

IMPORTANT READ BEFORE STARTING AUGER

FAILURE TO FOLLOW THE START-UP PROCEDURE DESCRIBED WILL MOST LIKELY CAUSE EXTENSIVE DAMAGE TO THE AUGER MOTOR.

If the hydraulic fluid temperature is below 60°F (16°C), the auger motor must be warmed up prior to "full-speed" operation. The HYDRAULIC FLUID COLD light in the control panel should be ON if fluid temperature is below 60°F. If the light in not lit, check the thermometer on the reservoir first to verify that fluid temperature is above 60°F.

If the auger motor is cold, even though the hydraulic fluid is above 60°F, the motor must still be warmed up prior to "full-speed" operation.

To warm up the auger motor:

- Turn the WARM-UP VALVE (MV2), located on the drive control manifold, to the warm-up position (Turn valve fully counterclockwise).
- Start and warm up the diesel engine. When the engine is warmed up, set the engine speed at 2000 RPM.
- 3. Move the FOR-OFF-REV switch on the remote control pendant to FOR. The auger will turn at low speed.

CAUTION: ALWAYS OPERATE AUGER IN FORWARD DURING WARM-UP. NEVER REVERSE.

- 4. Warm up the auger motor for AT LEAST 5 minutes and until the fluid temperature is 60°F or above.
- When the auger motor is warmed up, stop the auger. Turn the WARM-UP VALVE (MV2) to the RUN position (turn fully clockwise). Set engine speed at 2500 RPM. Full speed operation may now begin.

For more thorough instructions, refer to the OPERATING AND MAINTENANCE MANUAL furnished with the unit.

INTERNATIONAL CONSTRUCTION EQUIPMENT



OPERATING AND MAINTENANCE MANUAL

MODELS 1250 & 2425

CONTINUOUS FLIGHT EARTH AUGERS
WITH MODEL 175 POWER UNIT



PREFACE

This manual was prepared to acquaint the owner, operator and serviceman with the operation and maintenance of the earth augers and power units. We suggest that this manual be carefully studied before operating or undertaking any maintenance work on the unit.

The manual is organized into two major categories.

The first category is for routine OPERATING INSTRUCTIONS of the unit and includes a GENERAL DESCRIPTION section which presents a basic explanation of the augers and some of its specifications. The MAINTENANCE AND ADJUSTMENT section should be referred to periodically for normal servicing of equipment. All machines and equipment require systematic, periodic inspection and maintenance if they are to perform satisfactorily over a long period of time. The augers and power units should receive at least the same care and maintenance as other high quality construction equipment.

The second category is for parts reordering and it includes both a PARTS LIST and pictorial drawings of the various assemblies for easier identification of the required part. Refer to the PARTS LISTS for more specific parts ordering information.



WARRANTY

INTERNATIONAL CONSTRUCTION EQUIPMENT STANDARD WARRANTY

International Construction Equipment (ICE) warrants new products sold by it to be free from defects in material or workmanship for a period of 90 days after date of delivery to the first user and subject to the

following conditions:

ICE's obligation and liability under this WARRANTY is expressly limited to repairing or replacing at ICE's option, any parts which appear to ICE upon inspection to have been defective in material or workmanship. Such parts shall be provided at no cost to the user, at the business establishment of ICE or the authorized ICE distributor of the product during regular working hours. This WARRANTY shall not apply to component parts or accessories of products not manufactured by ICE and which carry the warranty of the manufacturer thereof, or to normal maintenance (such as engine tune-up) or to normal maintenance parts (such as oil filters). Replacement or repair parts installed in the product covered by this WARRANTY are warranted only for the remainder of the warranty as if such parts were original components of said product. ICE COMPANY MAKES NO OTHER WARRANTY, EXPRESS OR IMPLIED, AND MAKES NO WARRANTY OF MERCHANTABILITY OF FITNESS FOR ANY PARTICULAR PURPOSE.

ICE's obligation under this WARRANTY shall not include any transportation charges, costs of installation, duty, taxes or any other charges whatsoever, or any liability for direct, indirect, incidental, or consequential damage or delay. If requested by ICE, products or parts for which a warranty claim is made are to be returned transportation prepaid to ICE. Any improper use, including operation after discovery of defective or worn parts, operation beyond rated capacity, substitution of parts not approved by ICE or any alteration or repair by others in such manner as in ICE's judgement affects the product materially and adversely, shall void this WARRANTY.

NO EMPLOYEE OR REPRESENTATIVE IS AUTHORIZED TO CHANGE THIS WARRANTY IN ANY WAY OR GRANT ANY OTHER WARRANTY UNLESS SUCH CHANGE IS MADE IN

WRITING AND SIGNED BY AN OFFICER OF ICE.



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OPERATING INSTRUCTIONS

GENERAL DESCRIPTION

A. GENERAL

The ICE Auger, Models 1250 and 2425, are hydraulically powered continuous-flight earth augers designed for pile predrilling and for installing cast-in-place piles and tie backs.

The ICE Model 1250 operates at a speed of 50-75 RPM to provide rapid drilling in most soils. The unit has a maximum torque of 12,000 ft-1bs and is designed for most normal jobs.

The Model 2425 operates at 25-38 RPM with 24,000 ft-1bs of torque for more difficult drilling jobs in stiff clays, dense sands or soils with boulders and rocks.

A 3" ID hollow shaft, which permits high volume injection of air, water or grouting material, is provided on both models for grouting or jetting.

The earth augers consist of two major components: (1) the auger drive unit with flighting and head and (2) the power unit which furnishes the required power to operate the auger.

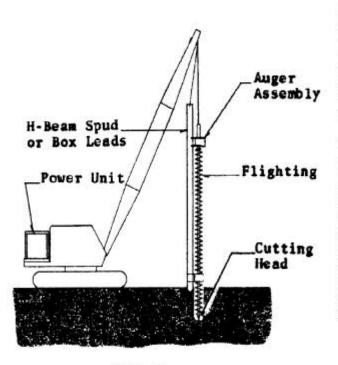
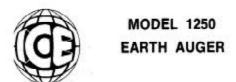


FIG. 1

The power unit may be cranemounted for greater maneuverability (Fig. 1) when so desired. The auger may be rigged either with an H-Beam spud or in box leads. An optional crowd drive unit is available for installing tie-backs or for crowding during other drilling.

The auger may be operated at any angle from horizontal to completely vertical. With the standard crowd drive unit removed, the auger converts to the standard pile predrill setup. The auger may also be operated from an independent hydraulic system, such as a backhoe, crane or excavator thus eliminating the need for a separate power unit.



GENERAL DESCRIPTION

B. AUGER DRIVE UNITS

The drive unit has a low speed/high torque motor which rotates the auger flighting. A 3" ID hollow drive shaft passing through the motor has a flange at the lower end which accepts various flighting connectors. Thrust bearings at the upper and lower ends of the shaft carry the vertical loads during extraction from the hole or during crowding while drilling. Rollers on the drive unit may be positioned to operate on standard box leads or on an H-Beam spud.

C. AUGER POWER UNIT

Both models 1250 and 2425 augers are powered by the ICE model 175 power unit. The model 175 power unit is powered by a Caterpillar 3208 diesel engine. The power unit is mounted on a skid-type fuel-tank subbase and is enclosed in heavy-duty sheet metal to protect the unit. All operating controls and gages are located on the side of the power unit conveniently clustered in a control panel area. Three hydraulic hose lines, 100 feet in length, connect the power unit to the auger drive unit.

D. CROWD DRIVE UNIT

An optional crowd drive unit is available. The crowd motor is mounted on the auger motor. It moves the auger motor up and down a fixed chain to provide up to eight tons of force for crowding or extracting the auger. The crowd drive unit operates on standard 26" box leads.

E. SPECIFICATIONS

 Constant improvement and engineering progress make it necessary that we reserve the right to make specification changes without notice.



OPERATING INSTRUCTIONS

GENERAL DESCRIPTION

E. SPECIFICATIONS (CONTINUED)

2. Auger Drive Units

	Model 1250	Model 2425
Туре	Hydraulic	Hydraulic
Output Torque (ft/1bs)	12,000	24,000
Output Speed (RPM)	50-75	25-38
Output Shaft ID (in)	3	3
Thrust Capacity (1bs)	20,000	20,000
Mounting (leads)	26" Box	26" Box
Mounting (H-Beam)	12" & 14"	12" & 14"
Height (in)	62	80
Width (in)	31	31
Depth (in)	36	36
Weight-less hoses (1bs)	2500	3800

3. Model 175 Power Pack

Туре	Hydraulic	
Engine	CAT 3208	
Horsepower (2800 RPM)	175	
Reservoir Capacity (gal)	270	
Fuel Tank Capacity (gal)	110	
Hoses, Interconnecting (size/inches)	2 @ 1-1/4	
A DESCRIPTION OF THE PROPERTY	1 @ 3/4	
Length (inches)	108	
Width (inches)	60	
Height (inches)	68	
Weight (w/oil-no fuel) (lbs)	7400	

4. Crowd Drive Unit

Type	Hydraulic
Crowd Force, both ways (1bs)	15,000
Crowd Speed (ft/min)	17

5. Tie Back Drive

Туре					Hydraulic
Performance	(PSI	at	10	GPM)	1500



II. PREPARATION FOR OPERATION

A. GENERAL

When unloading and unpacking the auger, use extreme care. For your protection, make a thorough inspection of the unit immediately on delivery. In case of any damage or shortage, notify the transit agent at once and have the delivering carrier make a notation on the freight bill.

B. SAFETY PRECAUTIONS

Safety is basically common sense. There are standard safety rules, but each situation has its own peculiarities which can not always be covered by rules. Therefore, your experience and common sense will be your best guide to safety. Be ever watchful for safety hazards and correct deficiencies promptly.

Use the following safety precautions as a general guide to safe operation:

- When operating in a closed area, pipe exhaust fumes outside. Continued breathing of exhaust fumes may be fatal.
- When servicing batteries, do not smoke or use an open flame in the vicinity. Batteries generate explosive gas during charging. There must be proper ventilation when charging batteries.
- When filling fuel tank, do not smoke or use open flame in the vicinity.
- 4. Never adjust or repair the unit while it is in operation.
- Never operate the diesel engine with the governor linkage disconnected. Human reactions are not fast enough to control the fuel rack.
- 6. Remove all tools and electrical cords before starting.
- Store oily rags in containers.
- 8. Never store flammable liquids near the engine.

REMEMBER, SAFETY IS EVERYONE'S BUSINESS!



OPERATING INSTRUCTIONS

II. PREPARATION FOR OPERATION

C. RIGGING OF DRIVE UNIT

- If unit is equipped with optional crowd drive unit, read Section II-D, SET-UP OF CROWD COMPONENTS.
- Rollers on the auger drive unit should be correctly positioned for the proper guide method which will be used at that time (box leads or H-Beam). If not correctly set, the rollers must be changed to the proper position.
- Connect the crane line to the auger lifting bracket at the top of the drive unit.

CAUTION: Make sure this connection is adequate to withstand the large loads which may be applied during extraction of the auger from the hole.

 Slide the auger drive unit into the leads or onto the H-Beam spud. Make sure it slides freely, with no obstructions.

D. SET-UP OF CROWD COMPONENTS (OPTIONAL)

- The optional crowd drive unit is designed to operate in ICE box leads. However, it can be used in other leads or on other structural members with similar design characteristics. The following instructions are for mounting in ICE 26" box leads.
- 2. The length of leads required is eight feet longer than the depth of the hole to be drilled. The length of auger flighting and head must be three feet longer than the hole to be drilled. The length of chain required is approximately twice the length of the leads.

To assemble crowd components:

- a. Connect lead sections together.
- b. Slide auger drive unit into the leads.
- Slide moveable auger guide into the leads.
- d. Bolt chain anchors to leads. Chain anchor with adjustable chain block mounts to upper end of the leads.
- e. Connect chain as shown in Fig. 2, page II-3.
- f. Rig 1/2" wire rope for moveable auger guide as shown in Fig. 3, page II-3.



II. PREPARATION FOR OPERATION

D. SET-UP OF CROWD COMPONENTS (OPTIONAL) (CONTINUED)

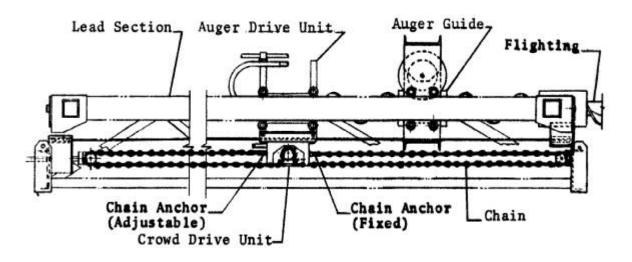


FIG. 2
ANCHOR CHAIN CONNECTION

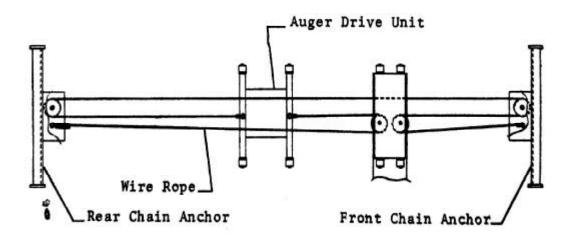


FIG. 3
WIRE ROPE CONNECTION



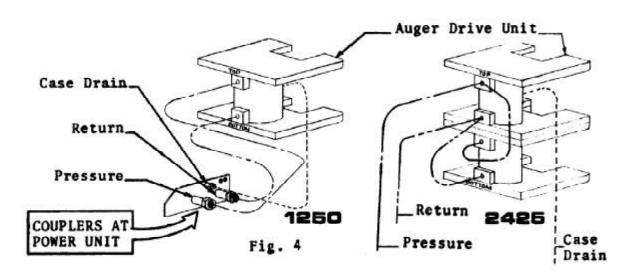
II. PREPARATION FOR OPERATION

E. CONNECTION OF HYDRAULIC HOSES

- 1. Connection of hoses at power unit.
 - a. The auger drive unit is connected to the power unit by three hydraulic hose lines. Fig. 4.

