

INSTRUCTIONS FOR ORDERING PARTS:

1. ALL PARTS MUST BE ORDERED FROM YOUR DEALER.
2. GIVE MODEL NUMBER and SERIAL NUMBER that is stamped on the NAME PLATE of your machine.
3. Order from your PARTS LIST, found below each illustration, 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 THE PART.

NOTE: The 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.

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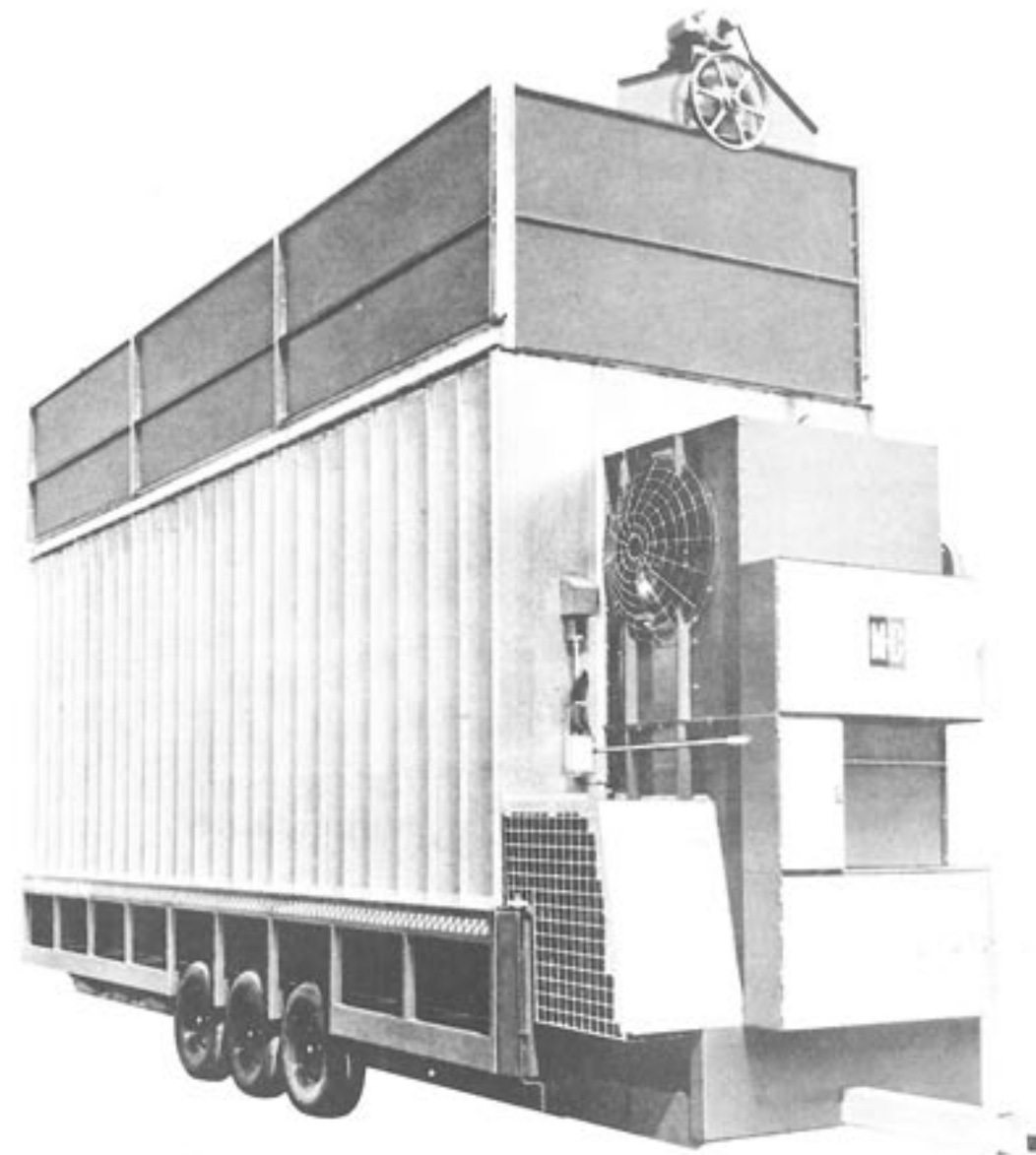


CONTINUOUS

GRAIN DRYER

S.N. 32025 - 32999

ASSEMBLY-OPERATION AND MAINTENANCE INSTRUCTIONS



MODELS
 475
 675
 975
 1075

DM 76
 (D239)
 Reprint 2-79

MATHEWS COMPANY

CRYSTAL LAKE ILL., 60014 • U.S.A.

Corrections to be made in this manual listed on inserts A and B.

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MODIFICATIONS AND CHANGES TO DM76 GRAIN DRYER MANUAL

Page 7: Under "Explanation of Models with Multiple Heat Units"--

Wherever the word "OFF" appears, change to "ON".
Wherever the word "ON" appears, change to "OFF".

Page 12: Item #6: Strike out Part #1217002 and change to Part #1237000.
Description remains the same.

Item #11: Strike out Part #1217011 and change to Part #1237003.
Description remains the same.

Add:

	<u>PART #</u>	<u>DESCRIPTION</u>
Item 6A:	1287000	1½" Main Solenoid Valve 12V DC
Item 7A:	1227027	Main Solenoid Valve Replacement Coil 12V DC
Item 8A:	1227023	B-Replacement Power Element for Main Modulating Valve - 90° - 210° (Standard)
	1227022	D-Replacement Power Element for Main Modulating Valve - 140° - 250° (Optional)

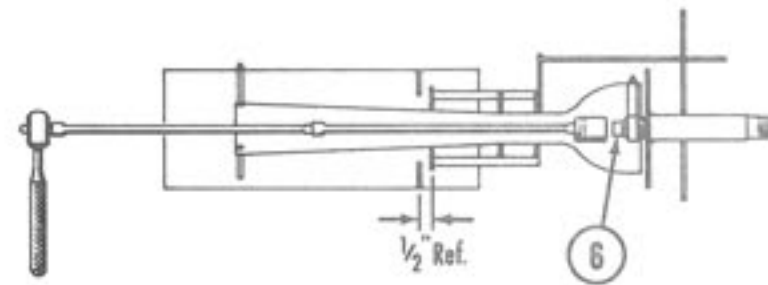
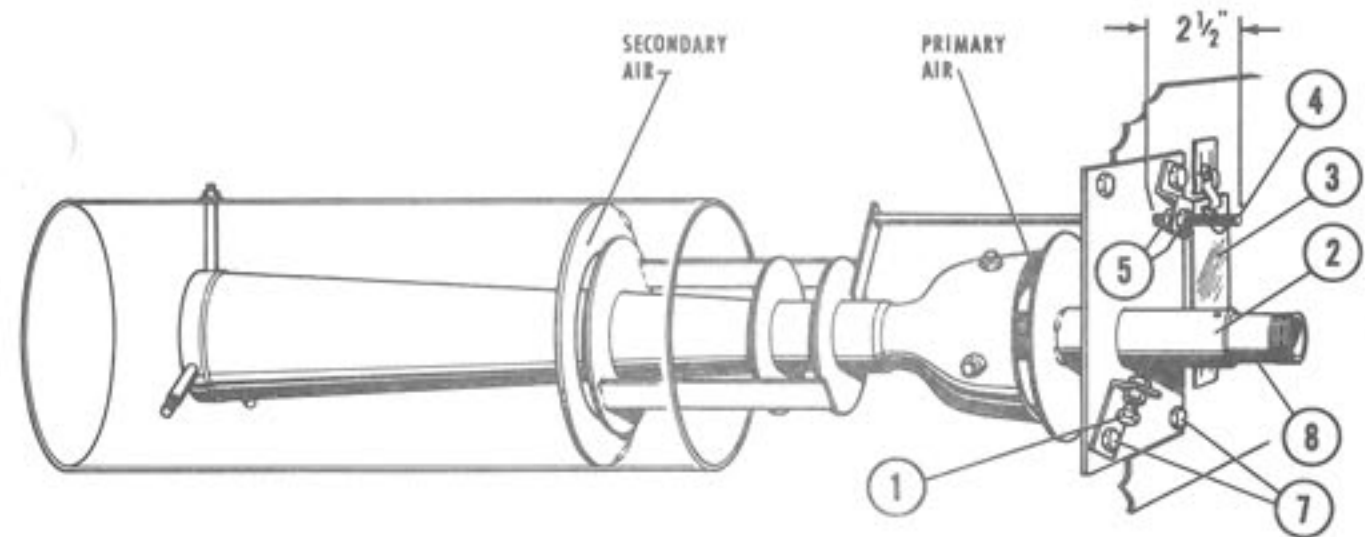
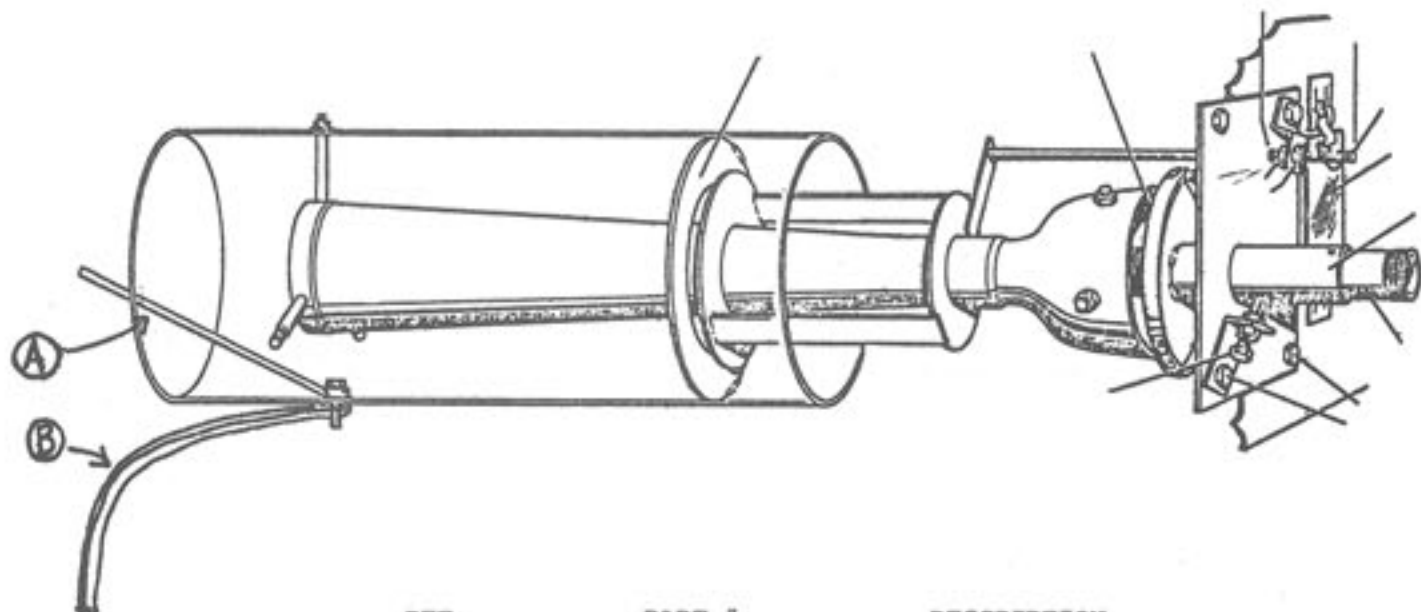
Note: Power element range can be determined by the letter ("B" or "D") stamped on the flange of the bowl of the power element near one of the screws that secure it to the valve body.

Page 13: Under "L.P. Gas Piping Trumpet Assembly"

Item #10: Strike out Part #1227011 and change to Part #1227001.
Description remains the same.

Add:

	<u>PART #</u>	<u>DESCRIPTION</u>
Item 13A:	1227002	B-Replacement Power Element for Main Modulating Valve - 90° - 210° (Standard)
	1227014	D-Replacement Power Element for Main Modulating Valve - 140° - 250° (Optional)



DETAIL

BURNER ADJUSTMENT

The burner air adjustments are initially set at the factory but may require minor changes to suit various conditions.

The primary air is adjusted first. Loosen locking bolt (1). Turn air adjuster pipe (2) clockwise until tight and then turn counter-clockwise approximately 1-1/2 to 2 turns until flame is blue with yellow fringes as viewed through window (3). Retighten locking bolt (1).

The secondary air adjustment is initially set so adjustment rod (4) extends 2-1/2 inches from the cabinet wall and normally should not need adjustment. However, if the flame is unstable and fluctuates greatly, loosen lock nuts (5) and push rod into cabinet 1/4" at a time until the flame smooths out. Retighten locknuts (5). If the rod is pushed in too far, the flame will burn inside the tube and will not operate efficiently.

NOZZLE REPLACEMENT

In cases of extremely low or extremely high required drying temperatures, it may be necessary to change the burner nozzles (6). A standard 3/4 inch pipe plug can be drilled to any orifice size required for low or high heat. Replacement can be accomplished in either of two methods.

METHOD 1

Go inside the heat chamber of the dryer and remove the target behind the burner. Then remove the nozzle with a 12 point 3/4 socket and long extension as shown in detail. Be very careful to push the socket

firmly on the nozzle so it won't drop off while the wrench is being pulled back out. Reverse this procedure for installing the new nozzle.

METHOD 2

The nozzles may also be changed from outside the dryer. First loosen the unions and disconnect the trumpet. Loosen four bolts (7) and locknuts (5). Remove the nozzle holder assembly by unscrewing pipe (8). The nozzle can then be replaced and the burner reassembled in the reverse procedure.

or

	REF.	PART #	DESCRIPTION
Page 14: Add:	A	1280197	Flame Ground Rod
Page 41:	B	1212952	Flame Ground Strap

Page 18: Item #29 Hanger bearing U-bolt is no longer available. Replace with:

	QTY.	PART #	DESCRIPTION
	2	0008257	3/8-16x5" HHCS Full Thread
plus 1		1283415	Hanger Bearing Bar

Item #30 Wood hanger bearing - 1 9/32" bore is no longer available. Replace with 1 - #1286021 -- Square wood bearing 1 1/4" bore.

Page 21: Drive Gear Box (B Model) Part #1286602 is no longer available. The and entire gear box fan drive system as shown on page 32 has been replaced Page 32: by Belt Fan Drive Kit #1289000 as shown on page ____ of this supplement.

Page 23: Under "PTO Drive Jackshaft Assembly"

Item #13: Strike out Part #1286009 - 2/3V/6.0 Sheave and change to Part #1286226 - 2/3V/4.5 Sheave. Strike out the line that reads "Future Models will Replace Both Pulleys No. 1286009 and No. 1206215 with a Single Pulley No. 1286204".

Page 25: Item #8: Change the B-44 Belt to B-43 Belt. The part number remains the same.

Item #30: Strike out Part #1286215 - 2/3V/6.5 Pulley and change to Part #1286225 - 2/3V/8.0 Pulley.

Item #40: Strike out Part #1286215 - 2/3V/6.5 Pulley and change to Part #1286226 - 2/3V/4.5 Pulley.

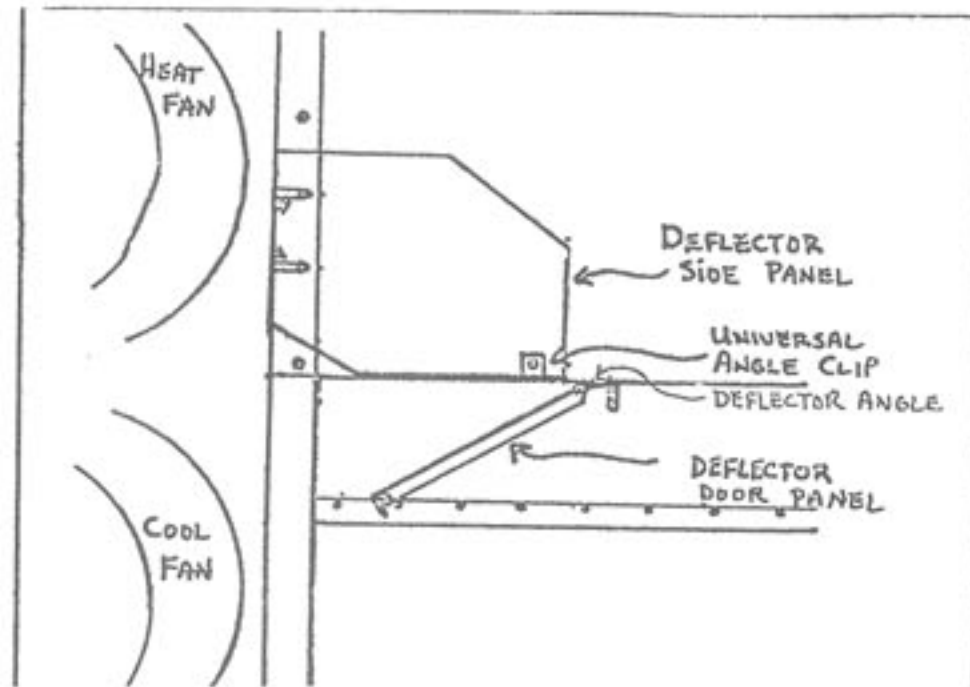
The bushings for these two pulleys remain the same as before.

TROUBLE SHOOTING

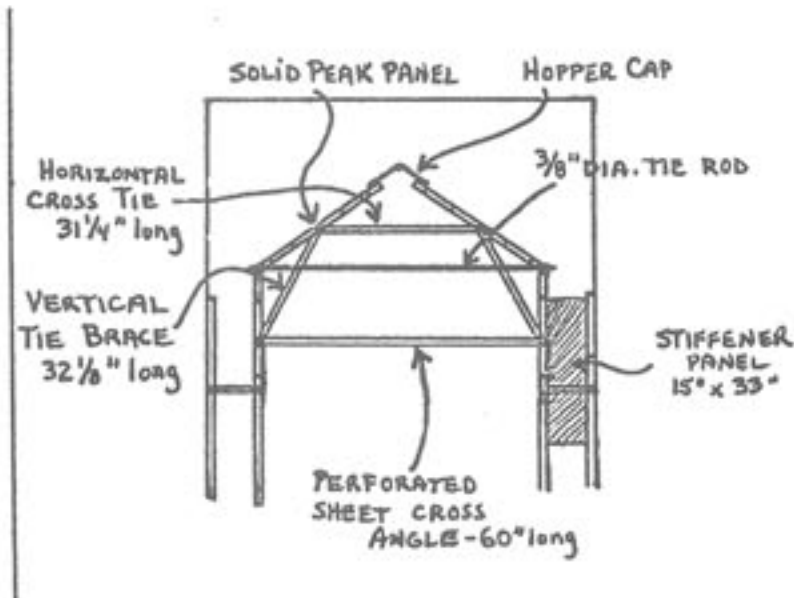
ADDITIONAL PART #'S FOR DM76 DRYER MANUAL

PROBLEM	POSSIBLE CAUSE & SOLUTION	PROBLEM	POSSIBLE CAUSE & SOLUTION
1. Lights do not work	(a) No electricity. Light bulbs burned out. (b) Fuse blown. (c) Broken or loose wire.	6. Heat shuts off.	(i) Broken wire from ignition board to electrodes. (j) Ignition board faulty – replace only.
2. High Limit Light does not work	(a) Light bulb burned out. (b) High Limit tripped out. (Reset by pushing Red Button.) (c) Switch itself burned out. (Replace.)	7. Not enough heat.	(a) Dryer has run low on grain. (b) Modulating Valve faulty. (c) High Limit Control tripped out. (d) Solenoid faulty. (e) Out of gas. (f) Faulty or broken electrodes. (g) Machine not grounded.
3. Electric circuit out of order.	(a) Check circuit with wiring diagram. furnished with instructions.	8. Gas lines frosting up.	(a) Valves from gas supply are not fully open. (b) Increase pressure at pressure regulator. (On L.P. units, this is set at factory for approximately 7 to 8 pounds. However, to increase gas flow on L.P. units, turn adjusting screw in.) (c) Burner partially plugged. Remove and clean. (d) Hand valve not fully open. (e) Adjust Modulating Valve.
4. Air Pressure Switch not functioning.	(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. (b) Air tube from pressure switch into dryer may be filled with chaff. (c) Adjust setting for less pressure. To close circuits, turn adjusting screw counter clockwise. CAUTION: DO NOT adjust to point that light will stay on when fans are not running.	9. Automatic Moisture Control does not work.	(a) Solenoid is burned out or a wire is broken. Check and make replacement. In the meantime, OPERATE DRYER MANUALLY. (b) Loose or broken wire at solenoid or switch. (c) Switch shorted out.
5. If flame does not light. (Fenwal Ignition)	(a) Electrodes not positioned in flame properly. (b) Electric Power not on. (c) 15 AMP fuse blown. (d) Machine not grounded. (e) Gas not on. Modulating valve not open far enough. (f) Gas solenoid not opening. (Faulty or loose wire.) (g) High Limit Control (reset) tripped out. (h) Air Pressure Switch not functioning.		

1286826	12V Neon Lamp Ass'y	
1286825	115V Neon Lamp Ass'y	
1288983	Thermometer (Standard - 15 Ft. Capillary)	
1288962	Thermometer (Top Section 775, 1075 - 30 ft. Capillary)	
1286844	Start Button Ass'y	
1286845	Stop Button Ass'y	
1286846	Burner Interlock Relay - 120V, 10 Amp.	
1216874	Starter Reset Mechanism	
1286847	300 Sec. 115 V. Level Auger Delay Relay	
1286851	Fuse Holder	
1286852	NON-15, 15 Amp Fuse	
1286920	300 Sec. 12 V Level Auger Delay Relay	
1288974	Control Cabinet Lever Handle Latch Cam	
1288975	Control Cabinet Lever Handle	
1281216	12 V Battery Cable Ass'y	
1216925	115 V Fenwal Ignition Circuitry Board	
1216926	Fenwal Electrode	
1216962	12 V Fenwal Ignition Circuitry Board	
1216990	Burner Interlock Relay - 12 V DC	
1274429	Ratchet Stop Mount Angle	
1210355	Ratchet Stop Mount Weldment	
1210354	Ratchet Stop Dog Weld	
1218162	3/8-16x1 5/8 HH Shoulder Bolt (1" Shoulder)	
Page 27: Item 19: Center Auger Mid Bearing Hanger (U-Bolt) is no longer available. Replace with:		
<u>QTY.</u>	<u>PART #</u>	<u>DESCRIPTION</u>
2	0018263	1/2-13x8" HHCS Full Thread
plus 1	1284250	U. A. Mid Bearing Support
Item 20: Wood Bearing 1 15/16" bore is no longer available. Replace with 1 - 1286020 Square Wood Bearing 1 15/16 bore.		

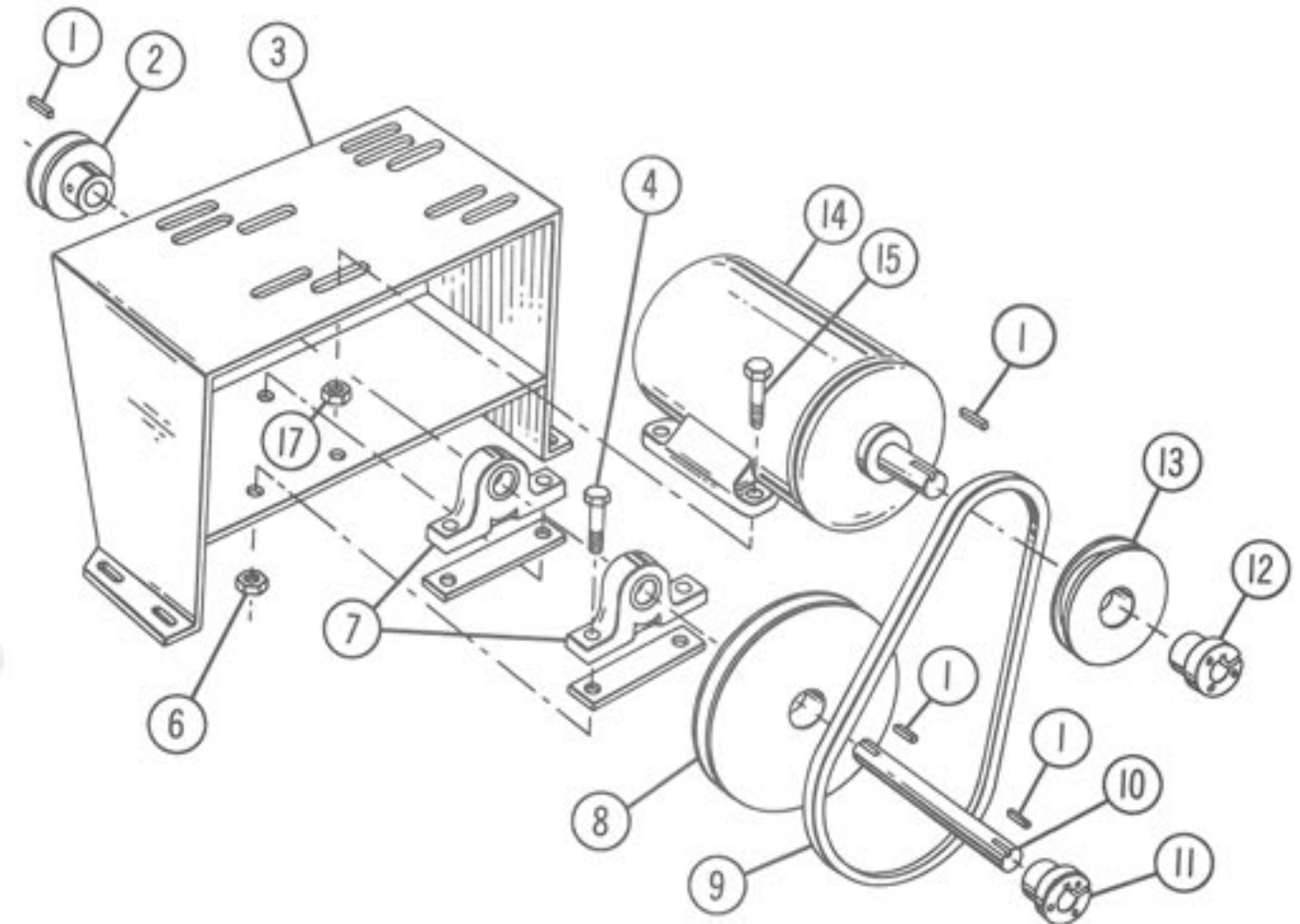


PART #	DESCRIPTION
1222831	DEFLECTOR SIDE PANEL - RT.
1222835	DEFLECTOR SIDE PANEL - LFT.
1222834	HEAT DEFLECTOR DOOR
1222833	HEAT DEFLECTOR DOOR HINGE ANGLE
0013302	ANGLE CLIP - UNIVERSAL



