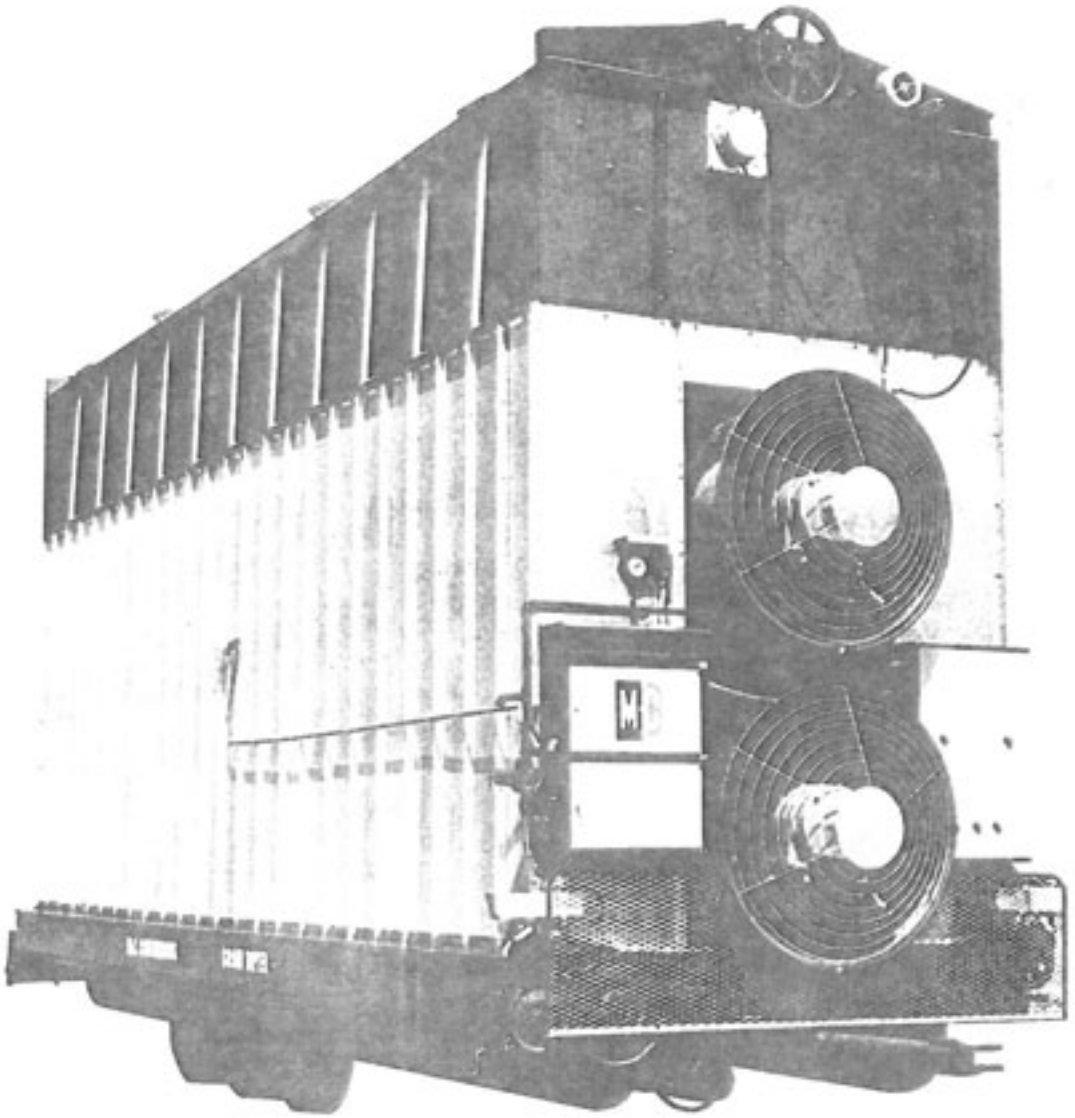
M-C
MATHEWS COMPANY

CONTINUOUS
GRAIN DRYER

ASSEMBLY-OPERATION AND MAINTENANCE INSTRUCTIONS



MODELS
400
600
900

DM 75

MATHEWS COMPANY

CRYSTAL LAKE ILL., 60014 · U.S.A.

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SET UP INSTRUCTIONS

NOTE: The end of the dryer with 2 fans 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:
   Remove pole and wheels and place dryer on concrete slab or pier with a plank between concrete and skids. Anchor dryer down. See Page **34**, Figure **29.**
   B. For portable or temporary installation:
   Place planks under full length of skids. Remove wheels or dig holes for wheels. Full weight of dryer must rest on the dryer skids. Dryer should be anchored down when empty.
2. Install Ratchet Assemblies and Guards. See Page **17,** Figure **12 and 12A.**
3. Install Variable Drive Arm Assembly.
   For B10 and BE10 models, see Page **22,** Figure **19.**
   For E models, see Page **32,** Figure **27.**
4. Install Wet Holding Hopper. See Page **13,** Figure **7.**
5. Install Level Auger (optional on some models). See Page **14,** Figure **8.**
6. Install Cross Auger. See Page **18,** Figure **13.**
7. Install all Guards and Shields. See Pages **26,** Figure **24,** Page **30,** Figure **26.**
8. Connect **GROUNDED THREE** line 115 volt power to control cabinet using male (fused) and female electrical plugs shipped with dryer. When electrical connection is made, light #1 (power on) and #3 (highlimit switch) on control panel should come on. Trouble, see Page 6.
9. On "E" model dryers connect power line for motors to the terminal block in the magnetic starter cabinet.
10. Connect gas supply to machine.
    A. *L.P. Gas*—Advise your L.P. gas supplier that the dryer takes liquid 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 ½" ID gas line between tank and dryer. On runs over 100 feet or for dryers with more than one burner assembly, use a ¾" ID diameter line. Connect the gas line from the tank to the short flexible hose on the dryer. If the dryer has two burners, put a "T" in the main gas line before connecting to either flexible hose.
    Gas pressure used should be kept as low as possible to maintain drying temperature; HOWEVER, never less than 5 pounds as indicated on pressure gauge. Trouble, see Page 6, Step 7.
    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 1¼" just before connecting to pipe outside dryer control cabinet.
11. For converting burner from L.P. Gas to Natural Gas, see instructions on Page **9,** Figure **4.**

DANGER!

1. KEEP ALL SHIELDS IN PLACE.
2. DISCONNECT POWER SOURCE TO ADJUST OR SERVICE.
3. MAKE CERTAIN EVERYONE IS CLEAR OF EQUIPMENT BEFORE APPLYING POWER.
4. KEEP HANDS, FEET, AND CLOTHING AWAY FROM POWER DRIVEN PARTS IN MOTION.

FAILURE TO HEED MAY RESULT IN PERSONAL INJURY

OPERATING INSTRUCTIONS

1. Make sure all safety shields and guards are in place.
2. Turn off Ignition Switch.
3. Turn off all gas valves.
4. Dryer must operate at 5 lbs. gas pressure. To prevent problems caused by excessive gas pressure loosen Pressure Regulator screw to reduce gas pressure to zero. Also loosen Modulating Valve handle. (Explanation) Dryers are sometimes tampered with and the Modulating Valve handle may have been turned down resulting in a wide open condition.
5. Turn on Level Auger Switch (or load switch) to the automatic position.
6. Fill dryer with grain.
7. Slowly open gas valve at LP tank and check for leaks.
8. Start fans when dryer is full. Light #2 (Air Pressure Switch) on control cabinet will come on. (Trouble see page 6.)
9. Open Flip Valve on LP models.

STARTING BURNER

10. INITIAL START UP OF NEW DRYER. Turn on the Ignition Switch to start burner. (Light #4 Main Heat Valve will come on.) Partially open Hand Valve and turn Pressure Regulator screw until 5 lbs. of pressure has been reached. (Only turn Pressure Regulator screw when Main Heat Valve light is on.) If Ignition does not take place in 6 or 7 seconds, turn off Ignition Switch, wait one minute and repeat cycle.
    NOTE: The start up procedure is critical because the liquid gas must be vaporized. Excess gas flow at the start will cause freeze ups. That is why you must start with a slightly open Hand Valve. Once the burner is going, the heat causes vaporization and a steady-controlled heat is established. The Hand Valve can now be fully opened. Repeat cycle if ignition fails or freeze up occurs.

SETTING TEMPERATURE

11. The temperature is regulated by the Modulating Valve. To increase the temperature, turn the handle in. To reduce the temperature, turn the handle out.

SHUT-OFFS AND RESTARTS

12. After initial operation over several hours of running, the Pressure Regulator and Modulating Valve will be functioning properly. When stopping the dryer, shut off the heat and let the grain cool. (Turn off Ignition Switch and run fans for 15 to 20 minutes with cool air.) Shut off Hand Valve, Flip Valve, and Tank Valve on LP models. To restart, open Tank Valve, Flip Valve, turn on Ignition Switch, and gradually open Hand Valve. Remember to open Hand Valve gradually to prevent freeze ups.
13. 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.
14. 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 the first load from 30% to 12% moisture.
15. For safe bin storage, the grain is normally dried to 13% moisture. After one hour of drying on the first load, turn Moisture Control Switch to "Manual" position. This will engage Ratchet Solenoids and begin unloading the grain. When grain in cooling section has moved through and dried grain begins to auger out, test it for moisture content. If moisture content is too high, slow the unloading down. If moisture content is too low, speed unloading up.

16. To change the speed of unloading, a combination of two adjustments is available.
    A. By turning Variable Crank arm CLOCKWISE to SPEED UNLOADING and COUNTER CLOCKWISE TO SLOW UNLOADING. This is normally used for fine adjustment.

CAUTION:

Run through the complete cycle from fast to slow at least once every day when machine is being operated. This will keep all moving parts free. Do not put extreme pressure on belts. ADJUST VARIABLE SPEED PULLEY ONLY WHEN MACHINE IS OPERATING.

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 UNLOADING of the Feed Rolls. Moving it AWAY from the CENTER of the sprocket will INCREASE the stroke and SPEED UP the UNLOADING of the feed rolls. CAUTION: NEVER MAKE ADJUSTMENT ON SPROCKET UNTIL IT HAS COME TO A COMPLETE STOP.

Normal factory setting is for two teeth. When removing more than 10 points of moisture, it may require slowing down to one tooth. When removing less than 10 points of moisture, it may require speeding up to three or more teeth.

NOTE: Be careful not to run more grain out of the Feed Rolls than the Side Augers can carry away!

17. After your dryer is operating properly and is discharging grain at the desired moisture content for one hour, switch to "Automatic Moisture Control." Turn 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 Feed Roll operation. Most likely each moisture control will have a slightly different setting. Normally they will be set within the limits shown in the following chart.

APPROXIMATE SETTING FOR SHELLED CORN AND MOST SMALL GRAINS

Thermometer Setting	Set Control Dial At -----	To Get -- Percent Moisture
140°	3.5	13-14%
180°	4.0	14-15%
180°	4.5	13-15%
180°	5.0	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, suggested time to be 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 Moisture Control."

The speed of the Variable Drive should be fast enough to cause the Automatic Moisture Controls to operate intermittently but having the Feed 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.

18. 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 Note 13. This will give the grain remaining in the dryer time to become dried. Then turn Moisture Control Switch to Manual position. Allow about 30 minutes of drying time for high moisture grain (30%) and proportionately less for drier grain.
19. If you should accidently 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 hardened shear pins.
20. 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.
21. DRYING CHART

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

DIRECTIONS FOR TENSIONING BELT

SECONDARY DRIVE

Drive HP: 20.6
"RUN-IN" TENSION: 3/4" DEFLECTION with 32 Lbs. Pressure
NORMAL RUNNING TENSION AFTER 8 HOURS: 3/4" DEFLECTION with 24 Lbs. Pressure

PRIMARY DRIVE

Drive HP: 53.2
"RUN-IN" TENSION: 1/2" DEFLECTION with 64 Lbs. Pressure
NORMAL RUNNING TENSION AFTER 8 HOURS: 1/2" DEFLECTION w/48 Lbs. Pressure

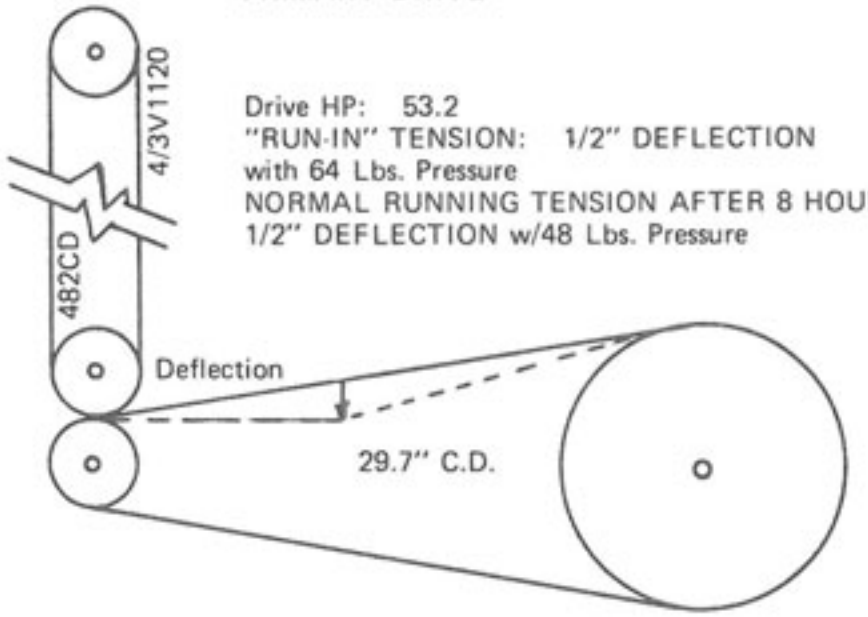


FIG. 1

INSTRUCTIONS FOR REPLACING POWERBAND BELT

1. Loosen adjusting and Jackshaft Bearing Bolts. Remove belt from Jackshaft Pulley.
2. Remove Idler Pulley located between belts—don't lose small bushings.
3. Loosen Jam Bolts and remove bearing bolts on cool Fan Shaft. Leave bearings on shaft.
4. Remove bolts holding Inner Bearing Bracket and rotate to clear floor supports.
5. Slide entire Cooling Fan assembly into Cooling Chamber while removing belt.
6. Remove bolts and shims (if any) from Front Bearing only on Heat Fan Shaft. If not enough clearance to remove belt under Bearing Housing, remove Bearing from shaft. *DO NOT* remove or loosen rear Bearing on Heat Fan Shaft.
7. Remove Old Belt and put on New Belt. Replace Bearing if removed. DO NOT replace shims until New Belt is on Cool Fan Shaft Pulley.
8. Bring New Belt down through Orifice Rings and place on Cool Fan Shaft Pulley. Be sure belt to Variable Speed is on small pulley, then put on power belt from Jackshaft.
9. Now put Shims under Outer Heat Fan Bearing, replace and tighten bolts.
10. Making sure Inner Bearing Bracket is forward of Floor Support Angles and in a horizontal position, put Bolts in Cool Fan Bearings, tighten and then lock Jam Bolts in position. Put in Idler Pulley—be sure to include the small bushings.
11. Tighten Drive Belt making sure pulley is in line with Fan Shaft Pulley.
12. NOW put in bolts holding Inner Bearing Bracket where it is. DO NOT Force Up, Down, or Sideways.

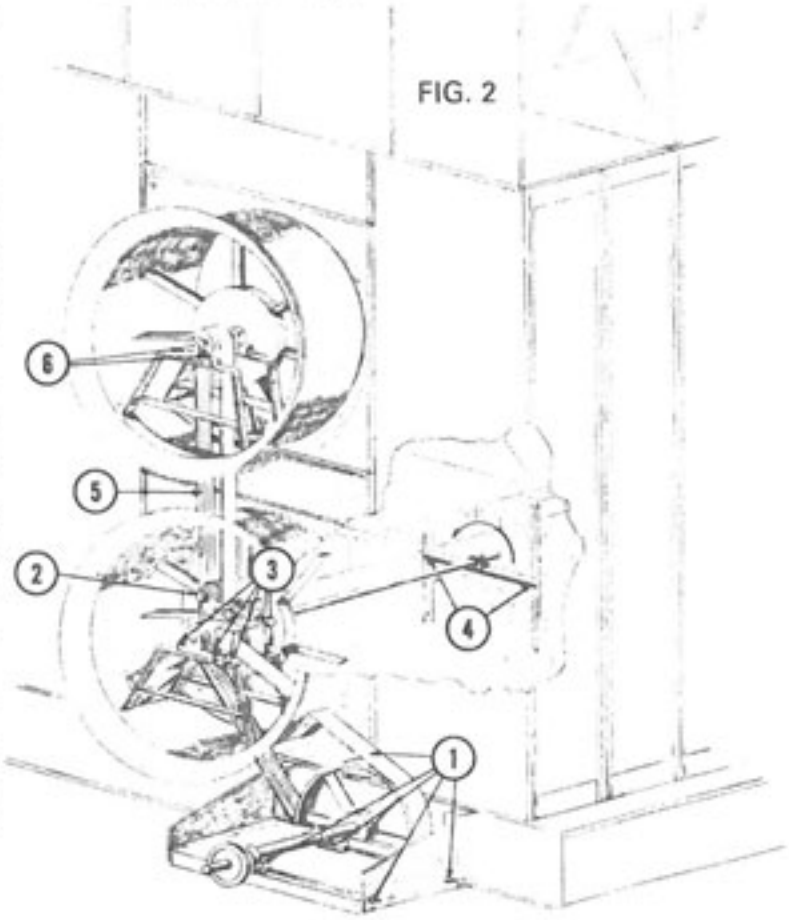


FIG. 2

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.

INSTRUCTIONS FOR CONVERTING B-10 TO BE-10

1. Order Kit No. 1239022. This kit includes power belt, motor pulley and bushing, and motor mount plate.
2. From another source purchase a 1700-1800 RPM "T" Frame motor and magnetic starter. Recommended motor size for Model 900, 50 horsepower; Model 600, 40 horsepower; Model 400, 30 horsepower.
3. Remove PTO Jackshaft, bearings, pulley and belt.
4. Remove Jackshaft base (part #1210262—See Page 28, Figure 25.) from dryer, turn upside down and reattach to dryer.
5. Mount motor and kits parts making sure the motor pulley is in line with the fan pulley.

OPERATION OF MACHINES EQUIPPED WITH DOUBLE RATCHETS

(Standard on Some Models—
Optional on Other Models)

1. The Inner Ratchet Pawls will be activated when:
   (A) The Automatic Moisture Control Toggle Switch is in the Manual position (Switch located on control panel).
   (B) When the Automatic Moisture Control Toggle Switch is in the "Automatic" position and the grain is dry enough to activate the "Automatic" Moisture Control Switch (On sides of dryer).
2. The Outer Ratchet Pawls engage only when the Automatic Moisture Control Toggle Switch (On control panel) is in the "Automatic" position.

NOTE: The Outer Ratchet Pawls are NOT operated by the Automatic Moisture Controls Switch (On sides of dryer).

3. The Inner and Outer Ratchet Pawls are disengaged when the Automatic Moisture Control Toggle Switch is in the "Off" position.
4. The Outer Ratchet Pawls are set to engage one less notch than the Inner Ratchet Pawl (When Inner Ratchet Pawls engage one notch, the Outer Ratchet Pawls engage none).
5. When drying extremely high moisture grain (Approximately 30% and higher) we recommend setting the Inner Ratchet Pawls to engage one notch per stroke. They are set at the factory for two.
6. The dryer operates at its best when the Inner Ratchet Pawls operate approximately 90% of the time. This will vary according to weather and grain conditions.
7. The Variable Speed Pulley will increase the speed of unloading by increasing the number of strokes per minute. Moving the crank from "Slow" to "Fast" is approximately equal to increasing the number of notches by one. This enables the operator to get a finer adjustment.
8. When cooling down the dryer, move the Toggle Switch to the "Off" position.

