

FILE FOLDER

DESCRIPTION ON TAB:

MCAS 106 Well 4

- Outside/inside of actual folder did not contain hand written information**
- Outside/inside of actual folder did contain hand written information**
*Scanned as next image

WELL NUMBER <i>HS 106</i>		BY <i>Thomas - Brown</i>			DATE <i>5-21-85</i>	
AIR LINE	STATIC LEVEL	PUMPING LEVEL	DRAIN DOWN	DISCHARGE PRESSURE	GPM	START TIME
<i>50'</i>	<i>22</i>	<i>24</i>	<i>2</i>	<i>26</i>	<i>105</i>	<i>1045</i>
		<i>25</i>	<i>3</i>	<i>23</i>	<i>149</i>	<i>1100</i>
		<i>26</i>	<i>4</i>	<i>20</i>	<i>170</i>	<i>1115</i>
		<i>27</i>	<i>5</i>	<i>14</i>	<i>190</i>	<i>1130</i>
		<i>28</i>	<i>6</i>	<i>13</i>	<i>203</i>	<i>1145</i>
		<i>29</i>	<i>7</i>	<i>10</i>	<i>216</i>	<i>1200</i>
		<i>30</i>	<i>8</i>	<i>5</i>	<i>226</i>	<i>1215</i>

REMARKS

MANUFACTURER	STAGE	S.N.	TOTAL HEAD	SIZE
<i>Valley Pump</i> <i>motor 5 H.P.</i> <i>Frame 184-TP</i> <i>RPM 1750</i>	<i>5</i>	<i>6669</i> <i>model - GXME.6A</i> <i>DATE - H. 85</i>	<i>ft. 125</i>	<i>flanged</i> <i>6"</i> <i>w/4" cobm</i> <i>1" shaft</i>



North Carolina Department of Environment, Health and Natural Resources

AS 106

Division of Environmental Management

WELL ABANDONMENT RECORD

Groundwater Section

P.O. Box 27687

Raleigh, N.C. 27611

CONTRACTOR Cyclone Well Drilling

REG. NO. 2395

1. WELL LOCATION: (Show a sketch of the location on back of form.)

Nearest Town: _____ County Onslow
Quadrangle No. _____
(Road, Community, Subdivision, Lot No.)

2. OWNER: U.S. Marine Corps

3. ADDRESS: _____

4. TOPOGRAPHY: draw, slope, hilltop, valley (flat)

5. USE OF WELL: public DATE: 1/25/01

6. TOTAL DEPTH: 178 DIAMETER: 10"

7. CASING REMOVED:

feet	diameter
_____	_____
_____	_____

8. SEALING MATERIAL:

Neat cement	Sand cement
bags of cement <u>10,000</u> <u>1285</u>	bags of cement _____
gals. of water <u>428</u>	yds. of sand _____
	gals. of water _____

Other Type material _____
Amount _____

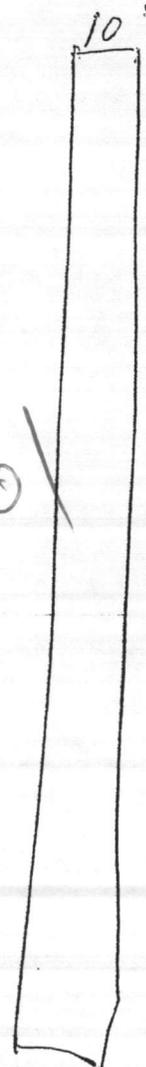
9. EXPLAIN METHOD OF EMPLACEMENT OF MATERIAL

pump

I do hereby certify that this well abandonment record is true and exact.

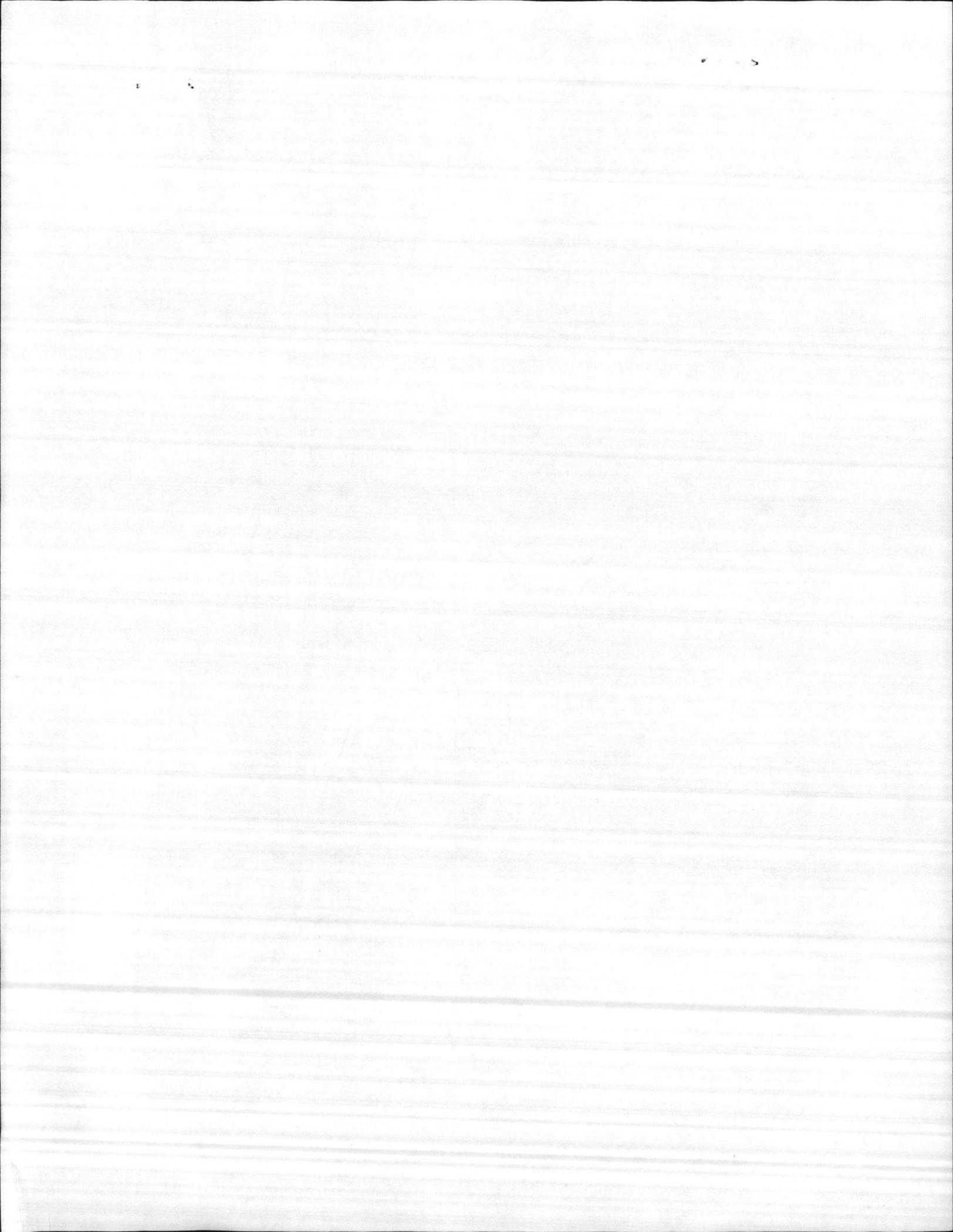
David S. Quinn 1/25/01
Signature of Contractor or Agent Date

WELL DIAGRAM: Draw a detailed sketch of the well showing total depth, depth and diameter of screens remaining in the well, gravel interval, intervals of casing perforations, and depths and types of fill materials used.



178-foot deep
Screen depth NA

Provide the well owner a copy of this record.