CAUTION: The power pack must be shut down during connection of the hydraulic hoses.

- b. The hoses connect to the power unit with quickdisconnect couplers. The hose couplers are arranged to insure correct connection at the power unit.
- c. Clean couplers with a lint-free cloth before making connections.
- d. Make sure that the couplers are fully run up. They should be firmly hand tight. If wrenches are used, do not overtighten.
- 2. Connection of hoses at auger drive unit.
 - a. The auger drive unit is usually shipped with the hoses attached. If the hoses have been shipped separately, they must be connected. The diagram below (Fig. 4) shows the correct arrangement of the three hose lines connecting the power unit to the auger drive unit.



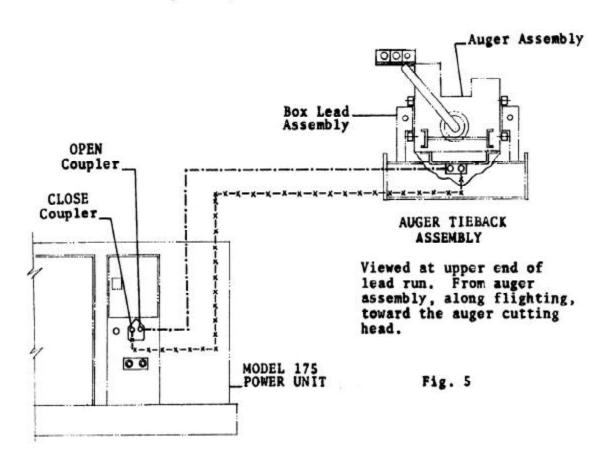


OPERATING INSTRUCTIONS

II. PREPARATION FOR OPERATION

F. CONNECTION OF CROWD HYDRAULIC HOSES (OPTIONAL)

- If the unit is equipped with the optional crowd drive unit, two additional hydraulic hose lines must be connected (Fig. 5).
- These hoses also connect to the power unit with quickdisconnect couplers. The couplers are arranged to insure correct connection at the power unit.
- 3. The crowd drive unit is usually shipped with the hoses attached, but if the hoses have been shipped separately, they must be connected. The diagram below(Fig. 5) shows the correct arrangement of the two hose lines connecting the crowd drive unit to the power unit.
- 4. The crowd circuit relief valve (RV2) must be set at 1500 PSI for crowd operation. If the model 175 power unit has been used for vibrator operation, the relief valve probably will be set at 2500 PSI.



II. PREPARATION FOR OPERATION

G. FILLING HYDRAULIC HOSES

- The auger is usually shipped with the hydraulic hoses full of fluid and the unit may be used immediately. However, if the hoses have been removed from the auger, the hoses may need to be filled with hydraulic fluid prior to full-speed operation.
- Read SECTION III OPERATING INSTRUCTIONS.
- Start and warm up the diesel engine in accordance with SECTION III-C.
- 4. With the engine warmed up and running at 1800 RPM and the WARM-UP valve in the RUN position, the hoses will fill with fluid in about ten minutes. Wait ten minutes for this to occur.

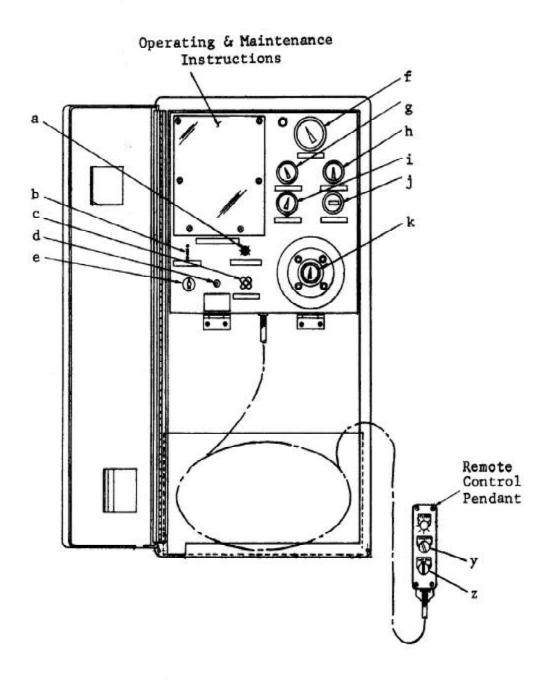
CAUTION: Leave the FOR/OFF/REV switch in the remote control pendant in the OFF position until hoses are filled with fluid.

H. CONNECTION OF AUGER FLIGHTING AND HEAD

- The flange at the lower end of the output shaft of the auger drive unit will accept connectors for most normal types of flighting. Check to make sure that the connector on the auger drive unit matches the connector on the flighting.
- Raise the auger drive unit with the crane line and connect the sections of flighting to the bottom of the unit. Connect the auger head at the end of the flighting run.



III. OPERATING INSTRUCTIONS



Control Panel and Remote Control Pendant Fig. 6



OPERATING INSTRUCTIONS

III. OPERATING INSTRUCTIONS

A. COMPLETION OF SET-UP AND MAINTENANCE

- 1. Complete all preparation as described in Section II.
- Read Section IV MAINTENANCE AND ADJUSTMENTS and perform any required maintenance.

B. CONTROL PANEL

- The control panel, Fig. 6, at the side of the power unit contains the Operating Panel with controls and gages for the diesel engine and the Operating and Maintenance Instructions.
- 2. The operating panel contains the following controls and gages:
 - a. HYDRAULIC FLUID WARNING LIGHT comes on if hydraulic fluid is below 60°F (16°C).
 - MAIN POWER SWITCH on/off switch for 12-volt electrical power. Must be on for auger to run.
 - c. ENGINE THROTTLE
 - d. ENGINE SHUT-DOWN RESET BUTTON on start, must be held until oil pressure exceeds 30 PSI.
 - e. ENGINE START SWITCH for diesel engine.
 - f. ENGINE TACHOMETER
 - g. ENGINE OIL PRESSURE GAGE
 - h. ENGINE WATER TEMPERATURE GAGE
 - i. ENGINE AMMETER
 - ENGINE HOURMETER
 - k. PRESSURE GAGE multiposition gage for auger forward, auger reverse and crowd pressure.
 - y. CROWD MOTOR SWITCH (Open-Close) (Advance-Retract)
 - z. AUGER SWITCH (For-Off-Rev)
- The WARM-UP VALVE (Needle Valve) (MV2) is located on the DRIVE CONTROL MANIFOLD, see page VIII-28.
- 4. The Operating and Maintenance Instructions on the control panel are there as reminders only. They are not complete and therefore not intended to substitute for a thorough understanding of this Operating Manual.



III. OPERATING INSTRUCTIONS

C. STARTING AND WARMING UP ENGINE

- Before starting the engine, read the CATERPILLAR OPERATING GUIDE carefully. Follow the engine starting, operating and maintenance procedures in that manual.
- 2. The diesel engine should not be started if the temperature of the hydraulic fluid is below 0°F. The temperature may be read on the gage on the hydraulic reservoir. If ambient temperatures below 0°F are anticipated, an immersion heater for the hydraulic fluid is available. Consult ICE for details.
- The MAIN POWER SWITCH on the control panel should be ON. Turn the auger switch on the control pendant to OFF.
- Pull out the ENGINE THROTTLE about half way. Press the button on the end of the throttle for rapid adjustment.
- 5. While holding the SHUTDOWN RESET BUTTON in, turn the ENGINE START SWITCH to the START position. Keep reset button in until oil pressure reaches 30 PSI. If the engine fails to start after 30 seconds of cranking, allow the starter to cool for two minutes before repeating the starting procedure.
- As the engine starts, release the ENGINE START SWITCH. It will return to the RUN position.
- Adjust the throttle until the engine is running at 1500 RPM and allow to warm-up for five minutes.
- Allow the temperature of the hydraulic fluid to come up to at least 30°F before starting auger.



OPERATING INSTRUCTIONS

III. OPERATING INSTRUCTIONS

D. WARMING AUGER MOTOR

- FAILURE TO FOLLOW THE WARM-UP PROCEDURE DESCRIBED WILL MOST LIKELY CAUSE EXTENSIVE DAMAGE TO THE AUGER MOTOR.
- 2. If the hydraulic fluid temperature is below 60°F, the auger motor must be warmed prior to full-speed operation. The HYDRAULIC FLUID COLD light in the control panel should be lit if fluid is below 60°F. If the light is not lit, check the thermometer on the reservoir to verify that fluid temperature is above 60°F.
- 3. When the auger motor is cold, even though the fluid temperature is above 60°f, it is recommended that the auger motor be warmed prior to "full-speed" operation.
- 4. To warm up the auger motor:
 - Turn the WARM-UP VALVE (MV2 Needle Valve) to the warm-up position (turn fully counterclockwise).
 - Start and warm-up the diesel engine. When the engine is warmed up, set the engine speed at 2000 RPM.
 - Move the FOR-OFF-REV switch on the control pendant to FOR. The auger will turn at low speed.
 - CAUTION: ALWAYS OPERATE IN FORWARD DURING WARM-UP NEVER REVERSE.
 - 4. Warm up the auger motor for at least 5 minutes and until the fluid temperature is 60°F or above.
 - 5. When the auger motor is warmed up, stop the auger. Turn the WARM-UP VALVE (MV2) to the RUN position (turn fully clockwise). Set engine speed at 2500 RPM. Full speed operation may now begin. The engine should maintain about 2200 RPM under load.

OPERATING INSTRUCTIONS

III. OPERATING INSTRUCTIONS

E. OPERATION OF REMOTE-CONTROL PENDANT (FIG. 5)

- The operation of the auger is controlled by the remote-control pendant. The pendant is connected to the control cabinet with 50 feet (or optional 100 feet) of electrical cable to permit operation from any advantageous position near the auger.
- The pendant has two switches and an indicator light.
 The FOR-OFF-REV switch controls the auger motor. The
 OPEN-CLOSE switch controls the optional crowd motor.
 - a. Forward Rotation: To operate the auger in the FORWARD direction, turn the auger switch to the FOR. position. To stop rotation, turn the auger switch to OFF.
 - b. Reverse Rotation: To operate the auger in the REVERSE direction, turn the auger switch to the REV. position. To stop rotation, turn the auger switch to OFF.
 - c. Advance Auger: To ADVANCE or CROWD auger during drilling, turn the crowd switch to OPEN and hold. To stop advance, release switch.
 - d. Extract Auger: To extract auger, turn the crowd switch to CLOSE. To stop extraction, move switch to center position.

F. SHUTDOWN

- 1. Stop the auger.
- Allow the diesel engine to run for five minutes at 1500 RPM.
- 3. Reduce speed to low idle for about thirty seconds.
- Stop the engine by turning the ENGINE START switch to OFF.



IV. MAINTENANCE AND ADJUSTMENTS

A. GENERAL

Preventive maintenance includes normal servicing that will keep the engine, auger drive unit and power unit in peak operating condition and prevent unnecessary trouble from developing. This servicing consists of periodic lubrication and inspection of the moving parts and accessories of the unit.

Lubrication is an essential part of protective maintenance, controlling to a great extend the useful life of the unit. Different lubricants are needed and some components in the unit require more frequent lubrication than others. Therefore, it is important that the instructions regarding types of lubricants and frequency of their applications be closely followed.

To prevent minor irregularities from developing into serious conditions that might involve shut-down and major repair, several other services or inspections are recommended for the same intervals as the periodic lubrications. The purpose of these services, or inspections, is to assure the uninterrupted operation of the unit.

Thoroughly clean all lubrication fittings, caps, filler and level plugs and their surrounding surfaces before servicing. Prevent dirt from entering with lubricants and coolants. The intervals given in the schedule are based on normal operation. Perform these services, inspections, etc. more often as needed for operation under abnormal or severe conditions.

NOTE: All maintenance indicated in this section is intended for ICE equipment only and use of any other hydraulic systems or equipment to power the ICE auger should have its own specific maintenance manual for any required service and maintenance instructions.

IV. MAINTENANCE AND ADJUSTMENTS

B. DAILY

- Check the entire unit prior to and during start-up each day or at the beginning of each shift.
- Prior to starting the diesel engine at each shift, check the following items:
 - a. Check all bolts, nuts and screws including the bolts fastening the auger flighting to the drive unit to insure that they are tight.
 - b. Check all auger connectors.
 - c. Check the fluid level in the hydraulic reservoir and refill if necessary.