TROUBLE SHOOTING

PROBLEM	POSSIBLE CAUSE & SOLUTION
1. Lights do not work	(a) No electricity. Light bulbs burned out. (b) Fuse blown. (c) Broken or loose wire.
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)
3. Electric circuit out of order.	(a) Check circuit with wiring diagram furnished with instructions.
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 clock-wise. CAUTION: DO NOT adjust to point that light will stay on when fans are not running.
5. If flame does not light. (Fenwal Ignition)	(a) Electrodes not positioned in flame properly. (b) Electric Power not on. (c) 15 AMP fuse in plug, blown. (d) Machine not grounded. Connect 3 prong plug to 115V grounded service. (e) Gas not on. Mcdulating 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. (i) Broken wire from ignition board to electrodes. (j) Ignition board faulty—replace only.
6. Heat shuts off.	(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.
7. Not enough heat.	(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.
8. Gas lines frosting up.	(a) When first starting burner, open the Main Hand Valve only partially until the unit becomes warm. (b) Gas valve on tank not completely open. (c) Dirty strainer—clean. (d) Check gas line for leaks.
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.

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 ½ 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 ground.
   (3) The electrodes are shorted together.

NOTE

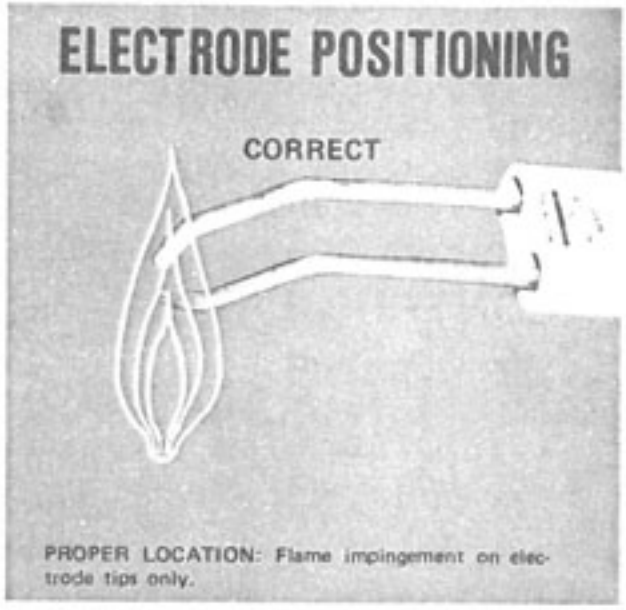
Recycle system before each test.

CAUTION

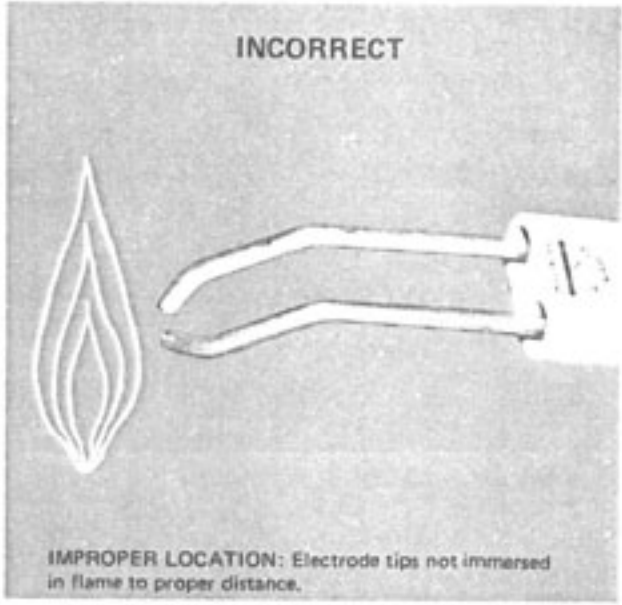
Use well insulated screwdriver for shorting electrodes.

REPAIRS

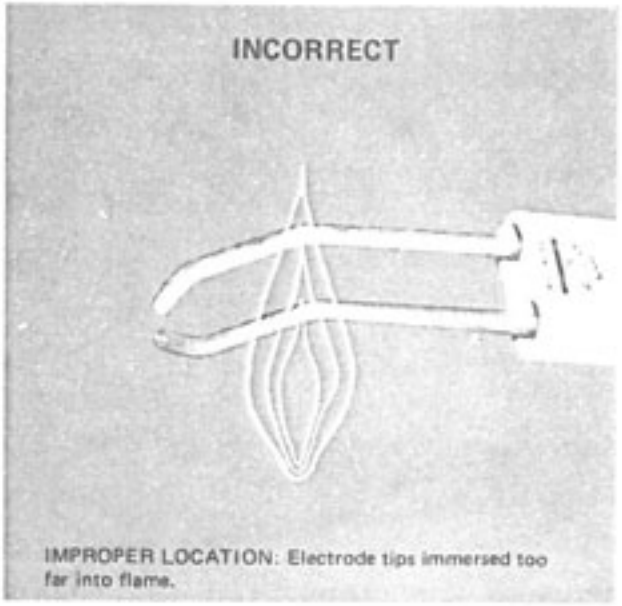
The Ignition System is not field repairable. Faulty units should be returned to the factory for repair or replacement.



PROPER LOCATION: Flame impingement on electrode tips only.



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



IMPROPER LOCATION: Electrode tips immersed too far into flame.

CONTROL PANEL – ELECTRIC AND GAS CONTROL

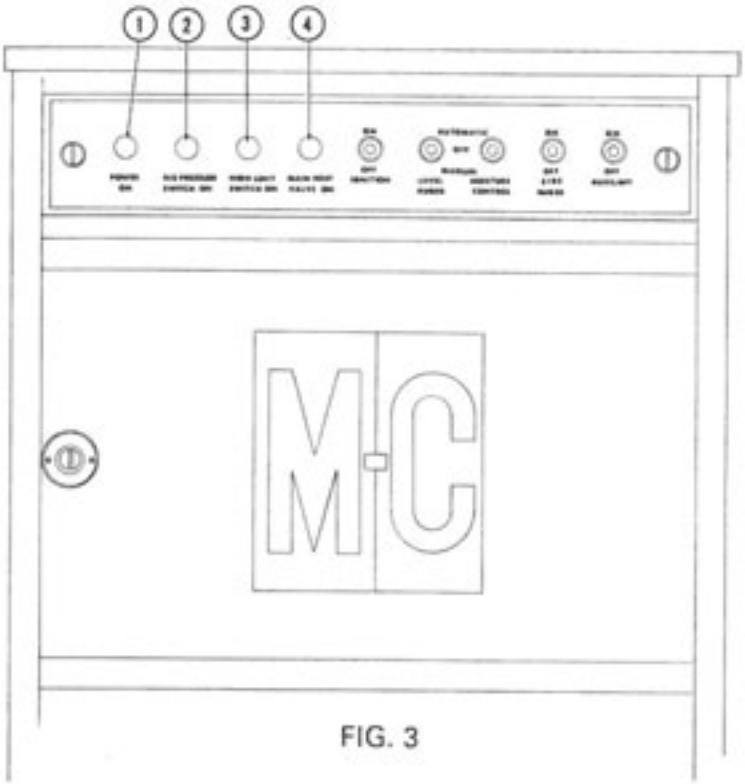


FIG. 3

The Control Panel Consists of temperature and safety controls. There are four lights wired in series with 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 ignition switch.)
No. 3 Lights when high limit control circuit is closed. This indicates the high limit temperature safety device is operating.
No. 4 Lights when Fenwal Ignition Switch is turned on and the electrodes are firing.

GAS FLOW & CONTROL
Natural Gas System

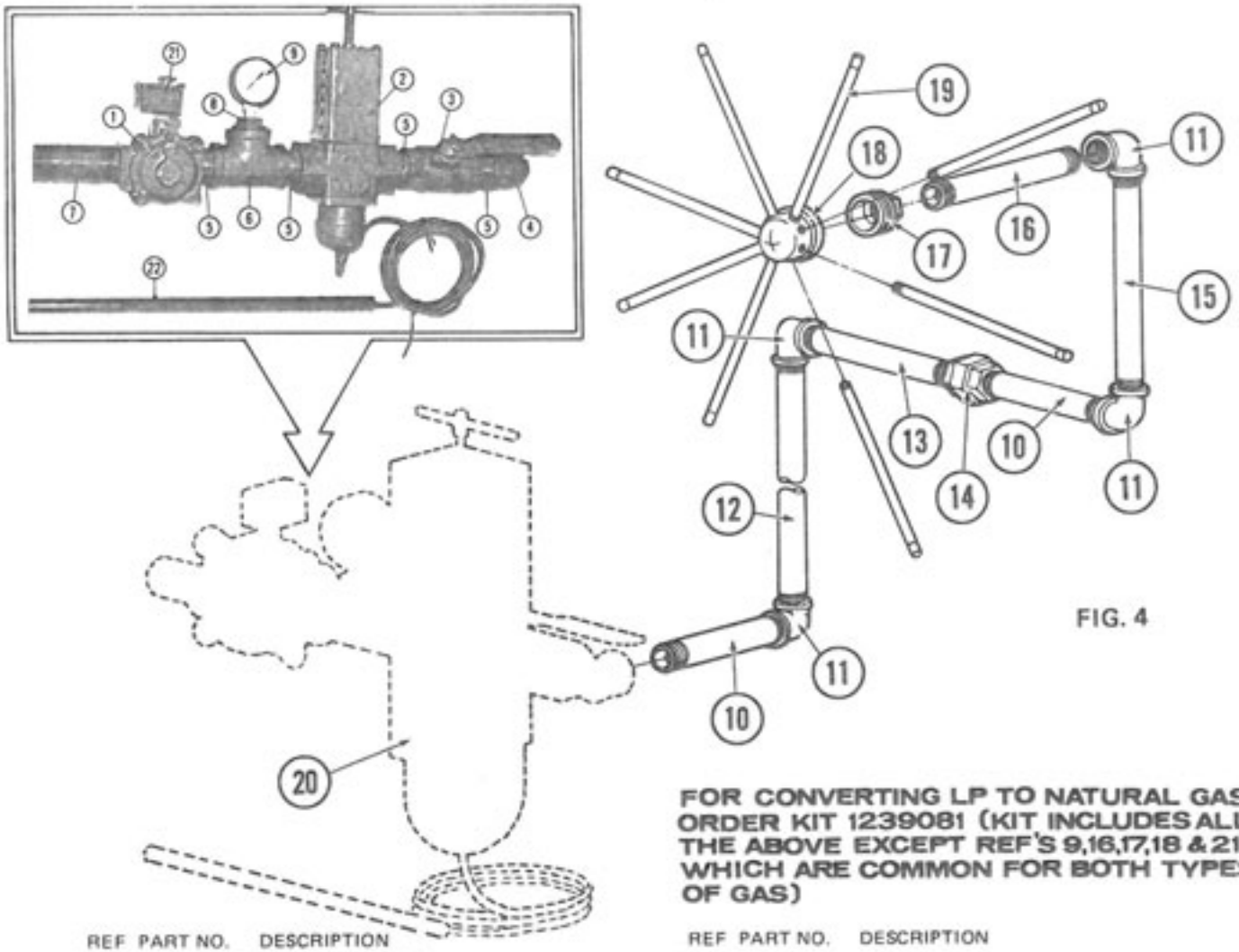


FIG. 4

REF	PART NO.	DESCRIPTION
1	1207006	Main Gas Hand Valve

REF	QTY	PART NO.	DESCRIPTION
1	1	1237000	Main Solenoid Valve
2	1	1237002	Modulating Valve
3	1	1237003	Main Hand Valve
4	1	1238051	1¼" 90 Degree Standard Elbow
5	4	1238069	1¼" Standard Close Nipple
6	1	1238057	1¼" Standard Tee
7	1	1238055	1¼" x 4 Standard Nipple
8	1	1238059	1¼" to ¼" Reducing Bushing
9	1	1207002	Gas Pressure Dial Gauge
10	2	1238065	1¼" x 14 Standard Pipe
11	4	1238051	1¼" 90 Degree Standard Elbow

FOR CONVERTING LP TO NATURAL GAS ORDER KIT 1239081 (KIT INCLUDES ALL THE ABOVE EXCEPT REF'S 9,16,17,18 & 21 WHICH ARE COMMON FOR BOTH TYPES OF GAS)

REF	PART NO.	DESCRIPTION

REF	QTY	PART NO	DESCRIPTION
12	1	1238054	1¼" x 22 Standard Pipe
13	1	1238073	1¼" x 6½ Standard Pipe
14	1	1238053	1¼" Standard Union
15	1	1238058	1¼" x 19½ Standard Pipe
16	1	1238065	1¼" x 14 Standard Pipe
17	1	1215738	Reducing Bushing
18	1	1215501	Burner Head
19	8	1235999	Natural Gas Burner Lead
20	1	1231010	Natural Gas Trumpet (Ref's 1-8)
21		1227011	Main Solenoid Replacement Coil
22		1227023	Modulating Valve Replacement Power Element

GAS FLOW & CONTROL
LP Gas System

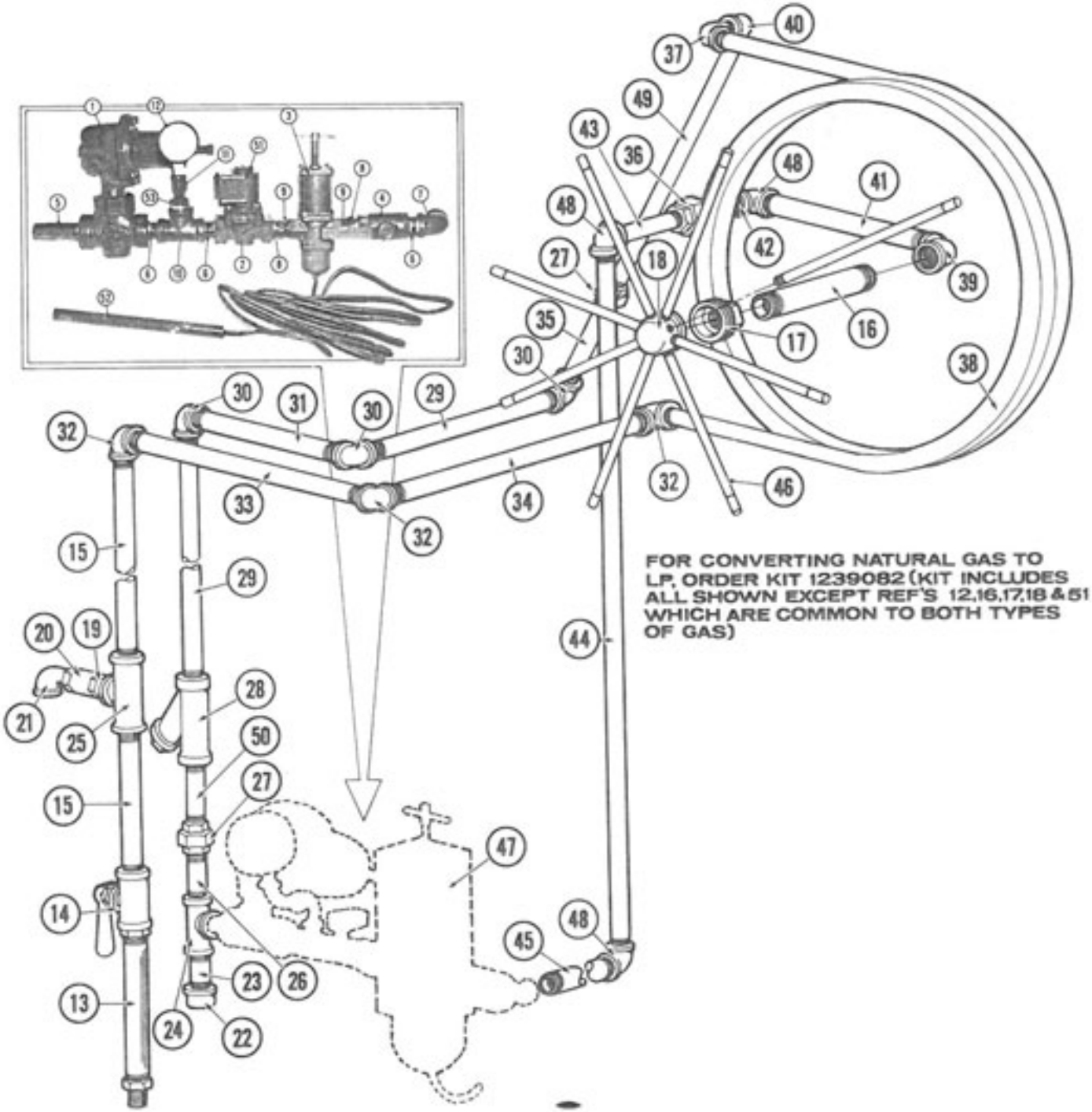
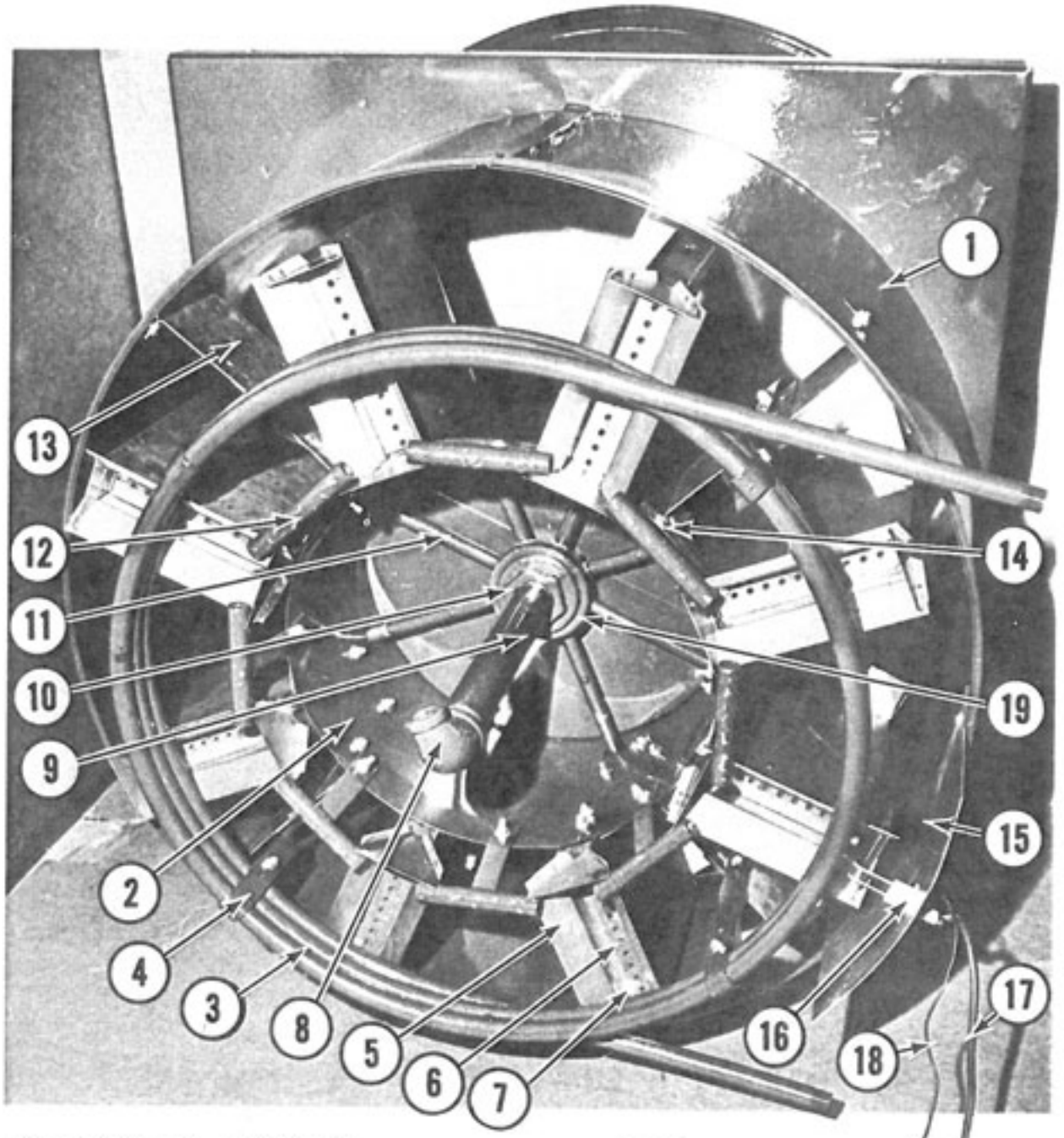