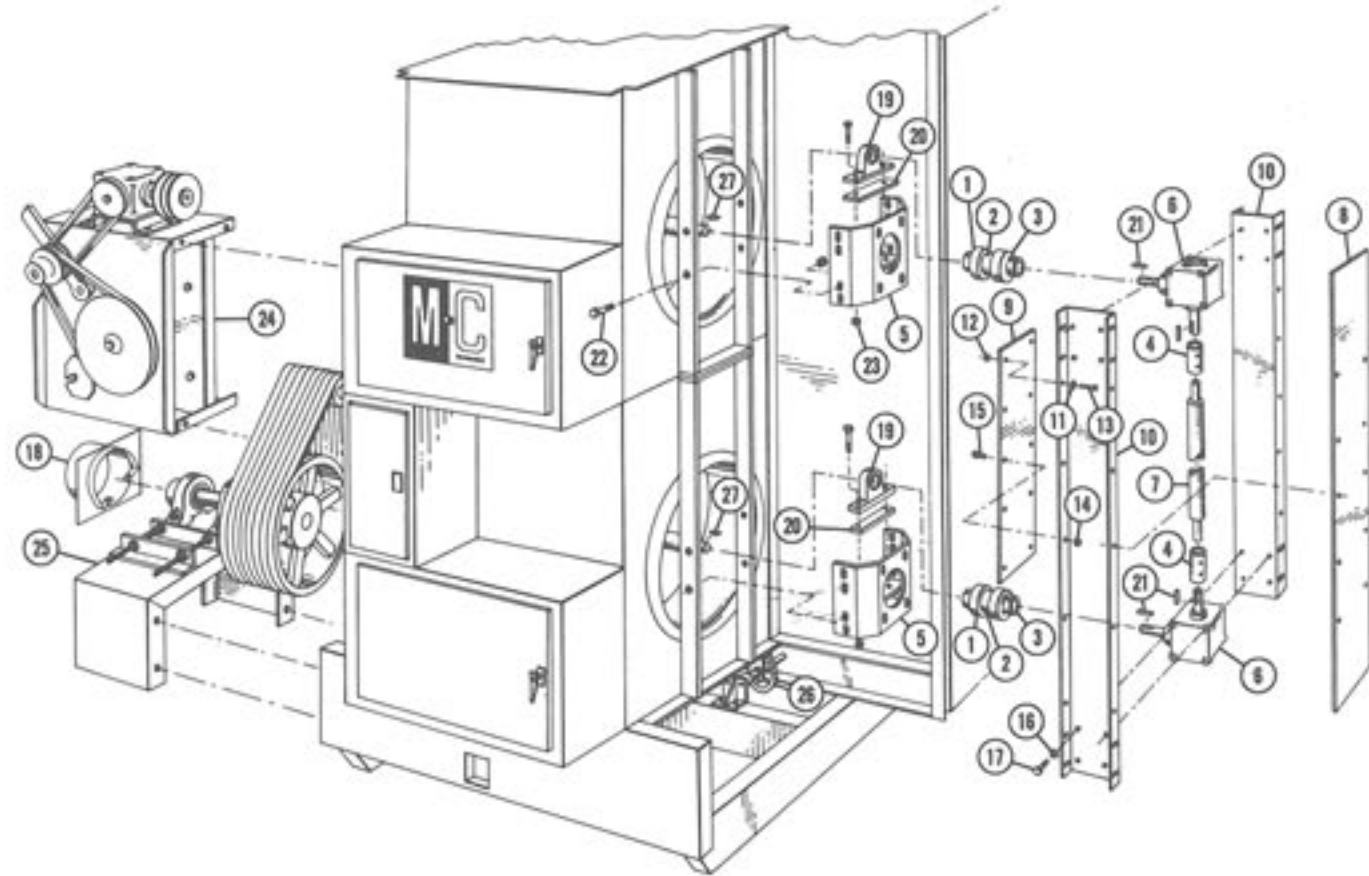
PART #	DESCRIPTION
1282991	HOPPER CAP 96" LONG 4"x4" ANGLE (18 GAUGE)
1282895	HOPPER PEAK PANELS - 24"x40" (16 GAUGE)
1282012	INNER HOPPER PANEL CROSS TIE 1/8"x1x1 1/2"x31 1/4" LONG GALV. ANGLE
1222836	INNER HOPPER PANEL VERT. TIE 1/8"x1x1 1/2"x32-1/8" LONG GALV. ANGLE
1288956	TIE ROD 3/8" DIA. x 63 1/2" LONG
1282014	INNER PERFORATED CROSS TIE BRACE 1/8"x1x1 1/2"x60" LONG GALV. ANGLE
1222830	PERF. SHEET STIFFENER PANEL

OPTIONAL DRIVE ASSEMBLY



REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
1	0015116	1/4 x 1/4 x 1" Key		1216862	2 HP, 1 Phase Motor
2	1286218	4.2 x 1" Bore, Sheave (BC-48)	15	0008109	5/16-18 x 1-1/4 Hex Head Cap Screw For 2 HP 3 Phase Motor Only
3	1270007	Drive Mount Weld		0008123	3/8 - 16 x 1-1/4 Hex Head Cap Screw
4	0008121	3/8-16 x 1" Hex Head Cap Screw	17	0008169	5/16 - 18 Flange Whiz Locknut For 2 HP 3 Phase Motor Only
6	0008168	3/8-16 Flange Whiz Locknut		0008168	3/8-16 Flange Whiz Locknut
7	1276000	1" Bore P.B. Bearing		1279020	1-1/2 HP, 1 Phase Kit (475E-675E)
8	1276202	6.4 P.D. Sheave		1279021	1-1/2 HP, 3 Phase Kit (475E-675E)
9	1276100	B-35 Belt		1279023	2 HP, 3 Phase Kit (975E-1075E)
10	1275020	Drive Jackshaft			
11	1316204	SDS Bushing, 1" Bore			
12	1236222	SH Bushing, 7/8" Bore			
13	1276201	4.2 P.D. Sheave			
14	1216861	2 HP, 3 Phase Motor			

B-MODEL DRIVE



REF. NO.	QTY.	PART NO.	DESCRIPTION
1	2	1286604	1-5/8" Bore Coupling #8 FL.
2	2	1286606	#8 Sleeve
3	2	1286605	1" Bore Coupling #8 FL.
4	2	1286611	1" Rigid Coupling #1000 G. & G.
5	2	1280158	Vertical Shaft Frame Weldment
6	2	1286602	A-115 Gear Box
7	1	1285049	Shaft Between Gear Boxes
8	1	1284802	Outer Cover Plate
9	1	1284526	Inner Cover Plate
10	2	1284502	Gear Box Vertical Channel
11	8	0008175	1/2" Flatwasher
12	8	0008170	1/2" - 13 Whiz Nut
13	8	0008137	1/2" - 13 x 1-1/4" Hex Head Cap Screw
14	20	0008168	3/8" - 16 Whiz Nut
15	20	0008121	3/8" - 16 x 1" Hex Head Cap Screw

REF. NO.	QTY.	PART NO.	DESCRIPTION
16	16	0008179	3/8" Lock Washer
17	16	0018135	3/8" - 16 x 1 Hex Head Cap Screw Grade #5
18	1	1280157	B-Model Shear Flange Guard
19	2	1216003	1-5/8" Bore Pillow Block Bearing
20	2	1212637	Shim
21	4	0015119	Key 1/4 x 1/4 x 2"
22	8	0008138	1/2 - 13 x 1-1/2
23	8	0008170	1/2 - 13 Flanged Whiz Nut
24	1		Metering System Jackshaft Ass'y (See Page 25)
25	1		P.T.O. Jackshaft Ass'y (See Page 23)
26	1		Metering System Drive Ass'y (See Page 26)
27	2	0018998	Woodruff Key

SET UP INSTRUCTIONS

NOTE: The end of the dryer with fan(s) is considered the front. Left and Right is determined by standing behind the dryer and looking at the rear door.

1. Place dryer in a level position.

(A) Permanent Installation:

Place dryer on a concrete slab designed to carry the weight of the dryer when full of grain. A vibration damper (wood planks, flat belting, old tire casings, etc.) should be used between full length of skid and concrete. Be sure to provide foundation for the side and/or corner Stabilizer (see sketch of base, page 3). The foundation for the stabilizer should be one-sixteenth (1/16) lower than the skid foundation. Before setting the dryer, the base of the dryer must be lifted high enough to insert the stabilizer parts into the square tubular receptacles. Do not shim between foundation and stabilizer pad until the dryer is full of grain. **BE SURE TO ANCHOR THE DRYER.**

(B) Temporary Installation:

Timbers or railroad ties should be placed under every skid support as shown on foundation detail drawing on page 3.

2. Install Variable Speed Crank. See page 22.

3. Set up Wet Holding Bin. See page 2. Model 1075E shipped set up.

4. Install Level Auger (optional on some models), see page 18. Model 1075E shipped installed except for motor.

5. Install all guards and shields. Do not set any part of dryer in motion without them installed. See pages 19, 28, 30, 32.

6. On "B" models ("E" models go to step 9), remove snap ring from Jackshaft (item 22, page 23) and install PTO shaft and connect to dryer shear flange using two 3/8-16x2-1/4 special shear bolts, part number 0018133, supplied with the dryer. **DO NOT** use hardened bolts or standard long thread bolts. Reinstall the snap ring on jackshaft.

7. Connect PTO to tractor power take off. Position tractor so there is only a small angle on the universal joints of the PTO shaft. **BE SURE** GUARD over universal joint and shear flange at dryer and tractor guard over power take off are installed.

8. Hook up the 12 volt DC power cables to the tractor battery.

(A) Red to positive terminal.

(B) Brown to negative terminal.

9. On "E" models have the electrician bring the source of power into the terminal lugs in the control cabinet. Be sure the electrician hooks the lead-in wires to the proper terminals, in order to provide 115 volts to run the controls. If improperly connected, the 15 amp fuse on the 115 volt line will blow.

10. Connect gas supply to machine.

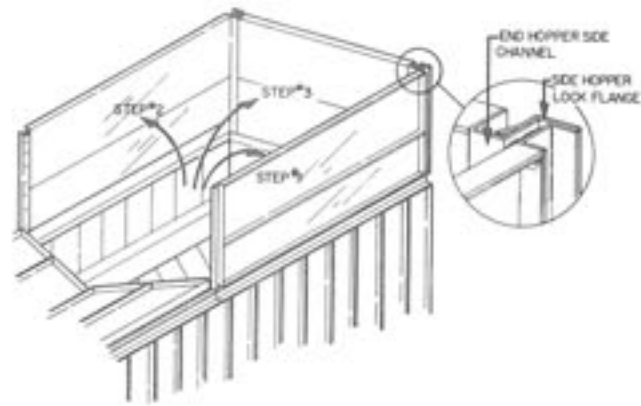
(A) LP GAS--Advise your LP gas supplier that the dryer takes liquid propane from the tanks (not vapor). When the gas system is connected to the dryer, be sure an Excess Flow Valve is installed at the tank, preferably the one furnished with the machine as it will shut off quicker (in case of line breakage) than those normally furnished by the gas supplier. In any case, **NEVER** have two Excess Flow Valves on the same line.

Use a minimum of 1/2" ID gas line between tank and dryer. On runs over 100 feet or for dryers with more than one burner assembly, use a 3/4" ID diameter line. Connect the gas line from the tank to the short flexible hose on the dryer.

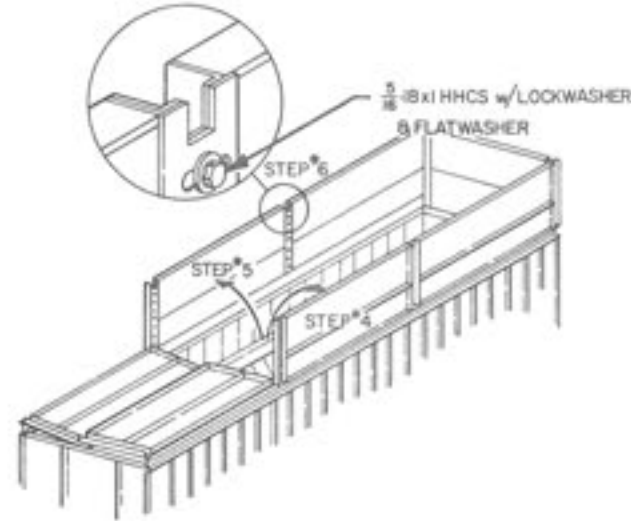
(B) NATURAL GAS--A minimum of 5 lbs. of operating pressure is required on all models. Use minimum two inch line from Natural Gas regulator to dryer. Use reducing bushing to 1 1/4" just before connecting to pipe outside dryer control cabinet.

11. For converting burner from LP Gas to Natural Gas, see illustrations on pages 12 and 13.

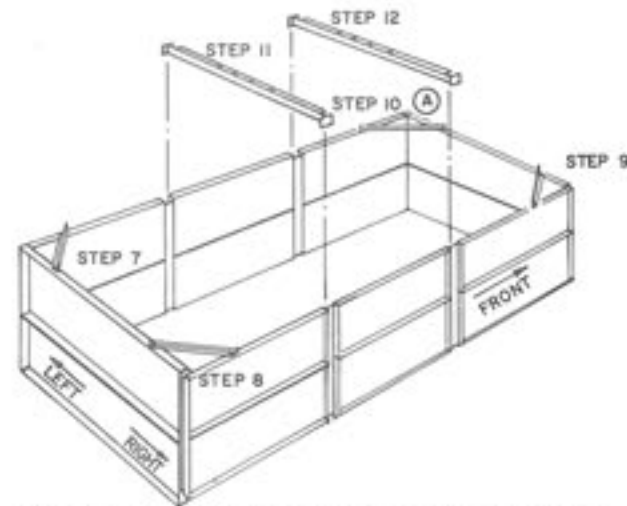
SET UP INSTRUCTIONS (WET HOLDING HOPPER INSTALLATION)



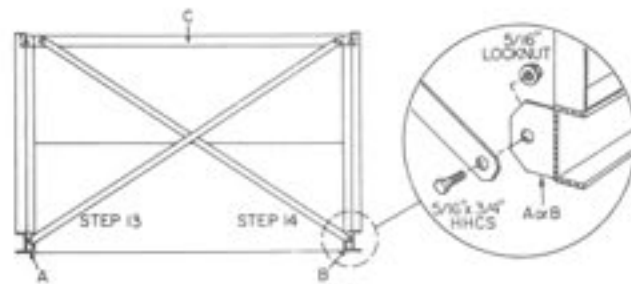
Raise Front Side Hopper Panel Assemblies into Position Step 1 and Step 2. Then Raise Front Hopper End Panel Assembly into Position Locking the End Hopper Side Channels into the Lock Flanges of the Hopper Side Assemblies (See Inset).



Raise Center Side Hopper Assemblies (Not Used on 675 or 475) into position (Step 4 & Step 5) and Bolt to Existing Step Up Hopper Assembly with 5/16-18 x 1 Hex Head Cap Screw with Lockwasher and Flatwasher Step 6 (See Inset) Then finish setting up Rear of Hopper by Following Steps 1-3.



Bolt Corner Hopper Ties into place (Steps 7-10) (NOTE: On Dryers With Level Augers the Corner Hopper Tie at (A) Cannot be Bolted Into Place Until Level Auger Is Installed). Assemble Hopper Cross Tie Weldment into Notches as Indicated Making Sure Holes in Top Flange Are On Left Side of Dryer (Steps 11 & 12).

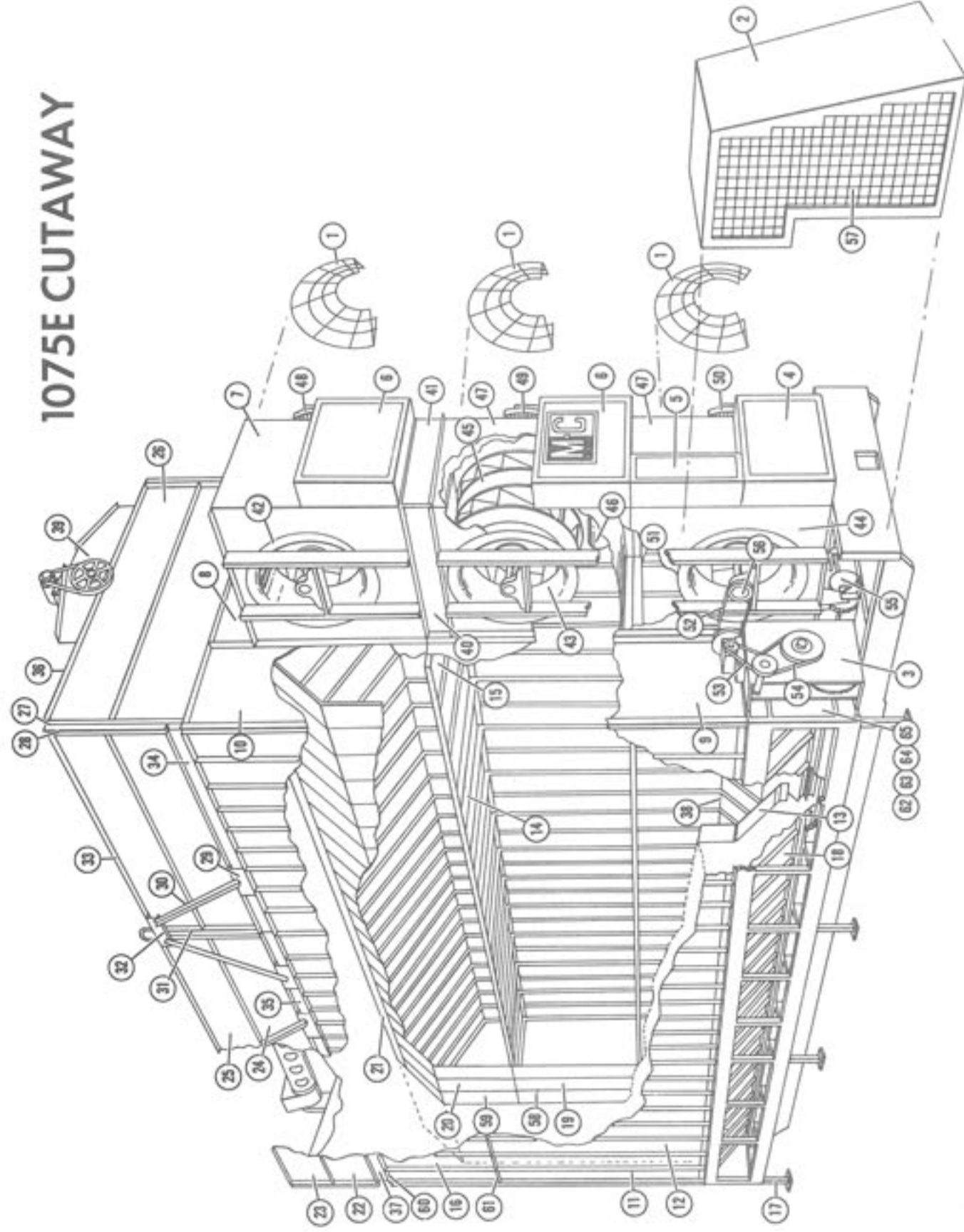


Assemble Hopper Cross Tie Straps to mount brackets A & B and then bolt to Hopper Cross Tie Weldment "C" (Steps 13 & 14). Bolt ladder to rear Hopper End Assembly. Tighten all bolts. The Hopper is now complete.

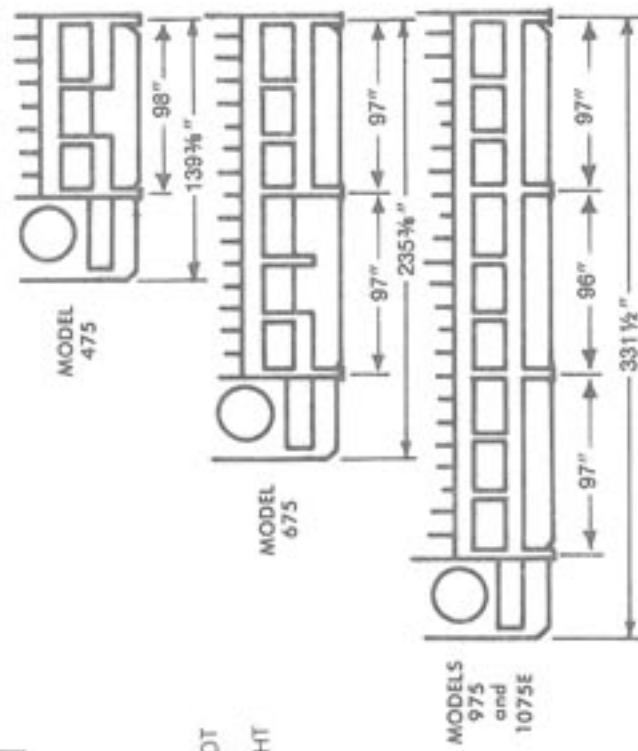
REF. NO.	PART NO.	DESCRIPTION	QTY.
1	1288965	Motor Fan Guard	3
2	1284806	Drive Assembly Guard	1
3	1281071	Metering Drive Jackshaft Assy (See Page 25)	1
4	1281204	Motor Control Cabinet Assembly	1
5	1281154	Control Cabinet Assembly (See Page 11)	1
6		Gas Cabinet Assembly (See Pages 12 & 13)	2
7	1282862	Fan Housing Top Cover	1
8	1282848	Panel Above Fan (Top Section)	1
9	1282869	Lower Right Front End Panel	1
10	1282845	Upper Right Front End Panel	1
11	1282974	Lower Outer Perforated End Sheet	4
12	1282945	Lower Outer Perforated Sheet	42
13	1282958	Bottom Inside Perforated Sheet	48
14	1212928	Unit Floor Panel	20
15	1282879	Top Front Unit Floor Panel	1
16	1282973	Upper Outer Perforated Sheet	44
17	1281175	Stabilizer Post Assembly	8
18	1282951	Bottom Outside Perforated Sheet	48
19	1282958	Inside Perforated Sheet (Bottom Section)	44
20	1282961	Inside Perforated Sheet (Top Section)	44
21	1282946	Hopper Cap	3
22	1284793	Lower Side Hopper Panel (Ends)	4
23	1284792	Upper Side Hopper Panel (Ends)	4
24	1284794	Lower Side Hopper Panel (Center)	2
25	1284795	Upper Side Hopper Panel (Center)	2
26	1284786	End Hopper Panel	4
27	1282629	Corner Hopper Angle - Right Front - Left Rear	2
	1282630	Corner Hopper Angle - Left Front - Right Rear	2
28	1282631	1075 End Hopper Joinder Channel	4
29	1284224	Hopper Support Angle Mount Bracket	8
30	1282383	Side Hopper Support Angle	8
31	1282620	Side Hopper Joinder Channel	4
32	1280151	1075 Cross Bridge Weldment	2
33	1282005	Side Hopper Flange Stiffener	12
34	1282633	1075 Side Hopper Channel (Right Front - Left Rear)	2
35	1282634	1075 Side Hopper Channel (Center)	2
36	1282002	End Hopper Flange Stiffener	4
37	1282632	1075 Side Hopper Channel (Left Front - Right Rear)	2
38	1284441	Inner Perforated Sheet Angle	6
39	1284518	Level Auger Assembly (See Page 18)	1
40		Fan Housing Spacer Panel Sides	2
41	1284519	Fan Housing Spacer Panel Front	1

REF. NO.	PART NO.	DESCRIPTION	QTY.
42	1281081	Top Fan Housing Assembly	1
43	1281038	Middle Fan Housing Assembly	1
44	1281039	Bottom Fan Housing Assembly	1
45		Centrifugal Fan Assembly (See Page 16)	3
46	1281068	Venturi Burner Assembly (See Page 14)	2
47	1284516	Fan Housing Cover Panel	2
48	1286816	30 HP 3 Phase Motor	2
49	1216881	20 HP 3 Phase Motor	1
50	1286819	25 HP 3 Phase Motor	1
51	1282604	Fan Housing Mount Plate	3
52	1286101	2/3V/425 Belt	1
53	1286108	B-29 Belt	1
54	1286107	B-44 Belt	1
55		Metering System Drive (See Pages 26 & 27)	1
56	1286009	2/3V/6 O.D. Sheave	1
57	1288980	E-Model Drive Assembly Screen	1
58	1282974	Inner Perforated End Sheet (Bottom Section)	4
59	1282976	Inner Perforated End Sheet (Top Section)	4
60	1282381	Side Hopper Angle	6
61	1282716	Right Front - Left Rear Column Joinder Angle	4
	1282717	Left Front - Right Rear Column Joinder Angle	4
62	1282859	Outer Panel Between Channels	2
63	1282861	Left Front - Right Rear Outer Panel Between Channels	2
64	1282858	Right Front - Left Rear Outer Panel Between Channels	2
65	1282952	Center Panel Between Channels	2
		Base Panel Access Door	2
		NOT SHOWN:	
	1282843	Upper Left Rear End Panel	1
	1282844	Upper Right Rear End Panel	1
	1282846	Upper Left Front End Panel	1
	1282868	Lower Left Front End Panel	1
	1282866	Lower Left Rear End Panel	1
	1282867	Lower Right Rear End Panel	1
	1282715	Door Frame	3
	1282847	Panel Above Door (Top Section)	1
	1282876	Panel Above Doors (Bottom Section)	1
	1252732	Perforated Sheet Mount Angle	6
	1281184	Lower Rear Door Assembly	2
	1281183	Upper Rear Door Assembly	1
	1282982	1075 Moisture Control Perforate Sheet	2
	1282635	End Panel Joinder Angle	4
	1288964	Upper Right Side Fan Housing Guard	2

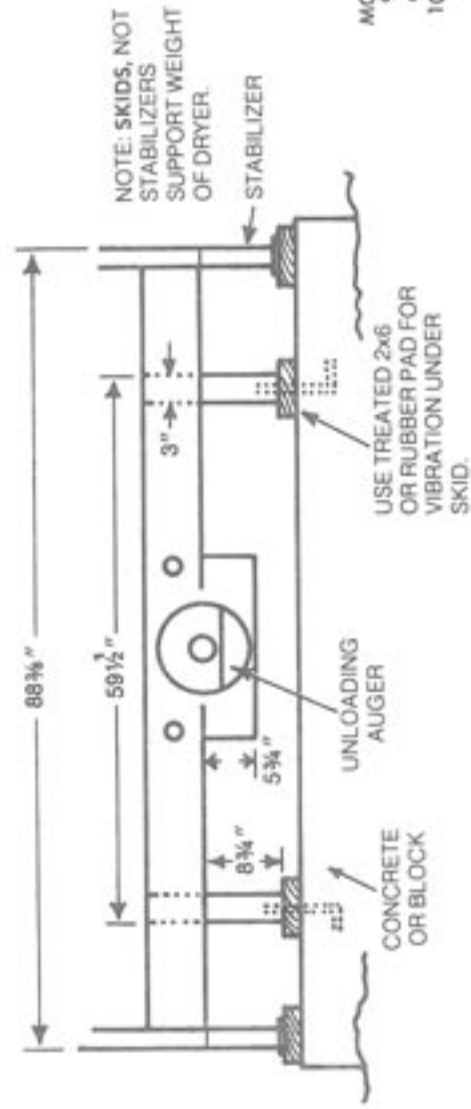
1075E CUTAWAY



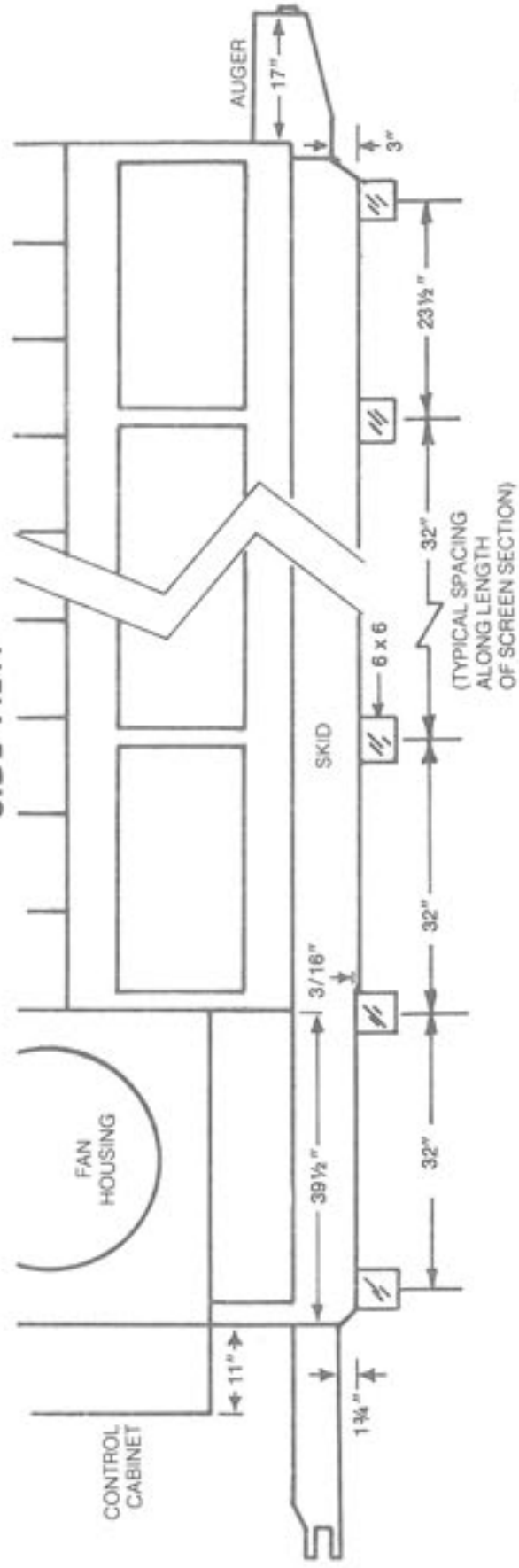
SKID CHART



REAR VIEW



SIDE VIEW



FOR TEMPORARY INSTALLATIONS: Place timbers or railroad ties under skids directly below skid supports every 32" as indicated above. (6x6 Used As Example).