CAUTION: It is absolutely imperative that no dirt or other impurities be permitted to contaminate the hydraulic fluid. Any contamination will drastically shorten the life of the high pressure hydraulic system.

- d. Visually check all hoses for signs of damage or cuts that might cause hose failure during operation. Be sure all connections are tight, especially the quick-disconnect couplers.
- e. Electrical components need no maintenance except periodic wiping with a clean, dry, lint-free cloth to remove dust.
- f. Grease the shaft in the drive unit (one fitting).
- g. If equipped with optional crowd package, grease crowd motor sprocket drive (5 fittings) and chain anchor blocks (2 fittings).
- h. Perform all daily maintenance checks and lubrication indicated in the CATERPILLAR OPERATION GUIDE.

After start-up, check the following:

- a. Check all hydraulic hoses for leaks. Make sure they hang freely with no kinks.
- b. Check the pump and all hydraulic manifolds for leaks.
- c. Check the filter indicator. The return filter on the power unit must be checked with the diesel engine running.



OPERATING INSTRUCTIONS

IV. MAINTENANCE AND ADJUSTMENTS

C. 100 HOURS, 150 HOURS, and other

Perform all maintenance checks and lubrication indicated in the Caterpillar Operation Guide.

D. ANNUALLY

Have the hydraulic fluid tested by a local hydraulic service center. Replace if required.

E. SEVERE CONDITIONS

- The servicing intervals specified are based on normal operating conditions. Operation under unusual conditions require some adjustments in servicing intervals.
- When the average temperature is above 80°F or below - 10°F, reduce servicing intervals to onehalf of those specified above.
- When operating in the presence of dust or sand, reduce servicing intervals to one-third of those specified.
- When operating in excess of twelve hours per day, reduce servicing intervals to one-half of those specified.
- When operating in air with high salt or moisture, the servicing intervals need not usually be changed. However, the unit should be inspected weekly to determine if additional servicing might be required.
- During stand-by or inactive periods, the servicing intervals may be twice those specified. The unit should be exercised every thirty days or less, depending on conditions.



IV. MAINTENANCE AND ADJUSTMENTS

F. LUBRICATION

- 1. Crankcase (Diesel Engine)
 - a. Follow the engine manufacturer's maintenance schedule and the lubricating oil specifications outlined in the CATERPILLAR OPERATION GUIDE.
 - b. The lubricant shall meet the performance requirements of API Service Classifications CD or MIL-L-2104C.
 - c. New engines are shipped with MOBIL DELVAC SUPER 15W-40, but the following multi-grade crankcase oils are recommended for use or replacement in normal operation (10°F to 90°F) (-12°C to 32°C).

- 15W-40 AMOCO Fleet S3 Plus ARCO - 15W-40 BORON (BP) - 15W-40 Vanellus C Extra Delo 400 CHEVRON - 15W-40 C500 Plus CITGO - 15W-40 - 15W-40 Fleet Supreme CONOCO EXXON - 15W-40 XD3 GULF - 15W-40 Super Duty Plus MOBIL - 15W-40 Delvac Super Super HD II PHILLIPS - 15W-40 - 15W-40 Rotella T SHELL - 15W-40 Sunfleet Super C SUN TEXACO - 15W-40 Ursa Super Plus - 15W-40 Guardol UNION All Fleet VALVOLINE - 15W-40

- d. For operation in extreme sub-zero climate, refer to the CATERPILLAR OPERATION GUIDE - Crankcase Lubricating Oils or contact the nearest Caterpillar representative.
- Hydraulic System

To maintain the maximum operating efficiency in the precision parts of the hydraulic system, it is extremely important to eliminate factors which can cause breakdowns or unsatisfactory performance in the system. Among the most common of these factors are rust, corrosion, contamination and products of oil deterioration. Most problems can be minimized or avoided simply by maintaining a disciplined preventive maintenance program.

NOTE: When connecting the drive auger to a hydraulic system other than an ICE power unit, consult their maintenance manual and have the hydraulic fluid and all filter elements checked for possible replacement.



OPERATING INSTRUCTIONS

IV. MAINTENANCE AND ADJUSTMENTS

F. LUBRICATION (CONTINUED)

Some simple steps to follow as part of a good preventive maintenance program are:

- Keep stored oil dry and clean at all times and always store in clean containers.
- Always clean tools, spouts, lids, funnels, etc.
 when used in conjunction with the transfer of oil.
- c. Never put dirty oil into the hydraulic system. Use only clean, uncontaminated oil of the types recommended below. Never return to the system any fluid which has leaked out. NOTE: Foreign material in the hydraulic system

Foreign material in the hydraulic system can drastically effect the life and operation of many hydraulic component parts.

d. Clean or replace filter elements at the first indication that they are dirty or ineffective.

Mixing of different manufacturer's hydraulic fluid is not recommended. However, it can be done if the fluids are miscible (contain the same base and additive). It may be necessary to contact an oil supplier to determine this.

New power units are shipped with MOBIL DTE-15 hydraulic oil. The following recommended fluids may be used when replacing fluid in the hydraulic system.

FIRST Preference Group:

MOBIL DTE-15 SUN 2105

SECOND Preference Group:

AMOCO Rykon MV
ARCO Duro AW32
CHEVRON Hydraulic AW32
PHILLIPS Magnus A32
SHELL Tellus 32

THIRD Preference Group:

BORON Energol HLP32 CITGO All-Temp HD CONOCO Super 32 EXXON Nuto H32 GULF Harmony 32AW SUN Sunvis 805 MG TEXACO Rando HD AZ32 UNION Unax AW32



OPERATING INSTRUCTIONS

IV. MAINTENANCE AND ADJUSTMENTS

F. LUBRICATION (CONTINUED)

Whenever fluids from the second preference group are used, it is necessary to test the oil more often to insure that viscosity remains within recommended limits while in service. Using fluids from the third preference group requires even a more discerning inspection than use of fluids from the second group.

The recommended fluids were chosen based on the hydraulic system operating temperature range being 5°F (-15°C) (cold [ambient] start-up) to 160°F (71°C) (maximum operating).

When operating in artic conditions, it is recommended to use an immersion heater to pre-heat the oil prior to starting. It may also be necessary in extremely cold or hot climates to use a different viscosity oil which is better adapted to adverse conditions. Contact the nearest oil supply representative for suggested procedures.

MOBIL DTE-15 hydraulic fluid is available from ICE in five gallon cans. See SECTION VIII - ORDERING PARTS. page VIII-45

G. CAPACITIES

1.	Diesel Engine Crankcase	14	Quarts
2.	Hydraulic System (Reservoir)		Gallons
3.			Gallons.
4 -	Engine Cooling System	40	Ouarts

H. DRAINING AND FILLING HYDRAULIC FLUID RESERVOIR.

- The hydraulic reservoir is drained by removing a plug on the bottom of the reservoir.
- The hydraulic reservoir is filled by the manual pump mounted on the back (engine side) of the reservoir. All fluid is pumped to the reservoir through the return filter (F2) to insure no dirt enters the hydraulic system.



OPERATING INSTRUCTIONS

IV. MAINTENANCE AND ADJUSTMENTS

CLEANING HYDRAULIC PICK-UP FILTER

- 1. Drain hydraulic reservoir (See Section H, previous page).
- 2. Remove the top cover of the reservoir.

CAUTION: It is absolutely imperative that no dirt or other impurities be permitted to contaminate the hydraulic fluid. Any contamination will drastically shorten the life of the high-pressure hydraulic system.

- The pick-up filter is connected to the input pipe for the hydraulic drive pump. Remove the entire filter assembly by unscrewing from inner wall of reservoir.
- 4. Disassemble and clean entire filter in clean solvent or diesel fuel.
- Replace filter. Carefully replace top cover of reservoir after cleaning so that no dirt is allowed to fall into reservoir opening. Refill reservoir with recommended hydraulic fluid.

J. CHANGING HYDRAULIC RETURN FILTER ELEMENT

- The return filter is located in the hydraulic reservoir below the hand pump.
- To remove elements, remove the four hex-head screws and remove the cover assembly. Screw driver slots are provided at the bottom to aid in removing the filter cover.
- Remove the bypass valve and spring assembly from filter housing. Remove the two filter elements.
- Clean filter housing interior and all component parts with a lint-free rag.
- Check O-ring for damage. Lubricate with multi-purpose grease.
- Install two new elements.
- 7. Replace bypass valve and spring assembly into housing.
- 8. Replace filter cover and tighten four hex screws.



V. HYDRAULIC CIRCUITRY

(REFER TO HYDRAULIC SCHEMATIC, PG. V-4)

A. AUGER MOTOR

With the diesel engine running, hydraulic fluid is taken from the reservoir by the DRIVE PUMP (P1). Prior to entering the drive pump, the fluid is filtered by the PICK-UP FILTER (F1). The drive pump flow returns to the reservoir if the auger switch on the pendant is set at OFF.

Moving the switch on the control pendant to FOR. operates the MOTOR VALVE (V2) directing flow to the AUGER MOTOR (MA). The motor starts in the forward direction. Full motor speed is reached within a few seconds. Motor drive pressure is indicated by the DRIVE PRESSURE GAGE (MG). Maximum drive pressure is limited to approximately 2400 PSI by the DRIVE PRESSURE RELIEF VALVE (RV1). Case drain fluid from the motor returns to the reservoir. Case drain pressure is limited to 50 PSI by CASE DRAIN RELIEF VALVE (RV3).

Moving the auger switch to OFF operates the MOTOR VALVE directing flow to the reverse side of the motors. The motor stops.

Moving the auger switch to REV. operates the MOTOR VALVE directing flow to the reverse side of the motors. The motor starts in the reverse direction.

Turning the MANUAL VALVE (MV2) in the counter-clockwise direction operates the WARM-UP VALVE (V3) which moves a restriction into the auger-forward circuit. With the auger switch turned to FOR., only about 20% of the flow can pass the restriction. The remaining 80% is forced over the DRIVE PRESSURE RELIEF VALVE (RV1). This generates heat and warms the hydraulic fluid.

Turning the MANUAL VALVE (MV2) in the clockwise direction operates the WARM-UP VALVE to remove the restriction from the auger-forward circuit. Full-speed operation can occur.



V. HYDRAULIC CIRCUITRY

B. CROWD MOTOR (Optional auger crowd package)

The optional auger crowd package includes the following hydraulic components: motor, cross-relief valve, quick-disconnect couplers and hoses. If the auger is equipped with the crowd package, it operates as follows:

With the diesel engine running, hydraulic fluid is taken from the reservoir by the CROWD PUMP (P2). The fluid returns to the reservoir if the CROWD VALVE (V1) is in the central position.

Moving the CROWD VALVE to OPEN directs flows to the crowd motor. The motor starts and moves the auger in the direction of drilling (crowds auger). Moving the valve to CLOSE moves the auger away from the direction of drilling (extracts the auger). Moving the valve to the center position stops the crowd motor.

C. OTHER

The quick disconnect couplings (QD1, QD2, QD3, QD4 and QD5) permit decoupling of the auger, crowd and case drain hoses at the power unit.

Returning fluid is filtered by the RETURN FILTER (F2). The return filter CHECK VALVE (CV3) prevents fluid loss from the reservoir when the filter elements are removed.

The MANUAL VALVE (MV1) may be closed to permit removal of the pumps (P1 and P2) without draining the reservoir.

The OIL COOLER (OC) cools the hydraulic fluid returning from the vibrator.

A MANUAL PUMP (MP) is provided to fill the hydraulic reservoir. A CHECK VALVE (CV2) prevents loss of fluid from the reservoir back through the pump.

A TEMPERATURE SWITCH (TS) located in the reservoir, operates the hydraulic fluid cold light.

A CROSS-RELIEF VALVE (RV4) is located at the crowd motor.

V. HYDRAULIC CIRCUITRY

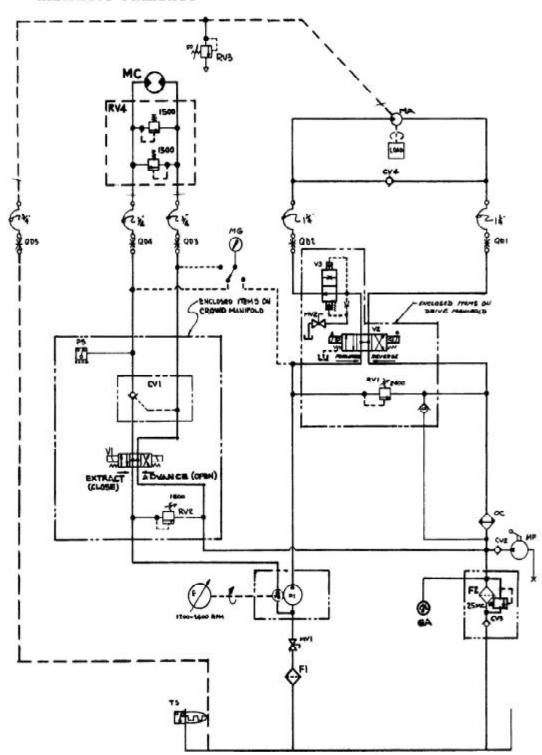
C. OTHER (CONTINUED)

The WARM-UP VALVE (MV2) is normally set in the RUN position (turned fully clockwise) for power unit normal operation. But for warming of the auger motor it must be turned to the "warm-up" position (turned fully counter-clockwise). After auger motor warm-up has been concluded, the valve must be returned to the RUN position for normal operation.



