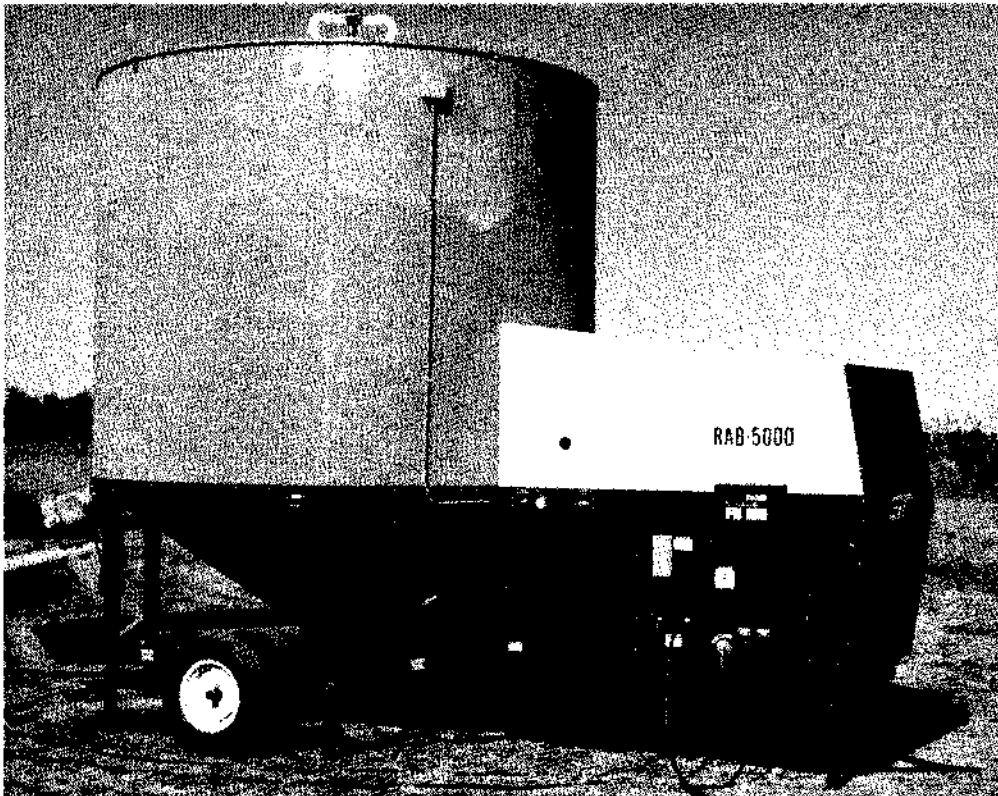


**RAB-5000
RECIRCULATING
AUTOMATIC BATCH
GRAIN DRYER
OPERATOR'S MANUAL
& PARTS BOOK**



Form S-3080-97

Printed in U.S.A.

GT Mfg., Inc.

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MANUFACTURERS OF FARM AND INDUSTRIAL EQUIPMENT

**RAB 5000
OPERATORS MANUAL & PARTS CATALOG**

Your GT Grain Dryer is one of the finest grain dryers ever built; designed to give you excellent service for many years. The information and suggestions found in this owners manual will help you achieve this.

Your GT Grain Dryer dealer is well trained and equipped to give you complete service when and if the need should arise.

We would also like to take this opportunity to thank you for choosing GT and assure you of our continuing interest in your complete satisfaction.

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SAFETY



DO NOT OPERATE OR ALLOW ANYONE TO OPERATE THIS EQUIPMENT WHO HAS NOT BEEN PROPERLY TRAINED IN ITS SAFE OPERATION.

Throughout your operator's manual and at various locations on your machine you will see the Safety-Alert symbol shown below. This emblem has been adopted by the agricultural equipment industry to provide a universal symbol which means **ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!**

This symbol is our way of telling you to pay special attention to the instructions or warnings which follow because your safety is involved.



SAFETY-ALERT SYMBOL FOR AGRICULTURAL EQUIPMENT

The following labels found on your machine provide important safety messages and instruction for safe operation.



As these labels become worn, damaged, or illegible replace them immediately. These labels are available at your authorized dealer.

BE A SAFE OPERATOR

BY THINKING — BEFORE ACTING

AND

BY READING YOUR OPERATORS MANUAL

AVOID ACCIDENTS

Most accidents, whether they occur in industry, on the farm, at home, or on the highway, are caused by the failure of some individual to follow simple and fundamental safety rules or precautions. For this reason most accidents can be prevented by recognizing the real cause and doing something about it before the accident occurs.

Regardless of the care used in the design and construction of any type of equipment, there are many conditions that cannot be completely safeguarded against without interfering with reasonable accessibility and efficient operation.

A CAREFUL OPERATOR IS THE BEST INSURANCE AGAINST AN ACCIDENT.

THE COMPLETE OBSERVANCE OF ONE SIMPLE RULE WOULD PREVENT MANY THOUSAND SERIOUS INJURIES EACH YEAR. THAT RULE IS:

STOP MACHINE TO ADJUST, LUBRICATE, SERVICE, CLEAN OR MOVE.



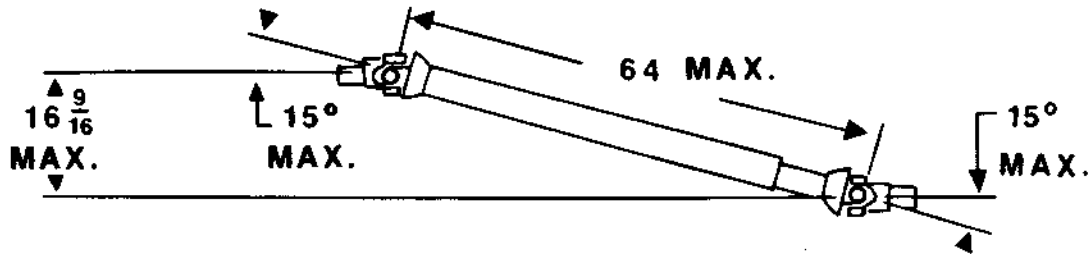
CAUTION

1. Read and understand the Operator's Manual before operating the unit.
2. Keep children, visitors and all untrained personnel away from machine while in operation.
3. Keep all shields and safety devices in place.
4. Stop machine to adjust, lubricate, service, clean or move.
5. Keep hands, feet and clothing away from moving parts.
6. Disconnect electrical power before servicing.
7. Keep unit level when operating.
8. Maintain proper tire pressure when transporting machine. (Refer to Manufacturers Recommendations.)



DANGER

For maximum safety and smoothest operation keep p.t.o. shaft in closed position while under load. Keep u-joint angles equal. Do not remove safety shields. Do not exceed 540 r.p.m.



FAILURE TO HEED WILL CAUSE PTO SHAFT FAILURE OR SEPARATION & RESULT IN SERIOUS INJURY OR DEATH.



DANGER



ROTATING DRIVELINE
CONTACT CAN CAUSE DEATH
KEEP AWAY!

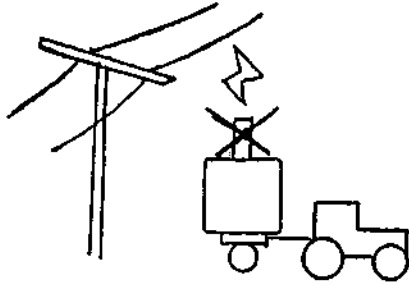
DO NOT OPERATE WITHOUT —

- ALL DRIVELINE, TRACTOR AND EQUIPMENT SHIELDS IN PLACE
- DRIVELINES SECURELY ATTACHED AT BOTH ENDS
- DRIVELINE SHIELDS THAT TURN FREELY ON DRIVELINE

L1

279561

DANGER



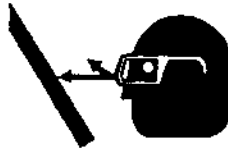
ELECTROCUTION HAZARD

To prevent serious injury or death from electrocution:

- Remove unloading head when transporting.
- Stay away from overhead power lines when transporting.
- This machine is not grounded.
- Electrocution can occur without direct contact.



DANGER



CONNECT TO LIQUID PROPANE ONLY.

Wear Rubber Gloves and Eye Protection.

Avoid Contact with Propane.



Check for Leaks with Soap and Water. NEVER USE FLAME.

DANGER

KEEP HANDS AND FEET AWAY








5WB03



TORQUE WHEEL BOLTS TO 70 LB.-FT.
(94.85 N-M). CHECK TORQUE
BEFORE TOWING AND PERIODICALLY
UNTIL TORQUE IS HELD.

74535

FOR YOUR SAFETY.....

-  1. Keep all guards and shield in place.
-  2. Inspect your drive before adding power and know how to shut down in an emergency.
-  3. Stop all moving parts before allowing anyone to approach the equipment for cleaning, unplugging, adjusting, performing maintenance or any other duty.
-  4. Replace all safety shields/guards before restarting.
-  5. Replace all safety shields/guards as they become worn, damaged, unusable, missing or lost.

GENERAL INFORMATION

Mechanical drying of grain is a relatively new process; therefore, emphasis must be placed on proper operation of grain drying equipment. Your GT Dryer was designed and engineered to retain grain quality, and to dry grain as rapidly as possible at the lowest cost consistent with retention of quality grain. Study and follow this manual so you too may enjoy the additional profits derived from drying.

THEORY OF DRYING

The theory of drying has two basic stages: (1) diffusing of internal moisture to the surface of the kernel, and (2) removal of external moisture by air flowing around the kernel. Vapor pressure is increased inside the kernel which causes moisture to diffuse through the micropores of the seed coat. The grain temperature largely establishes this rate of diffusion and hence must be controlled to not exceed a maximum rate which would result in a ruptured kernel.

Removal of the exterior moisture for a given air flow is dependent upon the air temperature. These two stages must be balanced to produce quality dried grain.

This balance is accomplished quite simply in the GT Grain Dryer with its uniform circulation, regulated heat, and controlled air flow.

RATE OF DRYING

In addition to the kind and variety of grain, the drying rate is controlled by atmospheric conditions. Hard and fast rules cannot be set forth because of these variables. It will be necessary to dry several batches to determine the exact dryer settings in a specific area. A chart for recording necessary information for later use is included in the back of this manual.

WHEN GRAIN IS MATURE

Most grain is mature at 30% to 35% moisture. While some grain may be harvested easily at 30%, others do not harvest well above 20%. Therefore, grain should be harvested as soon as possible after maturity, as long as grain damage is at a minimum and gleaning is thorough.

STORAGE MOISTURE LEVELS

To properly store grain, the grain moisture content must be compatible with the length of time the grain will be in storage, and with the grain's intended use. This moisture content will vary due to locale.

| GRAIN | 1 YEAR STORAGE (% Moisture) |
|---------------------------------|--------------------------------|
| Corn | 13% |
| Wheat | 13-14% |
| Barley | 13% |
| Rice | 12% |
| Oats | 13% |
| Rape Seed | 10.5% |
| Grain Sorghum | 12% |
| Flax | 9% |
| Soybeans | 11% |
| Edible Beans | 14-16% |
| Sunflower Seed (Oil Type) | 10% |
| Sunflower Seed (Bird Seed Type) | 12% |

Corn may be stored at 15% moisture if moved before warm spring weather. For long time storage — up to 5 years, or for grain stored as seed stock, moisture level should be 2% lower than shown above.

MOISTURE TESTING

Since grain must go into storage at not more than specified moisture content, it is necessary to use a reliable tester to determine moisture content. When marketing grain from the dryer, it should be only dry enough to eliminate moisture discounts. The moisture tester may also be profitably used to determine when to harvest.

COOLING OF GRAIN

It is very important to cool grain. Grain being put in storage should be cooled after drying to within 20 degrees F of atmospheric temperature or, 10 degrees F of grain already in the storage bin. Moisture migration from the air to grain will occur if the grain is not cooled to these limits.

GRAIN SHRINK

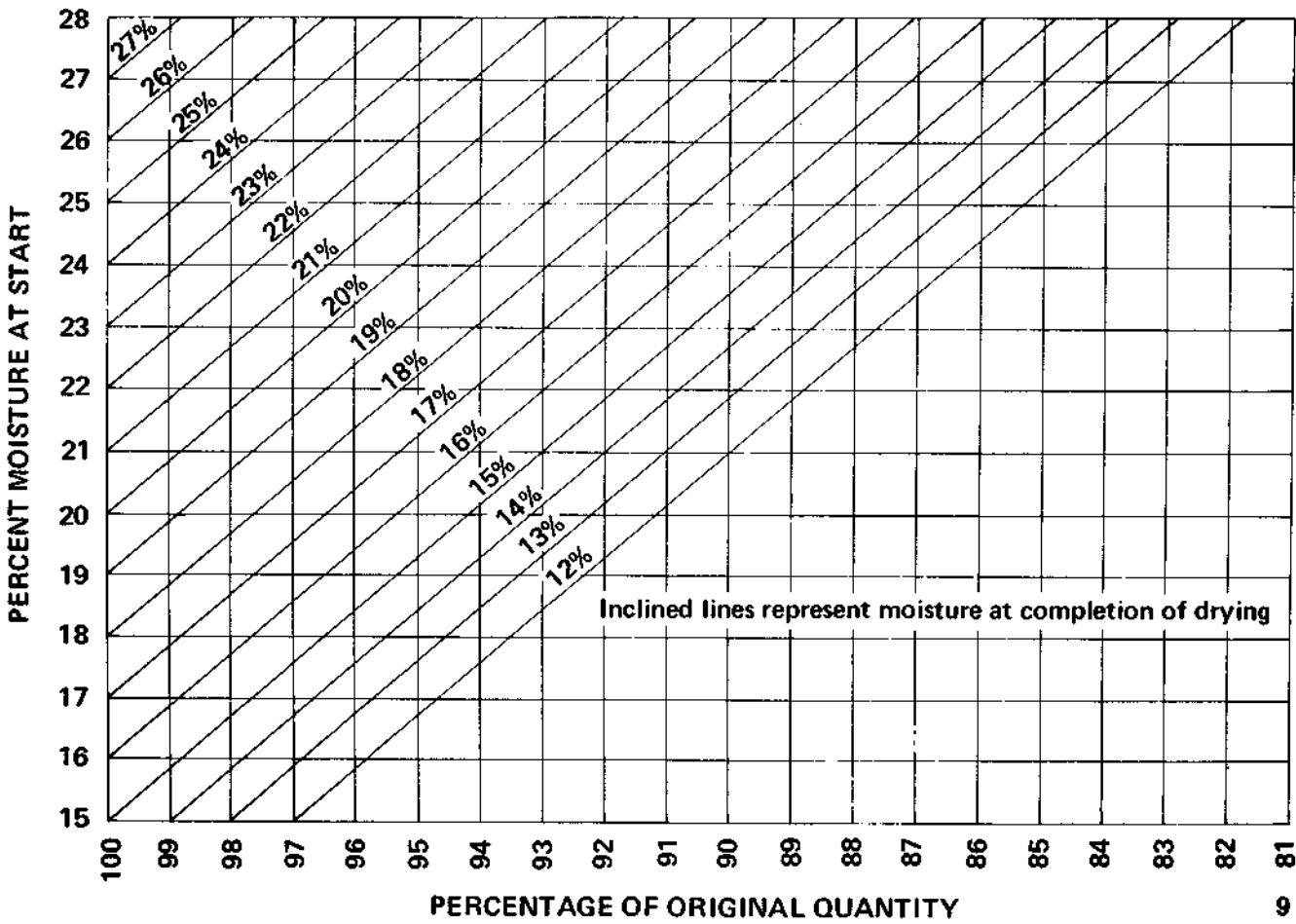
Grain "shrink" is the weight loss which occurs when grain is dried. The dry matter of grain does not change, consequently when a percentage of water is removed the "shrink" percentage is greater than the percentage of water removed. For example, if you dried a bushel of corn from 27% down to 15%, the corn loses 14.2% of its weight and the moisture content was dropped 12% (27%—15%). To find this weight loss from the chart below, follow the horizontal line (27% moisture at start) across until it intersects the 15% inclined line (moisture at completion of drying).

The final weight of any amount of grain can be figured from this formula:

$$\text{Original Weight X } \frac{100 - \text{Moisture content of Wet Grain}}{100 - \text{Moisture content of Drying Grain}} = \text{Final Weight}$$

Example: 100 bushel of corn weighing 6200 pounds at 25% moisture content dried to 15%.

$$6200 \text{ pounds X } \frac{100 - 25\%}{100 - 15\%} = 5471 \text{ pounds}$$



WHY CROP DRYING PAYS

SOME GRAINS ARE FULLY MATURED AT 35% MOISTURE — then, quality begins to deteriorate. Corn drying reduces field losses up to 95%:

- 1 ½ % Loss @ 30% moisture — in field
- 4 % Loss @ 20% moisture — in field
- 15 % Loss @ 15% moisture — in field

USDA SAYS UP TO 20% CAN BE LOST AFTER NOVEMBER 15TH.

HARVEST EARLY! AND DRY TO AVOID EXCESSIVE LOSSES!

FIELD SHELLING AND DRYING ON THE FARM:

- | | |
|--|----------------------------------|
| 1. Reduces Labor | 5. Less Field Loss |
| 2. Less Grain Handling | 6. No Dockage For Moisture |
| 3. Grain Ready for Immediate Marketing or Storing in Less Space. | 7. Higher Grade Grain |
| 4. Ealier Harvesting | 8. Earlier Plowing After Harvest |

HARVEST EARLIER AND HARVEST MORE —

because you beat: Rain, Wind, Hail, Insects and Rodents. Many crops are totally lost by waiting on Mother Nature to dry in field. Less labor, cribbing eliminated and shelling from crib eliminated.

SAVE 10% BASED ON 180 ACRES OF PLANTED CROPS

| | |
|---|------------|
| 100 Acres Corn @ 100 bu. per Acre | 10,000 bu. |
| 40 Acres Oats @ 60 bu. per Acre | 2,400 bu. |
| 40 Acres Beans @ 30 bu. per Acre | 1,200 bu. |

SAVE 10% FIELD LOSS:

| | |
|--|-------------|
| On 100 Acres Corn, 10% or 1,000 bu. @ 2.80 | \$2,800.00 |
| On 40 Acres Oats, 10% or 240 bu. @ 1.68 | 403.20 |
| On 40 Acres Beans, 10% or 120 bu. @ 5.00 | 600.00 |
| You gain for 1 year | \$3,803.20 |
| Based on 360 Acres and ten years — 10% saved | \$76,064.00 |

IT PAYS TO HARVEST EARLY AND DRY GRAIN —

once over and it's all over—out of the field up to 2 months earlier, ready for market up to 6 months earlier and plow earlier, early plowing is worth up to \$20.00 per acre in some places.

INSTALLATION AND SET-UP

1. INSTALLATION OF EQUIPMENT

The equipment shall be installed in accordance with the installation code for gas burning appliances and equipment, CAN 1-B149 or applicable code or Provincial Regulation for the class. Installation shall also comply with National Electric Code, Canadian Electric Code, and all governing regulations regarding electrical equipment installation.

2. PLACING MACHINE FOR OPERATION

Select a site as level as possible, 50 ft. (15 meters) from any inhabited building. Set machine, if possible, with fan into prevailing winds. Lower the supporting legs (8 on Model 5000 and 4 on Model 3000) and insert pins. If machine is being set on a level concrete slab, no additional blocking will be necessary. However if being set on dirt, at least a 2" x 8" x 12" board or equivalent should be placed under each leg for additional flotation. Add any additional blocking material necessary to bring machine level. Use a level on the main frame to determine this.

3. INSTALLING TOP SECTION OF AUGER AND ADJUST FOR UNLOADING

When installing the top section of auger, it may be necessary to jack the lower flight up to allow the bolt holes in the connecting shaft to align. The weight of the complete auger should be supported by the top auger bearing when in proper adjustment.

If the dryer is equipped with the standard horizontal head, removing the bolts through the mounting flanges which hold the upper and lower tubes together will allow the upper tube to be rotated to provide unloading at several points.

When using the horizontal unloading head, it is not advisable to leave grain set in the dryer for any length of time (such as overnight) without the vertical auger operating. If grain must be left in the dryer, it should be lowered to a level below the top of the unload auger head to prevent grain from running back down the vertical auger.

4. LOCATING PROPANE GAS SUPPLY TANK

Location of the Propane Gas Supply Tank must be in accordance with local, state or provincial regulation. It should also be approved by the insurance company. A minimum distance of twenty-five (25 ft. (7.5 meters) is recommended for safety and will allow room for maneuvering grain hauling equipment.

GT Propane Gas fired dryers are equipped with Vaporizers and must be connected to the supply tank for LIQUID withdrawal. It is recommended that rubber hose specifically made for Propane gas be used as a supply line connecting tank to dryer. Specifications for the line are: (1) minimum working pressure 350 psi, (2) minimum bursting strength 1,750 psi, and (3) 3/8" minimum inside diameter for Model 3000, and 1/2" minimum inside diameter for Model 5000. Tank pressure is used at the dryer; therefore, it is not necessary to install a pressure regulator at the tank.

DANGER

All lines and fittings should be checked periodically for leaks before and during operation. Check for leaks with liquid detergent suds or comparable substance, but NEVER with flame. Failure to do so may result in serious injury or death.

CAUTION

Do not use storage tanks that have been used to store Anhydrous Ammonia. This causes corrosion to the gas line controls.

Always protect gas supply line against vehicle or animal damage.

5. NATURAL GAS

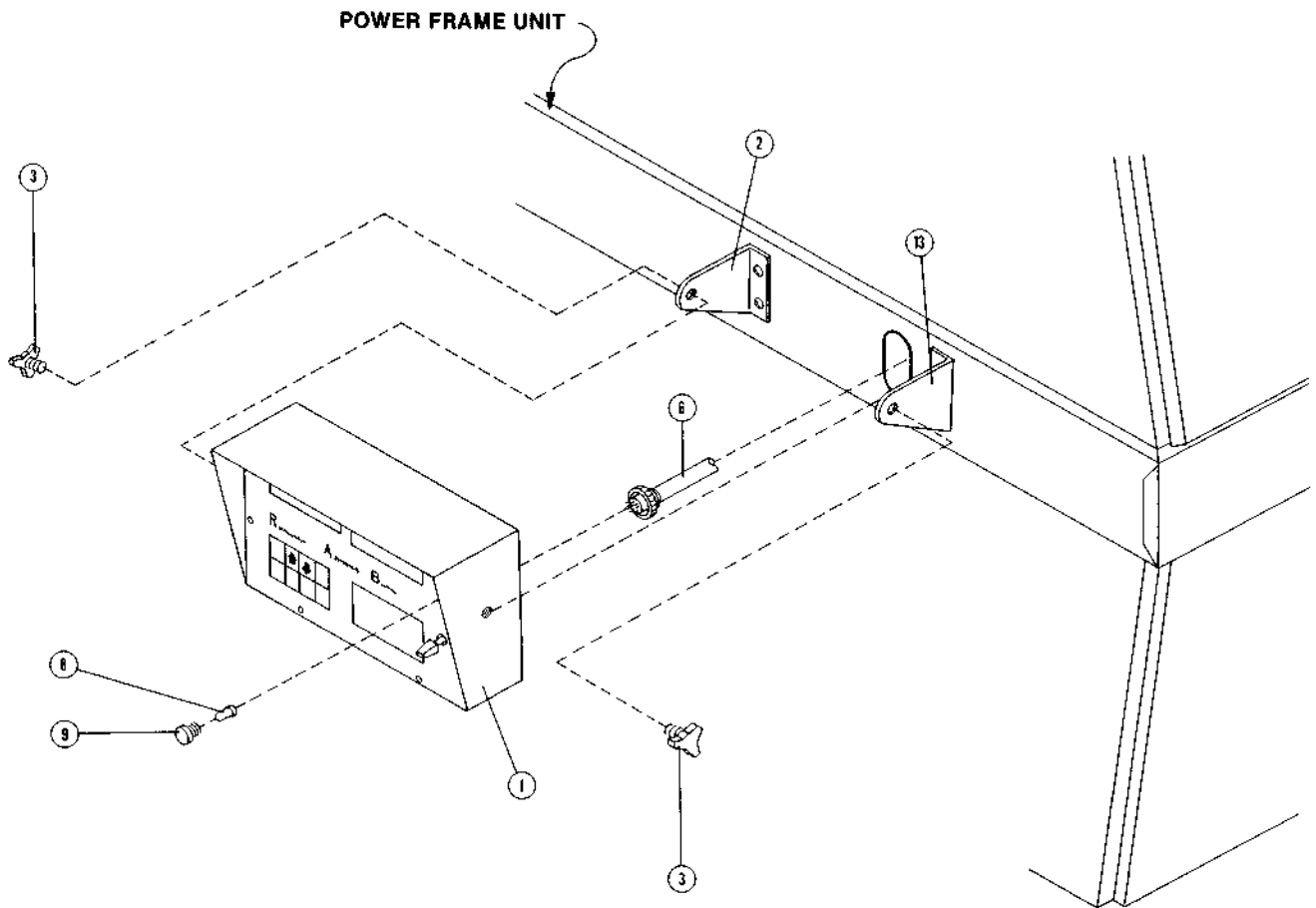
Specifications for Natural Gas connections are available from the gas supplier and must be adhered to. The RAB series dryer will require up to 20 psi, depending on locality. Pressure shown is at the dryer. Maximum Natural Gas volume on the RAB-5000 is up to 50 cubic feet per minute and 33 cubic feet per minute on the RAB-3000.

6. ELECTRICAL CONNECTIONS

Standard equipment for single phase operates on 240 Volt AC electrical power and requires a 200 ampere service. Standard equipment for 3 phase operates on 240 Volt electric power and requires 125 ampere service. All wiring supplying the electrical control panel shall be done in compliance with national and local wiring codes by a qualified electrician.

7. MICROPROCESSOR INSTALLATION

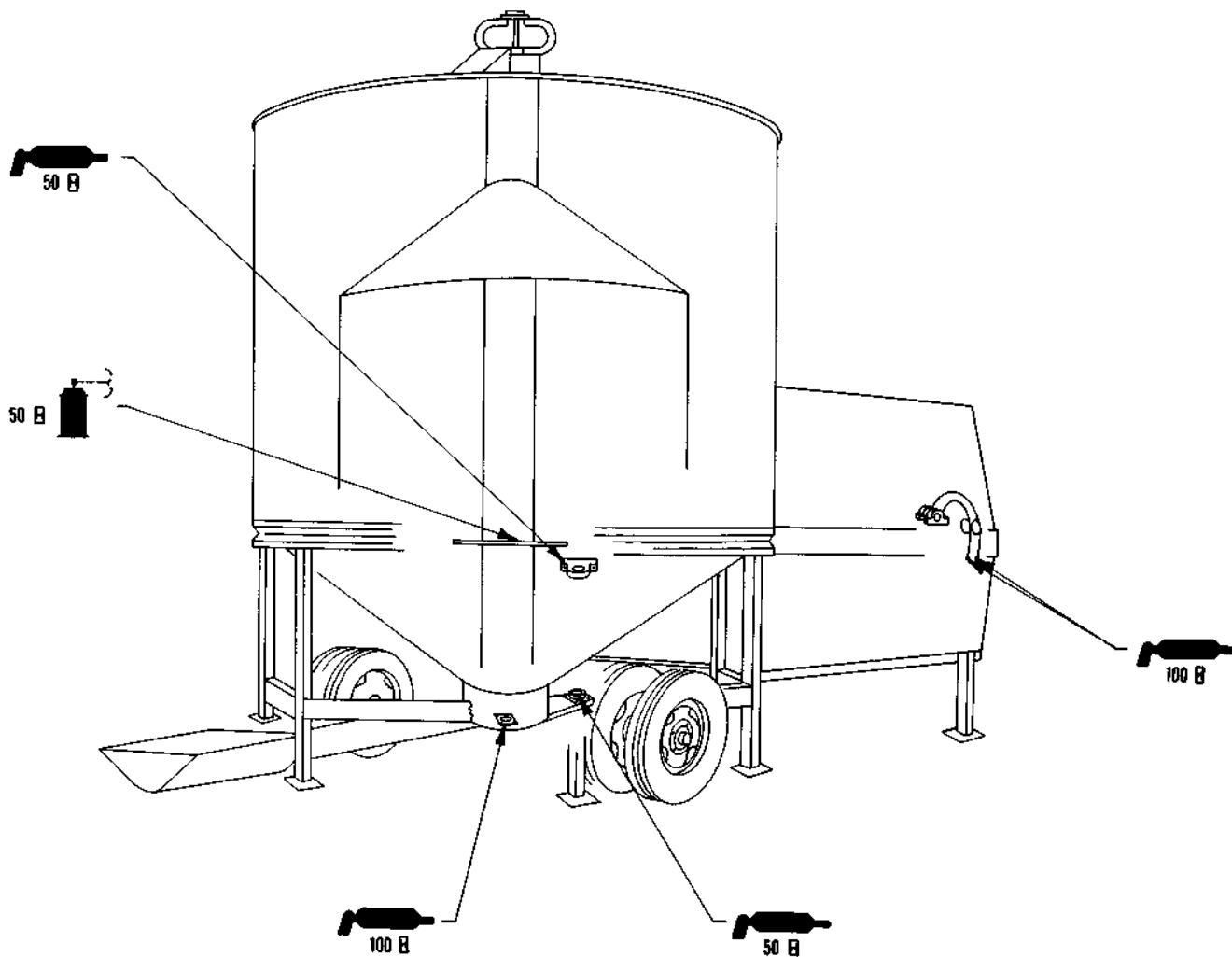
1. Connect cable (6) to rear of the microprocessor box (1). A polarized screw connector locks the cable into place.
2. Mount the microprocessor box (1) to the right front power frame unit by threading the plastic adjusting knobs (3) through mounting brackets (2) and (13) and into the microprocessor box.
3. Adjust the microprocessor box to a convenient angle to reduce glare and improve readability. Tighten adjusting knobs.



8. LUBRICATION

Use a high-low temperature grease or equivalent made especially for ball and roller bearings in extreme temperature.

Refer to the following chart for location of lubrication points and frequency of lubrication. A small amount of grease at the specified intervals is recommended over a large amount at less frequent intervals.



Symbol descriptions:



Grease Point

X H

Lubrication Frequency (Hours of Operation)



Dry Film Spray Lubricant

When performing the 100 hour lubrication, check to see that the set screws in bearing and tumblers are tight.

IMPORTANT: In extremely cold weather, it may be necessary to operate the dryer empty for a short period of time to allow the grease in the bearings to warm up.

9. SERVICING AND CARE OF AGITATOR

It is important that the agitator be inspected before and after the first load. Then after each 100 hours of operation.

- A. The tapered agitator rollers must support the plate sprocket so there is no horizontal movement of sprocket.

The RAB5000 has four rollers mounted on the agitator sprocket so each roller supports an equal load. These rollers are tapered so all horizontal and vertical slack may be taken up.

B. Adjusting Rollers

1. Secure the cam nut and loosen the bolt.
2. Rotate the cam nut counter-clockwise (when looking down into the cam nut) while holding the bolt stationary.
3. Secure the cam nut and tighten the bolt.
4. All cam nuts must be rotated an equal amount so the agitator sprocket remains true.
5. Rotate agitator arms by hand and check clearance.

NOTE: Agitator drive chain is provided with a spring loaded idler, however, it is necessary to periodically check the chain slack.



DANGER

Do not open inspection door or enter machine while in operation. Failure to do so may result in serious injury or death.

10. BELT TENSION

With machine running at normal speed, belts should be tight enough to keep out the slack. Keep belts tight to prolong life.

11. VAPORIZER (Propane Only)

The vaporizer is designed for year round operation. The vapor plumbing under normal conditions should be operating at a temperature of approximately 120F to 140F. The temperature may be checked by placing your bare hand on the plumbing and will range from warm to hot.

Check propane tank for liquid withdrawal. Vapor withdrawal will cause overheating of the vaporizer and possible damage to the controls. If the vaporizer has been overheated, causing possible rupture, you will be unable to control the plenum temperature.



WARNING

The vaporizer pipe should be inspected every season for pitting and heat damage. Replace IMMEDIATELY if any damage is found.

12. CHECK OUT — BEFORE LOADING

All piping and burners have been checked and test fired at the factory. It is possible, however, that some of the connections may have been loosened or damaged during shipment. After connecting supply tank to dryer all connections should be tested under pressure with gas pressure on. Tractor can then be started and dryer test run before loading with grain.



DANGER

Check with liquid soap solution, never with flame. failure to do so may result in serious injury or death.

OPERATING INSTRUCTIONS

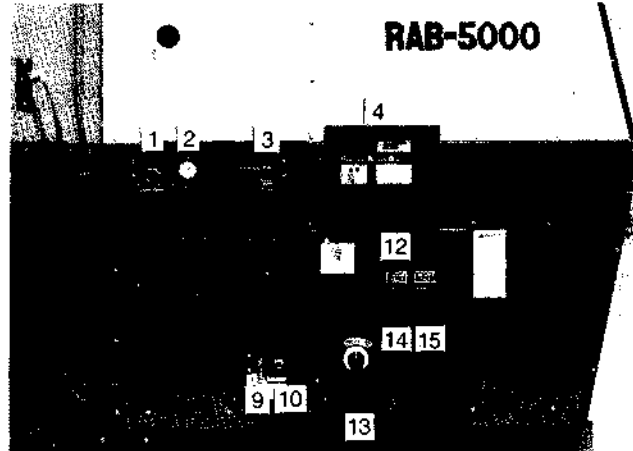


Do not operate this machine until you have read and fully understand its safe operation.

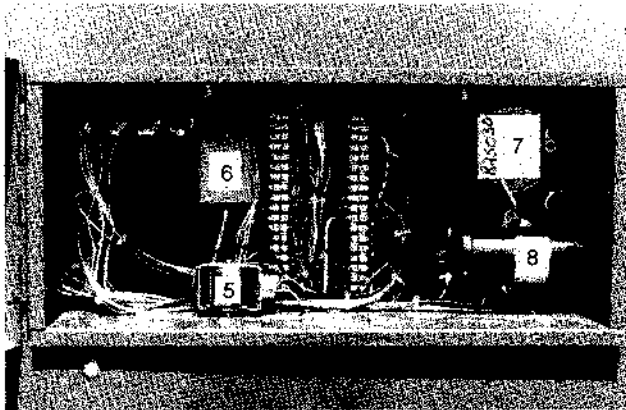
1. CONTROLS

This picture shows all components of the control system of the GT Dryer. All parts are numbered and identified by description. The following pages of the Operation, Maintenance and Service sections refer to the following information contained herein.

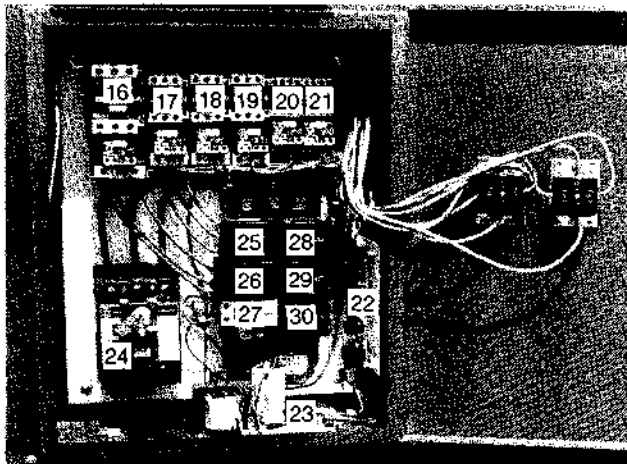
STUDY THIS INFORMATION. IT WILL GREATLY ASSIST YOU IN THE OPERATION OF YOUR DRYER.



Dryer Controls



Junction Box



Electrical Control Box

1. Pressure Regulator
2. Pressure Gauge
3. Ball Valve
4. Microprocessor
5. Solenoid Valve Coil
6. Flame Detector
7. Air Switch
8. 12V Ignition Coil
9. Quick Acting Valve
10. Propane Inlet
12. Electric Control Box
13. Main Power Disconnect
14. Aux. Loading Outlet
15. Aux. Unloading Outlet
16. Contactor, Fan Motor
17. Contactor, Vertical Auger
18. Contactor, Aux. Loading
19. Contactor, Aux. Unloading
20. Contactor, Loading
21. Contactor, Unloading
22. AC-DC Relay
23. DC Power Supply
24. Circuit Breaker, Main
25. Breaker, Auger
26. Breaker, Fan Motor
27. Breaker, DC Power
28. Breaker, Aux.
29. Breaker, Loading Mtr.
30. Breaker, Unloading Mtr.

2. RAB MICROPROCESSOR KEYBOARD

The RAB series dryer is controlled by a microprocessor which is limited by the drying condition entered by the operator. This information is input through the microprocessor keyboard. The function of each key is described below.

NOTE: The keyboard membrane is quite stiff when new and will require a break in period. Do not poke or jab the keyboard. Light even pressure will actuate the switch located below the membrane. Care must be taken to avoid puncturing this membrane. Should the keyboard or display window become punctured, replace as soon as possible. See your authorized GT dealer.

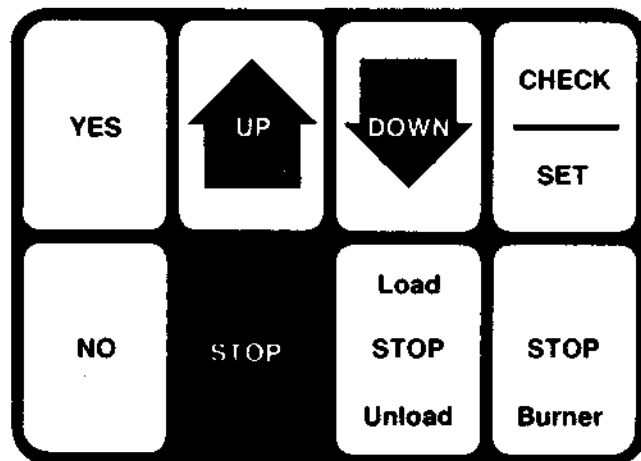


Figure C-1. RAB Keyboard

The "UP" and "DOWN" keys are used when selecting the grain, plenum temperature, grain temperature, and cool down temperature. These are the only two keys which have the auto-repeat function. When held down, they will act as if being repeatedly depressed.

The "YES" and "NO" keys provide the ability to answer any question that may require a yes or no response.

The "STOP" key, which is red in color, halts all motors and fuel flow to the burner. The dryer returns to the "IDLE" state.

The "Load-STOP-Unload" key halts the loading or unloading motors IF either are in operation. If the unit is in an automatic cycle, the dryer will return to the "IDLE" state but will continue to recirculate.

The "STOP-Burner" key will stop all burner operations and return the dryer to the "IDLE" state. The dryer will continue to recirculate.

The "CHECK/SET" key switches the display back and forth from the "SET" mode to the "CHECK" mode. The "SET" mode allows the operator to input the operating conditions. The "CHECK" mode reveals which state the dryer is operating in.

3. PLENUM HIGH LIMIT CONTROL

The high limit control safeguards against excessive plenum temperatures. The maximum temperature is factory set and microprocessor controlled. An additional high limit thermostat is placed in the plenum and acts in conjunction with the microprocessor. During the initial start-up of the dryer the microprocessor checks the high limit thermostat to make certain the plenum temperature falls within the operating range. If so, operation continues and the dryer begins the cycle. Should the thermostat open at any time during operation, power to the controller will be interrupted, halting operation of the entire unit.

4. LOADING THE BIN

DANGER

The loading auger operates automatically and may start without notice. Make certain that the auger is free of debris and that everyone stays clear of the intake. Failure to do so may result in serious injury or death.

The standard loading hopper may be used in conjunction with bin unloading equipment or it may be extended to reach under a hopper bottom bin. An auxiliary outlet is also provided which becomes energized as the dryer begins to load. This outlet can be used to operate an auxiliary electric auger, such as a bin unloader or transport auger, to fill the dryer. The grain can also be loaded directly into the top of the dryer.

When the loading hopper attachment is used for filling the dryer, follow these steps to prevent the grain from being fed into the dryer faster than the vertical auger can recirculate it. When this happens the grain can build up in the bottom of the dryer until it gets into the agitator assembly and causes damage to the agitator.

- A. Make sure that the vertical auger drive belt is kept tight and is not slipping.
- B. Make sure the discharge holes at the top of the vertical auger housing are completely open with the swivel head in the recirculation position.
- C. Make sure that the bottom auger well is kept clean of trash or fine material build up which restricts the flow of grain into the intake of the vertical auger.
- D. The vertical auger flighting cannot be worn down at the intake end.
- E. Set the grain flow regulator in the loading hopper down $1\frac{1}{2}$ " as shown in the drawing. See Figure A.

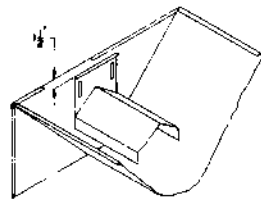


Figure A

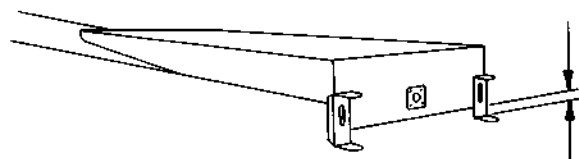


Figure B

- F. Adjust the loading hopper feet so they touch the ground as the loading auger becomes fully engaged with the drive portion of the auger. See Figure B.

