WELL NUMBER AS190 | BY SACAS / SANDINGS | DATE 5-17-01

AIR LINE	STATIC LEVEL	PUMPING LEVEL	DRAIN DOWN	DISCHARGE PRESSURE	GPM	START TIME
123	25	91	66	2	100	21

REMARKS D/H-14

NOTE: REPLACED PSI GAUGE
CANNOT SET LESS THAN
OR MORE THAN 5 PSI.

MANUFACTURER	STAGE	S.N.	TOTAL HEAD	SIZE

WELL NUMBER AS 190		BY THOMAS / SALAS			DATE 2-15-01	
AIR LINE	STATIC LEVEL	PUMPING LEVEL	DRAIN DOWN	DISCHARGE PRESSURE	GPM	START TIME
125	30	50	20	25	100	10
		55	25	20	115	20
		55	25	15	137	30
	→	60	30	10	159	40

REMARKS

D/H - 35 PSI

NOTE: REPLACE PRESSURE GAUGE

MANUFACTURER	STAGE	S.N.	TOTAL HEAD	SIZE

North Carolina Department of Environment, Health, and Natural Resources
Division of Environmental Health, Public Water Supply Section

SOURCE INFORMATION
GROUND WATER

Date Form Completed: M M D D Y Y = 01 27 95

PWSID: 0 4 6 7 0 4 2

Owner Assigned Source Code: 190

Well Name (If purchase, name of system): ~~MCAS~~ WATER PLANT 190 well AS

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): PISTOL RANGE ROAD

Latitude (N): Deg. Min. Sec. = 34 43 17

Longitude (W): Deg. Min. Sec. = 077 27 37

How Determined: 0 (G=GPS, M=Map, S=Surveyed)

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: ~~ASTRO~~ MCAS NEW RIVER WTP

Location: _____

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

Sources of pollution/distance: _____

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

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

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

Condition of house: OK Type of freeze protection: NONE

Well: Diameter: ~~6~~ 8" Type: SCREENED Yield (gpm): 250 Properly sealed? Y (Y,

Properly vented? N (Y,N) Casing depth UNK ft. (If unknown, put 'UNK') Well depth: 180 Meter available? ~~Y~~ N (Y,

Concrete slab adequate? Y (Y,N) If no, explain: well not in center Size: 12x12

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

Pumps: Capacity: GPM: 190 HP: 10 Pump intake depth: 60 Auxiliary Power? Y (Y,

Type pump: VERTICAL TURBINE Height above floor (pump/casing): 8.0

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,

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

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

If purchase, retreat? ___ (Y/N) If yes, complete back of form.

① Leaking pkg ② no vent
② filter broken
③ move sample tap

WELL NUMBER AS 190 | BY STEVENSON - BROWN | DATE 11-1-94

AIR LINE	STATIC LEVEL	PUMPING LEVEL	DRAW DOWN	DISCHARGE PRESSURE	GPM	START TIME
123	30	42	12	32	108	
		48	18	25	162	
				20	190	

REMARKS D/H - 42 PSI

TURER	STAGE	S.N.	TOTAL HEAD	SIZE

WELL NUMBER 190 BY THOMAS / COX DATE 11-19-90

AIR LINE	STATIC LEVEL	PUMPING LEVEL	DRAIN DOWN	DISCHARGE PRESSURE	GPM	START TIME
123	33	45	12	78	110	10
→	→	50	17	23	185	20
		60	27	14	220	30
				Pressure Set		

REMARKS

Dead head HP

MANUFACTURER	STAGE	S.N.	TOTAL HEAD	SIZE

WELL NUMBER A5190 BY THOMAS / HUNTER DATE 6-28-89

AIR LINE	STATIC LEVEL	PUMPING LEVEL	DRAIN DOWN	DISCHARGE PRESSURE	GPM	START TIME
123	31	41	10	34	104.	
		45	14	30	128	
		40	19	23	187	
left unit →		58	27	18	203	
		58	27	14	224	

Dead head @ 44 PSI

REMARKS

MANUFACTURER	STAGE	S.N.	TOTAL HEAD	SIZE

WELL NUMBER HS 190 | BY Thomas Sanders | DATE 9-14-88

AIR LINE	STATIC LEVEL	PUMPING LEVEL	DRAIN DOWN	DISCHARGE PRESSURE	GPM	START TIME
23	31	42	11'	32	104	10:15
		47	16'	29	128	10:30
		51	20	24	159	10:45
		54	21	23	192	11:00

PH 42 PS

AIR 22/23/22

REMARKS

MANUFACTURER	STAGE	S.N.	TOTAL HEAD	SIZE

Field – C-Booth

CONTRACTOR'S SUBMITTAL TRANSMITTAL

5"ID LANTDIV 4-4355/3 (Rev. 6/76)

CONTRACT NO.	TRANSMITTAL NO.	DATE
N62470-76-C-6800	13	6/13/78

FACILITY/PROJECT AND LOCATION
EAST COAST CONSTRUCTION CO., INC.
CONTRACT N62470-76-C-6800
REPLACE WATER WELLS
MARINE CORPS BASE
CAMP LEJUENE, NC

FROM CONTRACTOR
East Coast Construction Company, Inc.

TO
Commander, NAVFAC

CONTRACTOR USE ONLY

*List only one specification division per form.