FIG. 5

REF	QTY	PART NO.	DESCRIPTION
1	1	1217006	Pressure Regulator
2	1	1217002	Main Solenoid Valve
3	1	1217012	Modulating Valve
4	1	1217011	Main Hand Valve
5	1	1218008	¾" x 3 Extra Heavy Nipple
6	3	1218007	¾" Standard Close Nipple
7	1	1218074	¾" 90 Degree Elbow
8	2	1218029	¾" to ½" Reducing Bushing
9	2	1218013	½"x 1⅛ Standard Close Nipple
10	1	1218070	¾" Standard Tee
11	1	1208038	¼" 90 Degree Standard Elbow
	1	1208026	¼" x 2 Standard Nipple
	1	1218039	¼" 90 Degree Standard Street Elbow
12	1	1207002	Gas Pressure Dial Gauge
13	1	1217005	½" Inlet Hose
14	1	1217015	½" Hand Valve (Flip Valve)
15	2	1218017	½" x 12 Extra Heavy Pipe
16	1	1238065	1¼" x 14 Standard Pipe
17	1	1215738	Reducing Bushing
18	1	1215501	Burner Head
19	1	1217014	Relief Valve Adapter
20	1	1217013	½" Relief Valve
21	1	1218071	½"90 Degree Extra Heavy Street Elbow
22	1	1218034	¾" Extra Heavy Cap
23	1	1218006	¾" x 2 Extra Heavy Pipe
24	1	1218031	¾" Extra Heavy Tee
25	1	1218035	½" Extra Heavy Tee
26	1	1218005	¾" x 1½ Extra Heavy Pipe

REF	QTY	PART NO.	DESCRIPTION
27	2	1218072	¾" Extra Heavy Union
28	1	1218060	¾" Extra Heavy Strainer
29	1	1218080	¾" x 20 Extra Heavy Pipe
30	3	1218027	¾" 90 Degree Extra Heavy Elbow
31	1	1218011	¾" x 17½ Extra Heavy Pipe
32	3	1218036	½" 90 Degree Extra Heavy Elbow
33	1	1218015	½" x 30 Extra Heavy Pipe
34	1	1218018	½" x 25 Extra Heavy Pipe
35	1	1218098	¾" x 5 Extra Heavy Pipe
36	1	1218028	¾" Standard Union
37	1	1218071	½" Extra Heavy Street Elbow 90 Degree
38	1	1210393	3-Coil Vaporizer
39	1	1238049	1¼" to ¾" 90 Degree Standard Reducing Elbow
40	1	1218032	¾" to ½" 90 Degree Extra Heavy Reducing Elbow
41	1	1218019	¾" x 20 Standard Pipe
42	1	1218077	¾" x 2 Standard Pipe
43	1	1218062	¾" x 8½ Standard Pipe
44	1	1218063	¾" x 44 Standard Pipe
45	1	1218076	¾" x 15 Standard Pipe
46	8	1215987	LP Gas Burner Lead
47	1	1211244	¾" LP Gas Trumpet (Ref's 1-11 and 53)
48	3	1218074	¾" 90 Degree Standard Elbow
49	1	1218009	¾" x 24¾ Extra Heavy Pipe
50	1	1258058	¾" x 2½ Extra Heavy Pipe
51		1227011	Main Solenoid Replacement Coil
52		1227022	Modulating Valve Replacement Power Element
53	1	1218030	¾" to¼" Reducing Bushing

LP TOP ORIFICE ASSEMBLY SHOWN



REF	QTY	PART NO.	DESCRIPTION
1	1	1210329	Top Orifice Weldment
2	1	1210322	Burner Tube Weldment
3	1	1210393	3-Coil Vaporizer Weldment
4	4	1254442	Vaporizer Mounting Bracket
5	8	1210327	Burner Unit Weldment
6	8	1215988	Face Plate Insert
7	16	0008261	¼ x 1 Hex Head Sheet Metal Screw
		1211241	Burner Unit Assembly (Ref's 5, 6, and 7)
8	1	1238049	1¼ to ¾ 90 Degree Reducing Elbow (Female)
9	1	1238065	1¼ x 14" Long Standard Pipe
10	1	1215738	Reducing Bushing
11	8	1215987	LP Gas Burner Lead
12	8	1210316	Ignition Tube Weldment
13	8	1214867	Air Chamber Mounting Bracket
14	8	1214468	Burner Locator Strip
15	1	1212640	Electrode Mounting Plate
16	1	1216926	Electrode
17	1	1215744	Ignition Wire
18	1	1215743	Secondary Ignition Wire
19	1	1215501	Burner Head

FIG. 6

WET HOLDING HOPPER ASSEMBLY

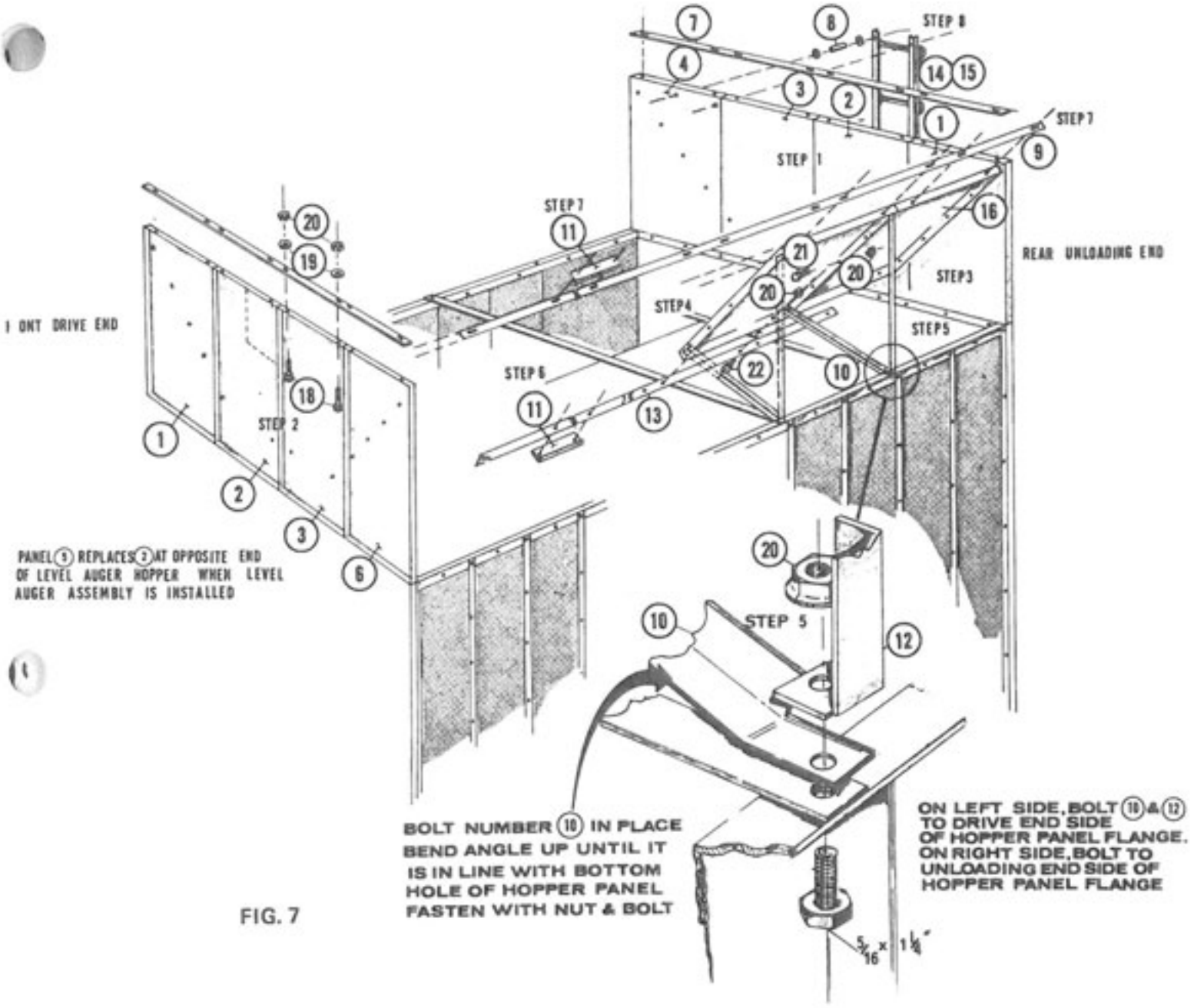


FIG. 7

REF	PART NO.	DESCRIPTION
1	1214807	Outside Front Hopper End Panel (4 Hole Left)
2	1214810	Hopper End Panel (1 Hole Left & Right)
3	1214810	Inside Hopper End Panel (1 Hole Right)
4	1214809	Right Rear Hopper End Ladder Panel
5	1204777	Hopper Level Switch Panel
6	1214808	Outside Front Hopper End Panel (4 Hole Right)
7	1202053	Hopper Stiffener (End)
8	1205410	Ladder Spacer
9	1202054	Hopper Stiffener (Side)
10	1212009	Hopper Brace
11	1212604	Hopper Side Stiffener Splice
12	1212010	Side Pahel Brace
13	1212603	Hopper Bottom Strip
14	1218979	7-1/2 Ft. Ladder
15	1208997	3 Ft. Ladder
16	1214843	Side Hopper Panel
17		
18		5/16-18 x 1 HHCS
19		5/16 Flat Washer
20		5/16-18 Whiz Nut
21		5/16-18 x 1/2 HHCS
22		5/16-18 x 3/4 HHCS

LEVEL AUGER ASSEMBLY

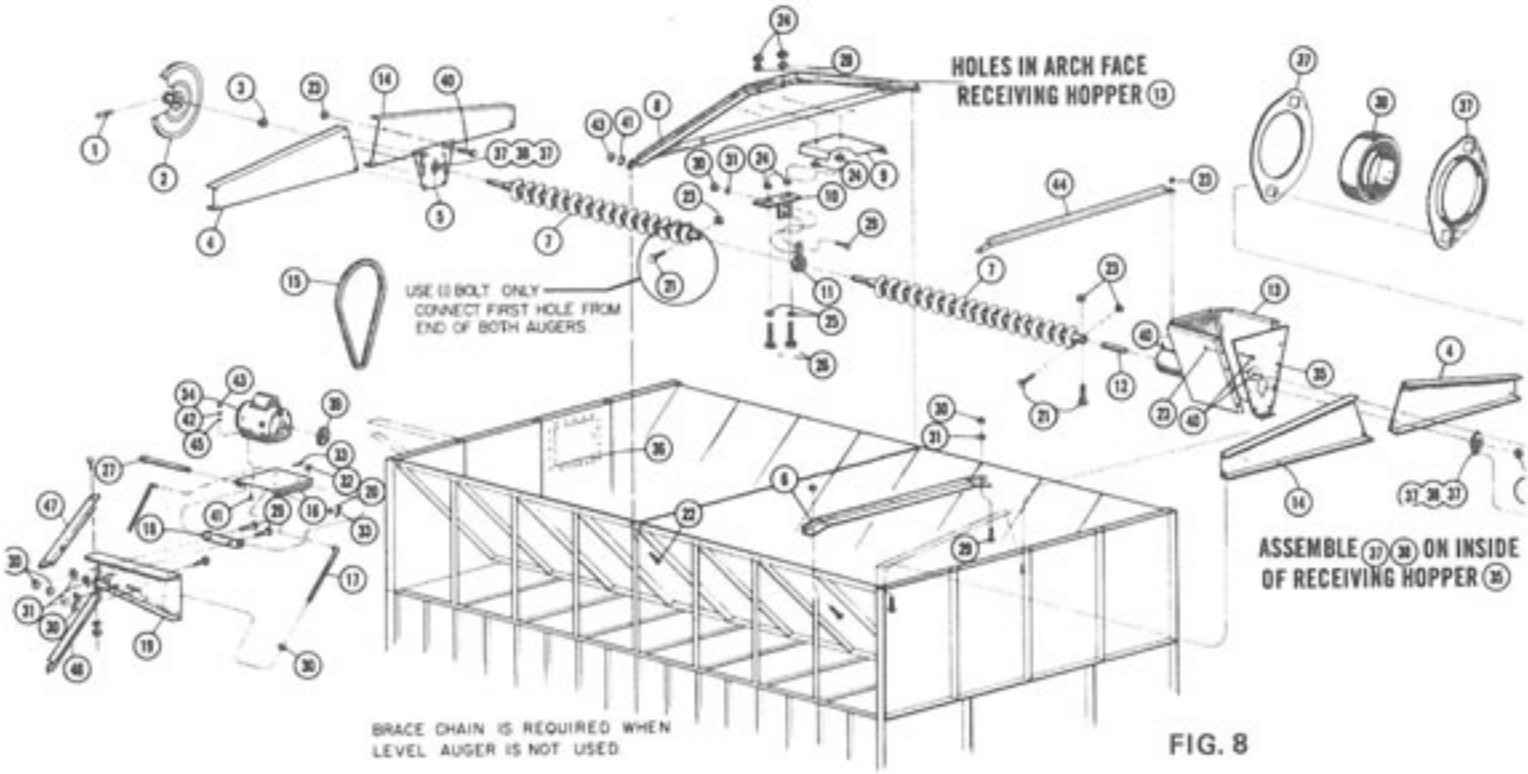


FIG. 8

REF	PART NO.	DESCRIPTION
1	0008259	5/16 x 1-3/4 Roll Pin
2	1206203	V-Pulley 16 O.D. x 1" Bore
3	1216221	V-Pulley 2B16 O.D. (900 Only)
	1216222	Bushing
3	0006004	1" Eccentric Lock Collar
4	1204875	Level Auger Left End Panel
5	1204440	Level Auger Bearing Bracket Plate
6	1203803	Level Auger Hopper Bearing Corner Brace
7	1200021	Level Auger Weldment 400
	1200010	Level Auger Weldment
	1210233	Level Auger Weldment 900-Drive End
8	1200012	Level Auger Cross Bridge Weldment
9	1204876	Level Auger Center Bearing Shield
10	1200016	Level Auger Center Bearings Hanger Weldment
11	1206001	Hanger Bearing x 1" Bore
12	1205039	Bolt In End Shaft
13	1200023	Level Auger Hopper Weldment
14	1204774	Level Auger Right End Panel
15	1216102	V-Belt 5L590
	1216112	Matched Pair 5L610 900 E & B-10
16	1204438	Level Auger Motor Mount
17	1205001	Level Auger Support Rod
18	1203404	Hinge Bracket
19	1204446	Motor Mount Bracket
20		1/2 Flat Washer
21		5/16-18 x 1-3/4 HHCS
22		5/16-18 x 1-1/2 HHCS
23		5/16-18 Lock Nut

REF	PART NO.	DESCRIPTION
24		1/2-13 Hex Nut
25		1/2-13 Flat Washer
26	0008161	1/2-13x3-1/2 HHCS
27	1205002	Motor Mount Hinge Pin
28		1/2 Lock Washer
29		3/8-16 x 3/4 HHCS
30		3/8-16 Hex Nut
31		3/8 Lock Washer
32		3/8 Flat Washer
33		1/8-Cotter Pin
34	1216845	1-1/2 H.P. 3 Phase Electric Motor
	1216846	1-1/2 H.P. 1 Phase Electric Motor
	1216861	2 H.P. 3 Phase Electric Motor 900 Only
	1216862	2 H.P. 1 Phase Electric Motor 900 Only
35	1204447	Hopper End Panel
36	1201011	Level Switch Assembly
37	0016009	1" Bearing Stamping
38	0016008	1" Bearing
39	1206202	Pulley 3.25 O.D. x 5/8 Bore
	1216223	Pulley (For 3 Phase Motor) 900 Only
	1216220	Pulley (For 1 Phase Motor) 900 Only
40		5/16-18 x 3/4 HHCS
41		5/16-18 x 3/4 HHCS
42		5/16 Lock Washer
43		5/16-18 Hex Nut
44	1203310	Hopper Brace
45		5/16 Flat Washer
46	1203311	Level Auger Motor Bracket Lower Brace
47	1203312	Level Auger Bracket Upper Brace

*NOTE: Ref. #9 mounts on top of Ref. #10. Assemble Ref.'s #37 and #38 on outside of Ref. #5.

HOPPER BOTTOM EXTENSION

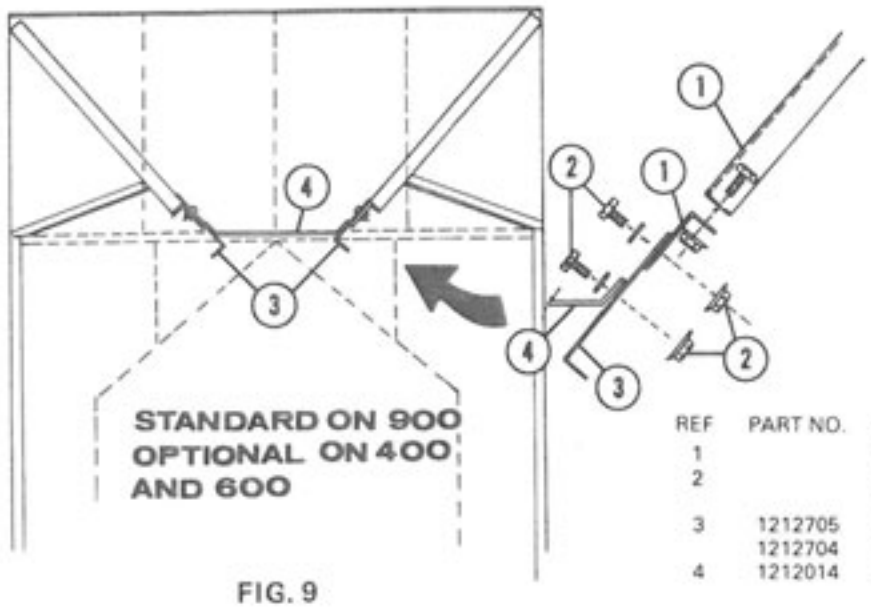
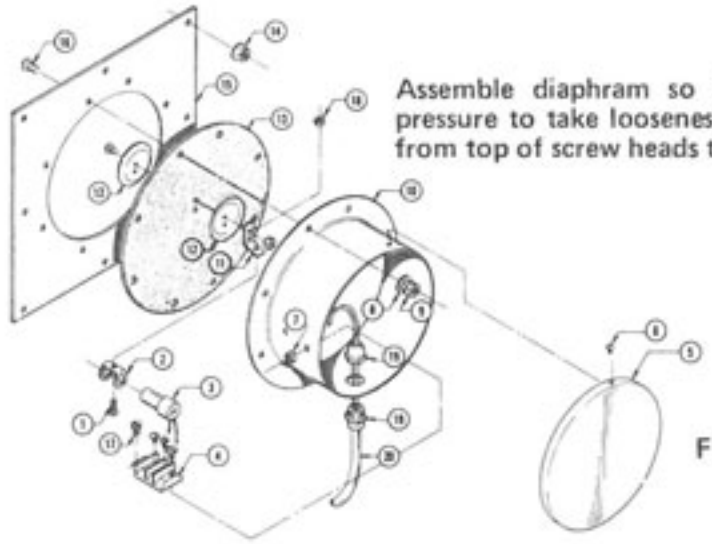


FIG. 9

REF	PART NO.	DESCRIPTION
1		Existing Hopper Parts
2		5/16-18 x 3/4 HHCS with Flat Washer and Whiz Nut
3	1212705	Hopper Extension 600-900 Model
	1212704	Hopper Extension 400 Model
4	1212014	Hopper Extension Brace (2 Braces Per 8' Panel)

ROUND LEVEL SWITCH ASSEMBLY 1201011



Assemble diaphram 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.

