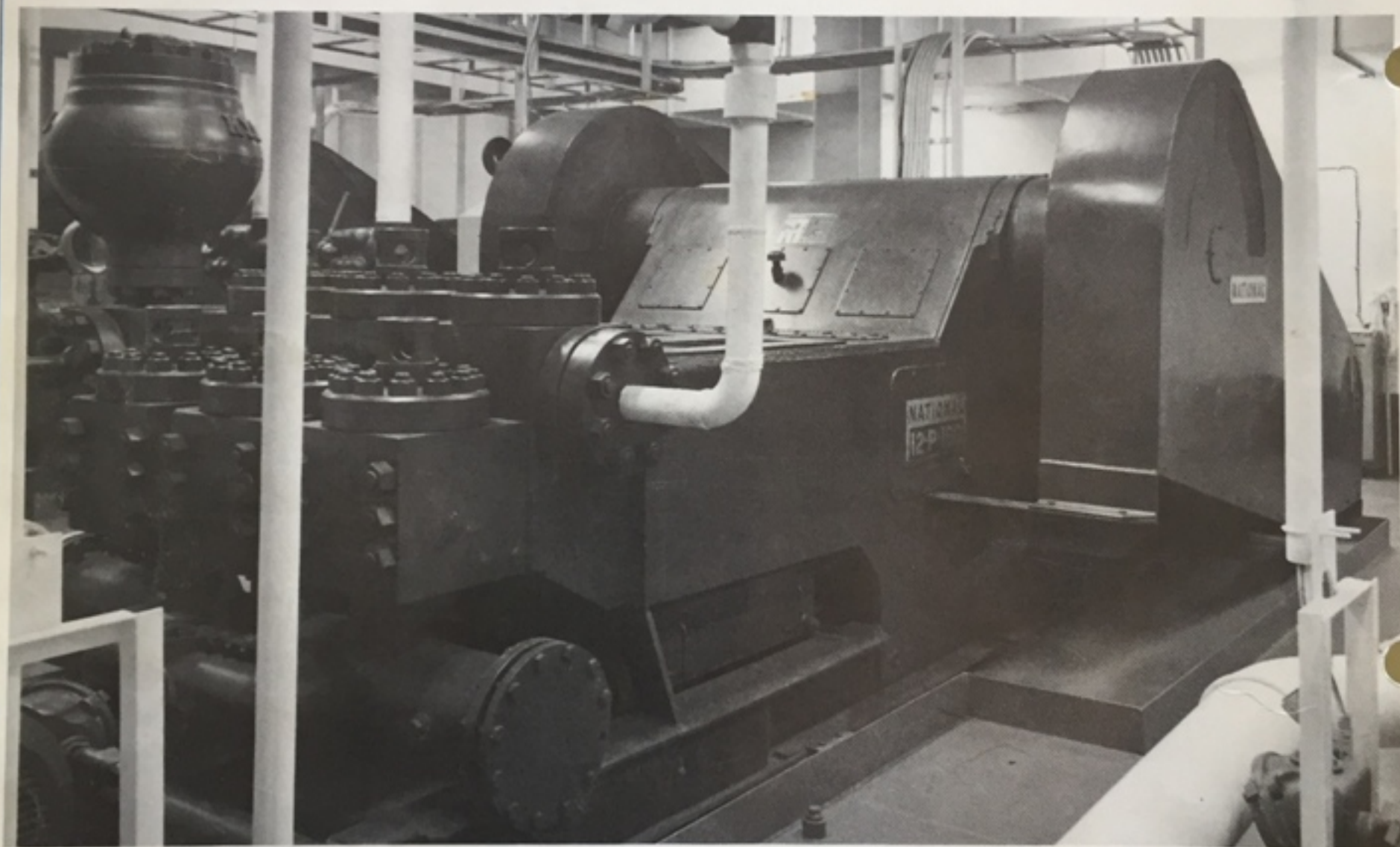


NATIONAL 12-P-160

This mud pump is National's most powerful. It has a rating of 1600 input horsepower at 120 strokes-per-minute with a 12-inch (304.8 mm) stroke. Ten liner sizes allow pressures and volumes to handle circulation requirements in the deepest of drilling applications.