Layne

PUMP RECORD

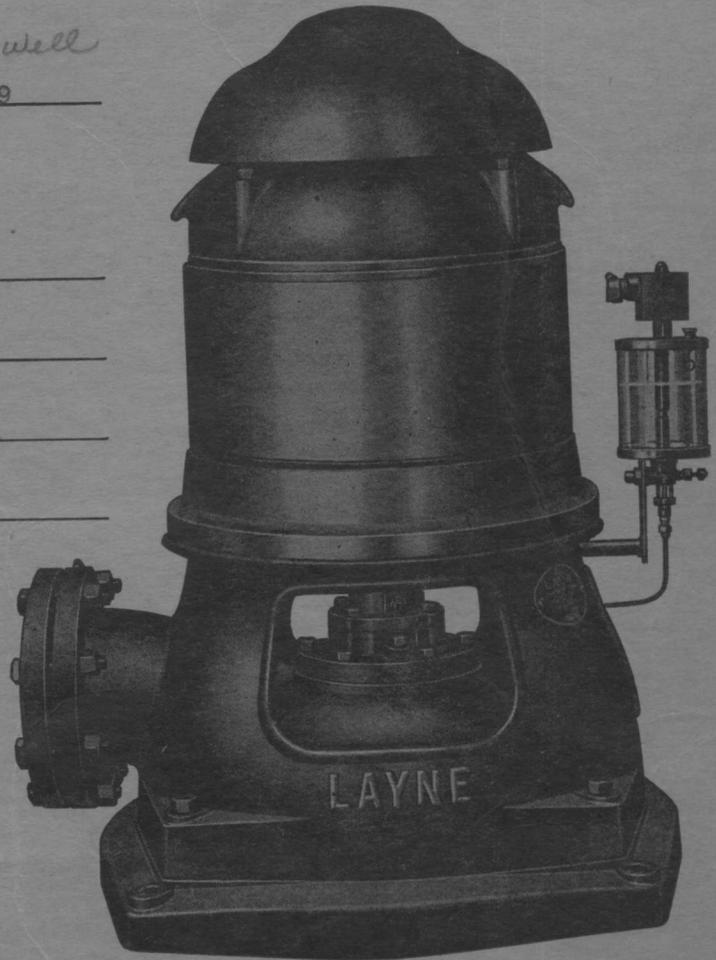
PUMP No. # 4 well
29049

For MARINE CORPS. AIR FACILITY

Peterfield Point

Jacksonville, North Carolina

Date August 13, 1954



mLayne Atlantic Company

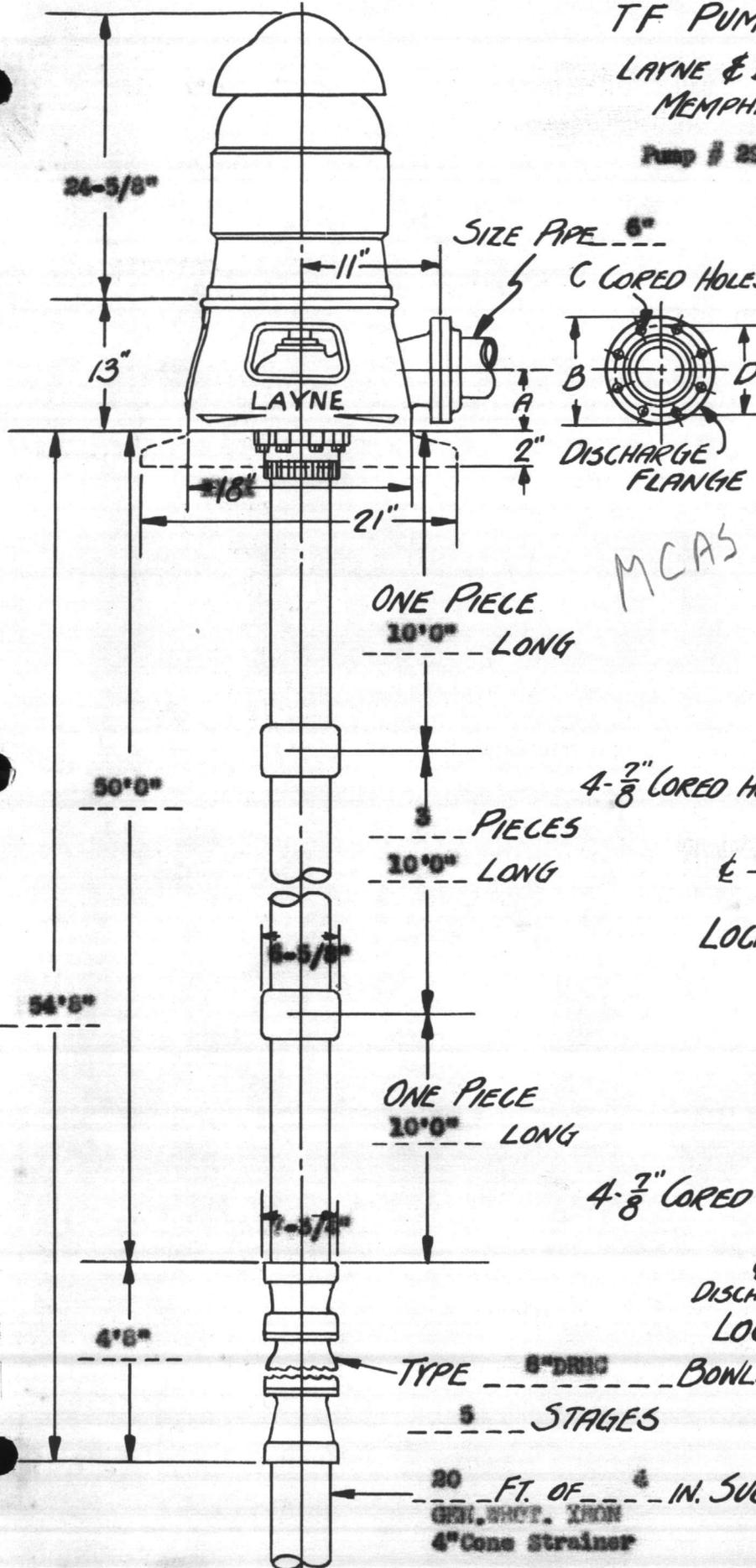
Norfolk,

Virginia

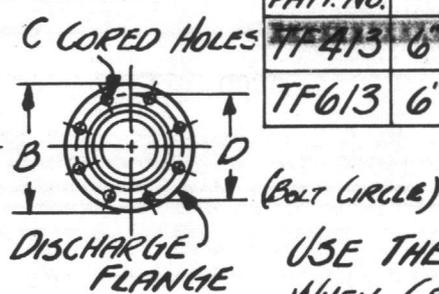
INSTALLATION PLAN TF PUMP HEAD

LAYNE & BOWLER INC.
MEMPHIS, TENN.

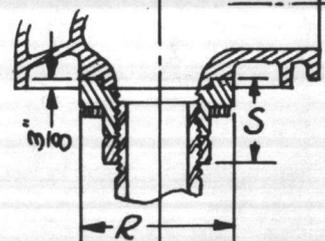
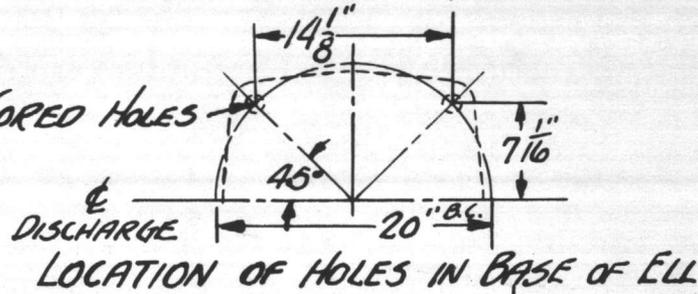
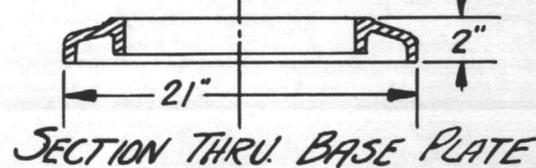
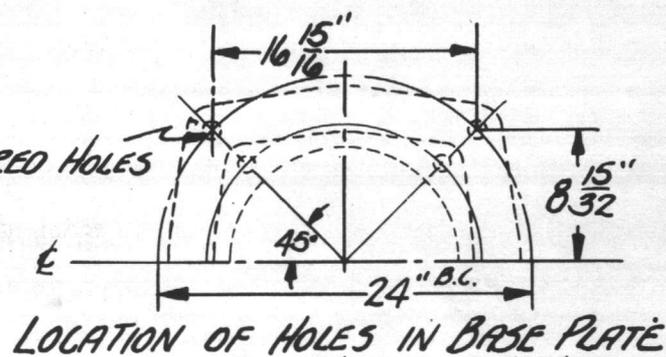
Pump # 29049

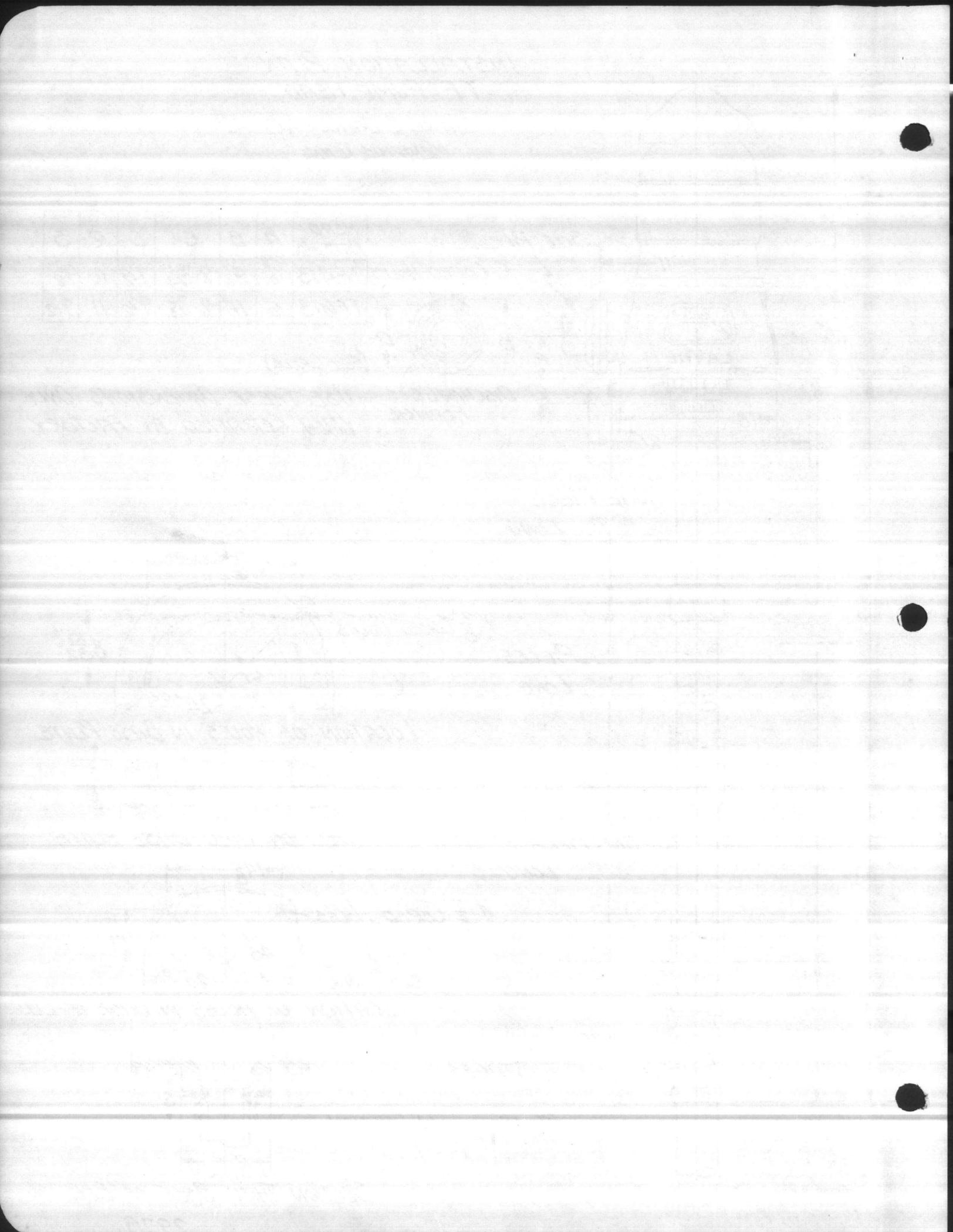


HEAD PATT. NO.	A	B	C	D	R	S
TF413	6"	9"	8-13/16"	7 1/2"	10"	12"
TF613	6"	11"	8-7/8"	9 1/2"	11"	9 1/2"



USE THESE DIMENSIONS ONLY
WHEN CERTIFIED BY FACTORY.





LAYNE VERTICAL CENTRIFUGAL PUMP

Installation of Pump Bowls and Column

Butt Joint Column

Enclosed Line Shaft

Derrick Installation of a Layne Pump requires a derrick 30 to 40 feet in height and a hand winch or power hoist of sufficient size to handle the total weight.

Foundation The concrete foundation for the pump base should be built in accordance with foundation plans furnished by the factory. Where a separate pump base plate is used it should be set in position in the concrete foundation before the pump bowls and column are installed but not grouted into position until the installation is completed.