List only one of the following categories on each transmittal form, and indicate which is being submitted

☐ Contractor Approved ☒ OICC Approval ☐ Deviation/Substitution For OICC Approval

REVIEWER USE ONLY

**ACTION CODES
A-Approved
D-Disapproved
AN-Approved as noted
RA-Receipt acknowledged.
C-Comments
R-Resubmit

ITEM NO.	PROJ. SPEC. SECT. & PARA. and/or PROJ. DWG. NO. *	ITEM IDENTIFICATION (Type, size, model no., Mfg. name, dwg. or brochure number)	NO. OF COPIES	ACTION CODES **	REVIEWER'S INITIALS CODE AND DATE
1	15201 7.3	Draw Down Tests Well "A" & "B"	7	A	CCS 6/19/78
2	"	Chemical Anaysis "A" & "B"	7		

CONTRACTOR'S COMMENTS

COPY OF TRANSMITTAL AND SUBMITTALS TO ROICC
One (1)

CONTRACTOR REPRESENTATIVE (Signature)

DATE RECEIVED BY REVIEWER | FROM (Reviewer) | TO EAST COAST

☐ Submittals are returned with action indicated. Approval of an item does not include approval of any deviation from the contract requirements unless the contractor calls attention to and supports the deviation.

☐ Submittals are forwarded to LANTDIV with A-E recommendations indicated in REVIEWER USE ONLY Section and in comments below on **ONE COPY** of the transmittal form.

REVIEWER'S COMMENTS

(2)
(1)

DATE 6/19

SIGNATURE

RECD

Field - cl Booth

CONTRACTOR'S SUBMITTAL TRANSMITTAL

5ND LANTDIV 4355/3 (Re 6/76)

CONTRACT NO.	TRANSMITTAL NO.	DATE
N62470-76-C-6800	13A	6/12/78

FROM CONTRACTOR: East Coast Construction Company, Inc.

TO: Commander NAVFAC

PROJECT TITLE AND LOCATION:
EAST COAST CONSTRUCTION CO., INC
CONTRACT N62470-76-C-6800
REPLACE WATER WELLS
MARINE CORPS BASE
CAMP LEJUENE, NC

CONTRACTOR USE ONLY

*List only one specification division per form.

List only one of the following categories on each transmittal form, and indicate which is being submitted

☐ Contractor Approved ☒ OICC Approval ☐ Deviation/Substitution For OICC Approval

REVIEWER USE ONLY

**ACTION CODES
A-Approved
D-Disapproved
AN-Approved as noted
RA-Receipt acknowledged.
C-Comments
R-Resubmit

ITEM NO.	PROJ. SPEC. SECT. & PARA. and/or PROJ. DWG. NO. *	ITEM IDENTIFICATION (Type, size, model no., Mfg. name, dwg. or brochure number)	NO. OF COPIES	ACTION CODES **	REVIEWER'S INITIALS CODE AND DATE
	15221	Pump Data & Auxiliary			
		Diesel Engine - Well "A"	7	A	404 wm 6/19/78
	15221	Pump Data - Well "B"	7		

CONTRACTOR'S COMMENTS

COPY OF TRANSMITTAL AND SUBMITTALS TO ROICC: One (1)

CONTRACTOR REPRESENTATIVE (Signature)

DATE RECEIVED BY REVIEWER | FROM (Reviewer) | TO East Coast

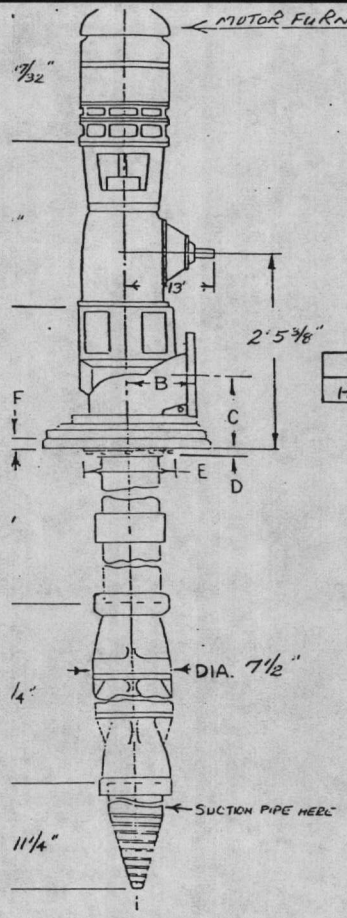
☐ Submittals are returned with action indicated. Approval of an item does not include approval of any deviation from the contract requirements unless the contractor calls attention to and supports the deviation.

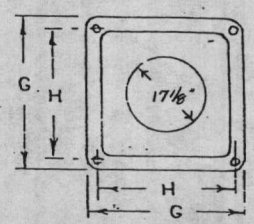
Submittals are forwarded to LANTDIV with A-E recommendations indicated in REVIEWER USE ONLY Section and in comments below on **ONE COPY** of the transmittal form.