OPERATING INSTRUCTIONS

- Make sure all safety shields and guards are in place.
- Flip Ignition Switch to OFF.
- Close all gas supply valves.
- Connect or turn on electric power source (12 volt DC for B Models--115 volt AC for E Models).
- Fill dryer with grain. See Level Auger operation instruction (page 6) for specific model of your dryer.
- Slowly open gas valve at LP tank and check for leaks.
- Start fans if not already running when dryer is full. Light #3 (Air Pressure Switch) on control cabinet will come on. (Trouble see page 34).
- Open Flip Valve on LP models. Turn on gas supply valve on Natural Gas Models.
- INITIAL START UP OF NEW DRYER BURNER.** (For models with more than one Heat Unit, see page 7).
 - Open Hand Valve (page 12 and 13) on lower gas line all the way (90° turn of handle). If extremely low drying temperatures are desired, it may be necessary to leave this Hand Valve closed.
 - Open the Hand Valve (located on gas line containing the Solenoid) and Modulating Valves (see page 12 and 13) one-fourth (1/4) of the way (22 degree turn of valve handle).
- Flip Ignition Switch ON to start one Venturi burner. If ignition does not take place in five (5) or six (6) seconds, flip Ignition Switch OFF, wait one (1) minute, and flip ignition switch ON again. (Trouble see page 34).
- After flame is established, gradually bring temperature up inside the dryer by slowly opening the hand valve all the way. Slow opening of valve is necessary to prevent freezing of the LP gas line and to prevent a fast temperature rise which could trip off the High Limit Switch. If High Limit Switch trips off, first close Hand Valve (referred to in step 10-B) on gas line, then flip off ignition switch, and then reset High Limit Switch by pushing the reset button on the High Limit Switch. Follow ignition procedure again but open gas hand valve slower.
- Once flame is established, the heat causes vaporization (LP) and a steady controlled heat is possible (2-3 minutes). With both Hand Valves

open, check the pressure reading on the gauge. The pressure was factory set at approximately ten (10) pounds. The pressure setting may be adjusted if necessary by loosening the lock nut on the pressure regulator (see page 13) and turning the adjusting bolt in for more pressure and out for less pressure. Any adjustment in pressure should only be done after the Vaporizer has warmed up. If pressure adjustment is needed, be sure to tighten lock nut again. NOTE: If only one Hand Valve is open, the pressure will be greater than ten (10) pounds. This is a normal condition and the Pressure Regulator does not need to be changed. On Natural Gas Burners, the pressure reading will remain nearly constant.

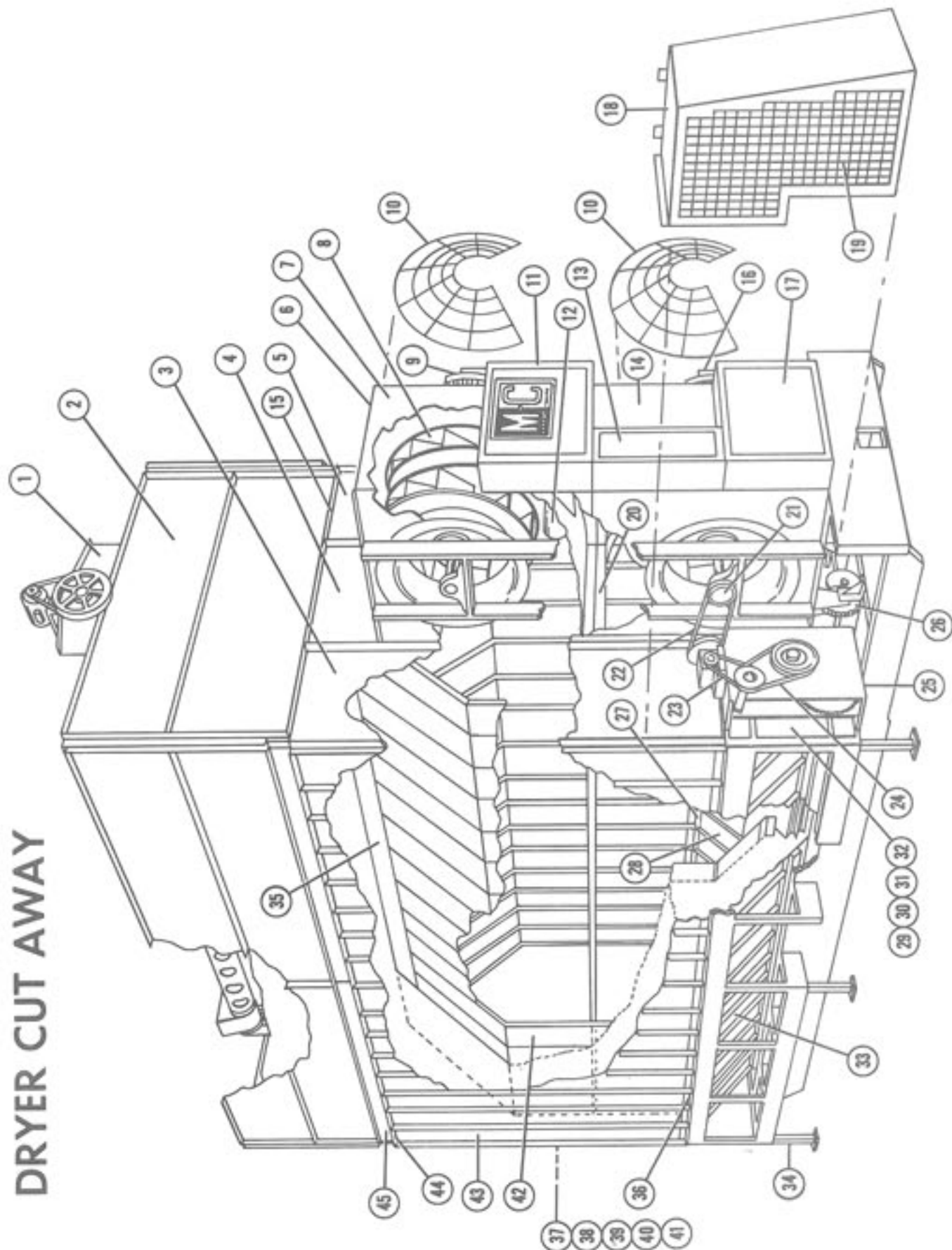
- The drying temperature is regulated by the Modulating Valve. To increase the temperature, turn the handle in. To reduce the temperature, turn the handle out. Proper setting is acquired by reading the thermometer.
- After initial operation of several hours burning, the pressure regulator and Modulating Valve will be functioning properly, and will need no further adjustment on future start-ups.

SHUT-OFFS AND RESTARTS

- When turning the burner off, flip the ignition switch to off, close both gas line valves, flip liquid line valve (LP only) closed, and close main gas supply valve. Let fans run 15 to 20 minutes to cool grain down. To restart burner, repeat steps 9 through 12.
- The cooling section of the dryer will have wet grain in it, and will not be dried on the first run. This grain will have to be recycled back into the heating section.
- Make sure Automatic Moisture Control Switch is in "OFF" position. In order to dry all the corn in the upper section, it will require approximately one hour of continuous heat to dry from 30% to 13% moisture. Less moisture removal will require less time.
- For safe bin storage, the grain is normally dried to 13% moisture. After one hour of drying, turn Moisture Control Switch to "Manual" position. This will engage Ratchet Solenoids and begin unloading the grain. When grain in cooling sec-

REF. NO.	PART NO.	QTY.	DESCRIPTION	REF. NO.	PART NO.	QTY.	DESCRIPTION
1	1282852	1	Level Auger Assembly (See Page 18)	28	1282953	48	Lower Inner Perforated Sheet (For 975)
2	1282841	1	Wet Holding Hopper Assembly (See Page 17)	29	1282953	32	Lower Inner Perforated Sheet (For 675)
3	1282851	1	Right Front End Panel	29	1282953	16	Lower Inner Perforated Sheet (For 475)
4	1282841	1	Panel Above Fans	30	1282859	2	Outer Panel Between Channels Left Front-Right Rear
5	1282851	1	Left Front End Panel	30	1282861	2	Outer Panel Between Channels Right Front-Left Rear
6	1281081	1	Top Fan Housing Assembly (For 975E)	31	1282858	2	Center Panel Between Channels
	1281113	1	Top Fan Housing Assembly (For 975B)	32	1282952	2	Base Panel Access Door
	1281038	1	Top Fan Housing Assembly (For 675E)	33	1282951	48	Lower Outside Screen (For 975)
	1281112	1	Top Fan Housing Assembly (For 675B)	33	1282951	32	Lower Outside Screen (For 675)
	1281109	1	Top Fan Housing Assembly (For 475E)	34	1282951	16	Lower Outside Screen (For 475)
	1281115	1	Top Fan Housing Assembly (For 475B)	34	1281175	8	Stabilizer Post Assembly (For 975)
	1282862	1	Fan Housing Top Cover	34	1281175	6	Stabilizer Post Assembly (For 675)
	1286816	1	Centrifugal Fan Assembly (See Page 16)	35	1281175	4	Stabilizer Post Assembly (For 475)
	1216881	1	30 HP 3 Phase Motor (For 975E)	35	1282946	3	Hopper Cap (For 975)
	1216881	1	20 HP 3 Phase Motor (For 675E)	35	1282946	3	Hopper Cap (For 675)
	1216848	1	10 HP 3 Phase Motor (For 475E)	36	1282946	2	Hopper Cap (For 475)
10	1288965	2	Motor Fan Guard	36	1282946	1	Hopper Cap (For 475)
11		1	Gas Cabinet Assembly (See Pages 12 & 13)	37	1252732	6	Perforated Sheet Mount Angle (For 975)
12	1281068	1	Venturi Burner Assembly (See Page 14)	37	1252732	4	Perforated Sheet Mount Angle (For 675)
13		1	Control Cabinet (See Pages 10 & 11)	37	1252732	2	Perforated Sheet Mount Angle (For 475)
14	1284516	1	Fan Housing Cover Panel (E-Models)	38	1282863	1	Right Rear End Panel
15	1284817	2	Fan Housing Cover Panel (B-Models)	38	1282864	1	Left Rear End Panel
16	1282605	2	End Panel Joinder Angle	39	1282840	1	Panel Above Doors
	1286819	1	25 HP 3 Phase Motor (For 975E)	40	1282715	2	Door Frame
	1216881	1	20 HP 3 Phase Motor (For 675E)	41	1281183	1	Upper Rear Door Assembly
	1216882	1	15 HP 3 Phase Motor (For 475E)	41	1281184	1	Lower Rear Door Assembly
17	1281203	1	Motor Control Cabinet Assy (For 975E)	42	1282949	44	Inner Perforated Sheet (For 975)
	1281202	1	Motor Control Cabinet Assy (For 675E)	42	1282949	28	Inner Perforated Sheet (For 675)
	1281158	1	Motor Control Cabinet Assy (For 475E)	43	1282949	12	Inner Perforated Sheet (For 475)
18	1284806	1	Drive Assembly Guard	43	1282945	42	Outer Perforated Sheet (For 975)
19	1288980	1	E-Model Drive Assembly Guard Screen	43	1282945	26	Outer Perforated Sheet (For 675)
	1288979	1	B-Model Drive Assembly Guard Screen	44	1282945	10	Outer Perforated Sheet (For 475)
20	1282604	2	Fan Housing Mount Plate	44	1282381	2	Side Hopper Angle (For 975)
21	1286009	1	2/3V/6.0 Sheave	44	1282382	2	Side Hopper Angle (For 675)
22	1286101	1	2/3V/425 Belt	45	1282380	2	Side Hopper Angle (For 475)
23	1286108	1	B-29 Belt		1282616	4	Hopper Side Channel - End (For 975 & 675)
24	1286107	1	B-44 Belt		1282617	2	Hopper Side Channel - Center (For 975)
25	1281071	1	Metering System Drive Jackshaft Assembly (See Page 25)		1282603	2	Hopper Side Channel (For 475)
26		1	Metering System Drive (See Pages 26 & 27)	NOT SHOWN			
27	1284441	6	Inner Perforated Sheet Angle (For 975)		1282965	4	Outer Perforated End Sheet
	1284441	4	Inner Perforated Sheet Angle (For 675)		1282964	4	End Inner Perforated Sheet
	1284441	2	Inner Perforated Sheet Angle (For 475)		1282971	2	Moisture Control Perforated Sheet
					1288964	1	Upper Right Side Fan Housing Guard

DRYER CUT AWAY



tion has moved through and dried grain begins to auger out, test it for moisture content. If moisture content is too high, slow down the unloading. If moisture content is too low and continues to read lower than desired for another hour, speed up unloading.

19. To change unloading speed, a combination of two adjustments are available. (For machines with two Ratchet Solenoids on each Metering Roll also see page 7).

(A) The Metering Rolls can be adjusted independently of the side augers by sliding the Eccentric Connecting Arm along the slotted bracket on the Eccentric Sprocket. The Eccentric Sprocket is located at the front lower right hand corner of the dryer. Accessibility is gained by pivoting the six (6) inch round cover in front of the housing to the side. Moving the Eccentric Connecting Arm TOWARDS THE CENTER of the sprocket will DECREASE the length of stroke and SLOW down the UNLOADING of the Metering Rolls. Moving it AWAY from the CENTER of the sprocket will INCREASE the length of the stroke and SPEED UP the UNLOADING of the Metering Rolls. CAUTION: NEVER MAKE ADJUSTMENTS ON SPROCKET UNTIL IT HAS COME TO A COMPLETE STOP. Normal factory setting is for two (2) teeth. When removing more than ten (10) points of moisture, it may require slowing down to one (1) tooth. When removing less than ten (10) points of moisture, it may require speeding up to three (3) or more teeth.

(B) The Variable Speed Pulley (page 22) determines the rate at which the Eccentric Connecting Arms move back and forth. The speed is changed by turning the crank connected to the Variable Speed Pulley Arm. ADJUST VARIABLE SPEED PULLEY ONLY WHEN MACHINE IS OPERATING. By moving the arm on the Variable Speed Pulley (page 22) UP the rate at which the Eccentric Connecting Arms move is SLOWED DOWN. By moving the arm of the Variable Speed Pulley DOWN the rate at which the Eccentric Connecting Arms move is INCREASED. This is normally used for fine adjustment. NOTE: Run through the complete cycle from fast to slow at least once a day when machine is operating. This will keep all moving parts free. CAUTION: Always note position of Variable Speed Pulley setting before moving crank in order to return to original position or to become familiar with amount of movement needed to change rate of movement of Connecting Arms. Never put extreme pressure on belts (force one or the other belt to bottom on one side of the center sheave).

20. After your dryer is operating properly and is discharging grain at the desired moisture content for one hour, flip the "Moisture Control Switch" to Automatic position, then set the Moisture Control on each side of the dryer by turning the indicator knob to the point that will just maintain Metering Roll operation. Most likely each Moisture Control will have a slightly different setting since they are independent switches. Normally they will be set within the limits shown in the following chart when drying and cooling are performed at the same time.

APPROXIMATE SETTING FOR SHELLED CORN AND MOST SMALL GRAINS

THERMOMETER SETTING	SET CONTROL DIAL AT	TO GET-- PERCENT MOISTURE
180°	35	13-14%
180°	40	14-15%
180°	45	13-15%
180°	50	12-13%

If the moisture content of the grain coming out of the dryer starts to increase, increase the setting of the control one mark at a time until the correct moisture content is reached. Allow ample time between adjustments for machine to correct itself, suggest time to be one (1) hour.

Adjust the unloading mechanism to correspond with the rate of feeding of the grain by the automatic control. These adjustments will only be slight if you have had your dryer operating correctly before switching it to Automatic Operation.

The speed of the Variable Drive should be fast enough to cause the Automatic Moisture Controls to operate intermittently but having the Metering Rolls engaged 85% to 90% of the time. If the unloading mechanism is working too slow, the Moisture Control Solenoids will operate constantly and the grain will come out drier than desired.

21. 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 by flipping Moisture Control Switch to OFF. This will give the grain remaining in the dryer time to become dried. Allow about 30 minutes of drying time for high moisture grain (30%) and proportionately less for drier grain. Then turn Moisture Control Switch to Manual position for emptying.

22. If you have followed the instructions carefully, your dryer will operate continuously without watching or adjusting as long as you keep it full of grain.

DRYING CHART FOR MODELS WITH ONE HEAT UNIT

TYPES OF GRAIN	DRYING TEMP.
CORN	180°F to 200°F
GRAIN SORGHUM	160°F to 180°F
WHEAT OR OATS	160°F to 170°F
SOYBEANS OR BARLEY	130°F to 140°F
SEED GRAINS	NOT OVER 110°F

LEVEL AUGER (OR LOAD SWITCH) OPERATING INSTRUCTIONS

Model 475B

Two methods of filling dryer:

(A) MANUAL OPERATED FILLING

Each time the dryer needs grain, the filling conveyor must be manually started and when the dryer is full, the filling conveyor must be manually stopped. The dryer is full when the grain is within one or two inches from the top of the opening in the upper rear panel. The dryer will require refilling when the grain is no longer visible in the opening of the upper rear panel.

(B) AUTOMATICALLY OPERATED FILLING

A Load Switch (optional equipment) may be installed on these models. Through the use of a 12 volt DC coil relay and a standard magnetic starter, the Load Switch will start and stop an electric motor on the grain filling conveyor. Relay, starter and motor to be furnished by user. Flip the Level Auger Switch on the control panel to Automatic Position for automatic filling. Flip the Level Auger Switch on the control panel to Manual Position for continuous operation of filling conveyor.

Model 475E

Two methods of filling dryer:

(A) MANUAL OPERATED FILLING

Each time the dryer needs grain, the filling conveyor must be manually started, and when the dryer is full, the filling conveyor must be manually stopped. The dryer is full when the grain is within one or two inches from the top of the opening in the upper rear panel. The dryer will require refilling when the grain is no longer visible in the opening of the upper rear panel.

(B) AUTOMATICALLY OPERATED FILLING

A Load Switch (optional equipment) may be installed on these models. It will automatically activate a 115 coil in a standard magnetic starter used to start and stop an electric motor on the grain filling conveyor. Flip the Level Auger Switch on the control panel to Automatic Position for automatic filling. Flip the Level Auger Switch on the control panel to Manual Position for the continuous operation of filling conveyor.

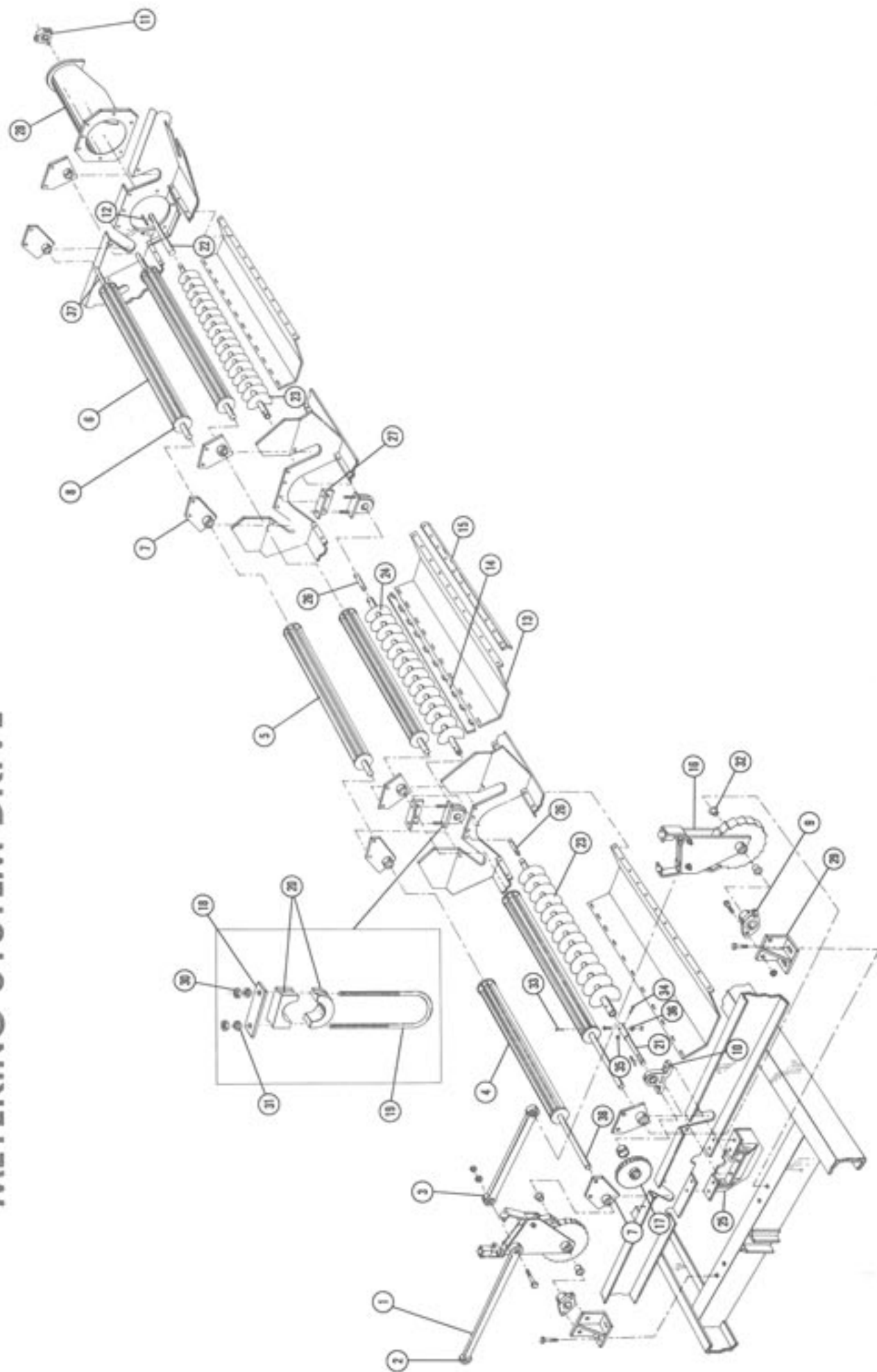
Models 675B and 975B

To activate the 12 volt clutch on the Level Auger, flip the Level Auger Switch to Automatic Position. For automatic filling the load switch may be used in conjunction with a 12 volt DC coil relay, standard magnetic starter and an electric motor on the grain conveyor. The dryer will automatically fill as more wet grain is needed. Relay, starter and motor to be furnished by user.

Models 675E, 975E and 1075E

Flip the Level Auger Switch to the Manual Position to activate the Level Auger. Through the use of a standard magnetic starter with a 115 volt coil and an electric motor, the loading conveyor will start at the same time as the Level Auger Motor. When the dryer is full, both level auger and loading conveyor motors will stop. Magnetic Starter, 115 volt coil, and motor on loading conveyor to be furnished by user. IMPORTANT: When dryer is full, flip Level Auger Switch to Automatic Position. With switch in Automatic Position, a five (5) minute delay is employed before the level auger motor will start after the Load Switch signals for more grain. This delay will prevent unnecessary frequent starting and stopping of the Level Auger Motor.