FIG. 10

REF	PART NO.	DESCRIPTION
1		6-32 x 1/4 Round Head Screw
2	1206801	Mercury Switch Mounting Clip
3	1206800	Mercury Switch (Cotton Covered Wire Only)
4	1206802	Terminal Block
5	1207981	Level Control Switch Housing Cover
6		#8 x 1/2 Sheet Metal Screw
7		#8-32 Hex Nut w/Lock Washer
8		1/4" Lock Washer
9		1/4-20 Hex Nut
10	1205201	Level Control Switch Housing
11	1202946	Mercury Switch Mounting Bracket
12	1205200	Mercury Switch Bracket Installation Washer
13	1208996	Level Control Diaphram
14		5/16-18 Whiz Nut
15	1202833	Level Control Switch Back Plate
16		1/4-20 x 1/2 Round Head Screw
17		8-32 x 5/8 Screw
18		6-32 Hex Nut
19	1216893	Connector
20	1216920	Cable

AUTOMATIC MOISTURE CONTROL ASSEMBLY

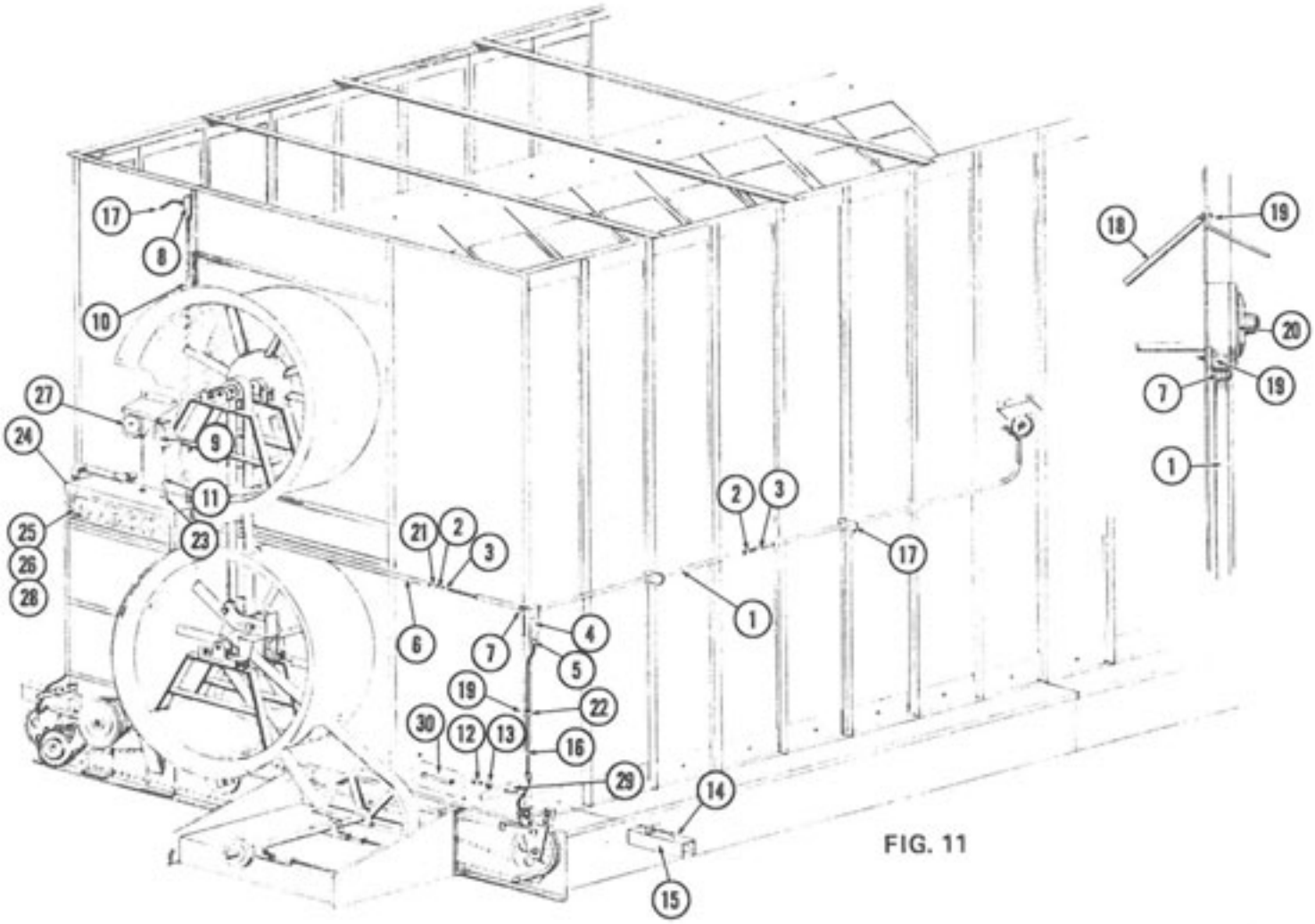
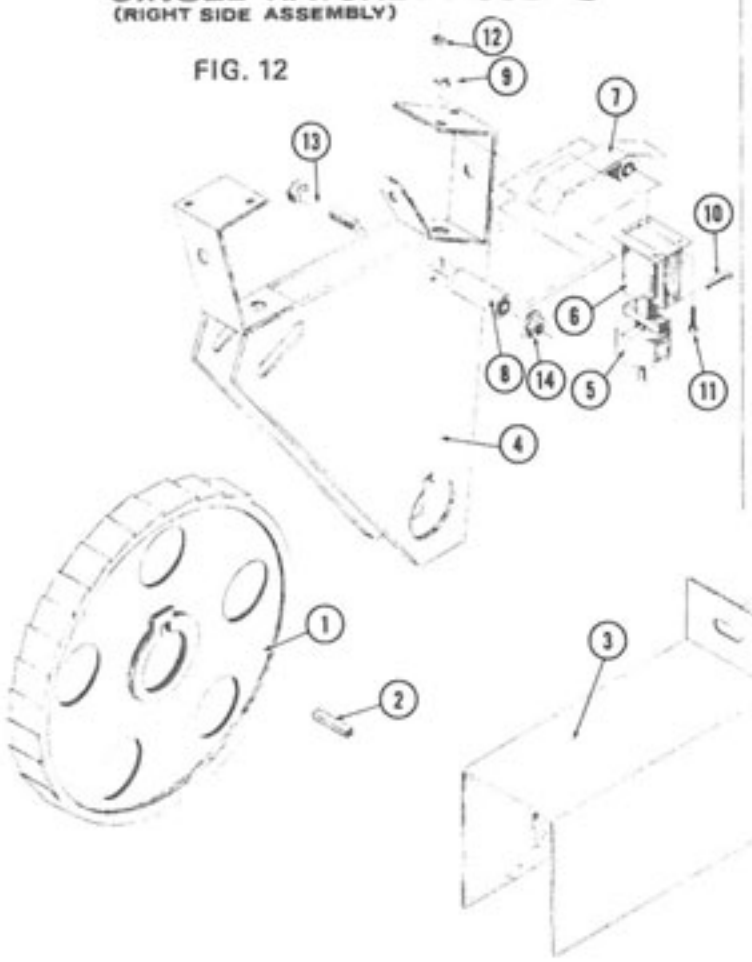


FIG. 11

REF	PART NO.	DESCRIPTION
1		1/2" Conduit 104" Long
2		#18 Electrical Wire-Pink 104" Long (Right Side)
2		#18 Electrical Wire-Brown 104" Long (Left Side)
3		#18 Electrical Wire-Yellow 104" Long (Right Side)
3		#18 Electrical Wire-Orange 104" Long (Left Side)
4	1216801	1/2" Condulet Fitting-Left
5	1216898	3/4" Flex. Conduit Connector
6		1/2" Conduit 75" Long
7	1216892	1/2" Straight Conduit Connector
8	1216883	1/2" Killarc Box "T"
9	1217018	High Limit Switch
10		1/2" Conduit 38" Long
11		1/2" Watertight Flexible Conduit 8-1/2" Long
12		5/16-18 x 3/4 HHCS
13		5/16 Flat Washer
14		5/16-18 Whiz Nut
15	1210348	Solenoid Cover Weldment
16		2-Conduit Cable 48" Long
17	1212004	Conduit Brackets
18	1210031	Thermoswitch Shield Weldment
19		#8 x 1/2 Long Sheet Metal Screw
20	1216851	Thermoswitch
21		#14 Electrical Wire-White 12' Long
22	1216859	Jiffy Clip
23		1/2" Watertight Connector
24	1216800	1/2" Condulet Right
25	1226809	Lamp Base Socket Only—Lamp Comp.
26	1226810	NE 51 H Neon Lamp—1216808
27	1218973	Thermometer
28	1226800	Plastic Lamp Cover For Neon Lamp (Control Cabinet)
29	1212057	Lower Front Guard Hanger
30	1211260	Clean Out Door

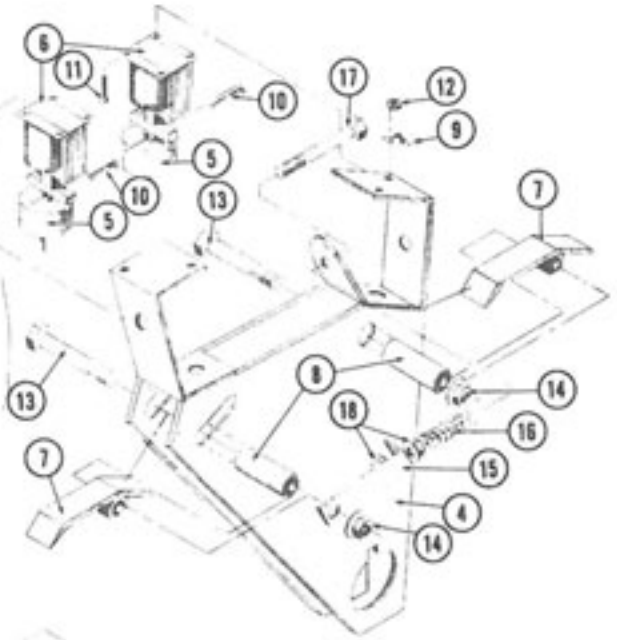
SINGLE RATCHET ASSEMBLY
(RIGHT SIDE ASSEMBLY)

FIG. 12



DOUBLE RATCHET ASSEMBLY
(RIGHT SIDE ASSEMBLY)

FIG. 12A



NOTE. RATCHET GUARD IS MOUNTED BACKWARDS FOR SHIPPING, REVERSE WHEN INSTALLING DRYER

SINGLE RATCHET ASSEMBLY

REF	PART NO	DESCRIPTION
1	1216404	Ratchet Wheel
2	0015115	1/4 sq. x 7/8 Key
3	1210348	Ratchet Guard Weldment
4	1210326	Double Ratchet Arm Weldment
5	1210029	Solenoid Weight Weldment
6	1216856	Ratchet Solenoid
7	1215724	Ratchet Dog
8	1215571	Ratchet Dog Bushing
9	1216859	1/4" Jiffy Clip
10		1/8 x 3/4 Cotter Key
11		6-32 x 1/2 Round Head Screw
12		6-32 Hex Nut
13		5/16-18 x 1-1/2 HHCS
14		5/16-18 Whiz Nut

DOUBLE RATCHET ASSEMBLY

REF	PART NO.	DESCRIPTION
1	1216404	Ratchet Wheel
2	0015115	1/4 sq. x 7/8 Key
3	1210348	Ratchet Guard Weldment
4	1210326	Double Ratchet Arm Weldment
5	1210029	Solenoid Weight Weldment
6	1216856	Ratchet Solenoid
7	1215724	Ratchet Dog
8	1215571	Ratchet Dog Bushing
9	1216859	1/4" Jiffy Clip
10		1/8 x 3/4 Cotter Key
11		6-32 x 1/2 Round Head Screw
12		6-32 Hex Nut
13		5/16-18 x 1-1/2 HHCS
14		5/16-18 Whiz Nut
15	1213357	Pivot Arm Slide
16	1218261	Double Ratchet Spring
17		1/4-20 x 2-1/2 HHCS
18		1/4-20 Whiz Nut

CROSS AUGER ASSEMBLY

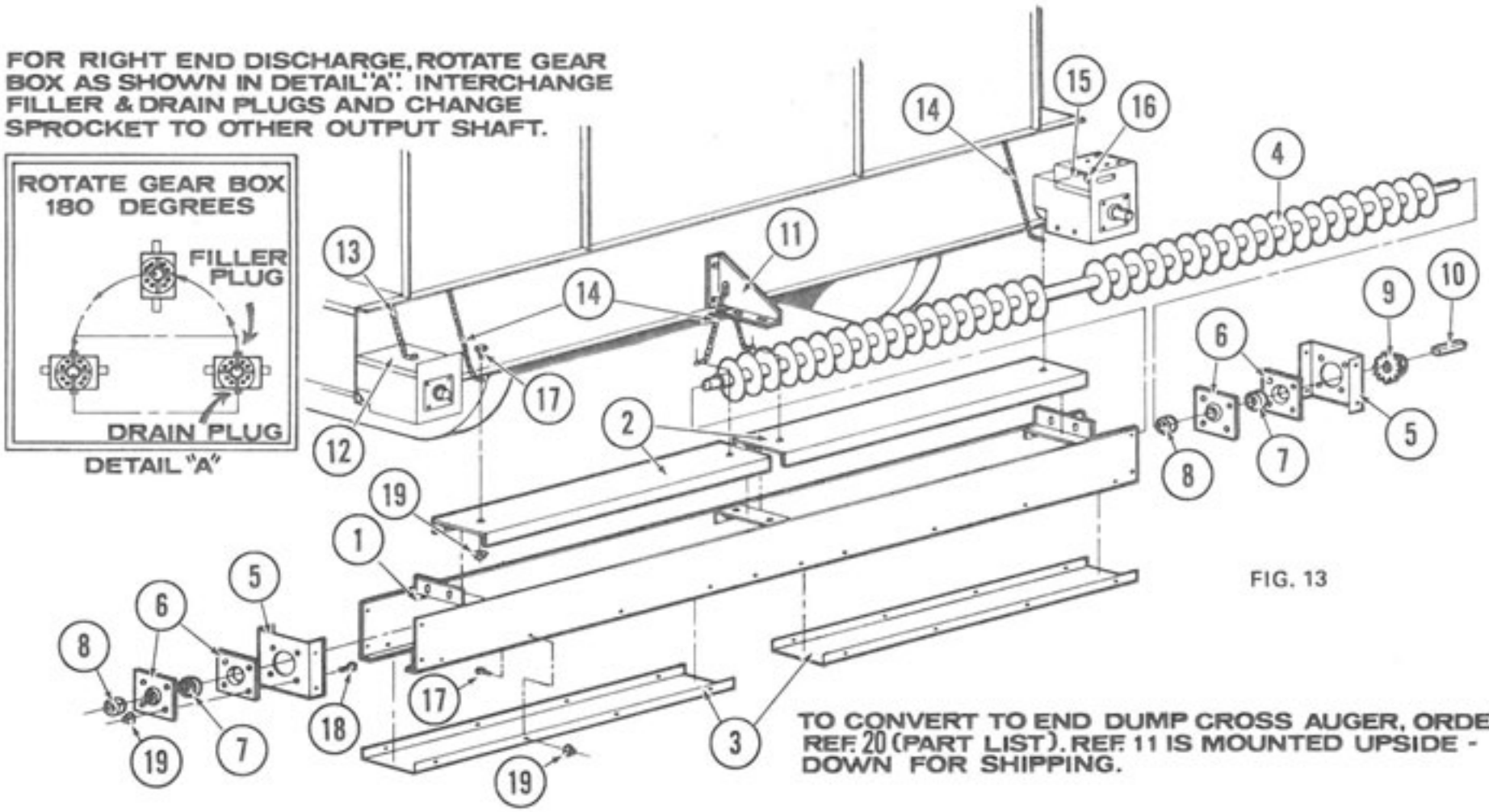


FIG. 13

REF	QTY	PART NO.	DESCRIPTION
1	1	1200014	Cross Auger Housing Weldment
2	2	1204768	Cross Auger Top Cover
3	2	1204771	Cross Auger Bottom
4	1	1200009	Center Dump Cross Auger Weldment
5	2	1204434	Cross Auger End Plate
6	4	1216006	Stamping Flange
7	2	0016003	1¼ Bore Bearing
8	2	1218974	Safety Lock Collar
9	1	1206400	RC 40 x 16T x 1¼ Bore Sprocket
10	1	0015116	¼ square x 1 Key

REF	QTY	PART NO.	DESCRIPTION
11	1	1204436	Cross Auger Center Brace
12	1	1214832	Side Auger Extension Housing Cover
13	1	1215992	Pop-Off Cover Chain x 9" Long
14	3	1215993	Pop-Off Cover Chain x 15" Long
15	1	1254789	Gear Box Side Extension Housing
16	1	1215991	Pop-Off Cover Chain x 4" Long
17	28	0008238	5/16-18 x ½ HHCS
18	8	0008106	5/16-18 x ¾ HHCS
19	36	0008169	5/16-18 Flanged Whiz Locknut
20		1230005	End Dump Cross Auger Weldment

3 BOLT GEAR BOX ASSEMBLY

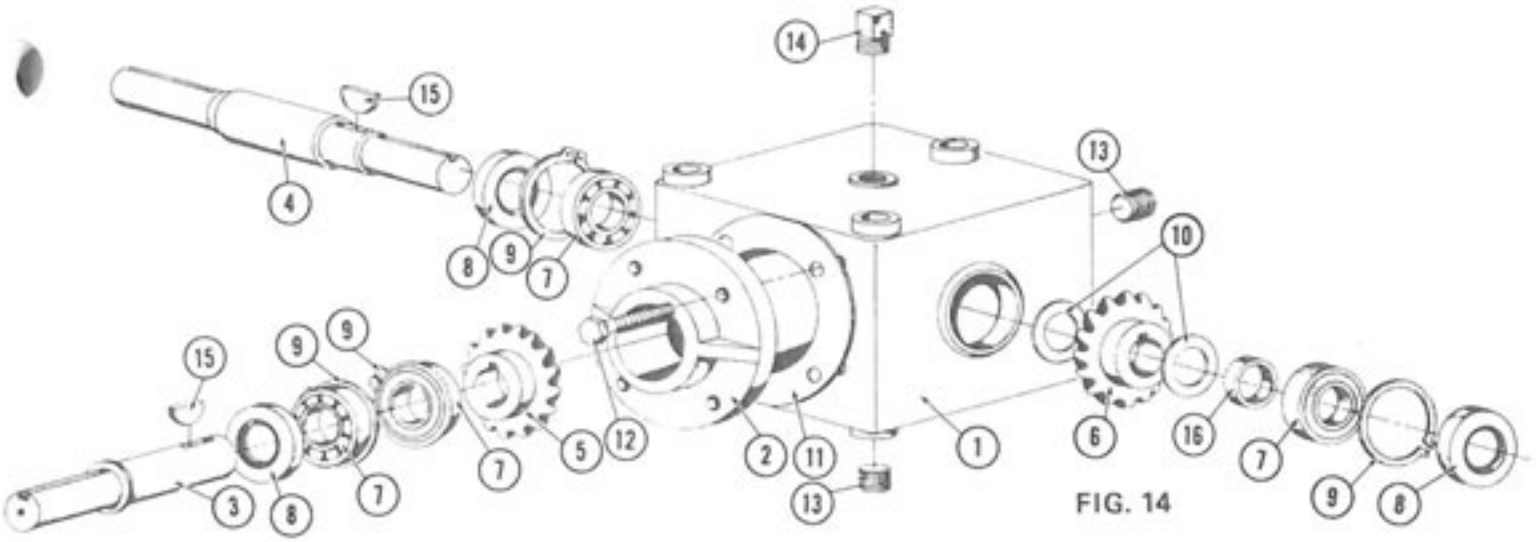


FIG. 14

REF	PART NO.	DESCRIPTION
1	1226632	Main Housing
2	1226626	Pinion Housing
3	1226627	Pinion Shaft
4	1226628	Gear Shaft
5	1226501	Pinion
6	1226502	Gear
7	1226005	Bearing
8	1228603	Seal
9	1226629	Snap Ring
10	1228604	Shims
11	1228605	Shims
12	1228100	1/4-20 NC x 3/4 Long Hex Capscrew
13	1228003	Pipe Plug
14	1228004	Breather Plug
15	1226630	Key
16	1226631	Spacer