ER'S COMMENTS

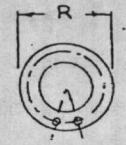
DATE 6/19 | SIGNATURE

13 JUN RECD





BASEPLATE TOP VIEW



L-125 LB ANSI FLG
M-N-HOLES ON
P-BOLT CIRCLE
HOLES STRADDLE
VERTICAL ℄

HEAD	A	B	C	D	E	F	G	H	K	L	M	N	P	R
H16DL	23	11 3/8	10	1/4	14 3/4	1 7/16	24	19 3/4	7/8	6	8	5/8	9 1/2	11

N62470-76-B-6800

CERTIFICATION FOR				
CUSTOMER EAST COAST CONSTRUCTION			PO# 441	
JOB NAME & LOCATION WELL "A" MCAS CAMP LEJEUNE, N.C.				
CONSULTING ENGINEERS NAVAL FACILITIES, NAVAL STATION, NORFOLK, VA.				
PUMP CONDITIONS 250 GPM	91' TDH	1800 RPM	74' 4 1/2" SETTING	
PUMP Crane Deming 4 stage M-8 FIGURE 4700 VERT. TURBINE				
MOTOR GE Type K, 10HP, 1800 RPM, 3ϕ, 60 hz, 200 VOLT VHS, NRT, NP1				
GEAR JOHNSON CH-20 COMBINATION 1:1 RATIO, FIG 1 ROTATION				
COLUMN & SHAFT 5" ZINC COATED T&C 1" DIAM. (WATER LUBE)				
SUCTION PIPE 10' of 5" ZINC COATED				
STRAINER 5" GALVANIZED CORNUCOPIA				
CERTIFIED BY RJD	DATE 6-7-78	SCALE — NONE		

ENVIRONMENTAL PRODUCTS, INCORPORATED
HICKORY, NORTH CAROLINA

EAST COAST CONSTRUCTION COMPANY, INC.

GENERAL CONTRACTORS

P. O. BOX 5004 — JACKSONVILLE, NORTH CAROLINA 28540

353-4479 or 353-6044

January 6, 1978

A

Commander, Atlantic Division
Naval Facilities Engineering Command
Norfolk, Virginia 28542 (Code 05)

Re: Contract N62470-76-C-6800
Replace water wells
Marine Corps Base
Camp Lejuene, N.C.

Gentlemen:

We are enclosing four (4) copies of the following information on well "B" located at the MCAS (H), New River

Driller's log
Electric log
Water analysis for 3 levels

We estimate this well will produce approximately 190 to 250 gpm by taking the water from the 130-140 foot level (40-60gpm) and from the 150-180 foot level (150-200 gpm). The strata of water at the 63-68 foot level is not recommended because of the high iron content. Please advise us of you decision promptly so we may begin developing the well.

Approved Levels

Very truly yours,

EAST COAST CONSTRUCTION COMPANY, INC.

W.H. Myers

WHM/pm

cc ROICC
Camp Lejuene, N.C.

Enclosure 1 cy well "B" data

ATLANTIC DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
NORFOLK, VIRGINIA 23511

APPROVED .....
APPROVED AS NOTED ✓
DISAPPROVED .....

SUBJECT TO THE REQUIREMENTS OF
CONTRACT NO. 6800
APPROVAL OF A SUBMITTAL DOES NOT
APPROVAL OF ANY DEVIATION FROM T
TRACT REQUIREMENTS UNLESS THE CON
CALLS ATTENTION TO AND SUPPORTS TH
TION --- THE CONTRACTOR SHALL BE R
IBLE FOR PROVIDING PROPER PHYSICAL
SIONS & WEIGHTS, COORDINATION OF
ETC., AS REQUIRED.

REVIEWER ..... DATE .....
A-E FIRM .....
FOR OFFICER IN CHARGE OF CONSTRU

WATER AND WAST WATER EQUIPMENT, SALES AND SERVICE

ENVIRONMENTAL PRODUCTS, INC

P. O. BOX 2385 • HICKORY, N. C. 28601 • 704/322-7003

ATLANTIC DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
NORFOLK, VIRGINIA 23511

APPROVED X
APPROVED AS NOTED
DISAPPROVED
SUBJECT TO THE REQUIREMENTS OF
CONTRACT NO. 05-76-6800
APPROVAL OF A SUBMITTAL DOES NOT INCLUDE APPROVAL OF ANY DEVIATION FROM THE CONTRACT UNLESS THE CONTRACTOR CALLS ATTENTION TO SUCH DEVIATION AT THE TIME OF SUBMISSION AND SUPPORTS THE DEVIATION WITH SUBSTANTIATING DATA. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONFIRMING AND CORRELATING EXISTING PHYSICAL DIMENSIONS & CONDITIONS, COORDINATION OF TRADES, ETC., AS REQUIRED.
19 JUN 1978
REVIEWER DATE
FOR OFFICER IN CHARGE OF CONSTRUCTION

SUBMITTAL DATA

PROJECT: N62470-76-B-6800, Replace Water Wells
LOCATION: Marine Corp Base, Camp Lejeune, North Carolina
ENGINEER: Naval Facilities Engineering Command, Norfolk, Virginia
CONTRACTOR: East Coast Construction, Jacksonville, North Carolina
SUBJECT: Well "A"
CONDITIONS: 250 GPM @ 91'TDH, 1800 RPM
DESCRIPTION:

One (1) Crane Deming 4-stage, size M-8, Fig. 4700, vertical turbine bowl assembly, for water lubrication, with bronze impellers designed for the above conditions, fitted for 5" column and 1" shafting, with 5" threaded suction, and including the following:

A. One (1) H16DL 16½" x 6" type "C" surface discharge head, fitted for 5" column and 1" water lubricated shafting, for a 6" above ground discharge.
B. One (1) foundation plate (baseplate) for the above discharge head.
C. Two (2) 5' sections of 5" AWWA standard .258 wall, schedule 40, water well column pipe, threaded and coupled with couplings, zinc coated. One to be installed at the top of the bowl assembly, one to connect to bottom of discharge head.
D. Five (5) 10' sections, same as above, for use as "intermediate column".
E. One (1) 5' section of 1" diameter, C-1045, water lubricated shafting (bottom drive), with coupling, stainless steel shaft sleeve, bronze retainer and rubber bearing (for 5" column).
F. Five (5) 10' sections of 1" diameter, C-1045, water lubricated shaft assemblies, with couplings, stainless steel shaft sleeves, bronze retainers and rubber bearings (intermediate shaft).
G. One (1) 1" diameter, C-1045 topshaft, with sleeve, suitable for 5' top column, head, gear and motor used.
H. One (1) 10' section of 5" zinc coated pipe (suction pipe).
I. One (1) 5" galvanized cornucopia type strainer.
J. One (1) Johnson model CH-20, combination, right angle, hollow shaft gear, with non-reverse ratchet, one to one ratio, figure one rotation.
K. One (1) General Electric type K, 10 HP, 1800 RPM, 3 phase, 60 cycle, 200 volt, vertical hollow shaft motor, NEMA design "B", rated for high thrust, with 1.15 service factor, class "B" insulated, 40° C. ambient, in a L215TP10 frame in a NEMA weather protected type one enclosure.
L. One (1) Ford model 172-DF-6002-GR, four cylinder, 172 CID diesel power unit, with four blade fan, governor, air cleaner assembly,fuel tank, wiring harness, instrument panel, ignition switch, starter button, amp. light, oil pressure gauge, choke and throttle controls, stop controls, temperature gauge, top mounted exhaust system hood, 12 volt electric starter, starter relay, battery charging alternator, radiator, SAE standard flywheel housing, power take-off assembly, foot mounted, with battery, rack and battery cables.
M. One (1) La Marche A18J-12V-A1, 1/60/120 automatic battery charger.
N. One (1) section of Parrish #31 drive shafting either 8 3/4" long or 24" long (your choice) with gear shaft and engine shaft connecting flanges and shaft guard.

cs

SUBJECT: Well "A"

Page Two

Note 1. TDH is based on 42'3" pumping level 20 PSI @ ground level, and column and shaft friction loss of 2.30'
(42.25 + 46.20 + 2.30 = 90.75) - used 91

Note 2. Please confirm overall setting.

JUNE 8, 1978

CRANE - DEMING PUMPS
CRANE CO.
SALEM, OHIO, U.S.A.

TS CATALOG - SECTION C - 1750 RP
VERTICAL TURBINE PUMP CURVES
PERFORMANCE PER STAGE

CS
CURVE PAGE 81
SIZE M8 P.C.3189
SUPERSEDES P.C.2577

SIZE M-8 — SINGLE STAGE PERFORMANCE — **1770 R.P.M.**

EFFICIENCY CHANGE:

7	STAGE DEDUCT	0	POINTS
5-6	STAGE DEDUCT	2	POINTS
3-4	STAGE DEDUCT	3	POINTS
1-2	STAGE DEDUCT	7	POINTS

ENAMELED BOWLS

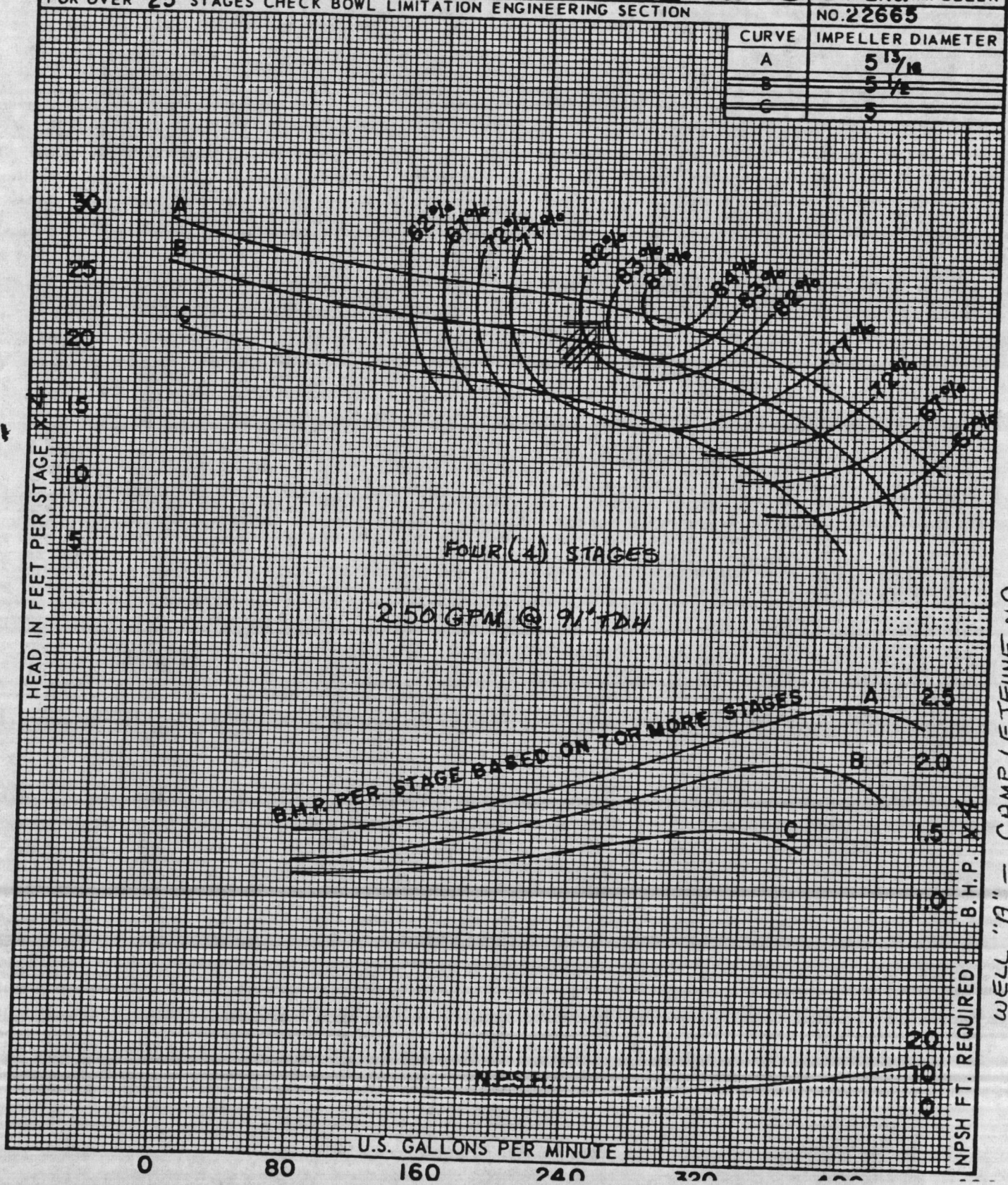
DIMENSIONS	FIG. 4700	FIG. 4750
BOWL DIAMETER	7 1/2	7 1/2
IMPELLER SHAFT DIA.	1	1
LENGTH FIRST STAGE	18 3/4	22 3/4
ADDITIONAL STAGE	7 1/2	7 1/2
THRUST FACTOR -	5.7	5.7