REI NO.	PART NO.	QTY.	DESCRIPTION	REF. NO.	PART NO.	QTY.	DESCRIPTION
1	1280102	1	Connecting Arm Weldment	20	1286008	2	1-15/16" Bore Wood Bearing (975, 1075)
2	1216001	4	Bearing 1-1/4" O.D. 1/2" Bore	21	1286008	1	1-15/16" Bore Wood Bearing (675)
3	1280105	1	Transfer Arm Weldment	22	1280071	1	Center Auger Input Weldment
4	1281036	2	Feed Roll Ass'y - Long (675, 975, 1075)	23	1280072	1	Center Auger Output Weldment
5	1281020	2	Feed Roll Ass'y - (475 Only)	24	1280073	2	Short Center Auger Weldment (975, 1075)
6	1211083	2	Feed Roll Ass'y - Center (975, 1075)	25	1280073	1	Short Center Auger Weldment (675)
7	1211082	2	Feed Roll Ass'y - Rear (675, 975, 1075)	26	1280074	1	Long Center Auger Weldment
8	1280156	6	Feed Roll Bearing Weldment (975, 1075)	27	1280075	1	Center Auger Front Plate Weldment
	1280156	4	Feed Roll Bearing Weldment (675)		1285618	2	Center Auger Link (975, 1075)
	1280156	4	Feed Roll Bearing Weldment (475)		1285618	1	Center Auger Link (675)
8	1214438	36	Feed Roll End Washer (975, 1075)		1283932	1	Center Auger Bearing Hanging Bracket (675)
	1214438	24	Feed Roll End Washer (675)		1283932	2	Center Auger Bearing Hanger Bracket (975, 1075)
9	1214438	12	Feed Roll End Washer (475)	28	1280096	1	Center Auger Discharge Weldment
10	1216022	2	1-1/4" Bore, Wood Bearing	29	1280084	2	Feed Roll Outboard Bearing Weldment
	1286018	2	Pillow Block Bearing 1-7/16" Bore (975, 1075)	30	0008163	4	1/2" - 13 H H Nut Z-P (975, 1075)
	1286018	1	Pillow Block Bearing 1-7/16" Bore (475, 675)	31	0008163	2	1/2" - 13 H H Nut Z-P (675)
11	0016016	1	3-Bolt Flange Bearing 1-1/4" Key 1/4" x 2"	32	0008180	4	1/2" Lockwasher (975, 1075)
12	0015119	2	Hinged Auger Pan (975, 1075)	33	0008180	2	1/2" Lockwasher (675)
13	1284655	3	Hinged Auger Pan (675)		1286011	4	Feed Roll Bearing
	1284655	2	Hinged Auger Pan (475)		0008259	12	5/16" x 1-3/4" Roll Pin (975, 1075)
14	1284655	1	Center Auger Hinge Bracket (975, 1075)		0008259	8	5/16" x 1-3/4" Roll Pin (675)
	1284668	3	Center Auger Hinge Bracket (675)		0008259	4	5/16" x 1-3/4" Roll Pin (475)
	1284668	2	Center Auger Hinge Bracket (475)	34	1288110	12	5/16" - 18 x 2-3/4" Grade #5 (975, 1075)
15	1284468	1	Center Auger Hasp Bracket (975, 1075)		1288110	8	5/16" - 18 x 2-3/4" Grade #5 (675)
	1284468	3	Center Auger Hasp Bracket (675)		1288110	4	5/16" - 18 x 2-3/4" Grade #5 (475)
	1284482	2	Center Auger Hasp Bracket (475)	35	0008159	12	5/16" - 18 H H Nut Z-P (975, 1075)
	1284482	2	Center Auger Hasp Bracket (675)		0008159	8	5/16" - 18 H H Nut Z-P (675)
16	1284482	1	Center Auger Hasp Bracket (475)		0008159	4	5/16" - 18 H H Nut Z-P (475)
	1281156	2	Double Ratchet Assembly (1075 Only)	36	0008222	12	5/16 Lockwasher
	1281028	2	Single Ratchet Assembly (475, 675, 975)		0008222	8	5/16 Lockwasher
17	1286418	1	RC-40 B Type 45-T Sprocket		0008222	4	5/16 Lockwasher
18	1284250	2	Center Auger Mid Bearing Support (975, 1075)	37	1215042	2	Stub Shaft 1-1/4" Dia x 5" Long
	1284250	1	Center Auger Mid Bearing Support (675)		1215043	2	Stub Shaft 1-1/4" Dia x 7" Long (675)
19	1285175	2	Center Auger Mid Bearing Hanger (975, 1075)		1215043	4	Stub Shaft 1-1/4" Dia x 7" Long (975, 1075)
	1285175	1	Center Auger Mid Bearing Hanger (675)	38	1285047	2	Stub Shaft 1-1/4" Dia x 15-1/4" Long



EXPLANATION OF MODELS WITH MULTIPLE HEAT UNITS

(Standard on Some Models –
Optional on Other Models)

If your model has two or more burner assemblies, each assembly should be considered as an independent unit. Each has its own ignition system, gas controls, high limit and air pressure switch. Any burner assembly may be operated independent of the other unit(s) or they may all operate at the same time.

The High Limit and Air Pressure Switches are wired in series, thus, it does require all heat fans to be running and High Limit Switches closed (normal) before either unit can be ignited. To ignite one or all the burner assemblies, the Fire Control Switch (marked Aux. on Burner #1 Panel) (pages 10 & 11) must be flipped in the OFF position. (For lighting procedure see steps 10 thru 15 of Operating Instructions).

After all heat units have been ignited and temperatures are at operational levels, flip the Fire Control Switch to the ON position. This procedure employs relays which lock all ignition controls of all burner assemblies together. When all burner assemblies are locked together, all burner units will automatically turn off if flame failure is monitored on any one heat unit.

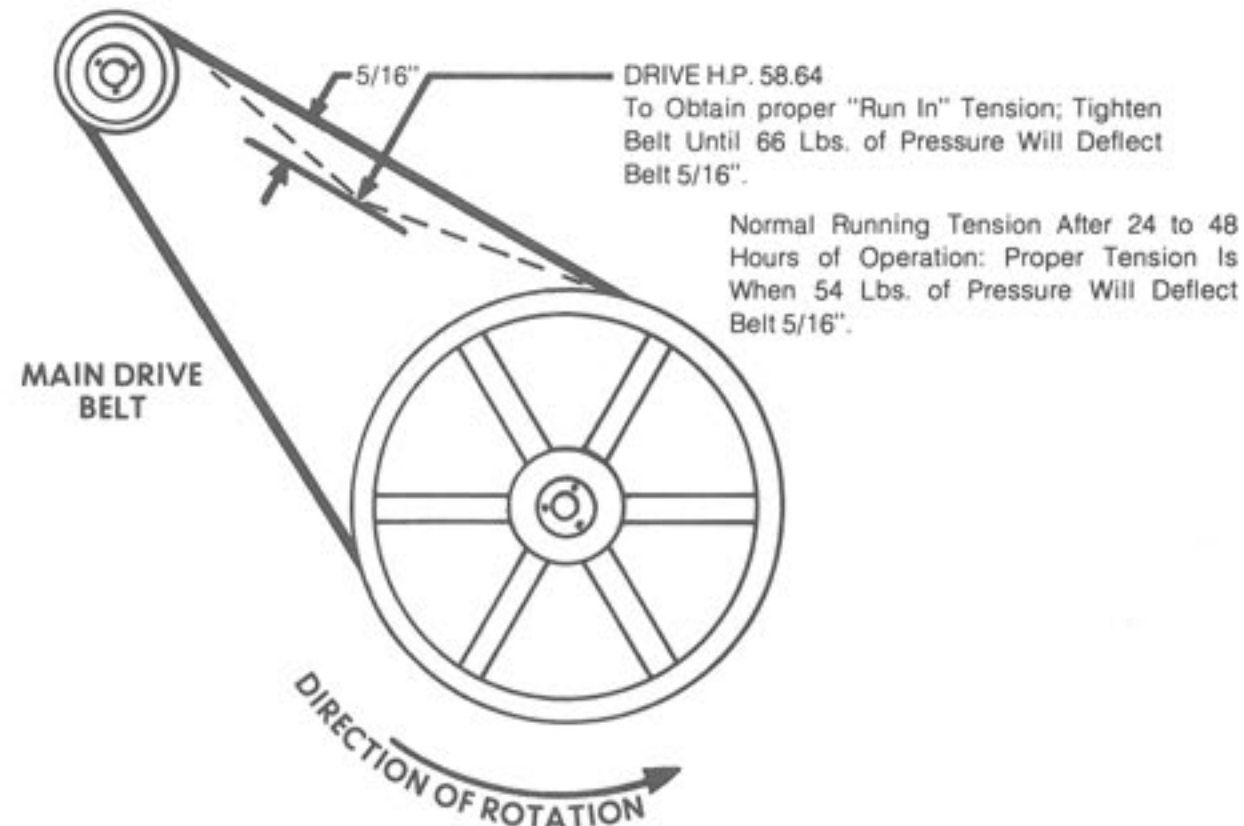
To restart Multiple heat units, the Fire Control Switch must be in the Starting position. If automatic shut down occurred, determine cause before reigniting. If NOT all heat units are to be operated, the Fire Control Switch must remain in the OFF or starting position.

OPERATION OF MACHINES EQUIPPED WITH DOUBLE RATCHETS

(Standard on Some Models –
Optional on Other Models)

- The Outer Ratchet Pawls will be activated by two different switch positions.
 - When the Automatic Moisture Control Toggle Switch is in the MANUAL position (located on control panel).
 - When the Automatic Moisture Control Toggle Switch is in the AUTOMATIC position and the grain is warm and dry enough to activate the independent Moisture Control Switches located on each side of the dryer.
- The Inner Ratchet Pawls engage only when the Automatic Moisture Control Toggle Switch is in the AUTOMATIC position and the grain temperature is within 10°F of the Moisture Control Switch (on sides of dryer) setting that activates the Outer Ratchet Pawls. If the temperature of the grain drops below the 10°F differential, the inner Ratchet Pawls disengage.
- The Inner and Outer Ratchet Pawls are disengaged when the Automatic Moisture Control Toggle Switch is in the "Off" position.
- The Inner Ratchet Pawls are set to engage one less notch than the Outer Ratchet Pawl (When Outer Ratchet Pawl engage one notch, the Inner Ratchet Pawls engage none).
- When drying extremely high moisture grain (approximately 30% and higher) we recommend setting the Outer Ratchet Pawls to engage one notch per stroke. They are set at the factory for two.
- The dryer operates at its best when the Outer Ratchet Pawls operate approximately 90% of the time. This will vary according to weather and grain conditions.
- To change speed of unloading see step 20 of Operating Instructions page.

DIRECTIONS FOR BELT TENSIONING



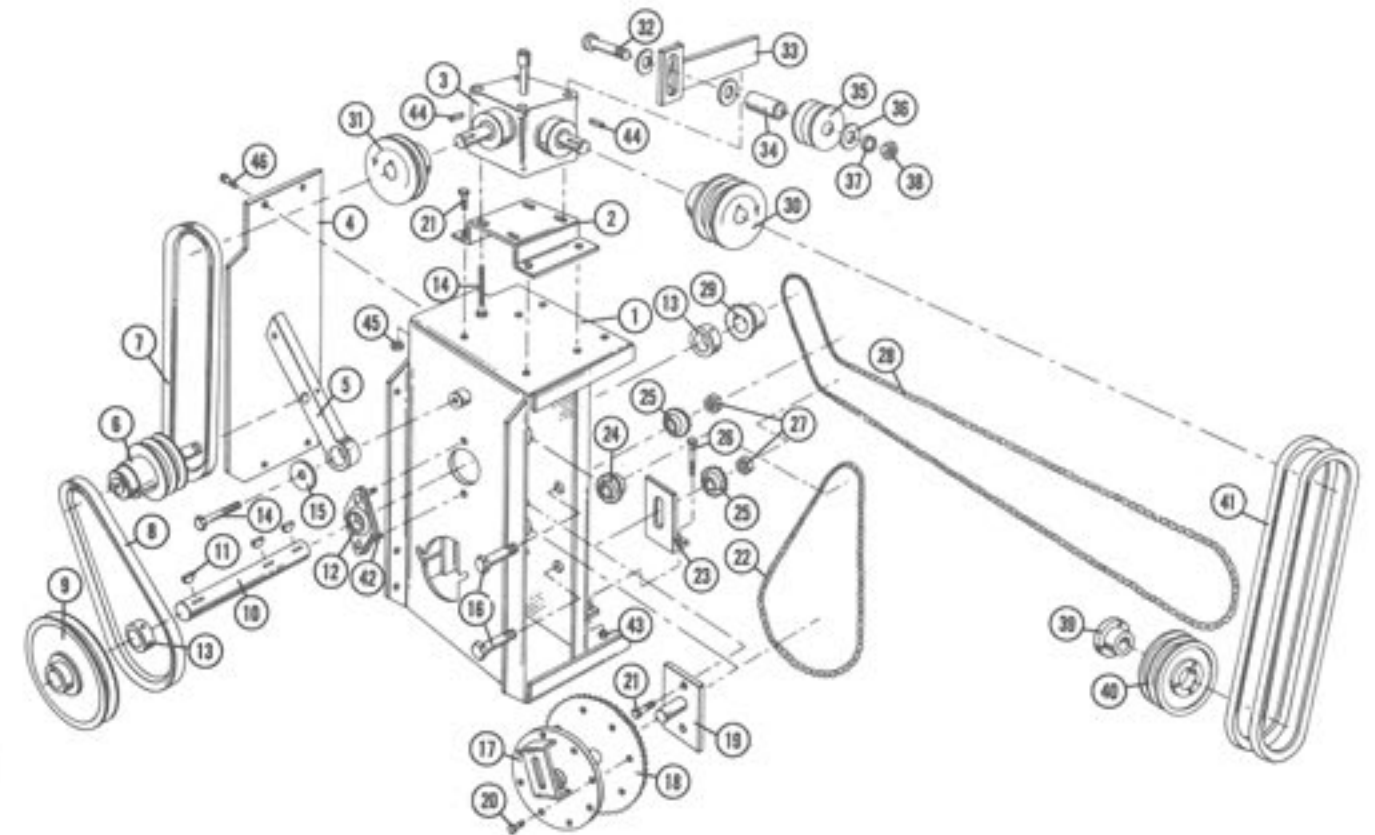
LUBRICATION

All bearings on the grain augers are pre-lubricated and require no further attention. The bearings on the fan shafts of the dryers should be lubricated with regular gun grease every 100 hours of operation. **CAUTION: DO NOT OVER GREASE.** 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.

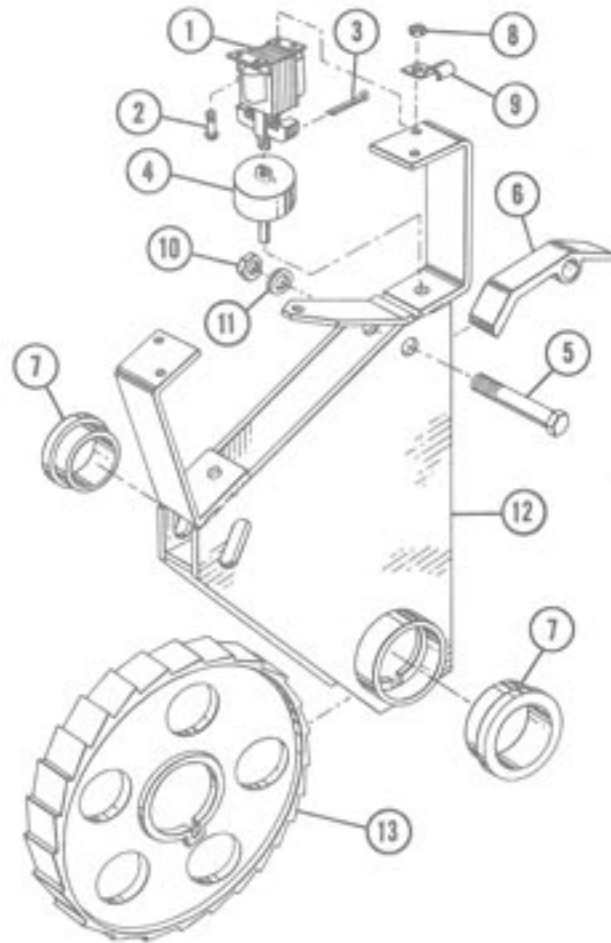
CARE SHOULD BE TAKEN TO AVOID GETTING OIL INTO THE RATCHET PAWL SOLENOIDS OR ON BELTS.

METERING SYSTEM JACKSHAFT ASSEMBLY

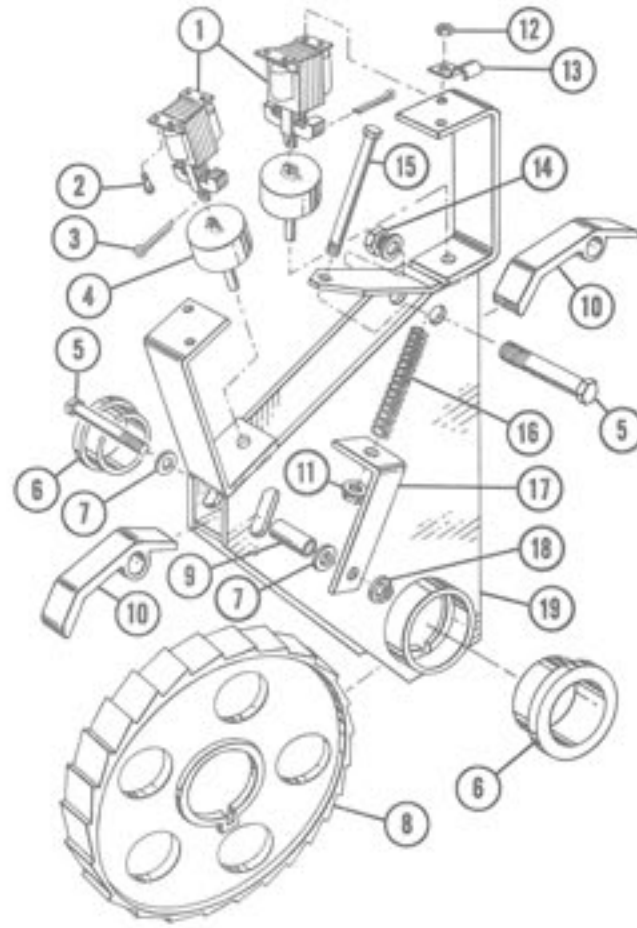


REF. NO.	QTY.	PART NO.	DESCRIPTION	REF. NO.	QTY.	PART NO.	DESCRIPTION
1	1	1280095	1" Jackshaft Base Weld	24	1	1286416	RC-35B x 16 Tooth x 1" Bore Sprocket
2	1	1284251	Gear Box Mount	25	2	1286414	RC-40 Drive Chain Idler x 1/2 Bore
3	1	1216605	Gear Box	26	1	0008116	5/16 - 18 x 3-1/2 Hex Head Cap Screw
4	1	1284692	Jackshaft Base Cover Plate	27	2	0008170	1/2 - 13 Whiz Locknut
5	1		Variable Speed Pulley Arm	28	1	1286306	RC-40 x 194 Pitch Chain
6	1	1286217	Variable Speed Pulley Assembly	29	1	1286419	RC-40B 18 Tooth x 1" Bore Sprocket
7	1	1286108	B-29 Belt	30	1	1286215	2/3V/6.5 Pulley (SDS Bushing)
8	1	1286107	B-44 Belt		1	1316204	SDS 1" Bushing (For 1286215)
9	1	1286213	1B/12 x 1" Bore Pulley	31	1	1286218	BC-48 4.2 P.D. Pulley
10	1	1285021	1" Jackshaft	32	1	1288191	3/4 - 10 x 4-1/2 Carriage Bolt
11	3	0008298	1/4 x 3/4 Woodruff Key	33	1	1280129	Idler Bracket Weld
12	2	1286012	1" Bore Flange Bearing	34	1	1285602	Spacer Bushing 3/4 I.D.
13			Lock Collar For 1286012	35	1	1281060	2/3V/2.8D Pulley Assembly
14	5	0018135	3/8 - 16 x 1 Hex Head Cap Screw Grade #5	36	3	0008177	3/4 Flatwasher
15	1	1284525	Variable Arm Washer	37	1	0008182	3/4 Lockwasher
16	2	0008144	1/2 - 13 x 3-1/2 Hex Head Cap Screw	38	1	0008165	3/4 - 10 Hex Nut
17	1	1280103	Eccentric Sprocket Slide Weld	39	1	1286010	SH x 1" Bore Bushing (For 1286215)
18	1	1285722	Feed Roll Activator Sprocket	40	1	1286215	2/3V/6.5 Pulley (SH Bushing)
19	1	1210033	Eccentric Sprocket Mount Weld	41	1	1286101	3V/425 Belt
20	8	0008106	5/16 - 18 x 3/4 Hex Head Cap Screw	42	4	0008122	3/8 - 16 x 1 Carriage Bolt
	8	0008169	5/16 - 18 Flanged Whiz Locknut	43	2	0008159	5/16 - 18 Hexnut
21	6	0008122	3/8 - 16 x 1 Carriage Bolt	44	2	0015116	1/4 Square x 1 Key
22	1	1286305	RC-35 112 Pitch Chain	45	10	0008168	3/8 - 16 Whiz Locknut
23	1	1284492	RC-40 Drive Chain Take Up Bracket	46	4	0008106	5/16 - 18 x 3/4 Hex Head Cap Screw
				4	4	0008169	5/16 - 18 Whiz Locknut

SINGLE RATCHET ASSEMBLY



REF. NO.	PART NO.	DESCRIPTION
1	1216856	Solenoid Constant Duty (Ratchet Solenoid) 115 VAC
	1256883	12 VDC Constant Duty Solenoid
2	0008186	6/32 x 1/2" Slotted Machine Screw
3	0008249	1/8 x 3/4" Cotter Pin
4	1210029	Solenoid Weight Weld
5	0008144	1/2 x 3-1/2" Hex Head Cap Screw
6	1215724	Ratchet Dog
7	1286011	Feed Roll Bearing
8	0008157	6/32" Hex Nut
9	1216859	Jiffy Clip #115
10	0008170	1/2" Flange Whiz Locknut
11	0008175	Flat Washer
12	1280104	Double Ratchet Arm Weld
13	1216404	Ratchet Wheel



DOUBLE RATCHET ASSEMBLY

REF. NO.	PART NO.	DESCRIPTION
1	1216856	Solenoid Constant Duty (Ratchet Solenoid)
2	0008186	6/32 x 1/2" Slotted Machine Screw
3	0008249	1/8 x 3/4" Cotter Pin
4	1210029	Solenoid Weight Weld
5	0008144	1/2 x 3-1/2" Hex Head Cap Screw
6	1286011	Feed Roll Bearing
7	0008175	Flat Washer
8	1216404	Ratchet Wheel
9	1215571	Ratchet Dog Bushing
10	1215724	Ratchet Dog
11	0008167	1/4" Lock Nut
12	0008157	6/32" Hex Nut
13	1216859	Jiffy Clip #115
14	0008163	1/2" Hex Nut
15	0008102	1/4 x 2-1/2" Hex Head Cap Screw
16	1218261	Ratchet Spring .325OD x 2.45
17	1213357	Pivot Arm Slide
18	0008170	1/2 Flange Whiz Lock Nut
19	1280104	Double Ratchet Arm Weld

IGNITION

OPERATION

Upon a call for heat, power is applied to the control board, creating the spark and powering the gas valve. Electronic timing allows the system to continue to spark and hold the gas valve open for a specified trial for ignition period. If a flame is not present at the end of the trial for ignition period, the system will lockout. If a flame is present, the system will continue to operate; provided the electrodes are immersed in the flame.

In the spark source, a capacitor is charged and discharged rapidly through the primary of high voltage transformer. The current to charge the capacitor also energizes the valve control circuit so that as long as this action continues, the valve will remain open. The capacitor is discharged by a solid state switch, triggered by a neon circuit.

The flame detector monitors the spark current and the flame conductance to ground. If the spark of the flame is not present, feedback to the spark source removes power from the valve control circuit.

LOCATION OF ELECTRODE TIP

The electrode assembly should be located so that the tips are inside the flame envelope and about 1/2 inch above the base of the flame. **IMPORTANT:** Ceramic insulator should not be within or close to the flame pattern. Study the illustration before positioning the electrodes.

NOTE: Electrode assemblies are precision components and should not be adjusted or disassembled. Electrodes should have a gap spacing of 0.125" + 0.032". If this spacing is not correct, return the electrode assembly to the factory for replacement. Electrodes within their ceramic casing are **NOT** field adjustable. Adjust only the electrode mounting bracket.

WARNING: HIGH VOLTAGE.

SAFETY CHECKS

1. Manually shut off the gas supply and apply power to the control board. The system shall lockout after the trial for ignition period. Check that there is no voltage output between terminals V1 and V2 using a suitable voltmeter or neon tester.

2. Manually open the gas valve and apply power to the control unit. The system shall lockout after the trial for ignition period and there shall be no voltage between terminals V1 and V2 under the following conditions:

- (1) The low voltage electrode is shorted to the ground.
- (2) The high voltage electrode is shorted to the ground.
- (3) The electrodes are shorted together.

NOTE

Recycle system before each test.

CAUTION

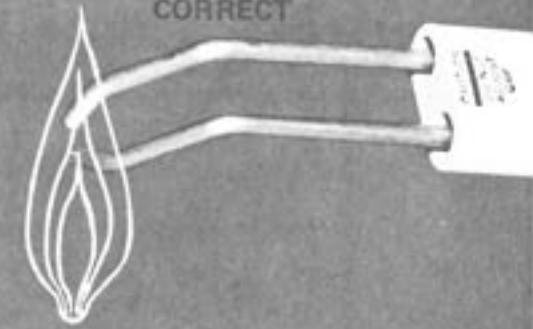
Use well insulated screwdriver for shorting electrodes.

REPAIRS

The Ignition System is not field repairable. Faulty units should be returned to the factory for repair or replacement.

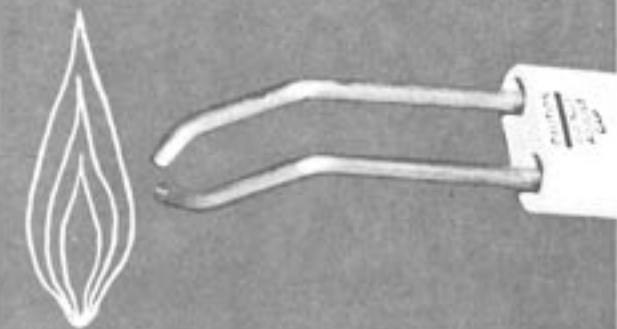
ELECTRODE POSITIONING

CORRECT



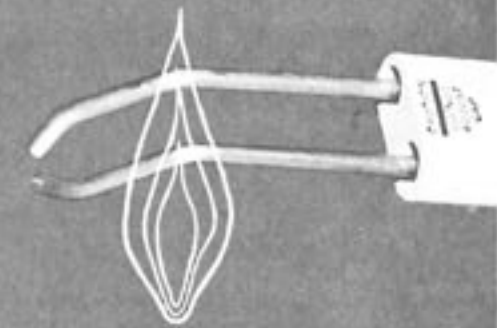
PROPER LOCATION: Flame impingement on electrode tips only.

INCORRECT



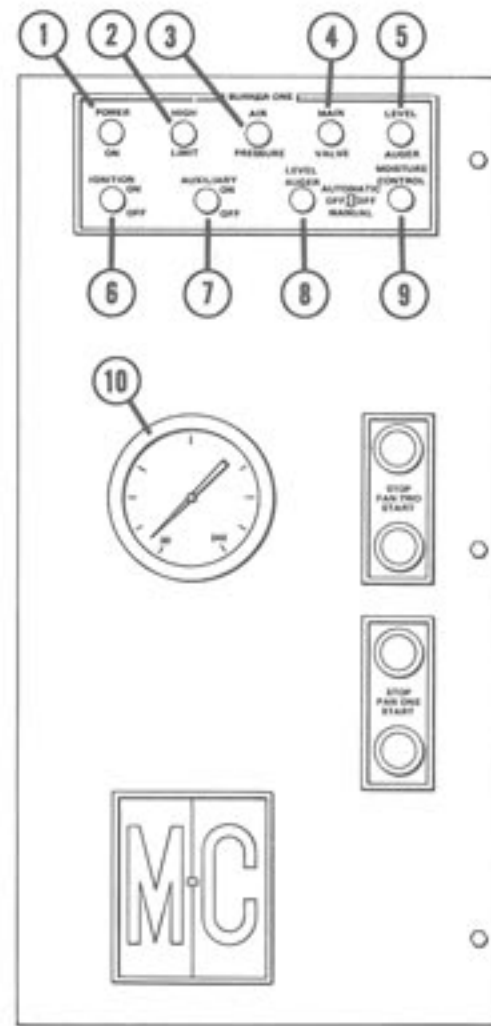
IMPROPER LOCATION: Electrode tips not immersed in flame to proper distance.

INCORRECT



IMPROPER LOCATION: Electrode tips immersed too far into flame.