4 BOLT GEAR BOX ASSEMBLY

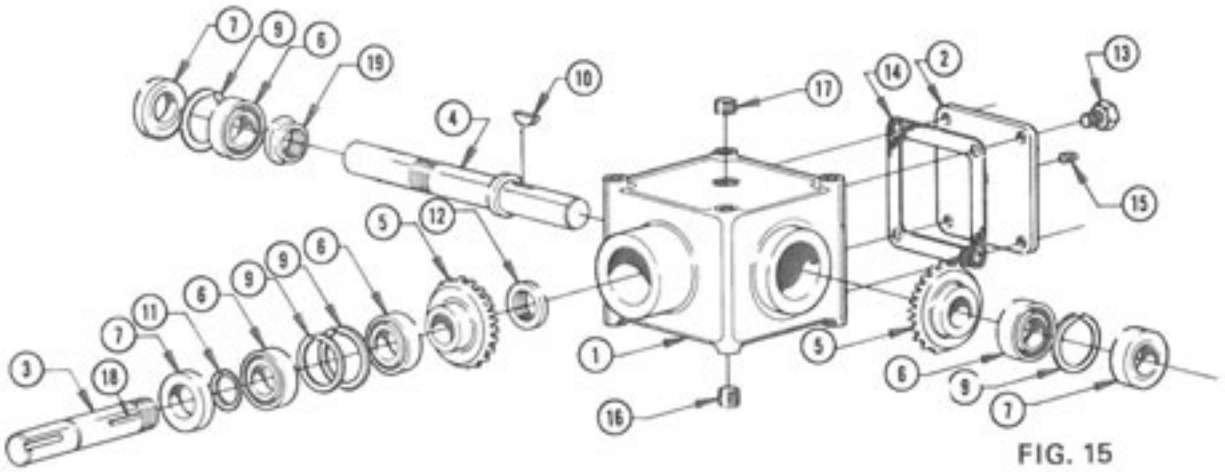


FIG. 15

REF	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
6	1226003	Bearing Cone
	1226004	Bearing Cup
7	1228600	Output-Input Shaft Seal
9	1228251	Snap Ring
10	1228254	Woodruff Key
11	1228250	Snap Ring
12	1228256	Stake Nut-(Input)
13		Cap Screw
14	1228602	Gasket
15	1228000	Level Plug
16	1228001	Drain Plug
17	1228002	Vent Plug
18	1228253	J41 Key
19	1228255	Stake Nut—(Output)

4-BOLT CROSS AUGER DRIVE ASSEMBLY

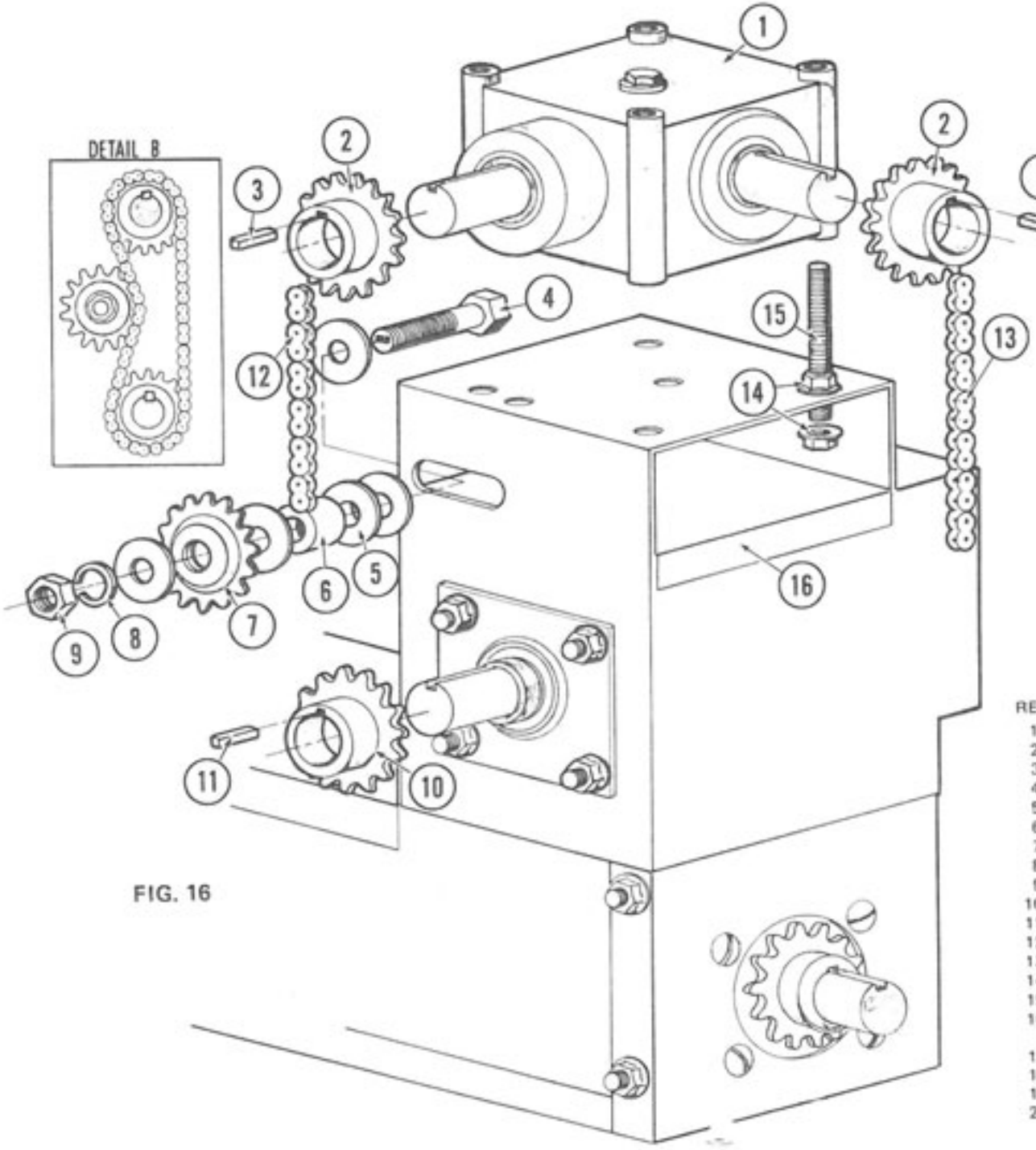
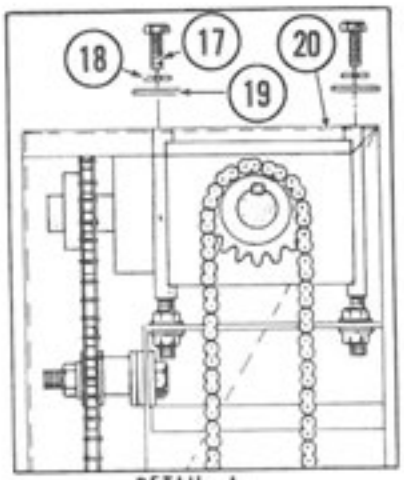


FIG. 16

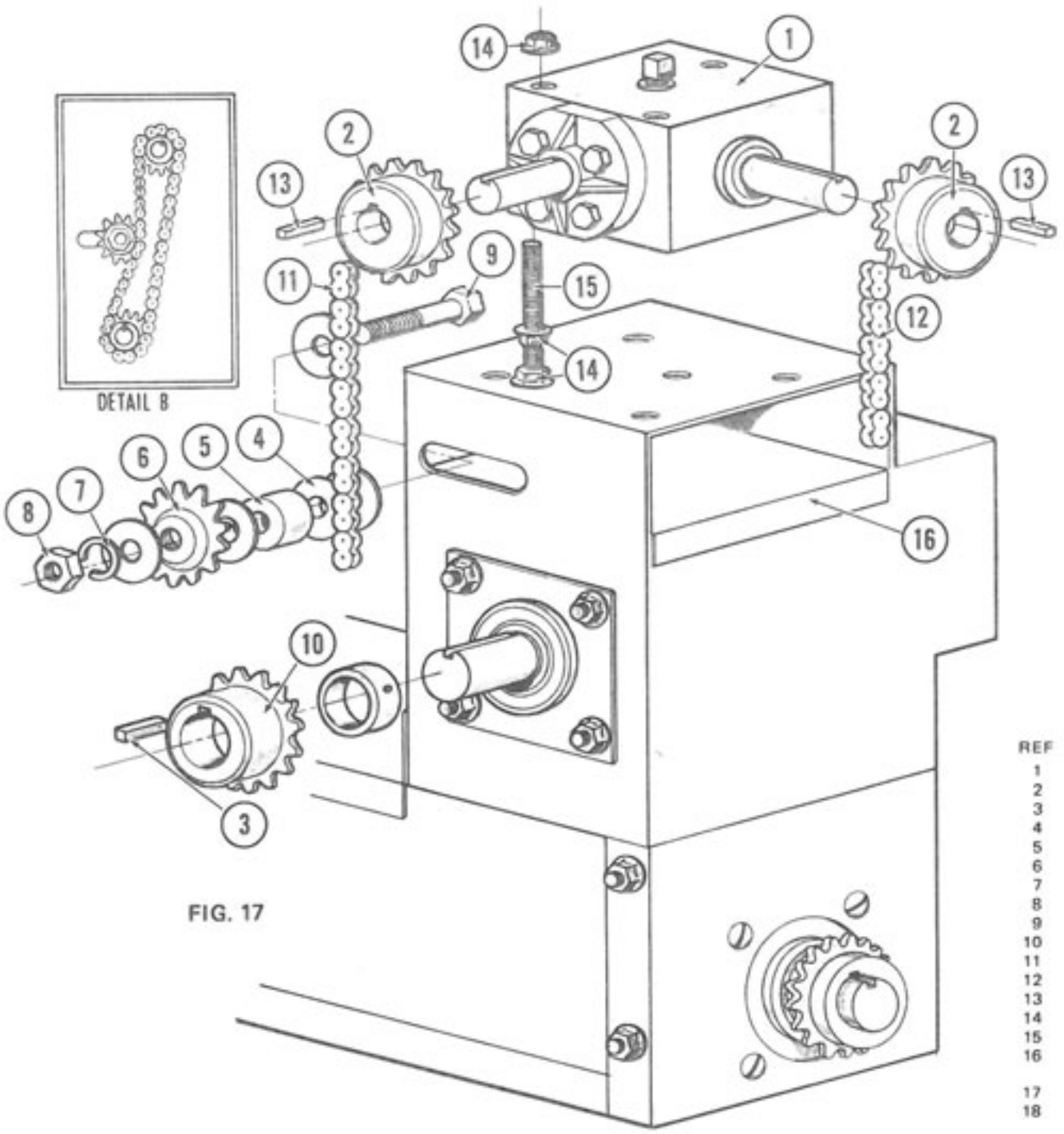


DETAIL A

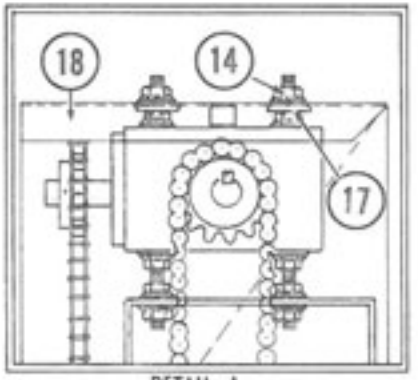
DETAIL "A" SHOWS INSTALLATION OF CHAIN GUARD 1210351. DETAIL "B" SHOWS PROPER USE OF CHAIN IDLER.
NOTE: CHECK GEAR BOX ROTATION TO INSURE THAT THE CROSS AUGER IS TURNING IN PROPER DIRECTION OF DISCHARGE OPENING.

REF	PART NO.	DESCRIPTION
1	1216605	4-Bolt Gear Box
2	1216405	RC-40 16T x 1 Bore Sprocket
3	0015116	¼ Square x 1 Key
4	0008151	5/8-11 x 3½ HHCS
5	0008176	5/8 Flat Washer
6	0018979	Idler Spacer
7	1216403	Idler Sprocket x 5/8 Bore
8	0008181	5/8 Lock Washer
9	0008164	5/8-11 Hex Nut
10	1206400	RC-40 16T x 1¼ Bore Sprocket
11	0015116	¼ Square x 1 Key
12	1216312	74 Pitch Chain
13	1216311	48 Pitch Cahin
14	0008168	3/8-16 Whiz Lock Nut
15	1218133	3/8-16 x 2½ Full Threaded Stud
16	1254789	Gear Box Side Extension Housing Cover
17	0008119	3/8-16 x ¾ HHCS
18	0008179	3/8 Lock Washer
19	0008174	3/8 Flat Washer
20	1210351	Cross Auger Chain Guard

3-BOLT CROSS AUGER DRIVE ASSEMBLY



DETAIL B



DETAIL A

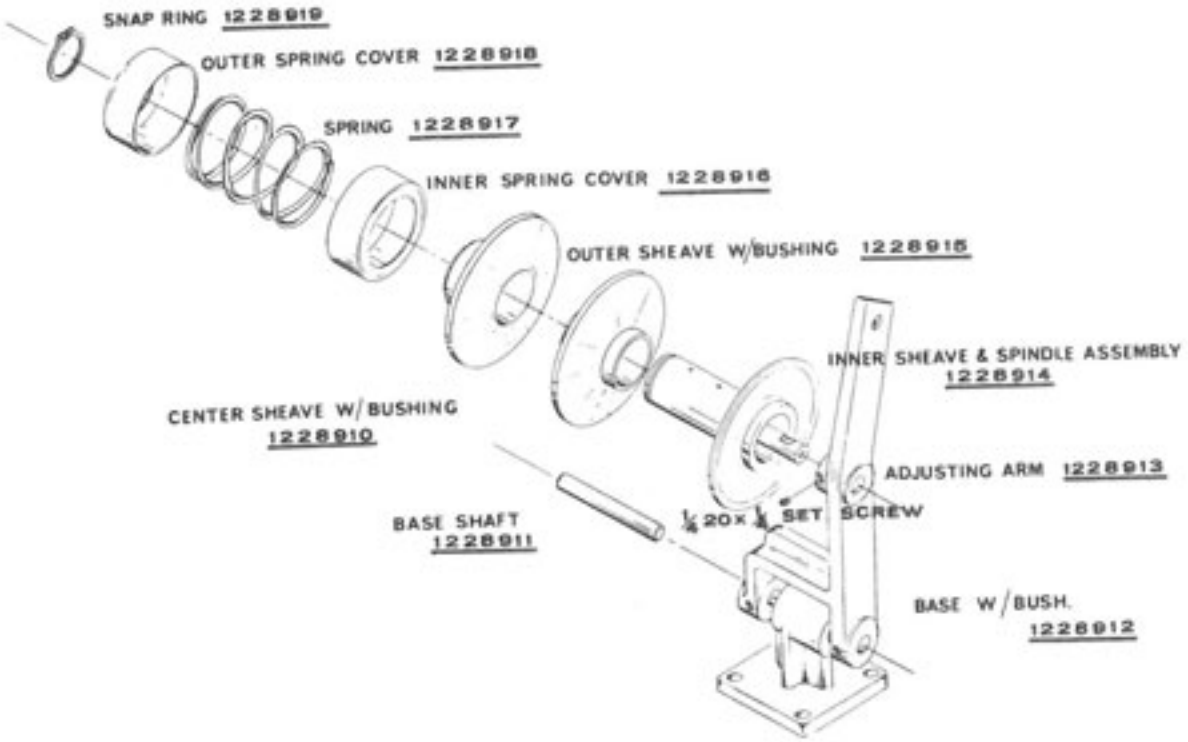
FIG. 17

DETAIL "A" SHOWS INSTALLATION OF CHAIN GUARD 1210351. DETAIL "B" SHOWS PROPER USE OF CHAIN IDLER.
NOTE: CHECK GEAR BOX ROTATION TO INSURE THE CROSS AUGER IS TURNING IN PROPER DIRECTION OF DISCHARGE OPENING.

REF	PART NO.	DESCRIPTION
1	1216605	3-Bolt Gear Box
2	1216406	RC-40 16T x 5/8 Bore Sprocket
3	0015116	¼ Square x 1 Key
4	0008176	5/8 Flat Washer
5	0018979	Idler Spacer
6	1216403	Idler Sprocket x 5/8 Bore
7	0008181	5/8 Lock Washer
8	0008164	5/8-11 Hex Nut
9	0008151	5/8-11 x 3½ HHCS
10	1206400	RC-40 16T x 1¼ Bore Sprocket
11	1216312	74 Pitch Chain
12	1216311	48 Pitch Chain
13	0015110	3/16 Square x 1 Key
14	0008169	5/16-18 Whiz Lock Nut
15	1218116	5/16-18 x 5½ Full Threaded Stud
16	1254789	Gear Box Side Extension Housing Cover
17	0008173	5/16 Flat Washer
18	1210351	Cross Auger Chain Guard

VARIABLE SPEED ASSEMBLY

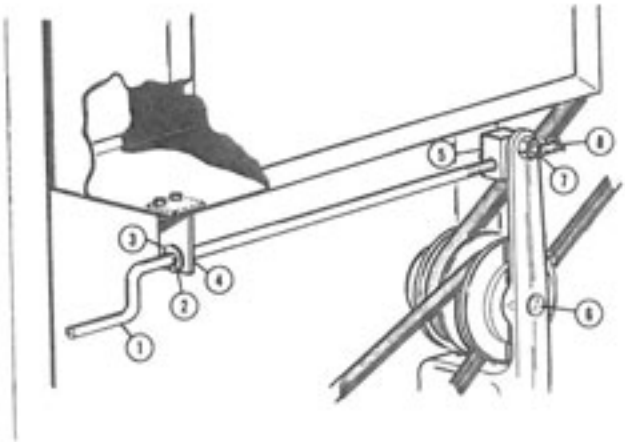
FIG. 18



All B10 Models have been manufactured with either a Speed Selector or a Maurey Variable Speed Assembly.