OPERATING INSTRUCTIONS

V. HYDRAULIC CIRCUITRY HYDRAULIC SCHEMATIC





V. HYDRAULIC CIRCUITRY

D. HYDRAULIC COMPONENTS LIST

NOTATION	DESCRIPTION	PART NUMBER	PAGE REFERENCE
CV1	Crowd Check Valve	110149	VIII-31
CV2	Manual Pump Check Valve	100451	VIII-19
CV3	Return Filter Check Valve		VIII-19
E	Diesel Engine	400257	VIII-19
F1	Pick-Up Filter	400087	VIII-19
F2	Return Filter	400085	VIII-19
MA	Auger Motor	400001	VIII- 7/11
MC	Crowd Motor	400349	VIII-37
MG	Pressure Gage	130059	VIII-25
MP	Manual Pump	100447	VIII-19
MV1	Manual Valve (Suction)	400117	VIII-19
MV 2	Manual Valve (Warm-Up)	130123	VIII-29
OC	Oil Cooler	400099	VIII-22
P1, P2	Drive Pump	130029	VIII-19
QD1	Forward Coupler (Return)	400093	VIII-20
QD2	Reverse Coupler (Pressure)	400111	VIII-20
QD3	Advance Coupler	100777	VIII-20
QD4	Extract Coupler	100245	VIII-20
QD5	Case Drain Coupler	400095	VIII-20
RV1	Drive Relief Valve	130133	VIII-29
RV3	Case Drain Relief Valve	100032	
RV4	Cross-Relief Valve	400417	VIII-37
TS	Temperature Switch	810031	VIII-20
V1	Crowd Control Valve	130033	VIII-31
V2	Motor Valve	400089	VIII-29
V3	Warm-Up Valve	130101	VIII-29



VI. ELECTRICAL CIRCUITRY

(REFER TO ELECTRICAL SCHEMATIC, PG. VI-3)

A. DIESEL ENGINE

The BATTERY provides 12-volt current to start the diesel engine. With the auger switch on the pendant turned to OFF, turning the ENGINE START SWITCH to START energizes the START RELAY which energizes the START MOTOR and turns over the diesel engine. If fuel is available, the diesel engine will start. In order for fuel to be available to the engine, the SAFETY SWITCH must be closed to energize the FUEL SOLENOID. The FUEL SOLENOID opens the fuel rack and allows fuel to flow to the engine. With the diesel engine running, the AMMETER indicates charging amperes The HOUR METER indicates engine operating hours.

A system of safety controls shuts off the fuel supply, thereby stopping the diesel engine in the event that engine water temperature is too high or engine oil pressure is too low. The heart of the safety system is the SAFETY SWITCH which is normally closed, thereby providing current to operate the HOUR METER and to energize the FUEL SOLENOID. Energizing the fuel solenoid opens the fuel rack and allows fuel to flow to the diesel engine. With the safety switch closed, current is also available at the auger switch (FOR-REV). The SAFETY SWITCH must remain closed so that fuel continues to flow to the diesel engine.

If the coil in the SAFETY SWITCH is energized, the SAFETY SWITCH will open shutting off the fuel to the diesel engine. The engine will stop. The coil may be energized by either of the following devices:

- Engine Oil Pressure Gage if oil pressure is below 15 PSI, the contacts of the gage will be closed providing current to energize the coil. On start-up, the reset button of the safety switch (on the control panel) must be held until oil pressure exceeds 30 PSI.
- Engine Water Temperature Gage if water temperature exceeds 215°F, the contacts of the gage will close, de-energizing the coil.

The diesel engine is stopped by turning the ENGINE START SWITCH to OFF. This will de-energize the FUEL SOLENOID shutting off the fuel to the engine.



VI. ELECTRICAL CIRCUITRY

B. AUGER MOTOR

With the diesel engine running and the MAIN POWER switch ON, turning the auger switch (FOR/OFF/REV) to FOR, energizes the auger-forward solenoid (FORWARD) of the motor valve. The motor valve sends hydraulic fluid to the auger motor. The motor starts in the forward direction.

With the diesel engine running and the MAIN POWER switch ON, turning the auger switch (FOR/OFF/REV) to REV. energizes the auger-reverse solenoid (REVERSE) of the motor valve. The motor valve sends hydraulic fluid to the auger motor. The motor starts in the reverse direction.

Turning the auger switch to OFF de-energizes motor valve.

C. CROWD PACKAGE (OPTIONAL)

With the diesel engine running and the MAIN POWER switch ON, turning the crowd switch (OPEN/CLOSE) to OPEN energizes the advance solenoid (ADVANCE) of the crowd valve. The crowd valve sends hydraulic fluid to the crowd motor. The motor moves the auger in the direction for drilling.

With the diesel engine running and the MAIN POWER switch ON, turning the crowd switch (OPEN/CLOSE) to CLOSE energizes the extract solenoid (EXTRACT) of the crowd valve. The crowd valve sends hydraulic fluid to the crowd motor. The motor moves the auger in the direction for retraction.

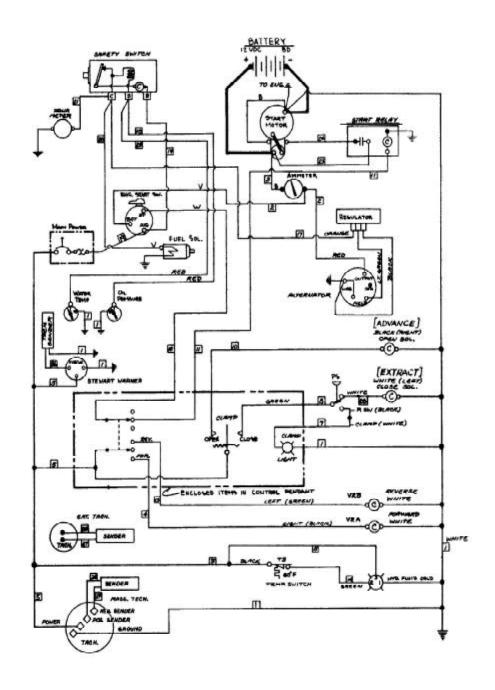
D. OTHER

With the MAIN POWER switch ON, if the temperature of the hydraulic fluid is below 60°F, the TEMPERATURE SWITCH closes and the HYDRAULIC FLUID COLD light comes on. When the temperature of the hydraulic fluid exceeds 60°F, the TEMPERATURE SWITCH turns out the HY-DRAULIC FLUID COLD light.



OPERATING INSTRUCTIONS

VI. ELECTRICAL CIRCUITRY ELECTRICAL SCHEMATIC





VI. ELECTRICAL CIRCUITRY

E. ELECTRICAL COMPONENTS LIST

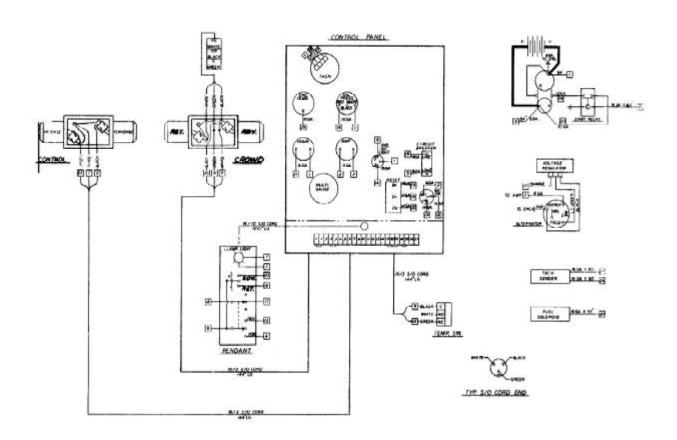
NOTATION	REFERENCE	PART NUMBER	PAGE REFERENCE
ADVANCE SOL.	Advance Solenoid	130033	VIII-31
AMMETER	Ammeter	110371	VIII-25
BATTERY	12-Volt Battery	100529	VIII-22
ENG. START SW.	Engine Start Switch	130259	VIII-25
EXTRACT SOL.	Extract Solenoid	130033	VIII-31
FORWARD	Auger Forward Solenoid	400089	VIII-29
FOR-REV	Forward/Reverse Switch	130155	VIII-25
FUEL SOL.	Fuel Valve Solenoid	See Caterpillar	Parts Book
HOUR METER	Hour Meter	100343	VIII-25
HYD. FLUID COLD	Hydraulic Fluid Warning Light	100355	VIII-25
MAIN POWER	Main Power Circuit Breaker	400141	VIII-25
OIL PRESSURE	Oil Pressure Gage/Switch	100329	VIII-25
OPEN-CLOSE	Advance/Retract Switch	130155	VIII-25
PS	Pressure Switch	810033	VIII-31
REGULATOR	Regulator	See Caterpillar	Parts Book
REVERSE	Auger Reverse Solenoid	400089	VIII-29
SAFETY SWITCH	Safety Switch (Reset)	130257	VIII-25
START MOTOR	Engine Starter	See Caterpillar	Parts Book
START RELAY	Engine Start Relay	See Caterpillar	
TEMP. SWITCH (TS)	Temperature Switch	810031	VIII-21
WATER TEMP.	Water Temperature Gage/ Switch	130251	VIII-25



OPERATING INSTRUCTIONS

VI. ELECTRICAL CIRCUITRY

F. WIRING DIAGRAM



MO EAR

MODEL 1250 EARTH AUGER

PARTS LIST

VII. GENERAL DATA

A. ABBREVIATIONS

The abbreviations shown below are used throughout the parts lists:

Assy.	Assembly			
BHCS	Button head cap screw			
Cy1.	Cylinder			
DC	Direct current			
FHCS	Flat head cap screw			
HC	High collar			
HHCS	Hex head cap screw			
HSSS	Hex socket set screw			
Hyd.	Hydraulic			
mm	Millimeter			
NPT	National pipe thread			
PHMS	Phillips head machine screw			
P/N	Part number			
Qty.	Quantity			
ŘРМ	Revolutions per minute			
SHCS	Socket head cap screw			
SHSS	Socket head shoulder screw			
S/N	Serial number			
Sol.	Solenoid			

B. SERIAL NUMBER LOCATIONS

- The following ICE auger units are serial numbered separately:
 - a. Auger Unit
 - b. Power Unit
- 2. In addition to the serial number plate itself (on drive unit and power unit), the serial number is stamped into each unit in one or more places as follows:
 - Drive unit is stamped on top between shaft and hose cover.
 - b. Power unit is stamped twice once on control panel side of unit at right corner of reservoir and once on subbase inside door below hex-key rack.



VII. GENERAL DATA

C. SCREWS AND BOLTS

- Practically all connections on the unit are made with socket head (Allen head) cap screws. These high-strength screws are available at most industrial supply houses.
- 2. Screws and bolts are designated in the PARTS LIST in an abbreviated form. (Refer to sub-section A, page VII-1 for specific abbreviations). The information, in parentheses, immediately following the bolt or screw designation shows the size as follows:

1/2" Diameter 13 Threads per inch 1-1/2 Length



VIII. ORDERING PARTS

A. PROCEDURE

- When ordering parts, be sure to include the model and serial number of the unit or component. The serial number may be located by referring to subsection B, page VII-1, SERIAL NUMBER LOCATIONS. Confirm all telephone orders immediately to avoid duplicating shipment.
- ORIGINAL EQUIPMENT: Where serial numbers are given, these apply only to equipment and components originally furnished with the unit. Where equipment has been changed or added to, these numbers may not necessarily apply.
- SHIPMENT: State to whom shipment is to be made and method of shipment desired, otherwise our own judgement will be used.
- 4. SHORTAGES: Claims for shortages or errors should be made immediately upon receipt of parts. No responsibility will be assumed for delay, damage or loss of material while in transit. Broken, damaged or lost material should be refused or a full description made of damage or loss to the carrier agent on the freight or express bill.
- 5. RETURN OF PARTS: If for any reason you desire to return parts to the factory or to any distributor from whom these parts were obtained, you must first secure permission to return the parts. Shipping instructions will be given along with this permission. A fifteen percent handling charge must be assessed against the returned shipment unless an error is made by the factory or by the distributor when filling your order.

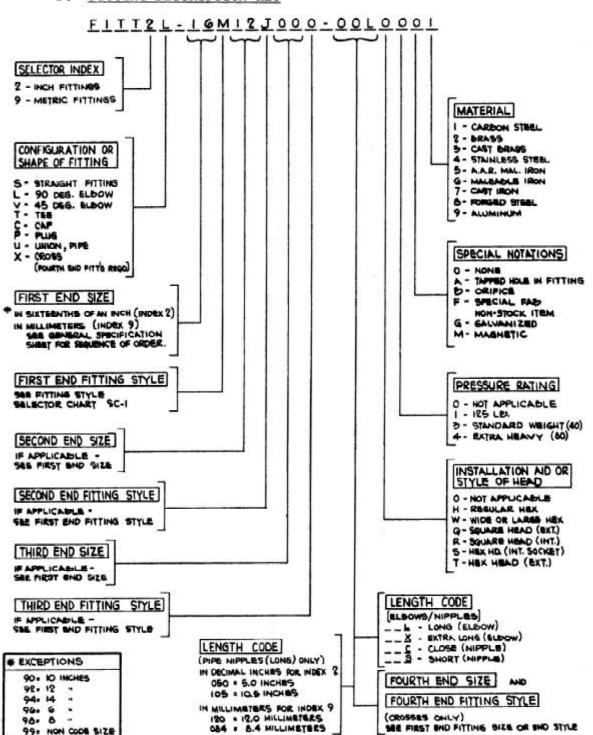
B. FITTING DESCRIPTION KEY

The FITTING DESCRIPTION CODE is a 24 digit coded description identifying all pertinent information relating to a specific fitting such as; configuration, end size, end style, etc. The FITTING DESCRIPTION KEY for determining such data is shown on the following pages.