SUCTION - I.D. PIPE SIZE 5 " SIZE COLUMN ADAPTER 5 "

FOR OVER 25 STAGES CHECK BOWL LIMITATION ENGINEERING SECTION

SEMI-ENC. IMPELLER
NO. 22665

CURVE	IMPELLER DIAMETER
A	5 13/16
B	5 1/2
C	5



250 GPM x 91' TDH

WELL "A" - CAMP LEJEUNE, NC
N62470-76-B-6800

C3

MEMO OF
DATA TRANSMITTAL

GENERAL ELECTRIC

Refer to G E Req'n No.
In Correspondence

SMALL AC MOTOR & GENERATOR DEPARTMENT
NASHVILLE MOTOR PLANT
250 E. MAIN • HENDERSONVILLE, TENNESSEE 37075

CUSTOMER Drillers Service Inc.
P.O. Box 1407
Hickory, N.C. 28601

CUSTOMER ORDER NUMBER	G. E. REQUISITION NUMBER
4602-EPI	340-23284

FORWARDED: DATE	VIA	COMPLETE	BALANCE TO FOLLOW
11/16/77	First Class Mail	X	

PRINTS ARE:

[X] FOR APPROVAL [ ] APPROVED FOR CONSTRUCTION [ ] FOR REFERENCE [ ] .....

193B2601AA - Outline

Item 1 - New Model
to be rated: K-L215TP10, 10 hp, 1800 RPM, 200 V, 3 ph, 60 hz, S.F. 1.15, CONT, B ins, 40oC amb, DRIPPROOF, VERTICAL HOLLOW SHAFT, HIGH THRUST