 **DANGER**

The loading auger operates automatically and may start without notice. Make certain that the auger is free of debris and that everyone stays clear of the intake. Failure to do so may result in serious injury or death.

- G. The grain bin will fill until the grain is approximately 10 inches below the top ring. Wet grain expands as it is heated. Leaving a couple of inches at the top provides the additional room needed and prevents the dryer from spilling over.

DO NOT LEAVE GRAIN IN DRYER OVERNIGHT. Grain that remains in the dryer overnight will absorb moisture and swell. This swelling can cause the vertical auger to cease.

When the loading attachment is not used, overhead bins or a conventional farm type elevator or auger may be used. In using any method of filling from top, make delivery of grain into dryer as near to center as possible. Start machine, without burner, at the same time loading begins. This helps keep bin loaded evenly. Bin will fill to rim and pyramid evenly to auger outlet.

5. **STARTING INSTRUCTIONS (Quick Start)**

To begin operation as quickly as possible, perform the following steps. Then as the dryer is filling, enter the proper operating conditions for the grain being dried. See the complete Starting Instructions for more information.

Quick Start Instructions

| COMMENT | MICROPROCESSOR DISPLAY |
|---|--|
| 1. Turn Disconnect to "ON" position | |
| 2. Turn Microprocessor to "ON" position | HOURS XXX |
| 3. Press "CHECK/SET" key | IDLE, GRAIN ttt |
| 4. Press "CHECK/SET" key | GRAIN/TEMP ? |
| 5. Press "NO" key | CIRCULATE |
| 6. Press "YES" key | AUGER AGITATOR LOAD ? |
| 7. Press "YES" key | GRAIN/TEMP ? |
| 8. Press "NO" key | DRY ? |
| 9. Press "YES" key | GRAIN/TEMP ? |
| 10. Press "CHECK/SET" key | FILLING PURGING IGNITE HEATING DRYING, PLENUM, GRAIN COOLING UNLOADING |

6. STARTING INSTRUCTIONS (Complete)

- A. Open shut-off valve at fuel tank, and ball valve and quick acting valve at the dryer. The pressure regulator handle should be screwed counter-clockwise until the handle turns freely, thus closing the regulator, then turn one full turn clockwise.
- B. Turn power disconnect to the "ON" position.
- C. Place the microprocessor power switch in the "ON" position.

The microprocessor will check the DC power supplied, the plenum high limit thermostat and the plenum temperature. If the polarity or voltage from the DC power supply is incorrect, no further operation will occur. If the voltage is between 7 and 10 volts, "VOLTS LOW" will flash on the display. If it is over 16 volts, "VOLTS HIGH" will flash on the display. When the voltage is between 10 and 16 volts the microprocessor will next check the plenum high limit thermostat and the plenum temperature. If the temperature in the plenum is within range, operation will continue. The total operating time since manufacture will appear as "HOURS" on the display. If the plenum temperature is above or below the accepted range. "PLENUM" will flash on the display.

- D. Press "CHECK/SET" key.

"IDLE" will appear on the display.

The CHECK mode allows the operator to determine which operating state the dryer is in. The following states are possible:

| STATE | DISPLAY | DRYER FUNCTION |
|-----------|-----------------------------------|---------------------------------|
| Idle | IDLE GRAIN ttt | No operation, might recirculate |
| Filling | FILLING | Loading the dryer with grain |
| Purging | PURGING | Clear plenum of unburned gases |
| Ignition | IGNITE | Attempting to start the burner |
| Heating | HEATING | Preheating fuel vaporizer |
| Drying | DRYING PLENUM ttt GRAIN ttt | Normal grain drying |
| Cooling | COOLING GRAIN ttt | Cooling grain for unloading |
| Unloading | UNLOADING | Unloading grain from dryer |

ttt - The actual temperature will replace this symbol.

E. Press "CHECK/SET" key.

"GRAIN/TEMP ?" will appear on the display.

Each time a question mark (?) appears on the display, as in "GRAIN/TEMP ?" for example, the next response must be "YES", "NO", or "CHECK/SET".

To select the grain and set the drying parameters, continue with Step F.

If the dryer has been previously set and no changes are required or you choose to set the drying parameters at a later time, continue with Step K.

F. Press "YES" key.

"BARLEY" will appear on the display during the initial start-up. In all other instances, the last grain to be dried will appear on the display. To make the grain selection, press the "UP" or "DOWN" key until the desired grain appears on the display.

The following grains are alphabetically stored in the microprocessor memory:

| | |
|--------------------|------------------|
| Barley | Rape |
| Barley Seed | Rape Seed |
| Corn | Rough Rice |
| Corn Seed | Rough Rice Seed |
| Flax | Soybeans |
| Flax Seed | Soybeans Seed |
| Grain Sorghum | Sunflower - Bird |
| Grain Sorghum Seed | Sunflower - Oil |
| Oats | Wheat |
| Oats Seed | Wheat Seed |

When the desired grain appears on the display, move to the next step. If the grain to be dried does not appear in the library make the selection which most closely resembles the grain to be dried.

G. Press "YES" key.

The preset plenum temperature will appear on the display during the initial set-up. In all other cases the last setting used will appear.

Using Corn for example, "PLEN 220 + 0" will appear. The 220 represents the preset plenum temperature for the selected grain. If desired, this can be adjusted by pressing the "UP" key to raise or the "DOWN" key to lower the plenum temperature. The change will appear on the display, for example, as "PLEN 240 + 20" where the +20 represents a setting 20 degrees above the preset plenum temperature. A -20 would represent a setting 20 degrees below the preset plenum temperature. When the desired plenum temperature appears on the display, move to the next step.

H. Press "YES" key

The preset grain temperature at which shut-down will occur shall appear on the display.

Using Corn for example, "GRN 130 + 0" will appear. Again, if desired the preset temperature can be adjusted by pressing the "UP" key to raise or the "DOWN" key to lower the temperature setting. When the desired grain temperature appears on the display, move to the next step.

I. Press "YES" key.

The preset cooling temperature will appear on the display.

For example "COOL 120 + 0" might appear. If desired, the preset temperature can be adjusted by pressing the "UP" key to raise or the "DOWN" key to lower the temperature setting. Three methods of cooling are possible:

1. Cool grain before unloading.

Under normal operation the cooling temperature is set below the grain shut-down temperature and above ambient temperature, for example "COOL 100- 30" and "GRN 130 + 0". This allows the grain to be cooled 30 degrees before unloading. The operator may adjust this setting to attain any level of cooling between ambient air and the shut-down temperature.

2. Unload the grain hot.

To unload the grain immediately after it reaches the shut-down temperature, set the cooling temperature equal to the grain temperature or (COOL ttt + 0). The "+ 0" indicates that the difference between the two temperature settings is zero. This allows the operator to unload hot and cool the grain in an aeration bin.

3. Dry a single batch.

To dry a single batch set the cooling temperature above the shut-down temperature or below the ambient air temperature. For example, if the shut-down temperature is "GRAIN 120", set the cooling temperature at "COOL 140". This places the cooling temperature 20 degrees above the shut-down temperature. Although these settings are unachievable, the dryer will attempt to reach them. This places the unit in a continuous cooling cycle which interrupts automatic operation. Care must be taken to manually shut-down the dryer when the grain has cooled sufficiently. If this is not done at the correct time moisture will be reintroduced into the grain.

When the desired cooling temperature appears on the display, move to the next step.

J. Press "YES" key.

"GRAIN/TEMP ?" will appear on the display.

If an error was made when entering the drying parameters return to Step F. If no changes are required proceed with the next step.

K. Press "NO" key.

"CIRCULATE ?" will appear on the display.

To begin dryer operation move to the next step.

If you are not ready to start the auger, agitator and fan motors press the "NO" key. "GRAIN/TEMP ?" in Step J will appear on the display. Complete Step J and continue.

L. Press "YES" key.

"AUGER" will appear on the display as the vertical auger and agitator start.

After 5 seconds have elapsed, "AGITATOR" will appear and remain on the display for 15 seconds as the fan starts.

If the dryer is empty or partially full, "LOAD ?" will next appear on the display. If the dryer is completely full, "EMPTY ?" will appear on the display. At this time if you respond by pressing the "NO" key, the other options will appear on the screen in the following order:

LOAD ? - EMPTY ? - DRY ? - GRAIN/TEMP ?

If the dryer is full, the "LOAD" option will be dropped from the menu.

When the desired operation is on the display continue with the next step.

M. Press "YES" key.

1. If "LOAD ?" or "EMPTY ?" was chosen in the previous step, "DRY ?" will appear on the display. To place the dryer in the automatic drying cycle proceed with the next step.

If at this time you wish to alter the grain or temperature settings press the "NO" key. "GRAIN/TEMP?" will appear on the display. Press "YES" key and repeat Steps F through J.

To fill the dryer and NOT continue with the drying cycle (this is a manual fill operation), either do not respond to the "DRY ?" question or respond by pressing the "NO" key. The dryer will fill and then shut-down. "FINISHED" will appear on the display.

2. If "DRY ?" was selected, "GRAIN/TEMP ?" will appear on the display. If you do not wish to alter the grain and temperature settings at this time, skip to Step O.
3. If "GRAIN/TEMP ?" was chosen in the previous step, the grain selected in Step F will appear on the display. Repeat Steps F through J. "GRAIN/TEMP ?" will appear. Press the "NO" key and continue with the second half of Step L.

N. Press "YES" key.

"GRAIN/TEMP ?" will appear on the display.

You again have the opportunity to alter the grain or temperature settings. Press the "YES" key to make the modifications. Repeat Steps F through J. "GRAIN/TEMP ?" will appear on the display. Proceed with Step O.

If you do not wish to alter the temperature settings, continue with the next step.

O. Press "CHECK/SET" key.

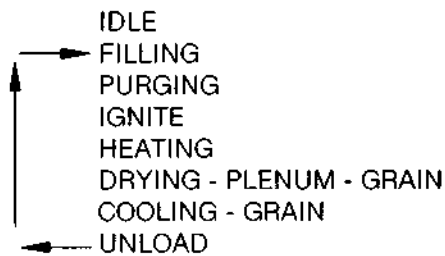
"FILLING" will appear on the display if "LOAD" was selected in Step L.

"UNLOAD" will appear on the display if "EMPTY" was selected in Step L.

"PURGING" will appear if "DRY" was selected in Step L.

When the "YES" key is pressed after the "DRY ?" question appears on the display, the dryer is placed in the automatic mode and will continue to cycle until the unit runs out of wet grain or an error has been detected.

The dryer cycles in the following order:



By pressing the "CHECK/SET" key the operator can enter the CHECK mode and observe the progress of the machine.

P. AUTOMATIC OPERATION

To observe dryer operation the microprocessor must be in the CHECK mode.

As the dryer begins to fill, "FILLING" will appear and remain on the display until the dryer is full. An electronic grain level sensor is mounted at the top of the dryer to determine when the grain has reached this level. A maximum time limit of 20 minutes is allowed. If the bin is not full by the end of this period, the dryer will shut-down and "NO FILL" will appear on the display. This prevents the unit from attempting to fill for more than a short period should the wet grain supply become exhausted or a problem with the loading auger arise.

When grain is detected at the top of the dryer, the loading cycle ends and the dryer moves into the ignition cycle. "PURGING" will first appear on the display. A 16 second period is allowed for the ventilation of any gases that may have accumulated. At the end of this period, the word "IGNITE" appears.

As actual ignition attempts begin, the solenoid controlled fuel valves open and the spark plug begins to spark. Trial for ignition is permitted for up to 90 seconds. If a flame is not established within this time, the fuel valves will close and the spark plug will stop sparking. The Indicator Light on the microprocessor will light and "FLAME" will flash on the display. The fan and vertical auger will also shut-down. To restart the dryer, begin by pressing any key on the control panel to turn off the Indicator Light and stop the flashing error message. "HOURS" will appear on the display. Return to Step D.

After a successful ignition, "HEATING" will appear on the display. This is a 45 second period in which the vaporizer is heated to allow proper vaporization of the liquid propane. After the HEATING period has ended the high heat solenoid will open. The burner will operate at maximum output to bring the plenum temperature up to the operating level as quickly as possible. When the preset temperature is reached, the dryer will begin to cycle between high and low burn to maintain this temperature. "DRYING" will begin to alternate on the display.

The pressure regulator should be adjusted at this time. Gradually bring the operating pressure up to 20 to 25 psi while the burner is on high burn. If frost appears on the line wait a few minutes before increasing the pressure further. In certain climates more than 25 psi may be required.

The dryer is now operating in the drying mode and "DRYING", "PLENUM ttt" and "GRAIN ttt" will alternate on the display. The symbol ttt represents the actual temperature, "PLENUM 220" for example. If the plenum temperature is below 110 degrees Fahrenheit, "PLENUM LOW" will appear on the display. If the grain temperature is below 10 degrees Fahrenheit, "GRAIN LOW" will appear on the display.

If at any time you wish to alter the drying parameters, press the "CHECK/SET" key. The grain selected in Step F will appear on the display. Repeat Steps F through J. To return to the alternating display, press the "CHECK/SET" key.

When the grain has reached the preset shut-down temperature, the burner will be extinguished and the dryer will automatically switch to the COOLING or UNLOADING cycle as previously instructed in Step 1.

If the dryer was set to cool, the fan will continue to operate, moving air through the hot grain attempting to lower the grain temperature. When the grain cools to the preset cooling temperature the dryer will begin to unload. An electronic grain level sensor is located in the bottom of the dryer. When the grain level drops below this sensor the unloading system will run for one additional minute. This provides the extra time required for the bottom of the dryer and the auxiliary unloading auger to empty. A maximum of 20 minutes is allowed for unloading. If the grain level has not reached the bottom grain level sensor within this period, the dryer will shut down and "NO UNLOAD" will appear on the display.

If the dryer was set to unload when the shut-down temperature is reached, the dryer will immediately go to the unloading cycle as described above.

When the dryer is completely unloaded, the cycle will start again and the dryer will begin to fill.

The dryer will continue to operate in this fashion until the wet grain supply has become exhausted or an error condition has been detected. Regardless of the cause, except for power failure, the error condition which ended operation will appear on the display after shut-down has occurred. In all cases the Indicator Light will light, the error message will flash on the display (except "VOLTS HIGH"), and all motors will stop. The following error conditions are possible:

| DISPLAY | ERROR CONDITION |
|------------|--|
| NO FILL | Bin did not fill - wet supply exhausted or fill failure |
| NO UNLOAD | Bin did not empty - empty failure |
| AGITATOR | Agitator motion stopped - agitator failure |
| AUGER | Auger motion stopped - auger failure |
| VOLTS LOW | DC Power supplied to controller too low, below 7 volts |
| VOLTS HIGH | DC Power supplied to controller too high, above 16 volts |
| AIR | Air flow low - air flow failure |
| PLENUM | Plenum temperature too high or too low |
| FLAME | Flame sensor malfunction - flame out or sensor failure |
| FINISHED | Finished loading or unloading - normal end |

The Indicator Light may be turned off by pressing any key on the key board.

7. RESTARTING BURNER AFTER SHUT-DOWN OR IGNITION FAILURE

- A. If the burner was extinguished by the "STOP BURNER" key, press the "CHECK/SET" key. "GRAIN/TEMP" ?" will appear on the display. Return to the second half of Step L in the Starting Instructions. Press the "NO" key until the desired option appears on the display.
- B. If the dryer was shut-down with the "STOP" key, return to Step E of the Starting Instructions.
- C. If the dryer was shut-down by an error condition or ignition failure, push any button on the keyboard turn off the Indicator Light. Correct the error condition then return to Step D of the Starting Instructions.

8. WHEN TO TURN BURNER OFF UNDER NORMAL OPERATING CONDITIONS

The microprocessor will turn the burner off when the grain has reached the desired degree of dryness. This can be determined with an accurate moisture tester. Cool the grain to within 20 degrees above the outside air or 10 degrees above the temperature of the grain already in storage. Grain may dry as much as 2 percent during the cooling period, depending on the relative humidity. If the grain is cooled in the dryer the temperature can be monitored on the display. If the desired grain moisture is not reached at shut-down, adjust the grain dry-down temperature as outlined in Section 12, Adjusting Grain temperature Setting.

9. UNLOADING

If the dryer is in automatic operation, it will automatically unload when it reaches the end of the drying cycle. This may or may not include a cooling period. The horizontal unloader starts and grain is moved from the center auger to the outside of the dryer. The grain can be unloaded directly into a truck or grain wagon, pit auger, roof auger, or transport auger. The dryer is also equipped with an auxiliary outlet which becomes energized when the horizontal unloading head begins to operate. This permits the use of an auxiliary electric auger to carry the grain from the dryer to a storage facility.

10. RECIRCULATION WITH FAN DISENGAGED

It is possible to operate the dryer with the fan disengaged, provided the unit is equipped with a fan clutch. The dryer must be recirculating in the "IDLE" mode for this to be possible. If attempts are made to load, empty, or begin the drying cycle with the fan disengaged, the microprocessor will halt operation of the entire machine.

11. DRYER NOT IN USE

When the dryer is not in use, the shut-off valve at the tank and the quick acting valve and ball valve the dryer should all be in the "OFF" position. Lock the electrical power disconnect in the "OFF" position. Also place the microprocessor power switch in the "OFF" position. The fuel and electrical supply lines must be protected if they are located such as to permit traffic of livestock between the dryer and the supply.

NOTE: When shutting the burner off for an extended period of time, even overnight, it is a good practice to shut the gas off at the supply tank and let it burn out of the lines.

12. RECOMMENDED PLENUM TEMPERATURE FOR DRYING

The following chart lists the recommended plenum operating temperatures and preset values for each grain stored in the microprocessor library.

PLENUM TEMPERATURE RANGES FOR DRYING

| GRAIN* | PLENUM TEMPERATURE OPERATING RANGE (degrees F) | | PRESET PLENUM TEMPERATURE (degrees F) |
|--------------------|--|-----|---|
| | | | |
| Barley | 180 — | 200 | 190 |
| Barley Seed | 120 — | 170 | 160 |
| Corn | 200 — | 230 | 220 |
| Corn Seed | 140 — | 180 | 160 |
| Flax | 140 — | 160 | 150 |
| Flax Seed | 90 — | 120 | 120 |
| Grain Sorghum | 230 — | 250 | 230 |
| Grain Sorghum Seed | 140 — | 180 | 160 |
| Oats | 200 — | 230 | 220 |
| Oats Seed | 140 — | 180 | 160 |
| Rape | 140 — | 160 | 150 |
| Rape Seed | 90 — | 120 | 120 |
| Rough Rice | 140 — | 160 | 150 |
| Rough Rice Seed | 90 — | 120 | 120 |
| Soybeans | 180 — | 200 | 190 |
| Soybeans Seed | 120 — | 170 | 150 |
| Sunflower — Bird | 110 — | 150 | 140 |
| Sunflower — Oil | 110 — | 150 | 150 |
| Wheat | 150 — | 180 | 170 |
| Wheat Seed | 100 — | 150 | 130 |

*NOTE: Grains which are not indicated as "Seed" are intended for commercial use or animal feed.

13. RECOMMENDED GRAIN TEMPERATURES FOR DRYING

The following chart lists the maximum recommended grain temperatures and the preset values for each grain stored in the microprocessor library.

MAXIMUM GRAIN TEMPERATURE FOR INDICATED USE

| GRAIN | PRESET GRAIN TEMP. (degrees F) | | MAXIMUM GRAIN TEMP. (degrees F) | | |
|------------------|-----------------------------------|--------------------|------------------------------------|-----------|------|
| | SEED | COMM. USE/ FEED | SEED | COMM. USE | FEED |
| | | | | | |
| Barley | 105 | 120 | 105 | 120 | 140 |
| Corn | 110 | 130 | 110 | 130 | 140 |
| Flax | 105 | 120 | 110 | 120 | |
| Grain Sorghum | 110 | 130 | 110 | 140 | 140 |
| Oats | 105 | 130 | 105 | 140 | 140 |
| Rape | 110 | 120 | 110 | 120 | |
| Rough Rice | 110 | 110 | 110 | 110 | 110 |
| Soybeans | 105 | 120 | 105 | 120 | 140 |
| Sunflower — Bird | | 90 | | 90 | |
| Sunflower — Oil | | 100 | | 100 | |
| Wheat | 105 | 120 | 105 | 120 | 140 |

14. ADJUSTING GRAIN TEMPERATURE SETTING

The grain temperature setting serves to prevent over-heating of the grain. When the temperature gets to the preset grain temperature the burner will shut off and the Indicator Light will light. Refer to the above chart for maximum grain temperature settings.

To initially set the grain temperature begin with the preset grain temperature setting stored in the microprocessor. NOTE: When drying grain for seed purposes, use the grain setting indicated as "Seed". As the batch is drying, periodically take grain samples from the sampler tube and check the moisture content on an accurate moisture tester. When the grain gets within 1 - 2 percentage points of the desired final moisture content adjust the grain temperature setting down until the gas shuts off thus extinguishing the burner. Let the grain cool to the desired temperature. The grain will continue to dry during the cooling process and should be near the desired dryness after cooling. If the grain is still a little too wet, raise the temperature setting one or two degrees on the next batch. If the grain was a little too dry, lower the temperature setting one or two degrees on the next batch.

When drying grain for seed purposes set the grain setting on "Seed", and begin with the preset value. When the grain in the dryer reaches the preset temperature the burner will be extinguished. Check the moisture content after cool down. If this batch is too wet, LOWER the plenum temperature slightly for the next batch. Lowering the plenum temperature will increase the drying time and therefore decrease the grain moisture. Conversely, if the batch is too dry, RAISING the plenum temperature slightly for the next batch will decrease the drying time and therefore increase the grain moisture. Do not exceed maximum plenum or grain temperatures shown in the following charts.

The grain temperature control serves as an indicator to the degree of dryness, but settings must be ascertained at user level. For recording temperatures used, a sheet is provided in the back of this manual. Each batch should be tested to be sure the proper moisture level is reached. Different varieties of the same grain may require different temperature settings to achieve the same degree of dryness.

15. ADJUSTMENT OF FUEL - AIR MIXTURE

Your burner is factory set for correct air input for various pressures. Burner will not operate properly unless fan is at the approximate recommended operating speed.

16. MANUAL LOAD OR UNLOAD

The RAB Series dryer has the ability to load or unload without entering the automatic cycle. This allows the operator to fill or unload the dryer and then have the unit stop. This provides the ability to do such things as unload a unit that was only partially full when the wet grain supply became exhausted or perhaps partially fill the dryer to clean out a truck or wet storage tank.

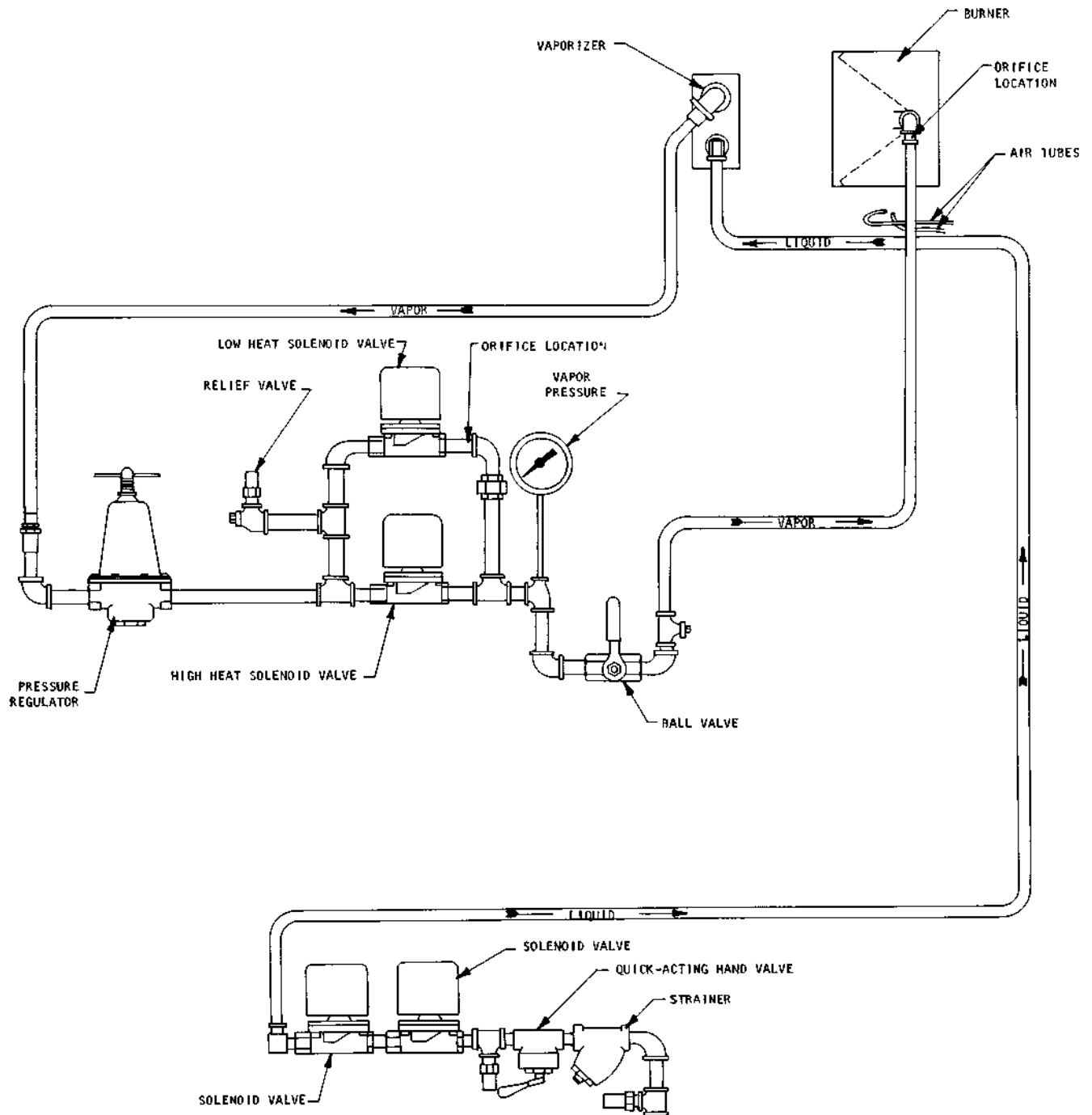
To manually load or unload, simply do not instruct the dryer to DRY. See Step L of the Starting Instructions. When the dryer begins to load or unload as desired, respond to the "DRY ?" question by pressing the "NO" key.

17. DRYING A SINGLE BATCH

To dry a single batch set the cooling temperature above the shut-down temperature or below the ambient air temperature. For example, if the shut-down temperature is "GRAIN 120", set the cooling temperature at "COOL 140". This places the cooling temperature 20 degrees above the shut-down temperature. Although these settings are unachievable, the dryer will attempt to reach them. This places the unit in a continuous cooling cycle which interrupts automatic operation. Care must be taken to manually shut down the dryer when the grain has cooled sufficiently. If this is not done moisture will be reintroduced into the grain.

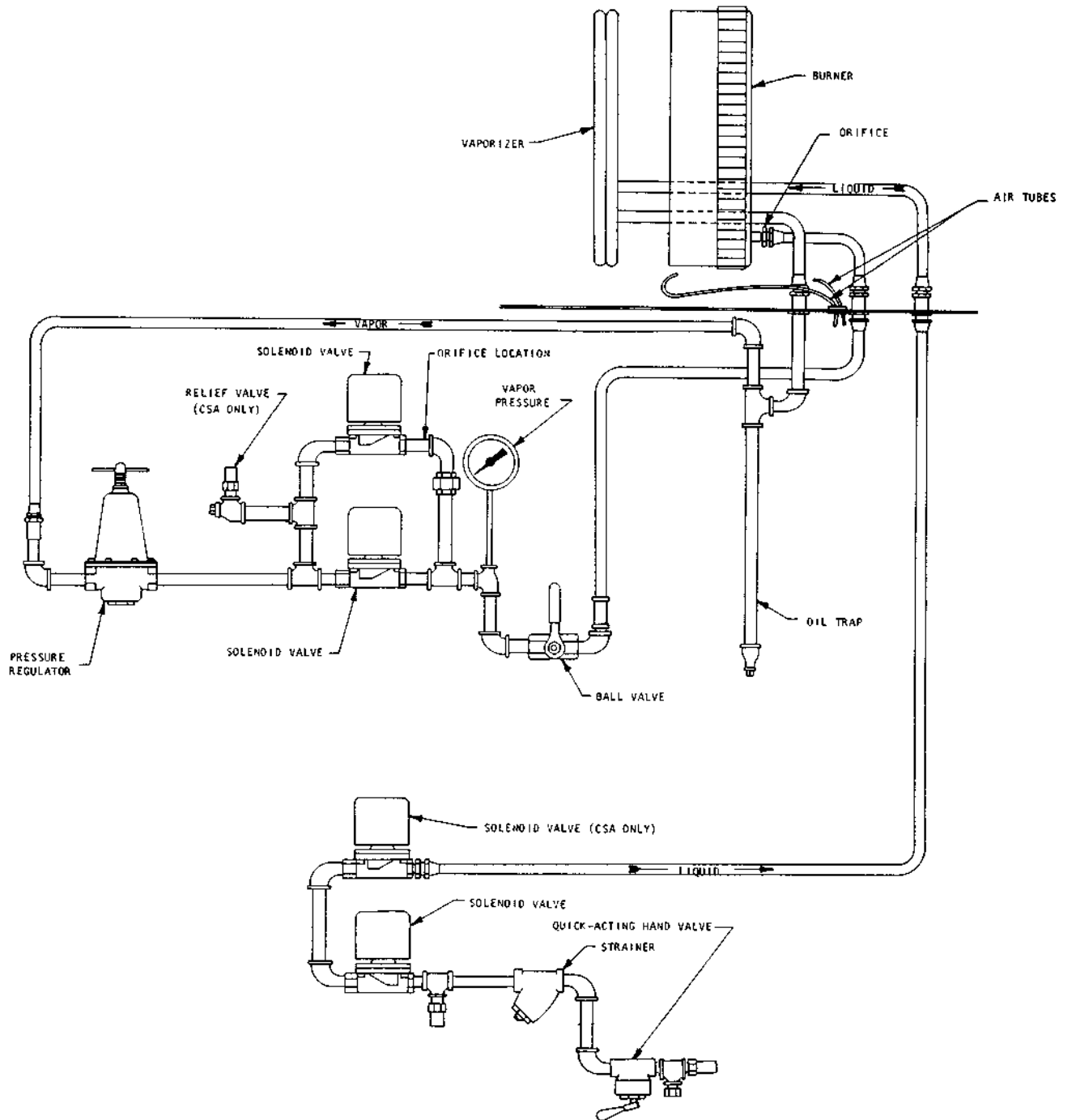
MAINTENANCE SERVICE AND TROUBLE SHOOTING FOR GT GRAIN DRYERS

SINGLE PHASE PROPANE GAS FLOW CHART

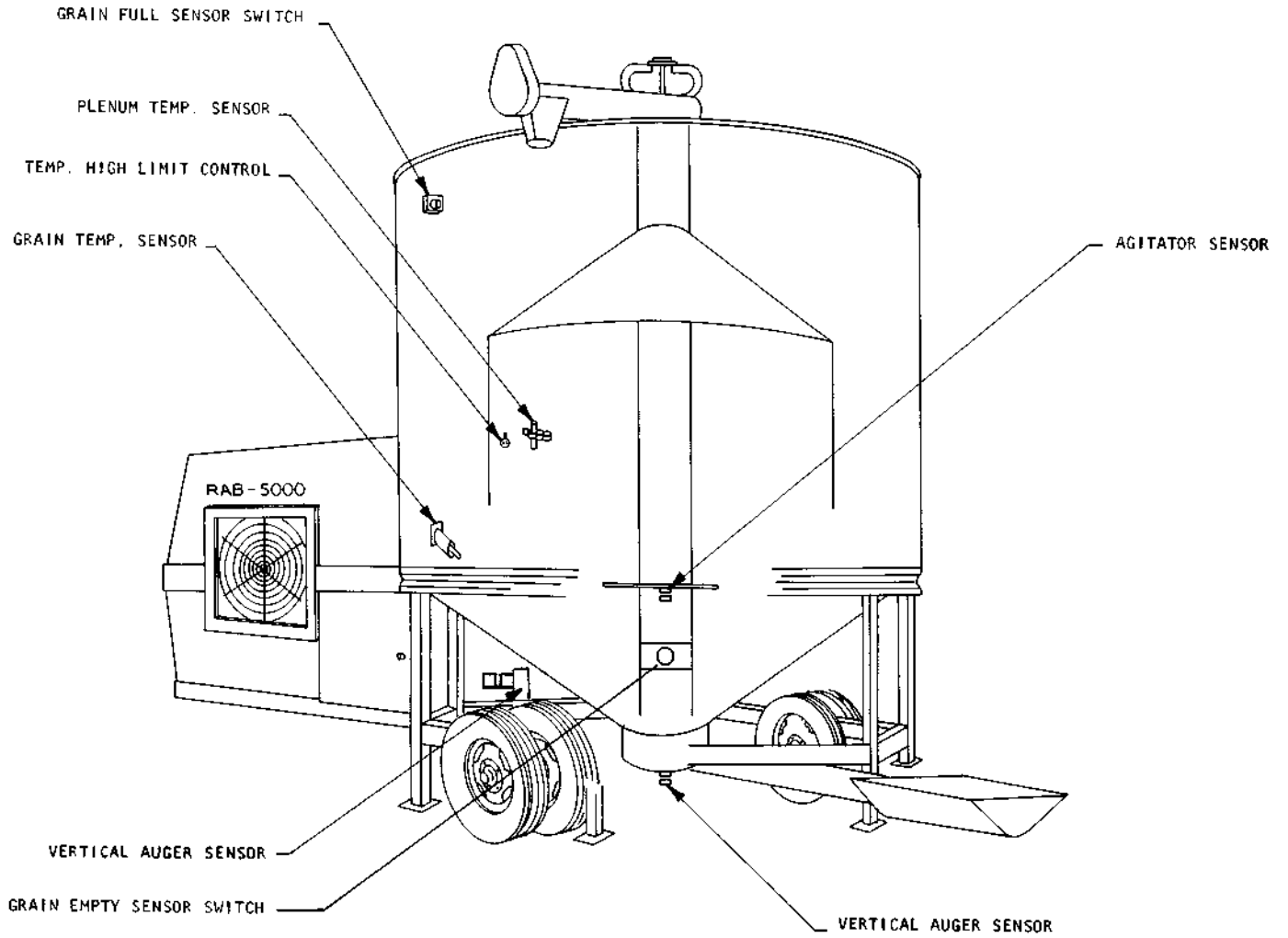


MAINTENANCE SERVICE AND TROUBLE SHOOTING FOR GT GRAIN DRYERS

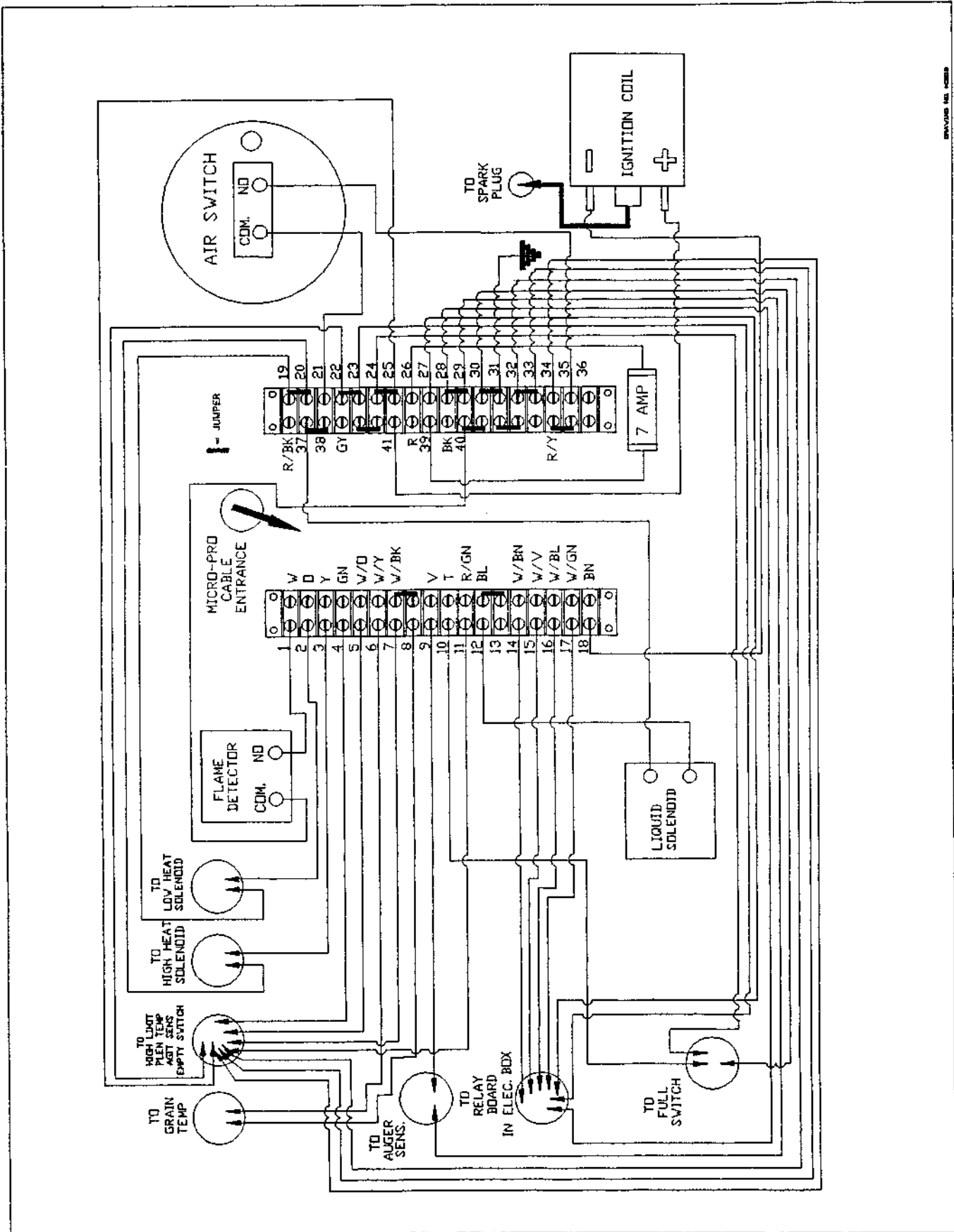
THREE PHASE PROPANE GAS FLOW CHART



SENSOR LOCATIONS



JUNCTION BOX WIRING DIAGRAM RAB-5000



REVISED 10-1988

TERMINAL BLOCK KEY
RAB 5000

CONTROLS

1. Flame Detector (N.O.) - Black
2. Low Heat Solenoid - Black
3. High Heat Solenoid - Black
4. Agitator Sensor - White/Blue
5. Plenum Temp. Sensor - White/Orange
6. Grain Temp. Sensor - White/Orange
7. Plenum Temp. Sensor - White/Black
8. Grain Temp. Sensor - White/Black
9. Auger Sensor - Brown
10. Full Sensor - Yellow
11. Empty Sensor - Yellow
12. Liquid Solenoid - Black
13. Liquid Solenoid - Black
14. Relay Panel #6 - Red (Auger Control)
15. Relay Panel #5 - White (Fan Control)
16. Relay Panel #4 - Brown (Load Control)
17. Relay Panel #3 - Yellow (Unload Control)
18. Ignition Coil (Neg.) - White
19. Low Heat Solenoid - Blue
20. High Heat Solenoid - Blue
21. Air Switch (Common) - White
22. High Limit Switch - White/Black
23. Relay Panel #1 - Green
24. Full Switch - Red
25. Empty Switch - Red
26. Fuse - 7 AMP
27. 12 VDC Positive - Yellow
28. 12 VDC Negative - Brown
29. Auger Sensor - Yellow
30. Full Sensor - Black
31. Earth Ground - Green
32. Empty Sensor - Black
33. Agitator Sensor - White/Black
34. High Limit Switch - Orange
35. Air Switch (N.O.) - Black
36. Open Terminal
37. Liquid Solenoid - Blue
38. Liquid Solenoid - Blue
39. Fuse - 7 AMP
40. Flame Detector (Common) - White
41. Ignition Coil (Pos.) - Black

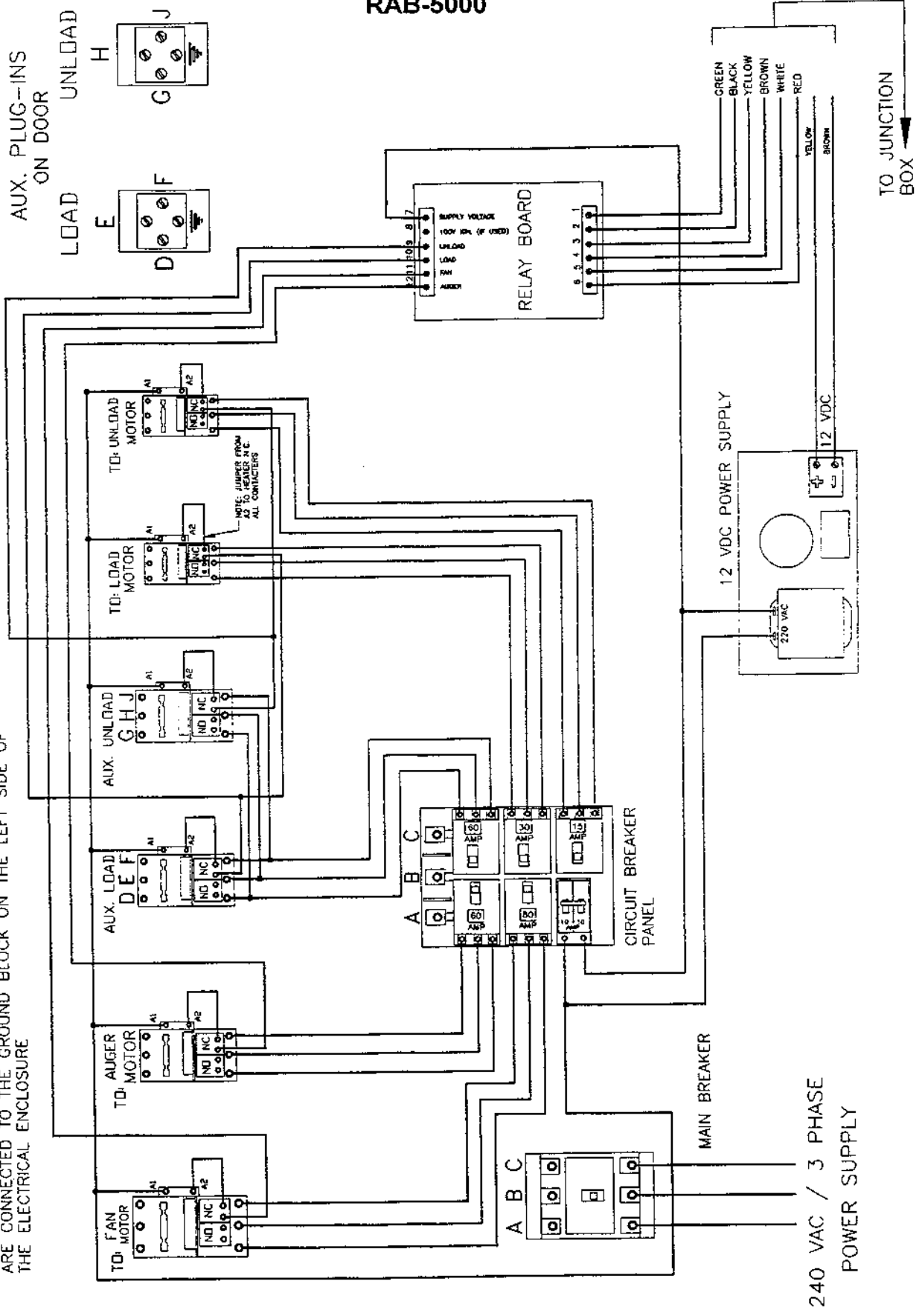
MICROPROCESSOR CABLE

- | | |
|----------------------------------|----------------------------------|
| BK - Black (Ground) | W - White (Flame) |
| BL - Blue (Liq. Sol.) | W/BK - White/Black (Plenum) |
| BN - Brown (Ignition) | W/BL - White/Blue (Load Motor) |
| GN - Green (Agitator) | W/BN - White/Brown (Auger Motor) |
| GY - Gray (Common) | W/GN - White/Green (Unload Mtr.) |
| O - Orange (Low Sol.) | W/O - White/Orange (Plenum) |
| R - Red (12 VDC Power) | W/R - White/Red (Open) |
| R/BK - Red/Black (Sol. Com.) | W/V - White/Violet (Fan Motor) |
| R/GN - Red /Green (empty) | W/Y - White/Yellow (Grain Temp.) |
| R/Y - Red/Yellow (Air/High lim.) | Y - Yellow (High Heat Sol.) |
| T - Tan (Full) | |
| V - Violet (Auger) | |

ELECTRIC CONTROL BOX WIRING DIAGRAM RAB-5000

NOTE: TERMINALS DESIGNATED WITH A LETTER ARE CONNECTED TO EVERY OTHER TERMINAL WITH THAT SAME LETTER.