Dimensions of Well Check the inside diameter of the well and the outside diameter of the pump bowls and column flanges or couplings to be sure that the pump and column will go in the well with ample clearance. The well casing must be straight and without obstructions that might bend the line shaft. Measure the static level of the water in the well to determine if the pump has been furnished with the proper depth of setting. The pump bowls should be submerged when the pump is operating and we do not recommend or guarantee satisfactory operation with a suction lift.

Check Material Check all parts of the pump against the packing list to find out whether all parts have been received. If any parts are missing claim should be made at once to the railroad company.

Clean All Joints All threads and flanged couplings of the discharge pipe and protective tubing should be carefully cleaned and at the time of installation coated with a mixture of red lead and shellac. Care should be taken that there be absolutely no sand or grit between flanges or couplings when making up the joints.

Suction If a basket suction is used it should be lowered into the well first and held by pipe clamps. The suction pipe is picked up and screwed into the coupling at top of basket suction. The basket suction and suction pipe are then lowered into the well until about 18 inches of suction pipe extend above the well casing. The suction pipe is clamped in this position with pipe clamps. When the suction pipe has only threads at the top end care should be taken to place the clamps under the small lug welded on the pipe.

Pump Bowls The pump bowls should be carefully inspected before placing in the well. Rotate impeller shaft several times by hand to be sure that it does not bind at any point. The impeller shaft should have about ¼-inch or more end play. DO NOT STRAIN SHAFT IN ANY WAY THAT MIGHT BEND IT AND DO NOT LIFT PUMP BOWLS BY THE SHAFT. The pump bowls can best be handled by a pair of pipe clamps. The bowls should be lifted into position and screwed or bolted to the suction pipe. The clamps on the suction pipe are then removed and the bowls and suction pipe lowered into the well until the top of the discharge nozzle is about 18 inches above the well casing or top of foundation. The bowls are then supported at this point by pipe clamps.

Discharge Column Pipe Check the enclosed chart to determine the correct spacing of the spiders in the discharge column. If the discharge pipe screws into the pump bowl be sure to have the coupling at the top end of the first section either with the spider or without the spider as shown on the chart. If the lower section of discharge pipe has a special flange to connect to the pump bowls be sure to arrange the pipe with this flange at the lower end.

Protective Tubing and Shaft The shaft and protective tubing are shipped assembled in 20-ft. or 10-ft. lengths and packed with sufficient lubricant to prevent rusting. A 20-ft. length or 10-ft. length of shaft and tubing is required for each 20-ft. or 10-ft. length of pipe. Remove the protecting cap only from the top end of the tubing, which is the end fitted with the bronze shaft bearing and tubing coupling. Slide the assembled tubing and shafting into the discharge column pipe, making sure that the bronze bearing end of the assembly will be on top.

Installing Discharge Column Pull the tubing about six inches below the lower end of the discharge pipe and tie them together in this position with a piece of rope by taking several half hitches around the pipe and then the tubing.

Raise the assembled section of pipe, tubing and shafting until it is hanging vertically in the derrick with the lower end of the tubing about one inch above a board placed on the foundation. Remove the lower plug from the tubing to release the shaft. Raise the discharge pipe about six inches and take several half hitches around the shaft. This method avoids straining the shaft as the column is swung under the derrick. Swing the discharge pipe into position over the pump bowls and screw the shaft into the shaft coupling until it butts against the impeller shaft.

THE THREADS AND THE ENDS OF THE SHAFTING AND THE SHAFT COUPLINGS MUST BE PERFECTLY CLEAN.

Lower the discharge pipe and tubing and screw the tubing onto the main bearing box about 3 or 4 threads. Then coat the threads on the bronze box with the mixture of red lead and shellac and screw the tubing on the box until it butts. The discharge pipe is then bolted or screwed to the pump bowls.

Remove the clamps from the pump bowls and lower the pump bowls with the section of discharge column until the column extends about 18 inches above the well casing or foundation. Clamp the discharge column in this position.

Remove the bronze shaft bearing and tubing coupling and pour about one pint of oil into the tubing. The oil used should be a good grade of mineral oil free from grit and foreign matter, with a viscosity rating approximately SAE 10 and having a relatively low cold pour point.

When the next section of discharge column is in position in the derrick replace the bronze bearing, screwing it into the tubing about 3 or 4 threads. After the spider and spider bushing or aligning ring have been installed (as described below) and the shaft connection is made, lower the discharge pipe and tubing and screw the tubing onto the bronze bearing about 3 or 4 threads. Then coat the threads of the bearing with the mixture of red lead and shellac and screw the tubing on the bearing until the ends butt tightly together. IT IS VERY IMPORTANT THAT EVERY TUBING JOINT BE TIGHT AND to form a seal the ends of the tubing must be smooth and square. While handling and installing the tubing use care to keep from scoring or damaging the ends in any way.

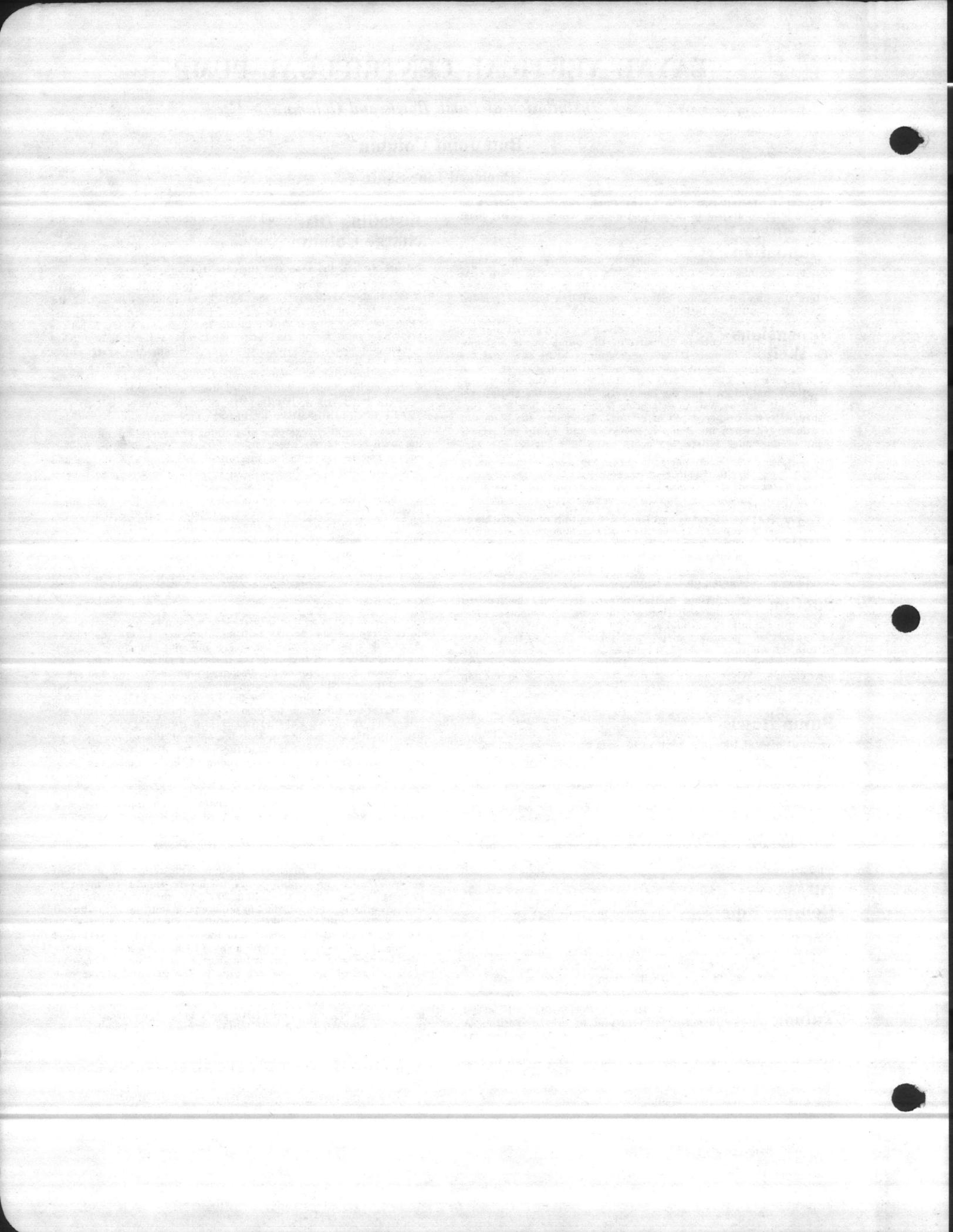
When flanged column is used, slip a bronze spider or aligning ring over the top of the tubing and fit it into the recess in the flange. (Refer to spider spacing chart to determine whether a flange or aligning ring should be used at the joint in question). When screw coupled column is used the spider is cast integral with the coupling. The rubber spider bushings are installed in the spiders before shipment from the factory.

Each section of discharge column is installed as described above. When screw couplings are used care should be taken in starting the pipe in the coupling. The pipe should start by hand and screw by hand to within 5 or 6 threads of butting. If the thread appears tighter than this check carefully for a damaged thread as the pipe should not be forced into the coupling. The last 5 or 6 threads should be made up with a chain tong, making sure that the joint is tight with the pipe butting against the shoulder in the coupling or against the end of the pipe in the coupling as the case might be.

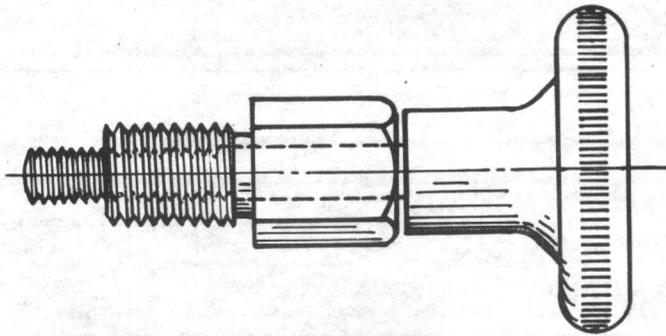
When the line shaft connects to the motor drive shaft below the tension assembly, the motor drive shaft should be attached to the line shaft in the top section of tubing before the top length of discharge column is installed.

The top length of discharge pipe will usually have a special flange or special threads to connect to the bottom of the discharge ell and the top length of shaft will be of special length.