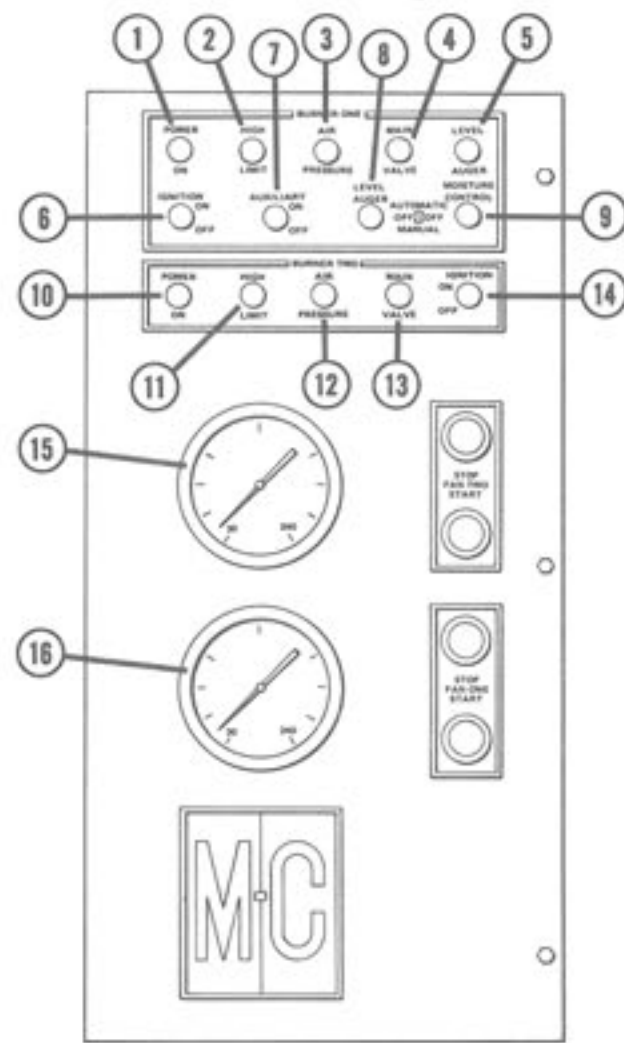
475-675-975 CONTROL LIGHTS AND SWITCHES



1. Lights when electric power on.
2. Lights when high limit control circuit is closed. This indicates the high limit temperature safety device is operating.
3. Lights when fan is running (air pressure completes circuit to ignition switch).
4. Lights when the fenwal ignition switch is turned on and electrodes are firing.
5. Lights when level auger operates.
6. Ignition switch.
7. Auxiliary.
8. Level auger switch (see operating instructions).
9. Moisture control switch (see operating instruction #22).
10. Heat section thermometer.

NOTE: B-Model Dryers Do Not Have Start-Stop Switches.

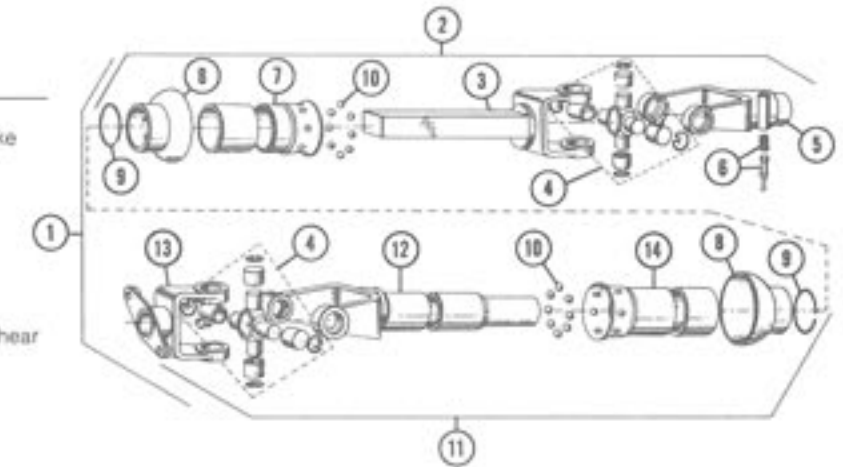
475-675-975 DOUBLE BURNER CONTROL LIGHTS AND SWITCHES



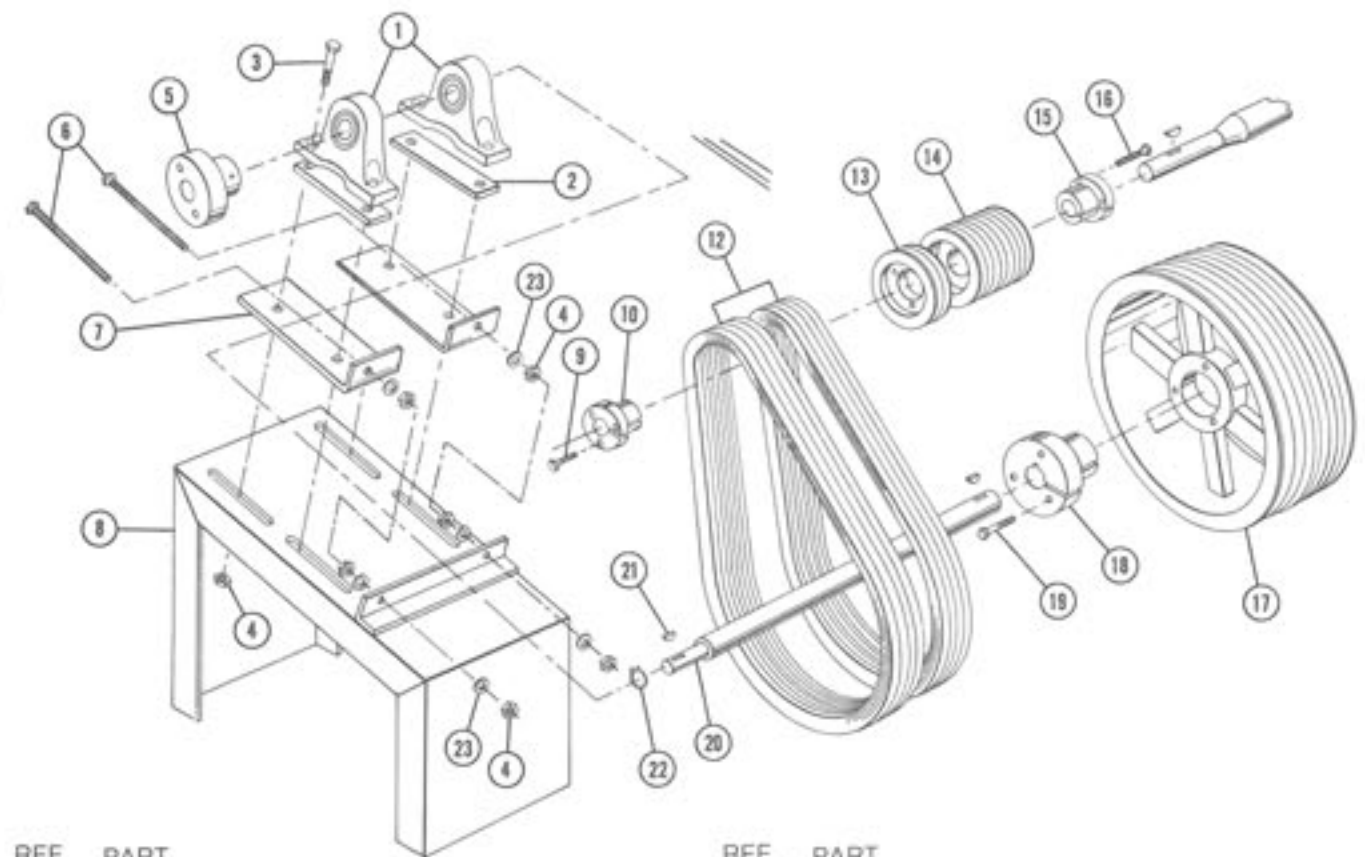
1. Lights when electric power on.
2. Lights when high limit control circuit is closed. This indicates the high limit temperature safety device is operating.
3. Lights when fan is running (air pressure completes circuit to ignition switch).
4. Lights when the fenwal ignition switch is turned on and electrodes are firing.
5. Lights when level auger operates.
6. Ignition switch.
7. Fire control switch. (see operating instructions).
8. Level auger switch (see operating instructions).
9. Moisture control switch (see operating instruction #22).
10. Lights when electric power on.
11. Lights when high limit control circuit is closed. This indicates the high limit temperature safety device is operating.
12. Lights when fan is running (air pressure completes circuit to ignition switch).
13. Lights when the fenwal ignition switch is turned on and electrodes are firing.
14. Ignition switch.
15. Top heat section thermometer.
16. Bottom heat section thermometer.

TRACTOR PTO ASSEMBLY

REF. NO.	PART NO.	DESCRIPTION
1	0016600	PTO Drive Shaft
2	0026620	Tractor Half Assembly w/Q.D. Yoke
3	0026627	Male Shaft & Yoke Weldment
4	0026628	Universal Joint Repair Kit
5	0027651	Quick Detachable Yoke, Only
6	0026629	Safety Lock Pin & Spring Kit
7	0026624	Female Guard Tube
8	0026626	Bell Shield
9	0026625	External Snap Ring
10	0026606	3/8" Diameter Ball
11	0026621	Complete Machine Half PTO w/Shear
12	0026622	Female Shaft & Yoke Weldment
13	0027652	Flange Yoke 1-1/4 Bore
14	0026623	Male Guard Tube



P.T.O. DRIVE JACKSHAFT ASSEMBLY



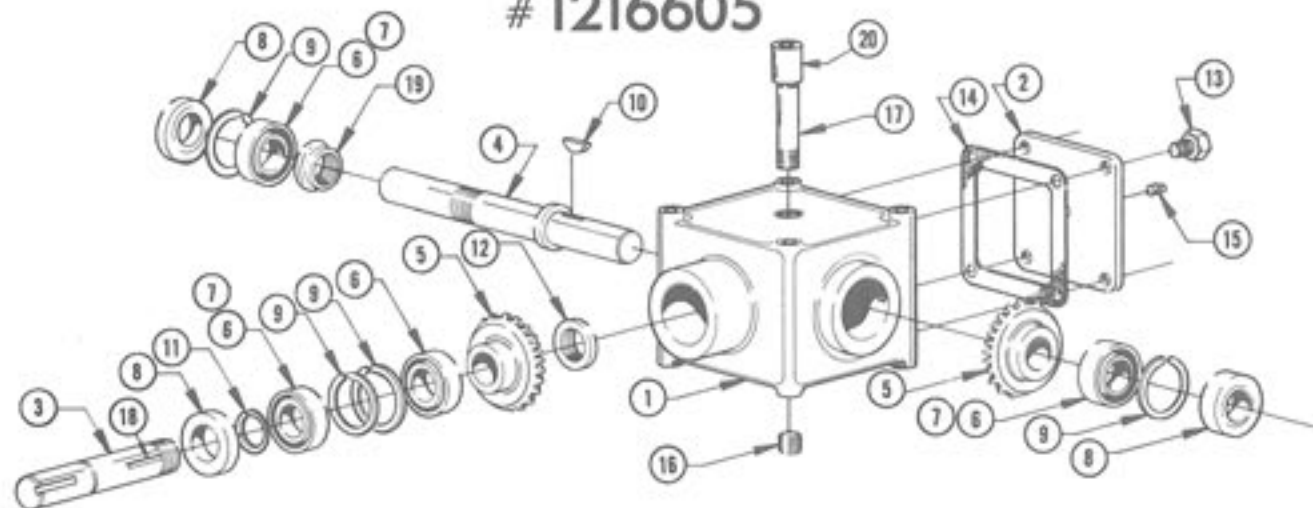
REF. NO.	PART NO.	DESCRIPTION
1	1216003	1-5/8" Fan Shaft Bearing
2	1282854	Bearing Shims
3	0008140	1/2 - 13 x 2" Hex Head Cap Screw
4	0008163	1/2" - 13 Hex Nut
5	0017650	Shear Flange
6	1288162	1/2" - 13 x 8" Hex Head Cap Screw Grade #5
7	1283414	Jackshaft Bearing Adjusting Plate
8	1280131	Jackshaft Base Weld
9	1/4 - 20 x 1-3/8" Hex Head Cap Screw Grade #5	
10	1286019	1-5/8" SH Bushing
12	1286106	8-3V 800 Power Belt
*13	1286009	2/3V/6.0 Sheave

REF. NO.	PART NO.	DESCRIPTION
*14	1206215	8/3V/59 Pulley
15	1206216	1-5/8" SK Bushing
16	1218117	5/16 - 18 x 2" Hex Head Cap Screw Grade #5
17	1216225	3V190-8 Ultra Sheave
18	1216226	1-5/8" Bore E Bushing
19	1/2 - 13 x 2-5/8" Hex Head Cap Screw Grade #5	
20	1285064	PTO Shaft
21	0018998	3/8 x 1-1/4" Woodruff Key
22	0018250	1-1/4" Snap Ring
23	0008175	1/2" Flatwasher

*Future Models Will Replace Both Pulleys No. 1286009 and No. 1206215 With A Single Pulley No. 1286204.

METER DRIVE GEAR BOX

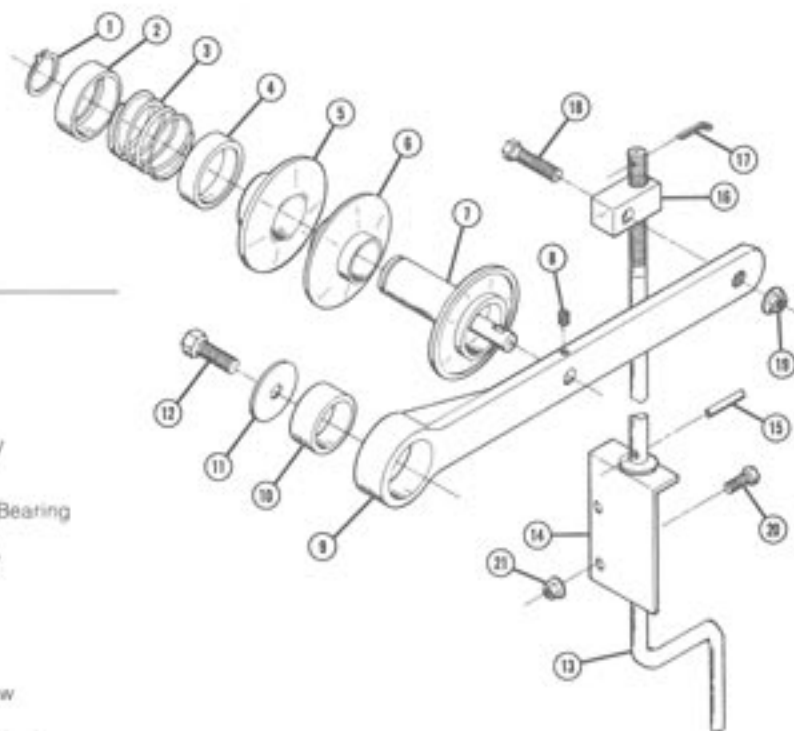
1216605



REF. NO.	PART NO.	DESCRIPTION
1	1226624	Gear Box Housing
2	1226625	Gear Box Cover
3	1226623	Input Shaft
4	1226622	Output Shaft
5	1226500	Bevel Gear Sets Only
6	1226003	Bearing Cone
7	1226004	Bearing Cup
8	1228600	Output - Input Shaft Seal
9	1228251	Snap Ring
10	1228254	Woodruff Key

REF. NO.	PART NO.	DESCRIPTION
11	1228250	Snap Ring
12	1228256	Stake Nut (Input Shaft)
13		Cap Screw
14	1228602	Gasket
15	1228000	Level Plug
16	1228001	Drain Plug
17	1288018	3/8 Std Nipple x 4" Long
18	1228253	J41 Key
19	1228255	Stake Nut (Output Shaft)
20	1718001	3/8 Std Coupling

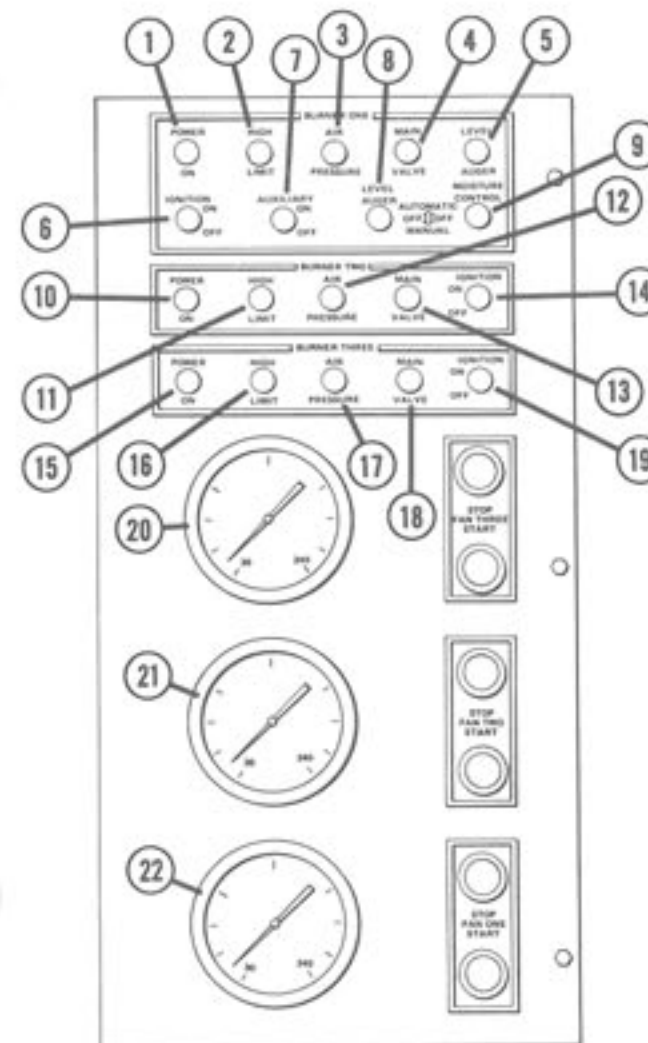
VARIABLE SPEED ASSEMBLY



REF. NO.	PART NO.	DESCRIPTION
1	1228919	Snap Ring
2	1228918	Outer Spring Cover
3	1228917	Spring
4	1228916	Inner Spring Cover
5	1228915	Outer Sheave With Bushing
6	1228910	Center Sheave With Bushing
7	1228914	Inner Sheave & Spindle Assembly
8		1/4 - 20 x 1" Set Screw
9	1280135	Variable Speed Arm Weld
10	1286017	1-1/4" Bore Variable Speed Arm Bearing
11	1284525	Variable Arm Sleeve
12	0008121	3/8 16 x 1" Hex Head Cap Screw
13	1215193	Variable Drive Crank
14	1284270	Drive Adjustment Crank Bracket
15	1218102	Roll Pin 1/4 x 1-1/2"
16	1215190	Variable Crank Nut
17	0008199	1/8 x 1" Cotter Pin
18	0008140	1/2 - 13 x 2" Hex Head Cap Screw
19	0008170	1/2 - 13 Flange Whiz Locknut
20	0008106	5/16 - 18 x 3/4" Hex Head Cap Screw
21	0008169	5/16 - 18 Flange Whiz Locknut

1075

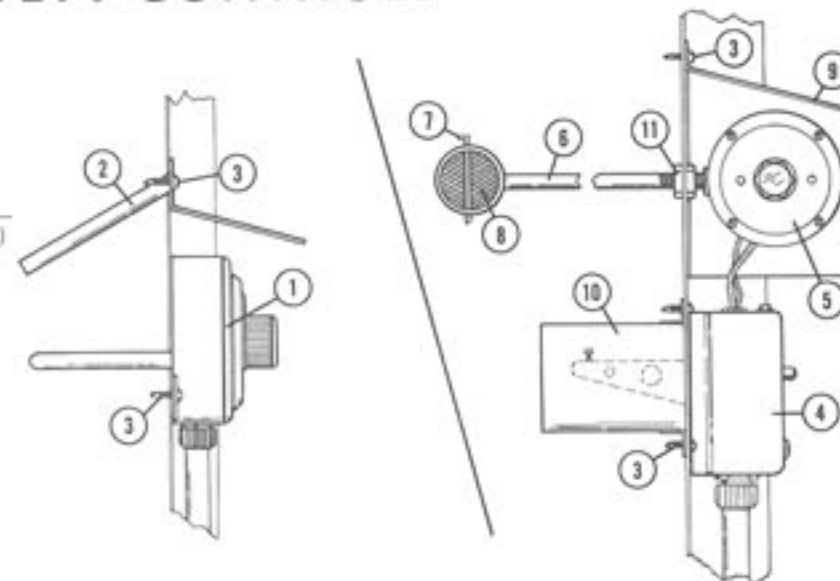
CONTROL LIGHTS AND SWITCHES



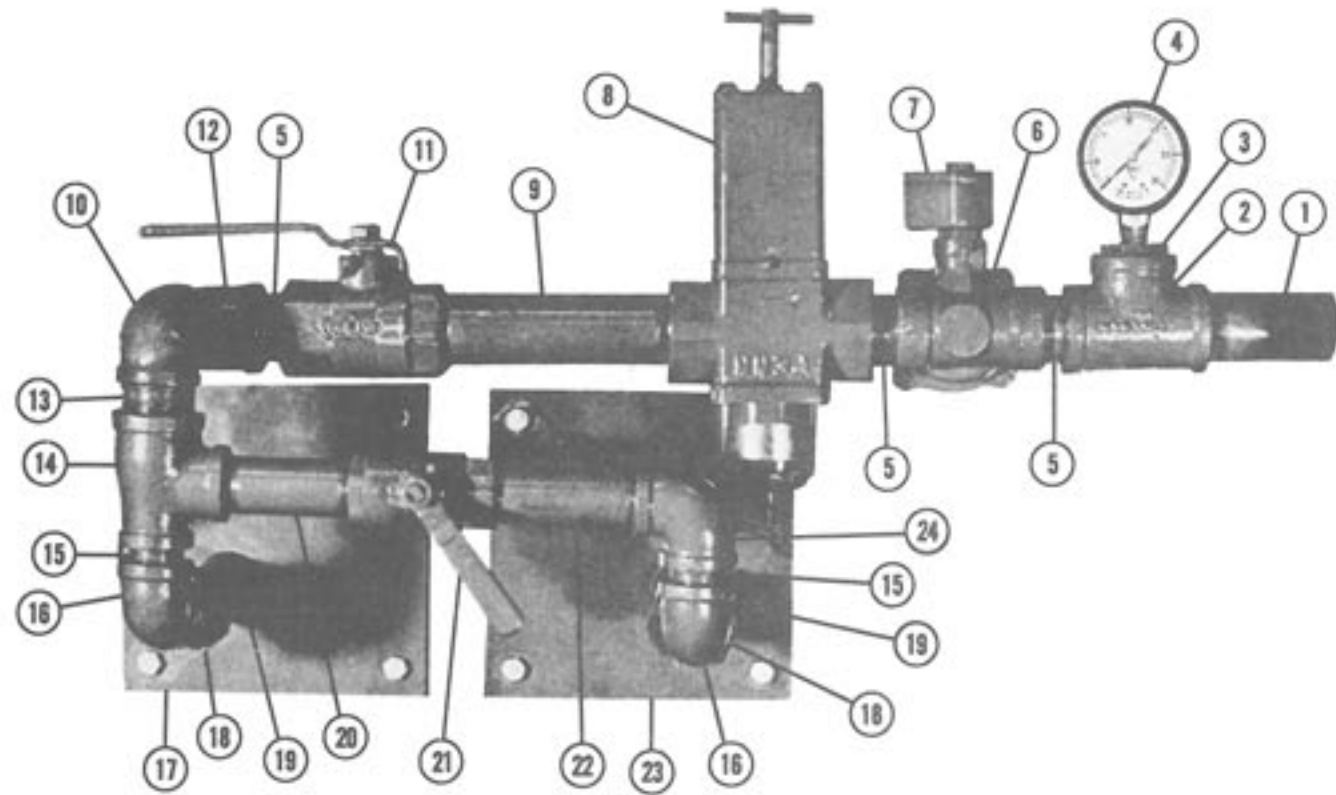
- Lights when electric power on.
- Lights when high limit control circuit is closed. This indicates the high limit temperatures safety device is operating.
- Lights when fan is running (air pressure completes circuit to ignition switch).
- Lights when the fenwal ignition switch is turned on and electrodes are firing.
- Lights when level auger operates.
- Ignition switch.
- Fire control switch, (see page 7).
- Level auger switch (see operating instructions).
- Moisture control switch (see operating instruction #22).
- Lights when electric power on.
- Lights when high limit control circuit is closed. This indicates the high limit temperature safety device is operating.
- Lights when fan is running (air pressure completes circuit to ignition switch).
- Lights when the fenwal ignition switch is turned on and electrodes are firing.
- Ignition switch.
- 15-19, TRIPLE BURNER ONLY
- Light when electric power on.
- Lights when high limit controls circuit is closed. This indicates the high limit temperature safety device is operating.
- Lights when fan is running (air pressure completes circuit to ignition switch).
- Lights when the fenwal ignition switch is turned on and electrodes are firing.
- Ignition switch.
- Top heat section thermometer.
- Middle heat section thermometer.
- TRIPLE BURNER ONLY
Lower heat section thermometer.