NOTE: ALL MOTORS MUST HAVE AN EARTH GROUND (GREEN WIRE). THE EARTH GROUNDS FROM THE PLUGS, DESIGNATED BY THE ⚡ SYMBOL AND THE GROUNDS FROM THE MOTORS, ARE CONNECTED TO THE GROUND BLOCK ON THE LEFT SIDE OF THE ELECTRICAL ENCLOSURE



240 VAC / 3 PHASE
POWER SUPPLY

12 VDC POWER SUPPLY

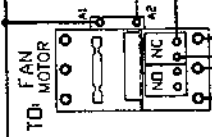
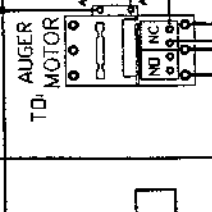
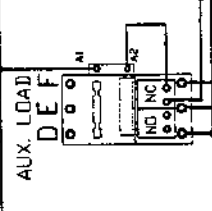
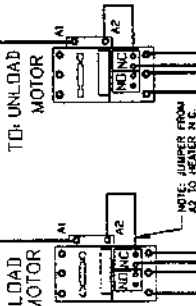
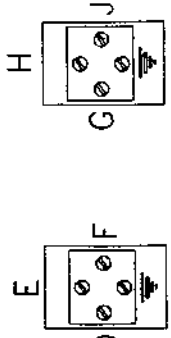
MAIN BREAKER

CIRCUIT BREAKER
PANEL

RELAY BOARD

TO JUNCTION
BOX

AUX. PLUG--INS
ON DOOR
LOAD UNLOAD



NOTE: JUMPS FROM
A1 CONTACTS

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GENERAL OPERATING MAINTENANCE

1. Keep the area clean of shucks, chaff and other combustible foreign material.
2. Keep the fan screen clean.
3. Periodically check the ignition system, all controls and safety shut-off valves for proper operation and gas tightness.
4. Periodically clean the screen in the fuel line strainer.
5. Drain propylene out of oil trap pipe in plumbing weekly.
6. Check all belts for proper tension.
7. Lubricate the machine as outlined on page 13.
8. Make certain dryer weight is evenly supported by jacks.
9. Depending on operating and fuel conditions the burner ports may need to be cleaned periodically. Working from the inside the plenum chamber and using a 5/64" diameter drill bit or torch tip cleaner open up the burner ports.
10.  Keep all safety labels and operating instructions clean and legible. If any label becomes worn, damaged, or illegible, replace it immediately.
11.  Replace all shields/guards removed for service before operating the machine.

REMEMBER: An ounce of prevention is worth a pound of cure!

MICROPROCESSOR AND SENSOR MAINTENANCE

WARNING: DO NOT OPEN THE MICROPROCESSOR ENCLOSURE! There are no owner serviceable components. Service is to be done by authorized personnel only. See your authorized GT dealer.

1. Disconnect the microprocessor unit (See page 12) BEFORE servicing any motion or temperature sensor. Failure to do so may result in permanent damage to the microprocessor.
2. When the dryer is not in use store the microprocessor unit in a cool, dry place free of dust. This will help to insure long, trouble free service from your microprocessor.
3. The correct spacing between the motion sensors and magnets is 0.125 inch. The unit will function properly if the clearance is less than this but should they come into contact the sensors would be destroyed.
4. The temperature sensors are polarized and must be installed properly. See the wiring diagram, page 32, for proper wire locations. Should the wires become reversed, the dryer will not ignite. The sensors are seen as "HOT" and ignition is prevented.

5. It is important to keep your electrical supply to the dryer in peak operating condition.
6. The spark plug wire is a carbon filled cable. If the spark plug wire is ever replaced on the machine it must be of this type. The metal conductor in other types of spark plug wires causes excessive electrical "Noise" which inhibits the operation of the processor.
7. Overheating of the plenum is protected against by two systems, the microprocessor and a thermostat located inside the plenum. Should the thermostat be activated, the switch will open and operation will cease. The thermostat must cool before the operation can resume.

PREPARING DRYER FOR STORAGE

1. If dryer remains connected to the fuel supply, close the shut-off valve at the tank and the ball valve and quick acting valve at the dryer.
2. Remove the microprocessor. Store in a cool, dry place free of dust.
3. With masking tape or equivalent, seal holes in air switch tube, any openings in the fuel system, and the microprocessor cable end just removed.
4. Open clean out door in bottom well, clean out all grain, leave door open.
5. Remove belts. Store in a cool, dry place.
6. Brush protective coating of oil on chains and belt surfaces of pulleys.
7. Lubricate all bearings. See chart on page 13.
8. Inspect for worn or damaged parts which should be replaced before being used again.



Replace any safety or operating label that has become worn, damaged or illegible.

9. Set jacks to support dryer weight.
10. Lock electrical disconnect in the "OFF" position.

PREPARING DRYER FOR USE - OUT OF STORAGE

1. Remove masking tape covering openings.
2. Connect microprocessor control cable and mount microprocessor to the dryer.
3. Replace and tighten belts.
4. Make certain bottom well is clean and close clean out door just prior to using.
5. Lubricate all bearings. See chart on page 13.
6. Close access door.
7. Check burner ports and clean if necessary. See General Operating Maintenance.
8. Test fire the burner and check out all controls to make sure they are working properly before grain is added to the dryer.
9. Level dryer and make certain the weight is equally distributed on the jacks.
10. Check safety and operating decals. If any are not legible they should be replaced.
11. Make certain all electrical connections are made and that the machine is properly grounded.

TRANSPORTING THE DRYER



DANGER

Be alert to overhead obstructions and wires. Failure to do so may result in serious injury, electrocution or death. Removal of top auger section is recommended before towing.



CAUTION

OBSERVE THE FOLLOWING RULES WHEN TRANSPORTING THE DRYER.

1. Make certain the hitch pin is securely attached and an alternate hitch safety chain is secured to the dryer and towing vehicle.
2. Do not transport the dryer at speeds in excess of 20 MPH (32 KPH) and comply with any local regulations governing marking, towing and maximum width.
3. Do not transport the dryer after dark or during periods of poor visibility.
4. Maintain proper tire pressure. (Refer to tire manufacturer's recommendations on the sidewall.)
5. Make certain the microprocessor is securely fastened to the dryer. If the dryer is to be towed any distance the microprocessor should be removed from the dryer and safely stored.

TROUBLE SHOOTING

WARNING: CAUTION SHOULD BE EXERCISED WHEN CHECKING CONTROL PANEL. USE VOLT METER OR TEST LIGHT.

WARNING: DISCONNECT THE MICROPROCESSOR BEFORE SERVICING THE ELECTRICAL OR SENSOR SYSTEMS. FAILURE TO DO SO MAY RESULT IN PERMANENT DAMAGE TO THE UNIT.

Reconnect the microprocessor cable and make certain that it is tight before attempting to restart the dryer.

See page 25 for a complete listing of the error messages given on the microprocessor.

Problem A. BURNER WILL NOT LIGHT.

Probable Cause

1. Check the microprocessor display for error message. If given, correct and proceed.
2. Are both tank and dryer fuel valves open?
3. Check that the in-line fuse has not blown.
4. Is the grain temperature above the grain temperature setting?
5. Check to see that the solenoid valves are opening. When "FLAME" appears on the display the solenoid valves should open. If the valves open there should be a pressure reading on the pressure gauge.
6. Display returns to "IDLE" just as "FLAME" appears on display. Attempt to restart the dryer carefully watching the display. If insufficient voltage is being applied to the dryer, the error message "VOLTS LOW" will very briefly flash on the display and then "IDLE" will appear.
7. Air switch not closing ("AIR" displayed on screen). Remove and clean or replace air switch tube.
8. Check for plugged orifice.
9. Possible loose wire connection.
10. Gas pressure too low. Up to 5 PSI for ignition may be required for propane.
11. Gas pressure too high. 30 PSI is near maximum for ignition with propane burner.
12. System improperly grounded. Check lead wire connections at terminal block.
13. Check plug for spark. If no spark check the following after disconnecting power to the system.
 - a. Check spark gap. Gap should be $3/32"$ + or $- 1/32"$. If plug is carboned at the points, clean or replace after checking gap.
 - b. Check high voltage lead wire for cracks or breaks, and replace if necessary.
 - c. Check that the high voltage lead wire is not too close to a metal surface to insure that arcing will not occur at any point other than across the high voltage electrode at the ignitor.
14. Check the fuel strainer.

Problem B. BURNER LIGHTS BUT PRESSURE WILL NOT EXCEED 5 TO 6 PSI AND/OR HAS EXCESSIVE FLUTTERING.

Probable Cause

1. Vapor solenoid malfunctioning.
Solution:
Disassemble solenoid body and remove diaphragm. If diaphragm is oily or dirty, wipe clean and replace. If diaphragm is ruptured replace with new diaphragm.
2. Pressure regulator malfunctioning.
3. High Heat solenoid is not opening. Check wire connections. If still does not open, disassemble and clean solenoid valve.

Problem C. BURNER IGNITES BUT GOES OUT DURING OPERATION

Probable Cause

1. Electrical connection may be loose.
2. Worn insulation or wet wires may be grounding.
3. Excessive flow valve at tank may be closing.
4. Check for stoppage in air switch tube. ("AIR" indicated on display.) Remove tube from switch and clean or replace.
5. The flame detector bulb is not sensing flame at the burner. The flame detector must sense enough heat from the flame to close its contacts before the 90 second ignition period has elapsed. If the flame detector is not closing it will be necessary to adjust the sensor bulb mounted to the burner so that it picks up more heat from the flame. To do this adjust the bulb so that it protrudes into the burner 3/8" to 1/2". Do not over-tighten the locking nut on the flame detecting bulb.
6. Inaccurate plenum temperature sensor. "PLENUM" appears on the display.

Problem D. UNCONTROLLABLE HEAT.

Probable Cause

1. Cracked Vaporizer.
2. Ruptured gas line.

Problem E. TRASH OR GRAIN FIRE.

Probable Cause

1. Excessive plenum temperature.
2. Trash build-up in plenum.
3. Poor circulation due to agitator being out of operation or adjustment.
4. Ruptured gas line or vaporizer.
5. Improper burner and baffle adjustment. Shut off gas supply.

Problem F. GAS WILL NOT SHUT OFF IMMEDIATELY WHEN POWER IS SHUT OFF.

Probable Cause

1. Perforated diaphragm in vapor solenoid valve.
2. Plunger upside down on vapor solenoid valve.
3. Lack of diaphragm in vapor solenoid valve.

Problem G. AGITATOR DRIVE CHAIN OFF



DANGER

Do not open inspection door or enter machine while in operation.

Probable Cause

1. Roller stuck — seized bearing — may be flat on one side.
2. Too much horizontal play between agitator race and rollers.
3. Agitator drive sprocket out of line.
4. Too slack a chain.
5. Excess feeding of loading auger causing grain level to rise above agitator. (Close grain flow regulator slightly to reduce feed rate.)

Problem H. AUGER STOPPAGE

Probable Cause

1. Slack belt.
2. Block of wood or rock lodged between auger flight and housing.
3. Extremely wet grain standing over night.
4. Bottom auger bearing frozen.

Problem I. EXCESSIVE DRYING TIME

Probable Cause

1. Plenum temperature too low for conditions.
2. Inaccurate plenum temperature sensor.
3. Poor circulation of grain.
4. Dirty or trashy grain.
5. Hard to dry variety. (Thick seed coat.)
6. Incorrect fan speed.
7. Adverse weather conditions.
8. Recirculation of exhaust air from dryer back into plenum.

Problem J. POOR GRAIN CIRCULATION

Probable Cause

1. Fan speed above that recommended.
2. Build up of foreign material, especially in bottom section of dryer.
3. Agitator not operating. ("AGITATOR" indicated on the display.)

MICROPROCESSOR CONTROL SYSTEM

See page 25 for a complete listing of the error messages given by the microprocessor.

WARNING: DISCONNECT THE MICROPROCESSOR BEFORE SERVICING THE ELECTRICAL OR SENSOR SYSTEMS. FAILURE TO DO SO MAY RESULT IN PERMANENT DAMAGE TO THE UNIT.

Reconnect the microprocessor cable and make certain that it is tight before attempting to restart the dryer.

1. **Low Voltage:** The microprocessor requires 12 volts DC to operate properly. If this is not available, operation will cease at that point and "VOLTS LOW" will flash on the display.

Probable Cause:

- A. A loose or poor connection
 - B. Power supply not functioning properly. Check, repair or replace.
2. **Rotational Sensor Failure:** The microprocessor may indicate an error even though the component (Auger, Agitator) seems to be functioning properly.

DISCONNECT THE MICROPROCESSOR BEFORE SERVICING MOTION SENSORS!

Probable Cause:

- A. **Sensor failure.** To check the switch, line up the sensor and the magnet then using a volt meter or continuity tester, see if there is continuity across the corresponding lugs on the terminal block. There should be a signal. Now rotate the magnet a quarter turn past the sensor and check the continuity again. If everything is working properly there should be no continuity.
 - B. **Sensor out of adjustment.** There should only be 0.125 inch between the magnet and the rotational sensor. Distances greater than this will give a weak signal and may not activate the sensor.
 - C. **Loose or poor connections** at either the terminal block or the sensor connection.
3. **Spark Plug Wire:** Should the spark plug wire become damaged and need to be replaced it is important that a carbon filled cable and not a solid wire conductor be used. A wire conductor will cause excessive electrical "Noise" inhibiting the operation of the machine.
 4. **Inaccurate Temperature Readings:**

Probable Cause:

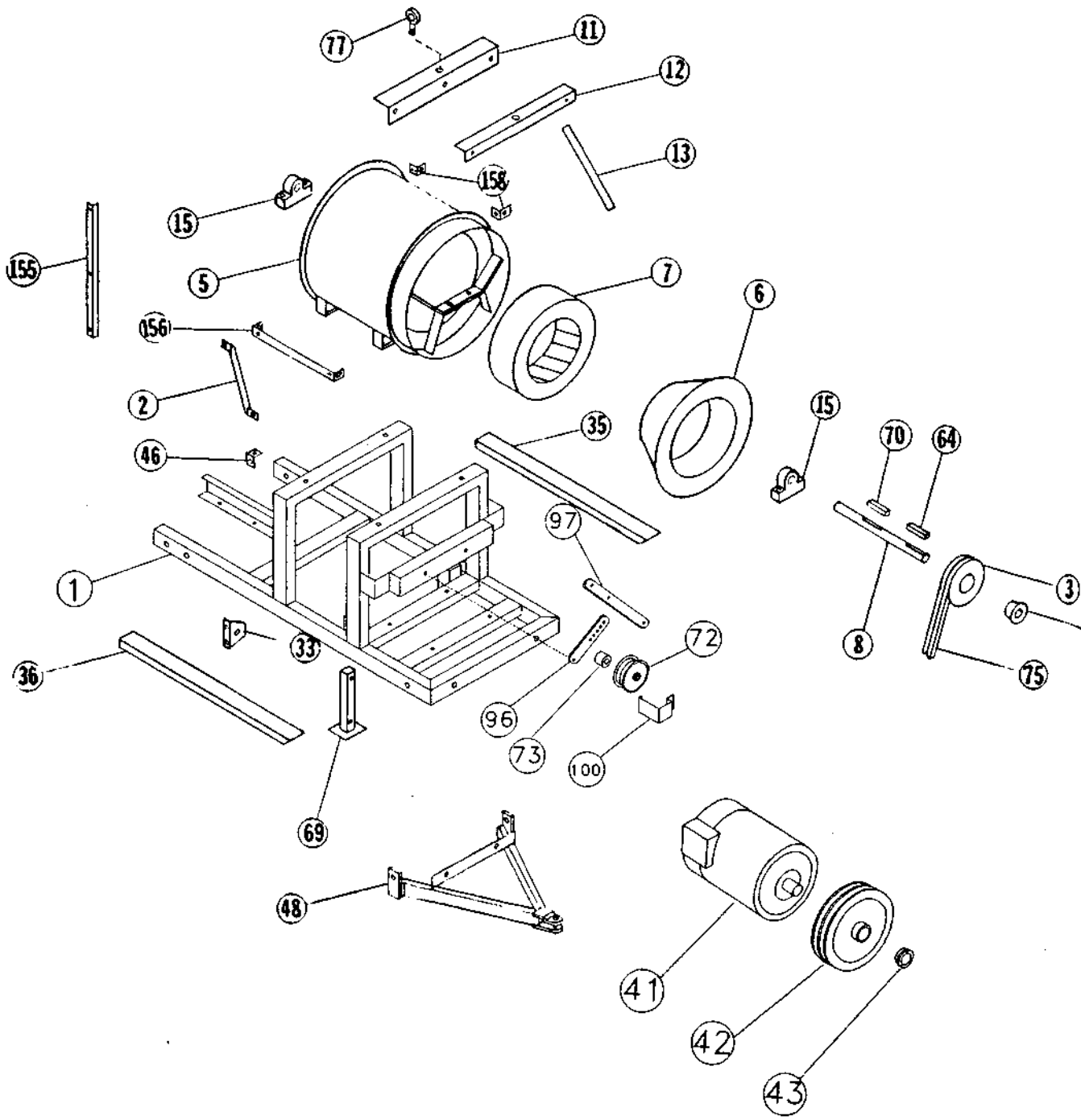
- A. Loose or poor connection.
- B. Wires hook up backwards. The temperature sensor wires are polarized and must be hooked up correctly. See wiring diagram on page 34.
- C. **Temperature sensor failure:**
 1. If the sensor shorts out, the microprocessor will see this as an extremely cold condition and will try to bring the temperature up. "PLENUM LOW" will appear on the display if the plenum sensor fails.
 2. If the sensor opens, the microprocessor will see this as an extremely hot condition and shut the dryer down. If the plenum sensor fails "PLENUM" will appear on the display. "GRAIN" will appear if the grain sensor fails.
 3. If the sensor falls out of calibration a faulty temperature will be given. This should be detectable by observation. If the plenum can not achieve the preset value, check the plenum temperature sensor. If the microprocessor says the grain is dry and the grain is still cold check the grain temperature sensor.

| GRAIN | USED FOR | PLENUM TEMP. | GRAIN TEMP. | DRYING TIME | COOLING TIME |
|-------|----------|--------------|-------------|-------------|--------------|
| | | | | | |

**ASSEMBLY DRAWINGS
AND
PARTS LIST**

**RAB 5000
THREE PHASE**

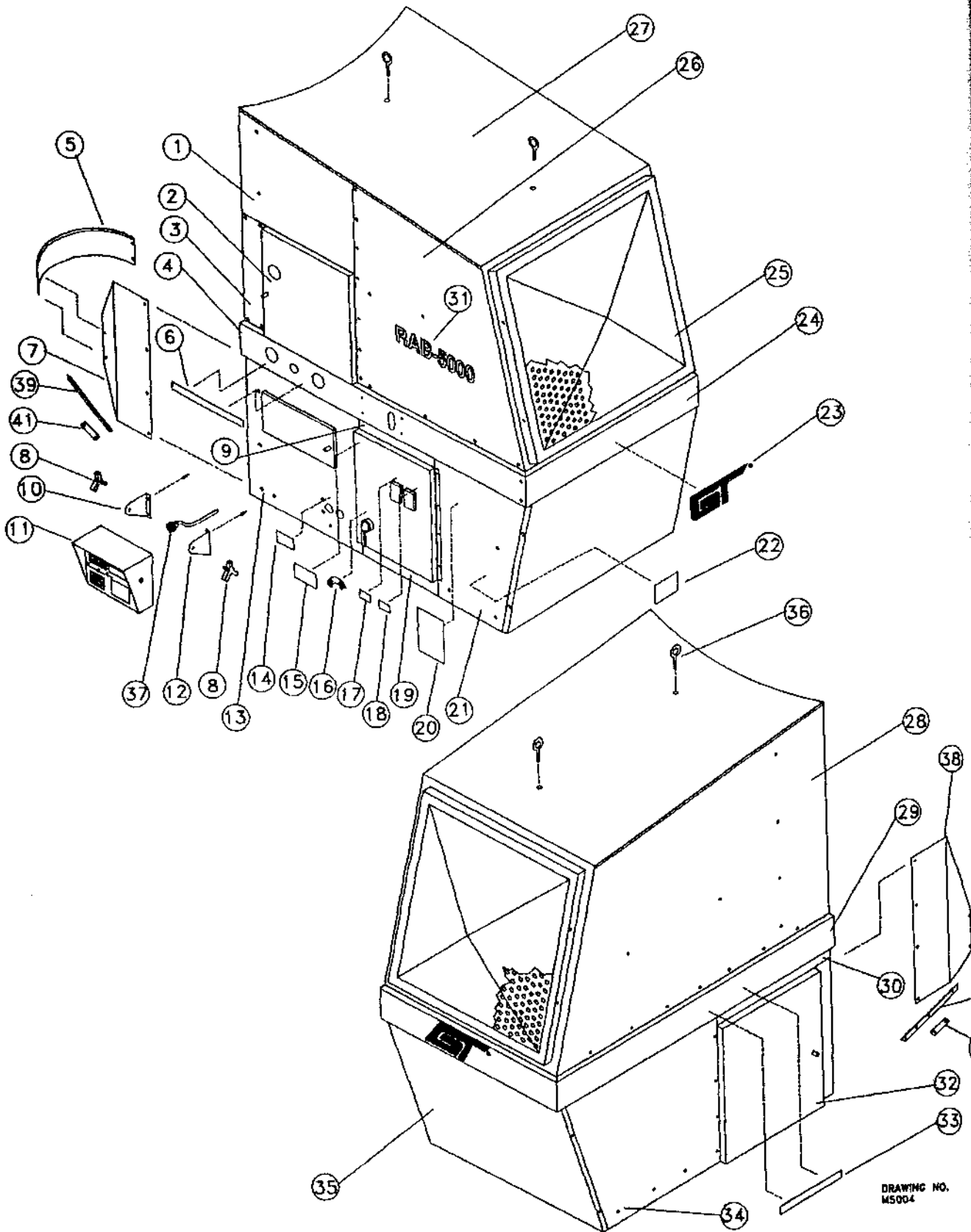
POWER FRAME ASSEMBLY
THREE PHASE



**POWER FRAME ASEMBLY
THREE PHASE**

| REF. NO. | PART NO. | NO. REQ'D. | DESCRIPTION |
|----------|---------------|------------|--|
| 1 | D50476 | 1 | Frame, Power |
| 2 | D52022 | 2 | Brace, Power Frame |
| 3 | 76052 | 1 | Sheave, 2B 9.4PD L/Hub SK |
| | 76046 (U.K.) | 1 | Sheave, 2B 8.0PD L/Hub SK |
| 4 | 76002 | 1 | Hub, 2.0" SK |
| 5 | 76156 | 1 | Housing, In Line Fan |
| 6 | D57300 | 1 | Venturi, In Line Fan |
| 7 | D52072 | 1 | Fan |
| 8 | D52082 | 1 | Shaft, 1L 2" |
| 11 | D57100 | 1 | Support, Large Top Panel |
| 12 | D57105 | 1 | Support, Small Top Panel |
| 13 | D57200 | 4 | Brace, Top Panel |
| 15 | 85019 | 2 | Bearing, 2" Pillow Block |
| 33 | D57225 | 4 | Support, Wrapper |
| 35 | D57120 | 1 | Support, Lwr. Panel Left |
| 36 | D57111 | 1 | Support, Lwr. Panel Rt. |
| 41 | 52-10080 | 1 | Motor, 15 H.P. 220/440 3 ϕ TEFC |
| 42 | 76052 | 1 | Sheave, 2B 9.4 PD L/SK Hub |
| 43 | 76065 | 1 | Hub, 1.625 SK |
| | 76034 (U.K.) | 1 | Hub, 42 mm SK |
| 46 | D57315 | 1 | Brace, Junction Box |
| 48 | D52463 | 1 | Hitch |
| | D52464 (U.K.) | 1 | Hitch |
| 64 | 73424 | 1 | Key, $\frac{1}{2} \times \frac{1}{2} \times 3 \frac{7}{8}$ |
| 69 | D50570 | 2 | Jacks |
| | D21022 | 2 | Adjustable Jacks (optional) |
| 70 | 73419 | 1 | Key, $\frac{1}{2} \times \frac{1}{2} \times 2 \frac{1}{4}$ |
| 72 | 42-16336 | 1 | Pulley, Idler |
| 73 | D32220 | 1 | Spacer |
| 75 | D32272 | 1 | Belt, 2RB 133 |
| 77 | 71941 | 2 | Eyebolt, $\frac{1}{2} \times \frac{1}{2}$ |
| 96 | D50720 | 1 | Link, Idler |
| 97 | D50715 | 1 | Arm, Idler |
| 100 | D32260 | 1 | Guide, Belt |
| 155 | D37075 | 2 | Brace, Panel |
| 156 | D57285 | 1 | Bracket, Rt. Fan Guard |
| 158 | D37285 | 2 | Bracket, LH Fan Guard |

POWER FRAME ASSEMBLY
THREE PHASE

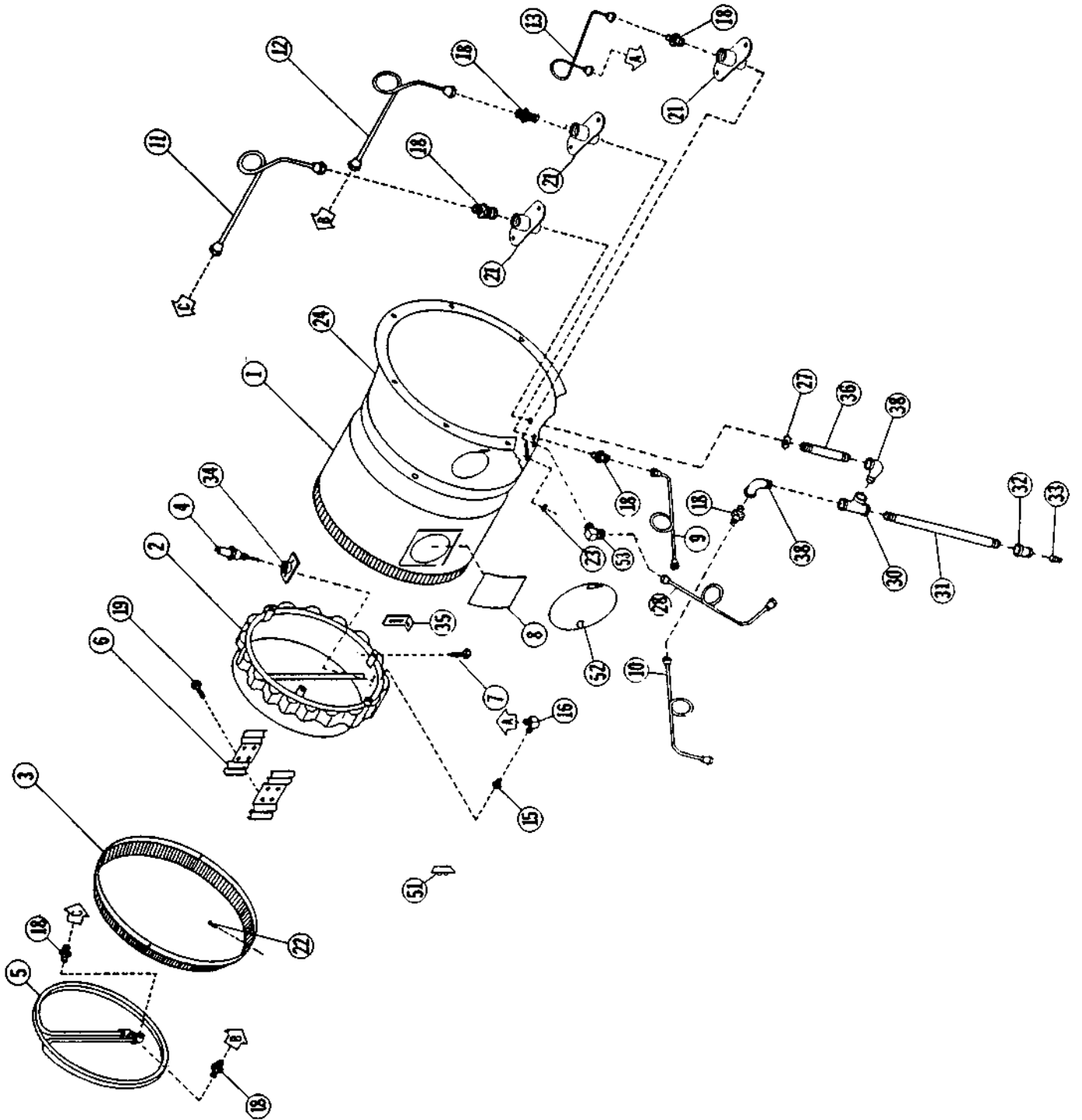


DRAWING NO.
MS004

POWER FRAME ASEMBLY
THREE PHASE

| REF. NO. | PART NO. | NO. REQ'D. | DESCRIPTION |
|----------|----------|------------|------------------------------|
| 1 | D57435 | 1 | Panel, Upper Rear Rt. |
| 2 | D37261 | 1 | Door, Rt Upper |
| 3 | D57340 | 1 | Panel, Lower Rear Rt. |
| 4 | D52892 | 1 | Wrapper, Rt. Power Frame LP |
| 4 | D52897 | 1 | Wrapper, Rt. Power Frame NG |
| 5 | D50750 | 1 | Guard, Auger Mtr. Belt |
| 6 | 74620 | 1 | Decal, Valve |
| 7 | D50166 | 1 | Shield, Jack shaft Rt. |
| 8 | 77235 | 2 | Knob, Mounting |
| 9 | D50755 | 1 | Filler, Top Electric Box |
| 10 | D25845 | 1 | Mount, Rear Box |
| 11 | DA25002 | 1 | Micro-Pro Dryer Controller |
| 12 | D25840 | 1 | Mount, Front Box |
| 13 | D50211 | 1 | Panel, Rt. Lwr. Rear |
| 14 | 73661 | 1 | Decal, Danger LP Gas Supply |
| 15 | 74676 | 1 | Decal, Danger Electrocution |
| 16 | 74673 | 1 | Decal, On-Off |
| 17 | 74670 | 1 | Decal, Load |
| 18 | 74671 | 1 | Decal, Unload |
| 19 | D50760 | 1 | Filler, Bottom Elec. Box |
| 20 | 73682 | 1 | Decal, Be a Safe Operator |
| 21 | D50181 | 1 | Panel, Lwr. Rt. Front |
| 22 | 73981 | 1 | Decal, Electrocution |
| 23 | 73949 | 1 | Decal, GT Logo |
| 24 | D52901 | 1 | Wrapper, Front |
| 25 | D57195 | 1 | Grill, Front Fan |
| 26 | D57350 | 1 | Panel, Rt. Fan Guard |
| 27 | D57170 | 1 | Panel, Top Fan Guard |
| 28 | D57180 | 1 | Panel, Left Fan Guard |
| 29 | D52131 | 1 | Wrapper, Left Power Frame |
| 30 | D57265 | 1 | Filler, Door |
| 31 | 74683 | 2 | Decal, RAB-5000 |
| 32 | D57260 | 1 | Door, Left |
| 33 | 74705 | 1 | Decal, Grease Line |
| 34 | D57160 | 1 | Panel, Left Lwr. Fmt. |
| 35 | D50765 | 1 | Panel, Lower Front |
| 36 | 71941 | 2 | Eyebolt, 1/2 x 1 1/2 |
| 37 | 77320 | 1 | Cable, Micro Pro |
| 38 | D50161 | 1 | Shield, Jackshaft Left |
| 39 | D50346 | 1 | Angle, RT. Jackshaft |
| 40 | D50341 | 1 | Angle, LT. Jackshaft |
| 41 | D50560 | 2 | Strap, Jackshaft Angle Mount |

BURNER ASSEMBLY
THREE PHASE

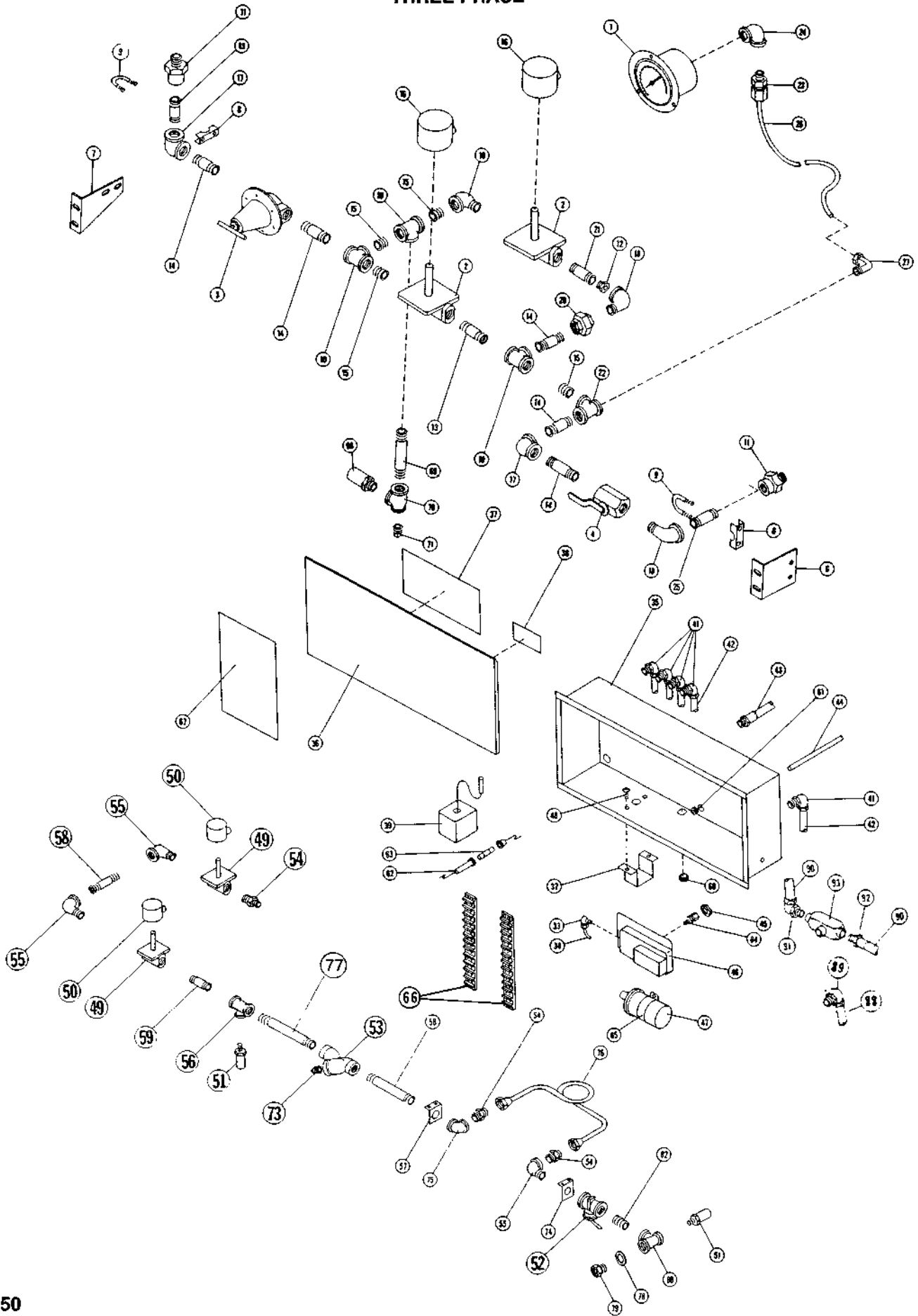


**BURNER ASSEMBLY
THREE PHASE**

| REF. NO. | PART NO. | NO. REQ'D | DESCRIPTION |
|----------|-----------|-----------|------------------------------------|
| 1 | D57210 | 1 | Tube, Burner (Propane) |
| 2 | D52303 | 1 | Burner, Ring (Propane) |
| 3 | D52520* | 1 | Ring, Flame Deflector |
| 4 | D22320 | 1 | Spark Plug |
| 5 | 57001279* | 1 | Vaporizer, Ring |
| 6 | 57001242 | 2 | Bracket, Vaporizer |
| 7 | 71959 | 3 | Bolt, Burner Mt. |
| 8 | D22462 | 1 | Window, Plexiglass |
| 9 | D57245 | 1 | Tube, Outside Liquid to Vapor |
| 10 | D57235 | 1 | Tube, Outside Vapor to Plumb. |
| 11 | 57001268* | 1 | Tube, Inside Vapor |
| 12 | 57001267* | 1 | Tube, Inside Liquid |
| 13 | D52374* | 1 | Tube, Inside Vapor to Burner |
| 15 | 57001247 | 1 | Orifice - LP |
| 16 | D32300* | 1 | Holder, Orifice |
| 18 | 73086* | 7 | Adapter, 1/2" P. to 1/2" T. Union |
| 19 | 71028* | 4 | Capscrew, 5/16" x 1 1/2" Hex |
| 21 | D37330 | 3 | Coupler, Union Brkt. |
| 22 | 71942* | 4 | Screw, No. 14 x 3/4" Metal |
| 23 | 73270 | 2 | Grommet, 3/8" I.D. Rubber |
| 24 | 74155 | 1 | Adaptor, Fan |
| 25 | 72035 | 2 | Screw, No. 8 x 1/2" Metal |
| 27 | 77100* | 1 | Nut, Conduit |
| 28 | D37231 | 1 | Tube, Outside, Vapor to Burner |
| 30 | 72947 | 1 | Tee, 1/2" x 1/2" x 1/2" N.P.T. |
| 31 | 72928* | 1 | Nipple, 1/2" x 13" |
| 32 | 72949 | 1 | Reducer, 1/2" x 1/2" |
| 33 | 72633* | 1 | Plug, 1/2" N.P.T. Plug |
| 34 | 57001241 | 1 | Mount, Spark Plug |
| 35 | D32130 | 1 | Bracket, Flame Detector Bulb Mount |
| 36 | 72797* | 1 | Nipple, 1/2" x 4 1/2" XH |
| 38 | 72946 | 2 | Elbow, 1/2" x 90° St. |
| 51 | D32370 | 1 | Shield, Burner (Propane) |
| 52 | D37206 | 1 | Cover, Hole |
| 53 | 73101 | 1 | Adapter, 90° |