VARIABLE DRIVE ARM ASSEMBLY

1211129 FIG. 19



REF	PART NO.	DESCRIPTION
1	1215193	Variable Drive Crank
2	1218102	Roll Pin 1/4 x 1-1/2
3		5/8 Flat Washer
4	1210333	Variable Speed Mounting Bracket B-10 Models
5	1215190	Variable Crank Nut
6	1216600	Variable Speed Assembly
7		1/2-13 x 2 HHCS w/Nut
8		1/8 x 1 Cotter Pin

TRACTOR PTO ASSEMBLY
NUMBER 0016600

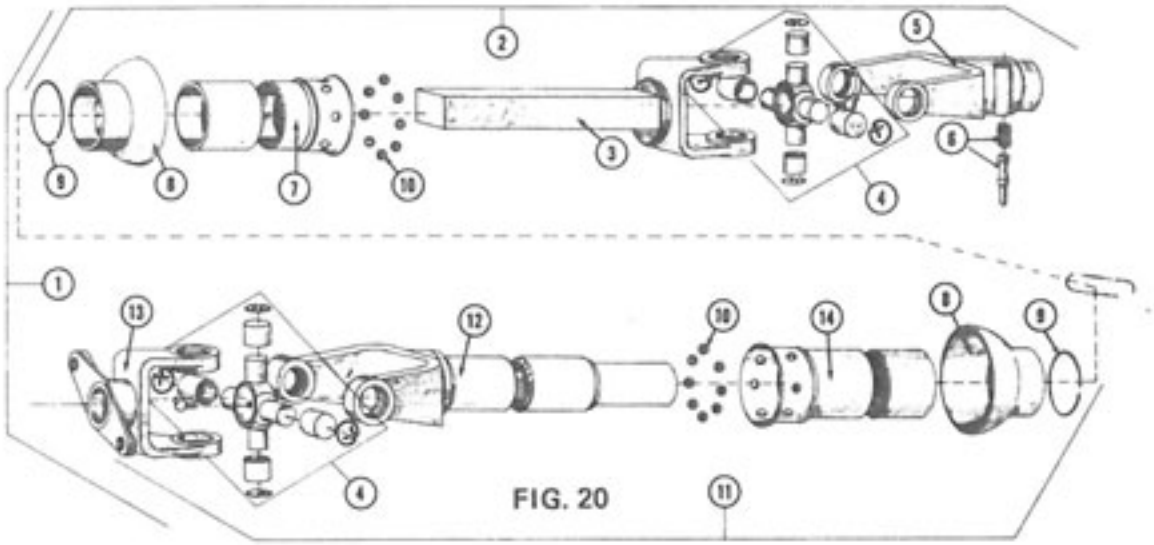


FIG. 20

REF	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 Flange
12	0026622	Female Shaft & Yoke Weldment
13	0027652	Flange Yoke 1-1/4 Bore
14	0026623	Male Guard Tube

B10 JACKSHAFT ASSEMBLY

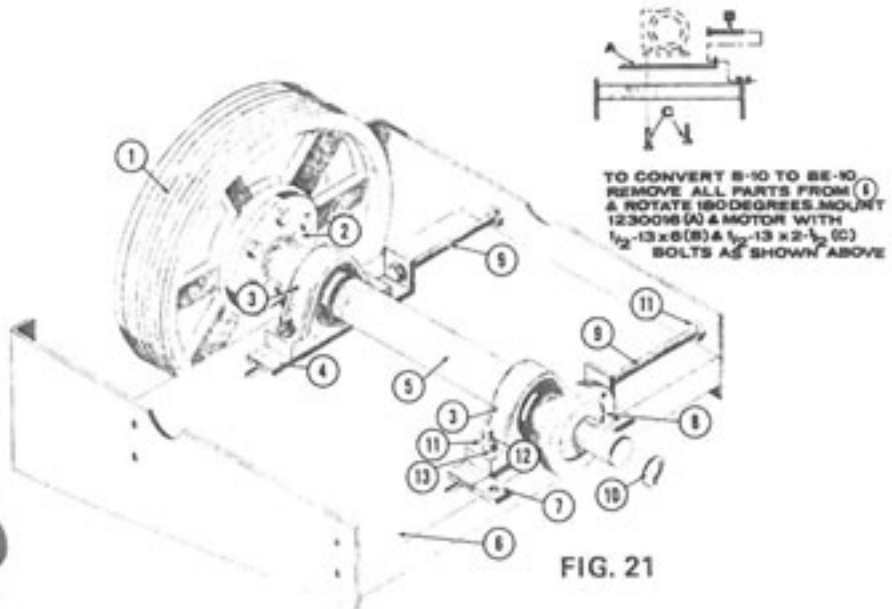


FIG. 21

REF	PART NO.	DESCRIPTION
1	1216225	Ultra-V Sheave 3V19.0-8
2	1216226	E-Bushing x 1-5/8 Bore
3	1216003	Bearing x 1-5/8 Bore
4	1213550	PTO Drive Adjustment Bar
5	1215082	B-10 Jackshaft
6	1210262	Jackshaft Base Weldment
7	1210261	Front Adjusting Bar Weldment PTO
8	0017650	Shear Flange x 1-1/4 Bore
9	1208160	1/2-13 x 12 HHCS Full Thread
10	0018250	Jackshaft Snap Ring
11		1/2-13 Whiz Nut
12		1/2-13 x 2-1/2 HHCS
13		1/2 Flat Washer

COOL FAN ASSEMBLY

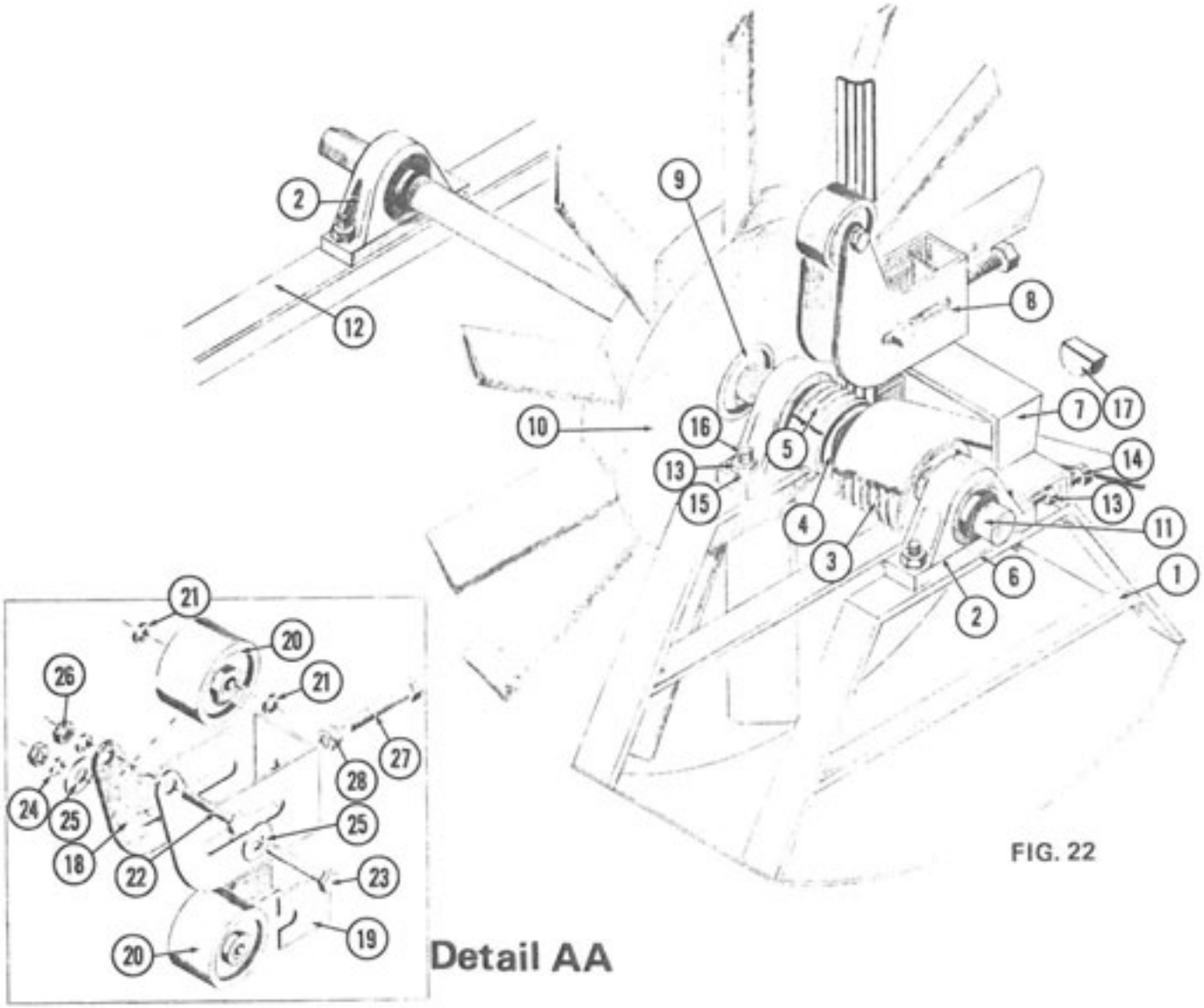


FIG. 22

Detail AA

REF	PART NO.	DESCRIPTION
1	1210257	Cool Fan Pedestal Weldment
2	1216003	1-5/8 Bore Bearing
3	1206215	3V5.9 V-Pulley 8-Groove
	1206216	SK 1-5/8 Bushing For 1206215
4	1206218	1B4.4 x 1-5/8 Bore Pulley
5	0016203	3V6.0 V-Pulley 4-Groove
	1206220	SDS 1-5/8 Bushing For 0016203
6	1212637	Shim (As Needed)
7	1210297	Dual Idler Mounting Bracket
8	1211109	Dual Idler Assembly (See Detail AA)
9	1216229	SK 1-5/8 Bushing
10	1210272	9-Blade Fan 400 & 600
	1210271	12-Blade Fan 900
11	1215072	Fan Shaft
12	1213354	Drive Shaft Bearing Brace
13		1/2-13 Whiz Nut

REF	PART NO.	DESCRIPTION
14	0008161	1/2-13 x 3-1/2 HHCS
15		1/2 Flat Washer
16		1/2-13 x 2-1/2 HHCS
17	0018998	Woodruff Key
18	1210298	Dual Idler Weldment
19	1213345	Idler Pulley Adjusting Bracket
20	0016201	Flat Back Idler w/Bearing
21	1217600	Idler Pulley Bushing
22		5/8-11 x 3-1/4 HHCS
23		5/8-11 x 3-1/2 HHCS
24		5/8 Lock Washer
25		5/8 Flat Washer
26		5/8-11 Hex Nut
27		1/2-13 x 4-1/2 HHCS—Full Thread
28		1/2-13 Hex Nut

HEAT FAN ASSEMBLY

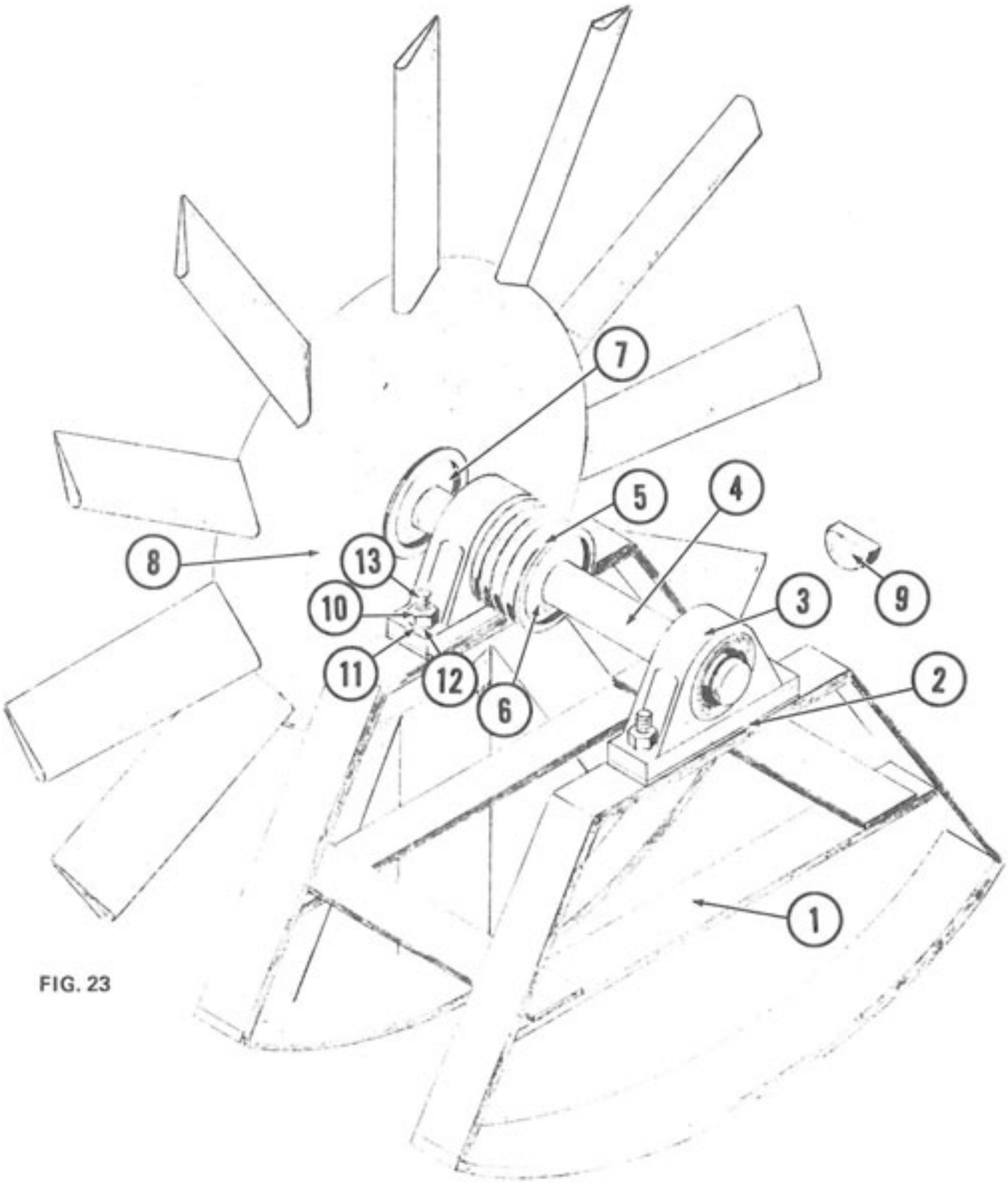


FIG. 23

REF	PART NO.	DESCRIPTION
1	1210256	Heat Fan Pedestal Weldment
2	1212637	Shim (As Needed)
3	1216003	1-5/8 Bore Bearing
4	1215073	Fan Shaft
5	0016203	3V6.0 V-Pulley 4-Groove
6	1206220	SDS Bushing 1-5/8 Bore
7	1216229	SK 1-5/8 Bushing

REF	PART NO.	DESCRIPTION
8	1210272	9-Blade Fan 400
	1210271	12-Blade Fan 600 & 900
9	0018998	Woodruff Key
10		1/2-13 Hex Nut
11		1/2 Lock Washer
12		1/2 Flat Washer
13		1/2-13 x 2-1/2 HHCS

CUT AWAY ILLUSTRATION
MODEL "B-10"