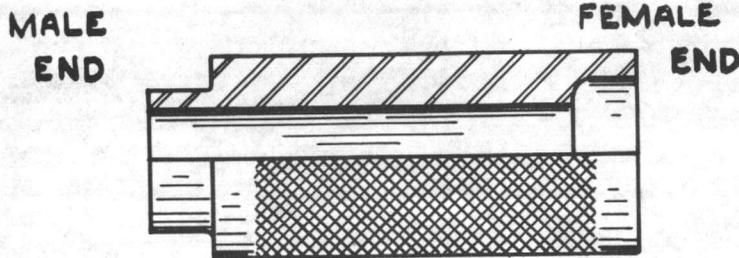
In case the discharge column does not check out within reasonable limits notify the factory to furnish the correct lengths.



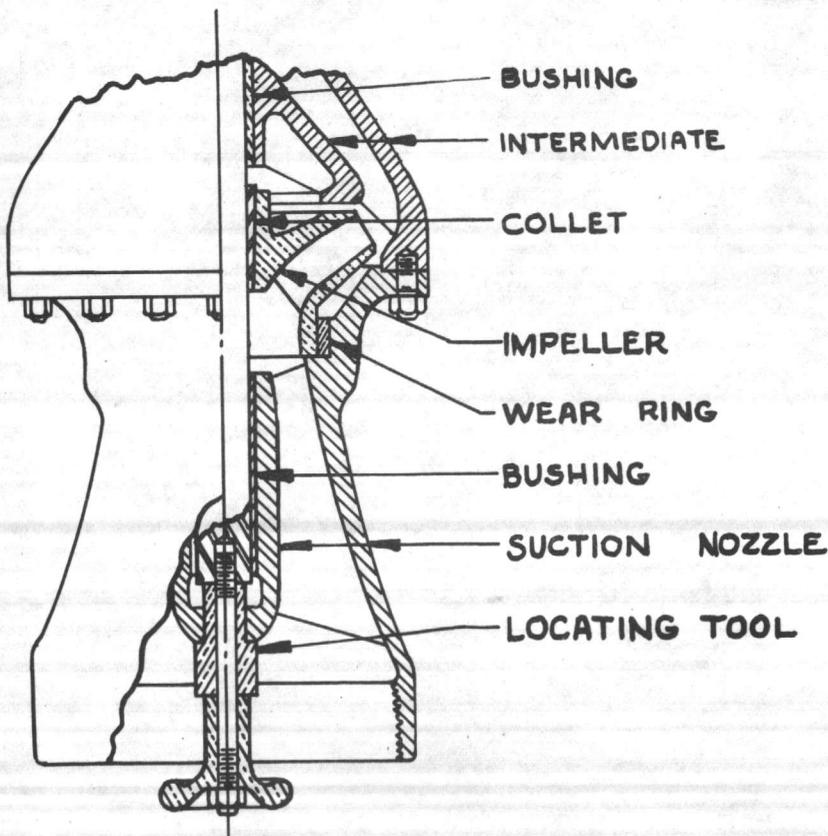
INSTRUCTIONS FOR ASSEMBLING AND DISMANTLING PUMP BOWLS WITH COLLETS



LOCATING TOOL



COLLET DRIVER



TO ASSEMBLE BOWL

1. Remove cap screw from the bottom of the suction nozzle.
2. Screw locating tool into bottom end of suction nozzle hub.
3. Insert impeller shaft into suction nozzle bearing and turn hand-wheel of locating tool until impeller shaft is pulled down tight against the shoulder of the tool.
4. Place the impeller over the shaft. Slip the collet over the shaft with the small end first. (A screw driver can be used to spread collet for ease in slipping over shaft). Hold the impeller firmly into the wear ring recess and drive the collet into place with the male end of the collet driver.
5. Remove collet driver and assemble first intermediate stage. Place the next impeller over the shaft and continue to assemble as explained above.
6. When the bowl is completely assembled remove locating tool and replace cap screw in suction nozzle.

TO DISMANTLE BOWL

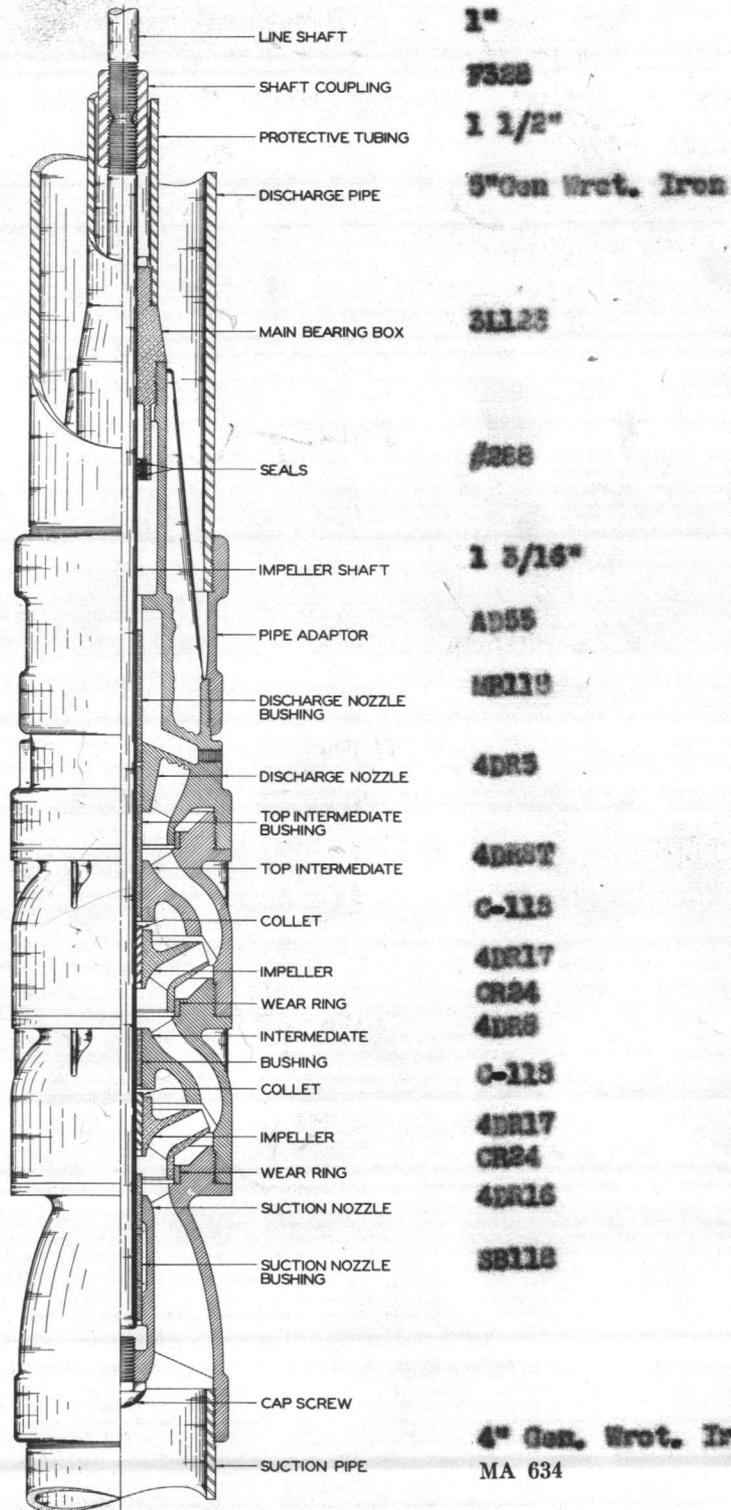
1. Remove discharge nozzle. Place collet driver over shaft with the female end first and while holding the impeller out of the wear ring recess, drive the impeller off of the collet. Remove the collet and impeller.
2. Remove the intermediate shell and drive the impeller off of the next collet. Continue to dismantle in like manner.

DEPARTMENT OF AGRICULTURE AND DOMAINS
FARM BUREAU WITH COLLECT





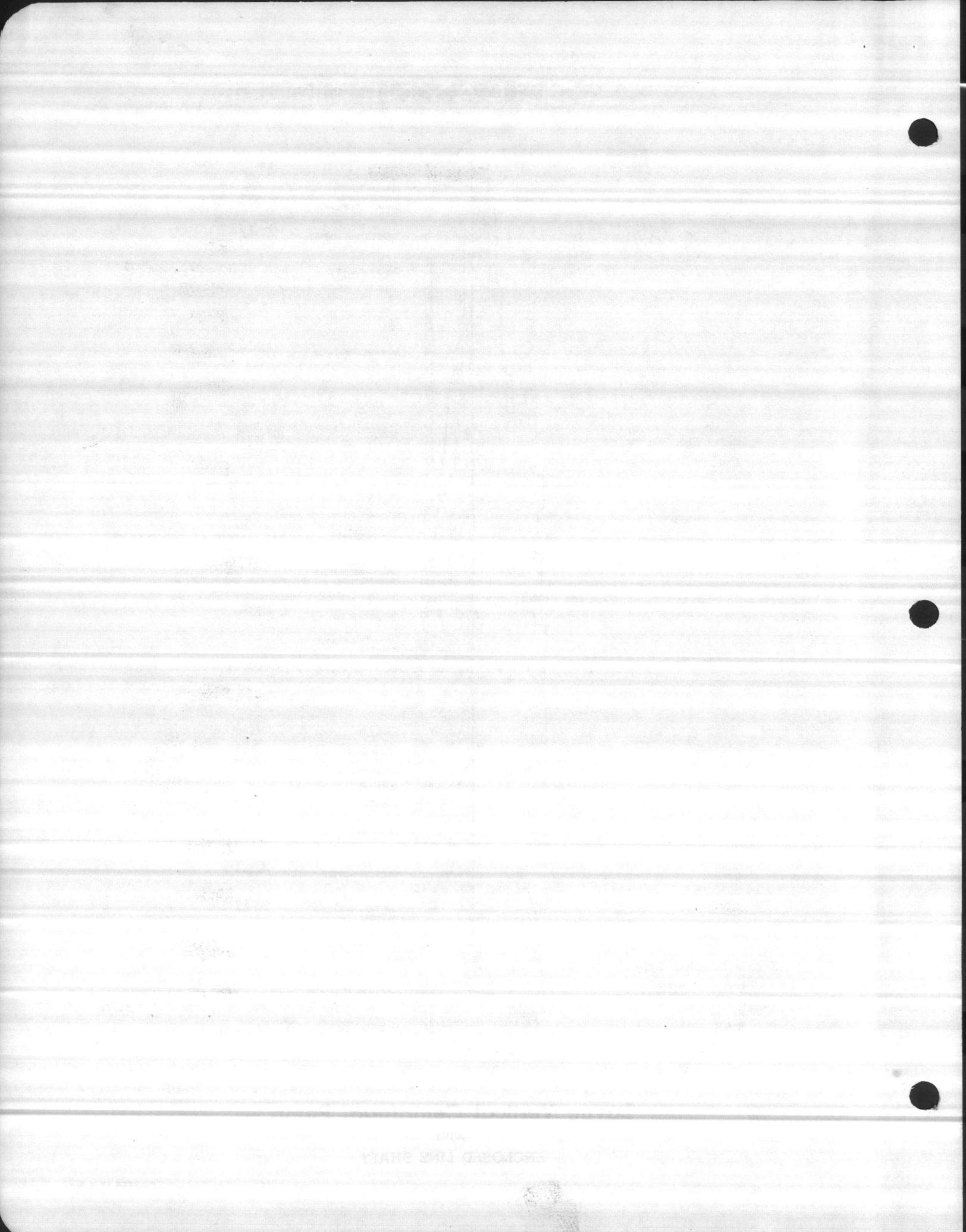
Pump # 23049



- 1"
- F328
- 1 1/2"
- 3" Gen Wrot. Iron
- 3LL23
- #328
- 1 3/16"
- AD55
- MB119
- 4DR3
- 4DR3T
- C-113
- 4DR17
- CR24
- 4DR3
- C-113
- 4DR17
- CR24
- 4DR16
- SB112
- 4" Gen. Wrot. Iron
- MA 634