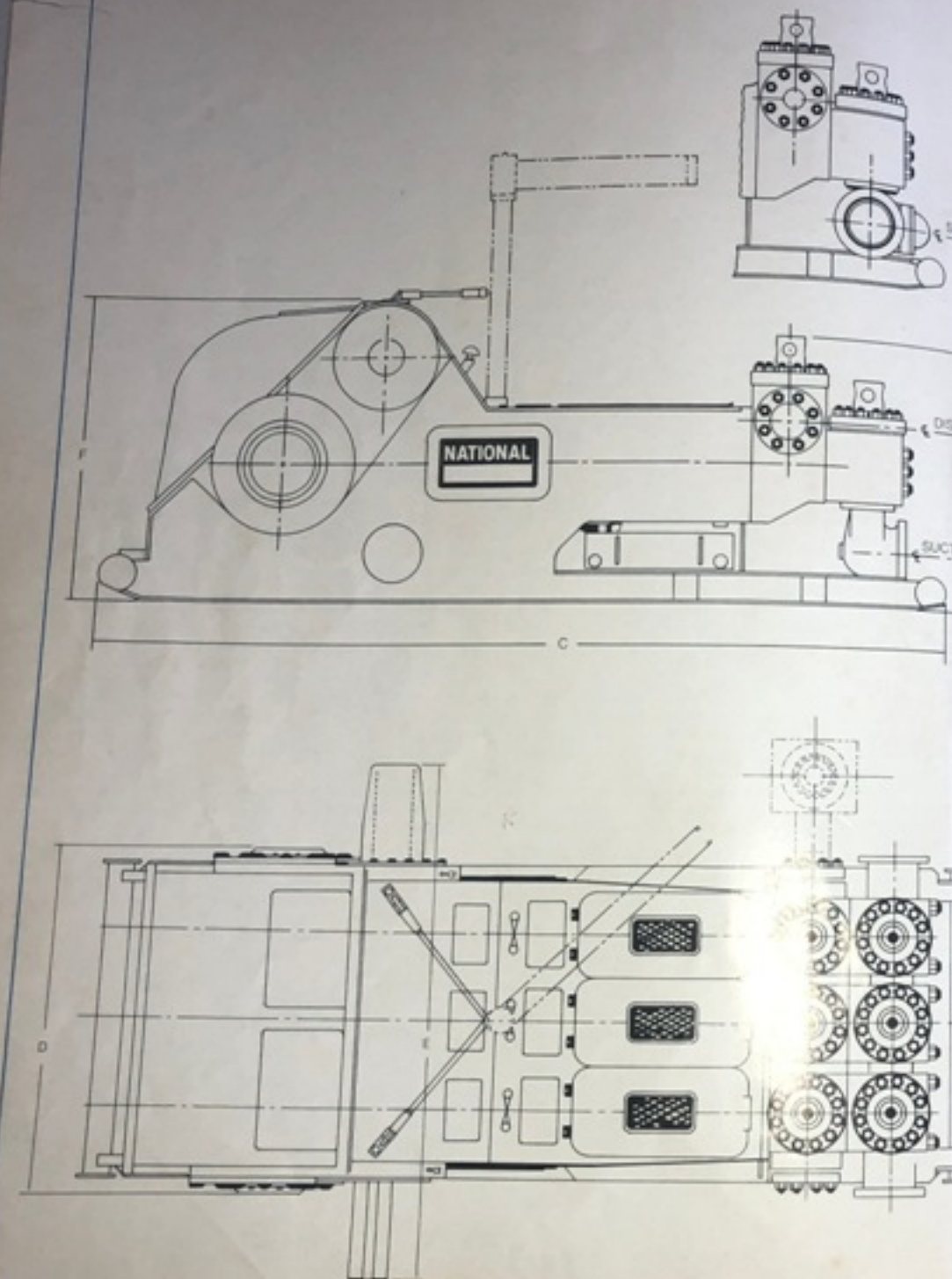


†Liner size, inches (mm)			7¼	(184.2)	7	(177.8)	6¾	(171.5)	6½	(165.1)	6¼	(158.8)	6	(152.4)	5½	(139.7)
Max. discharge pressure psi (kg/cm²)			3200	(225.0)	3430	(241.1)	3690	(259.4)	3980	(279.8)	4305	(302.7)	4670	(328.3)	5000	(351.5)
Pump speed SPM	Max. input HP	*Hydraulic HP	*GPM	*(LPM)	GPM	(LPM)	GPM	(LPM)	GPM	(LPM)	GPM	(LPM)	GPM	(LPM)	GPM	(LPM)
140	1867	1680	901	(3410)	840	(2178)	781	(2955)	724	(2741)	669	(2534)	617	(2335)	518	(1962)
**120	**1600	1440	772	(2922)	720	(2724)	669	(2533)	621	(2349)	574	(2172)	529	(2002)	444	(1682)
100	1333	1200	643	(2435)	600	(2270)	558	(2111)	517	(1958)	478	(1810)	401	(1668)	370	(1402)
80	1067	960	515	(1948)	480	(1816)	446	(1689)	414	(1566)	383	(1448)	353	(1334)	296	(1121)
60	800	720	386	(1461)	360	(1362)	335	(1267)	310	(1175)	287	(1086)	264	(1001)	222	(841)
40	533	480	257	(974)	240	(908)	223	(844)	207	(783)	191	(724)	176	(667)	148	(561)
Vol./stroke, gal. (litres)			6.433	(24.354)	5.997	(22.703)	5.576	(21.110)	5.171	(19.575)	4.781	(18.098)	4.406	(16.680)	3.702	(14.015)

*Based on 90% mechanical efficiency and 100% volumetric efficiency.

**Rated speed and input horsepower.

†4", 4 1/2" and 5" (101.6, 114.3 and 127.0 mm) premium liners also available.



Specifications

Dimensions	7-P-80	8-P-80	9-P-100	10-P-130	12-P-160
A Height, floor to center of front inlet suction, inches	10 1/4	10 1/4	13 1/4	13 1/4	16 1/4
B Height, floor to center of discharge, inches	33 1/4	35 1/4	38 1/4	39 1/4	45 1/4