GENERAL ELECTRIC

193B2601AA

UNLESS OTHERWISE SPECIFIED USE THE FOLLOWING —

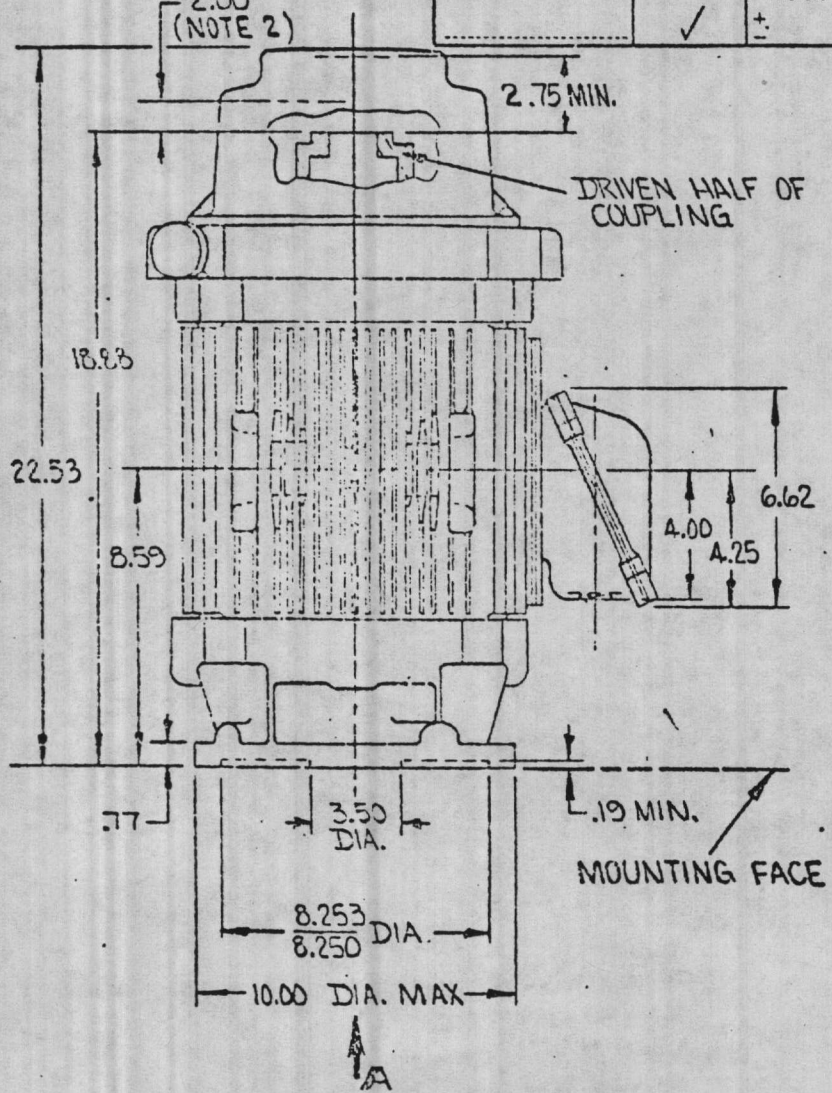
APPLIED PRACTICES	SURFACES	TOLERANCES ON MACHINED DIMENSIONS: FRACTIONS	DECIMALS	ANGLES
	✓	±	±	±

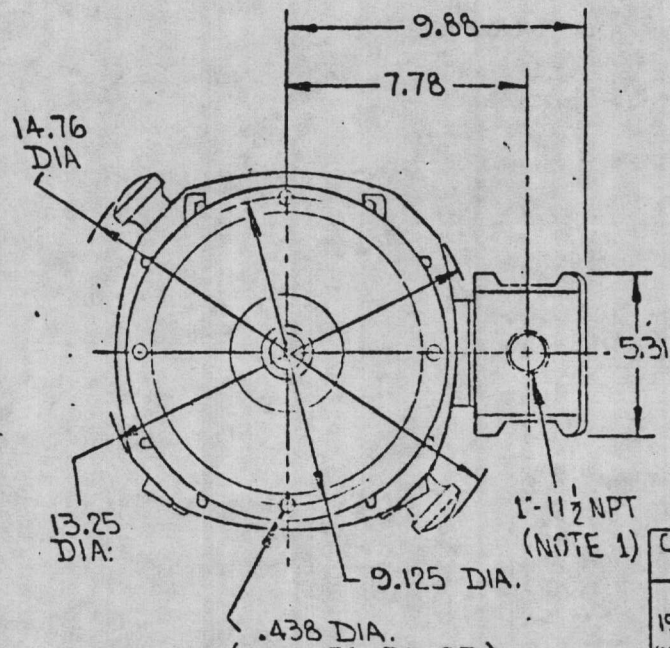
REV NO 193B2601AA

TITLE OUTLINE

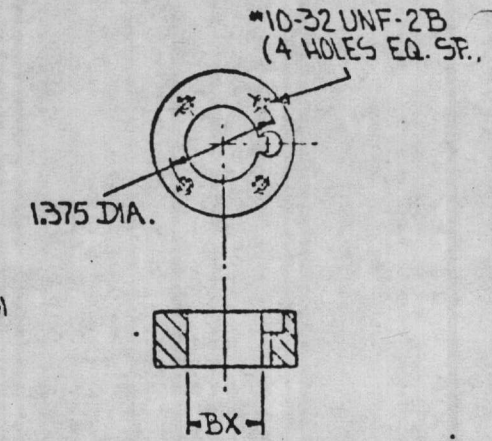
HOLLOW SHAFT

FIRST MADE FOR 210 FR · VERT. · OPEN - 'P' BASE





VIEW AT ARROW "A"



DRIVEN HALF OF COUPLING

COUPLING KIT	GR	BORE DIA BX	KEYWAY W	KEYWAY D
192B9950AA (NON-REVERSE)	1	1.002 / 1.001	.250	.125
	2	.939 / .938		
	3	.877 / .876		
	4	.752 / .751	.188	.094
192B9950AC SELF-RELEASE & BOLTED	1	1.002 / 1.001	.250	.125
	2	.939 / .938		
	3	.877 / .876		
	4	.752 / .751	.188	.094

REVISIONS			PREPARED
1	S. FIELD	REVISED PER 12-13-76-413	
2	M. SHELTON	2-7-77 PM17101-E	

NOTE 1- CONDUIT BOX MAY BE ASSEMBLED WITH ENTRANCE UP, DOWN, OR TO EITHER SIDE.