VIII. ORDERING PARTS

B. FITTING DESCRIPTION KEY





FITTING STYLE SELECTOR CHART SC-1

FOR END FITTING STYLE SELECTION

_		
М]	JIC MALE 57° FLARE
Р	3	MALE PIPE NPTF
R		S.A.E. MALE O-RING (4 ADJUSTABLE)
В		JIC MALE 57° FLARE BULKHEAD
٥		MALE PIPE NPTF - SWIVEL
5		8.5.P. MALE PIPE
F	4	SPLIT FLANGE STANDARD PRESSURE CODE GI
I	4	SPLIT FLANGE HI PRESSURE CODE 62

J		JIC FEMALE 57° FLARE (4 SWIVEL)
Q	p.nadore Without	FRMALE PIPE NPTF
K	-	S.A.E. FEMALE O-RING
Ν		PEMALE PIPE NPSM - SWIVEL
E		COMPRESSION FITTING FLARELESS (WEATHERHEAD)
I		COMPRESSION FITTING FLARELESS (IMPERIAL BASTMAN)
1		

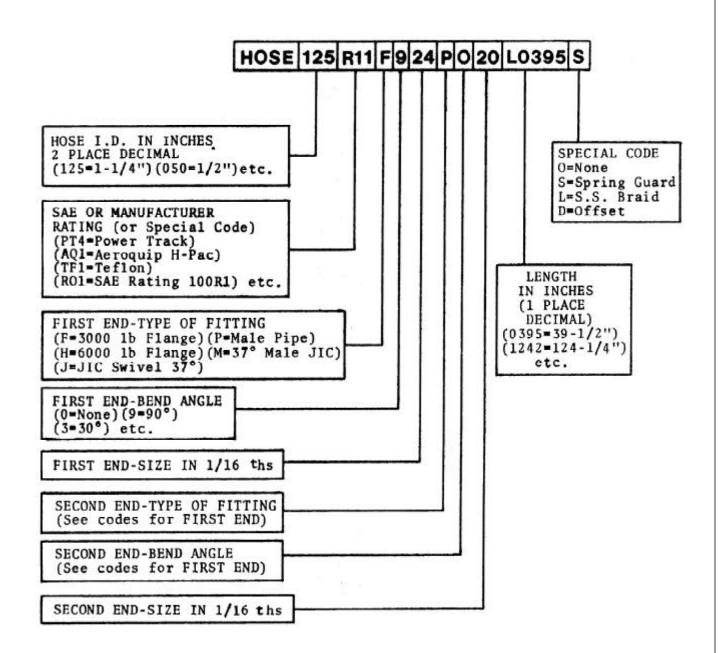


PARTS LIST

VIII. ORDERING PARTS

C. HOSE DESCRIPTION CODE

The HOSE DESCRIPTION CODE is a 24 digit number enabling easier and quicker identification whenever a hose replacement is desired. The key below explains the structure of the coded number in detail.





PARTS LIST

VIII. ORDERING PARTS

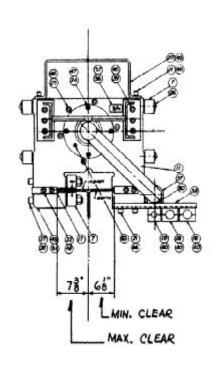
D. PARTS IDENTIFICATION

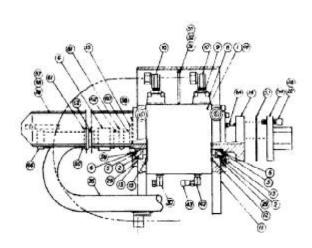
Parts lists and drawings are included on the following pages for those major components groupings shown below:

1.	Auger Drive Unit - Model 1250	800067
2.	Auger Drive Unit - Model 2425	800069
3.	Hose Assemblies - Interconnecting	800071
4.		800019
5.	Power Unit - Internal	800017
6.	Control Panel	810027
7.	Drive Control Manifold	810023
6. 7. 8.	Crowd Manifold	810025
9.	Silencer Group - Power Unit (Optional)	800021
10.	Crowd Assembly (Optional)	
11.	Crowd Drive Unit (Optional)	800089
12.	Crowd Blocks (Optional)	
	Fixed	800097
	Adjustable	800099
13.	Moveable Auger Guide (Optional)	800141
14.	Chain Anchor	800095
15.	36" Spud Adapter	800083
16.		850027



DRIVE UNIT - MODEL 1250







PARTS LIST

DRIVE UNIT - MODEL 1250

Item	Part Number	Qty.	Description
1	400001	1	Motor (MA)
2	400003	2	Bearing Cup
	400005	1	Bearing Cone
4	400007	1	Bearing Cone
5	400009	1 2	Seal
6	400011	1	Rotary Joint
3 4 5 6 7 8	400013	8	Cam Roller
8	400015	8 2 2 2 2 2 2 1 1 4 2	Solid Flange
9	400017	2	FITT2S-40P20Q000-0000308
10	400019	2	FITT2L-20P20N000-000H001
11	400021	2	Motor End Plate
12	400023	2	Pilot Ring
13	400025	2	Seal Housing
14	400027	1	Spline Shaft
15	400029	1	Retainer Nut
17	400033	4	Spud Guide
18	100009	2	Hose Clamp
19	100013	1	Hose Clamp
20	400035	1	Coupling Guard
21	400037	6	SHCS (3/4 - 10 x 1-1/4)
22	400039	16	SHCS (3/4 - 10 x 2-3/4)
24	400043	8	SHCS $(1/2 - 13 \times 2 - 1/4)$
25	400045	12	SHCS $(3/4 - 10 \times 3-1/2)$
26	400321	8	BHCS (1" - 8 x 3-1/4)
27	400049	8	SHCS (1" - 8 x 10-3/4)
28	400051	8	Nut (1" - 8)
29	400053	2	O-Ring (#273)
30	400055	2 1 1	FITT2L-12N10R000-000H001
31	400057		Grease Fitting
32	400059	1	FITT2S-02P02P000-0800301
33	400061	1	Clamp Bracket
36	400063	1	Wet Stem Attachment
37	400065	1	U-bolt
38	400067	1	Lifting Bail
39	400069	6	SHCS $(3/4 - 10 \times 2)$
40	100011		SHCS (1/2 - 13 x 2)
42	400071	6 1	FITT2L-10R08N000-000H001
43	100032	1	Relief Valve (RV3)
44	100417	2	FITT2C-48Q000000-0000306



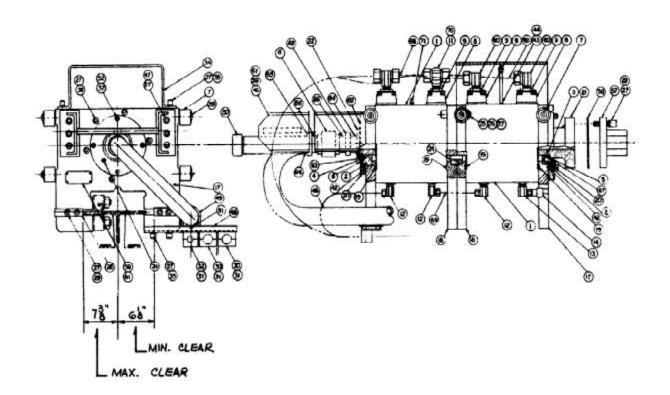
PARTS LIST

DRIVE UNIT - MODEL 1250 (CONTINUED)

<u>Item</u>	Part Number	Qty.	Description
46	100069	40	Lockwasher (3/4)
47	100121		Lockwasher (1/2)
48	100646	8 2	FITT2P-02P000000-0005007
50	400291	1	Wet Stem Key
53	400273	1	Gasket
54	800075	1	2-1/4" Hex Drive Adapter
	800077	1	3" Hex Drive Adapter
	800079	1	3" API Drive Adapter
56	130381	4	Rivet
57	400419	1	Serial Number Plate
58	400469	1	Grout Shield
59	400485	1	HSSS (3/8 - 16 x 1)
60	400471	2	Weld Adapter
61	400477	2	Coupling
62	400473	2	Thread Adapter
63	400497	ī	Grease Fitting (1/8")
64	100229	ī	Grease Fitting



DRIVE UNIT - MODEL 2425





PARTS LIST

DRIVE UNIT - MODEL 2425

	Part			
Item	Number	Qty.	Description	
1	400001	2	Motor (MA)	
1 2 3 4 5 6 7 8	400003	2 2 1 1	Bearing Cup	
3	400005	1	Bearing Cone	
4	400007		Bearing Cone	
5	400009	2	Seal Seal	
6	400011	1	Rotary Joint	
7	400013	12	Cam Roller	
8	400015	4	Solid Flange	
9	400017		FITT2S-40P20Q000-0000308	
11	400431	2	FITT2T-20N20N20P-000H001	
12	400055	3	FITT2L-12N10R000-000H001	
13	400071	1	FITT2L-10R08N000-000H001	
14	100032	1	Relief Valve (RV3)	
17	400021	2	Motor End Plate	
18	400437	2	Motor Center Plate	
19	400023	4	Pilot Ring	
20	400025	2	Seal Housing	
21	400427	4 2 3 1 1 2 2 4 2 1 1 1 4	Spline Shaft	
22	400029	1	Retainer Nut	
24	400439	1	Guide Ring	
25	400441	4	SHCS (3/4 - 10 x 5-1/2)	
26	100587	4	Hex Nut (3/4 - 10)	
27	100069	38	Lockwasher (3/4)	
28	400033	4	Spud Guide	
29	400039	16	SHCS (3/4 - 10 x 2-3/4)	
30	100009	2	Hose Clamp	
31	100011	6	SHCS (1/2 - 13 x 2)	
32	100013	6 1	Hose Clamp	
34	400035	ī	Coupler Guard	
35	400037	6	SHCS (3/4 - 10 x 1-1/4)	
37	400043	8	SHCS (1/2 - 13 x 2-1/4)	
38	400045	12	SHCS (3/4 - 10 x 3-1/2)	
39	400321	12	BHCS (1 - 8 x 3-1/4)	
42	400053	2	O-Ring (#273)	
43	400057	ĩ	Grease Fitting	
44	400059	î	FITT2S-02P02P000-0800301	
45	400061	î	Clamp Bracket	

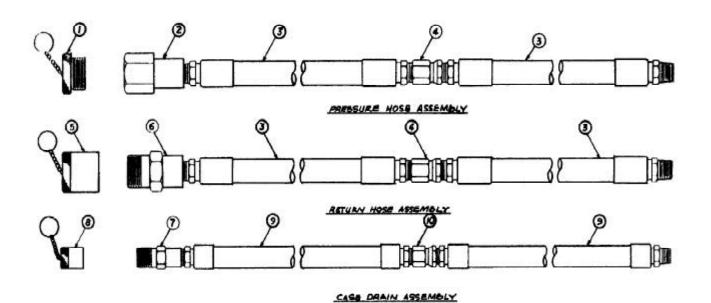


DRIVE UNIT - MODEL 2425 (CONTINUED) 800069

Item	Part Number	Qty.	Description
46	400067	1	Lifting Bail
47	400069	6	SHCS (3/4 - 10 x 2)
48	400063	1	Wet Stem Attachment
49	400065	1	U-bolt
50	100417	2	FITT2C-48Q000000-0000306
51	400291	1	Wet Stem Key
52	100121	8	Lockwasher (1/2)
56	400273	1	Flange Gasket
57	800075	1	2-1/4" Hex Drive Adapter
	800077	1	3" Hex Drive Adapter
	800079	1	3" API Drive Adapter
59	130381	4	Rivet
60	400221	2	FITT2L-20M20P000-0000001
61	400465	1	Serial Number Plate
62	400469	1	Grout Shield
63	400485	1	HSSS (3/8 - 16 x 1)
64	400471	2	Weld Adapter
65	400477	2	Coupling
66	400473	2	Thread Adapter
67	400497	1	Grease Fitting
68	400487	2	HOSE125R02P020P020L01770
69	400489	1	HOSE075R01P012P012L00950
70	400499	1 6 1 2 1 8 1 1 1 4 2 1 1 1 2 2 2 1 2 1 1	FITT2L-20P20Q000-000H001
71	100229	2	Grease Fitting