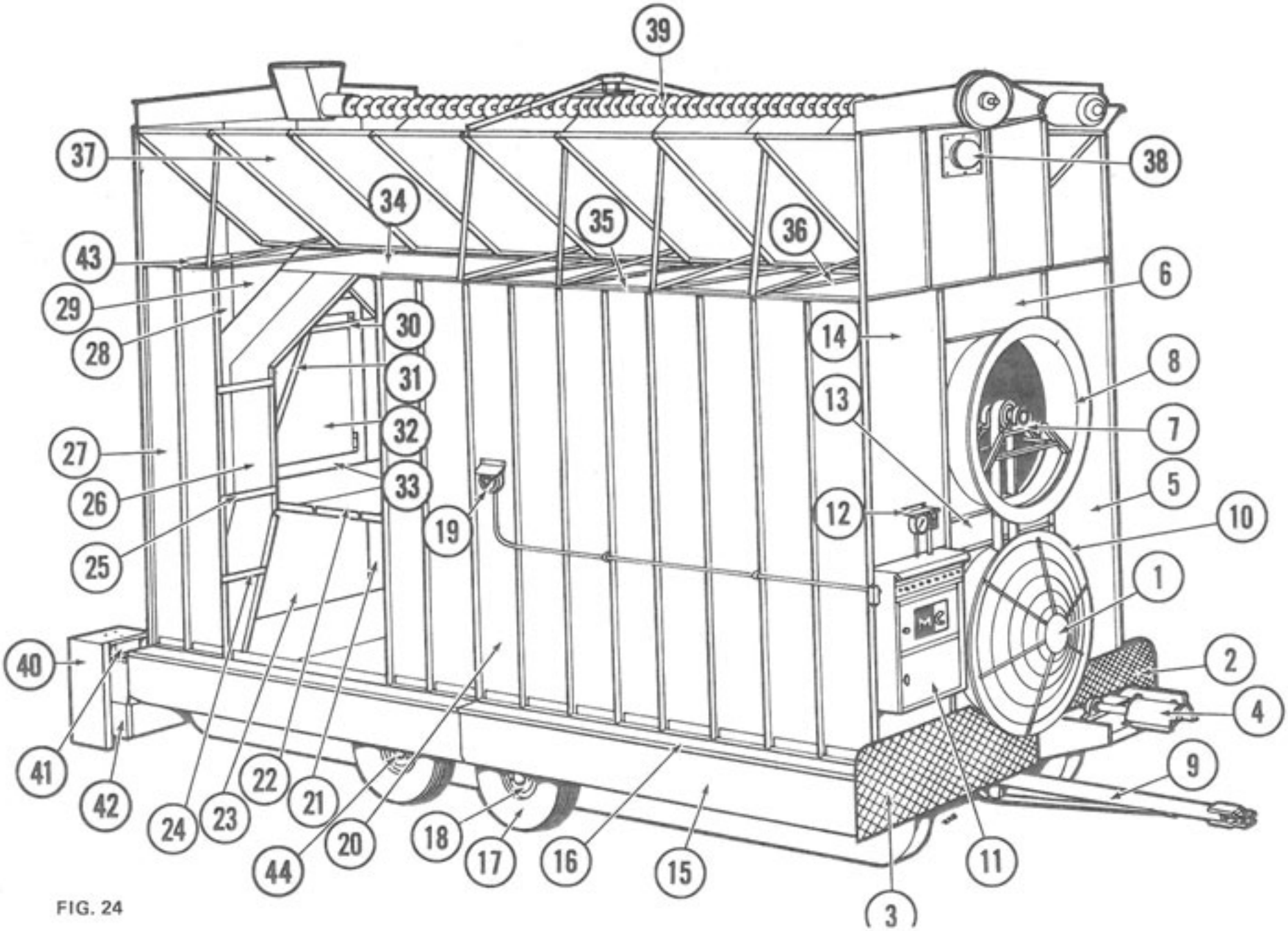


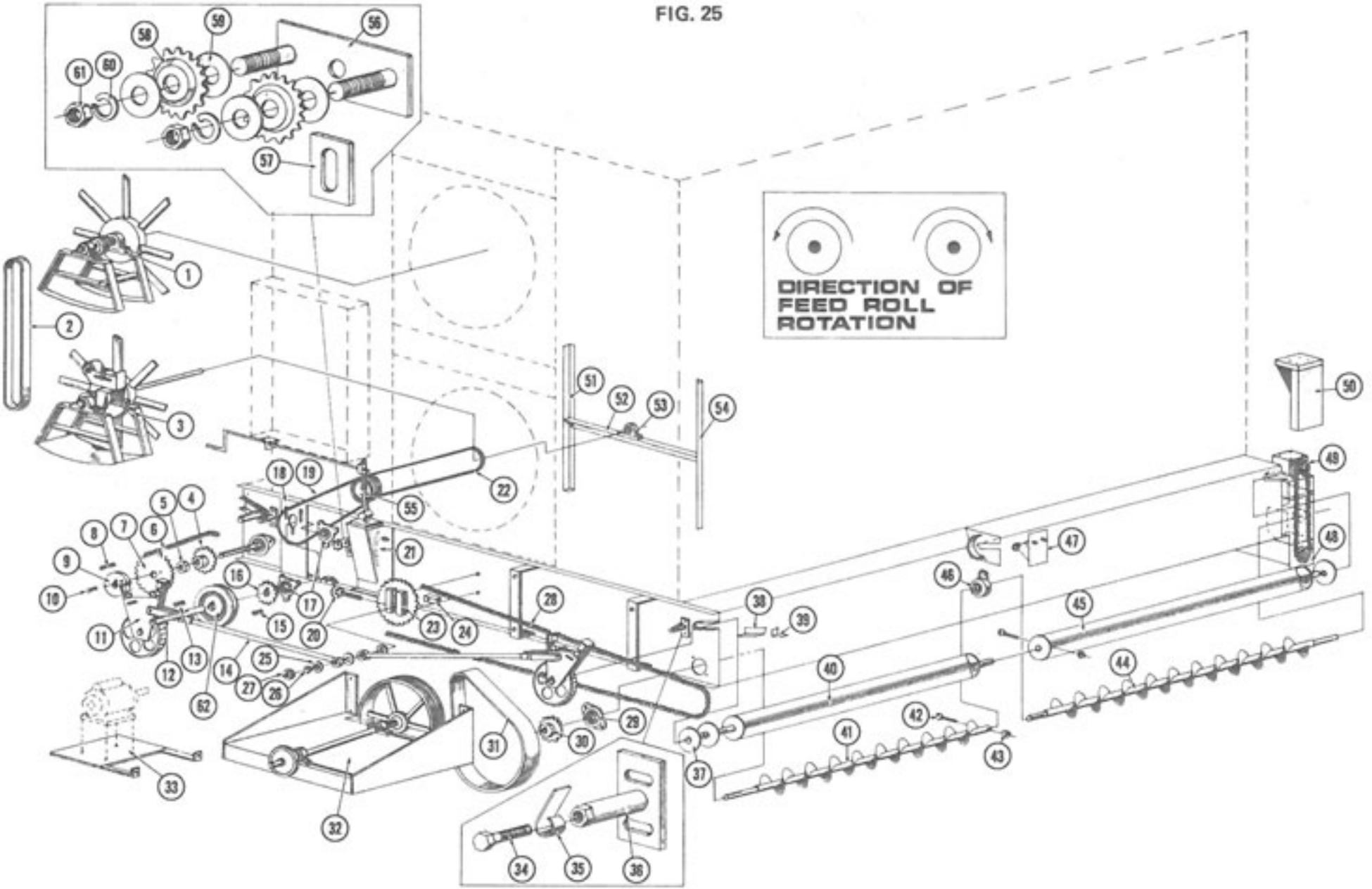
FIG. 24

REF	QTY	PART NO.	DESCRIPTION
1	2	1218956	Fan Guard
2	1	1210265	Left Front End Guard
3	1	1210266	Right Front End Guard
4	1	1214816	PTO and Universal Shield
5	1	1212895	Left Front End Panel
6	1	1252842	Panel Above Fan
7			B-10 Drive Assembly (See page 28)
8	1	1210329	Top Orifice Weldment
9	1	1210259	Pole Weldment
10	1	1210255	Bottom Orifice Weldment
11	1	1211287	Control Cabinet Assembly 600 and 900 B-10
		1211002	Control Cabinet Assembly 400 B-10
12	1	1212879	High Limit Rain Guard
13	1	1254780	Spacer Panel Between Fans
	1	1214478	Orifice Joiner Angle
14	1	1212898	Right Front End Panel
15	6	1214835	Side Auger Cover FOR 900
	4	1214835	Side Auger Cover FOR 600
	2	1214835	Side Auger Cover FOR 400
	2	1214844	Front Side Auger Cover FOR 400
16	6	1210160	Feed Roll Cover FOR 900
	4	1210160	Feed Roll Cover FOR 600
	2	1210160	Feed Roll Cover FOR 400
	2	1210161	Front Feed Roll Cover FOR 400
17	6	1218963	Tire and Tube 6/70-15 Implement (OPT) FOR 900 B-10
	4	1218963	Tire and Tube 6/70-15 Implement (OPT) FOR 400 B-10 and 600 B-10
18	6	0018993	5-Bolt 15" Rim FOR 900 B-10
	4	0018993	5-Bolt 15" Rim FOR 400 and 600 B-10
19			Automatic Moisture Control System (See page 16)
20	2	1212973	Outer Perforated Sheet and Heat Control
21	1	1212897	Left Rear End Panel
22	1	1210299	Heat Chamber Door Frame
	1	1212924	Front Unit Floor Panel
	10	1212928	Unit Floor Panel FOR 900
	6	1212928	Unit Floor Panel FOR 600
	4	1212928	Unit Floor Panel FOR 400
23	1	1212711	Panel Below Door
24	46	1212951	Perforated Sheet Stiffener Short FOR 900
	30	1212951	Perforated Sheet Stiffener Short FOR 600
	22	1212951	Perforated Sheet Stiffener Short FOR 400
25	92	1212952	Perforated Sheet Stiffener Long FOR 900
	60	1212952	Perforated Sheet Stiffener Long FOR 600
	44	1212952	Perforated Sheet Stiffener Long FOR 400

REF	QTY	PART NO.	DESCRIPTION
26	44	1212956	Inner Perforated Sheet FOR 900
	28	1212956	Inner Perforated Sheet FOR 600
	20	1212956	Inner Perforated Sheet FOR 400
	4	1212966	Inner End Perforated Sheet
27	46	1212954	Outer Perforated Sheet FOR 900
	30	1212954	Outer Perforated Sheet FOR 600
	22	1212954	Outer Perforated Sheet FOR 400
28	1	1212896	Right Rear End Panel
29	1	1212851	Panel Above Door
30	23	1212001	Inner Perforated Sheet Strip FOR 900
	15	1212001	Inner Perforated Sheet Strip FOR 600
	11	1212001	Inner Perforated Sheet Strip FOR 400
31	46	1212000	Inner Perforated Sheet Angle FOR 900
	30	1212000	Inner Perforated Sheet Angle FOR 600
	22	1212000	Inner Perforated Sheet Angle FOR 400
32	1	1211111	Hinged Door Assembly
33	1	1210301	Hinged Door Frame
34	3	1212953	Hopper Cap FOR 900
	2	1212953	Hopper Cap FOR 600
	1	1212953	Hopper Cap FOR 400
	1	1212945	Front Hopper Cap FOR 400
35	2	1212383	Side Hopper Angle FOR 900
	2	1212382	Side Hopper Angle FOR 600
	2	1212380	Side Hopper Angle FOR 400
36	11	1212012	Top Hopper Tie Brace FOR 900
	7	1212012	Top Hopper Tie Brace FOR 600
	5	1212012	Top Hopper Tie Brace FOR 400
37			Wet Holding Hopper Assembly (See page 13)
38	1	1201011	Round Level Switch Assembly (See page 15)
39			Level Auger Assembly (See page 14)
40	1	1210351	Cross Auger Chain Guard
41			Cross Auger Drive Assembly (See pages 20 and 21)
42	1	1211172	Cross Auger Assembly (See page 18)
43	2	1212602	Divider Panel Joiner Angle
44	6	1211046	Wheel Spindle Hub Assembly FOR 900 B-10
	4	1211046	Wheel Spindle Hub Assembly FOR 600 and 400 B-10
NOT SHOWN:			
	3	1213356	Orifice Reinforcing Flange
	1	1213358	Front Reinforcing Bottom Orifice Flange
	1	1211004	Cool Chamber Door
	1	1211113	Heat Chamber Door
	1	1212071	Left Orifice Support
	1	1212070	Right Orifice Support
	1	1212626	Left Bearing Brace Angle
	1	1212625	Right Bearing Brace Angle

"B-10" DRIVE ASSEMBLY

FIG. 25



REF	PART NO.	DESCRIPTION
1		Heat Fan Assembly (See Page 25, Fig. 23)
2	1216114	3V1120 4-Groove Power Band Belt
3		Cool Fan Assembly (See Page 24, Fig. 22)
4	1206400	RC-40 16 Tooth x 1-1/4 Bore Sprocket
5	1218974	1-1/4 Bore Lock Collar
6	1218976	RC-40 x 42" Long Roller Chain
7	1216401	48 Tooth x 1-1/4 Bore Shear Sprocket
8	0015120	1/4 sq. x 1-1/2 Long Key
9	1218975	1-1/4 Bore Shear Flange
10		Cotter Key
11	1211163	Double Ratchet Assembly (See Page 17, Fig 12A)
	1211132	Single Ratchet Assembly (See Page 17, Fig. 12)
12	1215041	Idler Shaft
13	0015120	1/4 sq. x 1-1/2 Long Key
14	1211179	Connecting Arm
15	0015120	1/4 sq. x 1-1/2 Long Key
16	1206400	RC-40 16 Tooth x 1-1/4 Bore Sprocket
17	0016016	1-1/4 Bore 3-Bolt Flange Bearing
18	1213370	Idler Shaft Mounting Bracket
19	1216115	B-51 V-Belt-Supper Aggie
20		1/2-13 x 2-1/2 Carriage Bolt
21	1210274	Variable Drive Mount Bracket
22	1216104	B-61 V-Belt-Supper Aggie
23	1210388	Eccentric Sprocket
24	1215703	Wood Block Chain Tightener
25		1/2 Flat Washer
26		1/2 Lock Washer
27		1/2-13 Lock Nut
28	1216300	RC-40 x 189 Long Chain
29	1206000	2-Bolt Flange Bearing
	1216006	4-Bolt Stamping
	0016003	1-1/4 Bore Bearing
30	1206400	RC-40 16 Tooth x 1-1/4 Bore Sprocket
31	1216113	3V1000 4-Groove Power Band Belts
32	1211072	PTO Jackshaft Assembly (See Page 25 Fig. 21)
33	1230016	Electric Motor Base Weldment (BE-10 Only)

REF	PART NO.	DESCRIPTION
34	1218162	1/2 x 1 Hex Head Shoulder Bolt 3/8-16 Thread
35	1213352	Ratchet Dog Hinge
36	1210355	Ratchet Stop Mount Weldment
37	1214438	Feed Roll End Washer
38	1212959	Grain Seal
39	1213321	Feed Roll Retainer
40	1211080	Front Feed Roll 600 & 900
	1211084	Front Feed Roll 400 Only
41	1210053	Side Auger Front Section 600 & 900
	1210163	Side Auger Front Section 400 Only
42		3/8-16 x 1-3/4 HHCS
43		3/8-16 Lock Nut
44	1210374	Standard Right Rear Side Auger
	1210058	Left Rear Side Auger
45	1211082	Feed Roll Rear Section
46	1216002	Side Auger Hanger Bearing
47	1210222	Side Cover Bracket Weldment
48	1211172	Cross Auger Assembly (See Page 18 Fig. 13)
49		Cross Auger Drive Assembly (See Page 20 Fig. 16, Page 21 Fig. 17)
50	1210351	Cross Auger Chain Guard Weldment
51	1212625	Right Bearing Brace Angle
52	1213354	Drive Shaft Bearing Brace
53	1216003	1-5/8 Bore Bearing
54	1212626	Left Bearing Brace Angle
55	1211129	Variable Drive Arm Assembly (See Page 22 Fig 19)
56	1210079	Chain Idler Mount Weldment
57	1213428	Idler Sprocket Holder
58	1216403	Idler Chain Sprocket x 5/8 Bore
59		5/8 Flat Washer
60		5/8 Lock Washer
61		5/8-11 Lock Nut
62	1216228	12" O.D. x 1-1/4 Bore Pulley
NOT	1211083	Feed Roll Center Section 900 Only
SHOWN	1210232	Side Auger Center Section 900 Only

CUT AWAY ILLUSTRATION
MODEL "E"

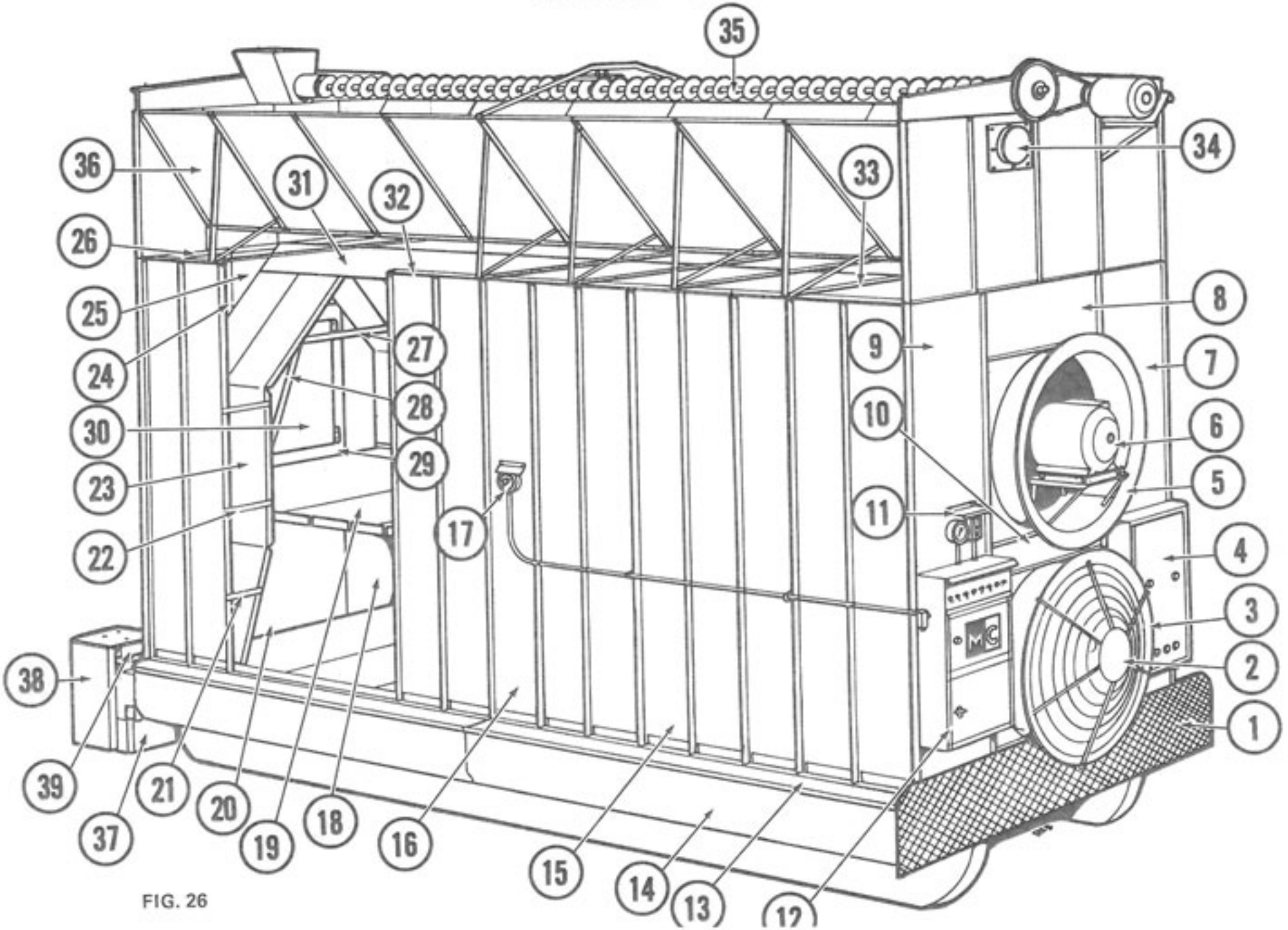


FIG. 26

REF	QTY	PART NO.	DESCRIPTION
1	1	1210106	Front End Guard
2	2	1218956	Fan Guard
3	1	1210043	Bottom Orifice Weldment
4	1	1216891	Electric Motor Control Station
5	1	1210329	Top Orifice Weldment
6			E-Model Drive Assembly (See page 32)
7	1	1212895	Left Front End Panel
8	1	1252842	Panel Above Fan
9	1	1212898	Right Front End Panel
10	1	1254780	Spacer Panel Between Fans
	1	1214478	Orifice Joiner Angle
11	1	1212879	High Limit Rain Guard
12	1	1211288	Control Cabinet Assembly 400, 600, and 900 E
13	6	1210160	Feed Roll Cover FOR 900
	4	1210160	Feed Roll Cover FOR 600
	2	1210160	Feed Roll Cover FOR 400
	2	1210161	Front Feed Roll Cover FOR 400
14	6	1214835	Side Auger Cover FOR 900
	4	1214835	Side Auger Cover FOR 600
	2	1214835	Side Auger Cover FOR 400
	2	1214844	Front Side Auger Cover FOR 400
15	46	1212954	Outer Perforated Sheet FOR 900
	30	1212954	Outer Perforated Sheet FOR 600
	22	1212954	Outer Perforated Sheet FOR 400
16	2	1212973	Outer Perforated Sheet and Heat Control
17			Automatic Moisture Control System (See page 16)
18	1	1212897	Left Rear End Panel
19	1	1210299	Heat Chamber Door Frame
	1	1212924	Front Unit Floor Panel
	10	1212928	Unit Floor Panel FOR 900
	6	1212928	Unit Floor Panel FOR 600
	4	1212928	Unit Floor Panel FOR 400
20	1	1212711	Panel Below Door
21	46	1212951	Perforated Sheet Stiffener Short FOR 900
	30	1212951	Perforated Sheet Stiffener Short FOR 600
	22	1212951	Perforated Sheet Stiffener Short FOR 400
22	92	1212952	Perforated Sheet Stiffener Long FOR 900
	60	1212952	Perforated Sheet Stiffener Long FOR 600
	44	1212952	Perforated Sheet Stiffener Long FOR 400
23	44	1212956	Inner Perforated Sheet FOR 900
	28	1212956	Inner Perforated Sheet FOR 600
	20	1212956	Inner Perforated Sheet FOR 400
	4	1212966	Inner End Perforated Sheet
24	1	1212896	Right Rear End Panel
25	1	1212851	Panel Above Door
26	2	1212602	Divider Panel Joiner Angle
27	23	1212001	Inner Perforated Sheet Strip FOR 900
	15	1212001	Inner Perforated Sheet Strip FOR 600
	11	1212001	Inner Perforated Sheet Strip FOR 400
28	46	1212000	Inner Perforated Sheet Angle FOR 900
	30	1212000	Inner Perforated Sheet Angle FOR 600
	22	1212000	Inner Perforated Sheet Angle FOR 400
29	1	1210301	Hinged Door Frame
30	1	1211111	Hinged Door Assembly
31	3	1212953	Hopper Cap FOR 900
	2	1212953	Hopper Cap FOR 600
	1	1212953	Hopper Cap FOR 400
	1	1212945	Front Hopper Cap FOR 400
32	2	1212383	Side Hopper Angle FOR 900
	2	1212382	Side Hopper Angle FOR 600
	2	1212380	Side Hopper Angle FOR 400
33	11	1212012	Top Hopper Tie Brace FOR 900
	7	1212012	Top Hopper Tie Brace FOR 600
	5	1212012	Top Hopper Tie Brace FOR 400
34	1	1201011	Round Level Switch Assembly (See page 15)
35			Level Auger Assembly (See page 14)
36			Wet Holding Hopper Assembly (See page 13)
37	1	1211172	Cross Auger Assembly (See page 18)
38	1	1210351	Cross Auger Chain Guard
39			Cross Auger Drive Assembly (See pages 20 and 21)
NOT SHOWN:			
	4	1213356	Orifice Reinforcing Flange
	1	1211004	Cool Chamber Door
	1	1211113	Heat Chamber Door
	1	1212071	Left Orifice Support
	1	1212070	Right Orifice Support
	1	1212626	Left Bearing Brace Angle
	1	1212625	Right Bearing Brace Angle