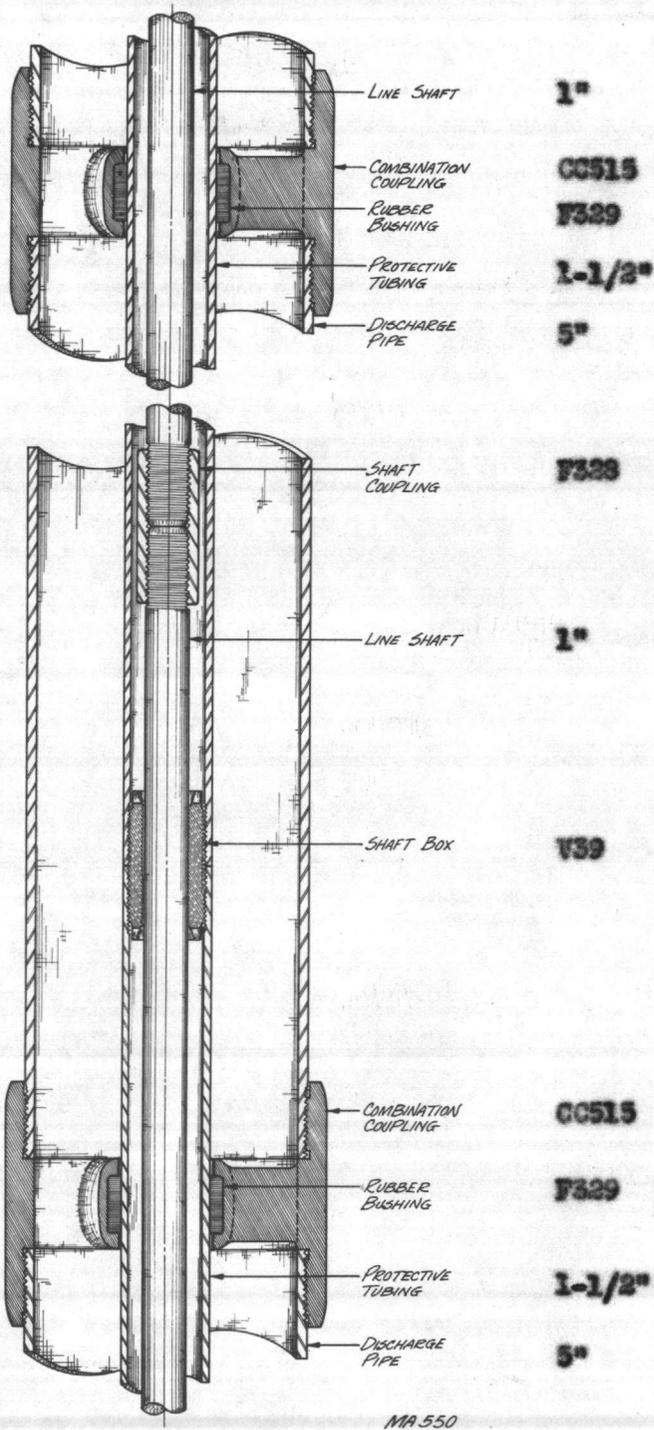
DRHC
8" DRHC
 Screw Coupled Type
 8"DR 10"RK
 8"RK 10"SK
 8"PR
 8"SK

Layne Vertical Centrifugal Pump
 with
ENCLOSED LINE SHAFT

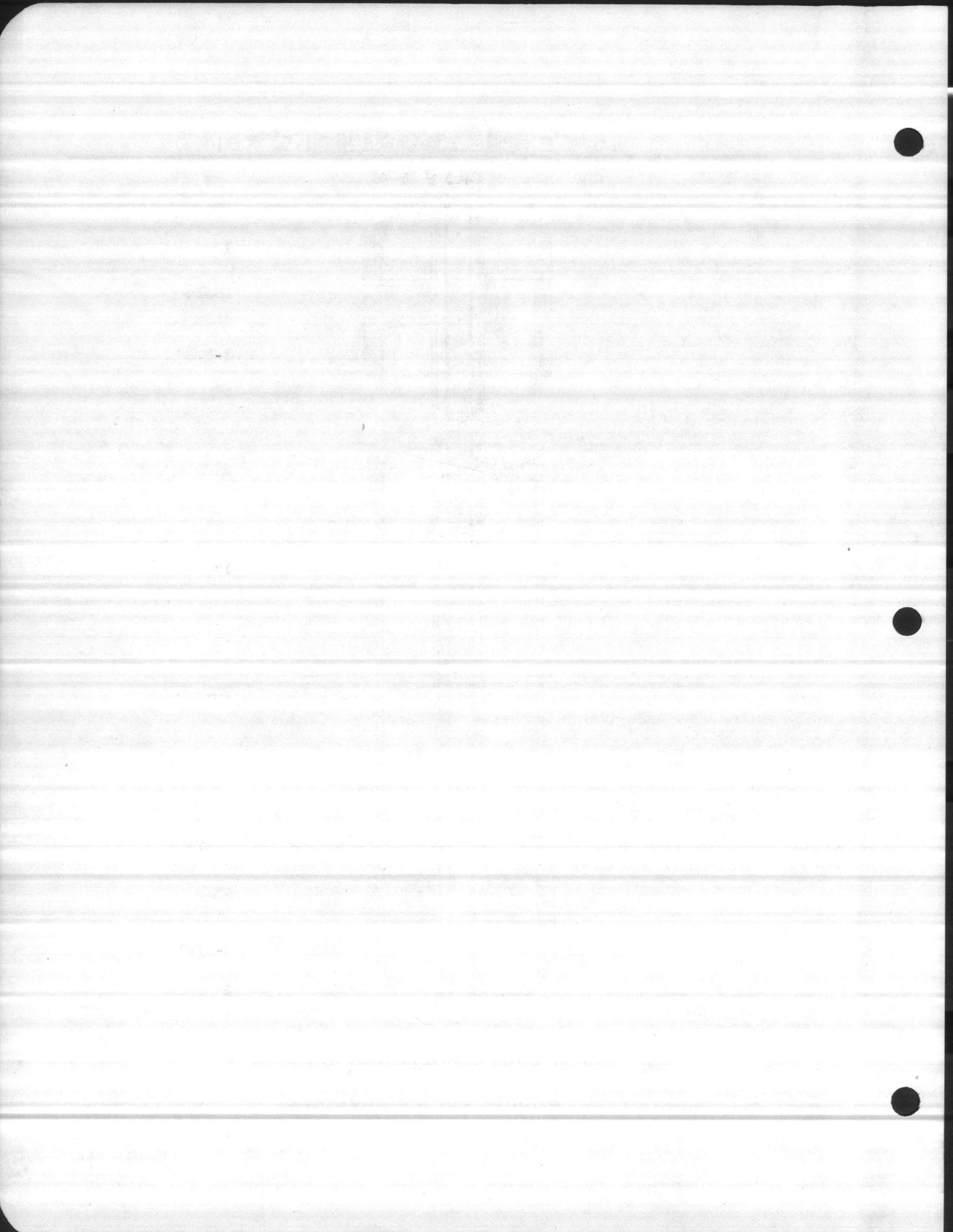




Pump # 29049



**SCREW COUPLED DISCHARGE COLUMN
WITH
RUBBER SPIDER BUSHINGS**



LAYNE VERTICAL CENTRIFUGAL PUMP

Installation of Pump Heads with Butt Joint Stuffing Box Hollow Shaft, Motor Driven

Disassemble and Clean

Before installation, the pump head should be disassembled and all parts thoroughly cleaned with kerosene. Remove the stuffing box from the discharge ell.

Mount Discharge Ell

The top length of discharge pipe is machined with an extra long outside thread on the top end and in most cases is fitted with a special adjustable flange and cast iron packing ring to fit the bottom of the discharge ell. (When 3" casing is used there is a short piece of pipe with inside and outside threads which screws on the top length of casing). Screw the cast iron packing ring down on the piece of pipe as far as possible. Clean the face of the adjustable flange and the bottom flange of the discharge ell and coat with Layncote. Likewise clean the threads on the top piece of pipe and the threads in the adjustable flange or discharge ell and paint with Layncote. Bolt the flange to the discharge ell and/or screw the discharge ell down on the column pipe to the proper location so that the packing box can be installed and tightened to a butt joint connection with the tubing before backing the ell up to ake tension. **TAKE CARE NOT TO PLACE ANY STRAIN ON THE SHAFT** as the danger of bending is great, and any deformation, however slight, will give trouble in operation.

Packing Box

Remove the split packing gland before installing the packing box. Remove the threaded brass bushing from the bottom of the packing box. Clean the threads on this bushing, the threads in the packing box, the threads in the top end of the tubing and paint with Layncote. Screw the brass bushing into the stuffing box and lower the assembly over the drive shaft and screw the bushing into the top end of the tubing. Use the special wrench furnished and tighten the packing box as much as possible. (The protective tubing is made with butt joints throughout from the discharge nozzle of the bowls to the packing box.)

Tension

Clean the flanged faces of the discharge ell and packing box and coat with Layncote. With the special wrench hold the packing box while the discharge ell is raised by backing off on the discharge pipe. Raise the discharge ell in this manner until the packing box and discharge ell flanged faces make a tight joint and the cap screw holes in the packing box match up with the tapped holes in the discharge ell. Be sure when the tightening is complete that the oil cup connection on the packing box is opposite a door in the discharge ell. When an automatic solenoid lubricator is used, the oil cup connection in the packing box should be opposite the side of the discharge ell having a tapped hole to accommodate the lubricator bracket. When properly located bolt the packing box down tightly with the cap screws.