HOSE ASSEMBLIES - INTERCONNECTING





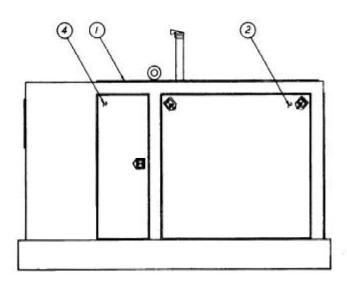
HOSE ASSEMBLIES - INTERCONNECTING

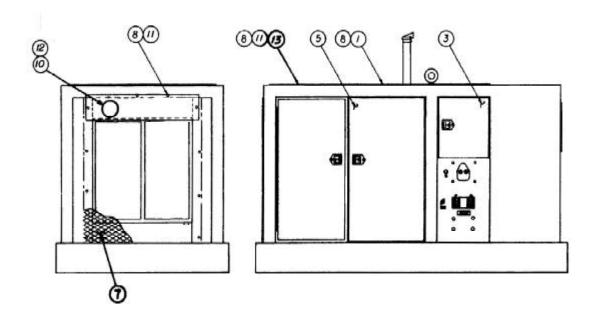
Item	Part Number	Qty.	Description
1	400077	1	Dust Plug (1-1/4)
2	400111	ī	Female Disconnect (1-1/4)
3	400249	4	HOSE125R02P020P020L60000
4	100235	2	FITT2S-20020N000-000H001
5	400079	1	Dust Cap (1-1/4)
6	400093	1	Male Disconnect (1-1/4)
7	400251	1	Male Disconnect (3/4)
8	400253	1	Dust Cap (3/4)
9	100241	2	HOSE075R02P012P012L62000
10	100243	1	FITT2S-12Q12N000-000H001
	130243	10	Rubber Ties



PARTS LIST

POWER UNIT - ENCLOSURE





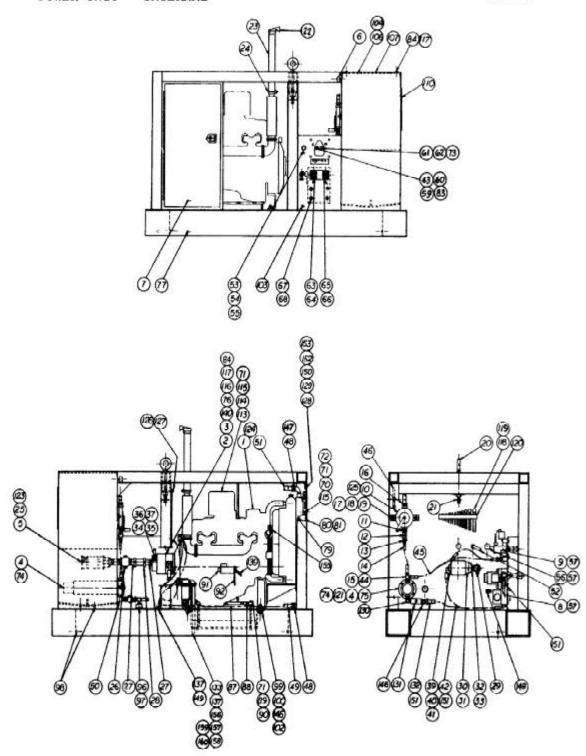


POWER UNIT - ENCLOSURE

Item	Part Number	Qty.	Description
1	100889	1	Top Cover
2	100901	î	Side Cover
3	100865	ī	Cover Door
4	100867	1	Cover Door
5	100869	1	Cover Door
7	810333	1	Intake Grill
8	130209	27	Hex Tek (1/4 - 14 x 5/8)
10	100951	1	Flexible Pipe
11	130227	15	Fender Washer (1/4)
12	130237	2	Hose Clamp
13	810331	1	Exhaust Grill



POWER UNIT - INTERNAL





POWER UNIT - INTERNAL

Item	Part Number	Qty.	Description
1	400257	1	Engine (E)
2	400259	1	Pump Adapter
2	130029	1	Dual Pump (P1, P2)
4 5 6 7	400085	1	Return Filter (F2) (CV3)
5	400087	1	Pick-up Filter (F1)
6	100455	1	Breather
7	810027	1	Control Panel Assembly
8	810023	1	Control Manifold Assembly
9	810025	1	Crowd Manifold Assembly
10	100447	1	Manual Pump (MP)
11	100449	1	FITT2S-16P16P000-000H001
12	100451	1	Check Valve (CV2)
13	100453	1 1 1	FITT2S-16P12Q000-000H001
14	130223		HOSE075R01J012P012L01100
15	130127	1	FITT2T-12M12P12M-0000001
16	400215	1	HOSE100R01P016P016L08400
17	100439	2	SHCS (7/16 - 14 x 1-3/4)
18	400153	2	Flatwasher (7/16)
19	100443	2	Lockwasher (7/16)
20	100460	1	Eye Bolt with nut
21	100722	1	Roll Pin
22	400265	1 1 2 2 2 1 1 2 2 2	Exhaust Cap
23	400263	2	Exhaust Extension
24	400267	2	Exhaust Clamp
25	400173	1	FITT2S-48P40Q000-000H306
26	400117	1	Manual Valve (stop cock) (MV1)
27	130119	1 2 1	FITT2S-40P000000-0450301
28	130139	1	Flexible Coupling
29	130137	1	FITT2L-40P40Q000-0000405
30	400303	1	Pick-up Flange
31	110215	1	O-Ring (#239)
32	100085	1 1 4	SHCS (5/8 - 11 x 2-1/4)
33	100007	4 2	Lockwasher (5/8)
34	100049	2	Split Flange Half (#12)
35	100051	4	SHCS (3/8 - 16 x 1)
36	100097	1	0-Ring (#214)



POWER UNIT - INTERNAL (CONTINUED)

Item	Part Number	Qty.	Description
37	130195	1	HOSE050R09J008F012L02000
39	100596		Split Flange Half (#24)
40	100513	2 4	SHCS (1/2 - 13 x 1-1/2)
41	110119	7	0-Ring (#225)
42	130193	1	HOSE125R09F920F924L04000
43	130203		FITT2S-06P06P000-0300401
44	110205	1 1 1 2 1	FITT2S-24P12Q000-000H001
45	130201	i	HOSE075R01J012J012L04000
46	130179	i	Gage and Thermometer
48	400147	2	FITT2L-24P24Q000-0000406
49	130395	í	HOSE150R02P024J024L07100
50	100588	î	FITT2L-24M24P000-0000001
51	130199	i	HOSE125R01P020F020L08000
52	400175	1	HOSE075R01P012J012L02500
53	100387	i	FITT2S-12P12B000-000H001
54	400095	i	Female Disconnect - 3/4 (QD5)
55	400121	i	Dust Plug
56	810031	î	Temperature Switch (TS)
57	110231	÷	Cord S/O
59	100777	ĭ	
60	100777	1	Female Disconnect - 3/8 (QD3)
61	100245	i	Dust Plug (3/8)
62	100257	i	Male Disconnect - 3/8 (QD4) Dust Cap (3/8)
63	400111	1 1 1 1 3 1 1 1 1 1 1 1	
64	400077	1	Female Disconnect - 1-1/4 (QD2)
65	400093	1	Dust Plug (1-1/4)
66	400079	Ť	Male Disconnect - 1-1/4 (QD1)
67	100119	7	Dust Cap (1-1/4)
68	100121	4	SHCS (1/2 - 13 x 1-1/4)
70	100287	8	Lockwasher (1/2)
71	100293	24	Lockwasher (5/16)
72	100289	8	Flatwasher (5/16)
73	130221	i	Hex Nut (5/16)
74	810119	2	FITT2S-08P06P000-000H001
75	100535	2	Filter Element
, ,	100333	4	Hex Nut (3/8 - 16)



PARTS LIST

POWER UNIT - INTERNAL (CONTINUED)

Item	Part Number	Qty.	Description
76	100005	2	SHCS (5/8 - 11 x 1-3/4)
77	810115	ī	Fuel Tank Subbase
79	400099	ī	Oil Cooler (OC)
80	100871	ī	Cooler Bracket - Left
81	100873	ī	Cooler Bracket - Right
83	400357	1	FITT2S-08P06Q000-000H001
84	400149	38	Lockwasher (3/8)
87	100529	1	Battery
88	810167	1	Battery Hold Down
89	400231	2	Stud (5/16 - 18 x 12)
90	100831	2	Wing Nut (5/16 - 18)
91	130095	1	Start Relay
92	110755	2 2 1 2	Battery Cable
96	100417	1	Fuel Fill Cap
97	100419	1 4	Fuel Vent
98	100423	4	FITT2P-08P000000-000S007
99	130113	4	Engine Mounts
100	130135	4 4 4	SHCS (5/8 - 11 x 3-1/2)
102	100273	4	Hex Nut (5/8 - 11)
103	130107	1 1 1	Coupler Panel
104	130109	1	Reservoir
106	400225	1	Reservoir Gasket
107	400129	1	Reservoir Cover
110	400277	1	Logo Plate
113	130231	1	Air Cleaner
114	130233	1	Air Cleaner Element
115	100105	14	SHCS (5/16 - 18 x 1)
116	100143	12	SHCS (3/8 - 16 x 1-1/4)
117	100648	34	SHCS (3/8 - 16 x 7/8)
118	100651	1	Test Lite
119	810045	1	Hex Key Group
120	100600	1 4	Hex Key Rack
121	110511	4	Seal Washer
123	400445	2 1	Flex-wrap Magnet
124	130309		Throttle Bracket
125	130091	1	Pump Mounting Bracket



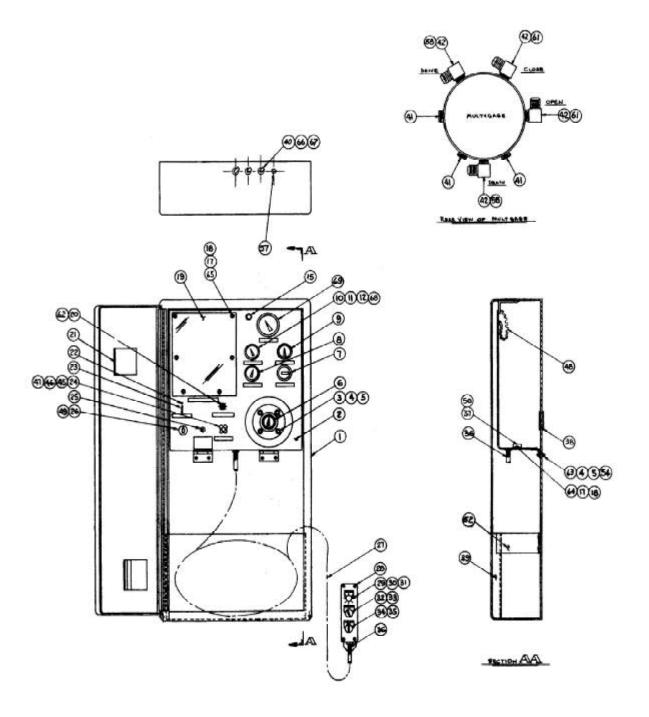
POWER UNIT - INTERNAL (CONTINUED)

Item	Part Number	Qty.	Description
126	130383	2	Baffle
127	130385	2 1	Baffle
128	100576	5	SHCS (1/4 - 20 x 5/8)
129	100598		Hex Nut (1/4 - 20)
130	130341	5 1	FITT2T-24M24J24P-000H0F1
131	130339	ī	Check Valve
132	130397	1	HOSE125R02F420J020L04000
133	110819	1	Suction Filter Tube
137	130389	1 2	HOSE038TF1J006P004L0500L
139	100537	1	Battery Cable - 23
140	130261	2	Lockwasher H.C. (5/8)
145	110081	2 4 1	Flatwasher (5/8)
146	400185	1	FITT2S-20M20P000-000H001
147	400159	1	FITT2S-24P20Q000-000H001
148	100601	ī	FITT2T-04M04P04M-0000001
149	130399	ī	FITT2S-06M04P000-000H001
150	130225	ī	Top Cooler Guard
151	100037	1 1 3 5	O-Ring (#222)
152	100559	5	Lockwasher (1/4)
153	100597	10	Flatwasher (1/4)
155	810301	i	Tachometer Sender Assembly
156	110377	ī	FITT2L-16P16Q000-0000306
157	120423	ī	Water Separator
158	120425	1	FITT2S-16P16P000-1000301
159	100715	1	FITT2S-16P06Q000-000H001
160	400227	ī	FITT2L-06M06P000-0000001



PARTS LIST

CONTROL PANEL





PARTS LIST

CONTROL PANEL

Item	Part Number	Qty.	Description
1	130151	1	Enclosure
2	130245	1	Control Panel
3	100557	4	SHCS (1/4 - 20 x 3/4)
4	100559	8	Lockwasher (1/4)
1 2 3 4 5 6 7 8	100598	8	Hex Nut (1/4 - 20)
6	130059	8 1 1	Multi-Gage (MG)
7	100343	1	Hourmeter
8	110371	1	Ammeter
9	130251	1	Water Temperature Gage
10	100329	1	Oil Pressure Gage
11	100333	1	FITT2L-04E02Q000-000H002
12	110415	1	Oil Pressure Hose (5')
15	110321	1	Panel Latch
17	400161	8	Lockwasher (#10)
18	400163	1 8 6	Hex Nut (#10 - 32)
19	100311	1	Instruction Frame
20	100355	1 1 1	Warning Light
21	130247	1	Label Group
22	100331	2 1	BHCS (#6 - 32 x 1/4)
23	400141		Circuit Breaker
24	130255	1	Engine Throttle
25	130257	1	Reset Button
26	130259	1	Start Switch
27	130365	1	Pendant Wire
28	130153	1	Pendant Enclosure
29	130085	1	Clamp Light
30	100403	1	CLAMP Name Plate
31	100361	1	Clear Lens
32	130155	1	OPEN/CLOSE Switch
33	100401	1	OPEN-CLOSE Name Plate
34	130155	1	FORW/REV Switch
35	130157	1	FOR-OFF-REV Name Plate
36	100371	2	Strain Relief
37	110567	11	Terminal Block
38	130147	1	Grommet