NOTE: *Propane Burners Only

PROPANE CONTROL CABINET ASSEMBLY THREE PHASE



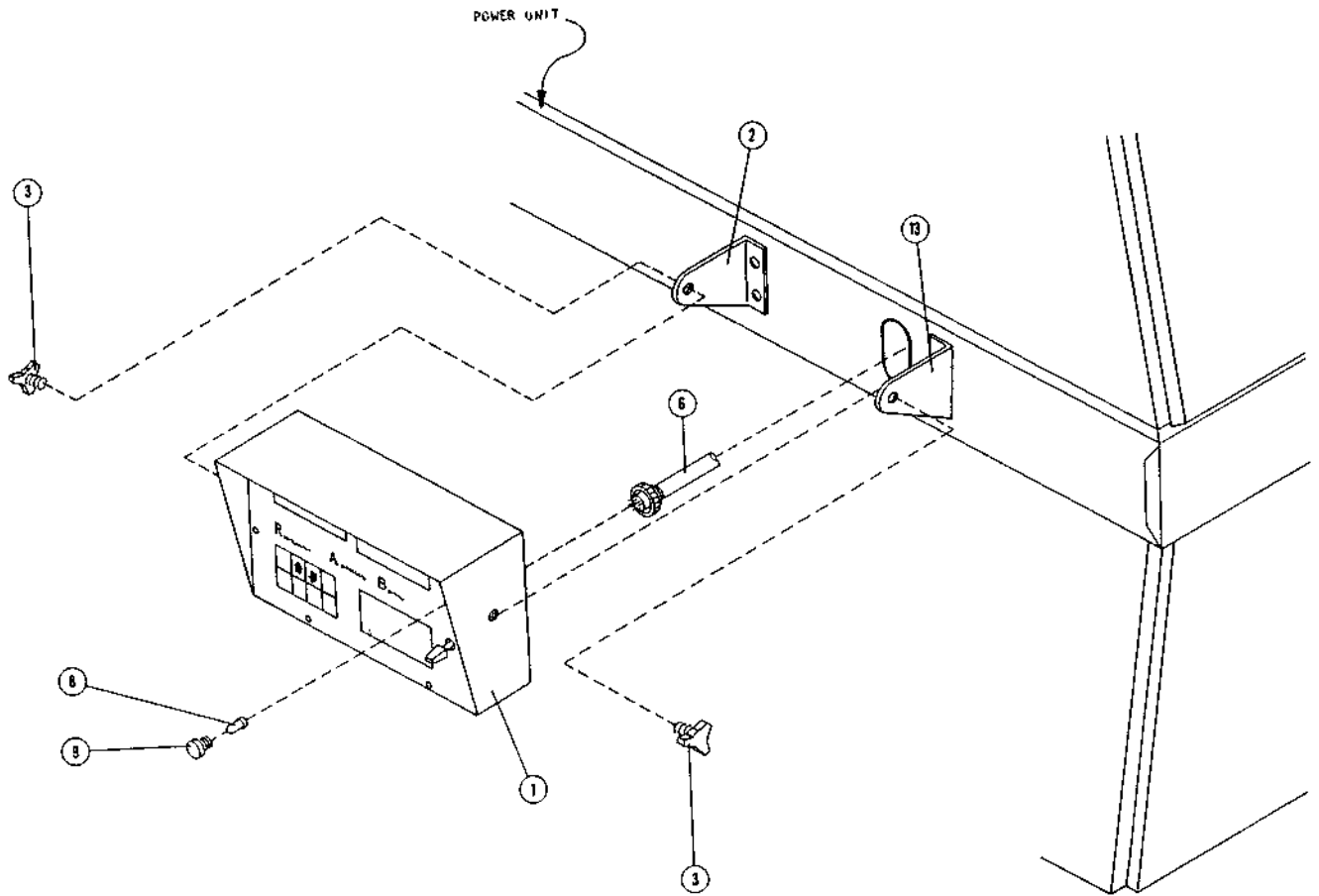
**PROPANE CONTROL CABINET ASSEMBLY
THREE PHASE**

| REF. NO. | PART NO. | NO. REQ'D. | DESCRIPTION |
|----------|----------|------------|-----------------------------------|
| 1 | D25102 | 1 | Gauge, Pressure |
| 2 | 77193 | 2 | Valve, ½ Solenoid |
| 3 | D25191 | 1. | Regulator, ½ Pressure |
| 4 | 57001285 | 1 | Valve, Ball |
| 6 | D25620 | 1 | Bracket, Front plumbing |
| 7 | D25631 | 1 | Bracket, Rear plumbing |
| 8 | D25610 | 2 | Clamp, ½" saddle |
| 9 | 71987 | 2 | V-Bolt |
| 10 | 72886 | 3 | Tee, ½" |
| 11 | 73071 | 2 | Connector, ½ T to ½ Pipe |
| 12 | D22415 | 1 | Orifice |
| 13 | 72792 | 2 | Nipple, ½" x 2" |
| 14 | 72791 | 5 | Nipple, ½ x 1.5" |
| 15 | 72790 | 4 | Nipple, ½ Close |
| 16 | D25542 | 2 | Coil, Solenoid |
| 17 | 72945 | 2 | Elbow, ½" |
| 18 | 72858 | 3 | Elbow, ½ street |
| 19 | 72673 | 1 | Plug, ½" Pipe |
| 20 | 72978 | 1 | Union, ½" |
| 21 | D25865 | 1 | Nipple, orifice |
| 22 | 72886 | 1 | Tee, ½ x ½ x ½ |
| 23 | 73110 | 1 | Connector, 1/4 Tee to 1/4 pipe |
| 24 | 72841 | 1 | Elbow, 1/4 x 90 deg. |
| 25 | 72793 | 1 | Nipple, ½ x 2.5" |
| 26 | D55310 | 1 | Line, pressure gauge |
| 27 | 73128 | 1 | Elbow, 90 deg. Brass |
| 32 | D25251 | 1 | Bracket, Plumbing |
| 33 | 73125 | 1 | Elbow, 3/16 T to 1/8 pipe 90 deg. |
| 34 | D22250 | 1 | Line, Air Switch |
| 35 | D50411 | 1 | Box, 3ø Junction |
| 36 | D25512 | 1 | Door, Junction Box |
| 37 | 74692 | 1 | Decal, Wiring Diagram |
| 38 | 74694 | 1 | Decal, Terminal Block |
| 39 | D25161 | 1 | Detector, Flame |
| 41 | 73159 | 5 | Connector, 3/8" x 90 Deg. |
| 42 | 73166 | Per ft. | Conduit, 3/8" liquidtite |
| 43 | 73157 | 1 | Connector, 3/8" Straight |
| 44 | D32020 | 1 | Tube, Air Switch |
| 45 | 72279 | 1 | Nut, 1" NF Hex |
| 46 | K25030 | 1 | Air Switch |
| 47 | 77228 | 1 | Coil |
| 48 | 71683 | 2 | Screw, 10-24 x ½ machine |
| 49 | 77192 | 2 | Body, 3/8 NPT Solenoid Valve |
| 50 | D25522 | 1 | Coil, solenoid valve 12 VDC |

PROPANE CONTROL CABINET ASSEMBLY
THREE PHASE

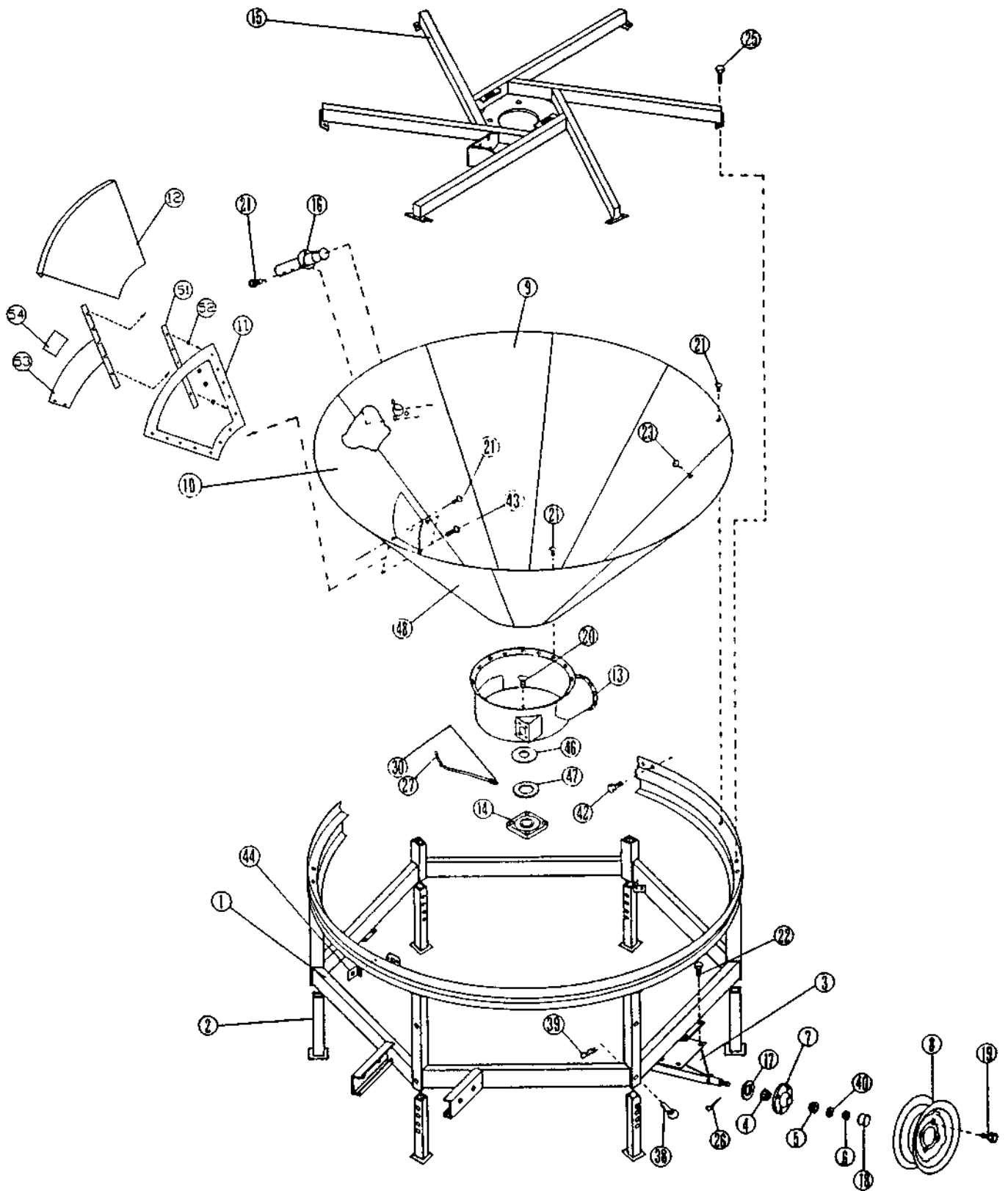
| REF. NO. | PART NO. | NO. REQ'D. | DESCRIPTION |
|----------|----------|------------|---------------------------------|
| 51 | D25240 | 2 | Valve, 1/4" NPT relief |
| 52 | D25120 | 1 | Valve, 3/8" NPT Quick Acting |
| 53 | D25280 | 1 | Strainer, 3/8" NPT |
| 54 | 73085 | 3 | Connector, 1/2 tube to 3/8 MNPT |
| 55 | 72944 | 3 | Elbow, 3/8 NPT Street |
| 56 | 72956 | 1 | Tee, 3/8 NPT |
| 57 | D25271 | 1 | Bracket , plumbing |
| 58 | 72784 | 2 | Nipple, 3/8 NPT x 3 XH |
| 59 | 72781 | 1 | Nipple, 3/8 NPT x 1.5 XH |
| 60 | 73278 | 2 | Grommet |
| 61 | 73270 | 2 | Grommet |
| 62 | 77188 | 1 | Holder, in-line fuse |
| 63 | 77268 | 1 | Fuse, 7 AMP |
| 64 | 73110 | 1 | Fitting, 1/4 T to 1/4 pipe |
| 65 | 77229 | 1 | Bracket, Coil |
| 66 | 77309 | 2 | Block, Terminal |
| 67 | 74724 | 1 | Decal |
| 68 | 74164 | 1 | Pop-Off, 45 PSI |
| | 72918 | 1 | Bushing, 1/2 to 1/4 |
| 69 | 72796 | 1 | Nipple, 1/2 x 4 |
| 70 | 72909 | 1 | Tee, 1/2 x 1/4 x 1/2 |
| 71 | 72633 | 1 | Plug, 1/4 NPT |
| 73 | 72653 | 1 | Plug, 3/8 NPT |
| 74 | D25275 | 1 | Bracket |
| 75 | 72948 | 1 | Elbow, 3/8 NPT |
| 76 | D57242 | 1 | Tube, Liquid Copper |
| 77 | 72787 | 1 | Nipple, 3/8 |
| 78 | 72595 | 1 | Washer |
| 79 | 90037 | 1 | Connector, 1/2 hose to 3/8 NPT |
| 80 | 72956 | 1 | Tee, 3/8x1/4x3/8 NPT |
| | 72890 | 2 | Bushing, 3/8 x 1/4 Reducer |
| 82 | 72780 | 1 | Nipple, 3/8 close |
| 88 | 73164 | 1 | Connector, 3/4 x 90 deg. |
| 89 | 73733 | Per ft. | Conduit, liquidtite 3/4 |
| 90 | 73735 | Per ft. | Conduit, liquidtite 1/2 |
| 91 | 73165 | 1 | Connector, 1/2 x 90 deg. |
| 92 | 73163 | 1 | Connector, 1/2 straight |
| 93 | 77106 | 1 | Tee, conduit 1/2 |
| | 77245 | Per ft. | Wire, Spark Plug |
| | 73268 | 1 | Terminal, Spark plug |
| | 77249 | 1 | Terminal, Striaight |
| | 77250 | 1 | Boot |

**MICROPROCESSOR BOX ASSEMBLY
THREE PHASE**



| REF. NO. | PART NO. | NO. REQ'D. | DESCRIPTION |
|----------|----------|------------|--------------------|
| 1 | DA25002 | 1 | Micro-Pro Assembly |
| 2 | D25845 | 1 | Mount, Rear Box |
| 3 | 77235 | 2 | Knob, Adjusting |
| 6 | 77320 | 1 | Cable |
| 8 | 77239 | 1 | Lamp |
| 9 | 77238 | 1 | Lens |
| 13 | D25840 | 1 | Mount, Front Box |

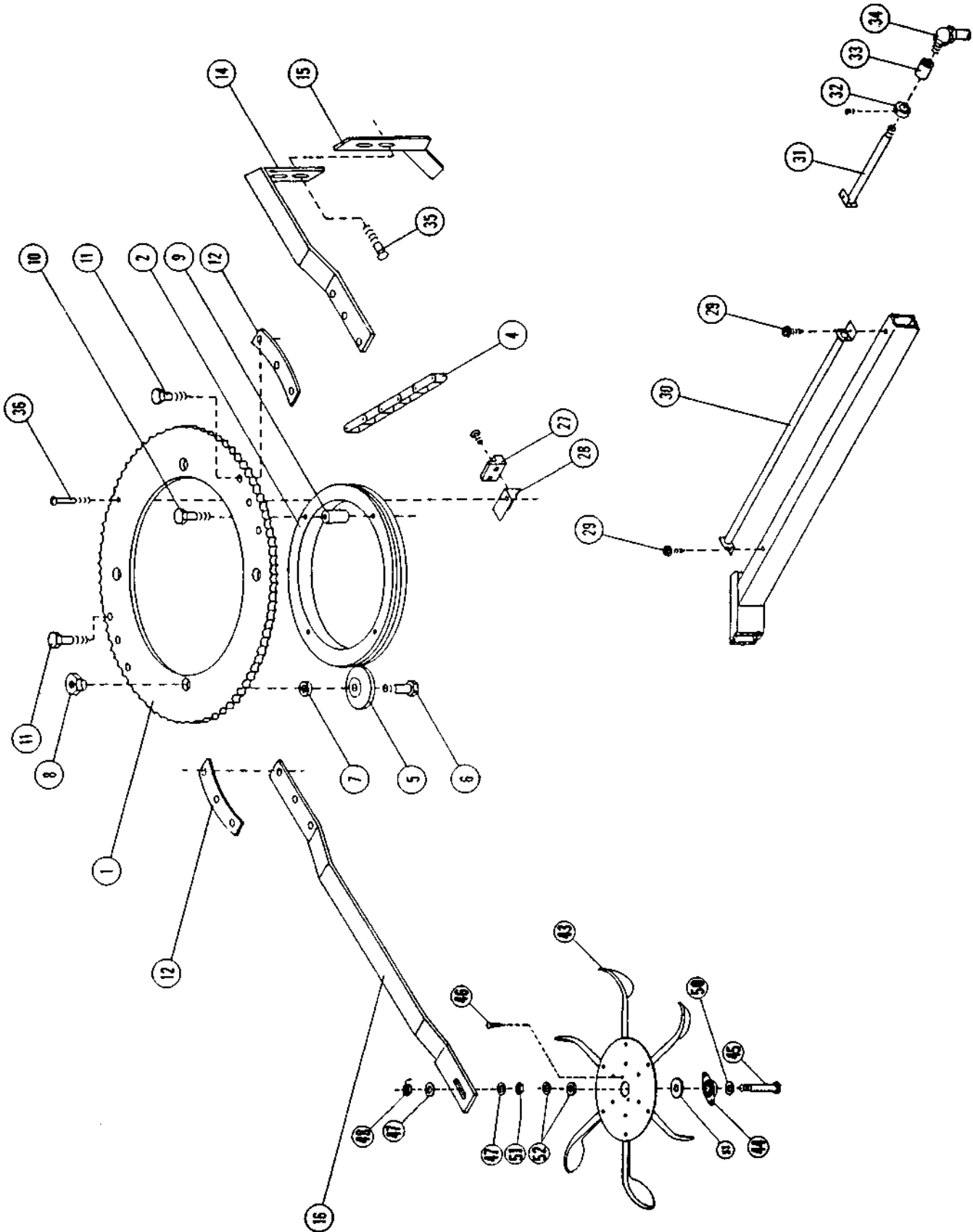
FRAME ASSEMBLY THREE PHASE



**FRAME ASSEMBLY
THREE PHASE**

| REF. NO. | PART NO. | NO. REQ'D. | DESCRIPTION |
|----------|-----------|------------|---|
| 1 | D50480 | 1 | Main Welded Frame Less Hitch |
| 2 | D21021 | 6 | Jack |
| | D21022 | 6 | Adjustable Jack (Optional) |
| 3 | D51032 | 2 | Axle Assembly |
| 4 | 42-110149 | 4 | Inner Bearing |
| 5 | D21050 | 4 | Outer Bearing |
| 6 | D21060 | 4 | Nut |
| 7 | D21075 | 4 | Hub With Bearing Cups |
| 8 | D21080 | 4 | Wheel Rim 15" |
| | D21085 | 4 | Tire, Tube & Rim (Mounted) |
| 9 | D51450 | 8 | Bin Bottom Sheet (Perf. Coated) |
| 10 | D51460 | 1 | Bin Bottom Sheet w/Access Hole (Perf. Coated) |
| 11 | D21123 | 1 | Access Door Frame |
| 12 | D21133 | 1 | Access Door |
| 13 | D51144 | 1 | Bin Bottom Well w/Boot |
| 14 | D21161 | 1 | Bottom Auger Bearing |
| 15 | D50485 | 1 | Spider |
| 16 | D21182 | 1 | Grain Sampler |
| 17 | D21190 | 4 | Seal |
| 18 | D21200 | 4 | Cap |
| 19 | 42-16053 | 16 | Lug Bolt |
| 20 | 71329 | 4 | Carriage Bolt 1/2" x 1 1/2" |
| 21 | 71823 | 129 | 1/4" - 20 x 1/2" Slotted HD Machine Screw |
| 22 | 71103 | 8 | 1/2" x 1 1/4" Capscrew |
| 23 | 71822 | 150 | 1/4" - 20 x 3/8" Slotted HD Machine Screw |
| 25 | 71053 | 20 | 3/8" x 1 1/4" Capscrew |
| 26 | 73527 | 4 | 5/32" x 1 1/4" Cotter Pin |
| 27 | 73150 | Per ft. | Grease Line |
| 28 | D21220 | 1 | Grease Line Bracket |
| 29 | 72840 | 1 | 1/8" x 90° Elbow |
| 30 | 73109 | 2 | 1/8" Compression Fittings |
| 31 | 42-16127 | 1 | 1/8" Grease Zerk |
| 38 | 73586 | 6 | Pin |
| 39 | 73587 | 6 | Clip |
| 40 | 72474 | 4 | 3/4" Washer |
| 42 | 71054 | 2 | 3/8" x 1 1/2" Capscrew |
| 43 | 71825 | 2 | 1/4" - 20 x 3/4" Slotted Head Machine Screw |
| 44 | D22491 | 1 | Bracket, Conduit |
| 46 | 73289 | 1 | Seal, 2" I.D. Neoprene Shaft |
| 47 | 73290 | 1 | Seal, 2.72" I.D. Neoprene Bearing |
| 48 | D51400 | 1 | Bin Bottom Sheet (Solid) |
| 51 | D21500 | 1 | Track |
| 52 | 72488 | 6 | Washer, High Lock |
| 53 | D21136 | 1 | Bar, Safety |
| 54 | 74716 | 1 | Decal |

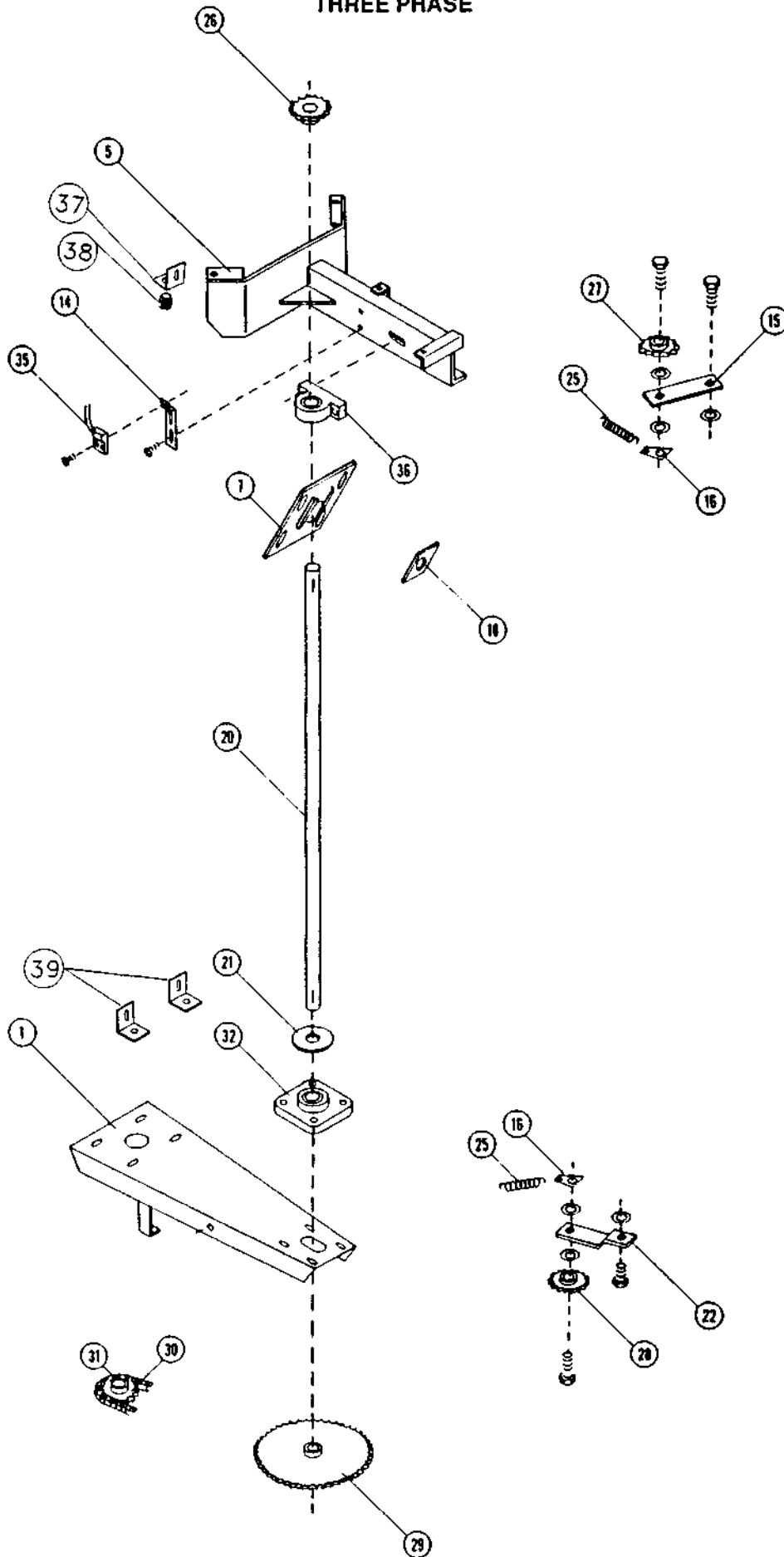
AGITATOR ASSEMBLY
THREE PHASE



**AGITATOR ASSEMBLY
THREE PHASE**

| REF. NO. | PART NO. | NO. REQ'D. | DESCRIPTION |
|----------|----------|------------|----------------------------------|
| 1 | D28032 | 1 | Sprocket, No. 60, 112 Teeth |
| 2 | D28260 | 1 | Race, Agitator |
| 4 | D28140 | 1 | Chain, Roller No. 60 |
| 5 | D28161 | 4 | Roller, Agitator w/ Bearings |
| | D28300 | 8 | Bearing (Only) - Agitator Roller |
| 6 | 73521 | 4 | Capscrew, 3/4 x 3 3/4 HT |
| 7 | 72522 | 4 | Washer |
| 8 | D28204 | 4 | Nut, Cam |
| 9 | D28270 | 4 | Spacer |
| 10 | 73519 | 4 | Capscrew, 7/16x5 HT |
| 11 | 73504 | 6 | Capscrew, 7/16x2 1/2 HT |
| 12 | D28082 | 4 | Spacer |
| 14 | D50320 | 1 | Arm, Horz. Sect. Vert. Agit. |
| 15 | D50290 | 1 | Paddle |
| 16 | D50325 | 1 | Arm, Horz. Agit. |
| 27 | 77247 | 1 | Magnet |
| 28 | D25900 | 1 | Angle, Agit. Sensor Mtg. |
| 29 | 72095 | 3 | Screw, #10 x 1/2 |
| 30 | D24250 | 1 | Pipe, Agit. Sensor spider |
| 31 | D24260 | 1 | Pipe, Agit. Sensor grain wall |
| 32 | D22130 | 1 | Coller, Set |
| 33 | 72836 | 1 | Coupler, 1/2 |
| 34 | 73159 | 1 | Elbow, 3/8 Conduit |
| 35 | 71331 | 2 | Bolt, 1/2 x 2 Carriage |
| 36 | 71688 | 1 | Screw, #10 x 3/4 |
| 43 | D58080 | 1 | Wheel, Rotary agit. |
| | D58160 | 1 | Disk (for above) |
| | D58170 | 6 | Paddle (for above) |
| 44 | 85020 | 1 | Bearing, 3/4 |
| 45 | 75342 | 1 | Capscrew, 3/4 x 4 |
| 46 | 71276 | 2 | Carriage bolt, 3/8 x 3/4 |
| 47 | 72591 | 2 | Washer, 3/4 wide rim |
| 48 | 72375 | 1 | nut, 3/4 NR Machine |
| 50 | 72595 | 1 | Bushing, 3/4 NR Machine |
| 51 | 72256 | 1 | Nut, Jam |
| 52 | D28370 | 2 | Bushing, 3/4 Machine Thick |
| 53 | 72415 | 1 | Washer, 7/8" |

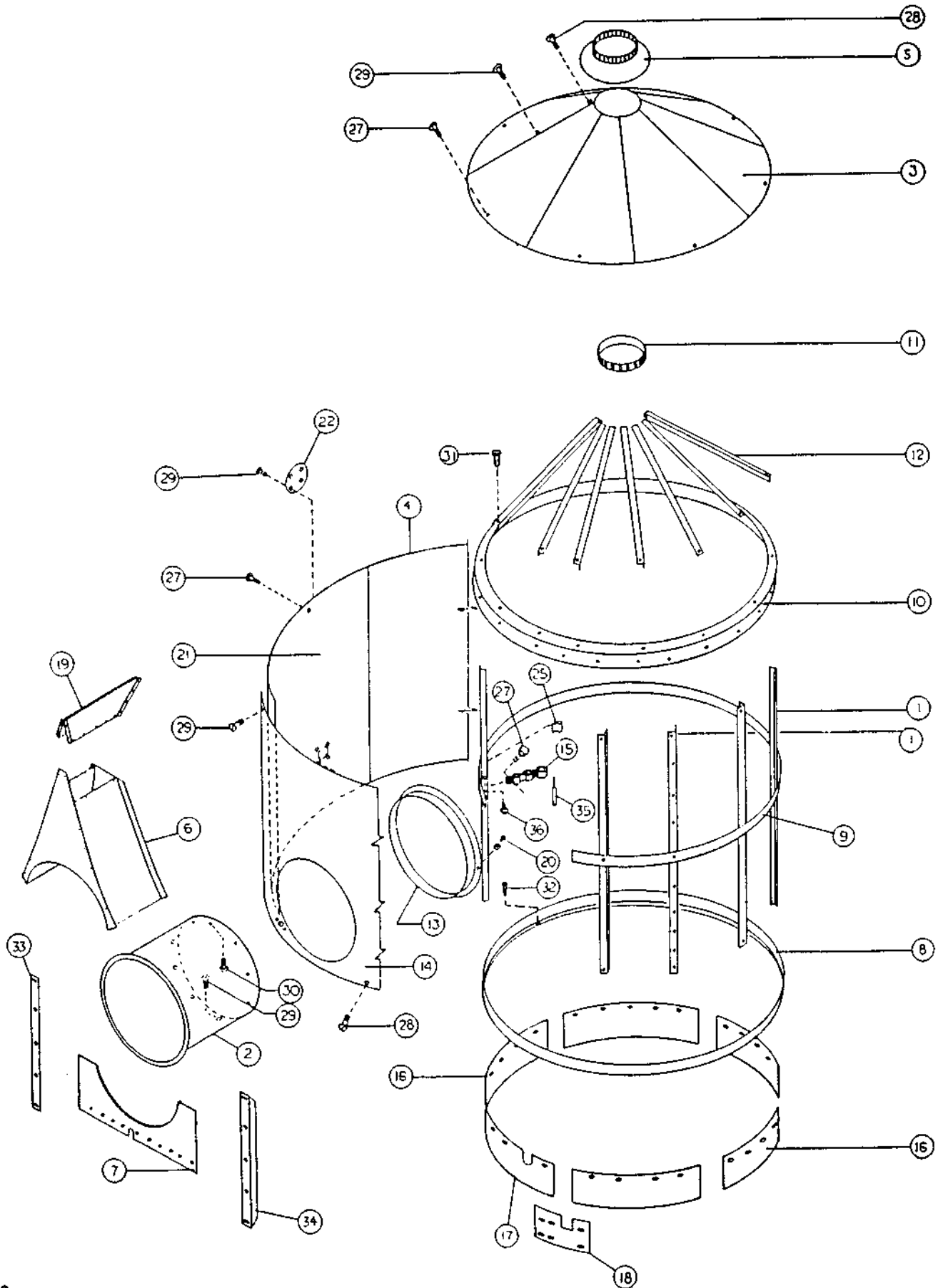
AGITATOR DRIVE ASSEMBLY
THREE PHASE



**AGITATOR DRIVE ASSEMBLY
THREE PHASE**

| REF. NO. | PART NO. | NO. REQ'D. | DESCRIPTION |
|----------|----------|------------|------------------------------|
| 1 | D50335 | 1 | Support, Lower Agitator Brg. |
| 5 | D50315 | 1 | Support, Upper Agitator Brg. |
| 7 | D50295 | 1 | Flange, Bin |
| 14 | D50470 | 1 | Bracket, Agit. Sensor |
| 15 | D28181 | 1 | Arm, Idler |
| 16 | D28280 | 2 | Tab, Spring |
| 18 | D50300 | 1 | Seal, Nylon |
| 20 | D50330 | 1 | Shaft, Agitator |
| 21 | 73277 | 1 | Washer, Rubber |
| 22 | D50565 | 1 | Arm, Idler Sprocket |
| 25 | D28190 | 2 | Spring |
| 26 | 42-68011 | 1 | Sprocket, 60B x 13 |
| 27 | D28172 | 1 | Sprocket, Idler |
| 28 | 80034 | 1 | Sprocket, # 50 Idler |
| 29 | 80032 | 1 | Sprocket, 50B 60T x 1.25 |
| 30 | 80033 | 1 | Sprocket, 50B 11T x 1 |
| 31 | 80035 | 1 | Chain, #50 x 100P |
| 32 | 42-58052 | 1 | Bearing, 1 1/4 " (4 Hole) |
| 35 | 77248 | 1 | Sensor, Pick-up |
| 36 | D28041 | 1 | Bearing, 1 1/4" |
| 37 | D50685 | 1 | Bracket, Conduit Fitting |
| 38 | 73157 | 1 | Connector, 3/8 Conduit |
| 39 | D50710 | 2 | Brace, Bin Well |

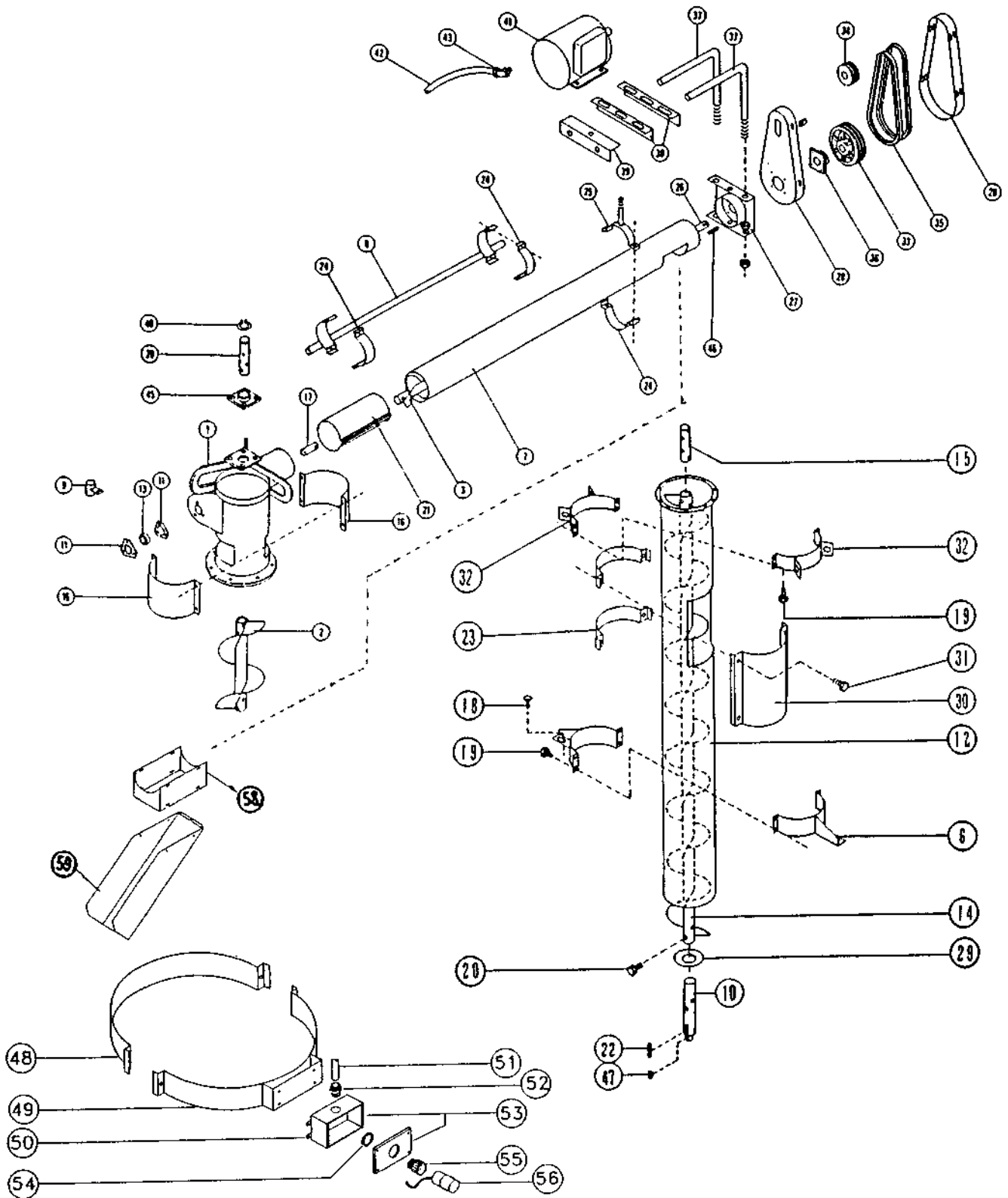
PLENUM ASSEMBLY
THREE PHASE



**PLENUM ASSEMBLY
THREE PHASE**

| REF. NO. | PART NO. | NO. REQ'D. | DESCRIPTION |
|----------|----------|------------|---|
| 1 | D33010 | 31 | Plenum Frame Angle, Straight |
| 2 | D53020 | 1 | Connecting Tube |
| 3 | D53341 | 7 | Lid Sheet |
| 4 | D53040 | 4 | Side Sheet Without Connecting Tube Hole |
| 5 | D23051 | 1 | Cone Cap |
| 6 | D53061 | 1 | Saddle |
| 7 | D53070 | 1 | Front Enclosure |
| 8 | D53080 | 1 | Lower Frame Band |
| 9 | D53091 | 1 | Center Band, 1/8" Thick |
| 10 | D53100 | 1 | Transition Band |
| 11 | D53110 | 1 | Top Ring |
| 12 | D53120 | 35 | Lid Frame Angles |
| 13 | D53130 | 1 | Connecting Tube Trim Ring |
| 14 | D53360 | 1 | Sheet With Connecting Tube Hole |
| | D53150 | 1 | Side Sheet (Narrow Strip) |
| 15 | D23161 | 2 | Thermometer Support Bracket |
| 16 | D53172 | 5 | Skirt |
| 17 | D53182 | 1 | Skirt With Slot |
| 18 | D53192 | 6 | Splices, Plenum Skirt |
| 19 | D53160 | 1 | Extension, Saddle |
| 20 | 71942 | 11 | No. 14 x 3/4" Self Tapping Screw |
| 21 | D53210 | 1 | Side Sheet W/Cleaner Hole |
| 22 | D24210 | 1 | Plate, Cover |
| 25 | D23210 | 2 | Push on Clip |
| 27 | 71823 | 85 | 1/4" - 20 x 1/2" Slotted Hd Machine Screw |
| 28 | 71825 | 108 | 1/4" - 20 x 3/4" Slotted Hd Machine Screw |
| 29 | 71822 | 104 | 1/4" - 20 x 3/8" Slotted Hd Machine Screw |
| 31 | 71001 | 35 | 1/4" x 3/4" Capscrew |
| 32 | 72155 | 6 | 5/16" x 3/4" Self-tapping Hex Hd Screw |
| 33 | D54320 | 1 | Stiffener, Front Sheet, Right |
| 34 | D54330 | 1 | Stiffener, Front Sheet, Left |
| *35 | 77271 | 1 | Sensor, Temperature Plenum |
| 36 | 77275 | 1 | Sensor, High Limit Control |