SAFETY CONTROLS

REF. NO.	PART NO.	DESCRIPTION
1	1216851	Thermoswitch (Moisture Control)
2	1210031	Thermoswitch Shield Weldment
3	0008184	#8 x 1/2 Sheet Metal Screw
4	1217018	High Limit Switch
5	1216849	Air Pressure Switch
6	1210169	Air Pressure Tube Weld Wire Filter Retainer
8	1215716	Air Pressure Tube Filter
9	1280160	Air Pressure Switch Cover
10	1210081	High Limit Shield
11	1218000	1/4" Pipe Lock Nut



NATURAL GAS PIPING

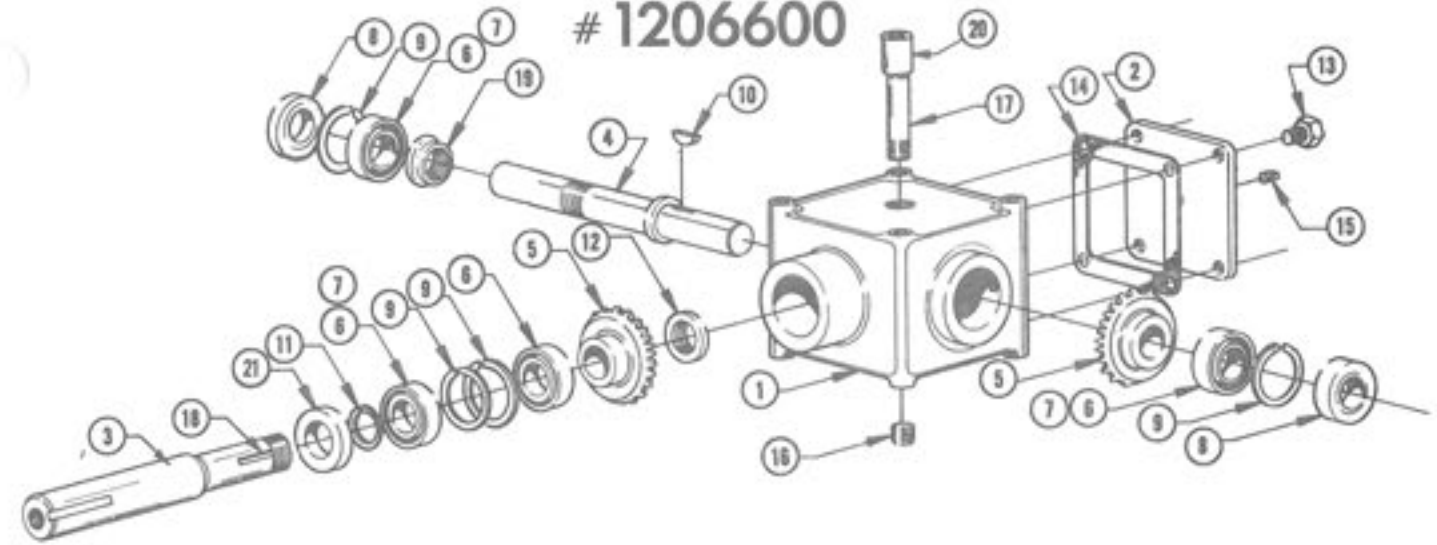


REF. NO.	PART NO.	DESCRIPTION
1	1288024	1-1/4 x 5" Standard Nipple
2	1238057	1-1/4" Standard Tee
3	1238059	1-1/4 x 1/4" Reducing Bushing
4	1207002	Pressure Gauge
5	1238069	1-1/4" x Close Standard Nipple
6	1217002	1-1/4" Main Solenoid Valve 115 VAC
7	1227011	Main Solenoid Replacement Coil 115 VAC
8	1237002	Main Modulating Valve
9	1238063	1-1/4 x 7-1/4" Standard Nipple
10	1238051	1-1/4" 90° Elbow Standard
11	1217011	Main Hand Valve
12	1238062	1-1/4" Standard Street Elbow

REF. NO.	PART NO.	DESCRIPTION
13	1288004	1-1/4 x 2" Standard Nipple
14	1288007	1" x 1-1/4" x 1" Standard Tee
15	1288013	1" x Close Standard Nipple
16	1288014	1" Standard Street Elbow
17	1284488	Hand Hole Cover Plate
18	1288015	1" Standard Union
19	1288022	Venturi Inlet Pipe
20	1288009	1" x 4" Standard Nipple
21	1288012	1" Hand Valve
22	1288008	1" x 4-1/2" Standard Nipple
23	1284488	Hand Hole Cover Plate
24	1288016	1" 90° Standard Elbow

LEVEL AUGER GEAR BOX

1206600

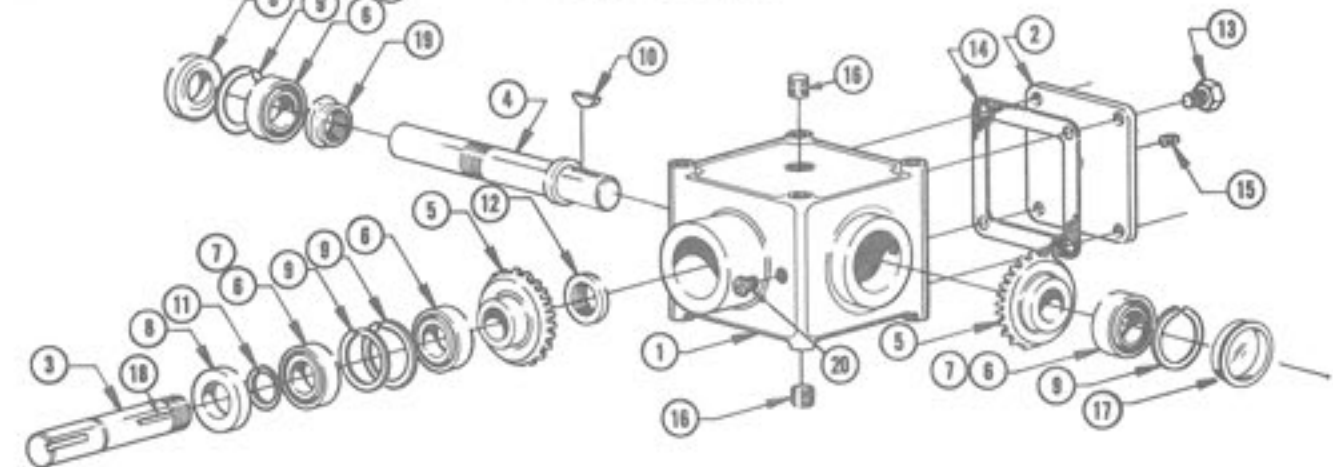


REF. NO.	PART NO.	DESCRIPTION
1	1226624	Gear Box Housing
2	1226625	Gear Box Cover
3	1226639	Input Shaft
4	1226622	Output Shaft
5	1226500	Bevel Gear Sets Only
6	1226003	Bearing Cone
7	1226004	Bearing Cup
8	1228600	Output - Input Shaft Seal
9	1228251	Snap Ring
10	1228254	Woodruff Key
11	1228250	Snap Ring

REF. NO.	PART NO.	DESCRIPTION
12	1228256	Stake Nut (Input Shaft)
13		Cap Screw
14	1228602	Gasket
15	1228000	Level Plug
16	1228001	Drain Plug
17	1289018	3/8 Std Nipple x 4" Long
18	1228253	J41 Key
19	1228255	Stake Nut (Output Shaft)
20	1718001	3/8 Std Coupling
	1228002	Vent Plug
21	1228606	Input Shaft Seal

DRIVE GEAR BOX (B-MODEL)

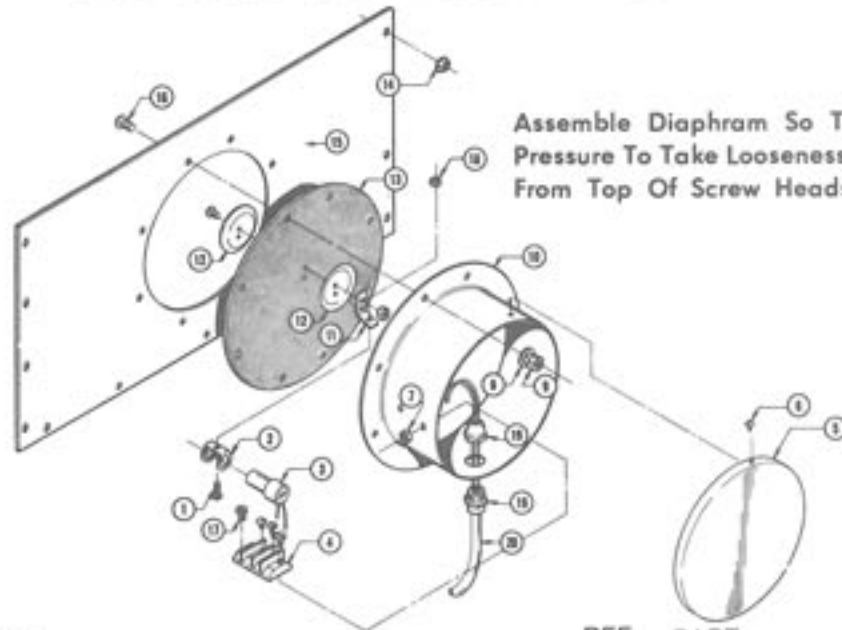
1286602



REF. NO.	PART NO.	DESCRIPTION
1	1226640	Gear Box Housing
2	1226625	Gear Box Cover
3	1226623	Input Shaft
4	1226642	Output Shaft
5	1226503	Spiral Gear (Sets Only)
6	1226003	Bearing Cone
7	1226004	Bearing Cup
8	1228600	Output - Input Shaft Seal
9	1228251	Snap Ring
10	1228254	Woodruff Key

REF. NO.	PART NO.	DESCRIPTION
11	1228250	Snap Ring
12	1228256	Stake Nut (Input Shaft)
13		Cap Screw
14	1228602	Gasket
15	1228000	Level Plug
16	1228001	Drain Plug
17	1226641	Gear Box Cap
18	1228253	J41 Key
19	1228255	Stake Nut (Output Shaft)
20	1228907	Vent Plug

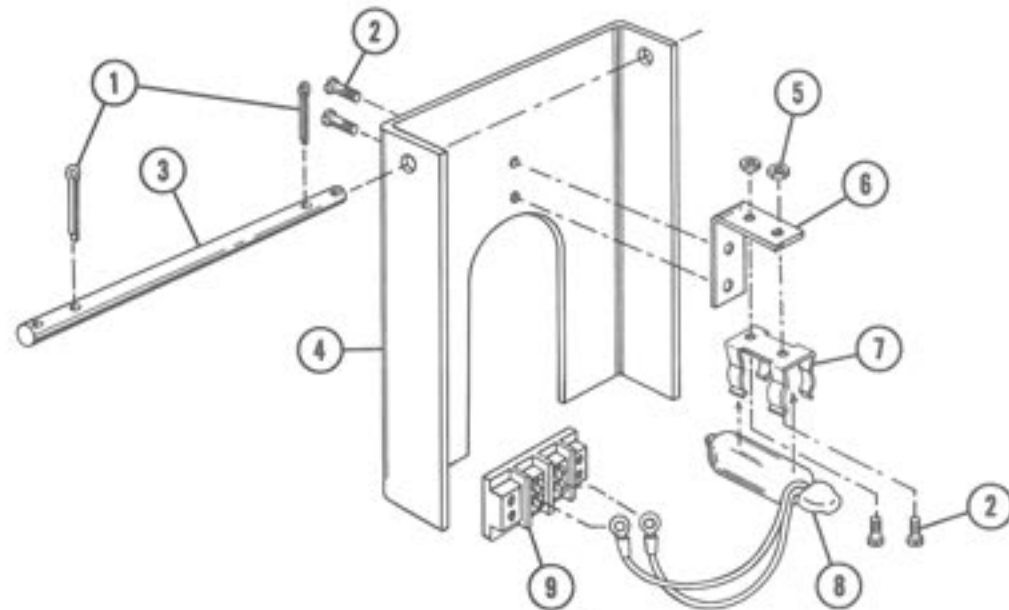
ROUND LEVEL SWITCH ASSEMBLY



Assemble Diaphragm So That It Requires Only Enough Pressure To Take Looseness Out Of It To Depress It 11/16" From Top Of Screw Heads To Mounting Surface.

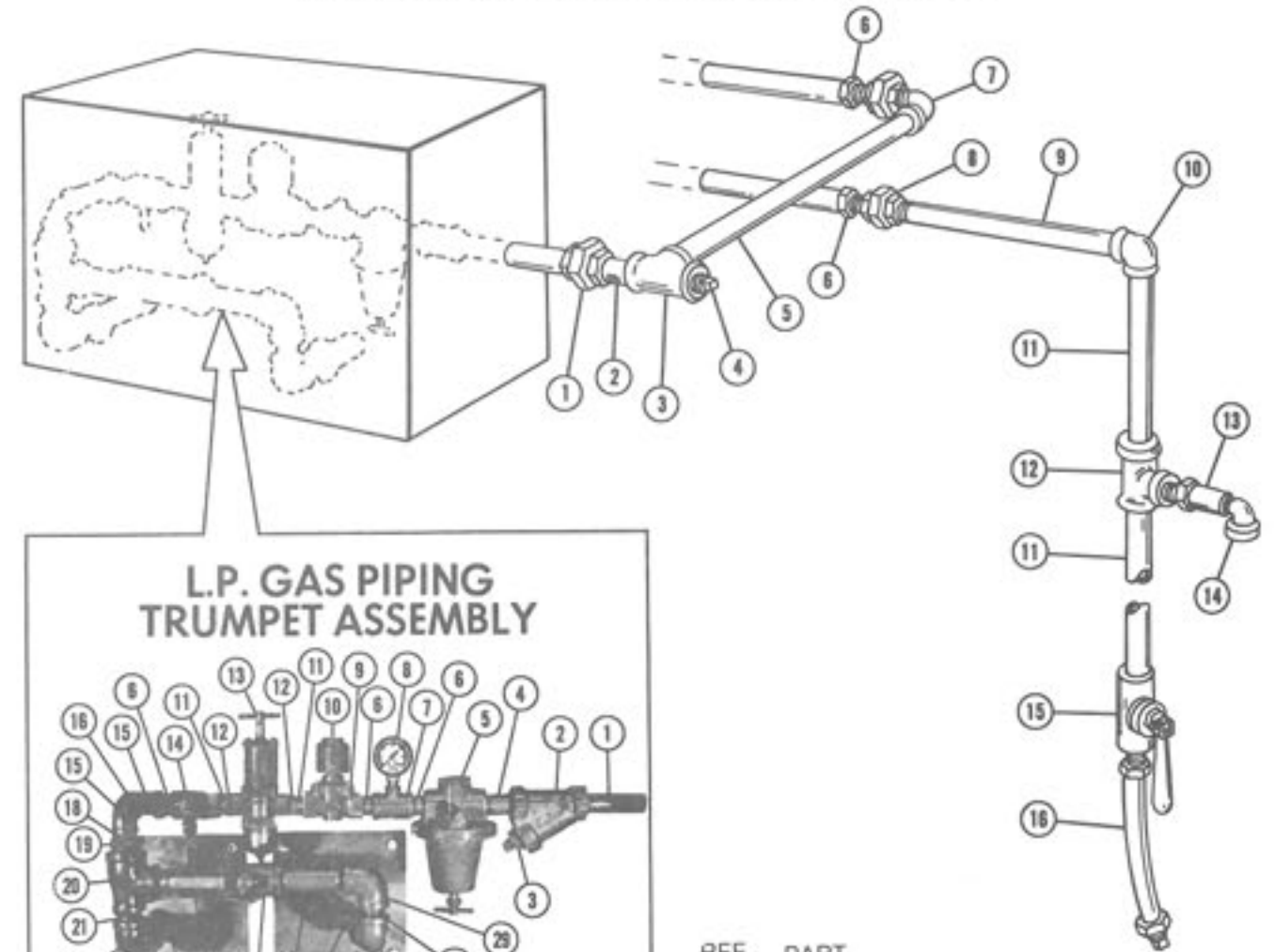
REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
1		6-32 x 1/4 Round Head Screw	11	1202946	Mercury Switch Mounting Bracket
2	1206801	Mercury Switch Mounting Clip	12	1205200	Mercury Switch Bracket Installation Washer
3	1206800	Mercury Switch (Cotton Covered Wire Only)	13	1208996	Level Control Diaphragm
4	1206802	Terminal Strip	14		1/4" - 20 Whiz Nut
5	1207981	Level Control Switch Housing Cover	15	1272832	Load Switch Mount Plate
6		#8 x 1/2 Sheet Metal Screw	16		1/4 - 20 x 1/2 Round Head Screw
7		#8-32 Hex Nut w/Lock Washer	17		8 - 32 x 5/8 Screw
8		1/4" Lock Washer	18		6 - 32 Hex Nut
9		1/4 - 20 Hex Nut	19	1216893	Connector
10	1205201	Level Control Switch Housing	20	1216920	Cable

LEVEL SWITCH ASSEMBLY

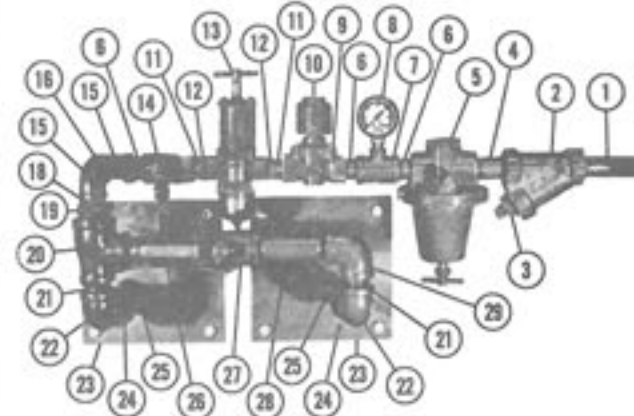


REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
1	0008249	1/8 x 3/4 Cotter Pin	6	1252902	Bin Mercury Switch Clip
2	0008194	8-32 x 1/2 Round Slotted Bolt	7	1206801	Mounting Clip Mercury Switch
3	1285711	Level Switch Pivot Rod	8	1206800	Mercury Switch
4	1254475	Bin Switch Trip Arm	9	1206802	Terminal Strip
5	0008188	8-32 Hex Nuts			

L.P. GAS PIPING ASSEMBLY



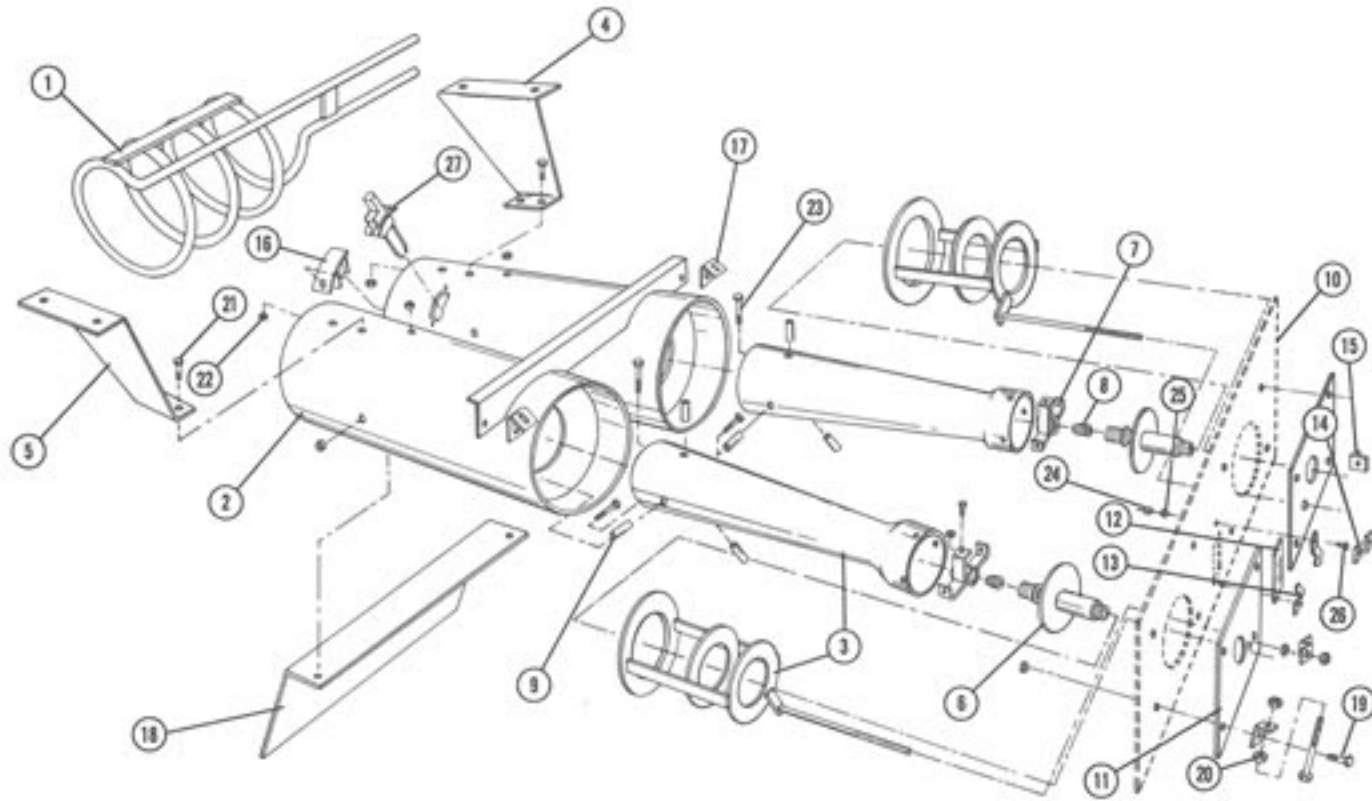
L.P. GAS PIPING TRUMPET ASSEMBLY



REF. NO.	PART NO.	DESCRIPTION
1	1218098	3/4 x 5" Extra Heavy Nipple
2	1218060	3/4" Strainer
3	0018001	3/8" Pipe Plug
4	1258058	3/4 x 2-1/2" Extra Heavy Nipple
5	1217006	3/4" Regulator
6	1218067	3/4 x 1-1/2" Standard Nipple
7	1238092	3/4 x 3/4 x 1/4" Standard Tee
8	1207002	Pressure Gauge
9	1217002	3/4" Solenoid Valve For 115 Volt Dryers
	1217025	3/4" Solenoid Valve For 12 Volt Dryers
10	1227011	Replacement Coil For 115 Volt Dryers
	1227024	Replacement Coil For 12 Volt Dryers
11	1218029	3/4 x 1/2" Reducing Bushing
12	1218013	1/2" x Close Standard Nipple
13	1217012	1/2" Modulating Valve
14	1217011	3/4" Main Hand Valve
15	1218074	3/4" 90° Standard Elbow
16	1218077	3/4 x 2" Standard Nipple
18	1218007	3/4" x Close Standard Nipple
19	1238078	1-1/4 x 3/4" Reducing Bushing
20	1288007	1 x 1-1/4 x 1" Standard Tee
21	1288013	1" Close Standard Nipple
22	1288014	1" Standard Street Elbow
23	1284488	Hand Hole Cover Plate
24	1288015	1" Standard Union
25	1288022	Venturi Inlet Pipe
26	1288009	1" x 4" Standard Nipple
27	1288012	1" Hand Valve
28	1288008	1" x 4-1/2" Standard Nipple
29	1288016	1" Standard Elbow

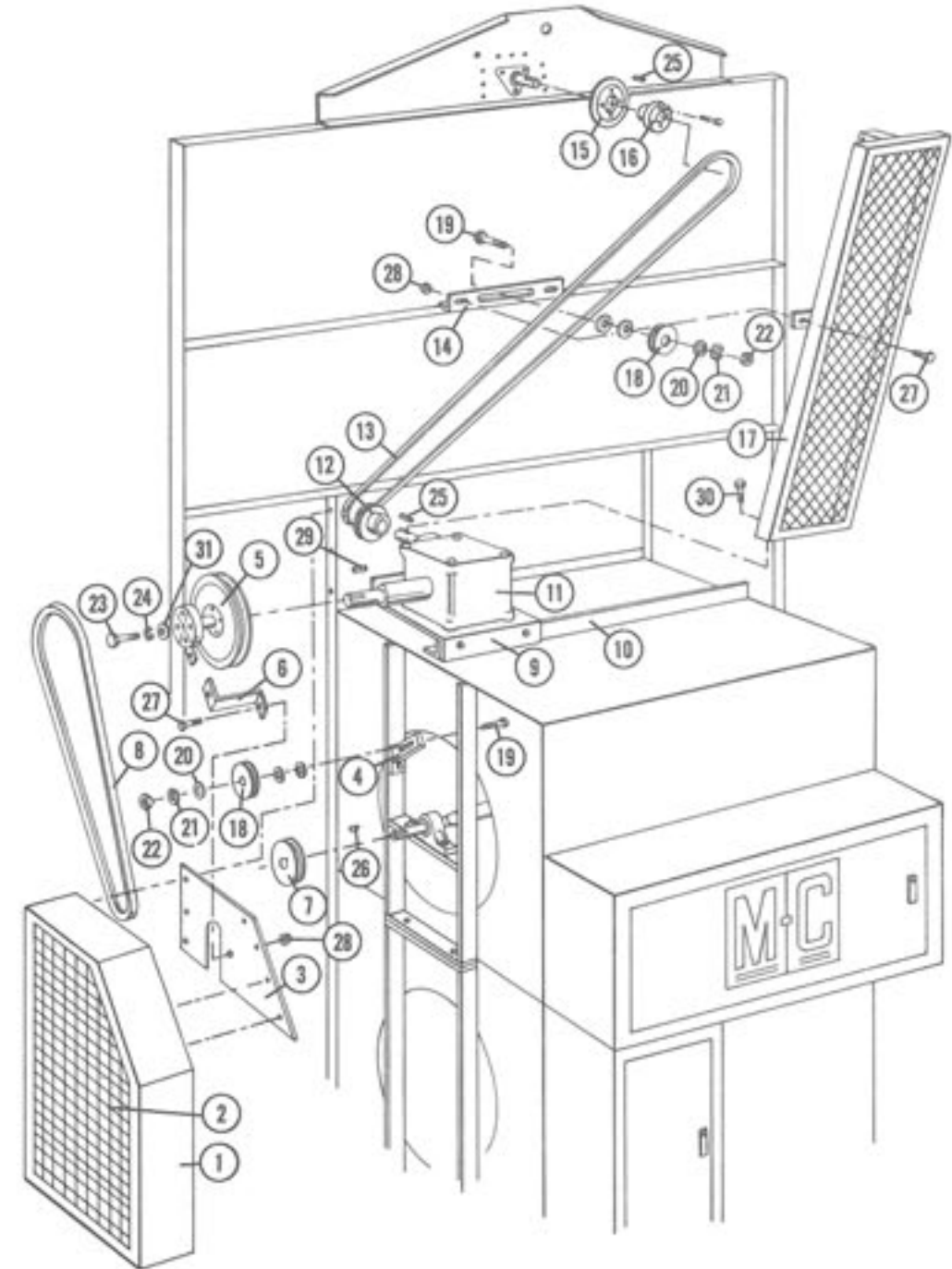
REF. NO.	PART NO.	DESCRIPTION
1	1218072	3/4" Extra Heavy Union
2	1218005	3/4 x 1-1/2" Extra Heavy Nipple
3	1218031	3/4" Tee Extra Heavy
4	1288000	3/4" Plug Standard
5	1288020	3/4" x 39-3/4" Extra Heavy Pipe
6	1258009	3/4 x 1/2 Extra Heavy Reducing Bushing
7	1288019	3/4" Union Elbow Extra Heavy
8	1218022	1/2" Union Extra Heavy
9	1288021	1/2 x 15-1/2" Extra Heavy Pipe
10	1218036	1/2" Extra Heavy Elbow
11	1218017	1/2 x 12" Extra Heavy Nipple
12	1218035	1/2" Extra Heavy Tee
13	1217013	Relief Valve
14	1218071	1/2" Extra Heavy Street Elbow
15	1217015	Liquid Line Hand Valve
16	1217005	Inlet Hose