The threaded portion of the discharge ell or adjustable flange is chamfered to receive lamp wick packing. After tension has been applied to the assembly, generously fill the chamfer with lamp wick packing which has been coated with Layncote. Wind the packing around the pipe in the proper direction to tighten when the packing ring is screwed into place. The packing ring, which is also chamfered, should then be tightened to make a metal to metal joint with the discharge ell. The filling with lamp wick packing of the interstice formed by the chamfers in ell and packing ring is essential to insure a water tight joint. The entire pump should then be lowered until the discharge ell rests on the foundation built before starting the installation of the pump.

Alignment

The pump shaft **MUST** now be in the exact center of the pump head and exactly perpendicular to the machined surface of the discharge ell. This can be checked with a straight edge, square, and pair of calipers. The discharge ell can be shifted slightly on the concrete foundation or tilted with shims until the shaft is properly aligned.

Packing

Use a good grade of packing and cut enough rings to fill the packing box to within $\frac{3}{8}$ " of the top. Be sure to have each ring long enough to go around the shaft and butt solidly together. Each ring of packing should have its joint placed on the opposite side of the shaft from the point in the packing underneath. Tamp down each ring of packing as it is installed and draw down the packing gland just enough to put a little pressure on the packing. After the pump is started, draw down on the packing enough to prevent excessive leakage, but do not make final adjustment of packing pressure until the pump has been operated several hours. Then draw down the packing gland until the leakage is very slight—just enough to keep the packing moist. The matter of packing is very important and should be watched carefully for the first few days operation.

When the lubrication of the line shaft is by gravity, the tubing is relieved of pressure at the pump discharge nozzle and the packing gland should only be drawn sufficiently tight to prevent dirt from entering the tubing assembly.

Motor Mount

Lower the hollow shaft motor over the drive shaft, taking care not to disturb the alignment. To insure proper operation of the pump it is necessary that the motor be centered exactly, so great care should be taken in this operation. Bolt motor to discharge ell or motor stand with cap screws.

When a hollow shaft motor is used the drive shaft is keyed to a removable motor coupling. Screw on and tighten the drive shaft nut, lifting the shaft until the impellers are drawn against the top of the pump bowl. In this position the shaft cannot be rotated. The nut should then be loosened $\frac{1}{4}$ to $\frac{1}{2}$ turn or until the shaft turns freely. A gib key is then inserted to prevent the drive shaft nut from working loose.

Grout Base and Connect Discharge

Grout the discharge ell in position, being careful not to disturb the alignment of the pump head. In case the discharge nipple is to be connected to a water main, a Dresser Coupling should be used. The main should be placed as nearly as possible in line with the discharge nipple. The Dresser Coupling prevents throwing any strain on the pump head if the discharge nipple and main are not exactly in line.

Lubricating System

Connect the hand oil pump, drip feed lubricator or automatic solenoid lubricator to the packing box. When first connected allow about one cup full of oil to enter the tubing. Then adjust the drip cup or automatic lubricator to allow the following quantity of oil to enter the tubing.

For setting up to	50 feet—	5 drops per min.
" " " "	100 feet—	10 " " "
" " " "	150 feet—	15 " " "
" " " "	200 feet—	20 " " "
" " " "	250 feet—	25 " " "
" " " "	300 feet—	30 " " "

When using a force feed oil pump inject about one cup full of oil for each 24 hours of operation.

The oil should be a good grade of mineral oil free from grit or foreign matter, with a viscosity rating of approximately S.A.E. 10 and having a relatively low cold pour point.

Starting Pump

CHECK DIRECTION OF MOTOR ROTATION very carefully before applying power. The pump must operate in a left hand or counter clock-wise direction.

Open pet cock located adjacent to packing box to release air from discharge column, and close as soon as water discharges from pet cock.

After the pump has been in operation a few hours, shut down and check the adjustment of the pump runners. The pump shaft may have been screwed up tighter by the power applied and thereby shortened.