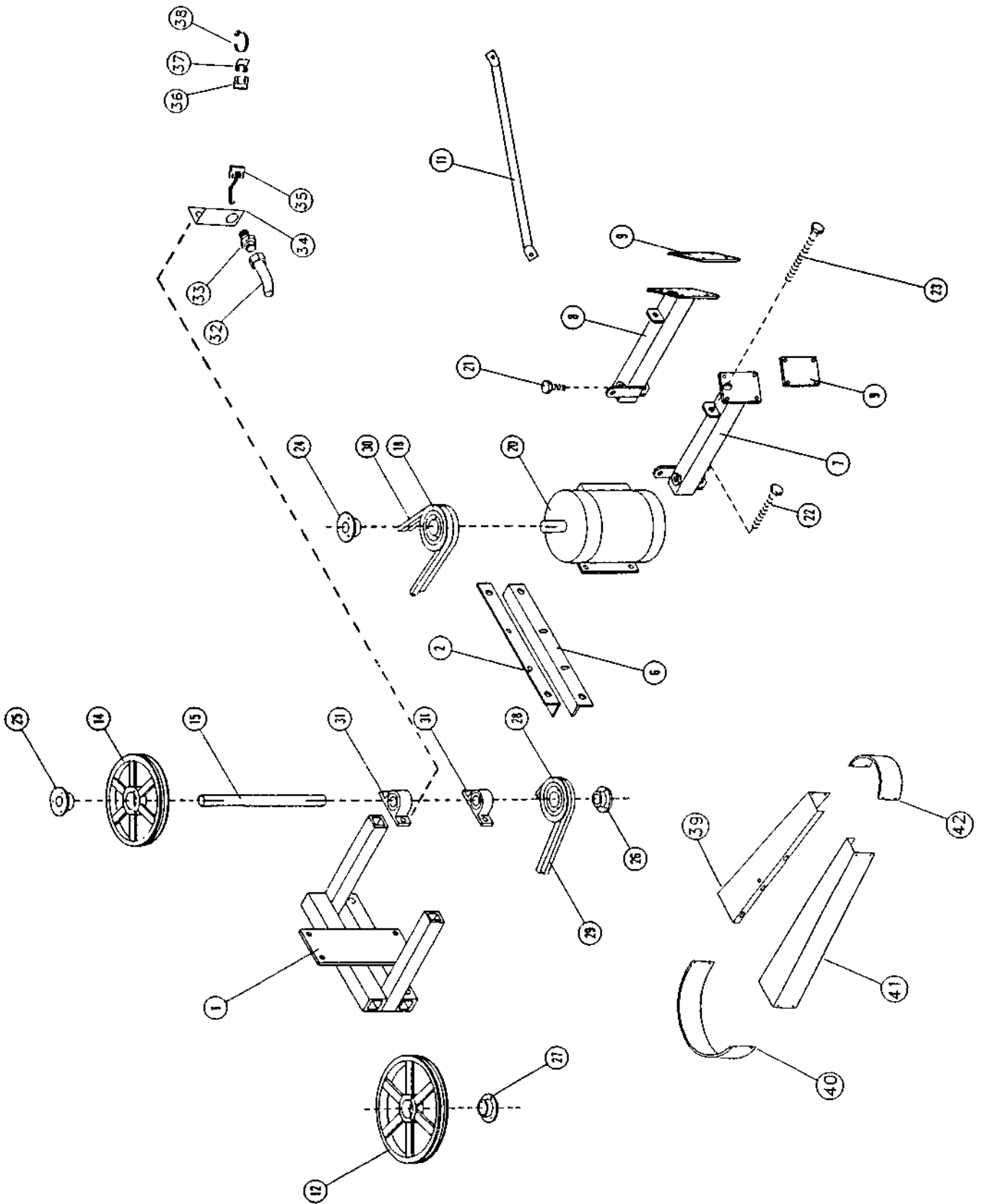
AUGER ASSEMBLY THREE PHASE



**AUGER ASSEMBLY
THREE PHASE**

| REF. NO. | PART NO. | NO. REQ'D. | DESCRIPTION |
|----------|-------------|------------|--|
| 1 | D26282 | 1 | Head, Horz. Unloading |
| 2 | D26311 | 1 | Flight, Vert. Horz. Head |
| 3 | D26291 | 1 | Flight, Horz. Head |
| 6 | D26065 | 2 | Clamp, Support (at Spider) |
| 7 | D26305 | 1 | Tube, Horz. Head Unload |
| 8 | D26540 | 1 | Guide, Conduit |
| 9 | D26550 | 1 | Support, Horz. Unload Conduit |
| 10 | D56101 | 1 | Lower Stub Shaft |
| 11 | 42-54054 | Pair | Retainer Bearing |
| 12 | D56120 | 1 | Auger Tube (Bottom Section) |
| 13 | 85000 | 1 | 1" Bearing |
| 14 | D36141 | 1 | Flighting (Bottom Section) |
| 15 | D26150 | 1 | Stub Connecting Shaft |
| 16 | D26162 | 2 | Inspection Hole Cover |
| 17 | 42-56211 | 1 | Stub, Tail |
| 18 | 71329 | 6 | ½" x 1½" Carriage Bolt |
| 19 | 71056 | 10 | 3/8" x 2" Capscrew |
| 20 | D26021 | 1 | Stub, Upper |
| 21 | 42-58080 | 1 | Band, Connecting |
| 22 | 73417 | 1 | Key, ½" x ½" 1½" |
| 23 | D41030 | 2 | Cleaning Attachment Band |
| 24 | 41-10042 | 3 | Half Band 8" |
| 25 | 42-58082 | 1 | Band, Rear Motor Support |
| 26 | 42-58037 | 1 | Stub, Head |
| 27 | 42-58049 | 1 | Plate, Head |
| 28 | 42-58081 | 1 | Guard, Belt |
| 29 | 72424 | 1 | 2" Washer |
| 30 | D26220 | 1 | Grain Cleaner Hole Cover |
| 31 | 71054 | 4 | 3/8" x 1½" Capscrew |
| | DA26000 | | Head Baffle Assy. (Includes Items 1, 9, 25, 26 & 27) |
| 32 | D26057 | 2 | Clamp, Brace |
| 33 | 42-90025 | 1 | Pulley, 2B 10" x 1¼" |
| 34 | 75047 | 1 | Pulley, 2B 3 x 1-1/8 |
| | 75044(U.K.) | 1 | Pulley, 2B 3 x 24mm |
| 35 | D29321 | 2 | Belt, B40 |
| 36 | 42-58052 | 1 | Bearing |
| 37 | 42-58046 | 2 | Rod, Motor Mounting |
| 38 | 42-58048 | 1 | Strap, Motor Mount w/Nuts |
| 38 | 42-58091 | 1 | Strap, Motor Mount |
| 39 | 42-58083 | 1 | Angle, Rear Motor Support |
| 40 | 69503 | 2 | Snap Ring |
| 41 | 52-10077 | 1 | Motor, 2 H.P. |
| 42 | 73166 | Per Ft. | Conduit, 3/8" x 13'4" |
| 43 | 73159 | 1 | Connector, 3/8" Elbow |
| 45 | D21161 | 1 | Bearing, 2" Flanged |
| 46 | 42-58050 | 1 | Key |
| 47 | 42-18282 | 1 | Key, Woodruff |
| 48 | D41030 | 1 | Half Band Clamp |
| 49 | D50705 | 1 | Half Band Clamp w/Mounting |
| 51 | 73166 | Per Ft. | Conduit, 3/8" |
| 52 | 73157 | 1 | Connector, 3/8" |
| 53 | D50775 | 1 | Enclosure, Plastic w/Lid |
| 54 | 77392 | 1 | Nut, 1¼ Conduit |
| 55 | 77394 | 1 | Adapter, 1¼ PVC |
| 56 | 77391 | 1 | Sensor, Adjustable Wet Grain |
| 57 | D26441 | 2 | Spreader, Grain |
| 58 | D26265 | 1 | Adapter, Spout |
| 59 | D26326 | 1 | Spout, Top Unloaded Head |

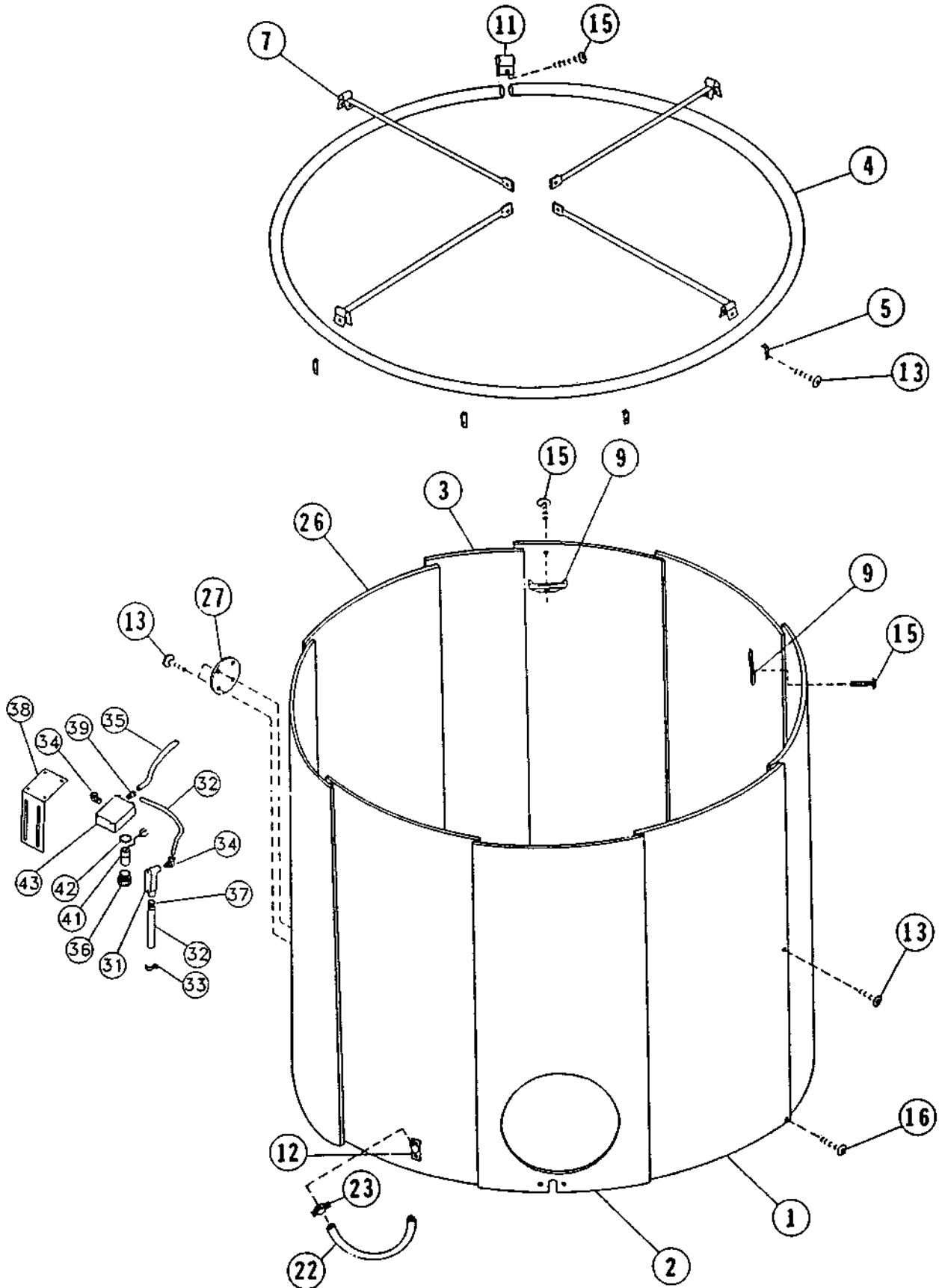
VERTICAL AUGER DRIVE ASSEMBLY THREE PHASE



**VERTICAL AUGER DRIVE ASSEMBLY
THREE PHASE**

| REF. NO. | PART NO. | NO. REQ'D. | DESCRIPTION |
|----------|--------------|------------|----------------------------------|
| 1 | D50455 | 1 | Bracket, Jackshaft Mtg. |
| 2 | D50430 | 1 | Angle, Top Vert. Motor |
| 6 | D50435 | 1 | Angle, Bottom Vert. Motor |
| 7 | D50445 | 1 | Support, Right Vert. Motor |
| 8 | D50450 | 1 | Support, Left Vert. Motor |
| 9 | D50550 | 2 | Plate, Mounting |
| 11 | D50440 | 2 | Brace, Motor Mount |
| 12 | 76044 | 1 | Sheave, 2B x 20.0 |
| 14 | 76048 | 1 | Sheave, 2B x 15.4 |
| 15 | D50425 | 1 | Shaft |
| 18 | 76047 | 1 | Sheave, 2B x 6.0 |
| 20 | 52-10079 | 1 | Motor, 10 HP |
| 21 | 71103 | 2 | Capscrew, 1/2" x 1 1/4" |
| 22 | 71142 | 2 | Capscrew, 5/8" x 9 1/2" |
| 23 | 71142 | 2 | Capscrew, 5/8" x 9 1/2" |
| 24 | 76043 | 1 | Hub, 1 3/8 SDS |
| | 76055 (U.K.) | 1 | Hub, 38 mm SDS |
| 25 | 76011 | 1 | Hub, 1 1/2" SK |
| 26 | 76011 | 1 | Hub, 1 1/2" SK |
| 27 | 76045 | 1 | Hub, 2" SF |
| 28 | 76046 | 1 | Sheave, 2B x 8.0 |
| | 76052 (U.K.) | 1 | Sheave, 2B x 9.4 PD L/Hub SK |
| 28 | 76046 | 1 | Sheave, 2B x 8.0 |
| 29 | D52280 | 2 | Belt, B112 |
| 30 | D50545 | 1 | Belts, B66 (set of 2) |
| 31 | D22097 | 2 | 1 1/2" Bearing |
| 32 | 73166 | Per Ft. | Conduit, 3/8" |
| 33 | 73157 | 1 | Connector, 3/8" |
| 34 | D50700 | 1 | Bracket, Sensor |
| 35 | 77248 | 1 | Sensor, Pickup |
| 36 | 77247 | 1 | Magnet, Sensor |
| 37 | D25900 | 1 | Bracket, Sensor |
| 38 | 79065 | 1 | Clamp, Band |
| 39 | D50745 | 1 | Shield, Right Lwr. Auger Drive |
| 40 | D50740 | 1 | Shield, Center Aug. Sheave |
| 41 | D50735 | 1 | Shield, Left Lwr. Auger Drive |
| 42 | D50730 | 1 | Shield, Center Aug. Drive Sheave |

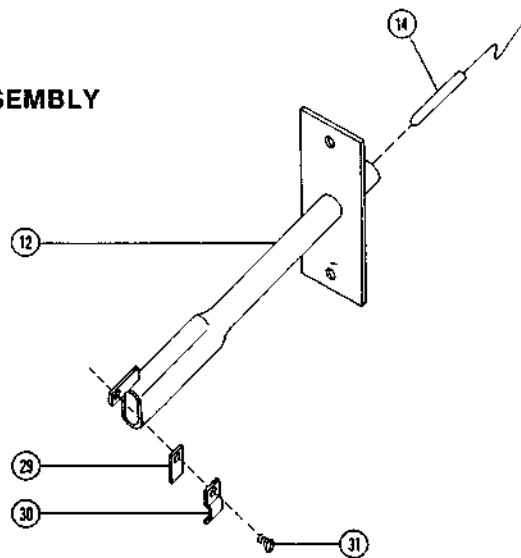
OUTSIDE SKIN ASSEMBLY
THREE PHASE



**OUTSIDE SKIN ASSEMBLY
THREE PHASE**

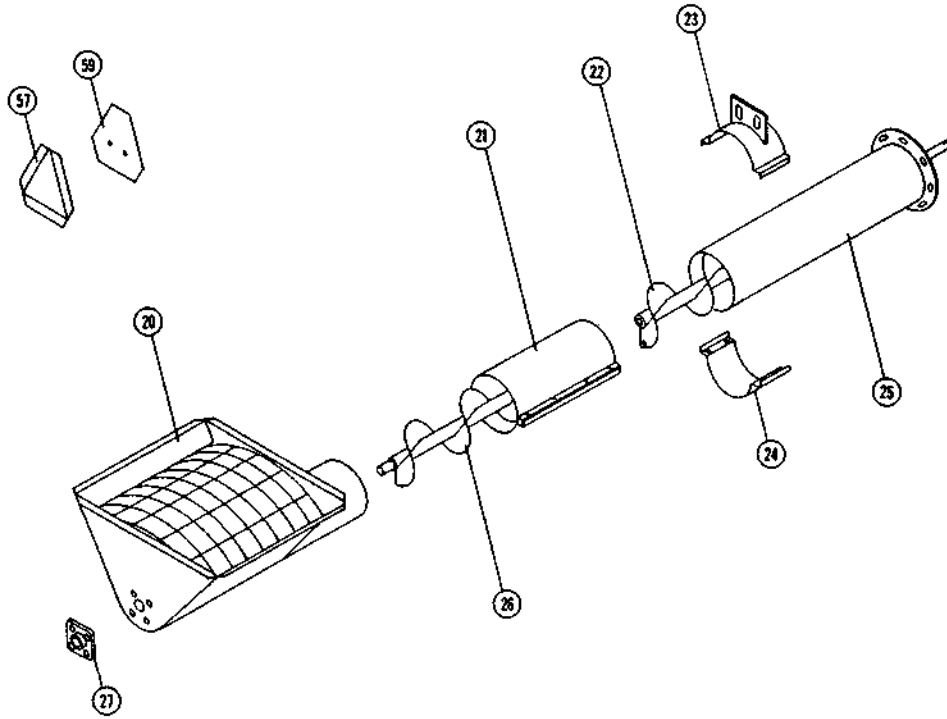
| REF. NO. | PART NO. | NO. REQ'D. | DESCRIPTION |
|----------|----------|------------|---|
| 1 | D54260 | 6 | Outside Sheet Fine Perforated |
| 1 | D54300 | 6 | Outside Sheet Std. Perforated |
| 2 | D54240 | 1 | Outside Sheet with Hole Fine Perforated |
| 2 | D54280 | 1 | Outside Sheet with Hole Std. Perforated |
| 3 | D54270 | 1 | Outside Sheet 34" Wide Fine Perforated |
| 3 | D54310 | 1 | Outside Sheet 34" wide Std. Perforated |
| 4 | D54040 | 1 | Cap Ring |
| 5 | D24050 | 8 | Ring Holder |
| 7 | D54072 | 4 | Auger Brace |
| 8 | D24080 | 1 | Spout Control Catch |
| 9 | D24091 | 2 | Spout Support |
| 11 | D24110 | 1 | Rim Connector |
| 12 | D24240 | 1 | Grain Temperature Capillary Support Bracket |
| 13 | 71822 | 220 | 1/4" - 20 x 3/8" Slotted Hd Machine Screw |
| 15 | 71825 | 12 | 1/4" - 20 x 3/4" Slotted Hd Machine Screw |
| 16 | 71823 | 105 | 1/4" - 20 x 1/2" Slotted Hd Machine Screw |
| 22 | D25262 | 1 | Liquitite Conduite |
| 23 | 73263 | 1 | 3/4" Two Screw Connector |
| 26 | D54250 | 1 | Outside Sheet w/Hole for Grain Cleaner-Fine Perf. |
| 26 | D54290 | 1 | Outside Sheet with Hole Grain Cleaner - Std. Perforated |
| 27 | D24210 | 1 | Cover Plate |
| | 73966 | 1 | (GT Logo) |
| 34 | 73165 | 2 | Connector, 90 Deg. |
| 35 | 73735 | Per. Ft. | Conduit, 3/8" |
| 36 | 77394 | 1 | Adapter, 1 1/4 PVC |
| 37 | 73163 | 1 | Connector, 1/2 Conduit |
| 38 | D50695 | 1 | Bracket, Top Sensor Box |
| 39 | 73157 | 1 | Connector, 3/8 Conduit |
| 41 | 77391 | 1 | Sensor, Adjustable Wet Grain |
| 42 | 77392 | 1 | Nut, 1 1/4 Conduit |
| 43 | D50780 | 1 | Enclosure, Plastic Aw Lid |

GRAIN CAPILIARY ASSEMBLY

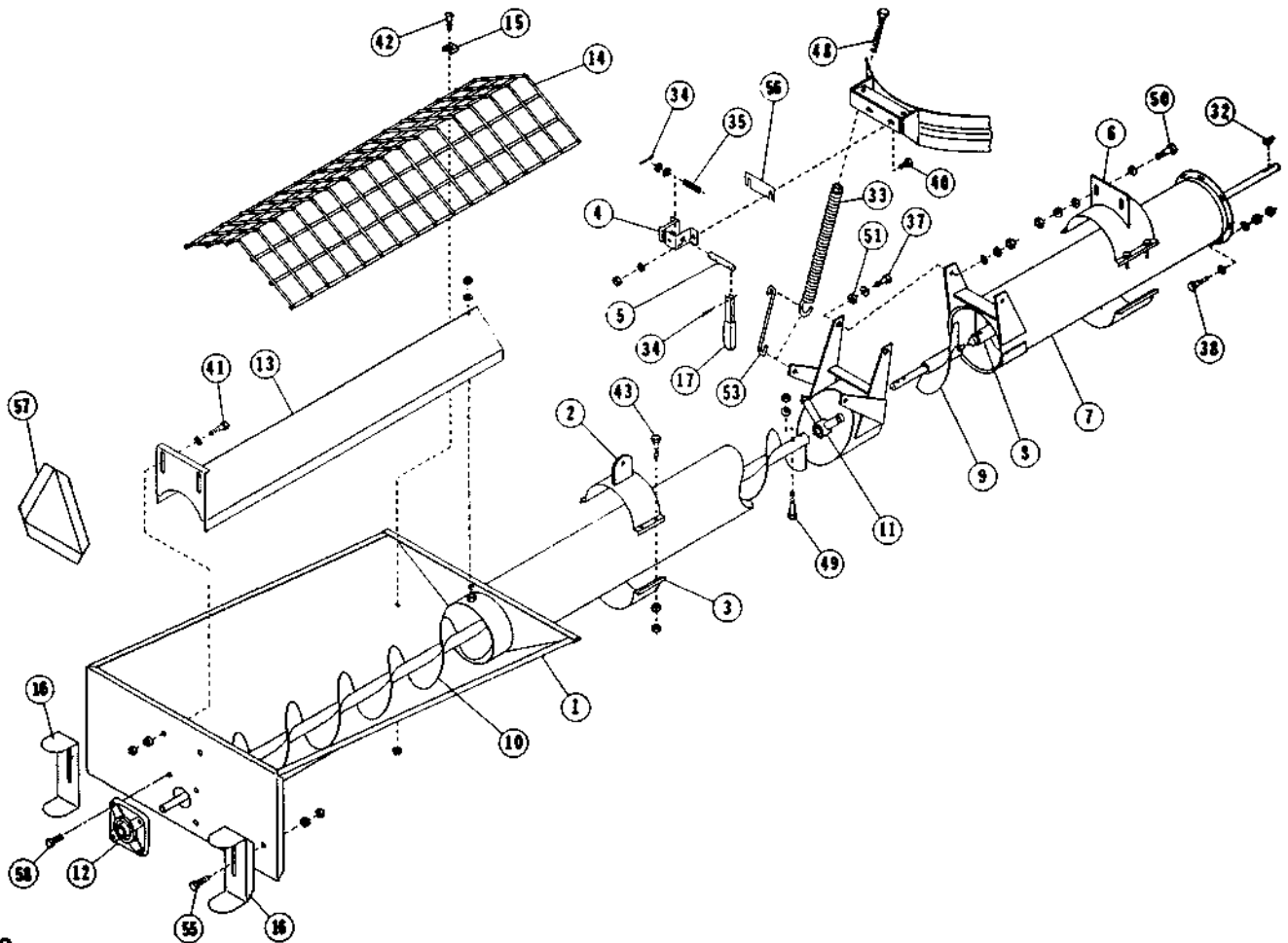


| REF. NO. | PART NO. | NO. REQ'D. | DESCRIPTION |
|----------|----------|------------|----------------------------|
| 12 | D24240 | 1 | Bracket, Grain Temp Sensor |
| 14 | 77271 | 1 | Sensor, Grain Temperature |
| 29 | D24270 | 1 | Strip, Clamping |
| 30 | 73486 | 1 | Clip, Jiffy |
| 31 | 71685 | 1 | Screw, #10 - 24 x 3/4 |

LOADING HOPPER (STANDARD) THREE PHASE



LOADING HOPPER, OPTIONAL STYLE THREE PHASE



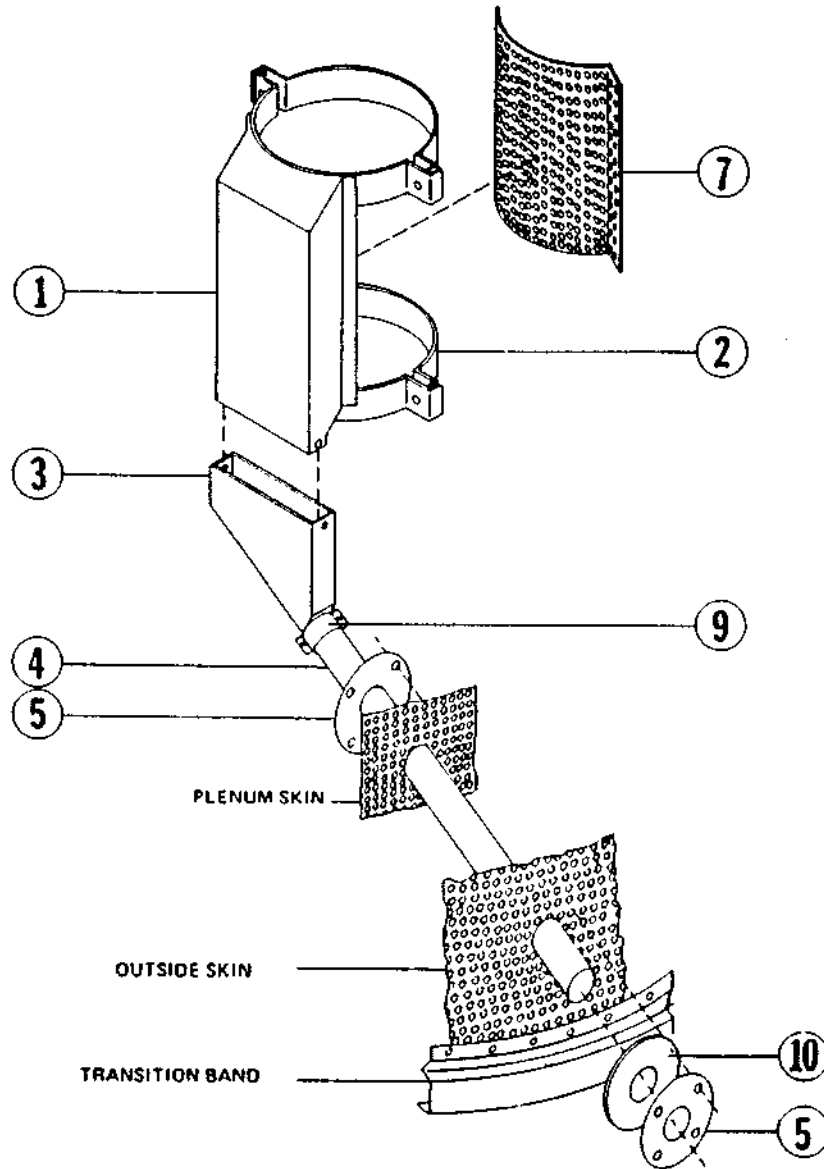
LOADING HOPPER (STANDARD) THREE PHASE

| REF. NO. | PART NO. | NO. REQ'D. | DESCRIPTION |
|----------|----------|------------|----------------------------|
| 20 | D29790 | 1 | Hopper |
| 21 | 42-58080 | 1 | Band, Connecting |
| 22 | D50490 | 1 | Flight, Front |
| 23 | D59550 | 1 | Mount, Tube |
| 24 | 41-10144 | 1 | Band, 8" Half |
| 25 | D50495 | 1 | Tube, Front |
| 26 | D29580 | 1 | Flight |
| 27 | 42-66022 | 1 | Bearing |
| 57 | 73899 | 1 | Decal, Slow Moving Vehicle |
| 59 | D50555 | 1 | Mount, S.M.V. |

LOADING HOPPER, OPTIONAL STYLE THREE PHASE

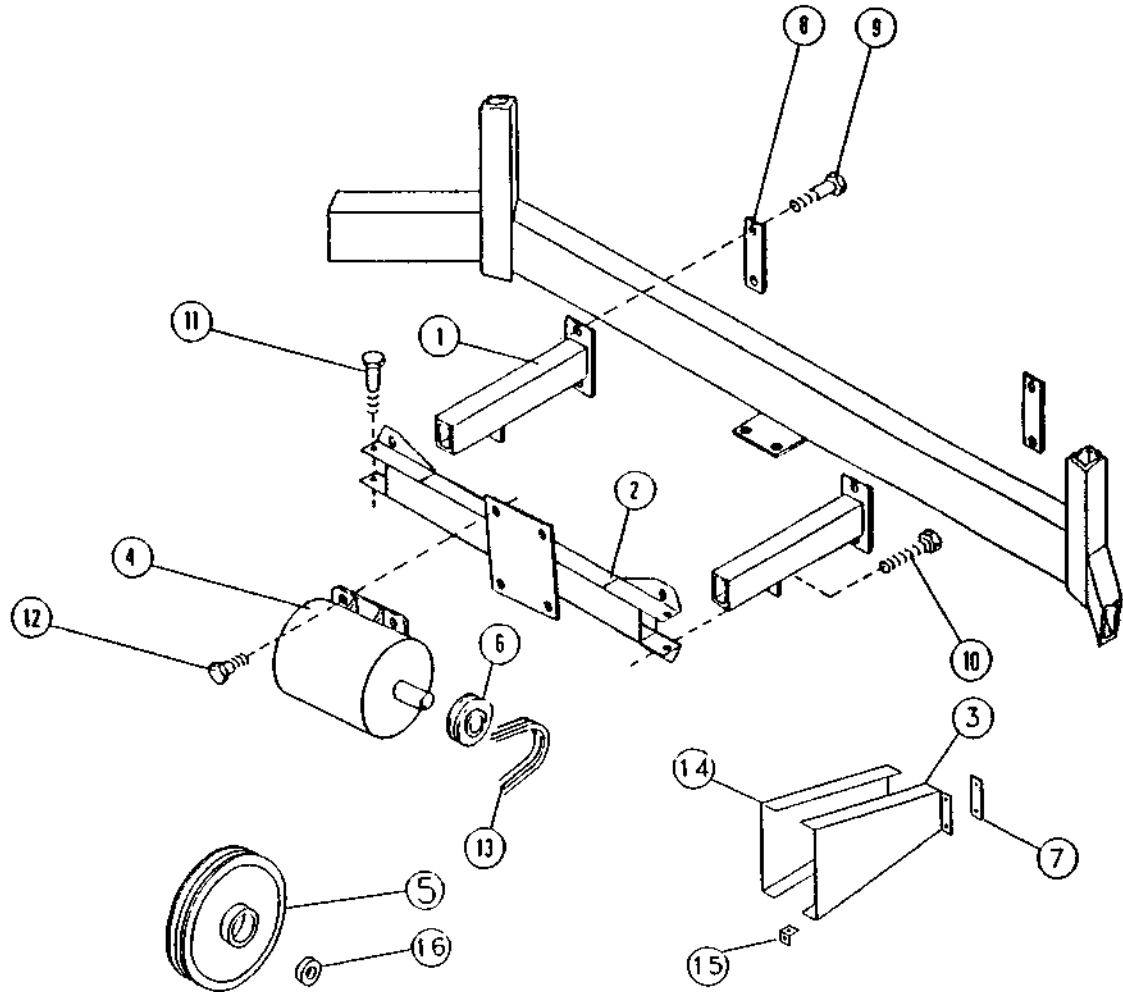
| REF. NO. | PART NO. | NO. REQ'D. | DESCRIPTION |
|----------|---------------|------------|-----------------------------------|
| 1 | D29013 | 1 | Hopper, Extended |
| 2 | D29500 | 1 | Catch, Hopper |
| 3 | 41-10143 | 1 | Band, Half |
| 4 | D29521 | 1 | Latch, Hopper |
| 5 | D29540 | 1 | Pin, Latch |
| 6 | D59141 | 1 | Mount, Tube |
| 7 | D59031 | 1 | Tube, Front Auger |
| 8 | D59053 | 1 | Flight, Front Auger |
| 9 | D59391 | 1 | Flight, Short Sec. Rear Auger |
| 10 | D29042 | 1 | Flight, Long Sect. Rear Auger |
| 11 | 42-98080 | 1 | Bearing & Casting |
| | 71127 | 1 | Capscrew, 5/8 x 1 |
| | D29510 | 1 | Bolt w/Zerk |
| | 42-18133 | 1 | Bronze Bearing |
| 12 | 42-66022 | 2 | Bearing |
| 13 | D59150 | 1 | Regulator, Grain Flow |
| 14 | D29470 | 1 | Grill, Hopper |
| | D29471 (U.K.) | 1 | Grill, Hopper U.K. |
| 15 | D29560 | 4 | Clip, Grill |
| 16 | D29161 | 2 | Stand, Hopper |
| 17 | D29531 | 1 | Latch Handle |
| 32 | 42-18282 | 2 | Key, No. 808 Woodruff |
| 33 | 73317 | 2 | Spring, Lift |
| | D29480 | 2 | Spring, Lift w/Plug Nut |
| 34 | 73534 | 2 | Pin, Cotter, 1/8" x 1 1/4" |
| 35 | 73316 | 1 | Spring, Pin |
| 37 | 71104 | 2 | Capscrew, 1/2" x 1 1/2" |
| 38 | 71027 | 8 | Capscrew, 5/16" x 1" |
| 40 | 71251 | 8 | Bolt, Carriage 5/16" x 3/4" |
| 41 | 71026 | 2 | Capscrew, 5/16" x 3/4" |
| 42 | 71825 | 4 | Screw, 5/16" x 3/4" SL HD Machine |
| 43 | 71054 | 8 | Capscrew, 3/8" x 1 1/2" |
| 48 | 71988 | 2 | Capscrew, 1/2" x 6" Full Thd. |
| 49 | 73504 | 2 | Capscrew, 7/16" x 2 1/2" |
| 50 | 71104 | 2 | Capscrew, 1/2" x 1 1/2" |
| 51 | D29020 | 2 | Spacer, 1/2" ID x 1" OD x 5/16" |
| 52 | 71303 | 1 | Bolt, Carriage, 7/16" x 1 1/4" |
| 53 | D59172 | 2 | Rod, Spring Connecting |
| 55 | 71051 | 2 | Capscrew, 3/8" x 3/4" |
| 56 | D29550 | As Req'd. | Spacer, Hopper Latch |
| 57 | 73899 | 1 | Decal, Slow Moving Vehicle |
| 58 | 71053 | 8 | Capscrew, 3/8" x 1 1/4" |

GRAIN CLEANING ATTACHMENT THREE PHASE



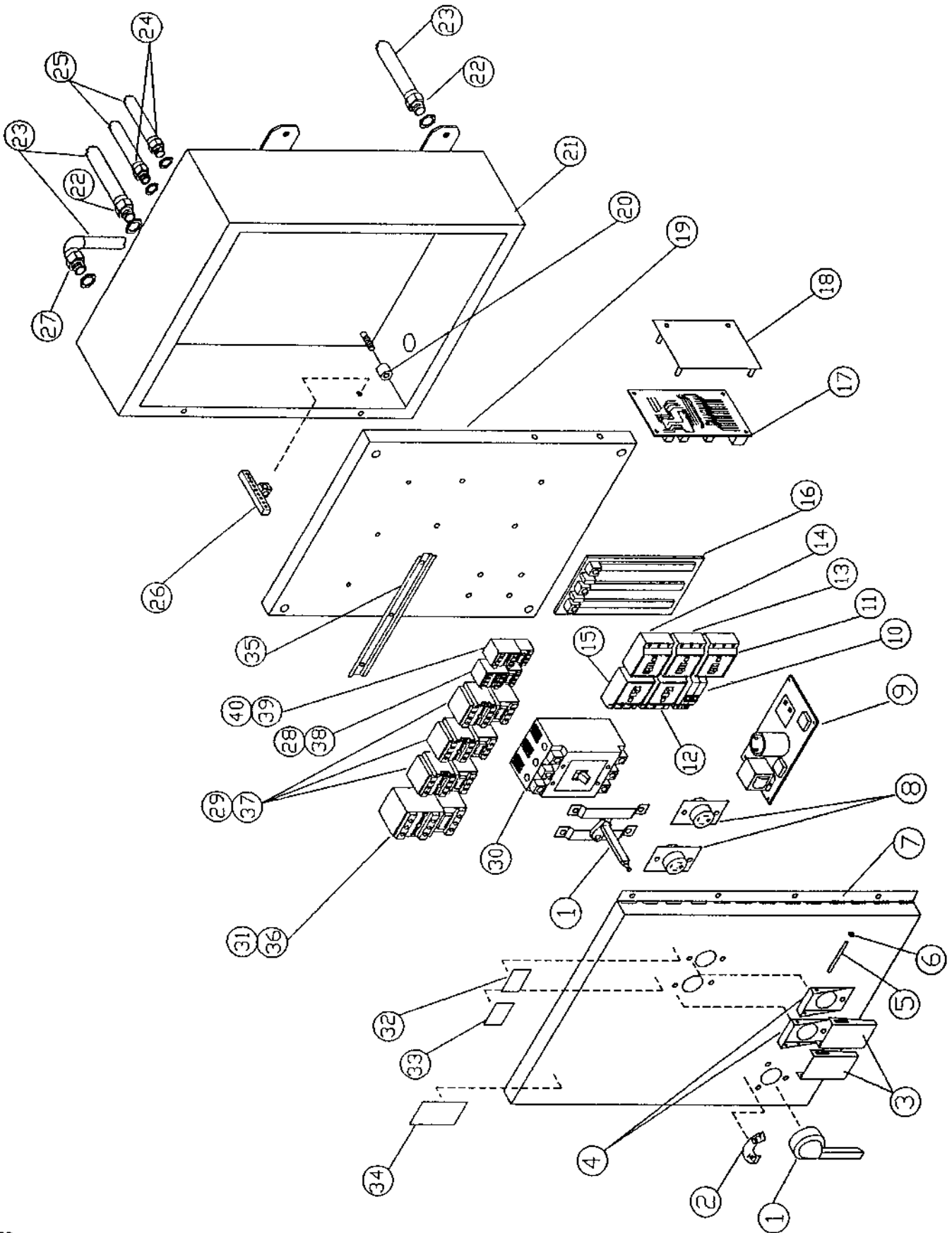
| REF. NO. | PART NO. | NO. REQ'D. | DESCRIPTION |
|----------|----------|------------|---|
| | A41011 | 1 | Grain Cleaning Attachment |
| 1 | D41020 | 1 | Cleaning Attachment Body |
| 2 | D41030 | 2 | Cleaning Attachment Bands |
| 3 | D41082 | 1 | Cleaning Attachment Transition |
| 4 | D41090 | 1 | Cleaning Attachment Top Tube |
| 5 | D41100 | 1 | Flange, Cleaning Attachment Tube |
| 7 | A41100 | 1 | Cleaning Attachment Screen (Corn, Sunflower) 7/32" Holes |
| 7 | A41110 | 1 | Cleaning Attachment Screen (Wheat, Oats, Barley, Milo) 7/64" Holes |
| 7 | A41120 | 1 | Cleaning Attachment Screen (Soybeans) 5/32" Holes |
| 7 | A41130 | 1 | Cover Plate (To replace screen) |
| 7 | A41105 | 1 | Cleaning Attachment Screen (Flax) 5/64" Holes |
| 7 | A41115 | 1 | Cleaning Attachment Screen (Rape Seed) 1/16" Holes |
| 9 | D41081 | 1 | Band, Transition 1/2 |
| 70 10 | 73289 | 1 | Seal, Rubber |

**LOADING AUGER DRIVE ASSEMBLY
THREE PHASE**



| REF. NO. | PART NO. | NO. REQ'D. | DESCRIPTION |
|----------|---------------|------------|---------------------------------|
| 1 | D59590 | 2 | Arm Support |
| 2 | D59580 | 1 | Cross Member |
| 3 | D50351 | 1 | Shield, Loading Motor |
| 4 | 52-10078 | 1 | Motor |
| 5 | 76062 | 1 | Sheave, 2B 11" x 1" |
| 6 | 75047 | 1 | Sheave, 2B 3" x 1-1/8" |
| | 76061 (U.K.) | 1 | Sheave, 2B 3.4 PD L/Hub SH |
| | 76058 (U.K.) | 1 | Hub, 28mm SH |
| 7 | D50591 | 1 | Door, Electric Enclosure |
| | D50590 (U.K.) | 1 | Door, U.K. Electric Enclosure |
| 8 | D52720 | 2 | Support, Arm Strap |
| 9 | 71112 | 4 | Capscrew, 1/2" x 4" |
| 10 | 71957 | 2 | Capscrew, 1/2" x 5" Full Thread |
| 11 | 71087 | 2 | Capscrew, 7/16" x 4" |
| 12 | 71054 | 4 | Capscrew, 3/8" x 1 1/2" |
| 13 | K52701 | 2 | Belt, B75 |
| 14 | D50725 | 1 | Shield, Loading Belt |
| 15 | D50770 | 1 | Bracket, Lwr. Shield |
| 16 | 76060 | 1 | Hub, 1" SK |