FAN & DRIVE ASSEMBLY
"E" MODELS

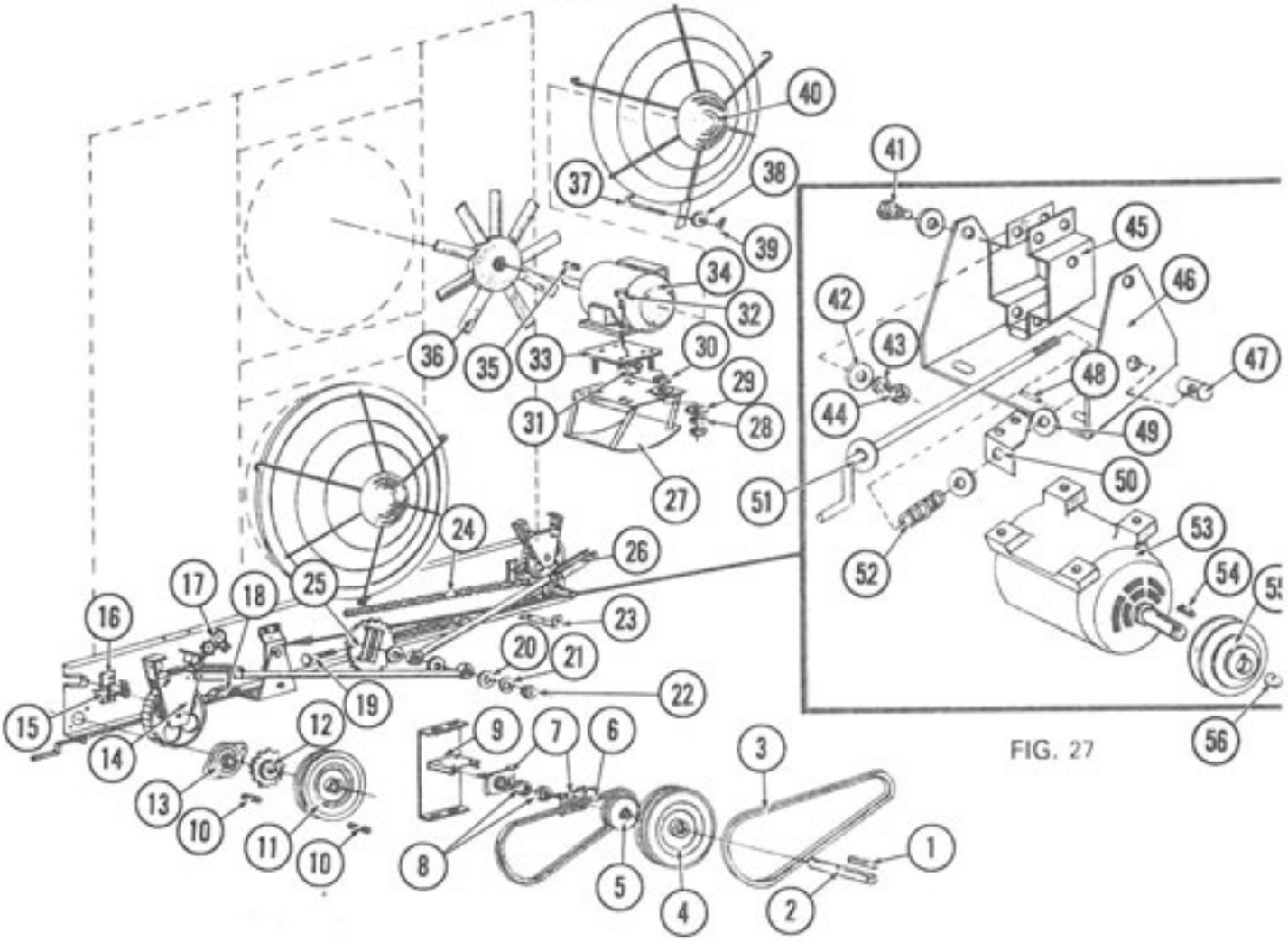


FIG. 27

REF	PART NO.	DESCRIPTION
1	0015121	1/4" sq. x 2-3/4" Key
2	1215020	Variable Jackshaft
3	1216116	B-71 V-Belt Super Aggie
4	1216230	16" O.D. Pulley x 1" Bore
5	0006201	4.4" O.D. x 1" Bore Pulley
6	1216107	V-Belt 5L470
7	0006003	Pillow Block Bearing x 1" Bore
8	0006004	Eccentric Lock Collar For 1" Bearing
9	1210004	Variable Jackshaft Mount Weldment
10	0015116	1/4" sq. x 1" Key
11	1216212	10" O.D. Pulley x 1-1/4" Bore
12	1206400	RC-40 16 Tooth x 1-1/4" Bore Sprocket
13	1206000	1-1/4" Bore 2-Bolt Flange Bearing
	1216006	4-Bolt Stamping
	0016003	1-1/4" Bore Bearing
14	1211163	Double Ratchet Arm Assembly (See Page17 Fig. 12A)
	1211132	Single Ratchet Arm Assembly (See Page17 Fig. 12)
15	1213321	Feed Roll Retainer
16	1211164	Ratchet Stop Assembly
17	1211052	Chain Idler Assembly
18	1215703	Wood Block
19		1/2-13 x 2-1/2 Carriage Bolt-Full Thread
20		1/2" Flat Washer
21		1/2" Lock Washer
22		1/2"-13 Lock Nut
23	1213443	Wire Guard Hanger Bracket-Front
24	1216300	RC-40 189" Long Chain w/Offset & Conn. Link
25	1210388	Eccentric Sprocket
26	1211179	Connecting Arm
27	1210258	Motor Mount Weldment
28		3/4 Lock Washer
29		3/4 Flat Washer
30		3/4-10 Lock Nut
31		3/4-10 Whiz Nut
32		3/4-10 x 4-1/2 HHCS-Full Thread
33	1210343	Stand Off Motor Mount
34	1216881	20 HP 3 Phase 256 "T" Frame Motor
	1216882	15 HP 3 Phase 254 "T" Frame Motor
	1216848	10 HP 3 Phase "T" Frame Motor
	1216924	10 HP 1 Phase 215 "T" Frame Motor
35	0015140	3/8 x 3-3/4 Key
36	1210272	9 Blade Heat Fan 400 Only
	1210272	9 Blade Cool Fan 400 & 600
	1210271	12 Blade Heat Fan 900 & 600
	1210271	12 Blade Cool Fan 900 Only
37	1218255	5/16-18 x 1-1/2 "J" Bolt
38		5/16 Flat Washer
39		5/16-18 Wing Nut
40	1218956	Fan Guard
41	0018163	Shoulder Bolt 1/2-13 x 1-1/4 Long
42		1/2 Flat Washer
43		1/2 Lock Washer
44		1/2-13 Lock Nut
45	1214431	Variable Drive Motor Mount
46	1210002	Motor Hanger Weldment
47	1215000	Variable Drive Crank Pivot Nut
48	1218102	1/4 x 1-1/2 Roll Pin
49		3/4 Flat Washer
50	1214432	Variable Drive Crank Bracket
51	1210011	Variable Crank Weldment
52	1218259	Compression Spring
53	1216845	1-1/2 HP 3 Phase Motor
54		3/16 x 1-3/8 Key
55	1216209	Springloaded Pulley x 5/8 Bore
56	1215186	5/8 x 1-5/8 Variable Speed Pulley Plug

M-C DRIVER PULLEY CHART
ELECTRIC MOTOR POWERED
FIG. 28

MODEL NO.	MOTOR HP	ELECTRIC MOTOR PULLEY				FAN SHAFT PULLEY				BELT	FAN SPEED RPM
		PART NUMBER	PULLEY SPECS.	SK BUSHING PART NUMBER	BORE	PART NUMBER	PULLEY SPECS.	SK BUSHING PART NUMBER	BORE		
400 BE-10	25	1236215	8/3V5.0	1236212	1⅛	1206215	8/3V5.9	1206216	1⅛	1236104	1483.0
400 BE-10	30	1236207	8/3V5.3	1236212	1⅛	1206215	8/3V5.9	1206216	1⅛		1575.0
600 BE-10	30	1236207	8/3V5.3	1236212	1⅛	1206215	8/3V5.9	1206216	1⅛		1575.0
600 BE-10	40	1206215	8/3V5.9	1236208	2⅛	1206215	8/3V5.9	1206216	1⅛		1750.0
900 BE-10	50	1206215	8/3V5.9	1236208	2⅛	1206215	8/3V5.9	1206216	1⅛		1750.0

MODEL NO.	TRACTOR DRIVEN P.T.O. 540 R.P.M.									BELTS	FAN SPEED R.P.M.
	JACKSHAFT PULLEY					FAN SHAFT PULLEY					
	PULLEY PART NUMBER	PULLEY SPECS.	BUSHING "E" TYPE	BUSHING "SF" TYPE	BORE	PULLEY PART NUMBER	PULLEY SPECS.	BUSHING "SK" TYPE	BORE		
All B-10's	1216225	8/3V19.0	1216226		1⅛	1206215	8/3V5.9	1206216	1⅛	1236113	1750
	P.T.O. 1000 R.P.M. (Kit # 1239025)										
All B-10's	1236214	8/3V10.6		1236216	1⅛	1206215	8/3V5.9	1206216	1⅛	1236105	1750

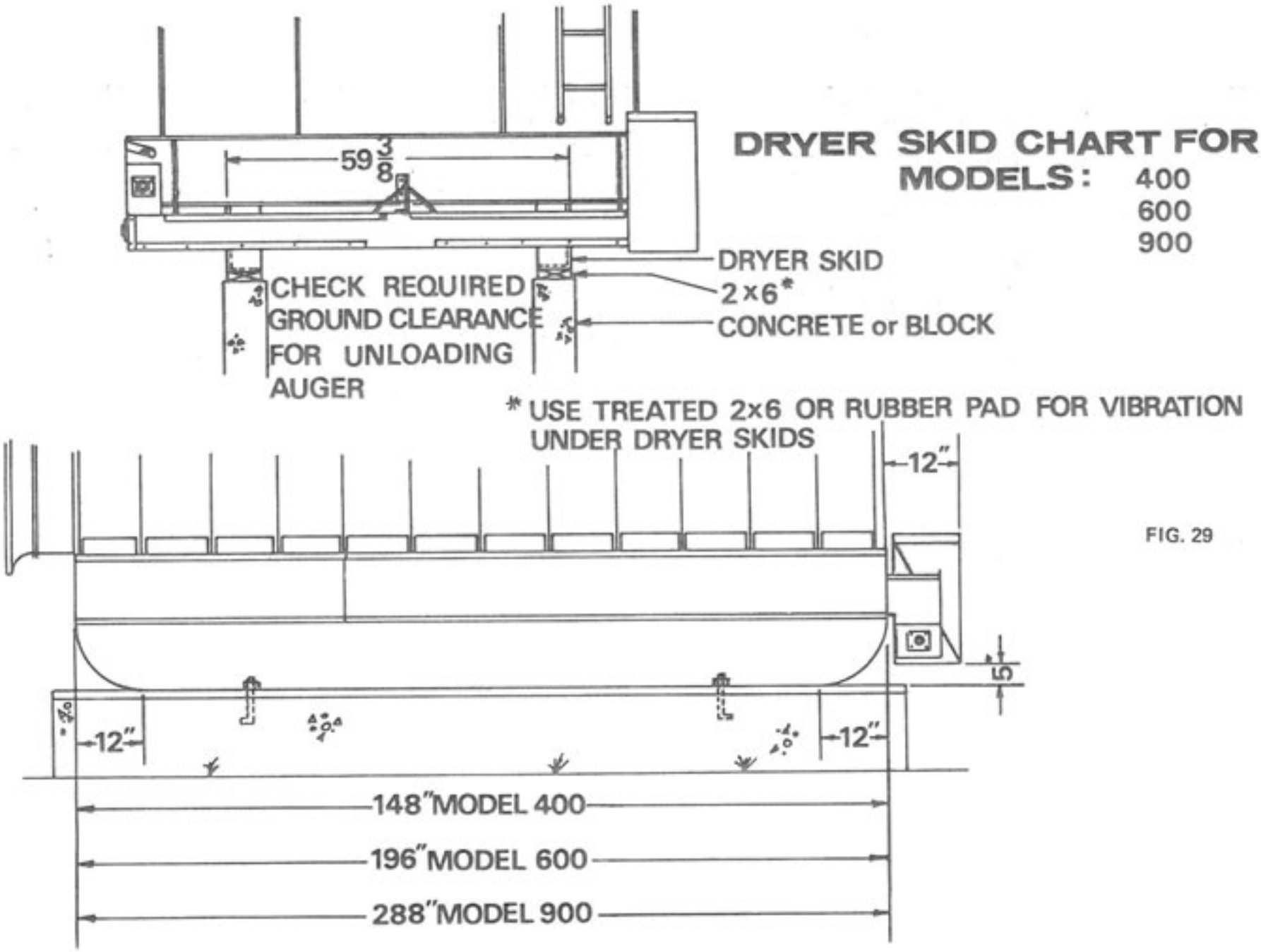
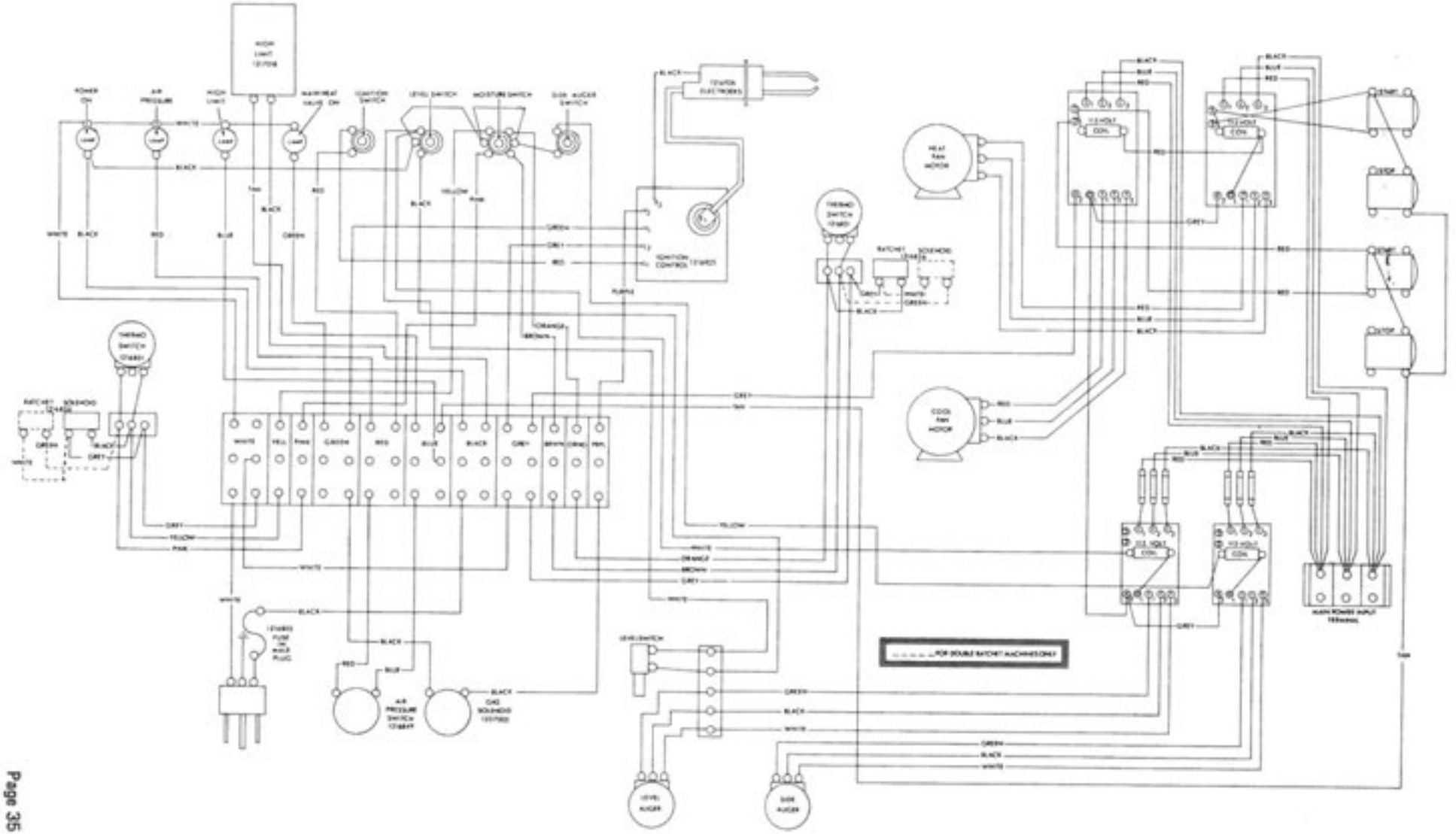
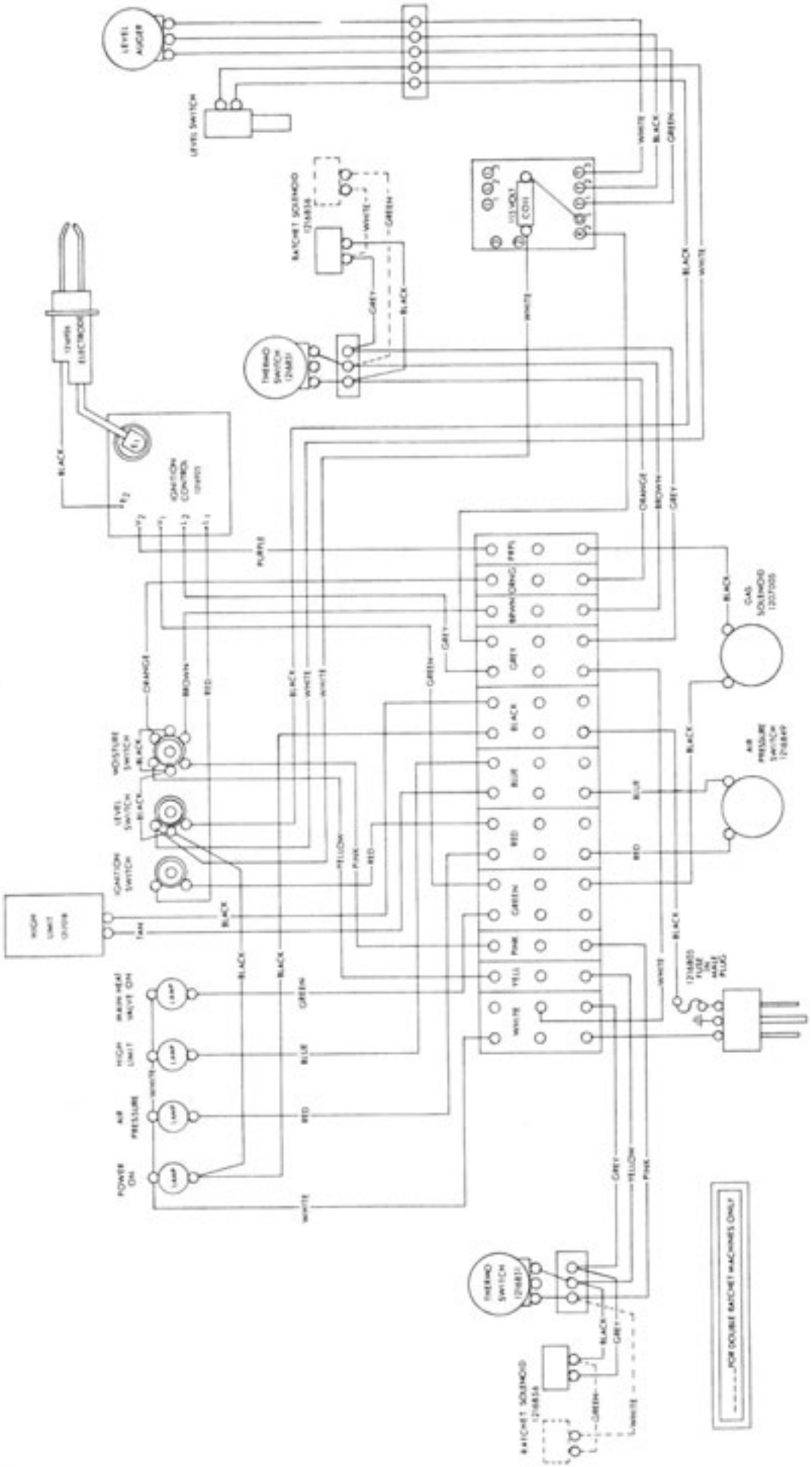

DRYER SKID CHART FOR
MODELS: 400
600
900
59 3/8
DRYER SKID
2x6*
CONCRETE or BLOCK
CHECK REQUIRED
GROUND CLEARANCE
FOR UNLOADING
AUGER
* USE TREATED 2x6 OR RUBBER PAD FOR VIBRATION
UNDER DRYER SKIDS
12"
5"
12"
12"
148" MODEL 400
196" MODEL 600
288" MODEL 900

FIG. 29

E-MODEL, WIRING DIAGRAM



B-10 MODEL, WIRING DIAGRAM



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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