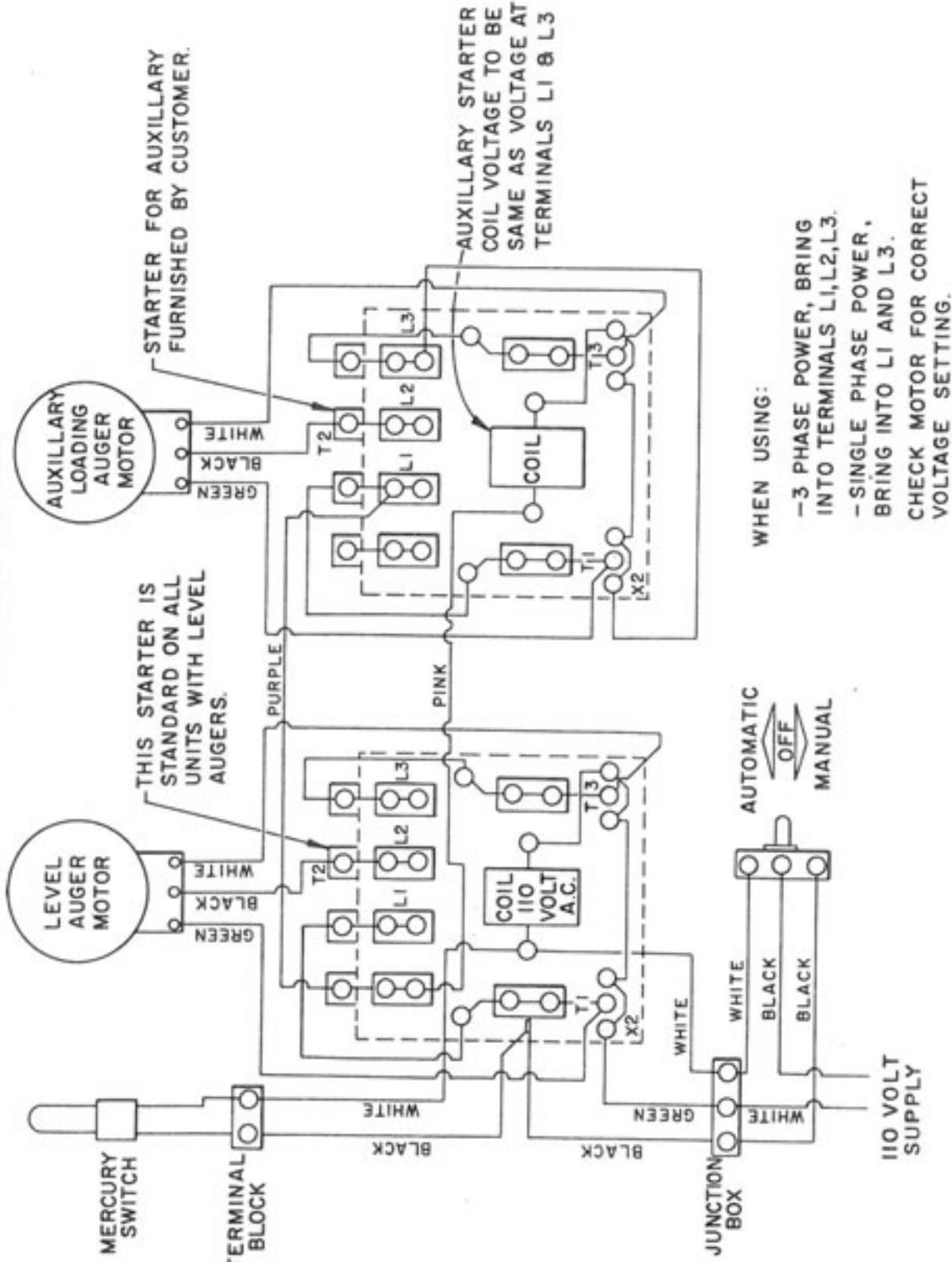
## CONTROL CABINET WIRING DIAGRAM



## LEVEL SWITCH AND LEVEL AUGER WIRING DIAGRAM



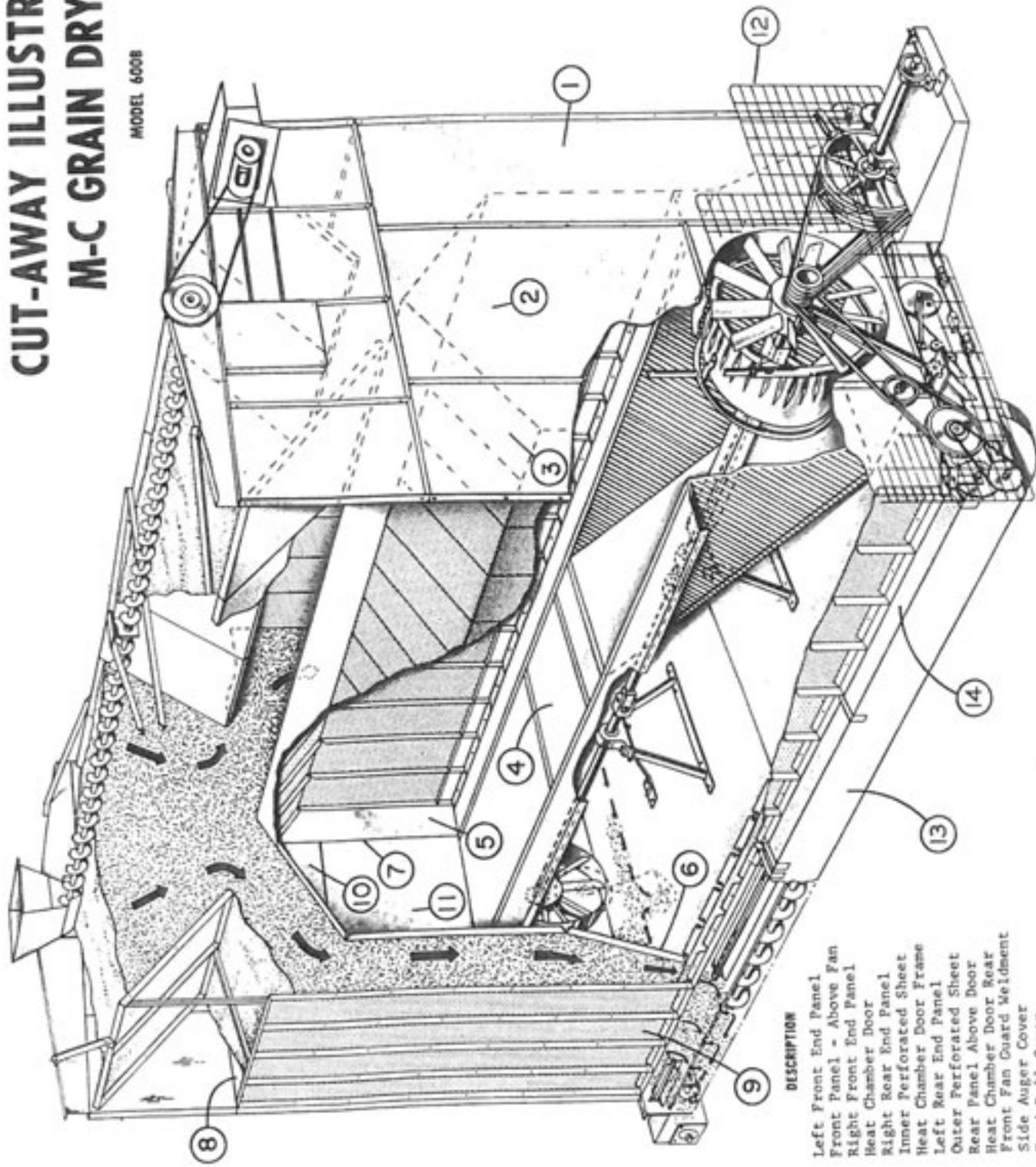
**WIRING DIAGRAM INDICATING INTERLOCK BETWEEN  
LEVEL AND AUXILIARY AUGERS**



# CUT-AWAY ILLUSTRATION

## M-C GRAIN DRYER

MODEL 6008

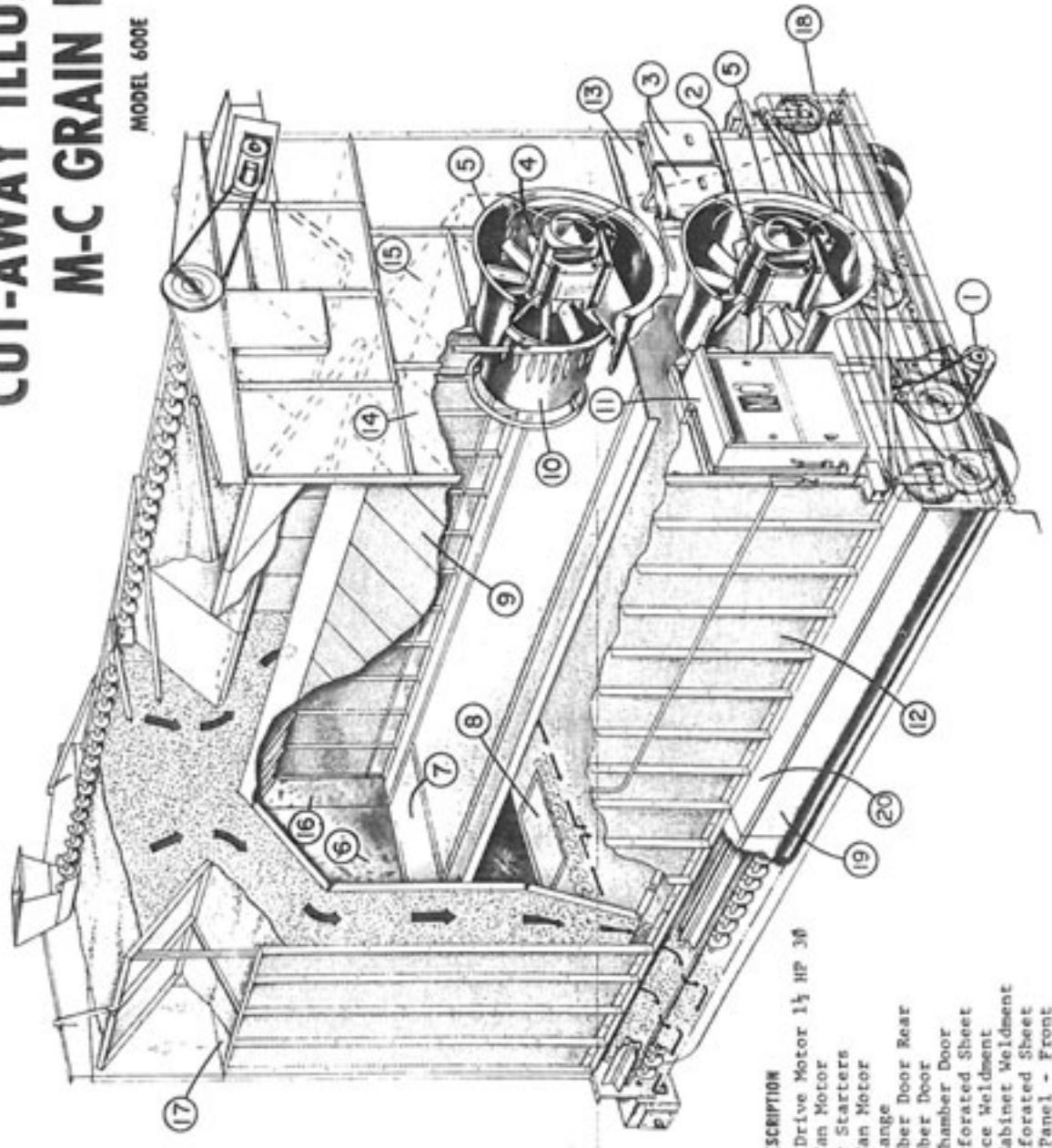


REF.	PART NO.	DESCRIPTION
1	1212862	Left Front End Panel
2	1212886	Front Panel - Above Pan
3	1212885	Right Front End Panel
4	1210082	Heat Chamber Door
5	1212855	Right Rear End Panel
6	1212956	Inner Perforated Sheet
7	1211023	Heat Chamber Door Frame
8	1212864	Left Rear End Panel
9	1212954	Outer Perforated Sheet
10	1212851	Rear Panel Above Door
11	1210119	Rear Panel
12	1210145	Heat Chamber Door Rear
13	1216835	Front Fan Guard Weldment
14	1210160	Side Auger Cover
		Feed Roll Cover