ELECTRICAL CONTROL BOX ASSEMBLY
THREE PHASE



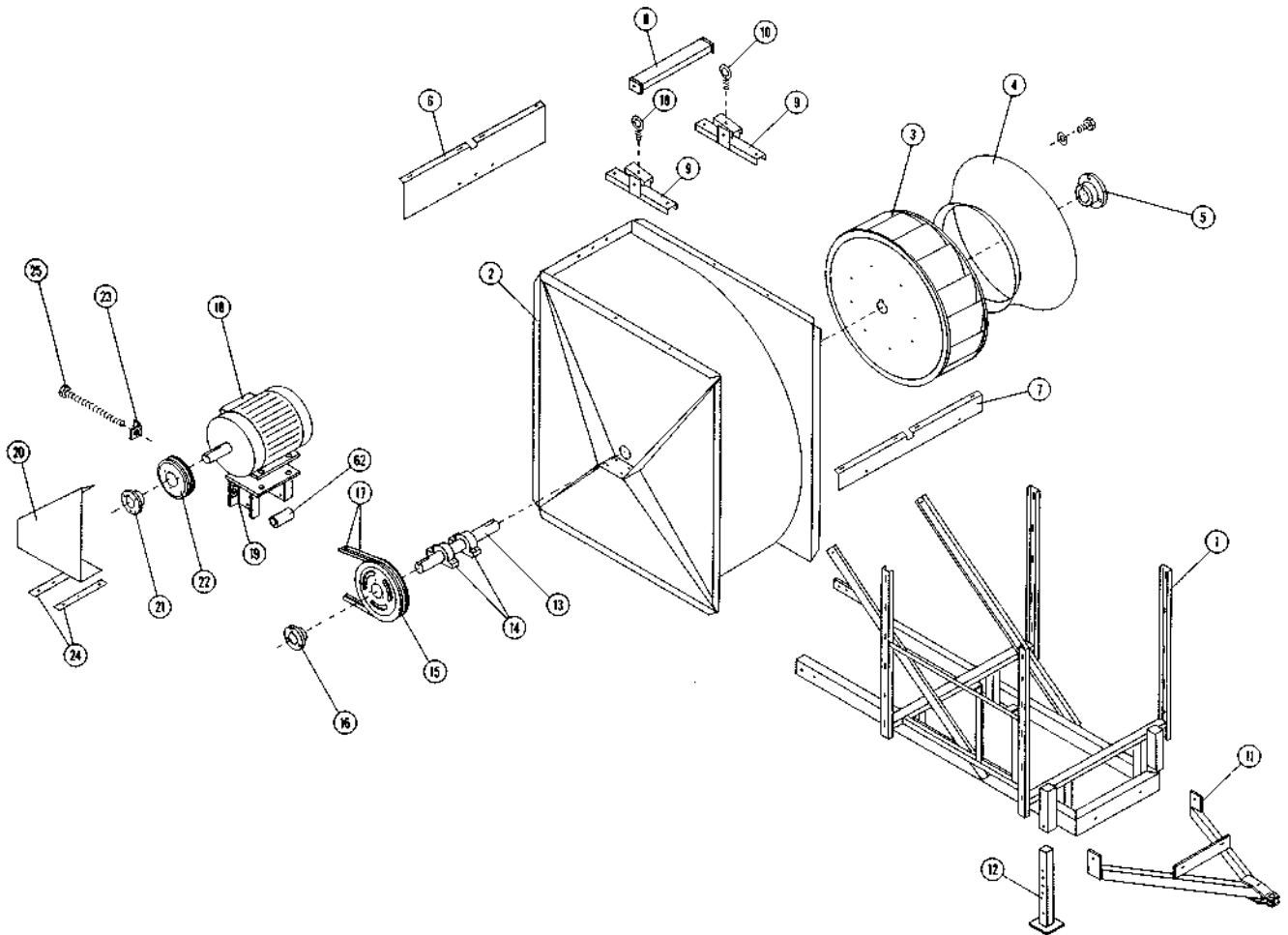
**ELECTRICAL CONTROL BOX ASSEMBLY
THREE PHASE**

| REF. NO. | PART NO. | NO. REQ'D. | DESCRIPTION |
|----------|----------|------------|-----------------------------------|
| 1 | 77327 | 1 | Handle |
| 2 | 74673 | 1 | Decal |
| 3 | D25980 | 2 | Door, Outlet Cover |
| 4 | 502131 | 2 | Cover, Outlet |
| 5 | D25985 | 2 | Hinge, Outlet Cover |
| 6 | 72196 | 4 | Cap, 3/16 Push-On |
| 7 | D50591 | 1 | Door, Electric Enclosure |
| 8 | 77554 | 2 | Receptacle, 3 Phase |
| 9 | DA25010 | 1 | Power Supply |
| 10 | 77541 | 1 | Breaker, QO210 |
| 11 | 77545 | 1 | Breaker, QO315 |
| 12 | 77542 | 1 | Breaker, QO380 |
| 13 | 77544 | 1 | Breaker, QO330 |
| 14 | 77543 | 1 | Breaker, QO360 |
| 15 | 77543 | 1 | Breaker, QO360 |
| 16 | 77318 | 1 | Panel, Circuit Breaker |
| 17 | 77367 | 1 | Relay Panel AC/DC |
| 18 | D25925 | 1 | Mount, Relay |
| 19 | D50596 | 1 | Panel, Electric Control |
| 20 | D32220 | 4 | Spacer |
| 21 | D25960 | 1 | Box, Electrical Enclosure |
| 22 | 73736 | 2 | Connector, 3/4" Conduit |
| 23 | 73733 | Per Ft. | Conduit, 3/4" |
| 24 | 73163 | 2 | Connector, Conduit 1/2" |
| 25 | 73735 | Per Ft. | Conduit, 1/2" |
| 26 | 77319 | 1 | Ground Bar, SN20 |
| 27 | 73164 | 1 | Elbow, 3/4" Conduit |
| 28 | 77547 | 1 | Contact, 5 H.P. |
| 29 | 77548 | 3 | Contact, 10 H.P. |
| 30 | 77326 | 1 | Breaker, Main Circuit |
| 31 | 77549 | 1 | Contact, 15 H.P. |
| 32 | 74671 | 1 | Decal, Unloading |
| 33 | 74670 | 1 | Decal, Loading |
| 34 | 74676 | 1 | Decal, Danger Electrocution |
| 35 | 77328 | 1 | Track, Mounting |
| 36 | 77553 | 1 | Thermal Overload, 15 H.P. |
| 37 | 77552 | 3 | Thermal Overload, 10 H.P. |
| 38 | 77551 | 1 | Thermal Overload, 5 H.P. |
| 39 | 77550 | 1 | Thermal Overload, 2 H.P. |
| 40 | 77546 | 1 | Contact, 2 H.P. |
| | 74693 | 1 | Decal, Control Box Wiring Diagram |

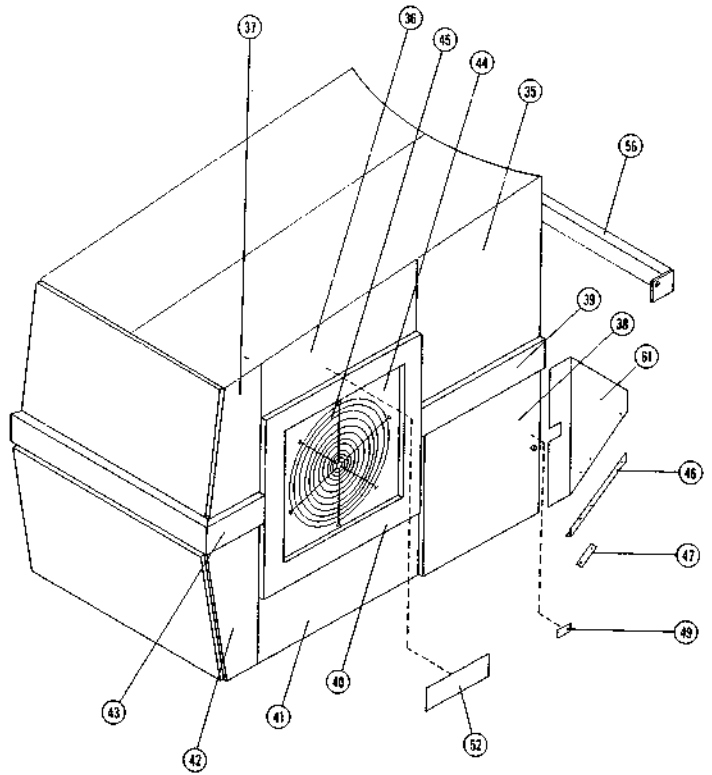
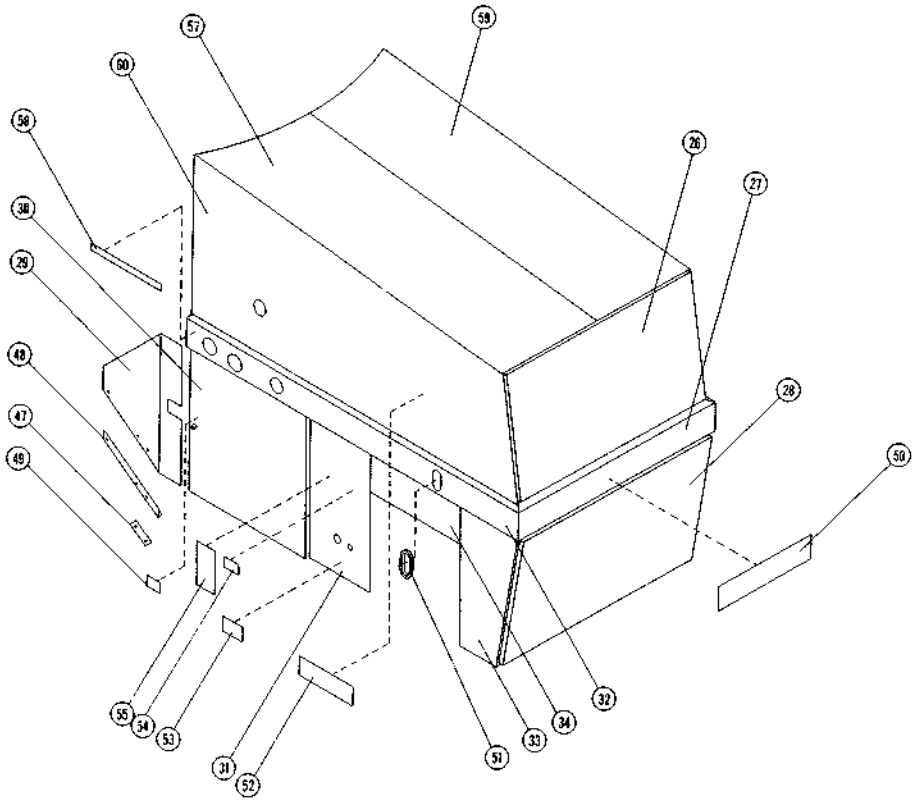
**ASSEMBLY DRAWINGS
AND
PARTS LIST**

**RAB 5000
SINGLE PHASE**

POWER UNIT ASSEMBLY SINGLE PHASE



POWER UNIT ASSEMBLY
SINGLE PHASE



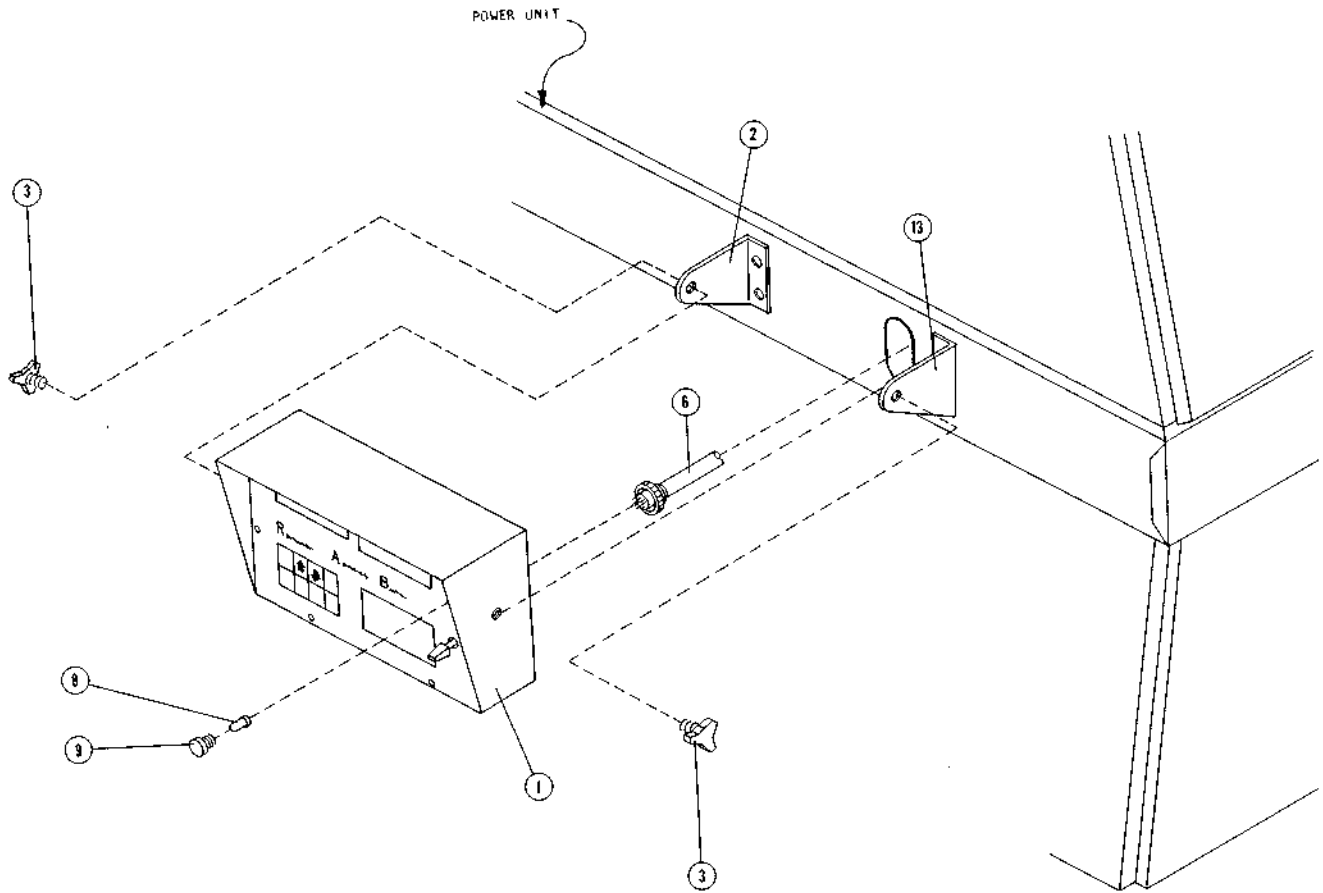
**POWER UNIT ASSEMBLY
SINGLE PHASE**

| REF. NO. | PART NO. | NO. REQ'D. | DESCRIPTION |
|----------|--------------------|------------|-----------------------------------|
| 1 | D50475 | 1 | Frame, Power |
| 2 | 74150 | 1 | Housing, Fan |
| 3 | 74153 | 1 | Fan |
| 4 | 74151 | 1 | Venturi |
| 5 | 76051 | 1 | Hub, 2" OD |
| 6 | D50355 | 1 | Support, Rear Roof Panel |
| 7 | D50360 | 1 | Support, Front Roof Panel |
| 8 | D50305 | 1 | Brace, Eye-Bolt |
| 9 | D50310 | 2 | Bracket, Eye-Bolt Mounting |
| 10 | 71941 | 2 | Bolt 1/2" x 1 1/2" Eye |
| 11 | D52461 | 1 | Hitch |
| | D52462 (U.K.) | 1 | Hitch |
| 12 | D50570 | 2 | Jack, Front |
| 13 | D50090 | 1 | Shaft, Fan |
| 14 | 85019 | 2 | Bearing, 2" PB |
| 15 | 76052 | 1 | Sheave, 2B x 9.4 |
| 16 | 76002 | 1 | Hub, 2" |
| 17 | D52552 | 2 | Belt, B105 |
| 18 | 52-10037 | 1 | Motor, 10 HP |
| 19 | D50395 | 1 | Mount, Fan Motor |
| 20 | D50500 | 1 | Shield, Fan Pulley |
| 21 | 76043 76034 (U.K.) | 1 | Hub, 1-3/8 SDS Hub, SK x 42mm |
| 22 | 76047 76031 (U.K.) | 1 | Sheave, 2B x 6.0 Sheave, 2B x 7.4 |
| 23 | D50400 | 1 | Bracket, Fan Motor Tightener |
| 24 | D50540 | 2 | Strap, Fan Shield Mtg. |
| 25 | 71992 | 1 | Bolt, 1/2 x 7 FT |
| 26 | D50205 | 1 | Panel, Top Front |
| 27 | D50010 | 1 | Panel, Front Wrapper |
| 28 | D50200 | 1 | Panel, Bottom Front |
| 29 | D50165 | 1 | Shield, Jackshaft Right |
| 30 | D50510 | 1 | Door, Right |
| 31 | D50210 | 1 | Panel, Right Plumbing |
| 32 | D50235 | 1 | Wrapper, Right Gauge L.P. |
| 32 | D50605 | 1 | Wrapper, Right Gauge N.G. |
| 33 | D50180 | 1 | Panel, Lower Front Right |
| 34 | D50215 | 1 | Panel, Top Right Elec. Filler |
| 35 | D50230 | 1 | Panel, Top Left Rear |
| 36 | D50190 | 1 | Panel, Above Fan Left |
| 37 | D50220 | 1 | Panel, Top Left Front |
| 38 | D50505 | 1 | Door, Left |
| 39 | D50120 | 1 | Wrapper, Left Rear |
| 40 | D50110 | 1 | Wrapper, Fan Grill |
| 41 | D50195 | 1 | Panel, Bottom Fan Left |
| 42 | D50185 | 1 | Panel, Lower Front Left |
| 43 | D50140 | 1 | Wrapper, Left Front |
| 44 | D50150 | 1 | Panel, Left Fan |
| 45 | 74152 | 1 | Grill |
| 46 | D50340 | 1 | Angle, Left Jackshaft Shield |
| 47 | D50560 | 2 | Strap, Jackshaft Shield Mount |
| 48 | D50345 | 1 | Angle, Right Jackshaft Shield |
| 49 | 74672 | 2 | Decal, Warning |
| 50 | 73949 | 1 | Decal, GT Logo |
| 51 | 73286 | 1 | Grommet, Slotted Hole |
| 52 | 74683 | 1 | Decal, RAB-5000 |
| 53 | 73661 | 1 | Decal, Danger LP Gas Supply |
| 54 | 73981 | 1 | Decal, Danger, Electrocution |
| 55 | 73682 | 1 | Decal, Caution Be a Safe Operator |
| 56 | D50285 | 1 | Support, Door Panel |
| 57 | D50175 | 1 | Panel, Top Right |
| 58 | 74620 | 1 | Decal, Valve |
| 59 | D50170 | 1 | Panel, Top Left |
| 60 | D50225 | 1 | Panel, Top Right |
| 61 | D50160 | 1 | Shield, Jackshaft Left |
| 78 62 | D50405 | 2 | Spacer |

**POWER UNIT ASSEMBLY
SINGLE PHASE**

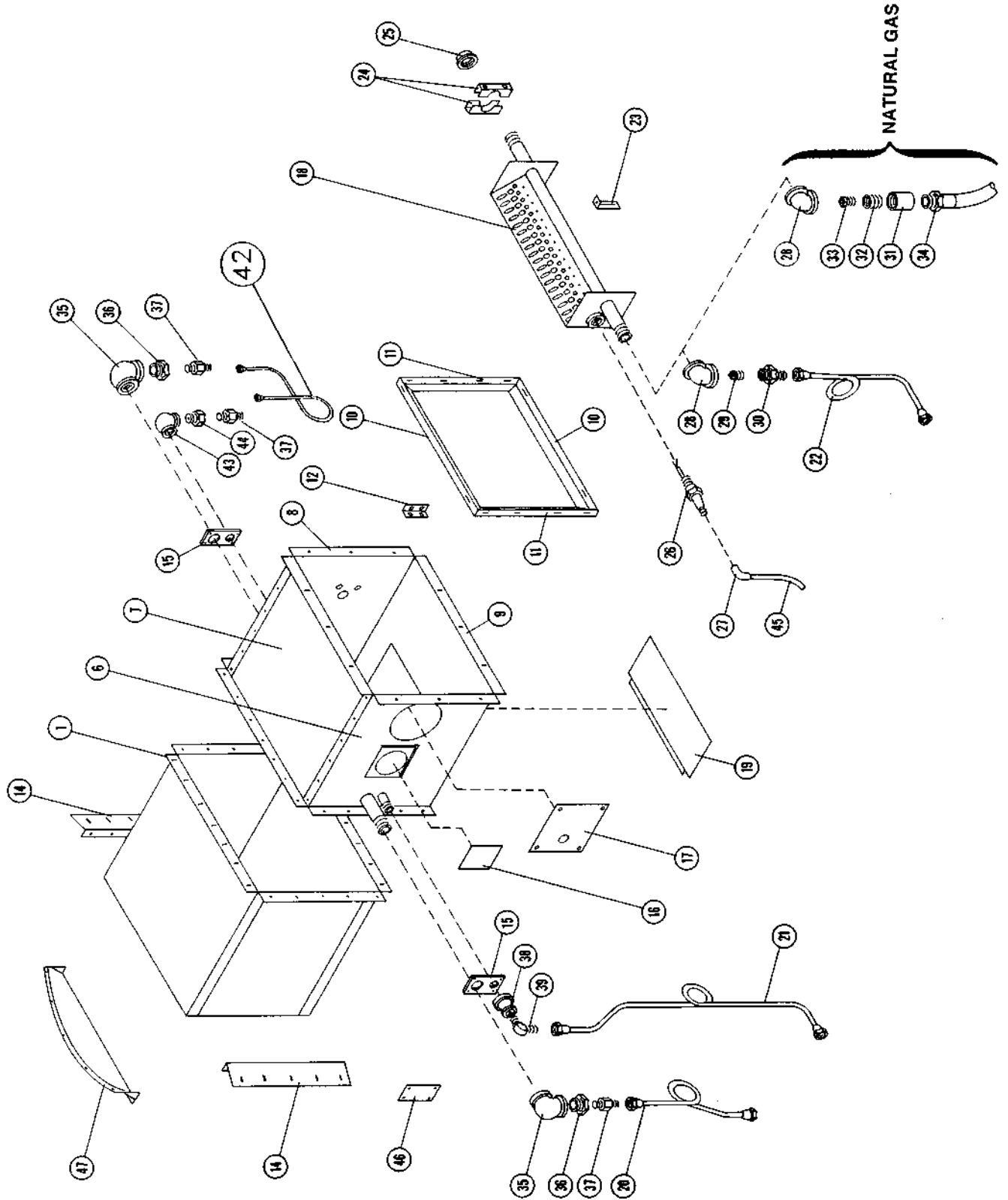
| REF. NO. | PART NO. | NO. REQ'D. | DESCRIPTION |
|----------|--------------------|------------|-----------------------------------|
| 1 | D50475 | 1 | Frame, Power |
| 2 | 74150 | 1 | Housing, Fan |
| 3 | 74153 | 1 | Fan |
| 4 | 74151 | 1 | Venturi |
| 5 | 76051 | 1 | Hub, 2" OD |
| 6 | D50355 | 1 | Support, Rear Roof Panel |
| 7 | D50360 | 1 | Support, Front Roof Panel |
| 8 | D50305 | 1 | Brace, Eye-Bolt |
| 9 | D50310 | 2 | Bracket, Eye-Bolt Mounting |
| 10 | 71941 | 2 | Bolt 1/2" x 1 1/2" Eye |
| 11 | D52461 | 1 | Hitch |
| | D52462 (U.K.) | 1 | Hitch |
| 12 | D50570 | 2 | Jack, Front |
| 13 | D50090 | 1 | Shaft, Fan |
| 14 | 85019 | 2 | Bearing, 2" PB |
| 15 | 76052 | 1 | Sheave, 2B x 9.4 |
| 16 | 76002 | 1 | Hub, 2" |
| 17 | D52552 | 2 | Bell, B105 |
| 18 | 52-10037 | 1 | Motor, 10 HP |
| 19 | D50395 | 1 | Mount, Fan Motor |
| 20 | D50500 | 1 | Shield, Fan Pulley |
| 21 | 76043 76034 (U.K.) | 1 | Hub, 1-3/8 SDS Hub, SK x 42mm |
| 22 | 76047 76031 (U.K.) | 1 | Sheave, 2B x 6.0 Sheave, 2B x 7.4 |
| 23 | D50400 | 1 | Bracket, Fan Motor Tightener |
| 24 | D50540 | 2 | Strap, Fan Shield Mtg. |
| 25 | 71992 | 1 | Bolt, 1/2 x 7 FT |
| 26 | D50205 | 1 | Panel, Top Front |
| 27 | D50010 | 1 | Panel, Front Wrapper |
| 28 | D50200 | 1 | Panel, Bottom Front |
| 29 | D50165 | 1 | Shield, Jackshaft Right |
| 30 | D50510 | 1 | Door, Right |
| 31 | D50210 | 1 | Panel, Right Plumbing |
| 32 | D50235 | 1 | Wrapper, Right Gauge L.P. |
| 32 | D50605 | 1 | Wrapper, Right Gauge N.G. |
| 33 | D50180 | 1 | Panel, Lower Front Right |
| 34 | D50215 | 1 | Panel, Top Right Elec. Filler |
| 35 | D50230 | 1 | Panel, Top Left Rear |
| 36 | D50190 | 1 | Panel, Above Fan Left |
| 37 | D50220 | 1 | Panel, Top Left Front |
| 38 | D50505 | 1 | Door, Left |
| 39 | D50120 | 1 | Wrapper, Left Rear |
| 40 | D50110 | 1 | Wrapper, Fan Grill |
| 41 | D50195 | 1 | Panel, Bottom Fan Left |
| 42 | D50185 | 1 | Panel, Lower Front Left |
| 43 | D50140 | 1 | Wrapper, Left Front |
| 44 | D50150 | 1 | Panel, Left Fan |
| 45 | 74152 | 1 | Grill |
| 46 | D50340 | 1 | Angle, Left Jackshaft Shield |
| 47 | D50560 | 2 | Strap, Jackshaft Shield Mount |
| 48 | D50345 | 1 | Angle, Right Jackshaft Shield |
| 49 | 74672 | 2 | Decal, Warning |
| 50 | 73949 | 1 | Decal, GT Logo |
| 51 | 73286 | 1 | Grommet, Slotted Hole |
| 52 | 74683 | 1 | Decal, RAB-5000 |
| 53 | 73661 | 1 | Decal, Danger LP Gas Supply |
| 54 | 73981 | 1 | Decal, Danger, Electrocution |
| 55 | 73682 | 1 | Decal, Caution Be a Safe Operator |
| 56 | D50285 | 1 | Support, Door Panel |
| 57 | D50175 | 1 | Panel, Top Right |
| 58 | 74620 | 1 | Decal, Valve |
| 59 | D50170 | 1 | Panel, Top Left |
| 60 | D50225 | 1 | Panel, Top Right |
| 61 | D50160 | 1 | Shield, Jackshaft Left |
| 78 62 | D50405 | 2 | Spacer |

MICROPROCESSOR BOX ASSEMBLY SINGLE PHASE



| REF. NO. | PART NO. | NO. REQ'D. | DESCRIPTION |
|----------|----------|------------|--------------------|
| 1 | DA25002 | 1 | Micro-Pro Assembly |
| 2 | D25845 | 1 | Mount, Rear Box |
| 3 | 77235 | 2 | Knob, Adjusting |
| 6 | 77320 | 1 | Cable |
| 8 | 77239 | 1 | Lamp |
| 9 | 77238 | 1 | Lens |
| 13 | D25840 | 1 | Mount, Front Box |

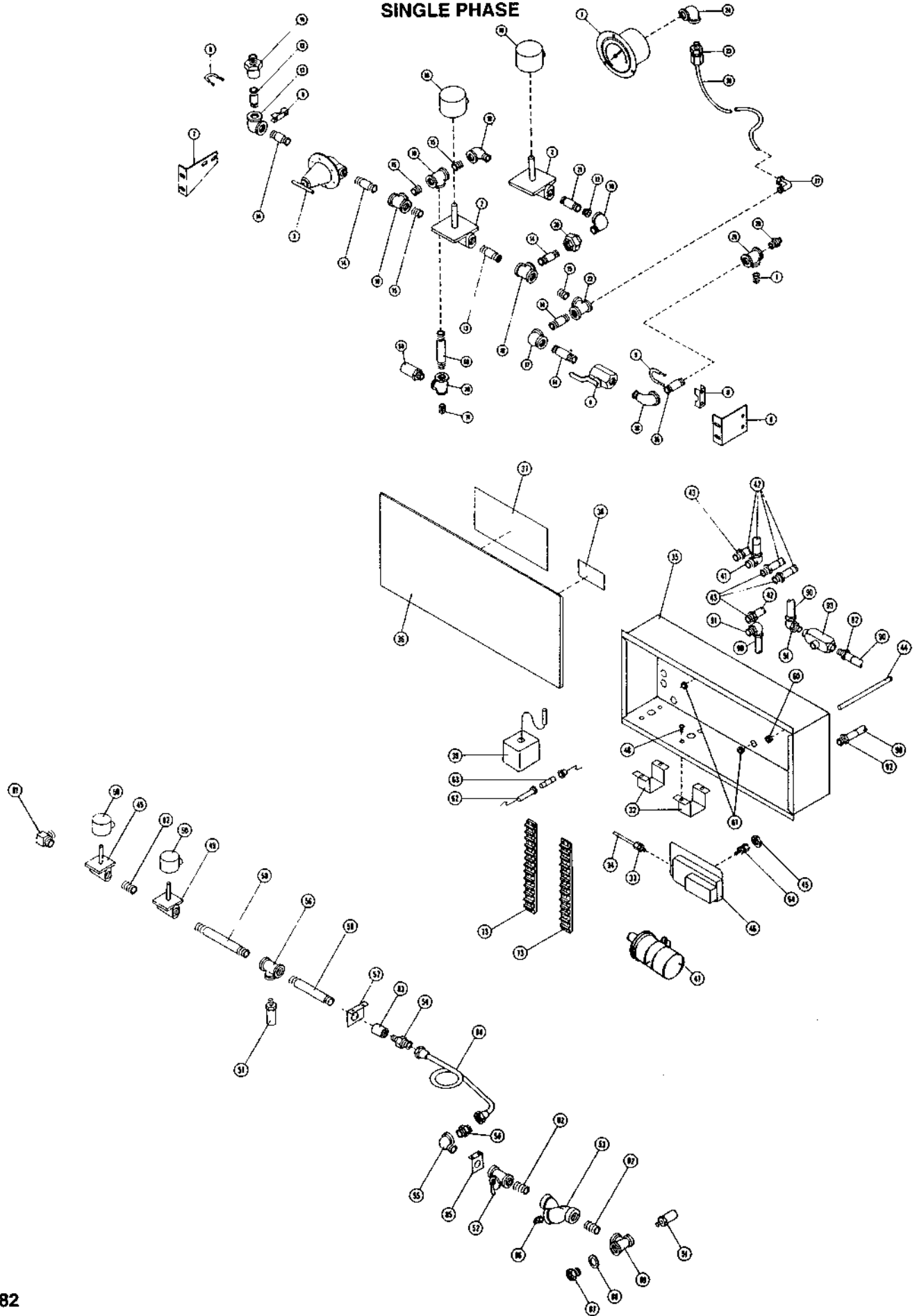
BURNER ASSEMBLY SINGLE PHASE



**BURNER ASSEMBLY
SINGLE PHASE**

| REF. NO. | PART NO. | NO. REQ'D. | DESCRIPTION |
|----------|----------|------------|------------------------------|
| 1 | D50520 | 1 | Tube, Connecting |
| 6 | D50525 | 1 | Side, Burner Tube Right L.P. |
| 6 | D50600 | 1 | Side, Burner Tube Right N.G. |
| 7 | D50515 | 1 | Top, Burner Tube |
| 8 | D50535 | 1 | Side, Burner Tube Left |
| 9 | D50530 | 1 | Bottom, Burner Tube |
| 10 | D50370 | 2 | Deflector, Top & Bot. Air |
| 11 | D50365 | 2 | Deflector, Side Air |
| 12 | D50385 | 1 | Angle, Burner Mount |
| 14 | D50245 | 2 | Trim, Plenum Side |
| 15 | D50380 | 2 | Stiffener, Vaporizer |
| 16 | D22462 | 1 | Window, Plexiglass |
| 17 | D50375 | 1 | Cover, Burner Tube |
| 18 | 74149 | 1 | Burner |
| 19 | D50390 | 1 | Door, Access Burner Tube |
| 20 | D50080 | 1 | Tube, Vap. to Plumbing |
| 21 | D50050 | 1 | Tube, Liq. to Vapor |
| 22 | D50070 | 1 | Tube, Vap. to Burner |
| 23 | D32130 | 1 | Bracket, Flame Detector |
| 24 | 42-16436 | 2 | Clamp |
| 25 | 72942 | 1 | Cap, 1" NPT |
| 26 | D22320 | 1 | Spark Plug |
| 27 | 73268 | 1 | Terminal, Spark Plug |
| 28 | 72845 | 1 | Elbow, 1" x 90° |
| 29 | 57001247 | 1 | Orifice, L.P. |
| 30 | 57001246 | 1 | Holder, Orifice L.P. |
| 31 | 72717 | 1 | Coupler, 1" Pipe |
| 32 | D55895 | 1 | Holder, 1" Orifice N.G. |
| 33 | D52414 | 1 | Orifice, Nat. Gas |
| 34 | D52441 | 1 | Hose, 1" Nat. Gas |
| 35 | 72847 | 2 | Elbow, 1½ x 90° |
| 36 | 72940 | 2 | Bushing, 1½" x ½" Pipe |
| 37 | 73086 | 1 | Adapter, ½" P. to ½" T. |
| 38 | 72903 | 1 | Bell, ¾ to ½ Reducer |
| 39 | 73101 | 1 | Elbow, ½" Pipe to ½" Tube |
| 40 | 72791 | 1 | Nipple, ½" x 1½" |
| 41 | 72978 | 1 | Union, ½" |
| 42 | D50075 | 1 | Tube, Vapor to Vapor |
| 43 | 72844 | 1 | Elbow, ¾" x 90° |
| 44 | 72917 | 1 | Bushing, ¾ x ½ Pipe |
| 45 | 77351 | Per Ft. | Wire, Spark Plug |
| 46 | D50610 | 2 | Cover, Vap. Hole |
| 47 | D50615 | 1 | Filler |
| 48 | 72941 | 1 | Elbow, 1 x ½ Red |
| 49 | 72938 | 1 | Nipple, 1½ x 45 |
| 50 | 72939 | 1 | Nipple, ¾ x 36 |

PROPANE CONTROL CABINET ASSEMBLY SINGLE PHASE



**PROPANE CONTROL CABINET ASSEMBLY
SINGLE PHASE**

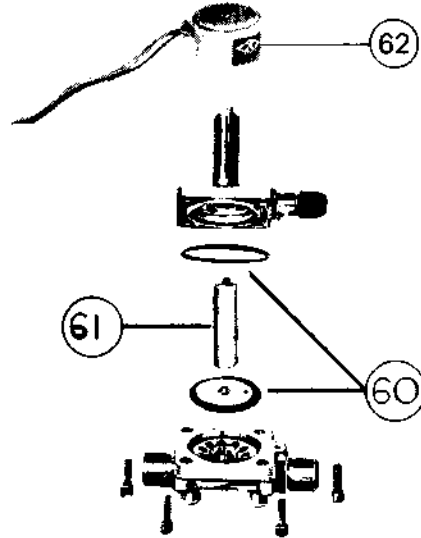
| REF. NO. | PART NO. | NO. REQ'D. | DESCRIPTION |
|----------|----------|------------|---------------------------------------|
| 1 | D25102 | 1 | Gauge, Pressure |
| 2 | 77193 | 2 | Valve, 1/2" Solenoid |
| 3 | D25191 | 1 | Regulator, 1/2" Pressure |
| 4 | 57001285 | 1 | Valve, Ball |
| 5 | 72633 | 1 | Plug, 1/4" Pipe |
| 6 | D25620 | 1 | Bracket, Front Plumbing |
| 7 | D25631 | 1 | Bracket, Rear Plumbing |
| 8 | D25610 | 2 | Clamp, 1/2 Saddle |
| 9 | 71987 | 2 | V-Bolt |
| 10 | 72886 | 3 | Tee, 1/2" |
| 11 | 73071 | 1 | Connector, 1/2" T to 1/2" Pipe |
| 12 | D22415 | 1 | Orifice |
| 13 | 72792 | 2 | Nipple, 1/2" x 2" |
| 14 | 72791 | 5 | Nipple, 1/2" x 1.5" |
| 15 | 72790 | 4 | Nipple, 1/2" Close |
| 16 | D25542 | 2 | Coil, Solenoid |
| 17 | 72843 | 2 | Elbow, 1/2" |
| 18 | 72858 | 3 | Elbow, 1/2" Street |
| 19 | 72673 | 1 | Plug, 1/2" Pipe |
| 20 | 72978 | 1 | Union, 1/2" |
| 21 | D25865 | 1 | Nipple, Orifice |
| 22 | 72909 | 1 | Tee, 1/2" x 1/4" x 1/2" |
| 23 | 73110 | 1 | Connector, 1/4" T to 1/4" Pipe |
| 24 | 72841 | 1 | Elbow, 1/4" x 90 Degree |
| 25 | 72793 | 1 | Nipple, 1/2" x 2.5" |
| 26 | D55310 | 1 | Line, Pressure Gauge |
| 27 | 73047 | 2 | Elbow, 90 Degree Brass 1/4" T to Pipe |
| 28 | 73086 | 1 | Adapter, 1/2" Pipe to 1/2" T |
| 29 | 72885 | 1 | Tee, 1/2" x 1/2" x 1/4" |
| 32 | D25251 | 2 | Bracket, Plumbing |
| 33 | 73109 | 1 | Connector, 3/16 T to 1/8 NPT |
| 34 | D22250 | 1 | Line, Air Switch |
| 35 | D50410 | 1 | Box, Junction |
| 36 | D50415 | 1 | Door, Junction Box |
| 37 | 74692 | 1 | Decal, Wiring Diagram |
| 38 | 74694 | 1 | Decal, Sequence |
| 39 | D25161 | 1 | Detector, Flame |
| 41 | 73159 | 1 | Connector, 3/8" x 90 Degree |
| 42 | 73166 | Per ft. | Conduit, 3/8" Liquidtite |
| 43 | 73157 | 4 | Connector, 3/8" Straight |
| 44 | D52530 | 1 | Tube, Air Switch |
| 45 | 72279 | 1 | Nut, 1" NF Hex |
| 46 | K25030 | 1 | Air Switch |