C Overall length over skids, inches	142 1/4	161 1/4	176 1/4	186 1/4	209
D Width over frame, inches	54 1/4	62 1/4	67 1/4	71 1/4	78 1/4
E Width over pinion shaft, inches	81 1/4	93 1/4	101 1/4	107 1/4	113 1/4
F Height, floor to top of gear case, inches	54 1/4	60	64	67	75
G Height over fluid cylinders, inches	48 1/4	51 1/4	54 1/4	55 1/4	62 1/4
Rated max. input horsepower	500	800	1000	1300	1600
Pump speed, SPM	165	160	150	140	120
Maximum fluid cylinder liner bore, inches (mm)	6 1/4 (158.8)	6 1/4 (158.8)	6 1/4 (158.8)	6 1/4 (158.8)	7 1/4 (184.2)
Liner bores available	6 1/4 thru 3 1/2 (158.8-88.9)	6 1/4 thru 4 (158.8-101.6)	6 1/4 thru 4 (158.8-101.6)	6 1/4 thru 4 (158.8-101.6)	7 1/4 thru 4 (184.2-101.6)
Stroke, inches (mm)	7 1/4 (195.9)	8 1/4 (215.9)	9 1/4 (235.0)	10 (254.0)	12 (304.8)
Hydrostatic test pressure of fluid cylinder, psi (kg/cm ²)	10 000 (703)	10 000 (703)	10 000 (703)	10 000 (703)	10 000 (703)
Ratio of gears	2.742	2.463	2.658	2.853	3.439
Sheave, outside diameter, number and section of V-belt	53 8-BV	53 12-BV	53 14-BV	53 18-BV	53 24-BV
Sprocket, number of teeth x pitch x width	75T 1 1/2" Triple	75T 1 1/2" Sext.	75T 1 1/2" Sext.	75T 1 1/2" Octuple	75T 1 1/2" 10 Wide
Suction connection, ASA-150 lb. R.J. flange, inches	8	8	8	8	10
Discharge connection, cross w/API-5000 lb. R.J. flange, inches	4	4	5	5	6
Valve pot, API number	MOD. 5.5	MOD. 6	MOD. 6	MOD. 6	MOD. 7
Weight, Complete, less sheave, lb. (kg)	16 750 (7600)	26 970 (12 235)	33 200 (15 060)	42 550 (19 300)	54 700 (24 810)