VENTURI BURNER ASSEMBLY



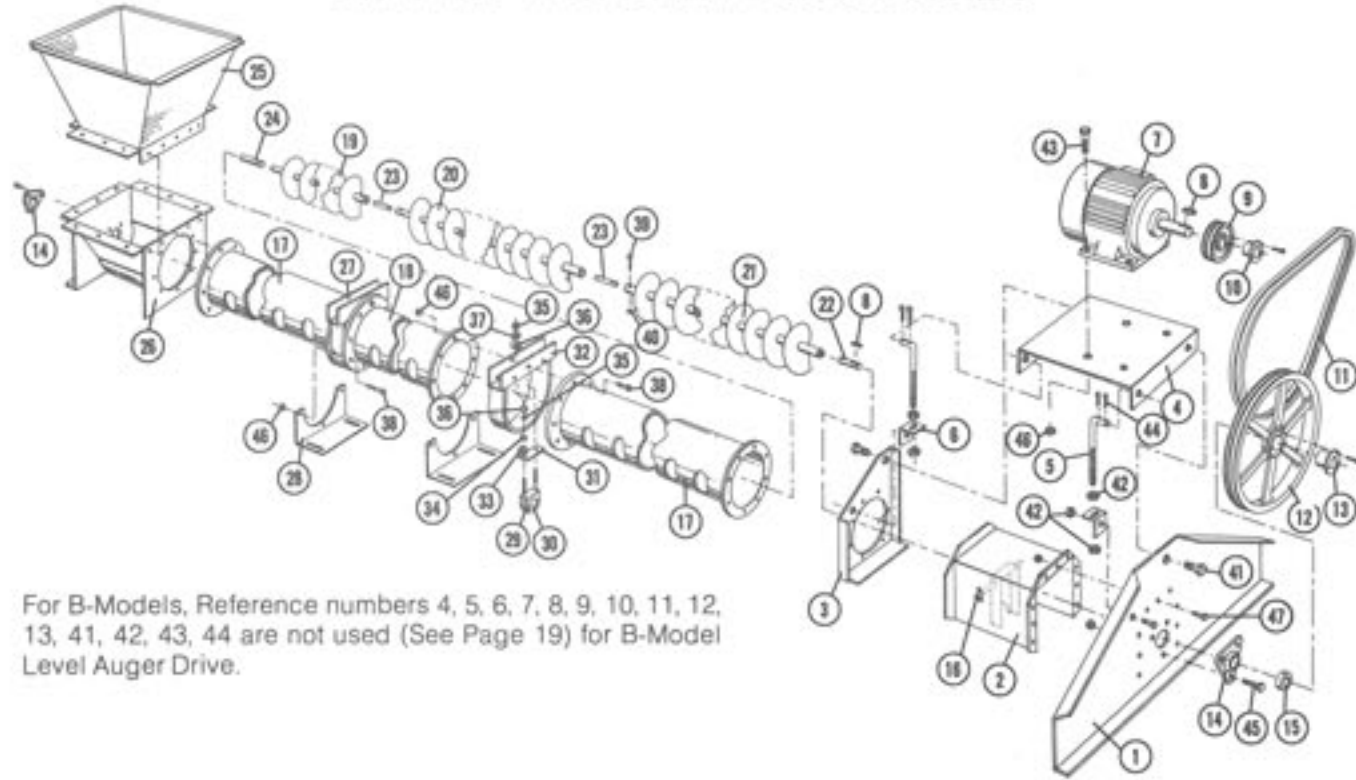
REF. NO.	QTY.	PART NO.	DESCRIPTION	REF. NO.	QTY.	PART NO.	DESCRIPTION
1	1	1280140	Vaporizer Coil Weldment	16	1	1270009	Gas Deflector Mount Weld. (Nat. Gas Only)
2	1	1280137	Venturi Ext. Weldment - Below Fan	17	2	1284260	Burner Mounting Strap
3	2	1280112	Venturi Burner Weldment	18	1	1285307	Venturi Ext. Deflector - 30 HP (975, 1075)
4	1	1284523	Burner Front Support - Right		1	1285308	Venturi Ext. Deflector - 20 HP (675)
5	1	1284524	Burner Front Support - Left		1	1285310	Venturi Ext. Deflector - 10 HP (475)
6	2	1280108	Venturi Gas Inlet Tube Weldment	19	8	0008108	5/16 - 18 x 1 Hex Head Cap Screw Z-P
7	2	1280107	Venturi Gas Inlet Mnt Weldment	20	8	0008159	5/16 - 18 H H Nut
8	2	1285715	Nozzle	21	12	0008106	5/16 - 18 x 3/4 Hex Head Cap Screw
9	6	1285401	Venturi Spacer	22	18	0008169	5/16 Flanged Whiz Locknut
10			Back of Control Cabinet	23	6	0008114	5/16 - 18 x 2-1/2 Hex Head Cap Screw
11	2	1284488	Hand Hole Cover Plate	24	4	0008156	10 - 32 Nut Z-P
12	1	1288968	Burner Window	25	2	0008183	# 10 Lock Washer Z-P
13	2	1288969	Burner Window Holder Clip	26	2	0008198	10 - 32 x 1 Round Slotted Bolt Z-P
14	2	1284515	Air Adjuster Bracket	27	1	1216800	Electrode
15	2	1283371	Air Adjuster Clamp Bracket				

B-MODEL LEVEL AUGER DRIVE



REF. NO.	QTY.	PART NO.	DESCRIPTION	REF. NO.	QTY.	PART NO.	DESCRIPTION
1	1	1280166	Lower Level Auger Guard Weld	17	1	1280165	Level Auger Drive Belt Guard
2	1	1284534	Lower Level Auger Guard Screen	18	2	0016200	4-5/8 Idler x 1/2 Bore
3	1	1284881	Lower Level Auger Guard Back Panel	19	2	0008141	1/2 - 13 x 2-1/2 Hex Head Cap Screw
4	1	1280172	Level Auger Lower Idler Bracket Weld	20	8	0008175	1/2 Flatwasher
5	1	1280170	Level Auger Clutch Weld	21	2	0008180	1/2 Lockwasher
6	1	1284530	Level Auger Clutch Bracket	22	2	0008163	1/2 - 13 Hex Nut
7	1	1206218	1B/4.4 x 1-5/8 Bore V-Pulley	23	1	1288172	5/8 - 11 x 2-1/2 Hex Head Cap Screw Grade 5
8	1	1286110	A-73 Belt	24	1	0008181	5/8 Lockwasher
9	1	1280180	Level Auger Gear Box Mount Weld	25	2	0015120	1/4 Square x 1-1/2 Key
10	1	1284531	Gear Box Mount Front Angle	26	1	0018998	3/8 x 1-1/4 Woodruff Key
11	1	1206600	Level Auger Drive Gear Box	27	3	0008106	5/16 - 18 x 3/4 Hex Head Cap Screw
12	1	1286218	4.2 x 1 Bore Pulley	28	3	0008169	5/16 - 18 Flanged Whiz Locknut
13	1	1286109	B-158 Belt	29	1	0015119	1/4 Square x 2 Key
14	1	1284263	Upper Idler Bracket	30	2	0008121	3/8 - 16 x 1 Hex Head Cap Screw
15	1	1286219	1B/8.6 Pulley (SDS Bushing)	31	1	0008299	5/8 SAE Flatwasher
16	1	1286221	SDS 1-1/4 Bushing				

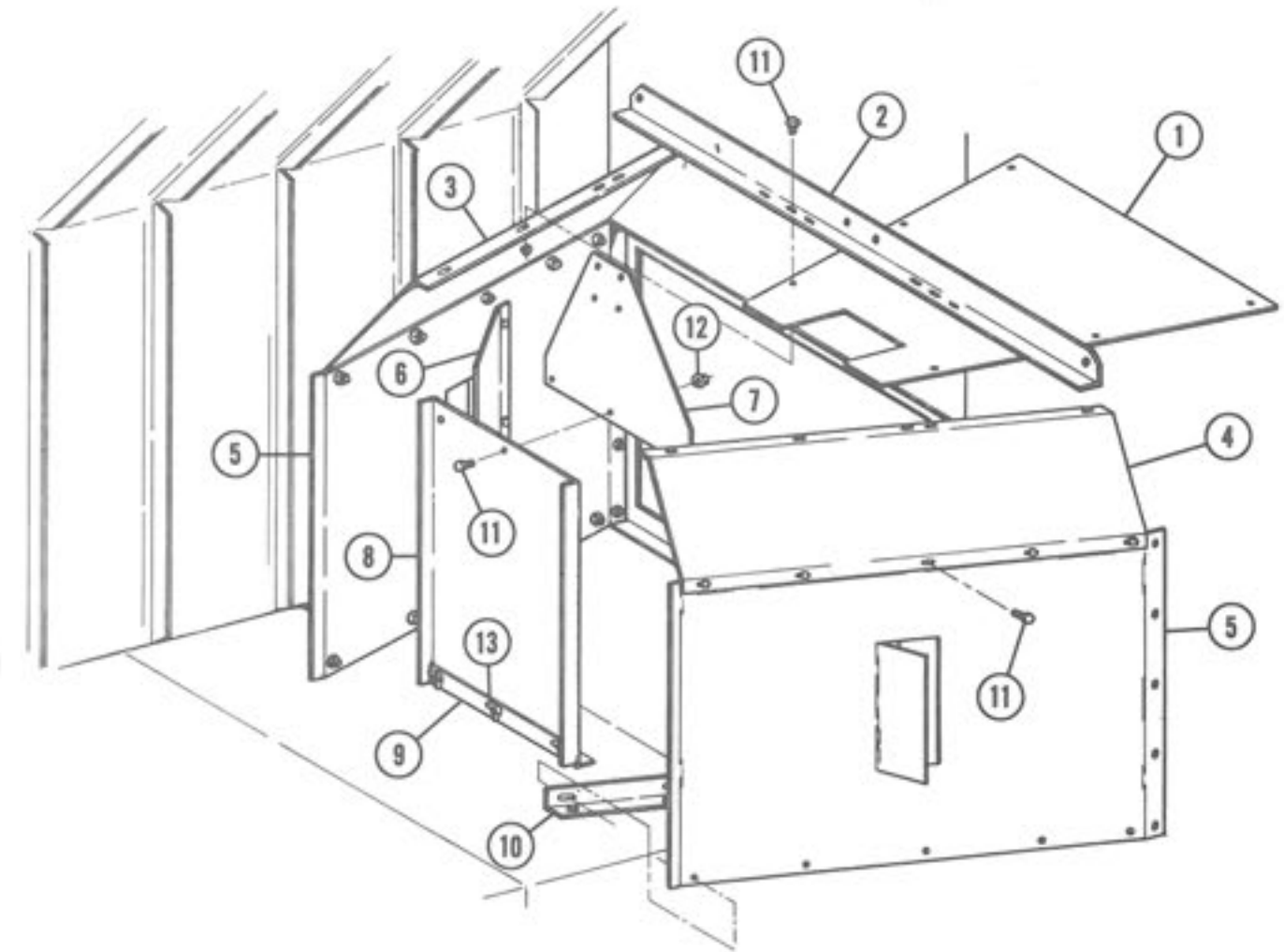
LEVEL AUGER ASSEMBLY



For B-Models, Reference numbers 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 41, 42, 43, 44 are not used (See Page 19) for B-Model Level Auger Drive.

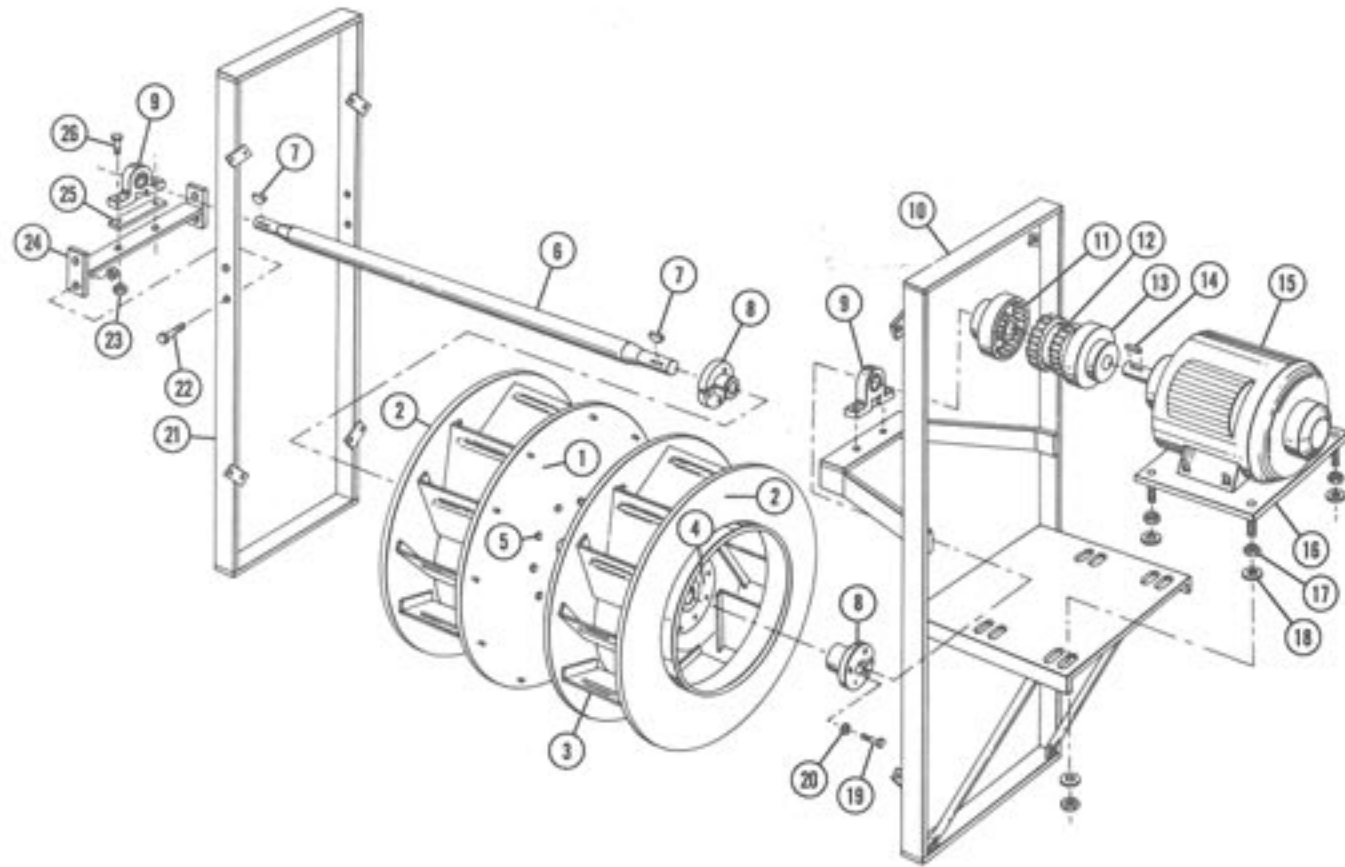
REF. NO.	QTY.	PART NO.	DESCRIPTION	REF. NO.	QTY.	PART NO.	DESCRIPTION
1	1	1284496	Motor Mount Front	25	1	1280116	Upper Receiving Hopper Weldment
2	1	1284501	Level Switch Pivot Bracket	26	1	1280115	Receiving Hopper Base Weldment
3	1	1284495	Motor Mount Rear	27	2	1281055	Hanger Bearing Assembly (Ref's 29 - 37) (For 975 & 1075)
4	1	1284500	Motor Mount Plate		1	1281055	Hanger Bearing Assembly (Ref's 29 - 37) (For 675)
5	2	1285177	Adjusting Rod	28	2	1284268	Level Auger Support Bracket (For 975 & 1075)
6	2	1284265	Adjusting Rod Pivot Bracket	1	1	1284268	Level Auger Support Bracket (For 675)
7	1	1286815	5 HP 3 Ø Motor (For 975E & 1075E)	29	1	1285176	Hanger Bearing U-Bolt
8	2	1286818	3 HP 3 Ø Motor (For 675E)	30	1	1286016	1-9/32 Bore Wood Hanger Bearing
9	1	0015120	1/4 x 1-1/2 Key	31	1	1283415	Hanger Bearing Bar
	1	1286207	2/3V/3.65 x 1-1/8 Bore Pulley (For 975E & 1075E)	32	1	1280117	Hanger Bearing Bracket Weldment
	1	1286209	1/3V/3.65 x 1-1/8 Bore Pulley (For 675E)	33	2	0008168	3/8 - 16 Flanged Whiz Locknut
10	1	1286214	SH 1 - 1/8 Bushing for 1286207 & 1286209	34	2	1288133	3/8 - 16 Jam Nut
11	2	1286103	3V/710 Belt Matched Set (For 975E & 1075E)	35	4	0008162	3/8 - 16 Hex Nut
	1	1286103	3V/710 Belt (For 675E)	36	4	0008174	3/8 Flatwasher
12	1	1286208	2/3V/19.0 Pulley 1-1/4 Bore (For 975E & 1075E)	37	2	0008179	3/8 Lockwasher
	1	1286210	1/3V/19.0 Pulley 1-1/4 Bore (For 675E)	38	16	0008132	3/8 - 16 x 3-1/4 Hex Head Cap Screw (For 975 & 1075)
13	1	1216241	SK 1-1/4 Bushing For 1286208 & 1286210	8	0008132	3/8 - 16 x 3-1/4 Hex Head Cap Screw (For 675)	
14	2	1286013	1-1/4 Bore Flangette Bearing	39	12	0008112	5/16 - 18 x 2 Hex Head Cap Screw (For 975 & 1075)
15	2		Lock Collar For 1286013		8	0008112	5/16 - 18 x 2 Hex Head Cap Screw (For 675)
16	1	1281057	Level Switch Assembly (See Page 20)	40	65	0008169	5/16 - 18 Whiz Locknut (For 975 & 1075)
17	2	1280120	Level Auger End Tube Weldment	41	2	0018163	1/2 - 13 x 1-1/4 Shoulder Bolt
18	1	1280119	Level Auger Center Tube Weld (For 975 & 1075)	42	8	0008170	1/2 - 13 Whiz Locknut
19	1	1280123	Rear Level Auger Weldment	43	4	0008123	3/8 - 16 x 1-1/4 Hex Head Cap Screw
20	1	1280122	Center Level Auger Weldment (For 975 & 1075)	44	4	0008199	1/8 x 1 Cotter Pin
21	1	1280121	Front Level Auger Weldment	45	6	0008122	3/8 - 16 x 1 Carriage Bolt
22	1	1285051	Level Auger Front Shaft	46	26	0008168	3/8 - 16 Whiz Locknut
23	2	1285050	Level Auger Shaft Center (For 975 & 1075)	18	0008168	3/8 - 16 Whiz Locknut	
	1	1285050	Level Auger Shaft Center (For 675)	47	53	0008106	5/16 - 18 x 3/4 Hex Head Cap Screw
24	1	1285052	Level Auger Rear Shaft				

BURNER TARGET

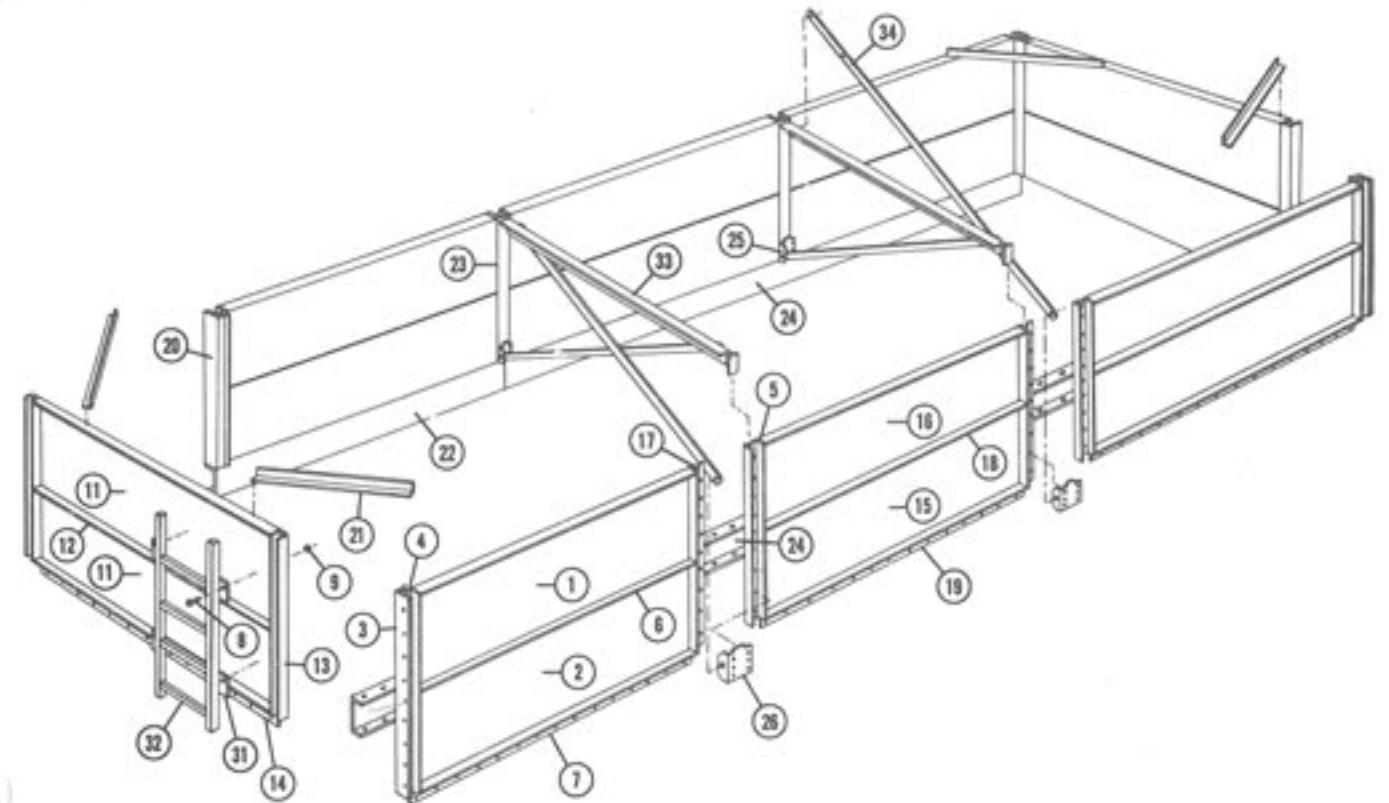


REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
1	1282884	Target Cover	9	1282636	Target Mounting Angle
2	1282638	Front Inner Perf. Peak Angle	10	1282637	Target Side Mounting Angle
3	1282723	Target Cap Left	11	0008106	5/16 x 3/4" Hex Head Cap Screw
4	1282722	Target Cap Right	12	0008169	5/46" Flange Whiz Locknut
5	1282720	Target Side	13	0008166	5/16" Wing Nut
6	1282734	Target Side Deflector	NOT SHOWN:		
7	1282639	Target Top For 30 HP Fan	1282726	Target Side Spacer (Top Heat Section 1075E)	
	1282724	Target Top For 20 HP Fan	1282729	Target Cap Support Strap (Replaces 1282638 in 1075E Middle Heat Section)	
	1282725	Target Top For 10 HP Fan			
8	1282730	Target Bottom For 30 HP Fan			
	1282731	Target Bottom For 20 HP Fan			
	1282732	Target Bottom For 10 HP Fan			

CENTRIFUGAL FAN ASSEMBLY



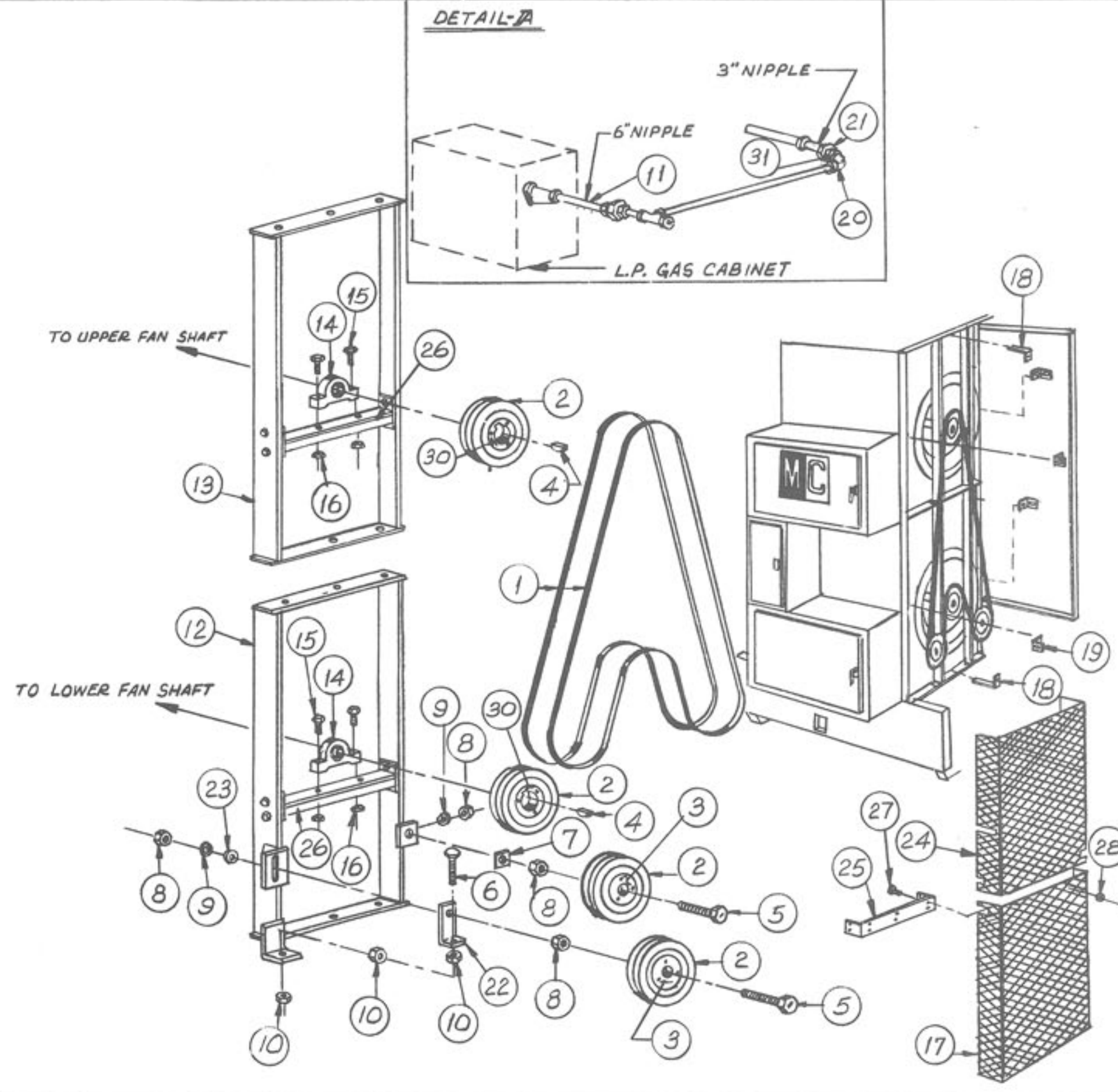
WET HOLDING HOPPER ASSEMBLY



REF. NO.	QTY.	PART NO.	DESCRIPTION	REF. NO.	QTY.	PART NO.	DESCRIPTION
1	2	1283411	Inner Fan Ring	1	1	1286612	Flex-Coupling Flange 975E & 675E Bottom 1-7/8" Bore 8J
2	1	1284493	Fan Outer Hub Spinning - Left	1	1	1286613	Flex-Coupling Flange 975E, Top 1-7/8" Bore 9S
3	1	1284494	Fan Outer Hub Spinning - Right	14	1	0015132	3/8 x 2" Key
4	24	1285185	Fan Vain 10 HP - 475 Only	15	1	1216848	10 HP Electric Motor 3 Phase 1740 RPM, 60 CYCLE
5	12	1285184	Fan Vain 15 HP - 675 Bottom	1	1	1216882	15 HP Electric Motor 3 Phase 1740 RPM, 60 Cycle
6	12	1285183	Fan Vain 20 HP - 975 Bottom, 675 Top	1	1	1216881	20 HP Electric Motor 3 Phase 1740 RPM, 60 Cycle
7	12	1285182	Fan Vain 30 HP - 975 Top	1	1	1286819	25 HP Electric Motor 3 Phase 1740 RPM, 60 Cycle
8	2	1287650	Fan Hub Casting, 10-1/2 O.D.	1	1	1286816	30 HP Electric Motor 3 Phase 1740 RPM, 60 Cycle
9	16	0008296	3/8 - 24 x 1-1/2 Hex Head Cap Screw Grade #5	16	1	1210323	Motor Mount Plate Weldment - 475 Top
10	1	1285181	E-Model Upper Cent. Fan Shaft	1	1	1210343	Motor Mount Plate Weldment - 675E Top, 475E Bottom
11	1	1285187	E-Model Lower Cent. Fan Shaft	2	1	1280090	30 HP Motor Mount 975E
12	2	0018998	Woodruff Key 3/8 x 1-1/4	1	1	1280090	30 HP Motor Mount 675E, Bottom
13	2	1286216	2-3/16 SF Bushing	17	8	0008165	3/4" - 10 Hex-Nut
14	2	1216003	Fan Shaft Bearing 1-5/8" Bore	18	8	0008177	3/4" Flatwasher
15	1	1280093	Centrifugal Fan, High Motor Support	18	6	0008226	3/8" - 16 x 2 Hex Head Cap Screw
16	1	1280092	Centrifugal Fan, Lower Motor Support	19	6	0008179	3/8" Lock Washer
17	2	1286615	Flex-Coupling Flange 475E 1-5/8" Bore 7J	20	1	1280091	Left Fan Bearing Support Weldment
18	2	1286604	Flex-Coupling Flange 675E 1-5/8" Bore 8J	21	1	0008137	1/2" - 13 X 1-1/4" Hex Head Cap Screw Zinc-Plated
19	1	1286604	Flex-Coupling Flange 975E Bottom	22	4	0008170	1/2" - 13 Whiz Nut Zinc-Plated
20	1	1286607	Flex-Coupling Flange 975E, Top 1-5/8" Bore 9S	23	6	0008170	1/2" - 13 Whiz Nut Zinc-Plated
21	2	1286616	Flex-Coupling Sleeve 475E, 7JE	24	1	1280089	Centrifugal Fan Bearing Support Weldment
22	2	1286606	Flex-Coupling Sleeve 675E, 8JE	25	1	1212637	Shim (Used as Required)
23	1	1286606	Flex-Coupling Sleeve 975E, Bottom 8JE	26	2	0008140	1/2" - 13 X 2" Hex Head Cap Screw Zinc-Plated
24	1	1286609	Flex-Coupling Sleeve 975E, Top 9-S				
25	1	1286617	Flex-Coupling Flange 475E, Top 1-3/8" Bore 7J				
26	1	1286615	Flex-Coupling Flange 475E, Bottom 1-5/8" Bore 7J				
	1	1286604	Flex-Coupling Flange 675E, Top 1-5/8" Bore 8J				