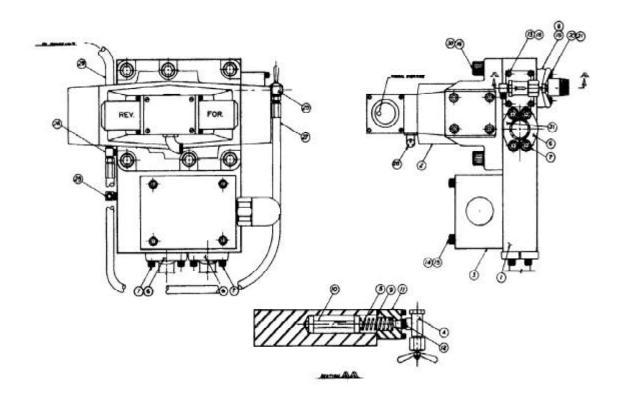
PARTS LIST

CONTROL PANEL (CONTINUED)

****	Part		W
Item	Number	Qty.	Description
39	130149	1	Box Panel
40	100853	3	Cord Adapter (90°)
41	100845	3 3	FITT2P-04P000000-000S007
42	100145		FITT2L-04M04P000-0000001
45	100429	4 1 1	Throttle Cable Seal
46	100431	1	Throttle Cable Pivot
47	100577	1	Throttle Cable Clamp
48	110481	1	Chain
49	130273	1	Start Switch Name Plate
50	110569	1	Terminal Mounting Channel
52	130387	1	Hose Bracket
54	100597	8	Flatwasher (1/4)
57	130413	8 1	Hole Plug
58	130207	2	HOSE019R01J004J004L10000
61	130205	2	HOSE019R01J004J004L09000
62	130377	2	Light Bulb
63	100576	4	SHCS (1/4 - 20 x 5/8)
64	110649	2	PHCS (10 - 32 x 3/8)
65	130061	6	BHCS (10 - 32 x 1/2)
66	110843	6 3	Locknut (1/2)
67	110841	3	Bushing, Plastic (1/2)
68	100338	1	FITT2L-04P04E000-000H002
69	100993	ī	Tachometer



DRIVE CONTROL MANIFOLD





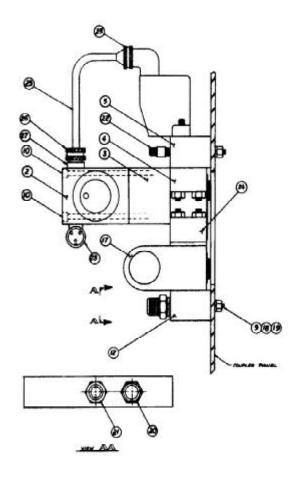
PARTS LIST

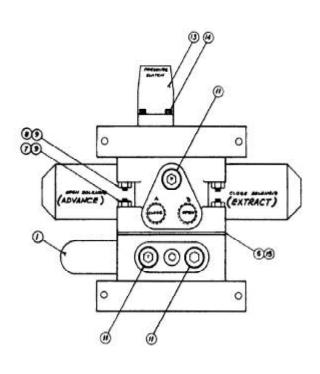
DRIVE CONTROL MANIFOLD

Item	Part Number	Qty.	Description
1	130099	1	Manifold
2	400089	1	Motor Valve, 4-Way (V2)
3	130133	ī	Relief Valve (RV1)
4	130123	1	Needle Valve (MV2)
5	130103	î	Spring
6	100045	5	Split Flange Half (1-1/4)
7	100047	12	SHCS (7/16 - 14 x 1)
2 3 4 5 6 7 8	100037	1 1 5 12 2 1	O-Ring (#222)
9	100077	ī	O-Ring (#029)
10	130101	1	Warm-Up Spool (V3)
11	130105	ī	Spool Capture Plate
12	130129	ī	FITT2S-04P04P000-00C0306
13	110177	4	SHCS (5/16 - 18 x 2-1/2)
14	130131	4	SHCS (3/8 - 16 x 4-1/2)
15	400149		Lockwasher (3/8)
16	400039	4 6 4 2 8 8 2 1	SHCS (3/4 - 10 x 2-3/4)
18	100287	4	Lockwasher (5/16)
19	130125	2	Coupler Adapter
20	100439	8	SHCS (7/16 - 14 x 1-3/4)
21	100443	8	Lockwasher (7/16)
25	100145	2	FITT2L-04M04P000-0000001
26	130229	ĩ	FITT2T-04M04M04R-0000001
27	100719	ī	HOSE025R02J004J004L03000
28	110235	î	Cord Adapter - 90°
29	100149	î	HOSE025R02J004J004L01900
30	100069	6	Lockwasher (3/4)
31	810293	6 1	Special Split Flange Half



CROWD MANIFOLD







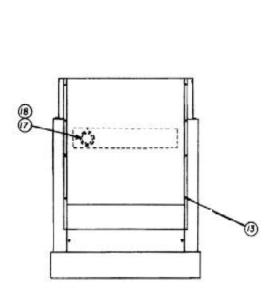
CROWD MANIFOLD

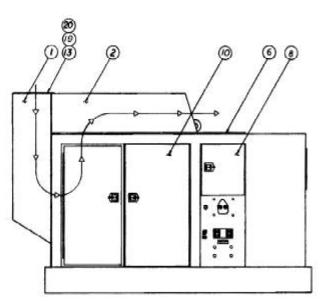
Item	Part Number	Qty.	Description
24	810137	1	Manifold
			(Includes Items Below)
1	110145		(1) Relief Valve (RV2)
2	130033		(1) Control Valve (V1)
3	110149		(1) Check Valve (CV1)
1 2 3 4 6 7 8	110151		(1) Subplate
6	110157		(1) Dividing Plate
7	110159		(4) SHCS (5/16 - 18 x 4-3/4)
8	110161		(4) SHCS (5/16 - 18 x 2-3/4)
9	100289		(8) Hex Nut (5/16 - 18)
10	130241		(4) SHCS (1/4 - 20 x 4)
11	100423		(3) FITT2P-08P000000-0005007
15	110179		(20) O-Ring (12.3 x 24mm)
17	110153		(1) Subplate
23	110235		(2) Cord Adapter S/O
27	110885		(2) Conduit Adapter
	130187	1	End Plate
5 9	100289	Ā	Hex Nut (5/16 - 18)
12	130189	- 7	End Plate
13	810033	ī	
14	110167	2	Pressure Switch Assembly (PS)
18	110177	4	SHCS (#10 - 32 x 1)
19	100287	7	SHCS (5/16 - 18 x 2-1/2)
20	110175	7	Lockwasher (5/16)
21	110173	†	FITT2S-12M08P000-000H001
22	110203	2	FITT2S-08M08P000-000H001
23	110203	1 4 1 2 4 4 1 1 2	FITT2S-04M04P000-000H001
25		1	Cord Adapter S/O
26	110227	i	Cord S/O
27	100855	1	Compression Fitting S/O
41	110885	1	Conduit Adapter

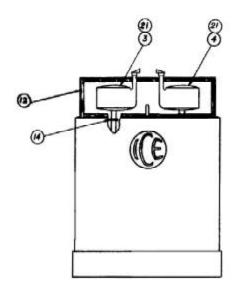


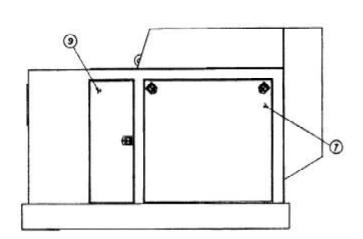
PARTS LIST

POWER UNIT-SILENCER GROUP - OPTIONAL









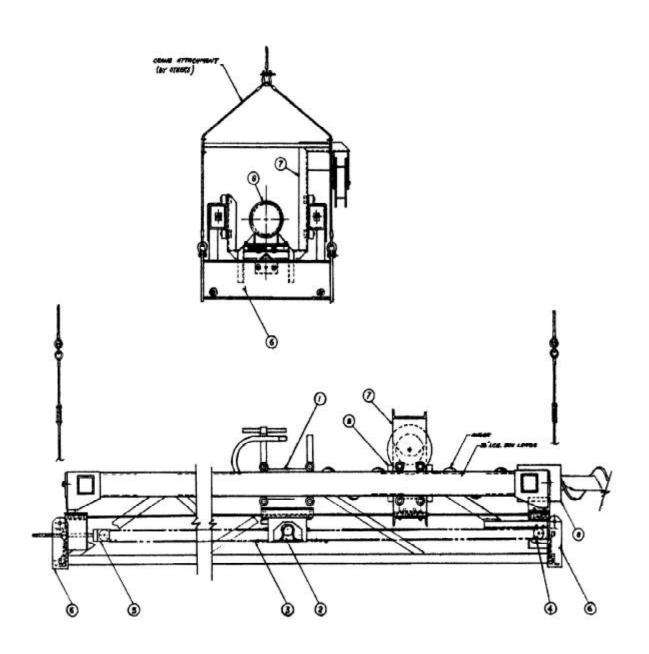


POWER UNIT - SILENCER GROUP (OPTIONAL) 800021

Item	Part Number	Qty.	Description
1	130159	1	Intake Silencer
2	130161	1	Exhaust Silencer
3	130267	1	Left Silencer
4	130269	1	Right Silencer
6	100889	1	Unit Cover
7	100901	1	Cover
8	100865	1	Door
8 9	100867	1	Door
10	100869	1	Door
12	130215	1	Acoustical Padding
13	130209	49	Hex Teks (1/4 - 14 x 5/8)
14	130213	2	Exhaust Clamp
17	100951	1	Flexible Pipe
18	130237	2	Hose Clamp
19	810335	1	Intake Silencer Grill
20	130227	14	Fender Washer (1/4)
21	400265	2	Rain Cap



CROWD ASSEMBLY (OPTIONAL)



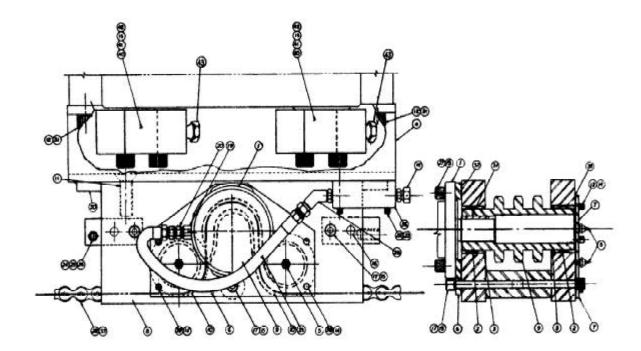


CROWD ASSEMBLY (OPTIONAL)

Item	Part Number	Qty.	Description
1	800067	1	1250 Auger Drive Unit
2	800089	1	Crowd Drive Unit
3	800091	As Req'd.	Chain
4	800097	1	Fixed Two-Part Block
5	800099	1	Adjustable Two-Part Block
6	800095	2	Chain Anchor
7	800141	1	Moveable Auger Guide
8	800157	2	Fixed Auger Guide (12")
	800161	2	Fixed Auger Guide (14")



CROWD DRIVE UNIT (OPTIONAL)



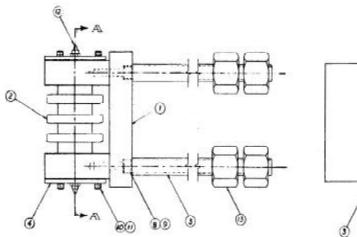


CROWD DRIVE UNIT (OPTIONAL)

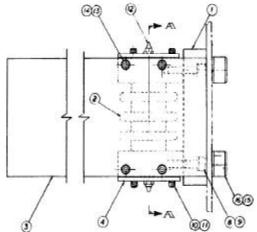
Item	Part Number	Qty.	Description
167.03		1987	01 80 108011 018030101
1 2 3 4 5 6 7 8	400349	1	Drive Motor (MC)
2	400365	6	Bearing
3	400363	6	Seal
4	400337	1	Coupling Guard
5	100229	5 1 3 1 2 4	Grease Fitting
6	400331	1	Motor Side Cover
7	400341	3	Bearing Cap
8	400329	1	Drive Frame
9	400323	1	Drive Sprocket
10	400325	2	Idler Sprocket
11	100075	4	FHCS $(3/4 - 10 \times 2 - 1/4)$
12	400069	4	SHCS (3/4 - 10 x 2)
13	100557	9	SHCS (1/4 - 20 x 3/4)
14	100559	13	Lockwasher (1/4)
15	100121	18	Lockwasher (1/2)
16	400351	2	Dowel Pin (1/2 x 7)
17	100829	6	SHCS (1/2 - 13 x 3-1/2)
18	400395	2	FITT2S-12N08P000-000H001
19	400355	2	FITT2S-10R08Q000-000H001
20	400393	2 2 2 2 2 2 2 1	FITT2S-08P08N000-000H001
21	400397	2	HOSE050R01P008P008L03000
22	400361	2	SHCS (5/16 - 18 x 2)
23	100287	2	Lockwasher (5/16)
24	110159	ī	SHCS (5/16 - 18 x 4-3/4)
25	100293	ĩ	Flatwasher (5/16)
26	100289	ĩ	Hex Nut (5/16 - 18)
27	100011	1 4	SHCS (1/2 - 13 x 2)
28	400367	i	Chain (10')
29	400399	ī	FITT2V-08P08N000-000H001
30	400375	2	Mounting Key
31	100069	4	Lockwasher (3/4)
32	400369	ĭ	Side Cover Gasket
33	400377	2	Master Link
34	400405	2	Drive Motor Key
35	400387	7	Sprocket Enome Cooket
36	400417	3 1 4	Sprocket Frame Gasket
39	100595	7	Cross-over Relief (RV4)
40	400327	2	SHCS (1/4 - 20 x 1-1/4)
41	130235	6	Flange
42	400379	8 2 2	SHCS (1/2 - 13 x 3)
43		2	O-Ring (#232)
43	100235	2	FITT2S-20020N000-000H001