# CUT-AWAY ILLUSTRATION

## M-C GRAIN DRYER

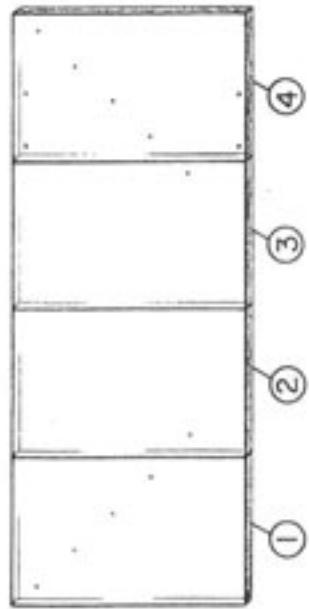
MODEL 600E



REF.	PART NO.	DESCRIPTION
1	1216845	Variable Drive Motor 1½ HP 3Ø
2	1216841	Cooling Fan Motor
3	1216843	Fan Motor Starters
4	1216844	Heating Fan Motor
5	1218998	Intake Flange
6	1210114	Heat Chamber Door Rear
7	1211003	Heat Chamber Door
8	1211004	Cooling Chamber Door
9	1212956	Inner Perforated Sheet
10	1210042	Top Orifice Weldment
11	1210086	Control Cabinet Weldment
12	1212954	Outer Perforated Sheet
13	1212862	Left End Panel - Front
14	1212885	Right End Panel - Front
15	1212889	Center End Panel - Front
16	1212864	Left End Panel - Rear
17	1212865	Right End Panel - Rear
18	1210106	Front End Guard
19	1214835	Side Auger Cover
20	1210160	Feed Roll Cover

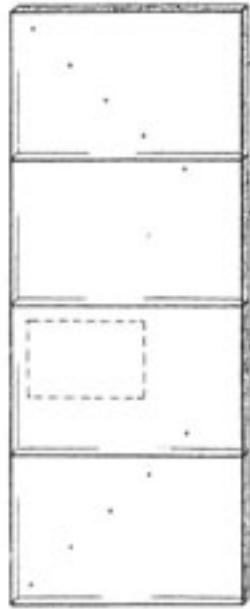
# WET HOLDING HOPPER ASSEMBLY FOR M-C GRAIN DRYERS

REAR--UNLOADING END



STEP 1

FRONT--DRIVE END

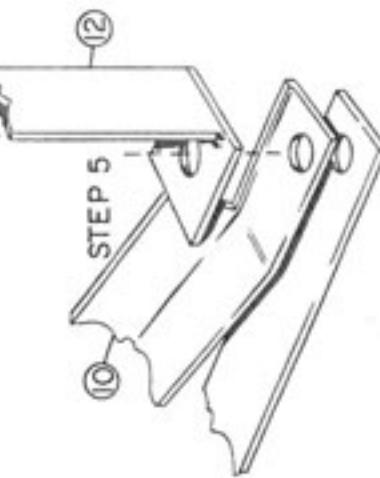
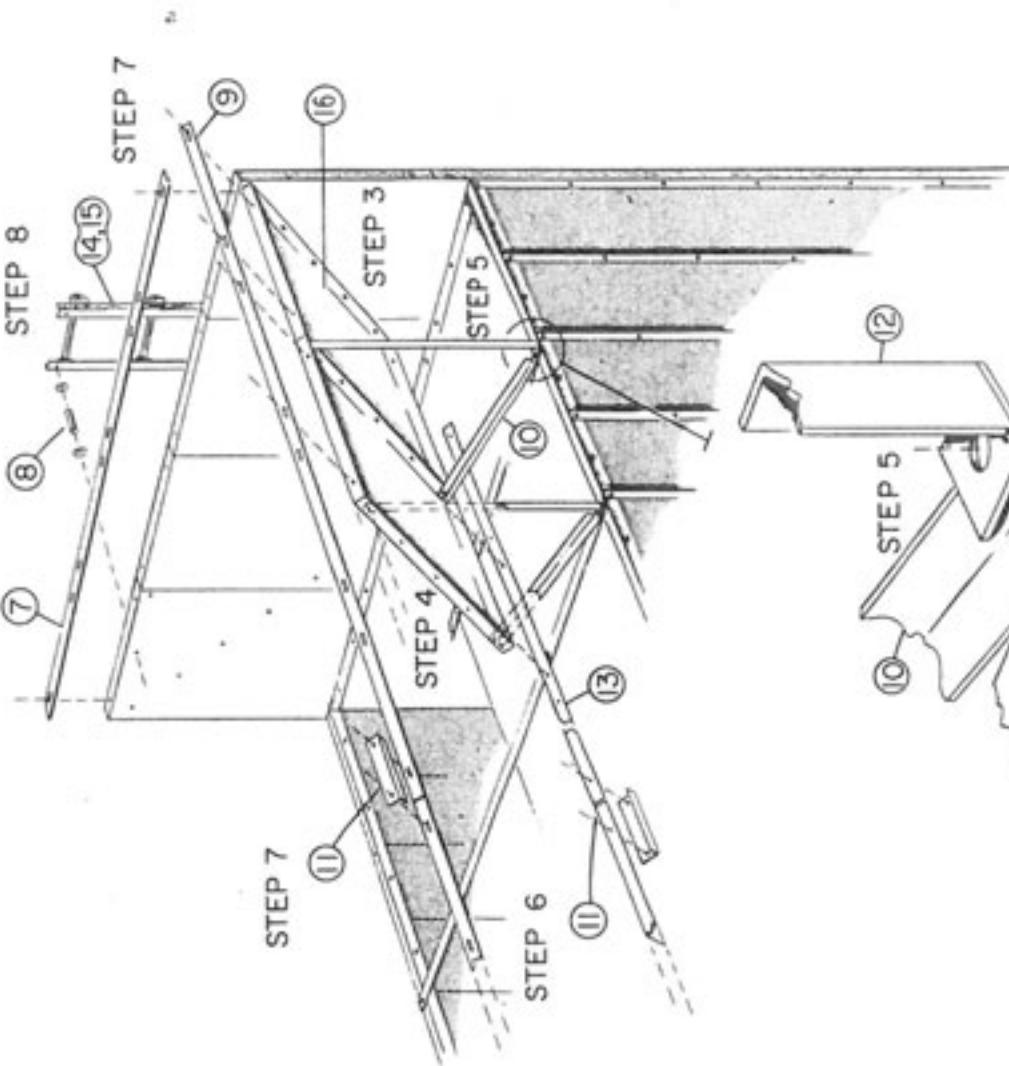


STEP 2

①  
②  
③  
④  
⑤  
⑥  
⑦

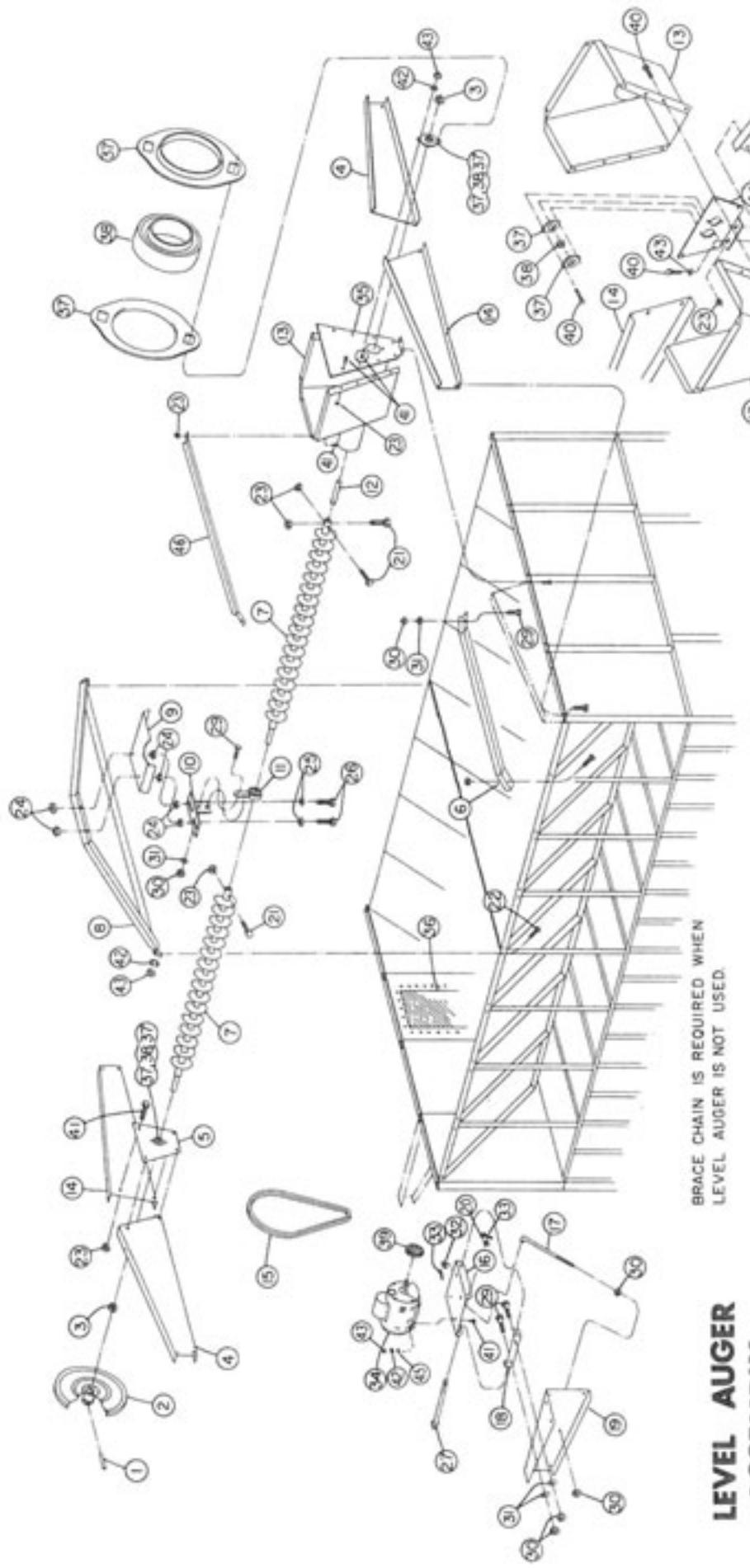
PANEL ⑤ REPLACES ② AT OPPOSITE  
END OF LEVEL AUGER HOPPER WHEN  
LEVEL AUGER ASSEMBLY IS INSTALLED.