REF. NO.	QTY.	PART NO.	DESCRIPTION	REF. NO.	QTY.	PART NO.	DESCRIPTION
1	4	1284792	Upper Side Hopper Panel - End	18	4	1282004	Center Side Flange Hopper Stiffener (975 Only)
2	4	1284793	Lower Side Hopper Panel - End	19	2	1285718	Hopper Side Hinge - Center (975 Only)
3	2	1282602	Right Hopper Lock Flange	20	2	1282600	Left Hopper Lock Flange
4	4	1282601	Hopper Side Stiffener Channel	21	4	1282624	Hopper Corner Tie
5	4	1281042	Hopper Center Side Channel Ass'y (975)	22	4	1282616	Hopper Side Channel End
	2	1281042	Hopper Center Side Channel Ass'y (675)	23	2	1282623	Left Hopper Vertical Angle (975)
6	4	1282005	Side Flange Hopper Stiffener	1	1	1282623	Left Hopper Vertical Angle (675)
7	4	1285717	Hopper Side Hinge - End	24	4	1282617	Center Hopper Side Channel (975 Only)
8	158	0008106	5/16 - 18 x 3/4 Hex Head Cap Screw (975)	25	2	1282627	Hopper Cross Brace Mount - Left (975)
	105	0008106	5/16 - 18 x 3/4 Hex Head Cap Screw (675)	1	1	1282627	Hopper Cross Brace Mount - Left (675)
9	403	0008169	5/16 - 18 Flanged Whiz Lock Nut (975)	26	2	1282628	Hopper Cross Brace Mount - Right (975)
	277	0008169	5/16 - 18 Flanged Whiz Lock Nut (675)	1	1	1282628	Hopper Cross Brace Mount - Right (675)
10	244	0008291	5/16 - 18 x 1/2 Hex Head Cap Screw Z-P (975)	27	60	0008174	3/8" Flat Washer (975 Only)
	172	0008291	5/16 - 18 x 1/2 Hex Head Cap Screw Z-P (675)	28	16	0008108	5/16" - 18 x 1" Hex Head Cap Screw Z-P (675 Only)
11	4	1284786	End Hopper Panel (975)	29	158	0008119	3/8" - 16 x 3/4" Hex Head Cap Screw Z-P (975)
	4	1284786	End Hopper Panel (675)	100	0008119	3/8" - 16 x 3/4" Hex Head Cap Screw Z-P (675)	
12	4	1282002	End Hopper Panel Stiffener (975)	30	158	0008168	3/8" - 16 Flanged Whiz Locknut Z-P (975)
	2	1282002	End Hopper Panel Stiffener (675)	100	0008168	3/8" - 16 Flanged Whiz Locknut Z-P (675)	
13	4	1282606	Hopper End Lock Channel (975)	31	8	1284529	Ladder Mounting Bracket
	2	1282606	Hopper End Lock Channel (675)	1	1	1280162	Ladder 4" Section
14	2	1285701	Hopper End Panel Hinge (975)	2	2	1280097	Hopper Support Angle Weldment (975)
	1	1285701	Hopper End Panel Hinge (675)	1	1	1280097	Hopper Support Angle Weldment (675)
15	2	1284794	Lower Side Hopper Panel - Center (975 Only)	34	4	1282006	Hopper Cross Tie (975)
16	2	1284795	Upper Side Hopper Panel - Center (975 Only)	2	2	1282006	Hopper Cross Tie (675)
17	2	1282622	Right Hopper Vertical Angle (975)				
	1	1282622	Right Hopper Vertical Angle (675)				

PART NO.
1289000



REF.	QTY.	PART NO.	DESCRIPTION
31	1	1218007	3/4 CLOSE NIPPLE
30	2	1216296	5F-1 5/8 BUSHING
29	10	0018110	5/16 WHIZ NUT
28	10	0008173	5/16 FLATWASHER
27	10	0008106	5/16 x 3/4 H.H.C.S.
26	2	1280089	BEARING SUPPORT
25	1	1284818	TIE CHANNEL
24	1	1285739	BELT GUARD-TOP
23	1	0008276	1" FLAT WASHER
22	1	1283470	TIGHTENER BRKT.
21	1	1218072	3/4 UNION
20	1	1218027	3/4 ELBOW
19	4	0013302	UNIVERSAL BRKT
18	2	1284539	BELT GUARD BRKT
17	1	1285740	BELT GUARD-BOTTOM
16	4	0008170	1/2-13 WHIZ NUT
15	4	0008140	1/2-13x2 H.H.C.S.
14	2	1216003	1 5/8 PILLOW BLOCK
13	1	1280091	UPPER DRIVE FRAME
12	1	1280159	LOWER DRIVE FRAME
11	1	1288006	6" NIPPLE
10	3	0008165	3/4-10 HEX NUT
9	2	1288291	1" LOCK WASHER
8	4	0918231	1-8 HEX NUT
7	1	1283471	SPACER PLATE
6	1	1288233	3/4-10x8 H.H.C.S.
5	2	1228230	1-8x5 H.H.C.S.
4	2	0018998	WOODRUFF KEY 3/8x1 1/2
3	2	1286224	5F-BB BEARING
2	4	1286223	2C 9.0 PULLEY
1	1	1286111	DRIVE BELT

QTY.	MODEL
1	975B
1	675B
1	475B

CHECKED BY

PART NO. 1289000

TITLE B-MODEL FAN BELT DRIVE KIT

SCALE N.T.S. MATL. NOTED

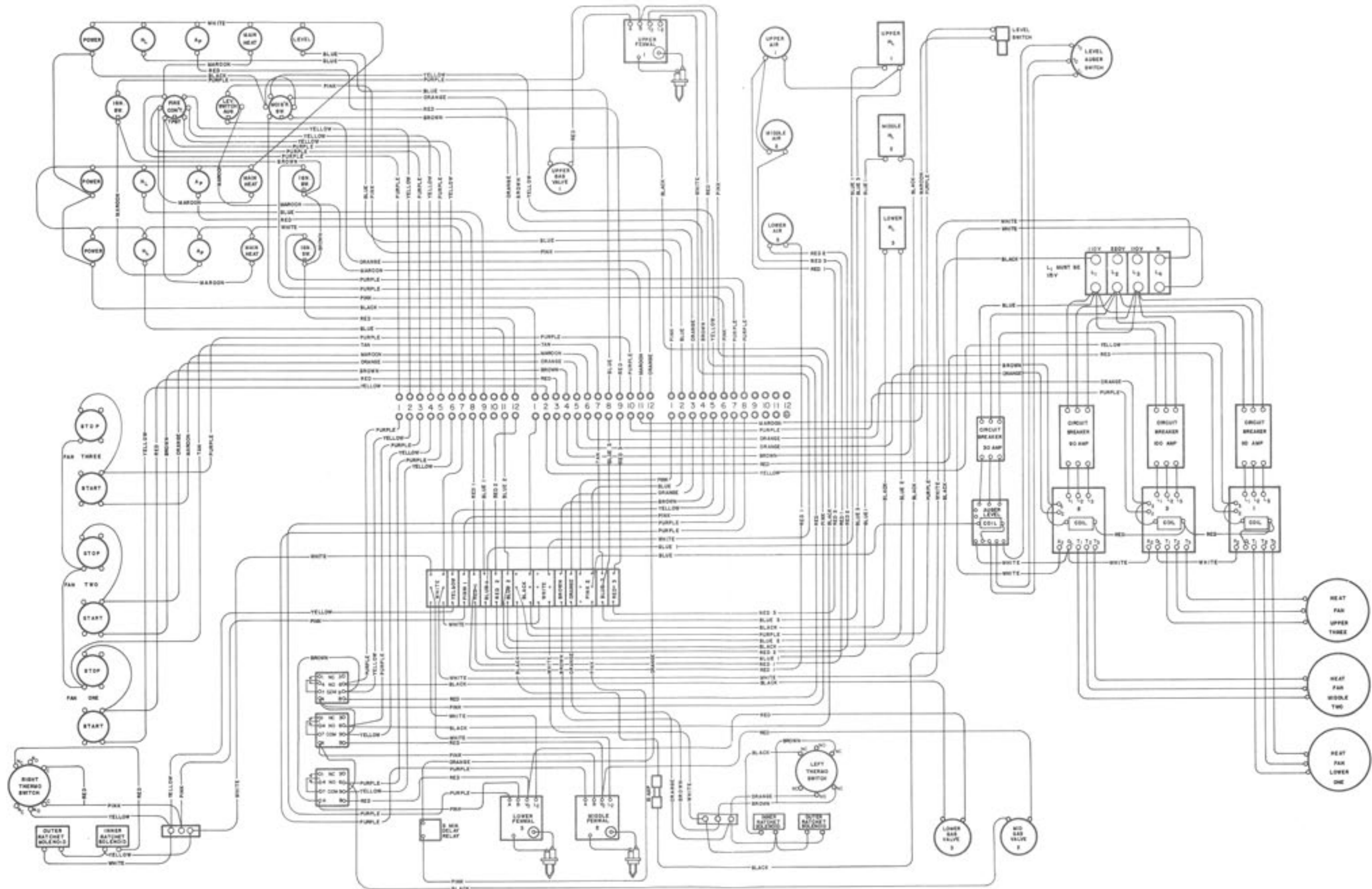
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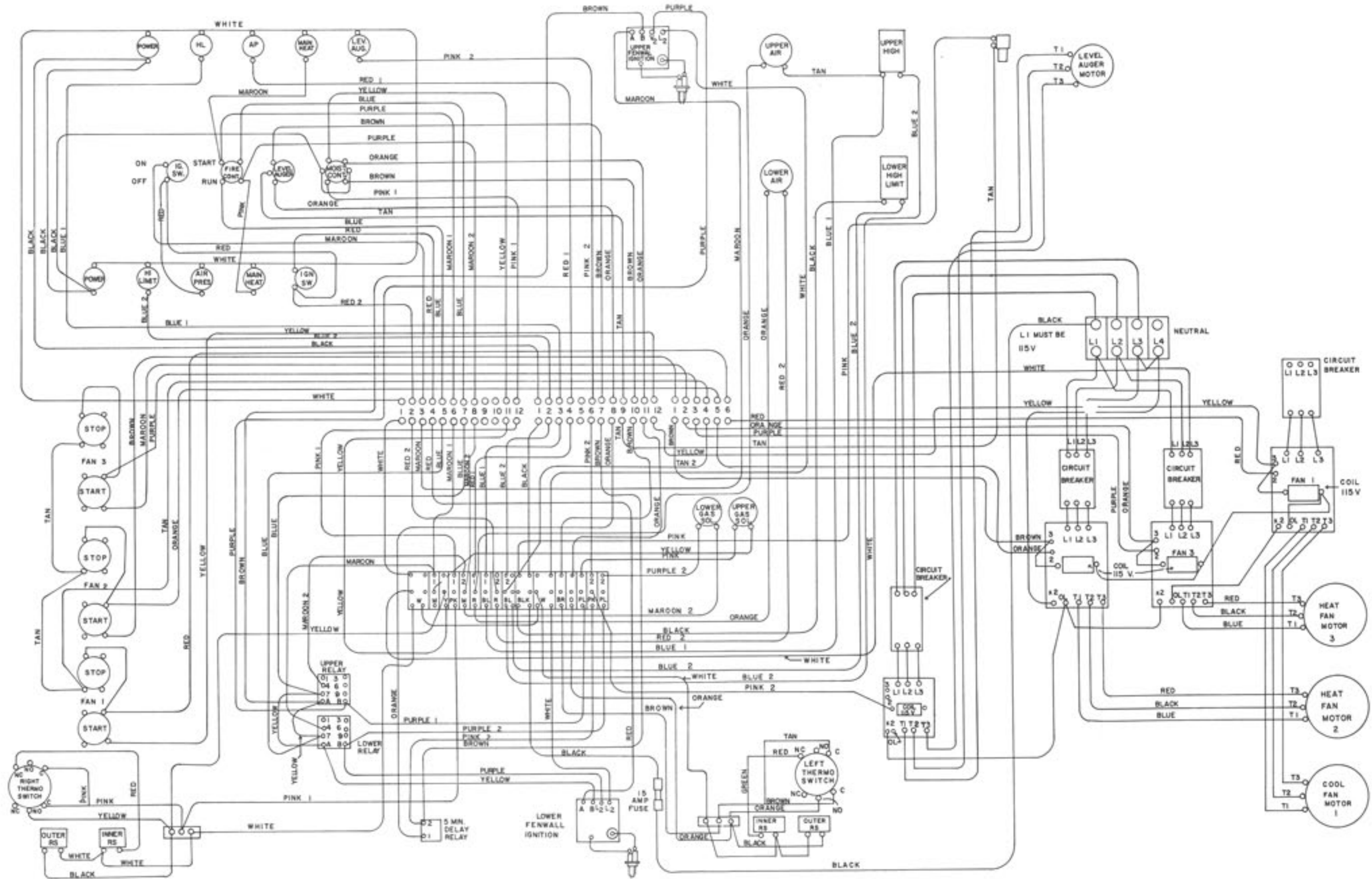
FARM EQUIPMENT MANUFACTURING
MATEWIS CO. COMPANY
500 INDUSTRIAL AVE.
CRYSTAL LAKE, ILLINOIS 60014

M.C.

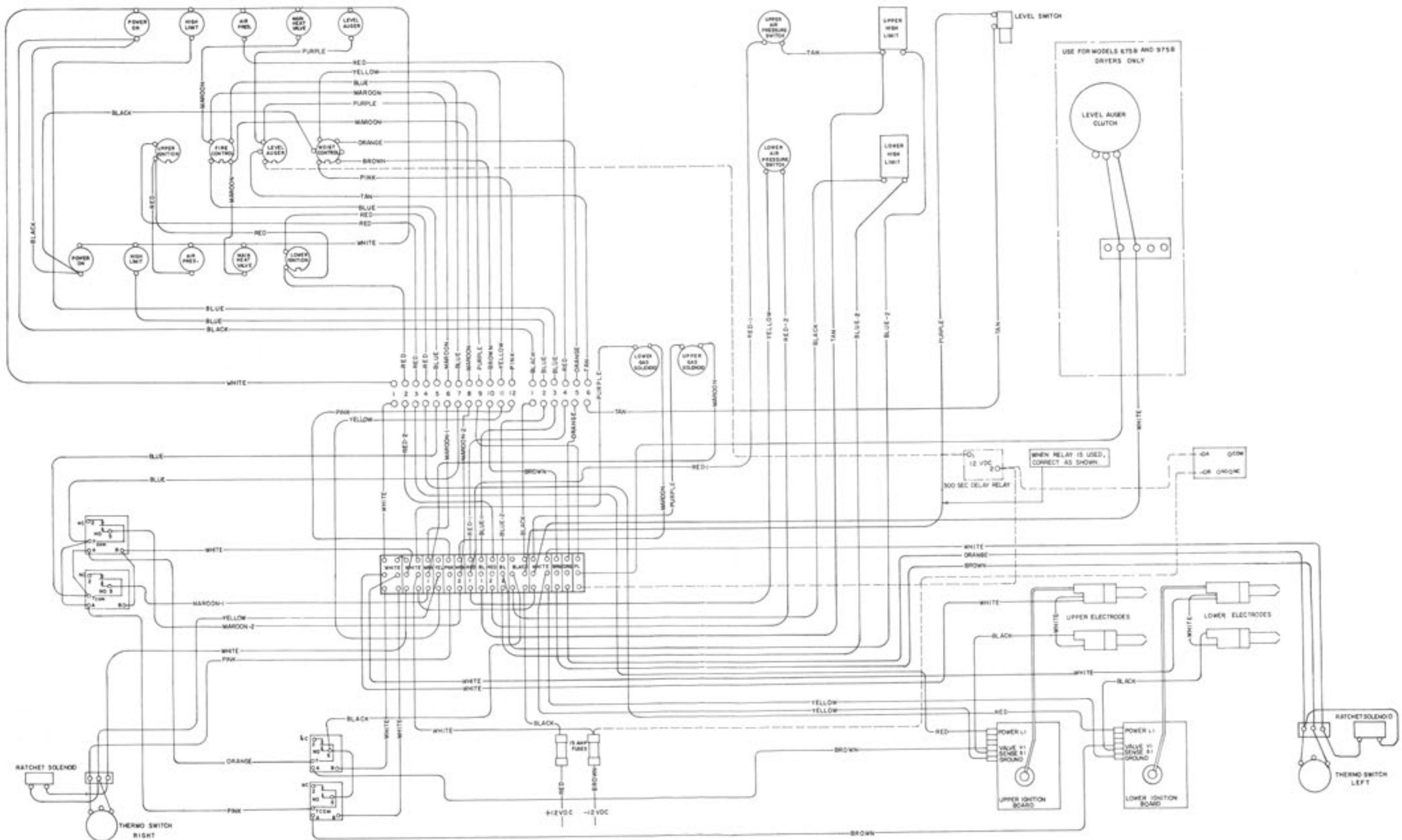
1075E TRIPLE BURNER WIRING DIAGRAM



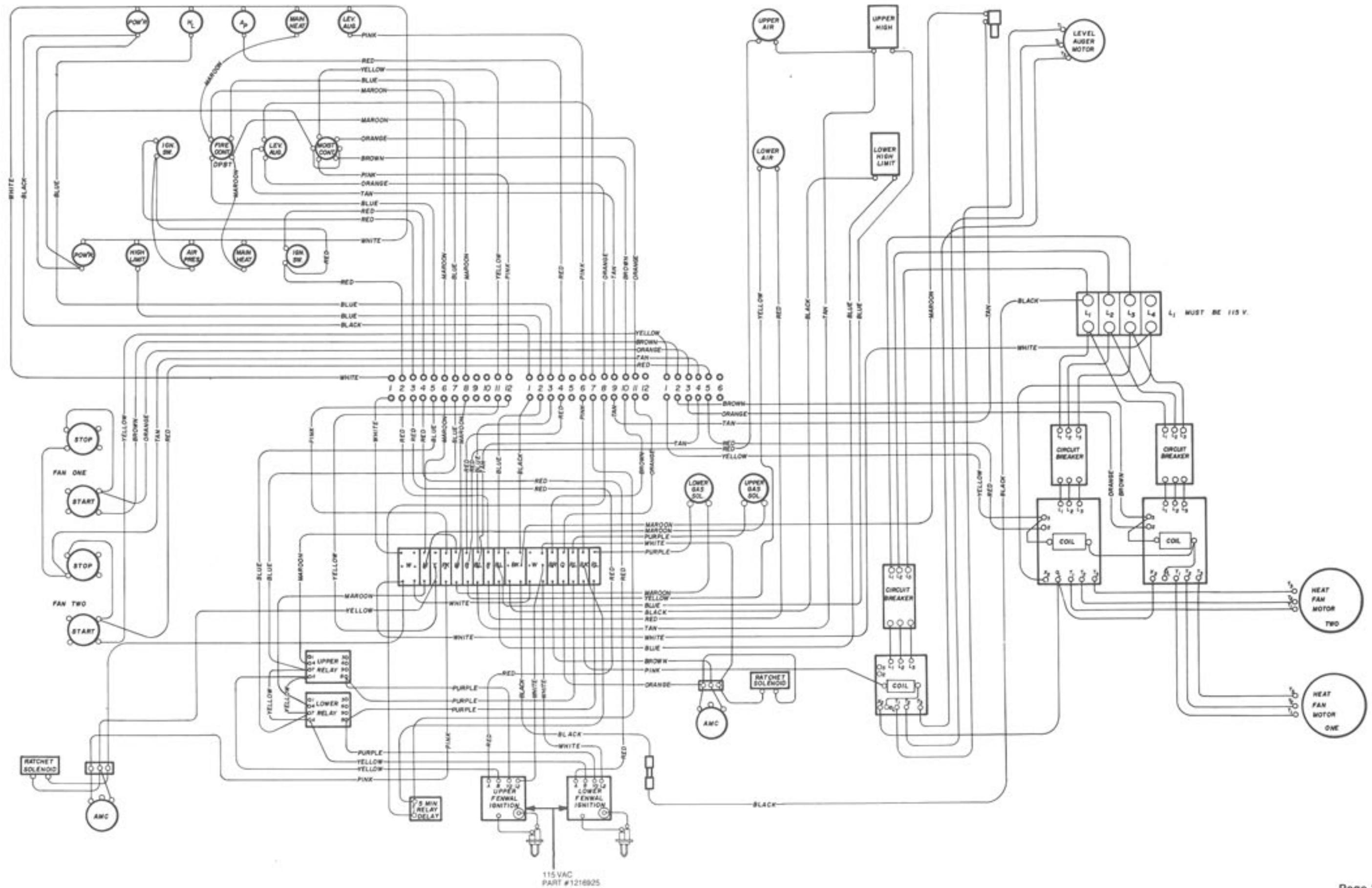
1075 WIRING DIAGRAM



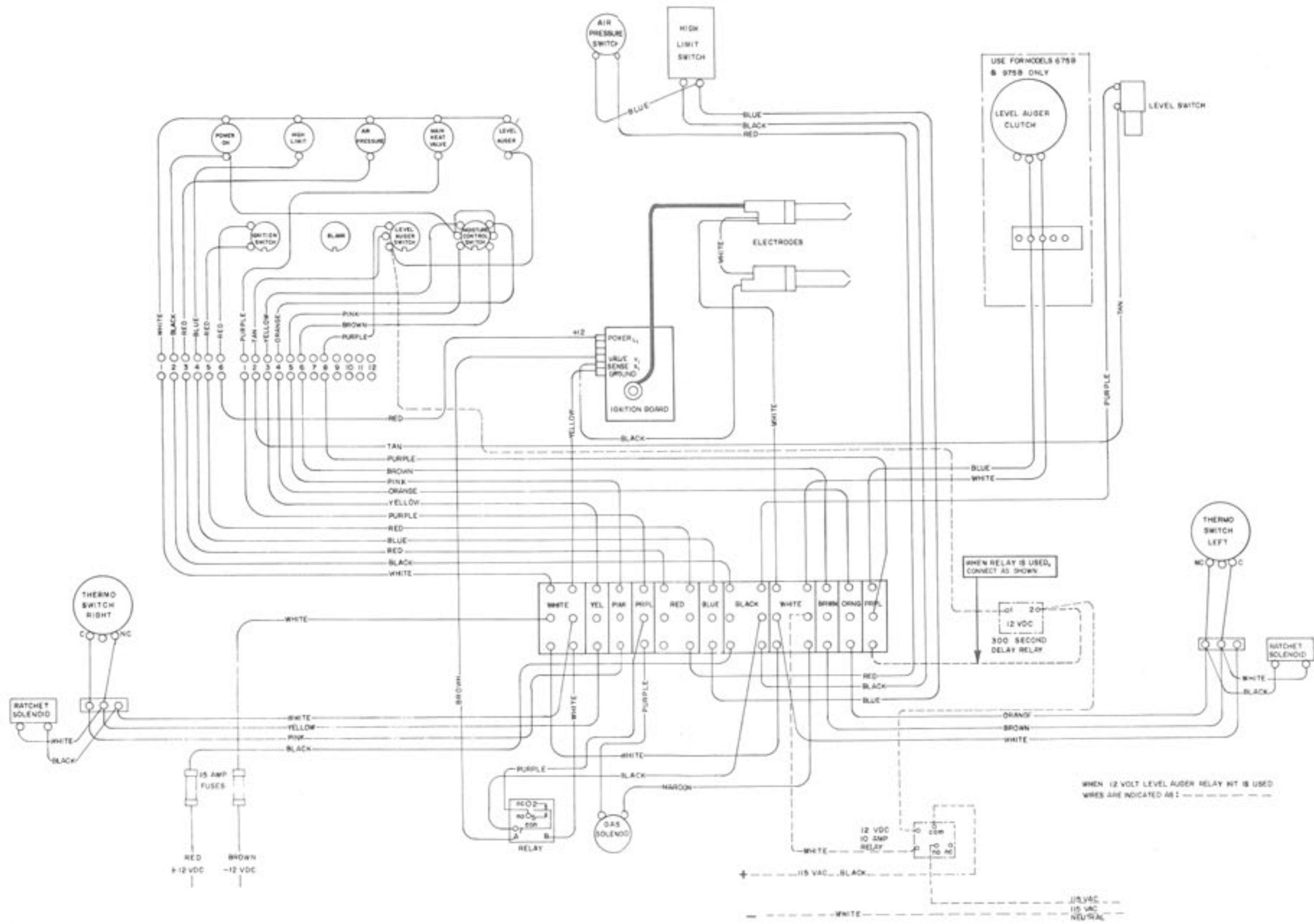
B-MODEL DOUBLE BURNER WIRING DIAGRAM



675E & 975E DOUBLE BURNER WIRING DIAGRAM



B-MODEL WIRING DIAGRAM



E-MODEL WIRING DIAGRAM