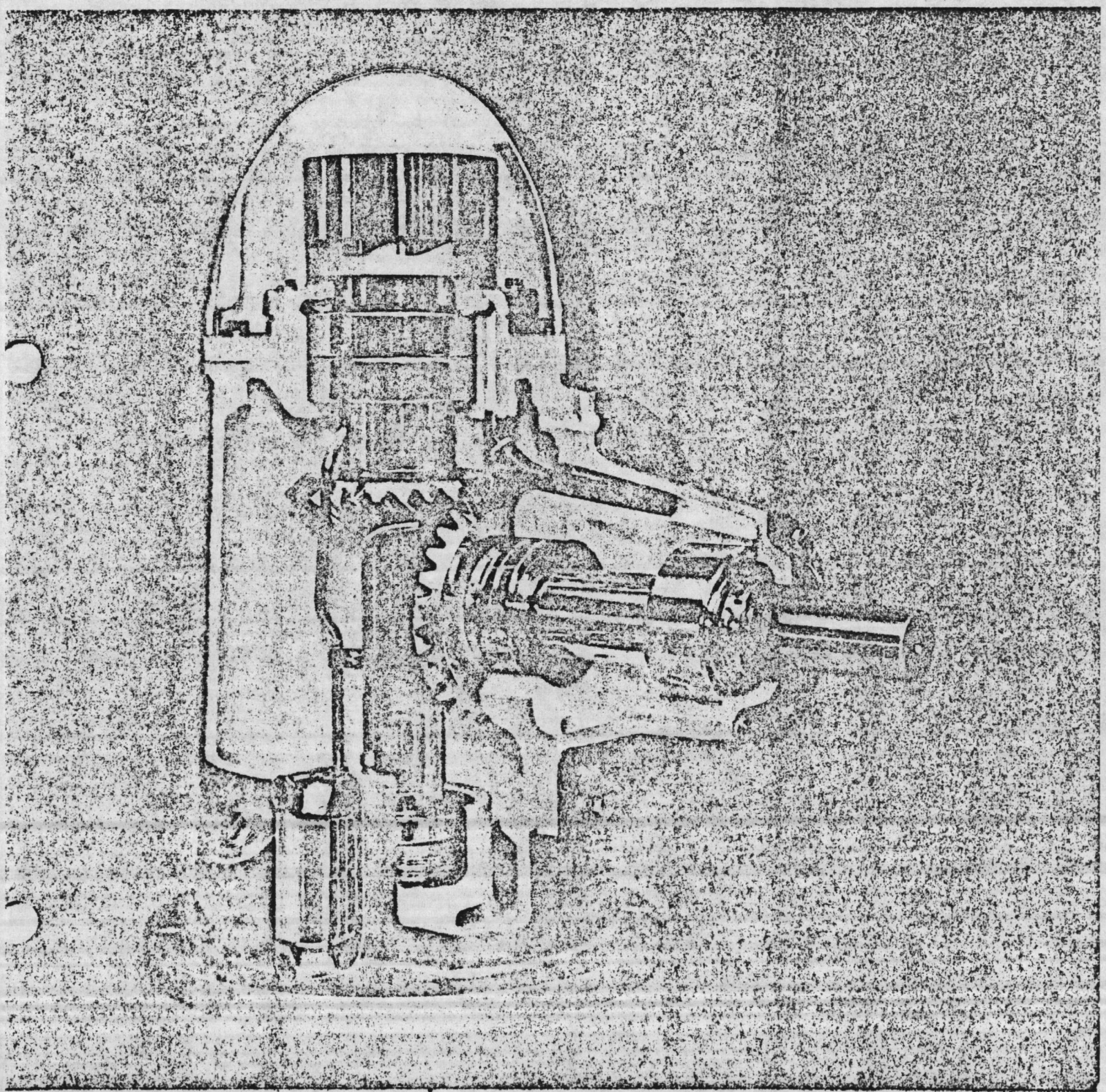
NOTE 2- THE TOTAL HEIGHT OF PUMP SHAFT & LOCKING NUT ABOVE TOP OF COUPLING, MUST NOT EXCEED THIS DIMENSION.

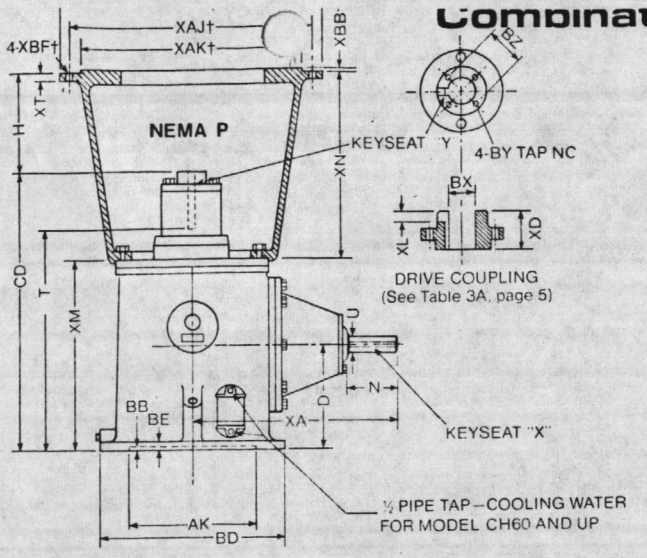
S. Field Sept. 11, 1976	APPROVALS	S.A.C.M & G	193B2601AA
ISSUED Sept 13 1976	D.W.	NASHVILLE	

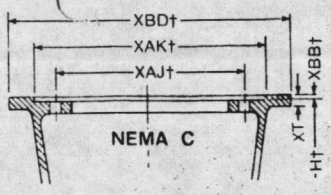
JG
JOHNSON GEAR

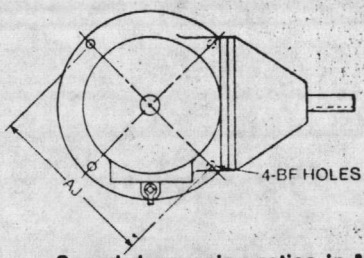
JOHNSON GEAR

Right angle drives for irrigation, industrial, and municipal pumping service









Speed decreasing ratios in Models CH150 and up are subject to change in dimensions: U–XA–N–X. Contact factory for certified print.