STEP 8



## DESCRIPTION

REF.	PART NO.	DESCRIPTION
1	1214807	Outside Hopper End Panel
2	1214810	Inside End Panel (1-Hole Left)
3	1214811	Inside End Panel (1-Hole Right)
4	1214809	Hopper End Panel (Ladder)
5	1201007	Lever Switch Panel Assembly
6	1214808	Outside Hopper End Panel (4-Hole Right)
7	1212050	Hopper Stiffener (End)
8	1215410	Ladder Spacer
9	1212052	Hopper Stiffener (Side)
10	1212009	Hopper Brace
11	1212604	Hopper Side Stiffener Splice
12	1212010	Side Panel Brace
13	1212603	Hopper Bottom Strip
14	1218979	7½ Ft. Ladder
15	1208997	3 Ft. Ladder
16	1214843	Hopper Side Panel



## LEVEL AUGER ASSEMBLY

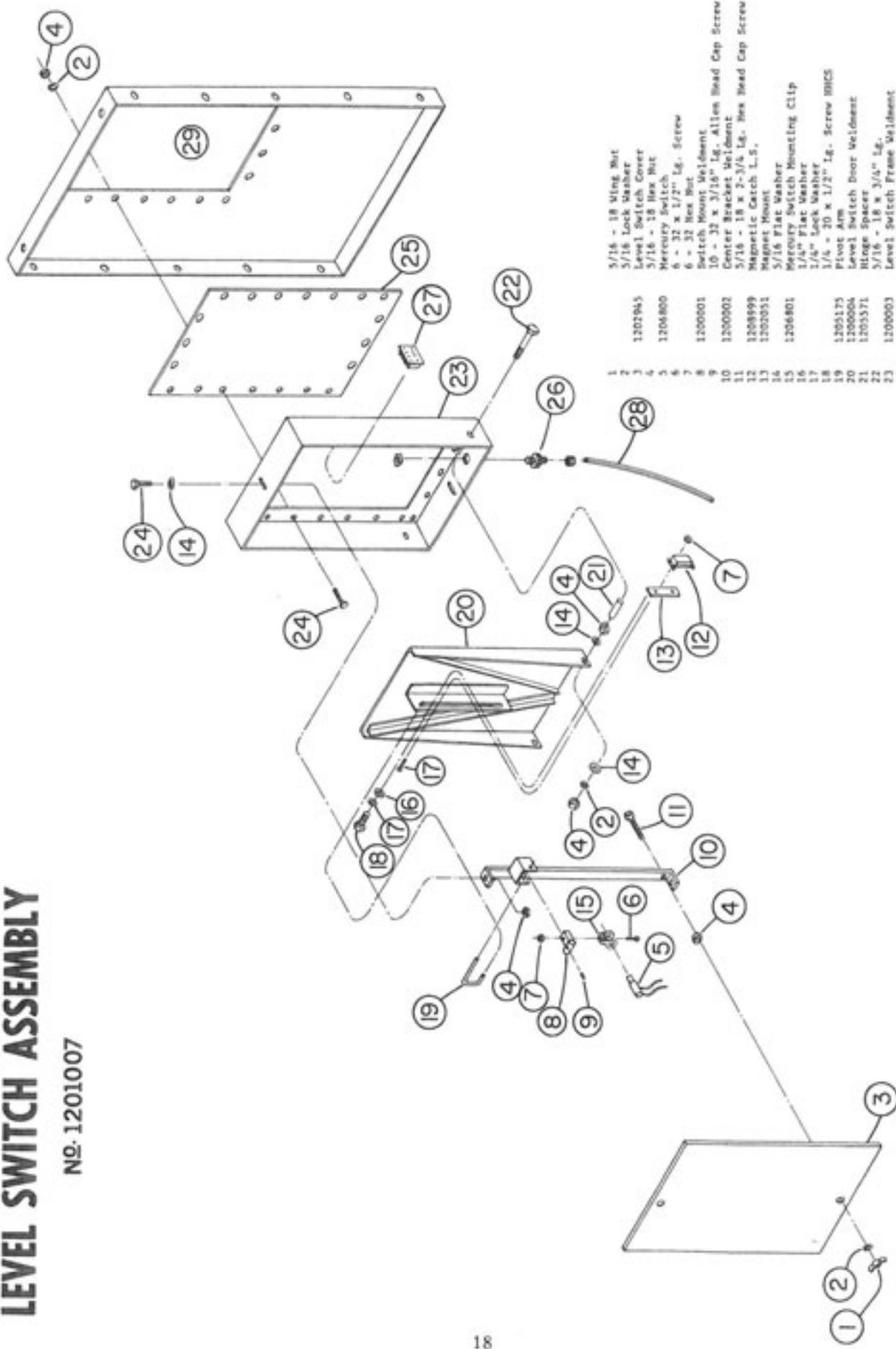
MODEL 400      № 1201006  
MODEL 600 & 800      № 1211029

BRACE CHAIN IS REQUIRED WHEN  
LEVEL AUGER IS NOT USED.

REF.	PART NO.	DESCRIPTION	REF.	PART NO.	DESCRIPTION
1	1211110	5/16" x 1-3/4" 16- Roll Pin	16	1204438	Motor Mount
2	1205203	V-Pulley 16 O. D. x 315.4 x 1" Bore	17	1205001	Support Arm
3	0060004	1" Lock Collar	18	1203309	Hinge Bracket
4	1204475	Level Auger Left End Bracket	19	1204445	Motor Mount Bracket
5	1204440	Level Auger Bearing Bracket Plate	20	0018149	3/8-16 Lock Nut
6	1203803	Level Auger Hopper Bearing Brace	21	5/16-18 x 1-3/4" RHCS	5/16-18 x 1-3/4" RHCS
7	1200021	Level Auger Weldment Model 400	22	5/16-18 x 1-1/2" RHCS	5/16-18 x 1-1/2" RHCS
8	1200010	Level Auger Weldment Models 600-800-1600	23	5/16-18 Locknut	5/16-18 Locknut
9	1200012	Level Auger Cross Bridge Weldment	24	1/2-13 Hex Nut	1/2-13 Hex Nut
10	1204476	L. A. Center Bearing Shield	25	1/2" Flat Washer	1/2" Flat Washer
11	1205001	L. A. Center Bearing Hanger Weldment	26	1/2-13 x 3" RHCS	1/2-13 x 3" RHCS
12	1205039	Hanger Bearing #2X1-16	27	1205002	Motor Mount Hinge Pin
13	1200017	Bolt End Shaft	28	1/2" Lock Washer	1/2" Lock Washer
14	1204776	Level Auger Hopper Weldment	29	3/8-16 x 3/4" RHCS	3/8-16 x 3/4" RHCS
15	12116102	Level Auger Right End Panel	30	3/8" Hex Nut	3/8" Hex Nut
		V-Belt 51590	31	3/8" Lock Washer	3/8" Lock Washer

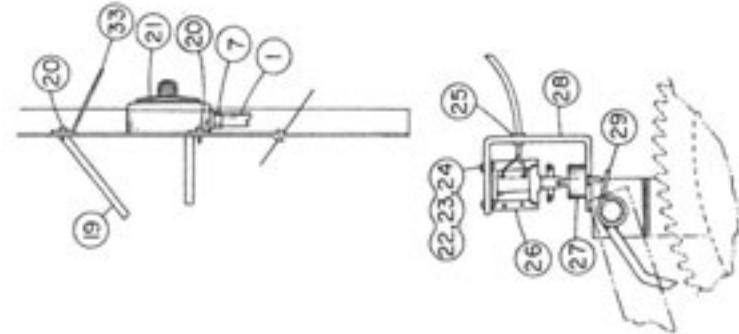
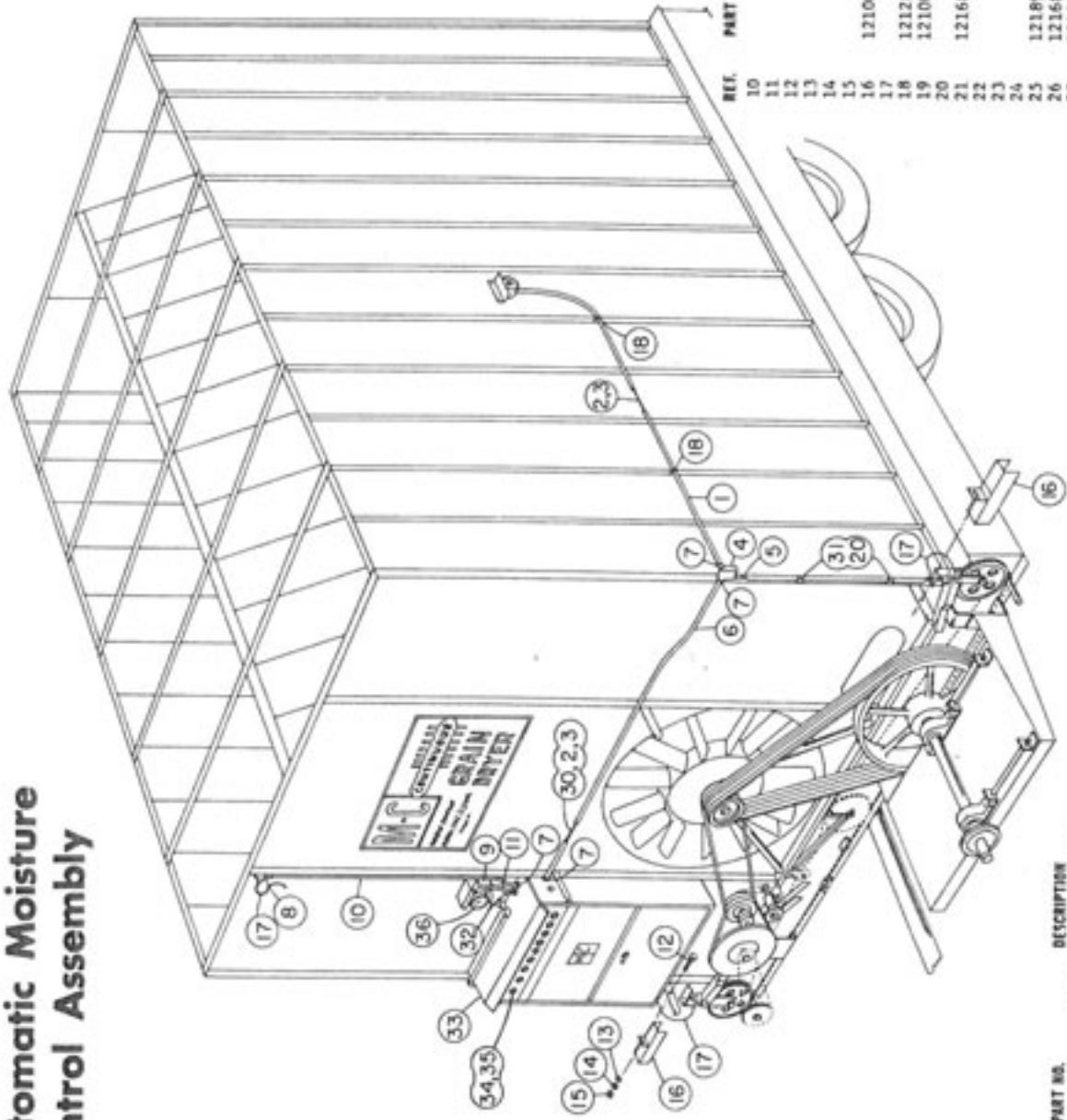
# LEVEL SWITCH ASSEMBLY