Specifications



Dimensions	7-P-50	8-P-80	9-P-100	10-P-130	12-P-160
A Height, floor to center of front inlet suction, inches	10 $\frac{5}{8}$	10 $\frac{3}{4}$	13 $\frac{1}{4}$	13 $\frac{1}{4}$	16 $\frac{1}{2}$
B Height, floor to center of discharge, inches	33 $\frac{1}{2}$	35 $\frac{1}{4}$	38 $\frac{1}{4}$	39 $\frac{1}{4}$	45 $\frac{1}{4}$
C Overall length over skids, inches	142 $\frac{1}{4}$	161 $\frac{5}{8}$	176 $\frac{1}{4}$	186 $\frac{5}{8}$	209
D Width over frame, inches	54 $\frac{1}{2}$	62 $\frac{3}{4}$	67 $\frac{1}{8}$	71 $\frac{3}{8}$	78 $\frac{5}{8}$
E Width over pinion shaft, inches	81 $\frac{1}{4}$	93 $\frac{3}{8}$	101 $\frac{1}{4}$	107 $\frac{1}{4}$	113 $\frac{3}{4}$
F Height, floor to top of gear case, inches	54 $\frac{1}{2}$	60	64	67	75
G Height over fluid cylinders, inches	48 $\frac{7}{8}$	51 $\frac{7}{8}$	54 $\frac{7}{8}$	55 $\frac{7}{8}$	62 $\frac{1}{4}$
Rated max. input horsepower	500	800	1000	1300	1600
Pump speed, SPM	165	160	150	140	120
Maximum fluid cylinder liner bore, inches (mm)	6 $\frac{1}{4}$ (158.8)	6 $\frac{1}{4}$ (158.8)	6 $\frac{3}{4}$ (171.5)	6 $\frac{3}{4}$ (171.5)	7 $\frac{1}{4}$ (184.2)
Liner bores available	6 $\frac{1}{4}$ thru 3 $\frac{1}{2}$ (158.8-88.9)	6 $\frac{1}{4}$ thru 4 (158.8-101.6)	6 $\frac{3}{4}$ thru 4 (171.5-101.6)	6 $\frac{3}{4}$ thru 4 (171.5-101.6)	7 $\frac{1}{4}$ thru 4 (184.2-101.6)
Stroke, inches (mm)	7 $\frac{3}{4}$ (196.9)	8 $\frac{1}{2}$ (215.9)	9 $\frac{1}{4}$ (235.0)	10 (254.0)	12 (304.8)
Hydrostatic test pressure of fluid cylinder, psi (kg/cm ²)	10 000 (703)	10 000 (703)	10 000 (703)	10 000 (703)	10 000 (703)
Ratio of gears	2.742	2.463	2.658	2.853	3.439
Sheave, outside diameter, number and section of V-belt	53 8-8V	53 12-8V	53 14-8V	53 18-8V	53 24-8V
Sprocket, number of teeth x pitch x width	75T 1 $\frac{1}{2}$ " Triple	75T 1 $\frac{1}{2}$ " Sext.	75T 1 $\frac{1}{2}$ " Sext.	75T 1 $\frac{1}{2}$ " Octuple	75T 1 $\frac{1}{2}$ " 10 Wide
Suction connection, ASA-150 lb. R.J. flange, inches	8	8	8	8	10
Discharge connection, cross w/API-5000 lb. R.J. flange, inches	4	4	5	5	6
Valve pot, API number	MOD. 5.5	MOD. 6	MOD. 6	MOD. 6	MOD. 7
Weight, Complete, less sheave, lb. (kg)	16 750 (7600)	26 970 (12 235)	33 200 (15 060)	42 550 (19 300)	54 700 (24 810)

NATIONAL

POWER SLUSH PUMP

MODEL	12 P 160	SERIAL NO.	9501
MAXIMUM LINER SIZE	7 1/4	STROKE	12
RATED MAXIMUM INPUT	1600	H.P.	AT 120 SPM
RATED MAXIMUM OUTPUT	1440	H.P.	AT 120 SPM
GEAR RATIO	3.439	HYDROSTATIC TEST	10 000 PSI
FLUID END SERIAL NO	3006	3007	2973
	3011	3012	3013
LINER SIZE	GPM AT RATED SPM		MAX RATED PSI
7 1/4	772		3200
7	720		3430
6 3/4	669		3690
6 1/2	621		3960
6 1/4	574		4305
6	529		4670
5 3/4	486		5065
5 1/2	444		5555

LUBRICATION INSTRUCTIONS

CRANKCASE - USE AN EXTREME PRESSURE GEAR OIL THE RECOMMENDED AGMA NUMBERS FOR VARIOUS TEMPERATURES OF AIR SURROUNDING PUMPS ARE SHOWN IN THE FOLLOWING TABLE

TEMPERATURE	INDUSTRIAL (MILD) EP GEAR OIL
50°F to 155°F	AGMA Mild EP #6 Viscosity 1535-1632 SSU @ 100°F
20°F to 100°F	AGMA Mild EP #5 Viscosity 918-1132 SSU @ 100°F
-20°F to 60°F	AGMA Mild EP #2 Viscosity 284-347 SSU @ 100°F

OIL MUST POUR FREELY AT MINIMUM OPERATING TEMPERATURE. OIL AS FREQUENTLY AS OPERATING CONDITIONS REQUIRE. A CLEAN, SLUDGE FREE OIL OF PROPER VISCOSITY.