**PROPANE CONTROL CABINET ASSEMBLY
SINGLE PHASE**

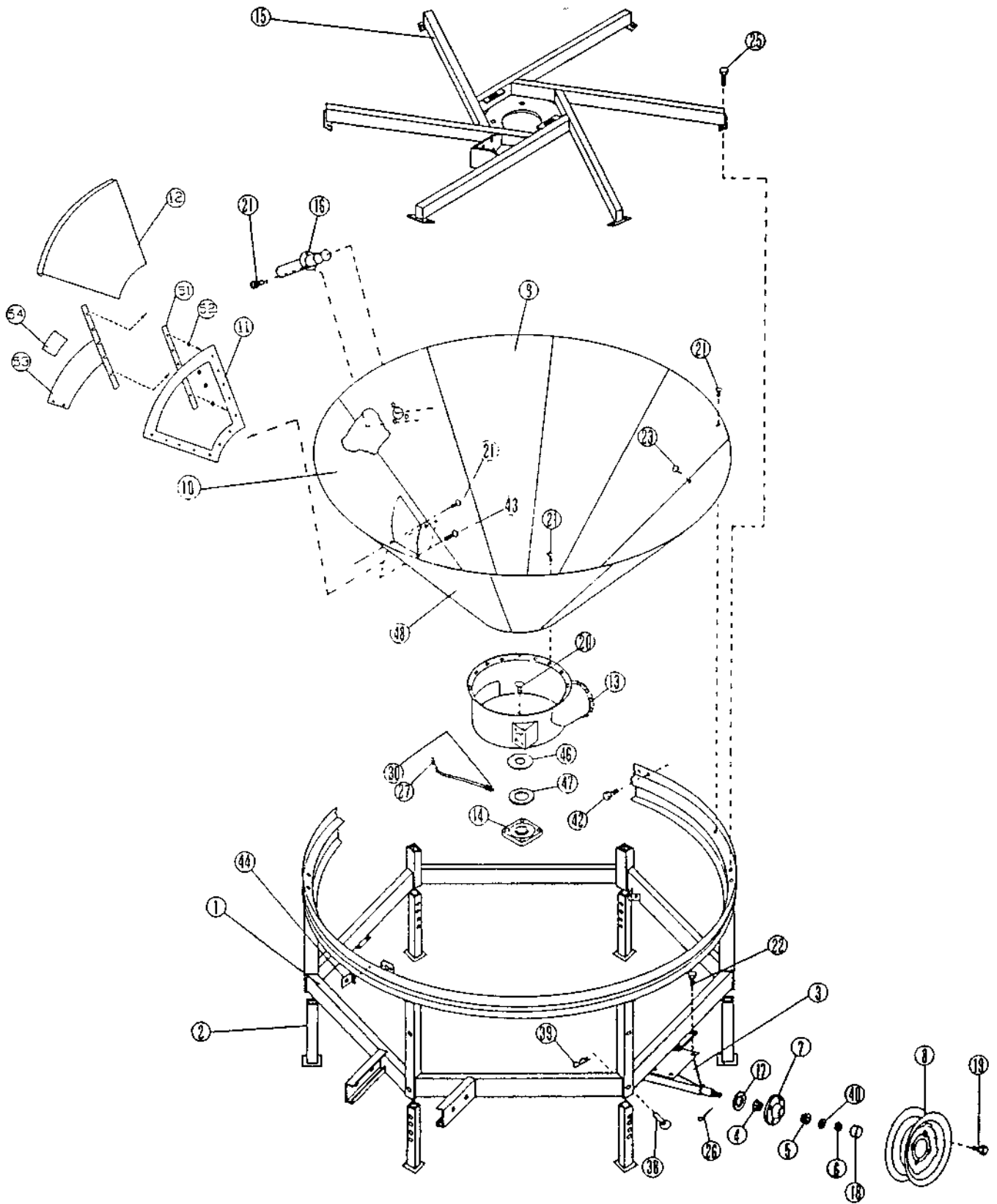
| REF. NO. | PART NO. | NO. REQ'D. | DESCRIPTION |
|----------|----------|------------|--|
| 47 | 77228 | 1 | Coil |
| 48 | 71683 | 4 | Screw, 10 24 x 1/2" Machine |
| 49 | 77192 | 2 | Body, 3/8" N.P.T. Solenoid Valve |
| 50 | D25522 | 2 | Coil, Solenoid Valve 12 Volt |
| 51 | D25240 | 2 | Valve, 1/4" N.P.T. Relief |
| 52 | D25120 | 1 | Valve, 3/8" N.P.T. Quick Acting |
| 53 | D25280 | 1 | Strainer, 3/8" N.P.T. |
| 54 | 73085 | 2 | Connector, 1/2" Tube to 3/8" M.N.P.T. |
| 55 | 72857 | 1 | Elbow, 3/8" N.P.T. Street |
| 56 | 72884 | 1 | Tee, 3/8" N.P.T. x 3/8" N.P.T. x 1/4" N.P.T. |
| 57 | D50460 | 1 | Bracket, Plumbing |
| 58 | 72831 | 2 | Nipple, 3/8" x 6" |
| 60 | 73271 | 1 | Grommet |
| 61 | 73270 | 2 | Grommet |
| 62 | 77188 | 1 | Holder, In-Line Fuse |
| 63 | 77268 | 1 | Fuse, 7 Amp |
| 64 | 73110 | 1 | Fitting, 1/4" T to 1/4" Pipe |
| 68 | 74121 | 1 | Valve, 1/2" N.P.T. Relief |
| 69 | 72796 | 1 | Nipple, 1/2" N.P.T. x 4" N.P.T. |
| 70 | 72909 | 1 | Tee, 1/2" N.P.T. x 1/4" N.P.T. x 1/2" N.P.T. |
| 71 | 72633 | 1 | Plug, 1/4" N.P.T. Pipe |
| 73 | 77309 | 2 | Block, Terminal |
| 81 | 73100 | 1 | Elbow, 90° 3/8" P to 1/2" Tube |
| 82 | 72780 | 1 | 3/8" Close Nipple |
| 83 | 72657 | 1 | Coupler, 3/8" Pipe |
| 84 | D50060 | 1 | Tube, Copper |
| 85 | D25275 | 1 | Bracket, Liquid Plumbing |
| 86 | 72653 | 1 | Pipe Plug |
| 87 | 90037 | 1 | Swivel, 3/8" M - 1/2" F |
| 88 | 72595 | 1 | Washer |
| 89 | 72913 | 1 | Tee, 3/8 x 1/4 x 3/8 |
| 90 | 73735 | Per Ft. | Conduit, 1/2" Liquitite |
| 91 | 73165 | 2 | Connector, 1/2" x 90° |
| 92 | 73163 | 2 | Connector, 1/2" Straight |
| 93 | 77106 | 1 | Tee, Conduit |
| 94 | 72781 | 2 | Nipple 3/8 x 1.5 S80 |

SOLENOID VALVE ASSEMBLY

| REF. NO. | PART NO. | DESCRIPTION |
|----------|----------|--|
| 60 | 77507 | Kit, 3/8" Solenoid Valve Diaphragm Repair |
| 60 | 77508 | Kit, 1/2" Solenoid Valve Diaphragm Repair |
| 60 | 77506 | Kit, 1" Solenoid Valve Diaphragm Repair (Natural Gas) |
| 62 | D25542 | Coil, 12 Volt Solenoid Valve, 27" Leads w/Porks |



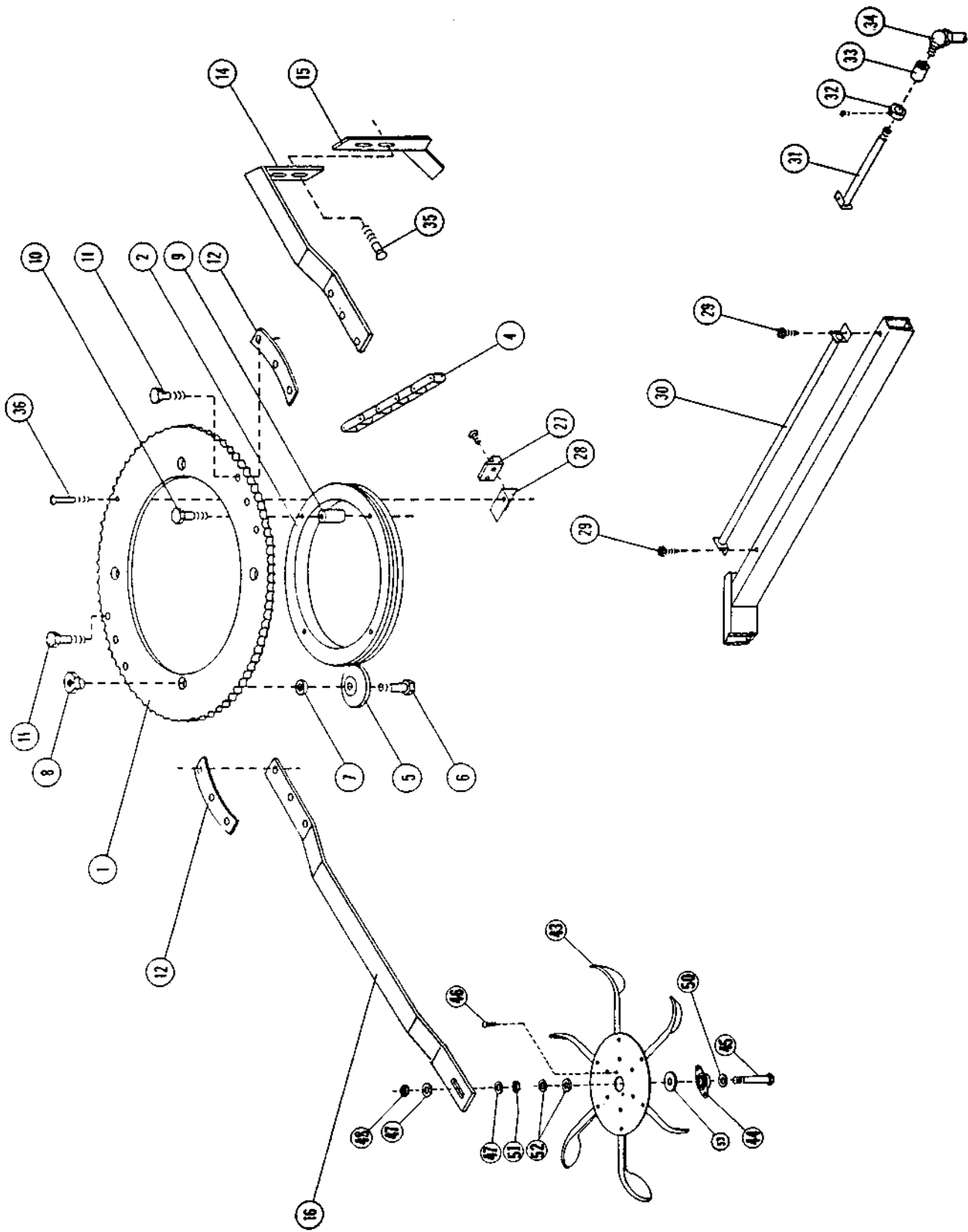
FRAME ASSEMBLY SINGLE PHASE



**FRAME ASSEMBLY
SINGLE PHASE**

| REF. NO. | PART NO. | NO. REQ'D. | DESCRIPTION |
|----------|-----------|------------|---|
| 1 | D50480 | 1 | Main Welded Frame Less Hitch |
| 2 | D21021 | 6 | Jack |
| | D21022 | 6 | Adjustable Jack (Optional) |
| 3 | D51032 | 2 | Axle Assembly |
| 4 | 42-110149 | 4 | Inner Bearing |
| 5 | D21050 | 4 | Outer Bearing |
| 6 | D21060 | 4 | Nut |
| 7 | D21075 | 4 | Hub With Bearing Cups |
| 8 | D21080 | 4 | Wheel Rim 15" |
| | D21085 | 4 | Tire, Tube & Rim (Mounted) |
| 9 | D51450 | 8 | Bin Bottom Sheet (Perf. Coated) |
| 10 | D51460 | 1 | Bin Bottom Sheet w/Access Hole (Perf. Coated) |
| 11 | D21123 | 1 | Access Door Frame |
| 12 | D21133 | 1 | Access Door |
| 13 | D51144 | 1 | Bin Bottom Well w/Boot |
| 14 | D21161 | 1 | Bottom Auger Bearing |
| 15 | D50485 | 1 | Spider |
| 16 | D21182 | 1 | Grain Sampler |
| 17 | D21190 | 4 | Seal |
| 18 | D21200 | 4 | Cap |
| 19 | 42-16053 | 16 | Lug Bolt |
| 20 | 71329 | 4 | Carriage Bolt 1/2" x 1 1/2" |
| 21 | 71823 | 129 | 1/4" - 20 x 1/2" Slotted HD Machine Screw |
| 22 | 71103 | 8 | 1/2" x 1 1/4" Capscrew |
| 23 | 71822 | 150 | 1/4" - 20 x 3/8" Slotted HD Machine Screw |
| 25 | 71053 | 20 | 3/8" x 1 1/4" Capscrew |
| 26 | 73527 | 4 | 5/32" x 1 1/4" Cotter Pin |
| 27 | 73150 | Per ft. | Grease Line |
| 30 | 73109 | 2 | 1/8" Compression Fittings |
| 38 | 73586 | 6 | Pin |
| 39 | 73587 | 6 | Clip |
| 40 | 72474 | 4 | 3/4" Washer |
| 42 | 71054 | 2 | 3/8" x 1 1/2" Capscrew |
| 43 | 71825 | 2 | 1/4" - 20 x 3/4" Slotted Head Machine Screw |
| 44 | D22491 | 1 | Bracket, Conduit |
| 46 | 73289 | 1 | Seal, 2" I.D. Neoprene Shaft |
| 47 | 73290 | 1 | Seal, 2.72" I.D. Neoprene Bearing |
| 48 | D51400 | 1 | Bin Bottom Sheet (Solid) |
| 51 | D21500 | 1 | Track |
| 52 | 72488 | 6 | Washer, High Lock |
| 53 | D21136 | 1 | Bar, Safety |
| 54 | 74716 | 1 | Decal |

AGITATOR ASSEMBLY SINGLE PHASE



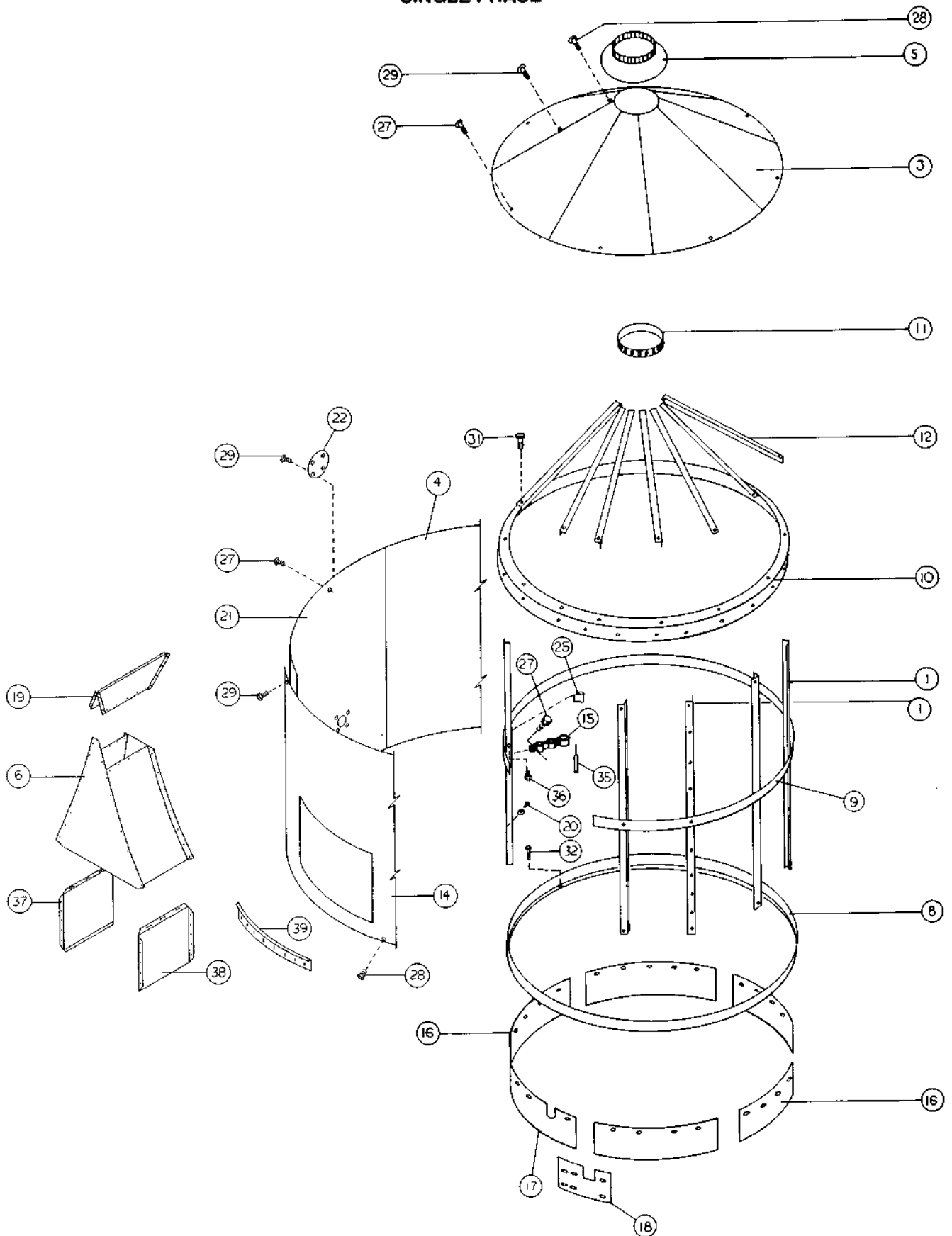
**AGITATOR ASSEMBLY
SINGLE PHASE**

| REF. NO. | PART NO. | NO. REQ'D. | DESCRIPTION |
|----------|----------|------------|----------------------------------|
| 1 | D28032 | 1 | Sprocket, No. 60, 112 Teeth |
| 2 | D28260 | 1 | Race, Agitator |
| 4 | D28140 | 1 | Chain, Roller No. 60 |
| 5 | D28161 | 4 | Roller, Agitator w/ Bearings |
| | D28300 | 8 | Bearing (Only) - Agitator Roller |
| 6 | 73521 | 4 | Capscrew, 3/4 x 3 3/4 HT |
| 7 | 72522 | 4 | Washer |
| 8 | D28204 | 4 | Nut, Cam |
| 9 | D28270 | 4 | Spacer |
| 10 | 73519 | 4 | Capscrew, 7/16x5 HT |
| 11 | 73504 | 6 | Capscrew, 7/16x2 1/2 HT |
| 12 | D28082 | 4 | Spacer |
| 14 | D50320 | 1 | Arm, Horz. Sect. Vert. Agit. |
| 15 | D50290 | 1 | Paddle |
| 16 | D50325 | 1 | Arm, Horz. Agit. |
| 27 | 77247 | 1 | Magnet |
| 28 | D25900 | 1 | Angle, Agit. Sensor Mtg. |
| 29 | 72095 | 3 | Screw, #10 x 1/2 |
| 30 | D24250 | 1 | Pipe, Agit. Sensor spider |
| 31 | D24260 | 1 | Pipe, Agit. Sensor grain wall |
| 32 | D22130 | 1 | Coller, Set |
| 33 | 72836 | 1 | Coupler, 1/2 |
| 34 | 73159 | 1 | Elbow, 3/8 Conduit |
| 35 | 71331 | 2 | Bolt, 1/2 x 2 Carriage |
| 36 | 71688 | 1 | Screw, #10 x 3/4 |
| 43 | D58080 | 1 | Wheel, Rotary agit. |
| | D58160 | 1 | Disk (for above) |
| | D58170 | 6 | Paddle (for above) |
| 44 | 85020 | 1 | Bearing, 3/4 |
| 45 | 75342 | 1 | Capscrew, 3/4 x 4 |
| 46 | 71276 | 2 | Carriage bolt, 3/8 x 3/4 |
| 47 | 72591 | 2 | Washer, 3/4 wide rim |
| 48 | 72375 | 1 | nut, 3/4 NR Machine |
| 50 | 72595 | 1 | Bushing, 3/4 NR Machine |
| 51 | 72256 | 1 | Nut, Jam |
| 52 | D28370 | 2 | Bushing, 3/4 Machine Thick |
| 53 | 72415 | 1 | Washer, 7/8" |

**AGITATOR DRIVE ASSEMBLY
SINGLE PHASE**

| REF. NO. | PART NO. | NO. REQ'D. | DESCRIPTION |
|----------|----------|------------|------------------------------|
| 1 | D50335 | 1 | Support, Lower Agitator Brg. |
| 5 | D50315 | 1 | Support, Upper Agitator Brg. |
| 7 | D50295 | 1 | Flange, Bin |
| 14 | D50470 | 1 | Bracket, Agit. Sensor |
| 15 | D28181 | 1 | Arm, Idler |
| 16 | D28280 | 2 | Tab, Spring |
| 18 | D50300 | 1 | Seal, Nylon |
| 20 | D50330 | 1 | Shaft, Agitator |
| 21 | 73277 | 1 | Washer, Rubber |
| 22 | D50565 | 1 | Arm, Idler Sprocket |
| 25 | D28190 | 2 | Spring |
| 26 | 42-68011 | 1 | Sprocket, 60B x 13 |
| 27 | D28172 | 1 | Sprocket, Idler |
| 28 | 80034 | 1 | Sprocket, # 50 Idler |
| 29 | 80032 | 1 | Sprocket, 50B 60T x 1.25 |
| 30 | 80033 | 1 | Sprocket, 50B 11T x 1 |
| 31 | 80035 | 1 | Chain, #50 x 100P |
| 32 | 42-58052 | 1 | Bearing, 1 1/4 " (4 Hole) |
| 35 | 77248 | 1 | Sensor, Pick-up |
| 36 | D28041 | 1 | Bearing, 1 1/4" |
| 37 | D50685 | 1 | Bracket, Conduit Fitting |
| 38 | 73157 | 1 | Connector, 3/8 Conduit |
| 39 | D50710 | 2 | Brace, Bin Well |

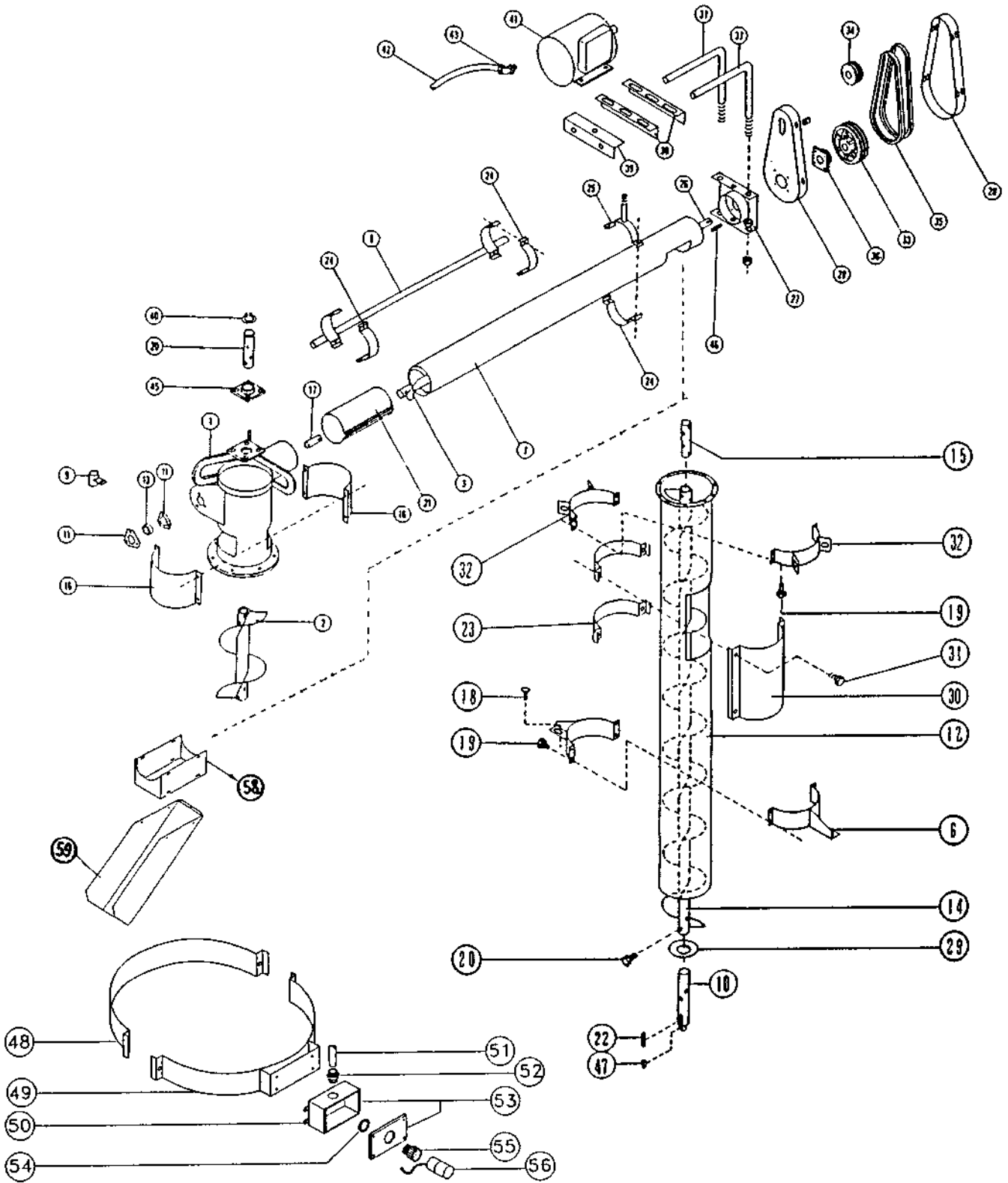
**PLENUM ASSEMBLY
SINGLE PHASE**



**PLENUM ASSEMBLY
SINGLE PHASE**

| REF. NO. | PART NO. | NO. REQ'D. | DESCRIPTION |
|----------|----------|------------|--|
| 1 | D33010 | 31 | Plenum Frame Angle, Straight |
| 2 | D53020 | 1 | Connecting Tube |
| 3 | D53030 | 7 | Lid Sheet |
| 4 | D53040 | 4 | Side Sheet Without Connecting Tube Hole |
| 5 | D23051 | 1 | Cone Cap |
| 6 | D50100 | 1 | Saddle |
| 7 | D53070 | 1 | Front Enclosure |
| 8 | D53080 | 1 | Lower Frame Band |
| 9 | D53091 | 1 | Center Band, 1/8" Thick |
| 10 | D53100 | 1 | Transition Band |
| 11 | D53110 | 1 | Top Ring |
| 12 | D53120 | 35 | Lid Frame Angles |
| 13 | D53130 | 1 | Connecting Tube Trim Ring |
| 14 | D50020 | 1 | Sheet with Connecting Tube Hole (Std. Perf.) |
| | D50025 | 1 | Sheet with Connecting Tube Hole (Fine Perf.) |
| | D53150 | 1 | Side Sheet (Narrow Strip) |
| 15 | D23161 | 2 | Thermometer Support Bracket |
| 16 | D53172 | 5 | Skirt |
| 17 | D53182 | 1 | Skirt With Slot |
| 18 | D53192 | 6 | Splices, Plenum Skirt |
| 19 | D53160 | 1 | Extension, Saddle |
| 20 | 71942 | 11 | No. 14 x 3/4" Self Tapping Screw |
| 21 | D53210 | 1 | Side Sheet W/Cleaner Hole |
| 22 | D24210 | 1 | Plate, Cover |
| 25 | D23210 | 2 | Push on Clip |
| 27 | 71823 | 85 | 1/4" - 20 x 1/2" Slotted Hd Machine Screw |
| 28 | 71825 | 108 | 1/4" - 20 x 3/4" Slotted Hd Machine Screw |
| 29 | 71822 | 104 | 1/4" - 20 x 3/8" Slotted Hd Machine Screw |
| 31 | 71001 | 35 | 1/4" x 3/4" Capscrew |
| 32 | 72155 | 6 | 5/16" x 3/4" Self-tapping Hex Hd Screw |
| 35 | 77271 | 1 | Sensor, Temperature Plenum |
| 36 | 77275 | 1 | Sensor, High Limit Control |
| 37 | D50255 | 1 | Skirt, Right Saddle |
| 38 | D50250 | 1 | Skirt, Left Saddle |
| 39 | D50265 | 1 | Trim, Plenum |

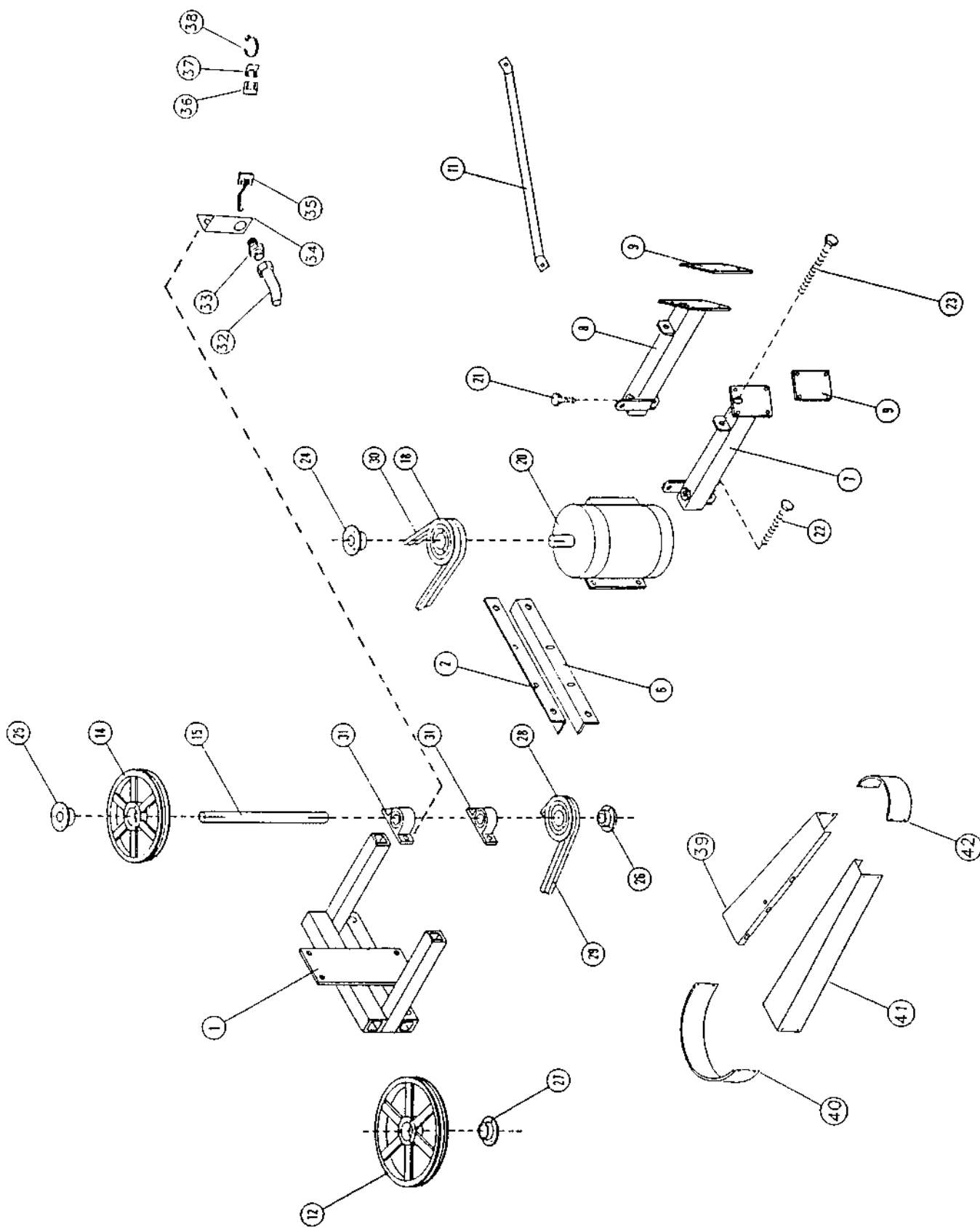
AUGER ASSEMBLY SINGLE PHASE



**AUGER ASSEMBLY
SINGLE PHASE**

| REF. NO. | PART NO. | NO. REQ'D. | DESCRIPTION |
|----------|-------------|------------|--|
| 1 | D26282 | 1 | Head, Horz. Unloading |
| 2 | D26311 | 1 | Flight, Vert. Horz. Head |
| 3 | D26291 | 1 | Flight, Horz. Head |
| 6 | D26065 | 2 | Clamp, Support (at Spider) |
| 7 | D26305 | 1 | Tube, Horz. Head Unload |
| 8 | D26540 | 1 | Guide, Conduit |
| 9 | D26550 | 1 | Support, Horz. Unload Conduit |
| 10 | D56101 | 1 | Lower Stub Shaft |
| 11 | 42-54054 | Pair | Retainer Bearing |
| 12 | D56120 | 1 | Auger Tube (Bottom Section) |
| 13 | 85000 | 1 | 1" Bearing |
| 14 | D36141 | 1 | Flighting (Bottom Section) |
| 15 | D26150 | 1 | Stub Connecting Shaft |
| 16 | D26162 | 2 | Inspection Hole Cover |
| 17 | 42-56211 | 1 | Stub, Tail |
| 18 | 71329 | 6 | 1/2" x 1 1/2" Carriage Bolt |
| 19 | 71056 | 10 | 3/8" x 2" Capscrew |
| 20 | D26021 | 1 | Stub, Upper |
| 21 | 42-58080 | 1 | Band, Connecting |
| 22 | 73417 | 1 | Key, 1/2" x 1/2" 1 1/2" |
| 23 | D41030 | 2 | Cleaning Attachment Band |
| 24 | 41-10042 | 3 | Half Band 8" |
| 25 | 42-58082 | 1 | Band, Rear Motor Support |
| 26 | 42-58037 | 1 | Stub, Head |
| 27 | 42-58049 | 1 | Plate, Head |
| 28 | 42-58081 | 1 | Guard, Belt |
| 29 | 72424 | 1 | 2" Washer |
| 30 | D26220 | 1 | Grain Cleaner Hole Cover |
| 31 | 71054 | 4 | 3/8" x 1 1/2" Capscrew |
| | DA26000 | | Head Baffle Assy. (Includes Items 1, 9, 25, 26 & 27) |
| 32 | D26057 | 2 | Clamp, Brace |
| 33 | 42-90025 | 1 | Pulley, 2B 10" x 1 1/4" |
| 34 | 75047 | 1 | Pulley, 2B 3 x 1-1/8 |
| | 75044(U.K.) | 1 | Pulley, 2B 3 x 24mm |
| 35 | D29321 | 2 | Belt, B40 |
| 36 | 42-58052 | 1 | Bearing |
| 37 | 42-58046 | 2 | Rod, Motor Mounting |
| 38 | 42-58048 | 1 | Strap, Motor Mount w/Nuts |
| 38 | 42-58091 | 1 | Strap, Motor Mount |
| 39 | 42-58083 | 1 | Angle, Rear Motor Support |
| 40 | 69503 | 2 | Snap Ring |
| 41 | 52-10014 | 1 | Motor, 2 H.P. |
| 42 | 73166 | Per Ft. | Conduit, 3/8" x 13'4" |
| 43 | 73159 | 1 | Connector, 3/8" Elbow |
| 45 | D21161 | 1 | Bearing, 2" Flanged |
| 46 | 42-58050 | 1 | Key |
| 47 | 42-18282 | 1 | Key, Woodruff |
| 48 | D41030 | 1 | Half Band Clamp |
| 49 | D50705 | 1 | Half Band Clamp w/Mounting |
| 51 | 73166 | Per Ft. | Conduit, 3/8" |
| 52 | 73157 | 1 | Connector, 3/8" |
| 53 | D50775 | 1 | Enclosure, Plastic w/Lid |
| 54 | 77392 | 1 | Nut, 1 1/4 Conduit |
| 55 | 77394 | 1 | Adapter, 1 1/4 PVC |
| 56 | 77391 | 1 | Sensor, Adjustable Wet Grain |
| 57 | D26441 | 2 | Spreader, Grain |
| 58 | D26265 | 1 | Adapter, Spout |
| 59 | D26326 | 1 | Spout, Top Unloaded Head |

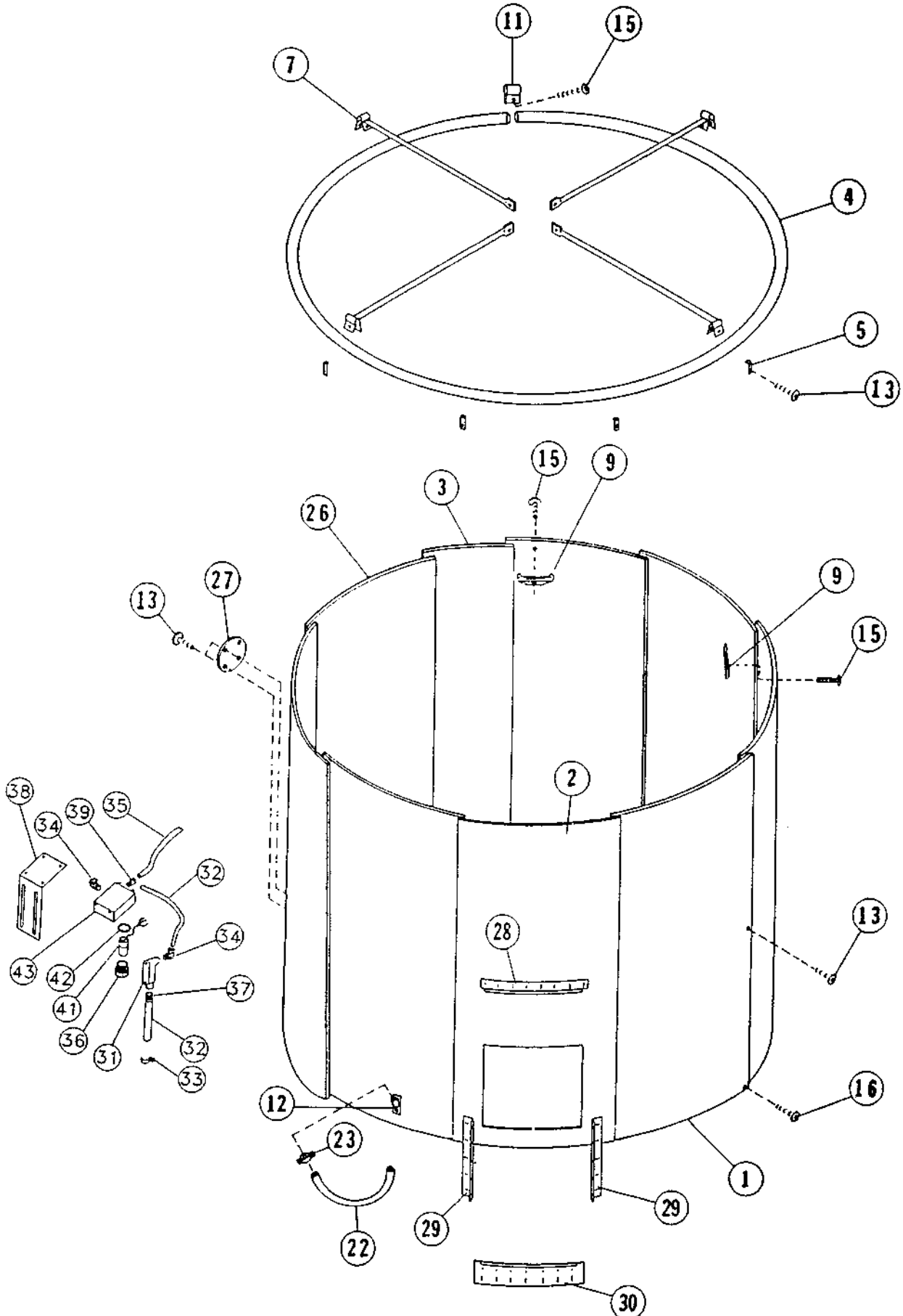
VERTICAL AUGER DRIVE ASSEMBLY
SINGLE PHASE



**VERTICAL AUGER DRIVE ASSEMBLY
SINGLE PHASE**

| REF. NO. | PART NO. | NO. REQ'D. | DESCRIPTION |
|----------|--------------|------------|----------------------------------|
| 1 | D50455 | 1 | Bracket, Jackshaft Mtg. |
| 2 | D50430 | 1 | Angle, Top Vert. Motor |
| 6 | D50435 | 1 | Angle, Bottom Vert. Motor |
| 7 | D50445 | 1 | Support, Right Vert. Motor |
| 8 | D50450 | 1 | Support, Left Vert. Motor |
| 9 | D50550 | 2 | Plate, Mounting |
| 11 | D50440 | 2 | Brace, Motor Mount |
| 12 | 76044 | 1 | Sheave, 2B x 20.0 |
| 14 | 76048 | 1 | Sheave, 2B x 15.4 |
| 15 | D50425 | 1 | Shaft |
| 18 | 76047 | 1 | Sheave, 2B x 6.0 |
| 20 | 52-10037 | 1 | Motor, 10 HP |
| 21 | 71103 | 2 | Capscrew, 1/2" x 1 1/4" |
| 22 | 71142 | 2 | Capscrew, 5/8" x 9 1/2" |
| 23 | 71142 | 2 | Capscrew, 5/8" x 9 1/2" |
| 24 | 76043 | 1 | Hub, 1-3/8 SDS |
| | 76055 (U.K.) | 1 | Hub, 38 mm SDS |
| 25 | 76011 | 1 | Hub, 1 1/2" SK |
| 26 | 76011 | 1 | Hub, 1 1/2" SK |
| 27 | 76045 | 1 | Hub, 2" SF |
| 28 | 76046 | 1 | Sheave, 2B x 8.0 |
| | 76052 (U.K.) | 1 | Sheave, 2B 9.4 PD |
| 29 | D52280 | 2 | Belt, B112 |
| 30 | D50545 | 1 | Belts, B66 (set of 2) |
| 31 | D22097 | 2 | 1 1/2" Bearing |
| 32 | 73166 | Per Ft. | Conduit, 3/8" |
| 33 | 73157 | 1 | Connector, 3/8" |
| 34 | D50700 | 1 | Bracket, Sensor |
| 35 | 77284 | 1 | Sensor, Pickup |
| 36 | 77247 | 1 | Magnet, Sensor |
| 37 | D25900 | 1 | Bracket, Sensor |
| 38 | 79065 | 1 | Clamp, Band |
| 39 | D50745 | 1 | Shield, Right Lwr. Auger Drive |
| 40 | D50740 | 1 | Shield, Center Aug. Sheave |
| 41 | D50735 | 1 | Shield, Left Lwr. Auger Drive |
| 42 | D50730 | 1 | Shield, Center Aug. Drive Sheave |