No. 1201007



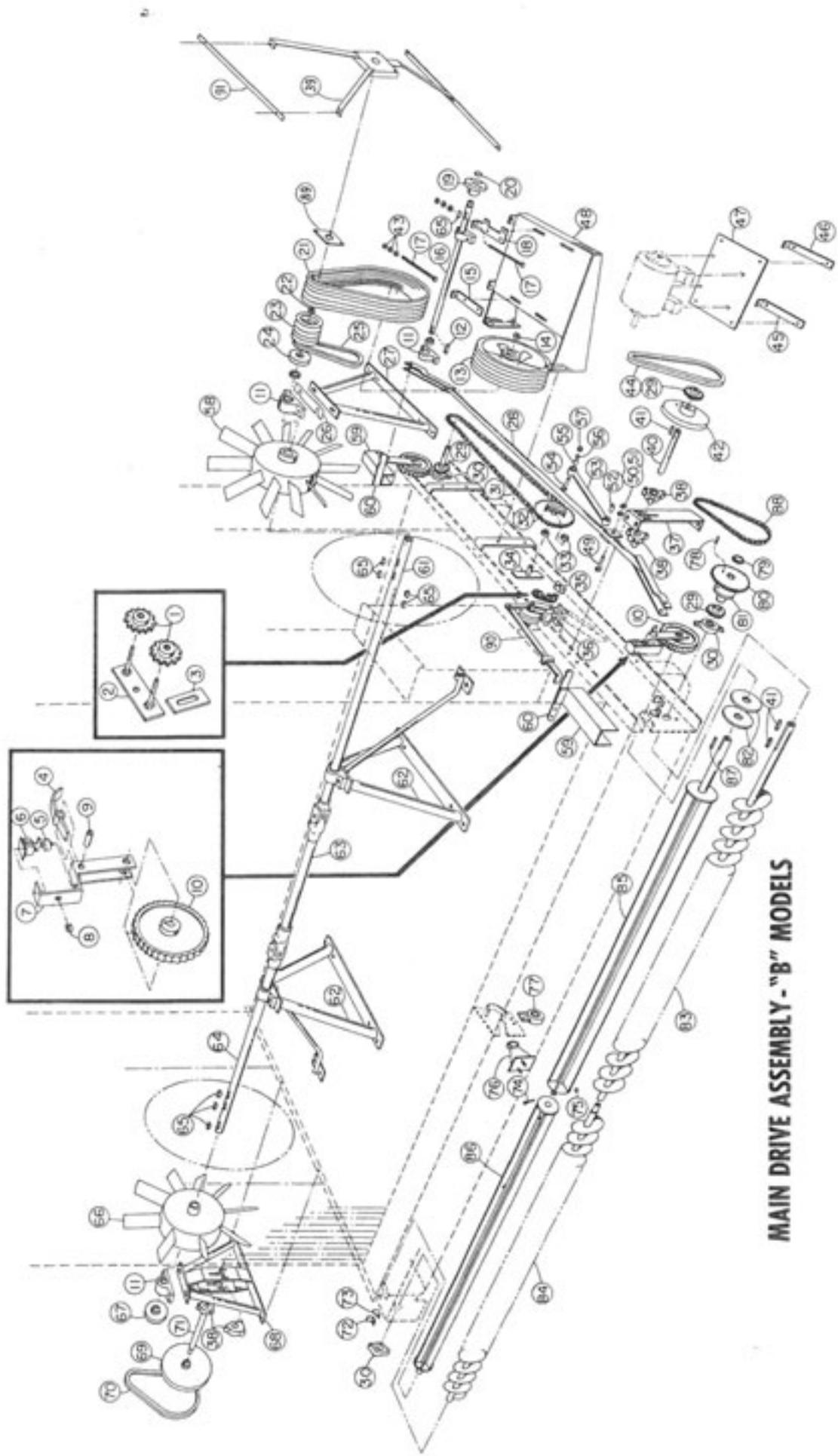
5/16" - 18 Wing Nut	1202945
5/16 Lock Washer	1206800
Level Switch Cover	1206802
5/16" - 18 Hex Nut	1206803
Mercury Switch	1206804
6" - 32 x 1/2" Lg. Screw	1206805
6" - 32 Box Nut	1206806
Switch Mount Weldment	1206807
Center Bracket Weldment	1206808
5/16" - 18 x 2-1/4" Lg. Hex Head Cap Screw	1206809
Magnetic Catch L.S.	1206899
Magnet Mount	1202051
5/16 Flat Washer	1206801
Mercury Switch Mounting Clip	1206802
1/4" Lock Washer	1206803
1/4" Flat Washer	1206804
Pivot Arm	1206805
Level Switch Door Weldment	1206806
Hinge Spacers	1205371
5/16" - 18 x 3/4" Lg.	1206807
Level Switch Frame Weldment	1206808
5/16" - 18 x 3/4" Lg. - NHC	1206809
Stainless L.S.	1205200
1/2" Strain Relief Cont. Grommet	1206802
Terminal Block	1206803
4 ft. - 2 Conductor # 18ga. Cable	1206804
Level Switch Panel	1206805

## Automatic Moisture Control Assembly



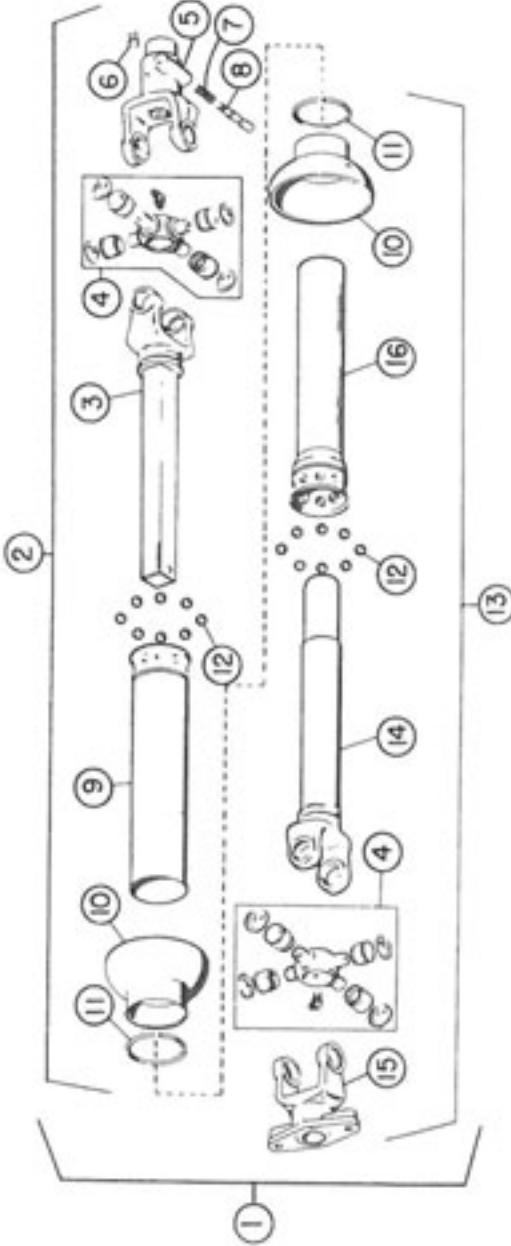
REF.	PART NO.	DESCRIPTION
10	12100318	1/2" Conduit - 36" Lg.
11	12100318	1/2" Watertight Flexible Conduit 8-1/2" Lg.
12	12100318	5/16-18 x 3/4" HSSCS
13	12100318	5/16" Flat Washer
14	12100318	5/16" Lock Washer
15	12100318	5/16-18 Hex Nut
16	12100318	Solenoid Cover Weldment
17	1212852	2-Cond. Cable 48" Lg.
18	1212852	Conduit Brackets
19	1210031	Thermowire Shield Weldment
20	1210031	#8 x 1/2 Lg. Sheet Metal Screws
21	1216857	Thermowire
22	1210031	6/32 x 1/2" Rd. Head Bolt
23	1210031	6/32" Nut
24	1210031	66 Lock Washer
25	1218996	Rubber Grommet
26	1216856	Solenoid
27	12100319	Solenoid Counter weight
28	12100316	Ratchet Guide Arm Bracket
29	12100310	Ratchet Dog
30	1216859	#16 Electrical Wire (white) 12' Lg.
31	1216859	Jiffy clip
32	1216800	1/2" Watertight Connector
33	1216800	1/2" Conduit Fitting(right)
34	1216809	Lamp Base , Socket Only
35	1216810	NS 51 H Neon Lamp
36	1210973	Therometer

**MAIN DRIVE ASSEMBLY - "B" MODELS**



# MAIN DRIVE ASSEMBLY "B" MODEL PARTS LIST

REF.	PART NO.	DESCRIPTION	REF.	PART NO.	DESCRIPTION
1	1216403	Idler Sprocket 3/4" Bore	35	1215703	Chain Tightner
2	1210079	Chain Idler Weldment	36	1216400	Variable Speed Assembly
3	1213428	Idler Sprocket Holder	37	1213370	Idler Shaft Mounting Bracket
4	1210030	Ratchet Dog Weldment	38	1216900	1-1/4" 3 Bolt Flange Bearing
5	1210039	Solenoid Weight Weldment	39	1210220	Front Bearing Bracket (Outer)
6	1216836	Solenoid	40	1215041	Shaft Front Idler & Feed Roll
7	1210036	Ratchet Guide Arm Weldment	41		1/4" Sq. x 1-1/2" Key
8	1218996	5/16" I.D. Rubber Grommet	42	1216212	10" O.D. Pulley 1-1/4" Bore
9	1215571	Ratchet Dog Bushing	43	1216213	2-1/2" Box Nuts
10	1216404	Ratchet Wheel	44	1216105	8X 48 Belt
11	0016011	1-7/16" Pillow Block Bearing	45	1235552	Electric Motor Adjusting Bar (Rear)
12		3/8" x 1-1/2" Key	46	1235553	Electric Motor Adjusting Bar (Front)
13		See Pulley Chart	47	123552	Motor Base
14	1206211	1-7/16" Q.D. Pulley Bushing	48	1210078	Jacketta Base Weldment - Left Hand
15	0013221	Bearing Mount Adjusting Bar	49	516-18 x 2-1/2" RHCS	516-18 x 2-1/2" RHCS
16	1215070	Jackshaft	50	5/16-18 Hex Nut	5/16-18 Hex Nut
17	1210080	Adjusting Screw Weldment	51	5/16" Lock Washer	5/16" Lock Washer
18	1210205	P.T.O. Mounting Bracket	52	1215572	1/2" Steel Bushing
19	0012650	Shear Flange	53	1210036	Eccentric Arm Weldment
20	0018250	Snap Ring	54	3/8-16 x 2-1/4" Carriage Bolt	3/8-16 x 2-1/4" Carriage Bolt
21	1216109	N Model	55	1215680	1" Bronze Bushing
	1216110	BE Models - Matched set of 5 V-Belts	56	3/8" Flat washer	3/8" Flat washer
22	1206312	Q.D. Bushing 1-7/16" Bore	57	3/8-16 Hex Nut	3/8-16 Hex Nut
23	1206206	5 Groove Pulley	58	1210095	Model 3008 & BE Front Fan Weldment
24	1216218	Pulley 1-7/16" Bore	59	1210094	Model 4008 & BE Front Fan Weldment
25	1216104	W-61 V-Belt	60	1210097	Model 6008 & BE Front Fan Weldment
26	1216218	Bearing Shim	61	1210038	Solenoid Cover Weldment
27	1210064	Front Fan Bearing Bracket (Inner)	62	1212057	Lower Front Fan Guard Hanger
28	1210037	Ratchet Arm Weldment	63	1215069	Model 400-600-800 Front Fan Shaft
29	1206400	16 Tooth Sprocket 1-1/4" Bore	64	1215068	Model 2008 Front Fan Shaft
30	1204000	2 Bolt Flange Bearing 1-1/4" Bore	65	1210050	Center Fan Bearing Bracket
31	1216300	RC-40, 189" Chain	66	1210050	Model 400 Universal Joint Shaft
32	1210032	Eccentric Sprocket Weldment w/Bearings	67	1216602	Model 600 & 800 Universal Joint Shaft
33	0016006	Bearings Only for Above	68	1216601	Front Bearing (Outer)
34	1210033	Eccentric Sprocket Mounting Weldment	69	1211028	Variable Drive Arm Assembly
			70	1212063	Flange Stiffener