CHECK OIL LEVEL PERIODICALLY WITH PUMP AT REST. ROTATE IDLE PUMP OCCASIONALLY TO AVOID CORROSION.

CRANKCASE OIL CAPACITY 130 U.S. GALS.

MANUFACTURED UNDER ONE OR MORE UNITED STATES PATENTS
2,801,140 3,037,460 3,238,605 3,363,641

ARMCO National Supply Company
Division of Armco Steel Corporation
Gary, Ind. U.S.A.

INATEC

POWER

SLUSH PUMP

MODEL **120-0** SERIAL NO. **9500**

MAXIMUM LINER SIZE **7** STROKE **12**

STATED MAXIMUM INPUT **1600** AT **120** RPM

STATED MAXIMUM OUTPUT **1440** FPM **120**

GEAR RATIO **3.439** HYDRO **10 000** PSI

FLUID END SERIAL NO. **3003** **3005** **3010**

3014 **3015** **3015**

LINER INCHES **7 1/4** **72** **3224**

720 **3430**

669 **3620**

621 **380**

574 **4004**

529 **4240**

426 **500**

5 3/4 **550**

5 1/2

INATEC RECOMMENDS AN EXTREME PRESSURE GEAR OIL THE RECOMMENDED AGMA GRADES FOR VARIOUS TEMPERATURES OF SURROUNDING FLUIDS ARE SHOWN IN THE FOLLOWING TABLE

TEMPERATURE	AGMA GRADE	ISO GRADE
155°F	AGMA MIL-EP 52	ISO 100
100°F	AGMA MIL-EP 52	ISO 100
50°F	AGMA MIL-EP 52	ISO 100

OIL MUST FLOW FREELY AT MINIMUM OPERATING TEMPERATURE. CHANGE OIL AS FREQUENTLY AS OPERATING CONDITIONS REQUIRE TO MAINTAIN A CLEAN, SLUDGE FREE OIL OF PROPER VISCOSITY.

CHECK OIL LEVEL PERIODICALLY WHEN PUMP AT REST.

ROTATE IDLE PUMP OCCASIONALLY WHEN PUMP AT REST.

MAXIMUM CAPACITY

MANUFACTURED UNDER U.S. PATENT OFFICE UNITED STATES PATENT

2001740 3037 3230 1361

GENERAL  ELECTRIC

WORK ORDER W10023

MODEL NO. GE752ARB1

SERIAL NO. 7302356

REBUILT 6/25/98

TRANSPORTATION SYSTEMS DIVISION

47-117

10

PH

3

INSUL
GLASS

FRZ

60

215T

230

26.8

HIGH

LC

TE

460

13.4

B

HS

1.15

S

S

40°C

AMB.

RPM

3485

6	5	4
9	8	7
3	2	1

LINE

6208-J/C3

UPPER OR
OPP. END

6206-J/C3

650037/8051002613-ST-007F

FF

85.5

NOMINAL POWER
VOLTAGE

SELF-LUBRICATED FOR NORMAL BEARING LIFE. FOR LONGEST LIFE, RE-LUBRICATE
BEARINGS YEARLY AS FOLLOWS: REMOVE DRAIN PLUG, INJECT NEW GREASE AT 1/4
HOLD RUN MOTOR TO DISCHARGE EXCESS GREASE, REPLACE DRAIN PLUG.

U.S. ELECTRICAL MOTORS

GENERAL ELECTRIC



WORK ORDER W10022

MODEL NO. GE752ARB1

SERIAL NO. 20370083

REBUILT 6/25/08

TRANSPORTATION SYSTEMS

GENERAL ELECTRIC

WORK ORDER W10021

MODEL NO. GE752ARB1

SERIAL NO. 7281345

REBUILT 6/25/98

TRANSPORTATION

GENERAL ELECTRIC

WORK ORDER W10024

MODEL NO. GE752ARB1

SERIAL NO. 7478368

REBUILT 6/25/98

TRANSPORTATION





















MP-1A

PUMP

PUMP

1

NATIONAL

PUMP

1

HYDRIL

STP

STP