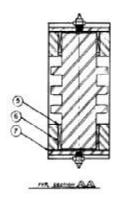
CROWD BLOCKS (OPTIONAL)



ADJUSTABLE TWO-PART BLOCK 800099



FIXED TWO-PART BLOCK 800097





FIXED TWO-PART BLOCK (OPTIONAL)

800097

Item	Part Number	Qty.	Description
1	400407	1	Sprocket Frame
2	400325	1	Idler Sprocket
3	400403	1	Sprocket Frame Guard
4	400341	2	Bearing Cap
5	400363	2	Sea1
6	400365	2	Bearing
7	400387	2	Sprocket Frame Gasket
8	100011	4	SHCS (1/2 - 13 x 2)
9	100121	4	Lockwasher (1/2)
10	100557	6	SHCS (1/4 - 20 x 3/4)
11	100559	6	Lockwasher (1/4)
12	100229	2	Grease Fitting
13	100648	4	SHCS $(3/8 - 16 \times 7/8)$
14	400149	4	Lockwasher (3/8)
15	400401	2	SHCS (1 - 8 x 2)
16	100209	2	Lockwasher (1)

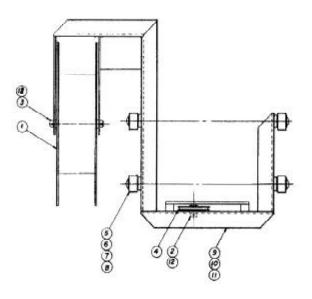
ADJUSTABLE TWO-PART BLOCK (OPTIONAL)

Item	Part Number	Qty.	Description
1	400339	1	Sprocket Frame
2	400325	1	Idle Sprocket
3	400373	2	Adjustment Rod
4	400341	2	Bearing Cap
5	400363	2	Oil Seal
6	400365	2	Bearing
7	400387	2	Sprocket Frame Gasket
8	100011	4	SHCS (1/2 - 13 x 2)
9	100121	4	Lockwasher (1/2)
10	100557	6	SHCS (1/4 - 20 x 3/4)
11	100559	6	Lockwasher (1/4)
12	100229	2	Grease Fitting
13	400051	4	Hex Nut (1 - 8)

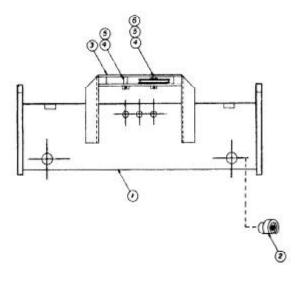


MOVEABLE AUGER GUIDE (OPTIONAL)

800141



CHAIN ANCHOR (OPTIONAL)





MOVEABLE AUGER GUIDE (OPTIONAL)

800141

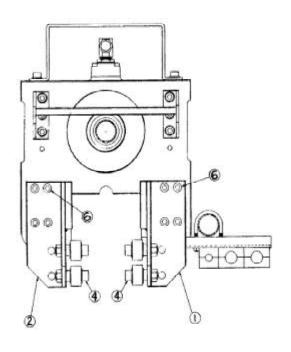
Item	Part Number	Qty.	Description
1	400455	1	Tie-Back Hose Guide
2	400457	2	Sheave Shaft
2 3 4	400459	1	Hose Guide Shaft
4	300023	2	Sheave
5	400013	8	Cam Roller
6	400483	8	BHCS (1 - 8 x 4)
7	400051	8	Hex Nut (1 - 8)
8	100209	8	Lockwasher (1)
9	400461	1	Tie-Back Slide
12	300025	4	Set Collar (3/4)

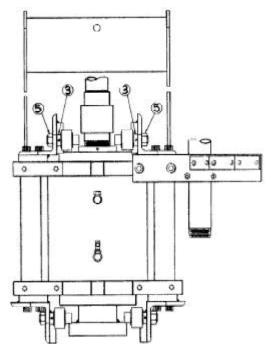
CHAIN ANCHOR (OPTIONAL)

Item	Part Number	Qty.	Description
1	400389	1	Chain Anchor
2	400391	2	Chain Anchor Mounting Lug
3	400453	1	Tie-Back Sheave Block
4	400457	2	Sheave Shaft
5	300025	2	Set Collar (3/4)
6	300023	2	Sheave



36" SPUD ADAPTER



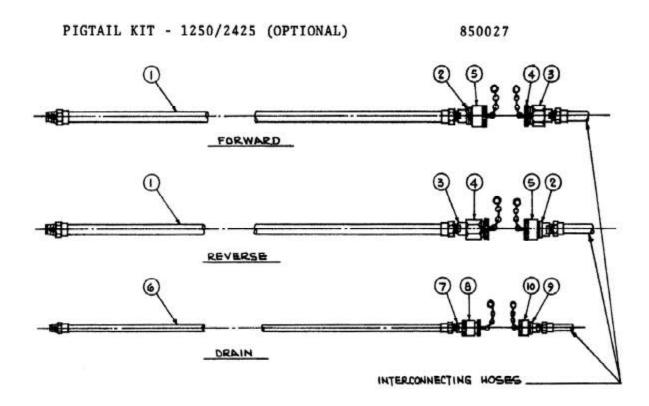


Top View

Front View

Item	P/N	Qty.	Description
1	120085	2	Adapter - Right
2	120086	2	Adapter - Left
3	300059	8	Set Collar
4	400483	8	BHCS (1 - 8 x 4)
5	400051	8	Nut (1 - 8)
6	400045	16	SHCS (3/4 - 10 x 3-1/2)





Item	P/N	Qty.	Description
1	400491	2	HOSE125R02P020P020L10200
2	400093	2	Male Disconnect (1-1/4")
2 3	400111	2	Female Disconnect (1-1/4")
4	400077	2	Dust Plug (1-1/4")
5	400079	2	Dust Cap (1-1/4")
6	400493	1	HOSE075R02P012P012L08400
7	400095	1	Female Disconnect (3/4")
8	400121	ī	Dust Plug (3/4")
9	400251	1	Male Disconnect (3/4")
10	400253	1	Dust Cap (3/4")



PARTS LIST

VIII. ORDERING PARTS

E. MISCELLANEOUS ACCESSORIES

1. BULK

P/N	Qty.	Description
810013	5 GAL	Hydraulic Fluid
810011	5 GAL	Transmission Oil
100726	1 GAL	Coolant/Anti-Freeze
100298	1 GAL	I.C.E. Green Paint
100299	1 GAL	Primer

2. TOOLS

P/N	Qty.	Description		
100651	1	24-Volt Test Light		
100653	1	Set of Allen Wrenches -		
	-	(Includes All Wrenches Shown Below:)		
100655		(1) 1/16" Allen Wrench - Long Arm		
100691		(1) 5/64" Allen Wrench - Long Arm		
100659		(1) 3/32" Allen Wrench - Long Arm		
100661		(1) 7/64" Allen Wrench - Long Arm		
100663		(1) 1/8" Allen Wrench - Long Arm		
100665		(1) 9/64" Allen Wrench - Long Arm		
100667		(1) 5/32" Allen Wrench - Long Arm		
100669		(1) 3/16" Allen Wrench - Long Arm		
100671		1		
100673				
100657				
100675				
100677				
100679				
100681		(1) 1/2" Allen Wrench - Long Arm		
100683		(1) 9/16" Allen Wrench - Long Arm		
100685		(1) 5/8" Allen Wrench - Long Arm		
100687		(1) 3/4" Allen Wrench - Long Arm		
		(1) 7/8" Allen Wrench - Short Arm		
100689		 1" Allen Wrench - Short Arm 		



VIII, ORDERING PARTS

E. MISCELLANEOUS ACCESSORIES (CONTINUED)

175	POWER	DACK	HOCE	CDOUD
1/3	PUNCK	PAL.A	DU OF	UNCHE

850039

Item	P/N	Qty.	Description	Page Reference
14	130223	1	HOSE075R01J012P012L01100	VIII-19
16	400215	1	HOSE100R01P016P016L08400	VIII-19
37	130195	1	HOSE050R09J008J012L02000	VIII-21
42	130193	1	HOSE125R09F920F924L04000	VIII-21
45	130201	1	HOSE075R01J012J012L04000	VIII-21
49	130395	1	HOSE150R02P024J024L07100	VIII-21
51	130199	1	HOSE125R01P020F020L08000	VIII-21
52	400175	1	HOSE075R01P012J012L02500	VIII-21
132	130397	1	HOSE125R02F420J020L04000	VIII-23
27	100719	1	HOSE025R02J004J004L03000	VIII-29
29	100149	1	HOSE025R02J004J004L01900	VIII-29
58	130207	2	HOSE019R01J004J004L10000	VIII-27
61	130205	2	HOSE019R01J004J004L09000	VIII-27

AUGER/175 O-RING KIT

850057

P/N	Qty.	Description
110215	5	O-Ring (#239)
100037	15	O-Ring (#222)
100097	5	0-Ring (#214)
110119	10	0-Ring (#225)
100077	5	O-Ring (#029)
400379	10	0-Ring (#232)
400053	10	O-Ring (#273)

MODEL 2425 HOSE GROUP KIT

Item	P/N	Qty.	Description
68	400487	2	HOSE125R02P020P020L01770
69	400489	1	HOSE075R01P012P012L00950



PARTS LIST

VIII. ORDERING PARTS

F. RECOMMENDED SPARE PARTS

1250 AUG	GER		800067	Refer to page VIII- 6
Item	P/N	Qty.	Des	cription
5	400009	2 2 1	Seal	
29	400053	2	O-Ri	ing (#273)
53	400273	1	Gasl	cet
2425 AUG	GER		800069	Refer to page VIII-10
Item	P/N	Qty.		Description
5	400009	2	Seal	
42	400053	2	O-Ri	ing (#273)
56	400273	2 2 1 2	Gasl	cet
68	400487	2	HOSE	3125R02P020P020L01770
69	400489	1	HOSE075R01P012P012L00950	
HOSE ASS	SEMBLIES-INTERCON	NECTING	800071	Refer to page VIII-14
Item	P/N	Qty.		Description
3	400249	4	HOSE125R02P020P020L60000	
9	100241	2	HOSE	E075R02P012P012L62000
POWER UN	NIT - INTERNAL		800017	Refer to page VIII-18
Item	P/N	Qty.		Description
31	110215	1	O-Ring (#239)	
36	100097	1	O-Ri	ng (#214)
37	130195	1 1 1 1 1 1 2	HOSE	ng (#214) 050R09J008F012L02000
41	110119	1	O-Ri	ng (#225) 125R09F920F924L04000
42	130193	1	HOSE	125R09F920F924L04000
74	810119	1	Fi1t	er Element
111	170277	-	Air Cleaner Element	
114 151	130233 100037	1	Alr	Cleaner Element

NOTE: All units S/N 472015 up to and including S/N 482041 that do not already have the check valve conversion kit installed in the Cooler/Return Filter line should order the kit shown below:

P/N 850003

175 BY-PASS CHECK VALVE KIT



PARTS LIST

VIII. ORDERING PARTS

F. RECOMMENDED SPARE PARTS (CONTINUED)

DRIVE CONTROL MANIFOLD			810023	Refer to page VIII-28
Item	P/N	Qty.	De	scription
8	100037	2 1		ing (#222)
9	100077	1	0-R	ing (#029)
CROWD DR	IVE UNIT		800089	Refer to page VIII-36
Item	P/N	Qty.		Description
3	400363	6	Sea	1
21	400397	2 1 1 3 2	HOS	E050R01P008P008L03000
32	400369	1	Gas	ket
33	400377	1	Mas	ter Link
34	400405	1	Dri	ve Motor Key
35	400387	3	Gas	
42	400379	2	O-R	ing (#232)
TWO-PART	BLOCK (ADJUSTA	BLE)	800099	Refer to page VIII-38
Item	P/N	Qty.	Descr	iption
5 7	400363	2	Sea	1
7	400387	2	Gasket	
TWO-PART	BLOCK (FIXED)		800097	Refer to page VIII-38
Item	P/N	Qty.	Descr	iption
5 7	400363	2 2	Sea	1
7	400387	2	Gasl	ket