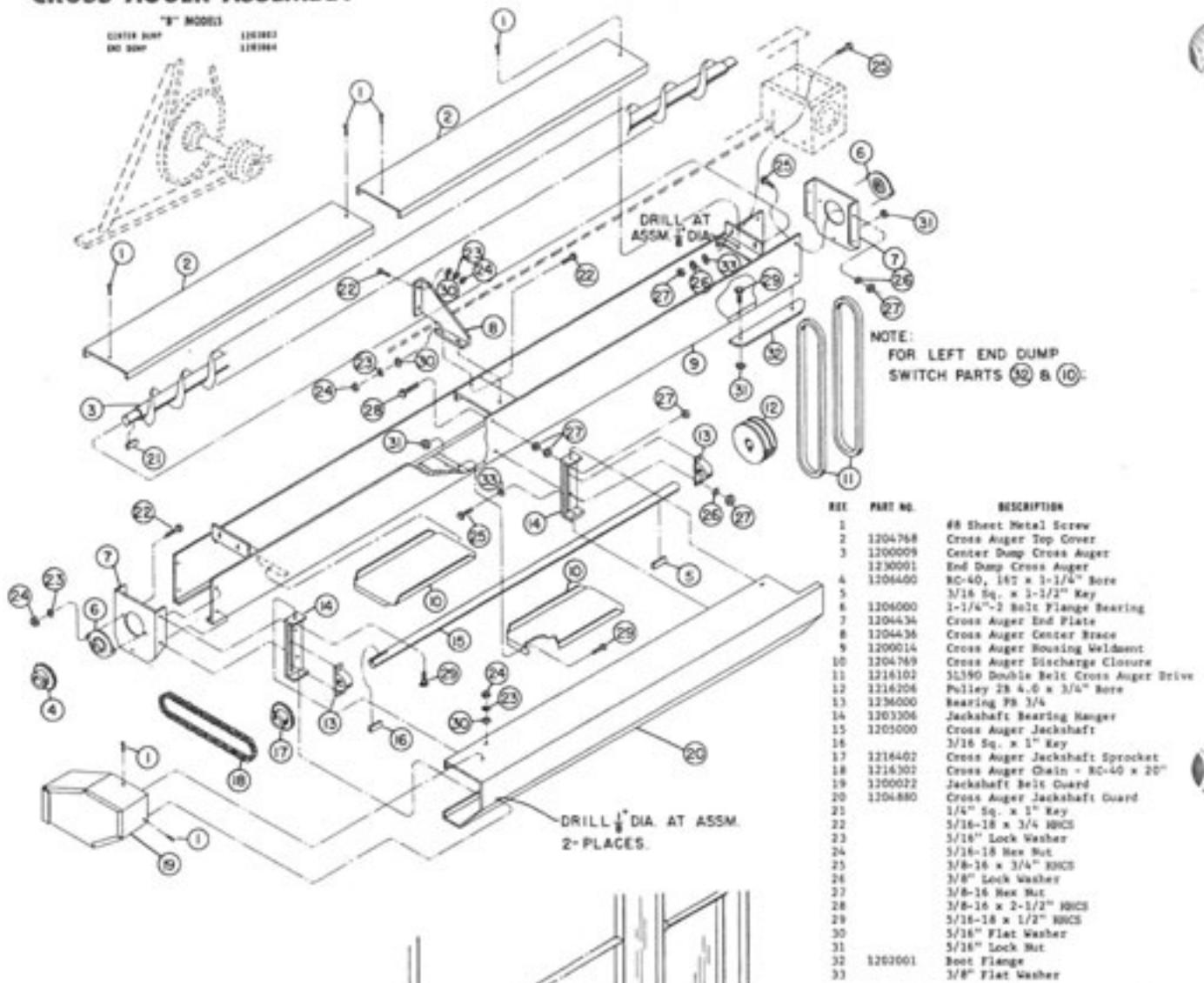


## TRACTOR PTO ASSEMBLY

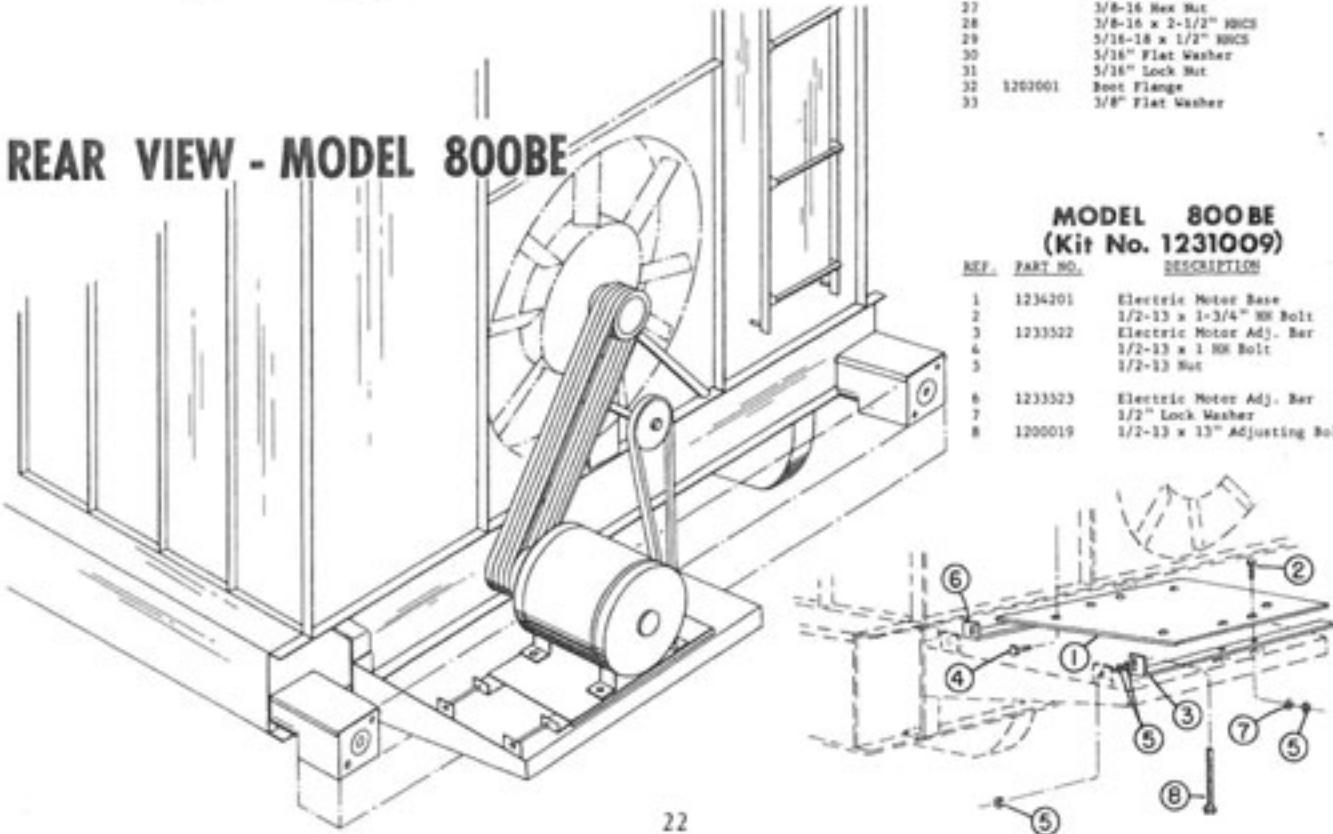
NUMBER ORIGINS

REF.	PART NO.	DESCRIPTION
1	0016000	Power Shaft
2	0026620	Tractor Half Assembly w/Q.D. Yoke
3	0026627	Male Shaft & Yoke Weldment
4	0026628	Universal Joint Center
5	0026630	Quick Detachable Yoke, Only "X" Washer, Locking Pin
6	0026631	Spring Locking Pin
7	0026602	Locking Pin, Q.D. Yoke
8	0026601	Female Shaft of PTO Complete w/Shear Fittings
9	0026622	Female Shaft & Yoke Weldment
10	0026626	Female Guard Tube
11	0026625	External Snap Ring Retaining Ring 2-3/4 Shaft
12	0026606	3/8" Diameter Ball Bearings
13	0026621	Machine Half of PTO Complete w/Shear Fittings
14	0026624	Male Guard Tube
15	0027652	Flange Yoke
16	0026623	Male Guard Tube