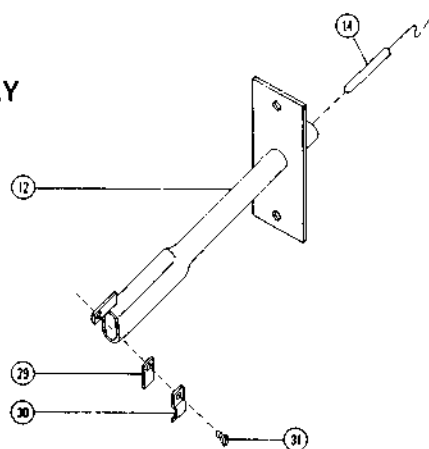
OUTSIDE SKIN ASSEMBLY
SINGLE PHASE



**OUTSIDE SKIN ASSEMBLY
SINGLE PHASE**

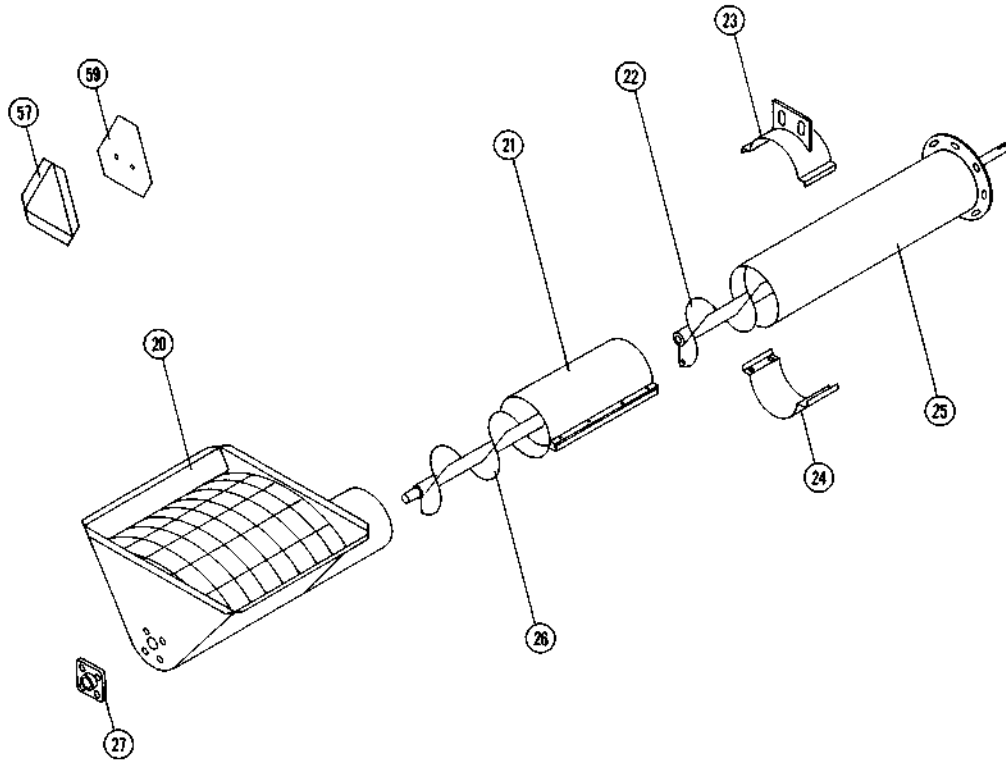
| REF. NO. | PART NO. | NO. REQ'D. | DESCRIPTION |
|----------|----------|------------|---|
| 1 | D54260 | 6 | Outside Sheet Fine Perforated |
| 2 | D50240 | 1 | Outside Sheet with Hole Fine Perforated |
| 2 | D50045 | 1 | Outside Sheet with Hold Std. Perforated |
| 3 | D54270 | 1 | Outside Sheet 34" Wide Fine Perforated |
| 4 | D54040 | 1 | Cap Ring |
| 5 | D24050 | 8 | Ring Holder |
| 7 | D54072 | 4 | Auger Brace |
| 8 | D24080 | 1 | Spout Control Catch |
| 9 | D24091 | 2 | Spout Support |
| 11 | D24110 | 1 | Rim Connector |
| 12 | D24240 | 1 | Grain Temperature Capillary Support Bracket |
| 13 | 71822 | 220 | 1/4" - 20 x 3/8" Slotted Hd Machine Screw |
| 15 | 71825 | 12 | 1/4" - 20 x 3/4" Slotted Hd Machine Screw |
| 16 | 71823 | 105 | 1/4" - 20 x 1/2" Slotted Hd Machine Screw |
| 22 | D25262 | 1 | Liquitite Conduite |
| 23 | 73263 | 1 | 3/4" Two Screw Connector |
| 26 | D54250 | 1 | Outside Sheet w/Hole for Grain Cleaner-Fine Perf. |
| 27 | D24210 | 1 | Cover Plate |
| | 73966 | 1 | (GT Logo) |
| 28 | D50270 | 1 | Trim, Outside Conn. Tube Top |
| 29 | D50275 | 2 | Trim, Outside Conn. Tube Side |
| 30 | D50260 | 1 | Trim, Outside Conn. Tube Bottom |
| 31 | 77097 | 1 | Junction Box, 90 Deg. |
| 32 | 73735 | Per Ft. | Conduit, 1/2" |
| 33 | 73225 | 3 | Clamp, Conduit |
| 34 | 73165 | 2 | Connector, 90 Deg. |
| 35 | 73735 | Per. Ft. | Conduit, 3/8" |
| 36 | 77394 | 1 | Adapter, 1 1/4 PVC |
| 37 | 73163 | 1 | Connector, 1/2 Conduit |
| 38 | D50695 | 1 | Bracket, Top Sensor Box |
| 39 | 73157 | 1 | Connector, 3/8 Conduit |
| 41 | 77391 | 1 | Sensor, Adjustable Wet Grain |
| 42 | 77392 | 1 | Nut, 1 1/4 Conduit |
| 43 | D50780 | 1 | Enclosure, Plastic w/ Lid |

GRAIN CAPILIARY ASSEMBLY

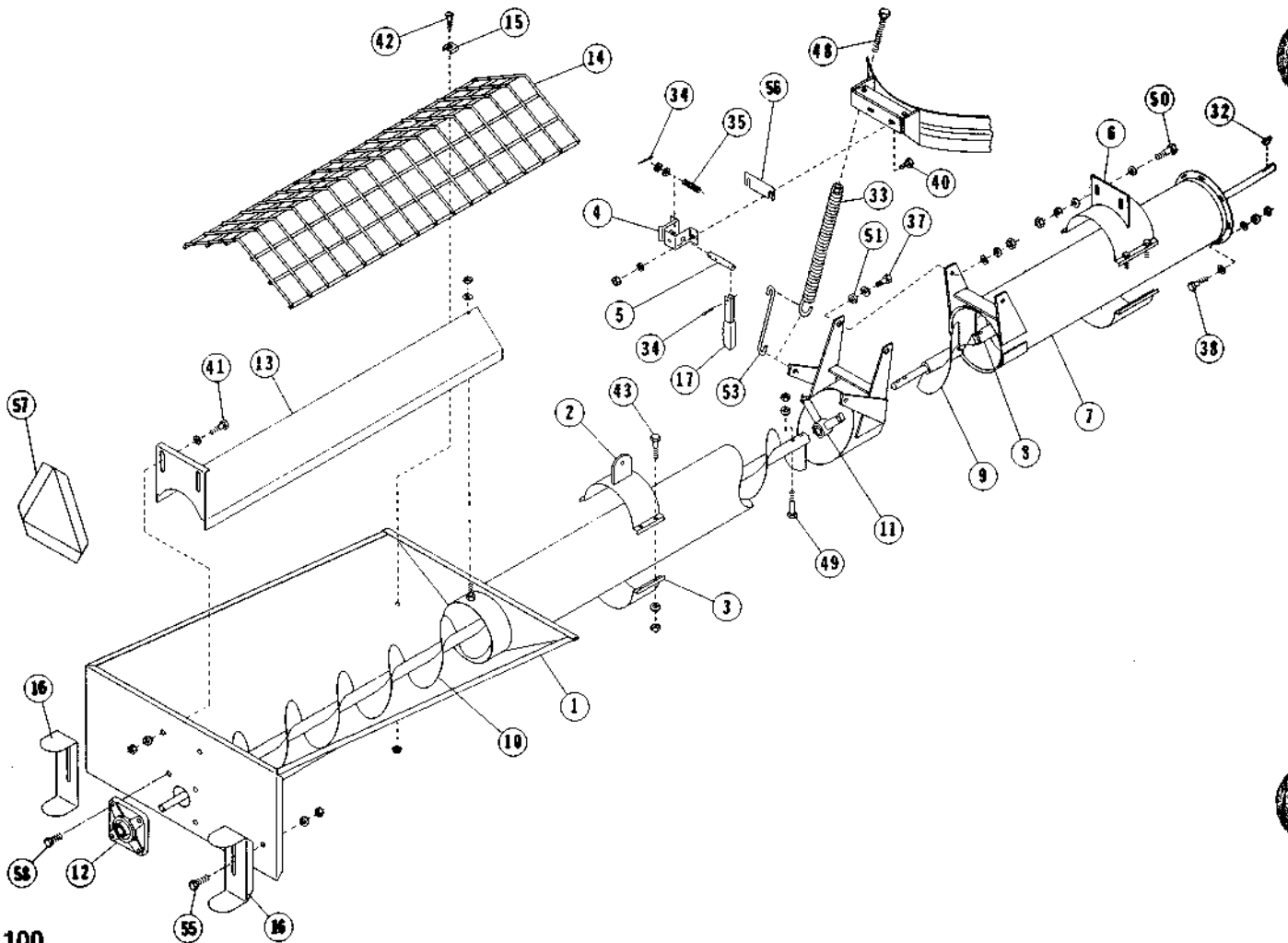


| REF. NO. | PART NO. | NO. REQ'D. | DESCRIPTION |
|----------|----------|------------|----------------------------|
| 12 | D24240 | 1 | Bracket, Grain Temp Sensor |
| 14 | 77271 | 1 | Sensor, Grain Temperature |
| 29 | D24270 | 1 | Strip, Clamping |
| 30 | 73486 | 1 | Clip, Jiffy |
| 31 | 71685 | 1 | Screw, #10 - 24 x 3/4 |

LOADING HOPPER (STANDARD) SINGLE PHASE



LOADING HOPPER, OPTIONAL STYLE SINGLE PHASE



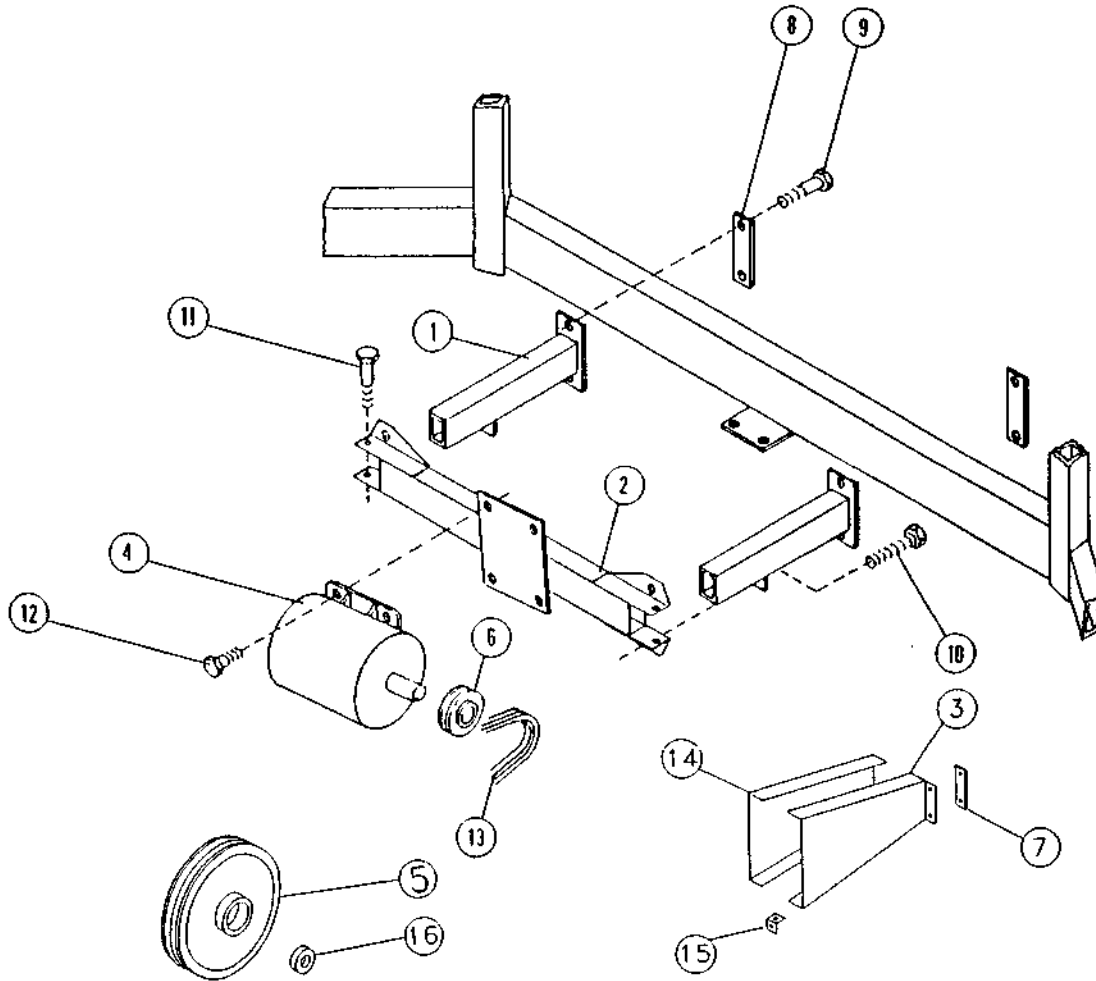
LOADING HOPPER, STANDARD SINGLE PHASE

| REF. NO. | PART NO. | NO. REQ'D. | DESCRIPTION |
|----------|----------|------------|----------------------------|
| 20 | D29790 | 1 | Hopper |
| 21 | 42-58080 | 1 | Band, Connecting |
| 22 | D50490 | 1 | Flight, Front |
| 23 | D59550 | 1 | Mount, Tube |
| 24 | 41-10144 | 1 | Band, 8" Half |
| 25 | D50495 | 1 | Tube, Front |
| 26 | D29580 | 1 | Flight |
| 27 | 42-66022 | 1 | Bearing |
| 57 | 73899 | 1 | Decal, Slow Moving Vehicle |
| 59 | D50555 | 1 | Mount, S.M.V. |

LOADING HOPPER (OPTIONAL) SINGLE PHASE

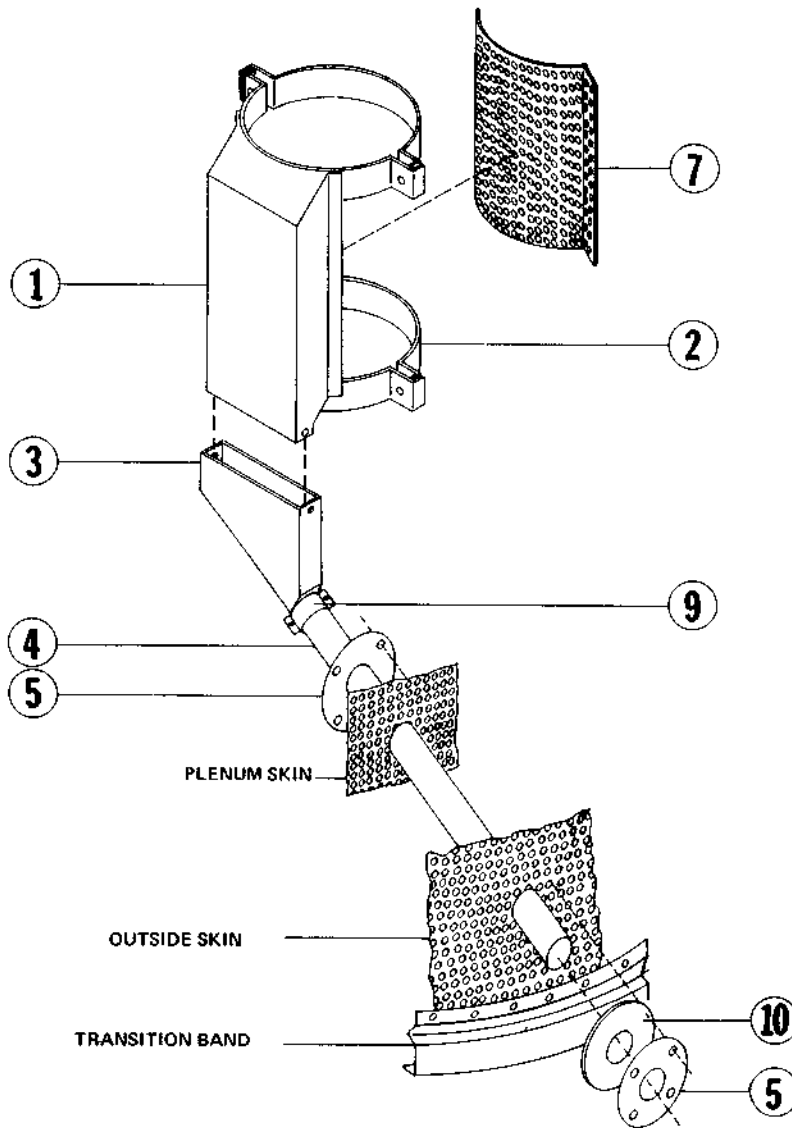
| REF. NO. | PART NO. | NO. REQ'D. | DESCRIPTION |
|----------|---------------|------------|-----------------------------------|
| 1 | D29013 | 1 | Hopper, Extended |
| 2 | D29500 | 1 | Catch, Hopper |
| 3 | 41-10143 | 1 | Band, Half |
| 4 | D29521 | 1 | Latch, Hopper |
| 5 | D29540 | 1 | Pin, Latch |
| 6 | D59141 | 1 | Mount, Tube |
| 7 | D59031 | 1 | Tube, Front Auger |
| 8 | D59053 | 1 | Flight, Front Auger |
| 9 | D59391 | 1 | Flight, Short Sec. Rear Auger |
| 10 | D29042 | 1 | Flight, Long Sect. Rear Auger |
| 11 | 42-98080 | 1 | Bearing & Casting |
| | 71127 | 1 | Capscrew, 5/8 x 1 |
| | D29510 | 1 | Bolt w/Zerk |
| | 42-18133 | 1 | Bronze Bearing |
| 12 | 42-66022 | 2 | Bearing |
| 13 | D59150 | 1 | Regulator, Grain Flow |
| 14 | D29470 | 1 | Grill, Hopper |
| | D29471 (U.K.) | 1 | Grill, Hopper U.K. |
| 15 | D29560 | 4 | Clip, Grill |
| 16 | D29161 | 2 | Stand, Hopper |
| 17 | D29531 | 1 | Latch Handle |
| 32 | 42-18282 | 2 | Key, No. 808 Woodruff |
| 33 | 73317 | 2 | Spring, Lift |
| | D29480 | 2 | Spring, Lift w/Plug Nut |
| 34 | 73534 | 2 | Pin, Cotter, 1/8" x 1 1/4" |
| 35 | 73316 | 1 | Spring, Pin |
| 37 | 71104 | 2 | Capscrew, 1/2" x 1 1/2" |
| 38 | 71027 | 8 | Capscrew, 5/16" x 1" |
| 40 | 71251 | 8 | Bolt, Carriage 5/16" x 3/4" |
| 41 | 71026 | 2 | Capscrew, 5/16" x 3/4" |
| 42 | 71825 | 4 | Screw, 5/16" x 3/4" SL HD Machine |
| 43 | 71054 | 8 | Capscrew, 3/8" x 1 1/2" |
| 48 | 71988 | 2 | Capscrew, 1/2" x 6" Full Thd. |
| 49 | 73504 | 2 | Capscrew, 7/16" x 2 1/2" |
| 50 | 71104 | 2 | Capscrew, 1/2" x 1 1/2" |
| 51 | D29020 | 2 | Spacer, 1/2" ID x 1" OD x 5/16" |
| 52 | 71303 | 1 | Bolt, Carriage, 7/16" x 1 1/4" |
| 53 | D59172 | 2 | Rod, Spring Connecting |
| 55 | 71051 | 2 | Capscrew, 3/8" x 3/4" |
| 56 | D29550 | As Req'd. | Spacer, Hopper Latch |
| 57 | 73899 | 1 | Decal, Slow Moving Vehicle |
| 58 | 71053 | 8 | Capscrew, 3/8" x 1 1/4" |

**LOADING AUGER DRIVE ASSEMBLY
SINGLE PHASE**



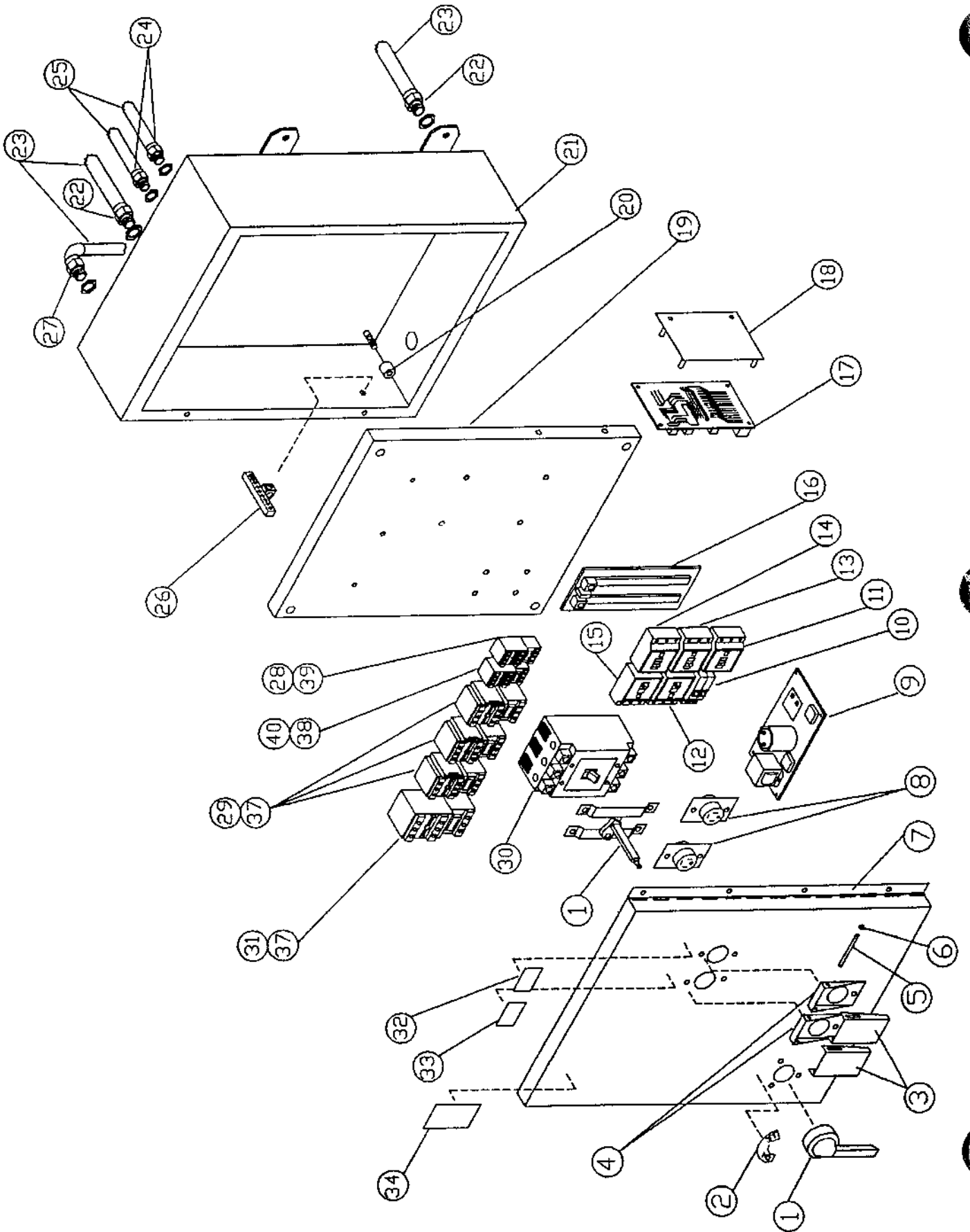
| REF. NO. | PART NO. | NO. REQ'D. | DESCRIPTION |
|----------|---------------|------------|----------------------------------|
| 1 | D59590 | 2 | Arm, Support |
| 2 | D59580 | 1 | Cross Member |
| 3 | D50351 | 1 | Shield, Loading Motor |
| 4 | 52-10016 | 1 | Motor |
| 5 | 76062 | 1 | Sheave, 2B 11" x 1" |
| 6 | 75047 | 1 | Sheave, 2B 3" x 1 1/8" |
| | 76061 | 1 | Sheave, 2B 3.4 PD L/Hub SH |
| | 76058 | 1 | Hub, 28 mm SH |
| 7 | D50591 | 1 | Door, Electric Enclosure |
| | D50590 (U.K.) | 1 | Door, U.K. Electric Enclosure |
| 8 | D52720 | 2 | Support, Arm Strap |
| 9 | 71112 | 4 | Cap screw, 1/2" x 4" |
| 10 | 71957 | 2 | Cap screw, 1/2" x 5" Full Thread |
| 11 | 71087 | 2 | Cap screw, 7/16" x 4" |
| 12 | 71054 | 4 | Cap screw, 3/8" x 1 1/2" |
| 13 | K52701 | 2 | Belt, B75 |
| 14 | D50725 | 1 | Shield, Loading Bell |
| 15 | D50770 | 1 | Bracket, Lwr. Shield |
| 16 | 76060 | 1 | Hub, 1" SK |

GRAIN CLEANING ATTACHMENT SINGLE PHASE



| REF. NO. | PART NO. | NO. REQ'D. | DESCRIPTION |
|----------|----------|------------|---|
| | A41011 | 1 | Grain Cleaning Attachment |
| 1 | D41020 | 1 | Cleaning Attachment Body |
| 2 | D41030 | 2 | Cleaning Attachment Bands |
| 3 | D41082 | 1 | Cleaning Attachment Transition |
| 4 | D41090 | 1 | Cleaning Attachment Top Tube |
| 5 | D41100 | 1 | Flange, Cleaning Attachment Tube |
| 7 | A41100 | 1 | Cleaning Attachment Screen (Corn, Sunflower) 7/32" Holes |
| 7 | A41110 | 1 | Cleaning Attachment Screen (Wheat, Oats, Barley, Milo) 7/64" Holes |
| 7 | A41120 | 1 | Cleaning Attachment Screen (Soybeans) 5/32" Holes |
| 7 | A41130 | 1 | Cover Plate (To replace screen) |
| 7 | A41105 | 1 | Cleaning Attachment Screen (Flax) 5/64" Holes |
| 7 | A41115 | 1 | Cleaning Attachment Screen (Rape Seed) 1/16" Holes |
| 9 | D41081 | 1 | Band, Transition 1/2 |
| 10 | 73289 | 1 | Seal, Rubber |

ELECTRICAL CONTROL BOX SINGLE PHASE



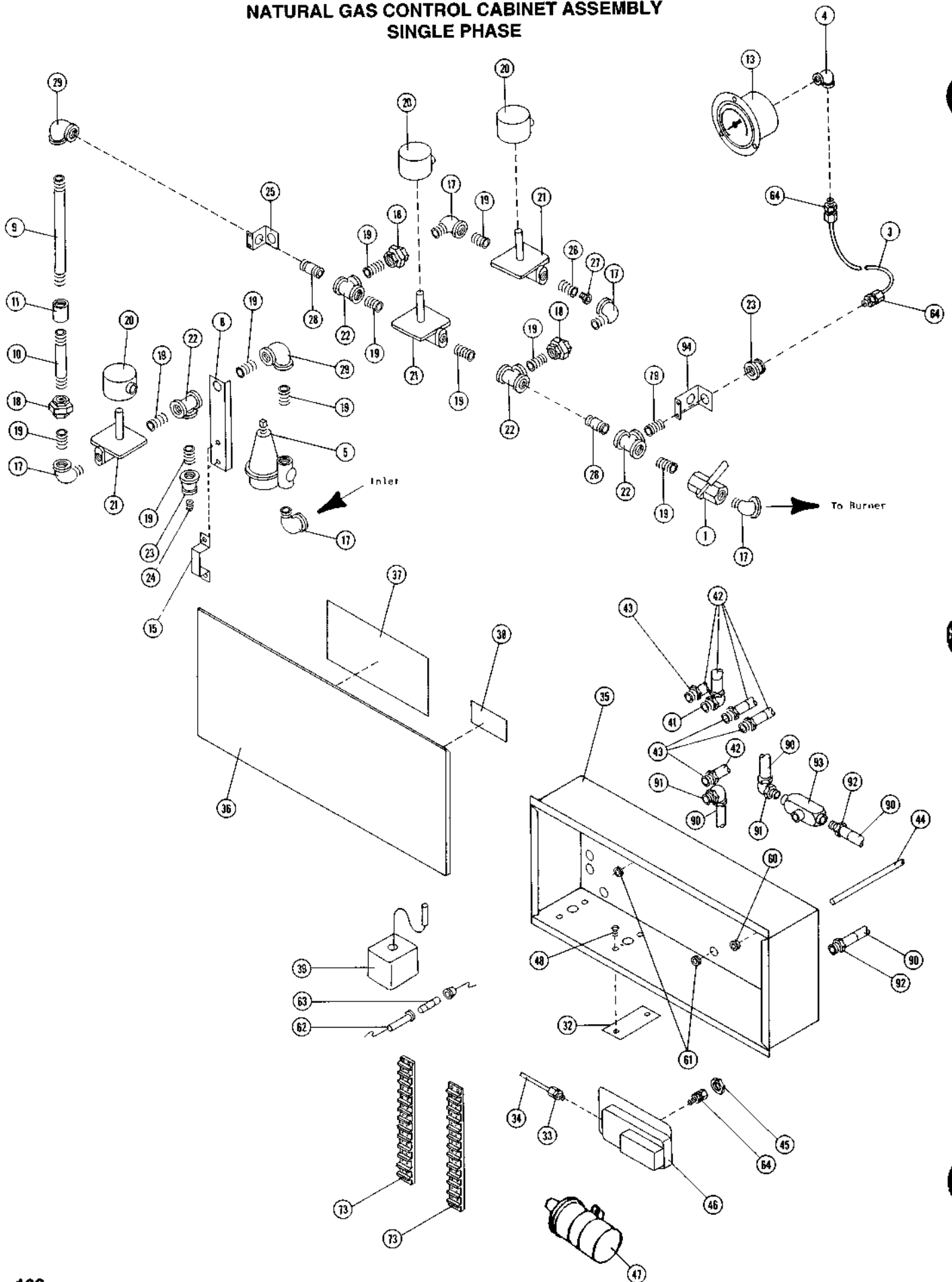
**ELECTRICAL CONTROL BOX
SINGLE PHASE**

| REF. NO. | PART NO. | NO. REQ'D. | DESCRIPTION |
|----------|---------------|------------|-----------------------------------|
| 1 | 77147 | 1 | Operating Mechanisim |
| 2 | 74673 | 1 | Decal |
| 3 | D25980 | 2 | Door, Outlet Cover |
| 4 | 502131 | 2 | Cover, Outlet |
| 5 | D25895 | 2 | Hinge, Outlet Cover |
| 6 | 72196 | 4 | Cap, 3/16 Push-On |
| 7 | D25970 | 1 | Door, Electric |
| | D50590 (U.K.) | 1 | Door, Electric |
| 8 | 77283 | 2 | Recptacle |
| 9 | DA25010 | 1 | Power Supply |
| 10 | 77541 | 1 | Breaker, Q0210 |
| 11 | 77563 | 1 | Breaker, Q0225 |
| 12 | 77565 | 1 | Breaker, Q0290 |
| 13 | 77564 | 1 | Breaker, Q0260 |
| 14 | 77565 | 1 | Breaker, Q0290 |
| 15 | 77565 | 1 | Breaker, Q0290 |
| 16 | 77566 | 1 | Panel, Circuit Breaker (KAL26200) |
| 17 | 77367 | 1 | Panel, Relay AC-DC |
| 18 | D25925 | 1 | Mount, Relay |
| 19 | D50596 | 1 | Panel, Electric Control |
| 20 | D32220 | 4 | Spacer |
| 21 | D25960 | 1 | Box, Electrical Control |
| 22 | 73736 | 2 | Connector, 3/4" |
| 23 | 73733 | Per Ft. | Conduit, 3/4" |
| 24 | 73163 | 2 | Connector, Conduit 1/2" |
| 25 | 73735 | Per Ft. | Conduit, 1/2" |
| 26 | 77319 | 1 | Ground Bar (SN20) |
| 27 | 73164 | 1 | Elbow, 3/4 conduit |
| 28 | 77390 | 1 | Starter, 2 H.P. 2P |
| 29 | 77388 | 3 | Starter, 10 H.P. 2P |
| 30 | 77173 | 1 | Disconnect, 200 AMP 2P |
| 31 | 77388 | 1 | Starter, 10 H.P. 2P |
| 32 | 74671 | 1 | Decal, Unload |
| 33 | 74670 | 1 | Decal, load |
| 34 | 74676 | 1 | Decal, Danger Electrocutioin |
| 36 | 77560 | 1 | Thermal Overload 10 H.P. |
| 37 | 77560 | 3 | Thermal Overload 10 H.P. |
| 38 | 77561 | 1 | Thermal Overload 5 H.P. |
| 39 | 77562 | 1 | Thermal Overload 2 H.P. |
| 40 | 77389 | 1 | Starter, 5 H.P. 2P |

**ELECTRICAL CONTROL BOX
SINGLE PHASE**

| REF. NO. | PART NO. | NO. REQ'D. | DESCRIPTION |
|----------|---------------|------------|-----------------------------------|
| 1 | 77147 | 1 | Operating Mechanisim |
| 2 | 74673 | 1 | Decal |
| 3 | D25980 | 2 | Door, Outlet Cover |
| 4 | 502131 | 2 | Cover, Outlet |
| 5 | D25895 | 2 | Hinge, Outlet Cover |
| 6 | 72196 | 4 | Cap, 3/16 Push-On |
| 7 | D25970 | 1 | Door, Electric |
| | D50590 (U.K.) | 1 | Door, Electric |
| 8 | 77283 | 2 | Recptacle |
| 9 | DA25010 | 1 | Power Supply |
| 10 | 77541 | 1 | Breaker, Q0210 |
| 11 | 77563 | 1 | Breaker, Q0225 |
| 12 | 77565 | 1 | Breaker, Q0290 |
| 13 | 77564 | 1 | Breaker, Q0260 |
| 14 | 77565 | 1 | Breaker, Q0290 |
| 15 | 77565 | 1 | Breaker, Q0290 |
| 16 | 77566 | 1 | Breaker, Q0290 |
| 17 | 77367 | 1 | Panel, Circuit Breaker (KAL26200) |
| 18 | D25925 | 1 | Panel, Relay AC-DC |
| 19 | D50596 | 1 | Mount, Relay |
| 20 | D32220 | 1 | Panel, Electric Control |
| 21 | D25960 | 4 | Spacer |
| 22 | 73736 | 1 | Box, Electrical Control |
| 23 | 73733 | 2 | Connector, 3/4" |
| 24 | 73163 | Per Ft. | Conduit, 3/4" |
| 25 | 73735 | 2 | Connector, Conduit 1/2" |
| 26 | 77319 | Per Ft. | Conduit, 1/2" |
| 27 | 73164 | 1 | Ground Bar (SN20) |
| 28 | 77390 | 1 | Elbow, 3/4 conduit |
| 29 | 77388 | 1 | Starter, 2 H.P. 2P |
| 30 | 77173 | 3 | Starter, 10 H.P. 2P |
| 31 | 77388 | 1 | Disconnect, 200 AMP 2P |
| 32 | 74671 | 1 | Starter, 10 H.P. 2P |
| 33 | 74670 | 1 | Decal, Unload |
| 34 | 74676 | 1 | Decal, load |
| 36 | 77560 | 1 | Decal, Danger Electrocution |
| 37 | 77560 | 1 | Thermal Overload 10 H.P. |
| 38 | 77561 | 3 | Thermal Overload 10 H.P. |
| 39 | 77562 | 1 | Thermal Overload 5 H.P. |
| 40 | 77389 | 1 | Thermal Overload 2 H.P. |
| | | | Starter, 5 H.P. 2P |

NATURAL GAS CONTROL CABINET ASSEMBLY SINGLE PHASE






**NATURAL GAS CONTROL CABINET ASSEMBLY
SINGLE PHASE**

| REF. NO. | PART NO. | NO. REQ'D. | DESCRIPTION |
|----------|----------|------------|------------------------------|
| 1 | D55650 | 1 | Valve, 1" Ball |
| 3 | D25305 | 1 | Line, Pressure Gauge |
| 4 | 72841 | 1 | Elbow, 1/4" N.P.T. x 90° |
| 5 | D25660 | 1 | Regulator, 1" Pressure |
| 8 | D50630 | 1 | Bracket, Lower Plumbing |
| 9 | 72932 | 1 | Nipple, 1" x 15" |
| 10 | 72710 | 1 | Nipple, 1" x 6" |
| 11 | 72717 | 1 | Coupler, 1" Pipe |
| 13 | D25102 | 1 | Gauge, Pressure |
| 15 | D52955 | 1 | Clamp, Lower Plumbing |
| 17 | 72860 | 5 | Elbow, 1" x 90° Street |
| 18 | 72716 | 3 | Union, 1" |
| 19 | 72700 | 12 | Nipple, 1" Close |
| 20 | D25542 | 3 | Coil, Solenoid Valve 12 Volt |
| 21 | 77191 | 3 | Valve, 1" Solenoid |
| 22 | 72916 | 4 | Tee, 1" x 1" x 1" |
| 23 | 72911 | 2 | Reducer, 1" to 1/4" Bell |
| 24 | 72633 | 1 | Plug, 1/4" Pipe |
| 25 | D50620 | 1 | Bracket, Rear Plumbing |
| 26 | D55895 | 1 | Holder, Orifice |
| 27 | D52412 | 1 | Orifice |
| 28 | 72703 | 2 | Nipple, 1" x 2 1/2" |
| 29 | 72845 | 2 | Elbow, 1" x 90° |
| 32 | D25890 | 2 | Cover, Hole |
| 33 | 73109 | 1 | Conn. 3/16 T to 1/8 N.P.T. |
| 34 | D22250 | 1 | Line, Air Switch |
| 35 | D50410 | 1 | Box, Junction |
| 36 | D50415 | 1 | Door, Junction Box |
| 37 | 74692 | 1 | Decal, Wiring Diagram |
| 38 | 74694 | 1 | Decal, Sequence |
| 39 | D25161 | 1 | Detector, Flame |
| 41 | 73159 | 5 | Connector, 3/8" x 90° |
| 42 | 73166 | Per Ft. | Conduit, 3/8" Liquidtite |
| 43 | 73157 | 4 | Connector, 3/8" Straight |
| 44 | D52530 | 1 | Tube, Air Switch |
| 45 | 72279 | 1 | Nut, 1" NF Hex |
| 46 | K25030 | 1 | Air Switch |
| 47 | 77228 | 1 | Coil |
| 48 | 71683 | 4 | Screw, 10-24 x 1/2" Machine |
| 60 | 73271 | 1 | Grommet |
| 61 | 73270 | 2 | Grommet |
| 62 | 77188 | 1 | Holder, In-Line Fuse |
| 63 | 77268 | 1 | Fuse, 7 Amp |
| 64 | 73110 | 3 | Fitting, 1/4 T to 1/4 Pipe |
| 73 | 77309 | 2 | Block, Terminal |
| 90 | 73735 | Per Ft. | Conduit, 1/2" Liquitite |
| 91 | 73165 | 2 | Connector, 1/2" x 90° |
| 92 | 73163 | 2 | Connector, 1/2" Straight |
| 93 | 77106 | 1 | Tee, Conduit |
| 94 | D50625 | 1 | Bracket, Front Plumbing |

NUTS, WASHERS AND LOCKWASHERS

| PART NO. | DESCRIPTION | PART NO. | DESCRIPTION |
|----------|--------------------|----------|-----------------|
| 72208 | 1/4" Nut | 72438 | 1/4" L-Washer |
| 72209 | 5/16" Nut | 72439 | 5/16" L-Washer |
| 72210 | 3/8" Nut | 72440 | 3/8" L-Washer |
| 72211 | 7/16" Nut | 72441 | 7/16" L-Washer |
| 72212 | 1/2" Nut | 72442 | 1/2" L-Washer |
| 72213 | 5/8" Nut | 72443 | 5/8" L-Washer |
| 72380 | 1/4" L-Nut | 72408 | 1/4" Washer |
| 72379 | 1/2" L-Nut | 72409 | 5/16" Washer |
| 72375 | 3/4" L-Nut | 72410 | 3/8" Washer |
| 72382 | 1/4" Whiz Lock-Nut | 72411 | 7/16" Washer |
| 72334 | 1/4" Tinnerman Nut | 72412 | 1/2" Washer |
| 72376 | 5/8" Lock Nut | 72413 | 5/8" Washer |
| 72195 | #4 Nut | 72486 | #4 Nylon Washer |
| 72204 | #10 Nut | 72434 | #10 L-Washer |

TORQUE ALL BOLTS PER TORQUE SPECIFICATION CHART

| COARSE THREAD FASTENER | GRADE DESIGNATION | SCREW, STUD, OR BOLT SHANK SIZE OR DIAMETER | | | | | | | |
|--|----------------------|---|-------|------|-------|------|-------|------|------|
| | | 1/4" | 5/16" | 3/8" | 7/16" | 1/2" | 9/16" | 5/8" | 3/4" |
|  CAP SCREW | S.A.E. 2 STEEL | 5 | 11 | 20 | 30 | 50 | 70 | 100 | 170 |
|  CAP SCREW | S.A.E. 5 STEEL | 8 | 17 | 30 | 50 | 75 | 110 | 150 | 270 |
|  CAP SCREW | S.A.E. 8 STEEL | 12 | 24 | 45 | 70 | 105 | 155 | 210 | 375 |

Torques are in ft - lbs.

Torques shown are for National Coarse Thread Plain or Zinc plated fasteners carrying residual oil of Manufacture.