THE NATIONAL ARCHIVES

1. Name of the individual: _____

2. Date of birth: _____

3. Place of birth: _____

4. Occupation: _____

5. Education: _____

6. Military service: _____

7. Other information: _____

8. Signature: _____

9. Date: _____

10. Address: _____

11. City: _____

12. State: _____

13. Zip: _____

14. Telephone: _____

15. Other: _____

16. _____

17. _____

18. _____

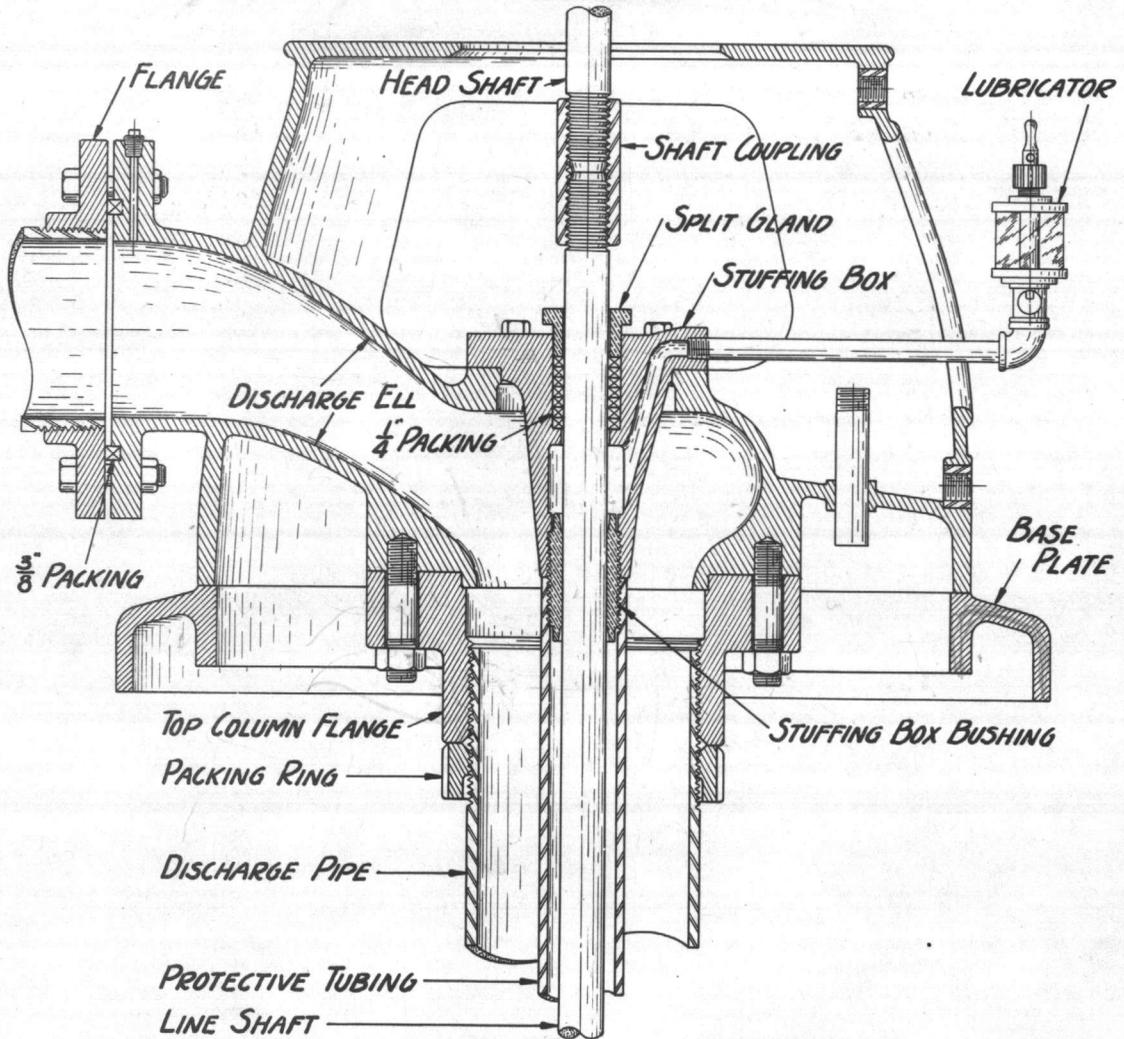
19. _____

20. _____

JUN 28 REC'D



Pump / 29049

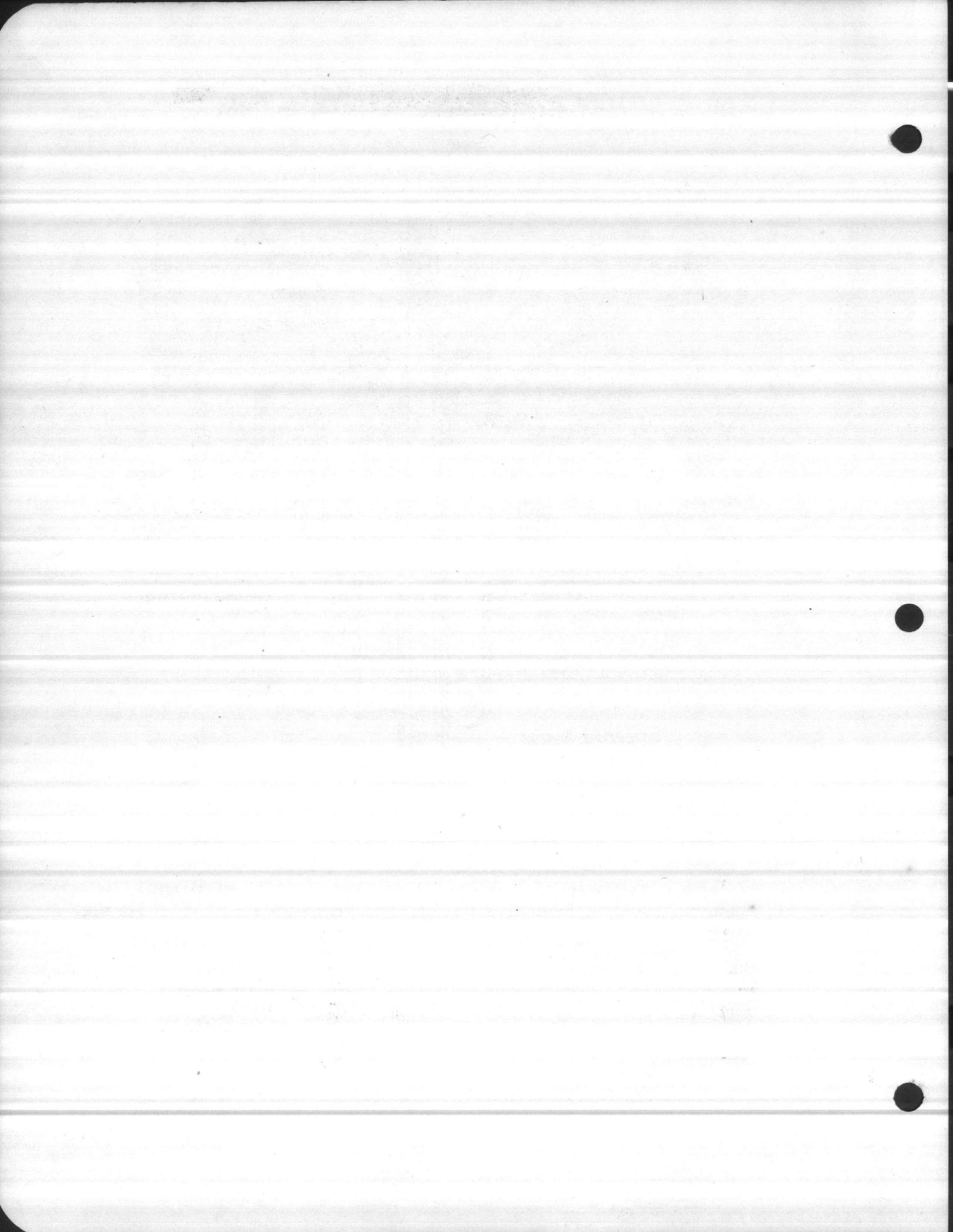


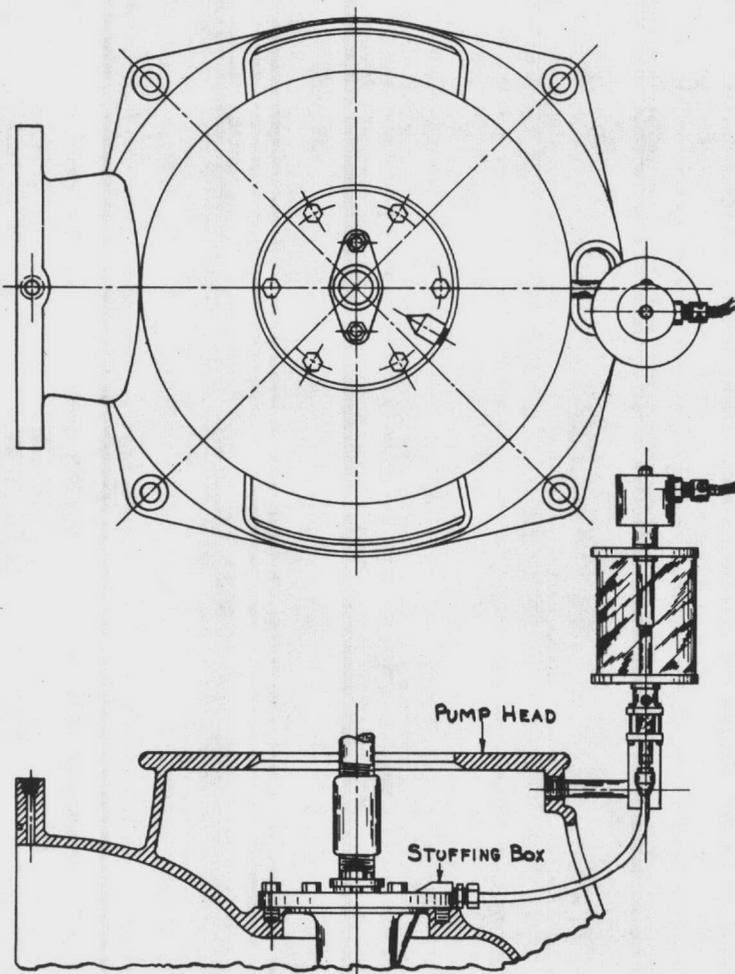
TYPE **TF613** PUMP HEAD
WITH STUFFING BOX

PART LIST		PART LIST	
Part No.	Part Name	Part No.	Part Name
TF613	Combination Discharge Ell and Motor Stand	V85	Top Column Flange
016	Head Flange	V40	Packing Ring
1"	Head Shaft	5"	Discharge Pipe
T227	Split Packing Gland	1-1/2"	Tubing
T282	Stuffing Box	F328	Shaft Coupling
V39-S	Stuffing Box Bush	1"	Line Shaft
		HB4	Base Plate

MA594B

PRINTED IN U. S. A.