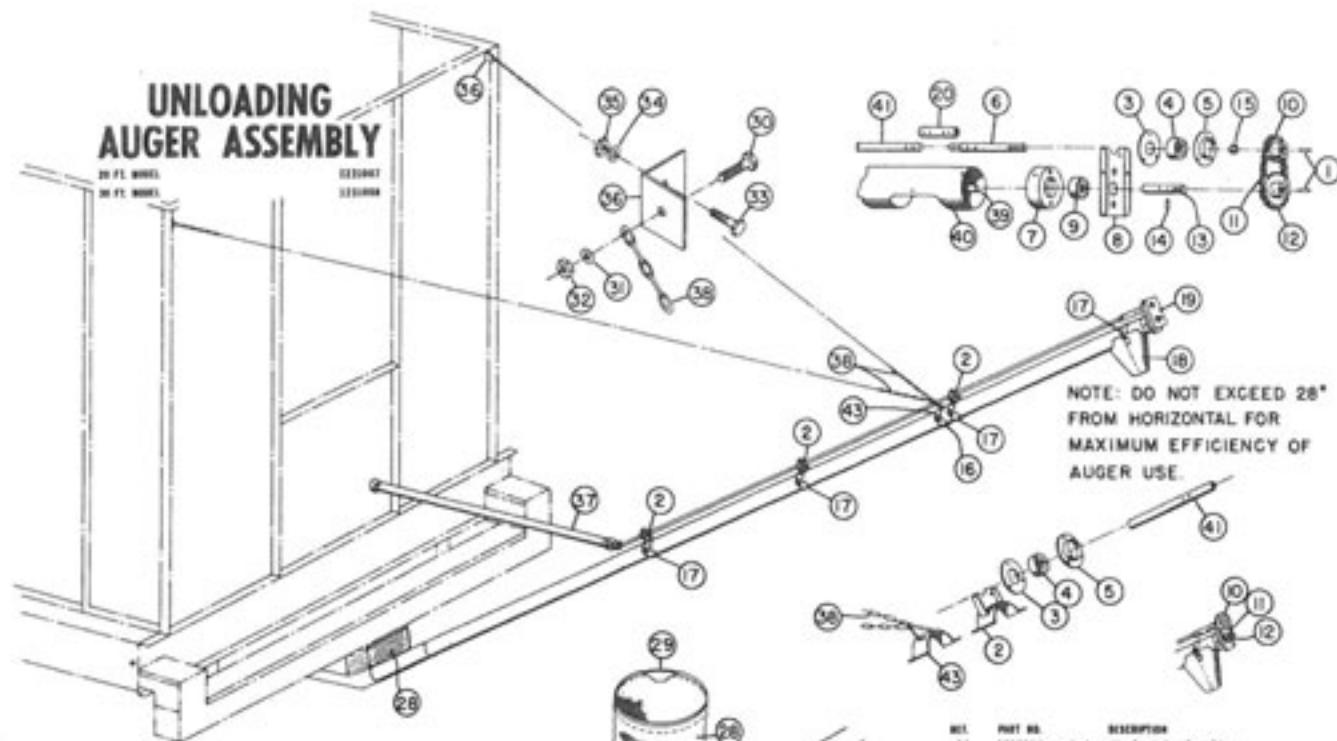
## CROSS AUGER ASSEMBLY



## REAR VIEW - MODEL 800BE



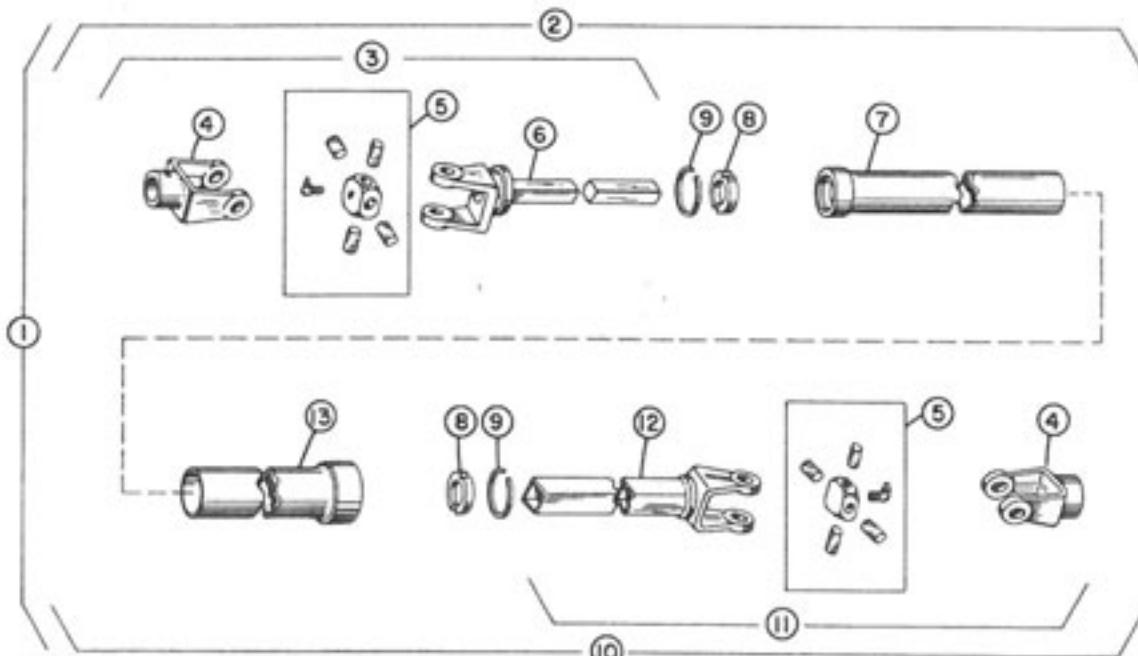
## UNLOADING AUGER ASSEMBLY



### REF. PART NO. DESCRIPTION

1	L1228955	1-1/2" Sq. 1" Bar
2	L1228950	Bearing Mounting Bracket
3	L1228950	Bearing Retainer Plate-Top
4	L1228949	Drive Shaft Bearing 1" Dia.
5	L1228948	Bearing Mounting King-Top
6	L1228947	Sprocket Drive Shaft
7	L1228946	Discharge Gyr
8	L1228945	Drive Shaft End Bearing Bracket
9	L1228944	Drive Shaft End Bearing
10	L1228943	3011 Sprocket 1" Box
11	L1228942	W-90 Roller Chain
12	L1228941	3026 Sprocket 1" Box
13	L1228940	Discharge Spout
14	L1228939	3/16 x 2-1/8" Sprial Pin
15	L1228938	Spacer Bushing
16	L1228937	4" Plain Band
17	L1228936	1-1/2" Plain Band
18	L1228935	Discharge Spout
19	L1228934	Chain Cover

REF.	PART NO.	DESCRIPTION
20	L1228933	Drive Shaft Tube Coupling
21	1/2-12 x 3-1/4" RHCS	
22	1/2" Lock Washer	
23	L1228934	Support Anchor Bearing
24	1/4-20 Set Screw	
25	L1228935	Boat End Bearing
26	L1228953	Flighting Outer Shaft
27	L1228953	Auger Mounting Bracket
28	L1228959	Ground Rod
29	L1228973	Ground Rod Spring
30	5/16 x 2" RHCS	
31	3/8" Flat Washer	
32	3/8" Hex Nut	
33	3/16 x 3/8" RHCS	
34	3/16 Flat Washer	
35	5/16 Hex Nut	
36	L1228981	Chain Mounting Bracket
37	L1228981	PTO Shaft
38	L1228982	Ground Chain - 12' lg.
39	L1228983	Discharge Auger Flighting - Right Hand
40	L1228984	Basic Discharge Tube
41	L1228984	Basic Drive Shaft
42	L1228984	Boat Section
43	L1228988	Chain Mounting Bracket



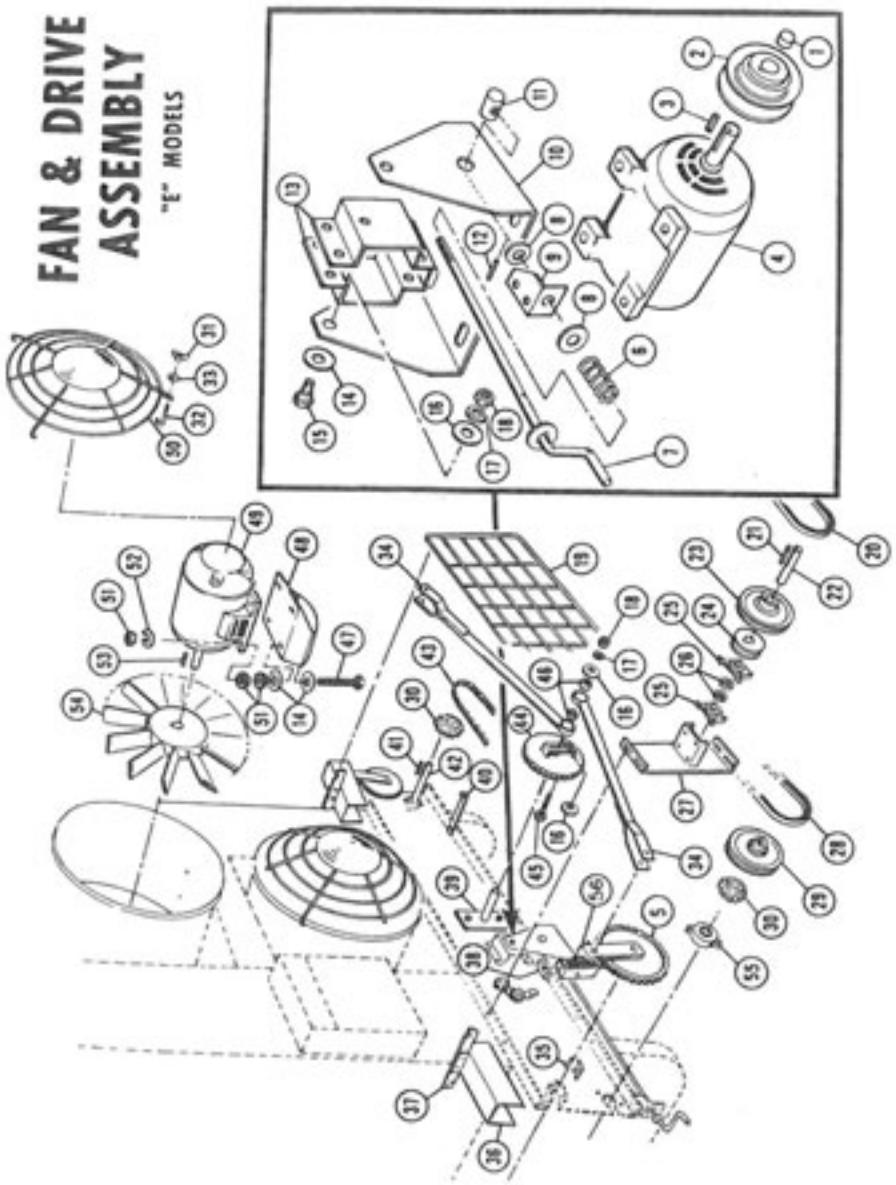
## UNLOADING AUGER P.T.O. ASSEMBLY

### REF. PART NO.

REF.	PART NO.	DESCRIPTION	REF.	PART NO.	DESCRIPTION
1	1226601	W-90 Universal Joint Telescoping Assembly w/Quick Detachable Free Wheeling Guard	7	1226605	Female Guard Assembly
2	1226600	W-90 Joint & Shaft Assembly w/Guard	8	1226606	Nylon Bearing
3	1226601	W-90 Joint & Shaft	9	1226607	Bearing Retainer
4	1226602	Yoke (3/4" Dia.)	10	1226608	W-90 Joint & Tube Assembly w/Guard
5	1226603	Repair Kit	11	1226609	W-90 Joint & Tube
6	1226604	Yoke & Shaft	12	1226610	Yoke & Tube
			13	1226611	Male Guard Assembly

# FAN & DRIVE ASSEMBLY

"F" MODELS

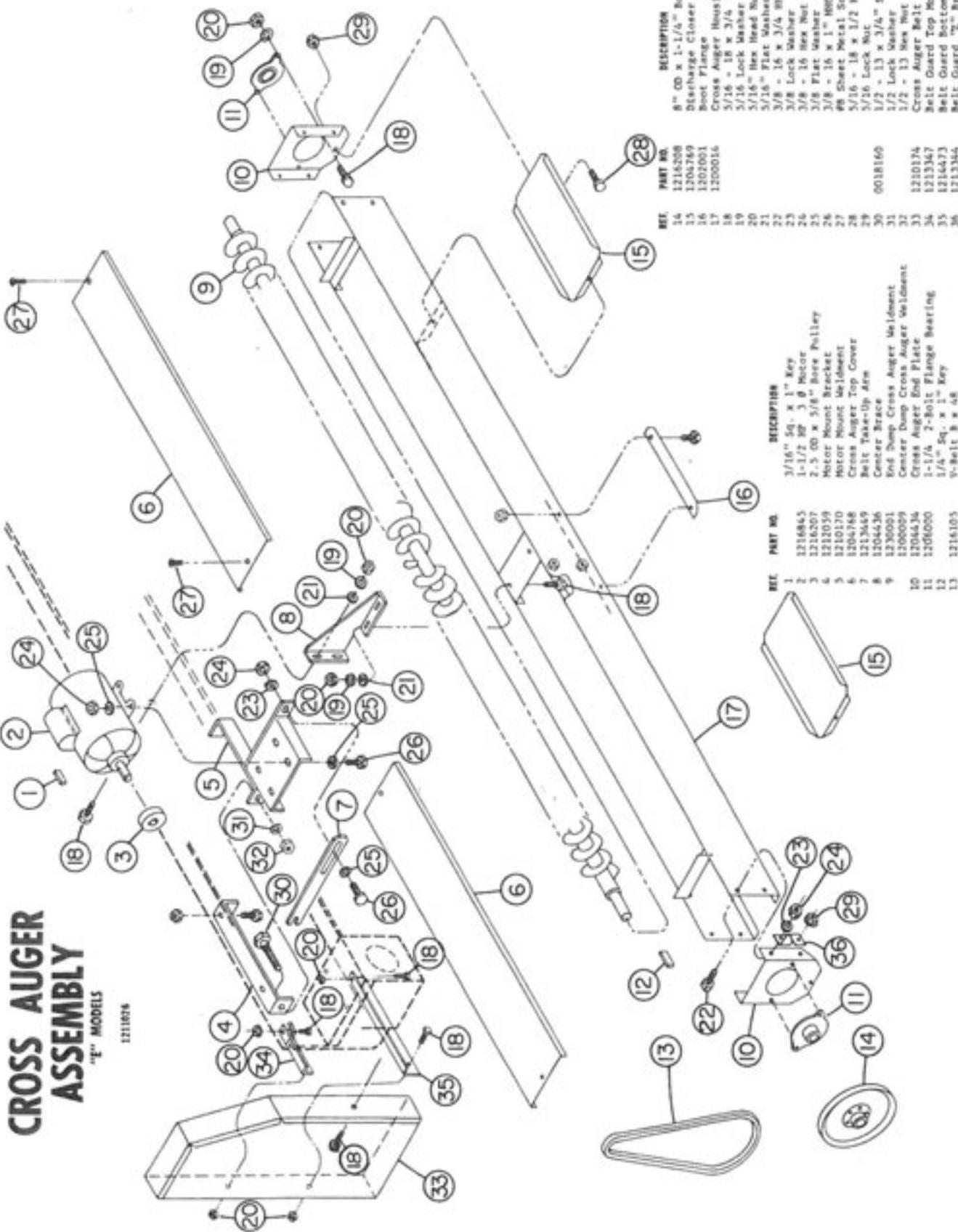


REF.	PART NO.	DESCRIPTION	REF.	PART NO.	DESCRIPTION	
1	1215186	5/8" x 1-1/4" Variable Pulley Plug	22	1213020	Variable Jackshaft	
2	1216209	Spring Loaded Pulley x 5/8" Bore	23	0006200	10" O.D. Pulley x 1" Bore	
3		3/16 x 1-3/8" Key	24	0006201	4.0 P.D. x 1" Bore Pulley	
4	1216845	1-1/2 HP 3Ø Electric Motor	25	0006003	Pillow Block Bearing 1" Bore	
5	1216404	Ratchet Wheel	26	0016007	Eccentric Lock Collar for 3" Bearing	
6	0018236	Compression Spring	27	1210004	Variable Jackshaft Mount Weldment	
7	1210011	Variable Drive Crank Weldment	28	1210107	Belt 50x70	
8		5/8" Flat Washer	29	1214212	10" O.D. Pulley x 1-1/4" Bore	
9	1214432	Variable Drive Crank Bracket	30	1206400	Sprocket RC-60, 16 Tooth 1-1/4" Bore	
10	1210002	Motor Hanger Weldment	31		5/16-18 Hex Head Nut	
11	1215000	Variable Drive Crank Pivot Nut	32	1210255	5/16-18 x 1-1/2 J Bolt	
12		3/16 x 1/4" Solt Pin	33		5/16" Lock Washer	
13	1214431	Variable Drive Motor Mount	34	1210009	Connecting Arm Weldment	
14		3/4" Flat Washer	35	1213321	Fend Roll Retainer	
15	0018163	Special Shoulder 1/2-13 x 1-1/4" Lg.	36	1210038	Solenoid Cover Weldment	
16		1/2" Flat Washer	37	1212057	Lower Front Guard Ranger	
17		1/2" Lock Washer	38	1215073	Chain Tightener	
18		1/2-13 Hex Nut	39	1210033	Eccentric Sprocket Mount Weldment	
19	1210106	Front End Guard	40	1213643	Wire Guard Bracket	
20	1216108	Belt 857	41	0015116	1/4 x 1" Key	
21		1/4 x 2-3/4" Key	42	1210051	Side Auger Weldment - Driving Ends	
			56	1206000	1-1/4" 2 Bolt Flange Bearing	
				56	1210036	Ratchet Guide Arm Weldment