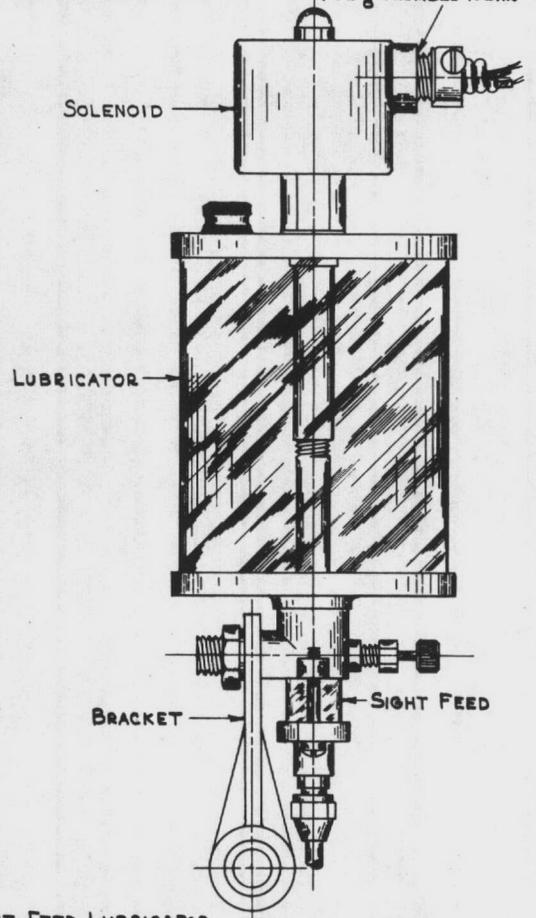




12-2-48

VOLT. 220 CYCLE 60

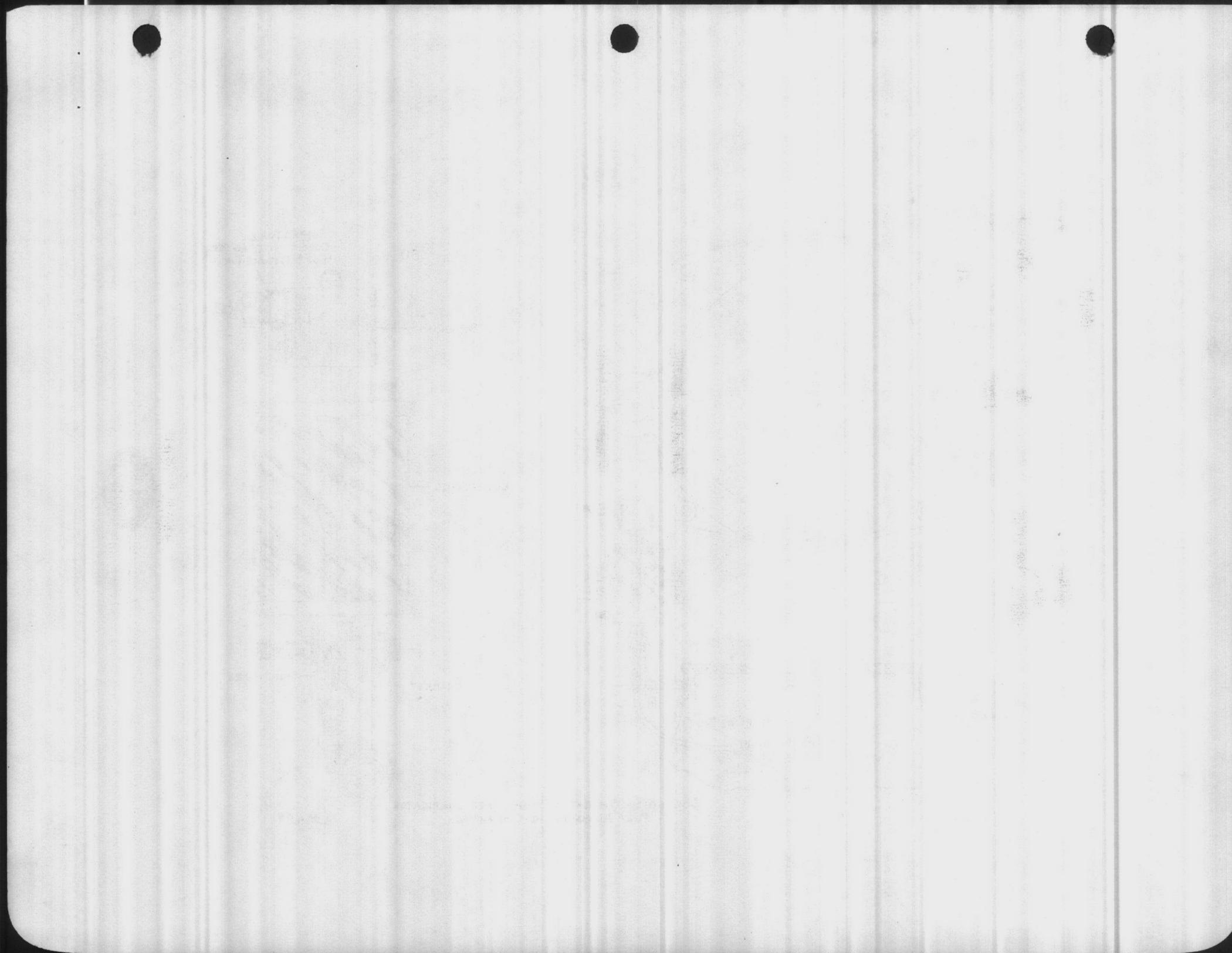
TAPPED FOR 1/2" CONDUIT WITH ADAPTER FOR 3/8" FLEXIBLE TUBING



SOLENOID-OPERATED SIGHT FEED LUBRICATOR FOR AUTOMATIC OPERATION

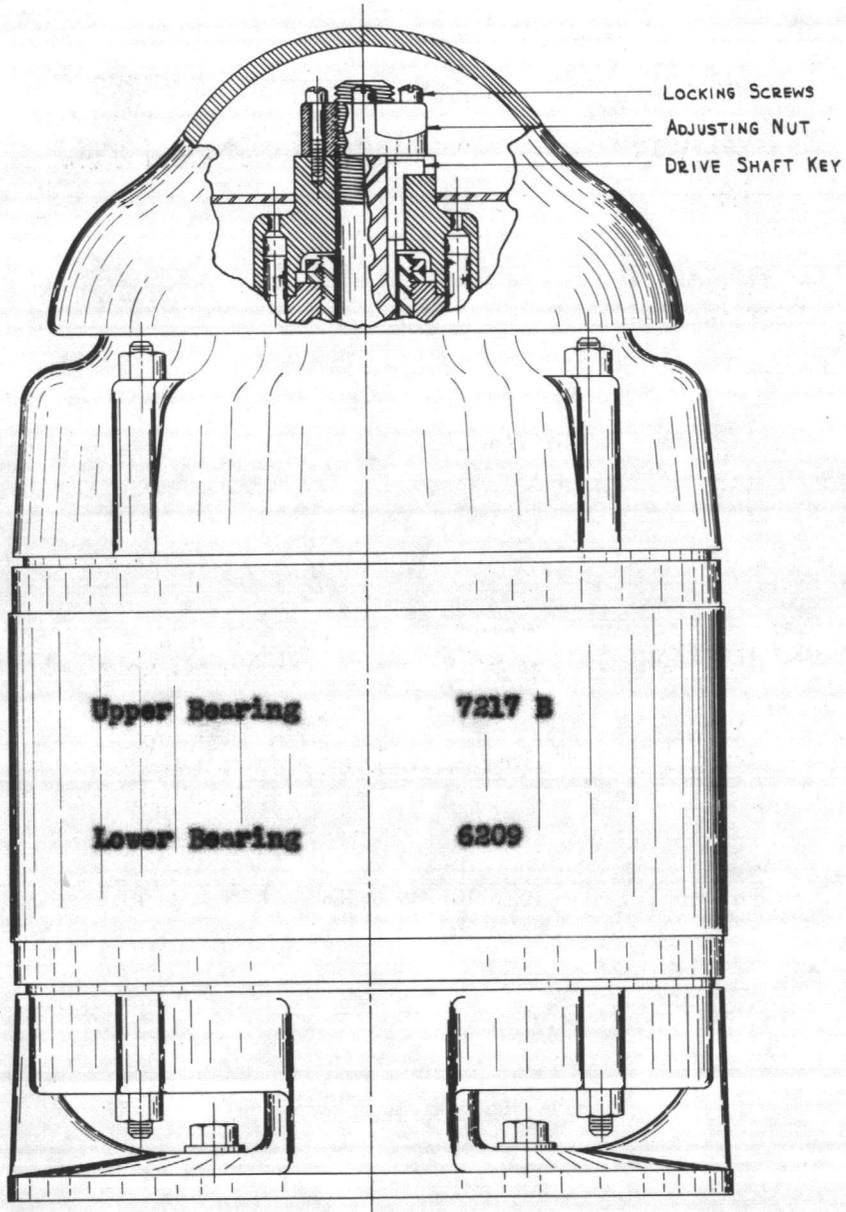
LMA99







Pump # 29049



MOTOR

Make US
15 HP 1800 RPM
208/416 Volts 3 Phase
60 Cycles
 Frame No. 326P

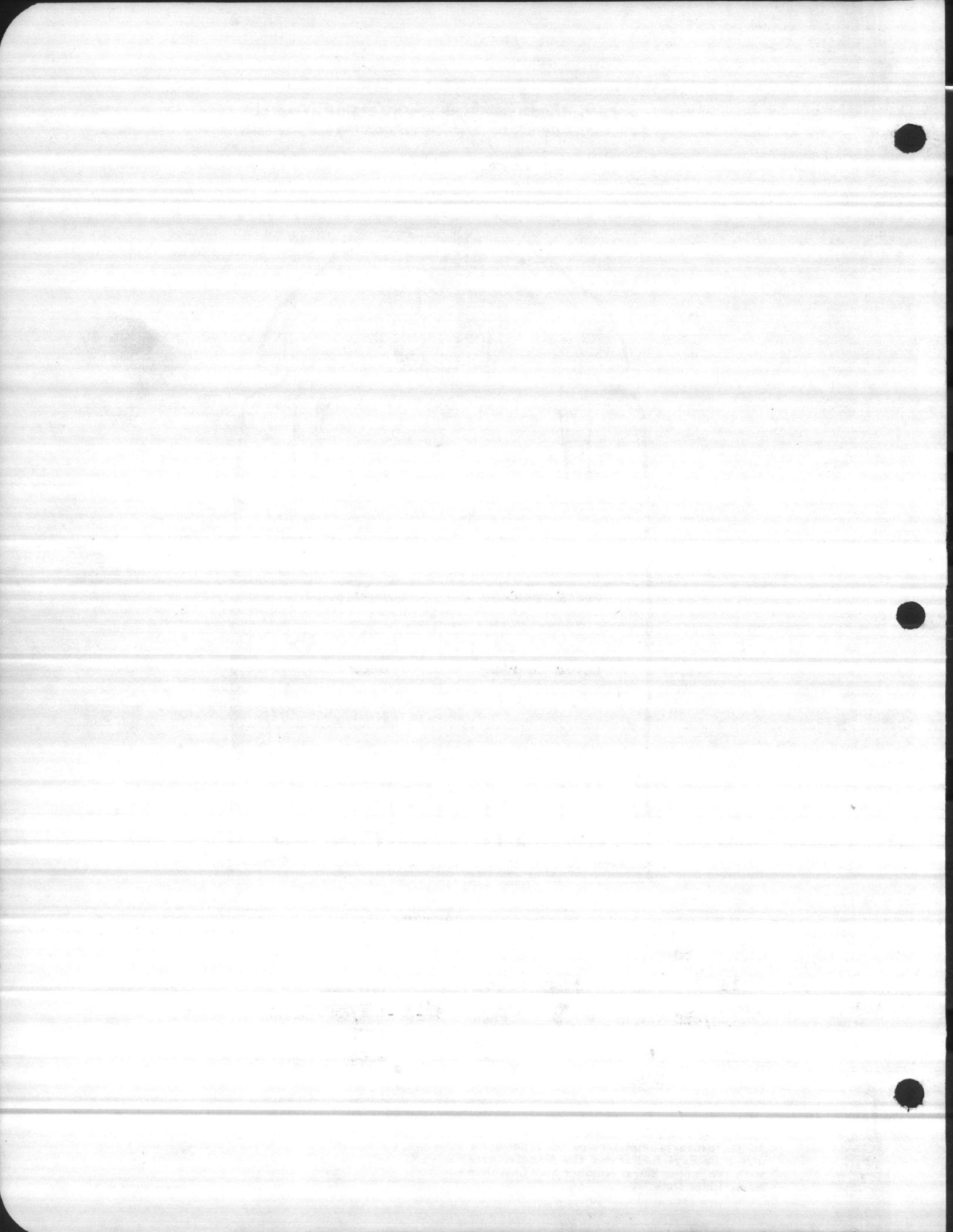
PART LIST

Part No.	Part Name
10-32-1 1/4"	Locking Screws
AN79	Adjusting Nut
F365	Drive Shaft Key

MA630

NOTICE

To insure prompt service on repairs for motor Be Sure to Furnish the Manufacturer with the motor Serial Number and Complete Name Plate Data.



SOURCE INFORMATION GROUND WATER

Date Form Completed

M M D D Y Y
 0 1 2 7 9 5

PWSID
 0
4
6
7
0
4
2

Owner Assigned Source Code

106

Well Name (If purchase, name of system)

~~MCA S~~ WATER PLANT ~~106~~
 WELL # 106

Code

G

G=Ground
 W=Purchase/G
 Y=G w/direct influence
 Z=W w/direct influence

If Purchase, seller ID#

Source Begin Date

M M Y Y

Source exempt—
SWTR? Y N

Direct Influence Date

M M D D Y Y

Availability

P

P=Permanent
 E=Emergency
 S=Seasonal
 I=Interim
 O=Other

Location of well within the system (If purchase, location of master meter)

CURTIS RD @ WTP

Latitude (N)

3 4 4 3 2 6

Longitude (W)

0 7 7 2 7 0 1

How Determined

G=GPS
 M=Map
 S=Surveyed
 8

GPS Data

Q# or DOP#

No. of Sats. Locked on

(If purchase, use seller's primary source lat/long)

Vulnerable (VOCs) Y N

Assessment Date

M M D D Y Y

ENTRY POINT INFORMATION

Use Code

C C=Ground/Permanent
 D=Ground/non-permanent

Availability

P P=Year-round S=Seasonal
 E=Emergency I=Interim O=Other

Owner Assigned Entry Point Code

400

Entry Point Name

~~AS 106~~ MCA S NEW RIVER WTP

Location: _____

Well Site: Owned or controlled? (Y,N) Control Area (100' radius)? (Y,N) If no, explain: _____

Sources of pollution/distance: 75' to Street Operation limited

Surface water within 200'? (Y,N) If yes, actual distance _____ feet If yes, bact. samples collected? _____ (Y,N)

Adequate slope? (Y,N) Flooding? (Y,N) Maintenance: OK

Well House: Free of stored materials? _____ (Y,N) Properly drained? (Y,N) Locked? (Y,N)

Condition of house: OK Type of freeze protection: none

Well: Diameter: 8 Type: gravel packed Yield (gpm): 225 Properly sealed? (Y,N)

Properly vented? (Y,N) Casing depth UNK ft. (If unknown, put 'UNK') Well depth: 176 Meter available? (Y,N)

Concrete slab adequate? (Y,N) If no, explain: _____ Size: _____

Size of blow-off: 4" Sample tap: Before treatment? (Y,N) After treatment? _____ (Y,N)

Pumps: Capacity: GPM: 188 HP: 5 Pump intake depth: 50 Auxiliary Power? _____ (Y,N)

Type pump: VERTICAL TURBINE Height above floor (pump/casing): 10' 0"

Storage at well site: Elev: _____ Hydro: _____ Ground: _____

If hydroautomatic, air volume control? _____ (Y,N) Safety valves? _____ (Y,N) Coded? _____ (Y,N)

High service pumps: 1. _____ gpm _____ hp 2. _____ gpm _____ hp 3. _____ gpm _____ hp Auxiliary Power? _____ (Y,N)

Is the water treated at this well? (Y,N) If yes, complete back of form.

If other wells are treated here, which ones? _____ If treated elsewhere, where? MCA S / WATER PLANT

1) Seal pump base
 2) no meter
 3) no vent