# CROSS AUGER ASSEMBLY

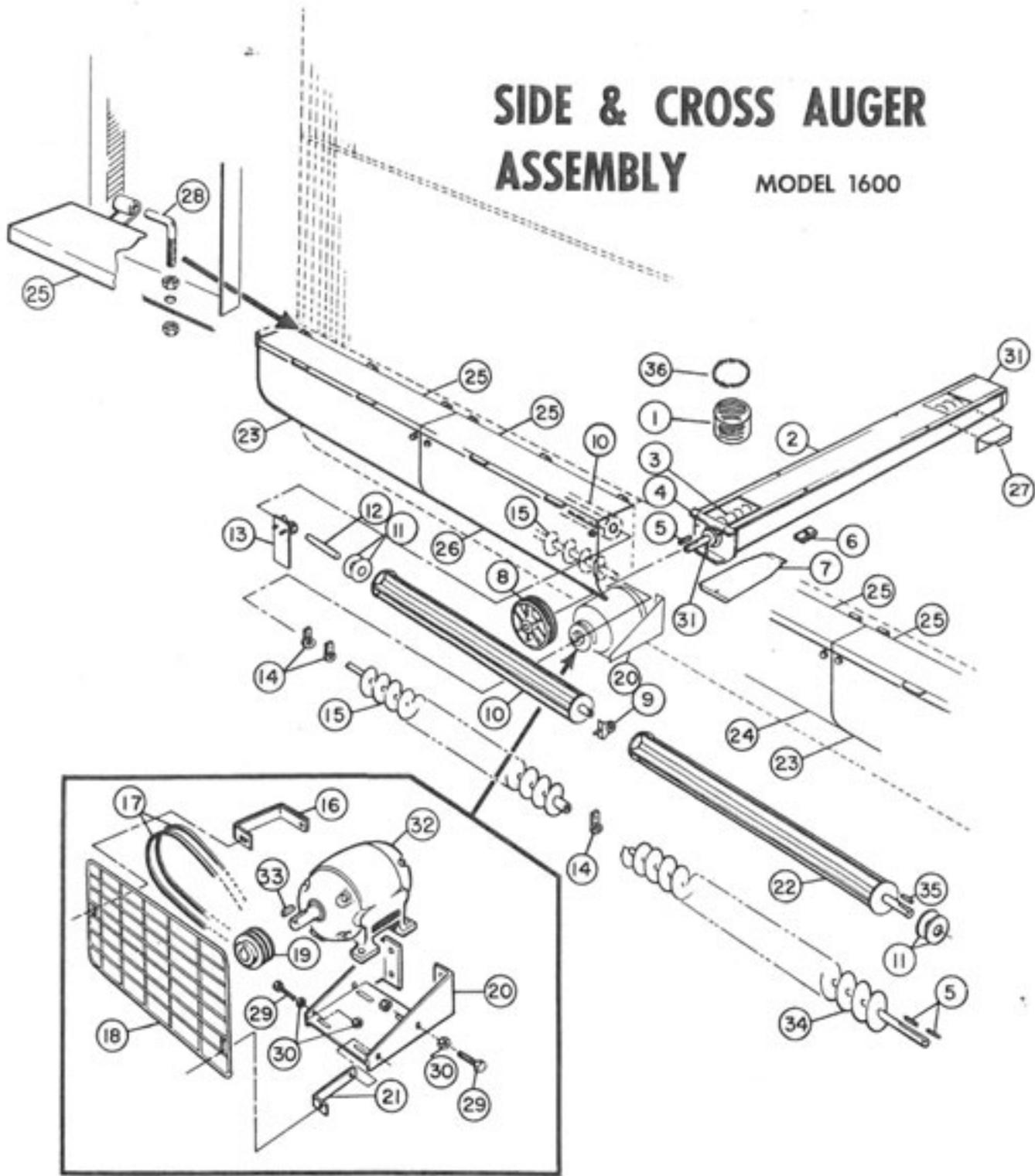
"F" MODELS

1211674



# SIDE & CROSS AUGER ASSEMBLY

MODEL 1600

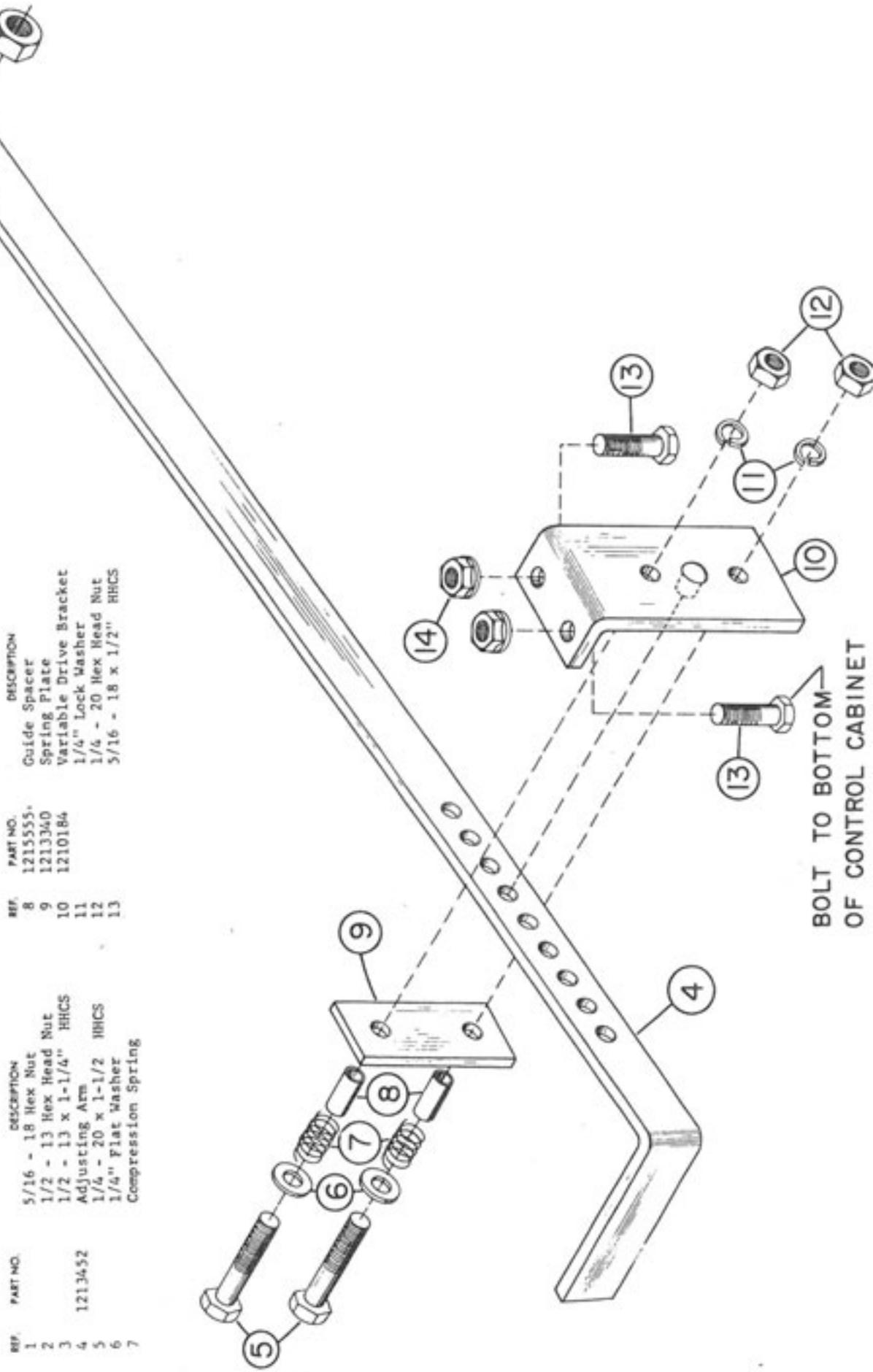


REF.	PART NO.	DESCRIPTION	REF.	PART NO.	DESCRIPTION
1	1218980	Discharge Boot	19	1216210	Double Pulley 2.8 P.D. x 5/8" Bore
2	1210012	10 Ft. Cross Auger Housing Weldment	20	1210183	Cross Auger Motor Base Weldment
3	1210024	10 Ft. Cross Auger Weldment	21	1213405	Guard Bracket
4	1214433	Cross Auger Housing End	22	1210046	Feed Roll Weldment
5		1/4" Sq. x 1-1/2" Key	23	1214835	End Side Cover
6	1213403	Cross Auger Mount Shim	24	1210224	Side Cover - Center Section Right
7	1214766	Cross Auger Slide	25	1210160	Feed Roll Cover Weldment
8	1216202	Double Pulley 13.6 P.D. x 1-1/4" Bore	26	1210223	Side Cover Center Section - Left
9	1210222	Center Feed Roll Mount	27	1212710	Cross Auger Boot Flanges
10	1210047	Feed Roll Weldment - Center Section	28	1218253	Hinge Bracket - Side Cover
11	1214438	Feed Roll End Washer	29		1/2-13 x 4-1/2" Full Thread
12	1215044	Center Joint Shaft - Feed Roll	30		1/2-13 Hex Nut
13	1210171	Center Bracket Weldment - Side Cover	31	1206000	1-1/4" 2 Bolt Flange Bearing
14	1216002	Hanger Bearing 1-1/4"	32	1216845	1-1/2 HP 36 Motor
15	1210052	Side Auger Weldment - Center Section	33		3/16" Sq. x 1-3/8" Key
16	1213404	Guard Bracket	34	1210051	Side Auger Weldment - End Section
17	1216102	SL590 Belt (Order in matched sets of 2)	35		1/4" Sq. x 1-1/4" Key
18	1210019	Cross Auger Drive Guard Weldment	36	1208251	Canvas Boot Spring

# VARIABLE DRIVE ARM ASSEMBLY

NUMBER 1211028

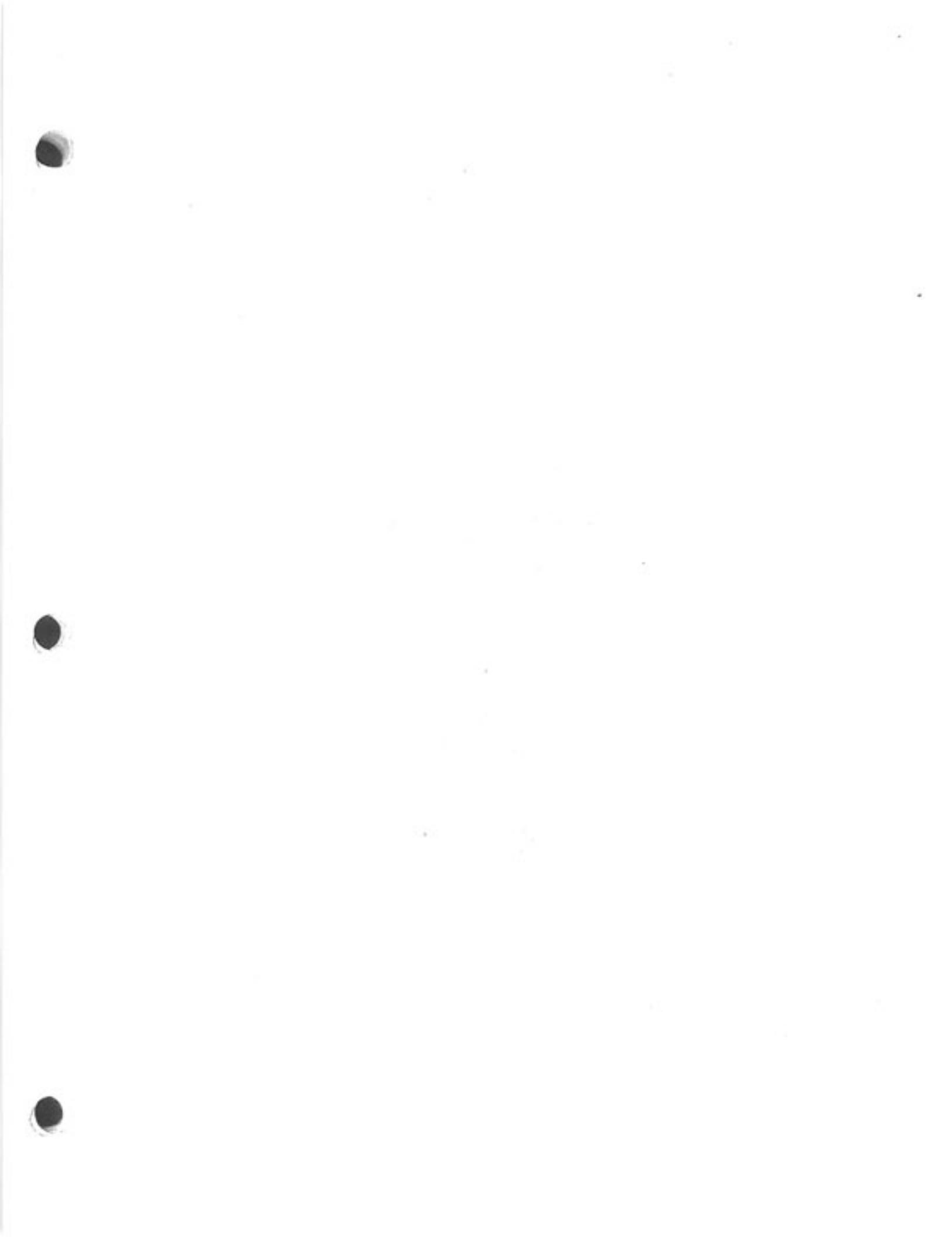
REF.	PART NO.	DESCRIPTION	REF.	PART NO.	DESCRIPTION
1		5/16 - 18 Hex Nut	8	1215555-	Guide Spacer
2		1/2 - 13 Hex Head Nut	9	1213340	Spring Plate
3		1/2 - 13 x 1-1/4" HHCS	10	1210184	Variable Drive Bracket
4	1213452	Adjusting Arm	11		1/4" Lock Washer
5		1/4 - 20 x 1-1/2 HHCS	12		1/4 - 20 Hex Head Nut
6		1/4" Flat Washer	13		5/16 - 18 x 1-1/2" HHCS
7		Compression Spring			



## H-C DRIVER PULLEY CHART ELECTRIC MOTOR POWERED

NOTE: 800BE's are driven with a 25 h.p. motor and cooled with a 20 h.p. motor, whereas the other models are driven with only one motor.

MODEL NO.	REQ. TRACTOR SIZE	JACKSHAFT PULLEY				FAN SHAFT PULLEY				BELTS IN MAT SETS	FAN SPEED RPM
		PART NO.	PITCH DIA.	BUSHING NO.	BORE	PULLEY PART NO.	PITCH DIA.	BUSHING NO.	BORE		
300 B	2-3 plow	1216214	5B18.4	1206211	1-7/16	1206204	5B6.8	1206212	1-7/16	5	1461.2
400 B	3 plow	1216214	5B18.4	1206211	1-7/16	1206204	5B6.8	1206212	1-7/16	5	1461.2
600B	3-4 plow	1216214	5B18.4	1206211	1-7/16	1206206	5B6.4	1206212	1-7/16	5	1216109
800 B	4 plow & 1 gr.	1216215	6B18.4	1206211	1-7/16	1216216	6B6.0	1206212	1-7/16	6	1552.5
										7	1216109
										8	1552.5
										9	1552.5
										10	1552.5
										11	1552.5
										12	1552.5
										13	1552.5
										14	1552.5
										15	1552.5
										16	1552.5
										17	1552.5
										18	1552.5
										19	1552.5
										20	1552.5
										21	1552.5
										22	1552.5
										23	1552.5
										24	1552.5
										25	1552.5
										26	1552.5
										27	1552.5
										28	1552.5
										29	1552.5
										30	1552.5
										31	1552.5
										32	1552.5
										33	1552.5
										34	1552.5
										35	1552.5
										36	1552.5
										37	1552.5
										38	1552.5
										39	1552.5
										40	1552.5
										41	1552.5
										42	1552.5
										43	1552.5
										44	1552.5
										45	1552.5
										46	1552.5
										47	1552.5
										48	1552.5
										49	1552.5
										50	1552.5
										51	1552.5
										52	1552.5
										53	1552.5
										54	1552.5
										55	1552.5
										56	1552.5
										57	1552.5
										58	1552.5
										59	1552.5
										60	1552.5
										61	1552.5
										62	1552.5
										63	1552.5
										64	1552.5
										65	1552.5
										66	1552.5
										67	1552.5
										68	1552.5
										69	1552.5
										70	1552.5
										71	1552.5
										72	1552.5
										73	1552.5
										74	1552.5
										75	1552.5
										76	1552.5
										77	1552.5
										78	1552.5
										79	1552.5
										80	1552.5
										81	1552.5
										82	1552.5
										83	1552.5
										84	1552.5
										85	1552.5
										86	1552.5
										87	1552.5
										88	1552.5
										89	1552.5
										90	1552.5
										91	1552.5
										92	1552.5
										93	1552.5
										94	1552.5
										95	1552.5
										96	1552.5
										97	1552.5
										98	1552.5
										99	1552.5
										100	1552.5
										101	1552.5
										102	1552.5
										103	1552.5
										104	1552.5
										105	1552.5
										106	1552.5
										107	1552.5
										108	1552.5
										109	1552.5
										110	1552.5
										111	1552.5
										112	1552.5
										113	1552.5
										114	1552.5
										115	1552.5
										116	1552.5
										117	1552.5
										118	1552.5
										119	1552.5
										120	1552.5
										121	1552.5
										122	1552.5
										123	1552.5
										124	1552.5
										125	1552.5
										126	1552.5
										127	1552.5
										128	1552.5
										129	1552.5
										130	1552.5
										131	1552.5
										132	1552.5
										133	1552.5
										134	1552.5
										135	1552.5
										136	1552.5
										137	1552.5
										138	1552.5
										139	1552.5
										140	1552.5
										141	1552.5
										142	1552.5
										143	1552.5
										144	1552.5
										145	1552.5
										146	1552.5
										147	1552.5
										148	1552.5
										149	1552.5
										150	1552.5
										151	1552.5
										152	1552.5
										153	1552.5
										154	1552.5
										155	1552.5
										156	1552.5
										157	1552.5
										158	1552.5
										159	1552.5
										160	1552.5
										161	1552.5
										162	1552.5
										163	1552.5
										164	1552.5
										165	1552.5
										166	1552.5
										167	1552.5
										168	1552.5
										169	1552.5
										170	1552.5
										171	1552.5
										172	1552.5
										173	1552.5
										174	1552.5
										175	1552.5
										176	1552.5
										177	1552.5
										178	1552.5
										179	1552.5
										180	1552.5
										181	1552.5
										182	1552.5
										183	1552.5
										184	1552.5
										185	1552.5
					</						



M-C