Table 4. COMBINATION DRIVE DIMENSIONS (Hollow Shaft) in inches

Model	CD	D	U	XA	N	XM	H	BE	BD	AJ	AK	BB	BF	Keyseat X
CH20	16	6⅜	1⅛	13	2¾	11¼	7¾	⅝	10	9⅛	8¼	3/16	7/16	¼ x ⅛ x 2¼
~~CH40 (12)~~	~~22¼~~	~~9~~	~~1½~~	~~16~~	~~3½~~	~~15¼~~	~~9~~	~~¾~~	~~12~~	~~9⅛~~	~~8¼~~	~~3/16~~	~~7/16~~	~~⅜ x 3/16 x 2¾~~
CH40	22¼	9	1½	16	3½	15¼	9	¾	16½	14¾	13½	3/16	11/16	⅜ x 3/16 x 2¾
CH60	22¼	9	1½	16	3½	15¼	9	¾	16½	14¾	13½	3/16	11/16	⅜ x 3/16 x 2¾
CH80	22¼	9	1⅞	16½	3½	15¼	9	¾	16½	14¾	13½	3/16	11/16	½ x ¼ x 2¾
CH110	26¾	11⅜	2	17½	3½	19⅝	9⅞	1	16½	14¾	13½	3/16	11/16	½ x ¼ x 2¾
CH125	26¾	11⅜	2	17½	3½	19⅝	9⅞	1	16½	14¾	13½	3/16	11/16	½ x ¼ x 2¾
CH150	31¾	13¼	2 7/16	20½	4¾	23⅛	10⅜	1	20	14¾	13½	3/16	11/16	⅝ x 5/16 x 3¾
CH200	31¾	13¼	2 7/16	20½	4¾	23⅛	10⅜	1	20	14¾	13½	3/16	11/16	⅝ x 5/16 x 3¾
CH280	36	15	2¾	24	5½	26⅜	12⅜	1⅛	20	14¾	13½	3/16	11/16	⅝ x 5/16 x 4¾
CH350	40½	16½	2¾	29	5½	29⅞	12⅜	1¼	24½	22*	13½	⅜	15/16	⅝ x 5/16 x 4¾
CH425	41¾	16½	3	30	5¾	29⅞	12⅛	1¼	24½	22*	13½	⅜	15/16	¾ x ⅜ x 4¾
CH500	41¾	16½	3½	31	6¾	29⅞	12⅛	1¼	24½	22*	13½	⅜	15/16	⅞ x 7/16 x 5½
CH600	45⅜	16½	3¾	33	7½	31⅞	10½	1¼	24½	22*	13½	⅜	15/16	⅞ x 7/16 x 5½
CH750	49	19	4	36	7½	37	12	1½	30½	26	22	⅜	15/16	1 x ½ x 6¾

H as determined using maximum XN
**Also 5/8-11 Tap on 14-3/4 Bolt Circle 1" Deep*

Table 4A. MAX. DRIVE COUPLING BORE SIZE AVAILABLE MOTOR STAND

Model	XD	Max. BX Fig. 1 & 4	~~Max. BX Fig. 2 & 3~~	T	XN Available Motor Stand		XT	Top † Flange
CH20	1¾	1	~~¾~~	13¼	8½	~~10~~ ~~12½~~	7/16	XBD = 10"
~~CH40~~	~~2⅜~~	~~1½~~	~~1¼~~	~~18¾~~	~~12½~~	~~16~~	~~⅝~~	XAJ = 9 1/8"
CH60	2⅜	1½	1¼	18¾	12½	16	⅝	XAK = 8¼
CH80	2⅜	1½	1¼	18¾	12½	16	⅝	
CH110	2⅜	1½	1½	23	12½	17	⅝	Dimensions XBD, XAJ, XAK, XBB, and XBF to suit electric motor
CH125	2⅜	1½	1½	23	12½	17	⅝	
CH150	2⅜	1 15/16	1¾	27½	15	19	¾	
CH200	2⅜	1 15/16	1¾	27½	15	19	¾	
CH280	2⅝	2	2	31½	15	22	¾	
CH350	3⅛	2 3/16	2 3/16	35½	15	24	1	
CH425	3⅜	2 7/16	2 7/16	35¾	15	24	1	
CH500	3⅜	2 7/16	2 7/16	35¾	15	24	1	
CH600	4	2 11/16	2 11/16	38¼	19	24	1	
CH750	4	3 3/16	3 3/16	41¾	••	24	1¼	

MACHINED TO SUIT••

Tolerances: Shaft Extensions plus .000 minus .001; Base Rabbet AK plus .002 plus .005; Coupling Bore BX plus .0005 plus .0015. The combination drive is desirable where 24-hour service is mandatory and is preferred by municipalities and waterworks corporations. Electric motor or engine may be used to drive the pump, permitting removal of either for repairs without interrupting service. As with the standard drive, combination applications are also available with solid shaft construction. See page 9.

ROTATION


FIG. 1


FIG. 2


FIG. 3

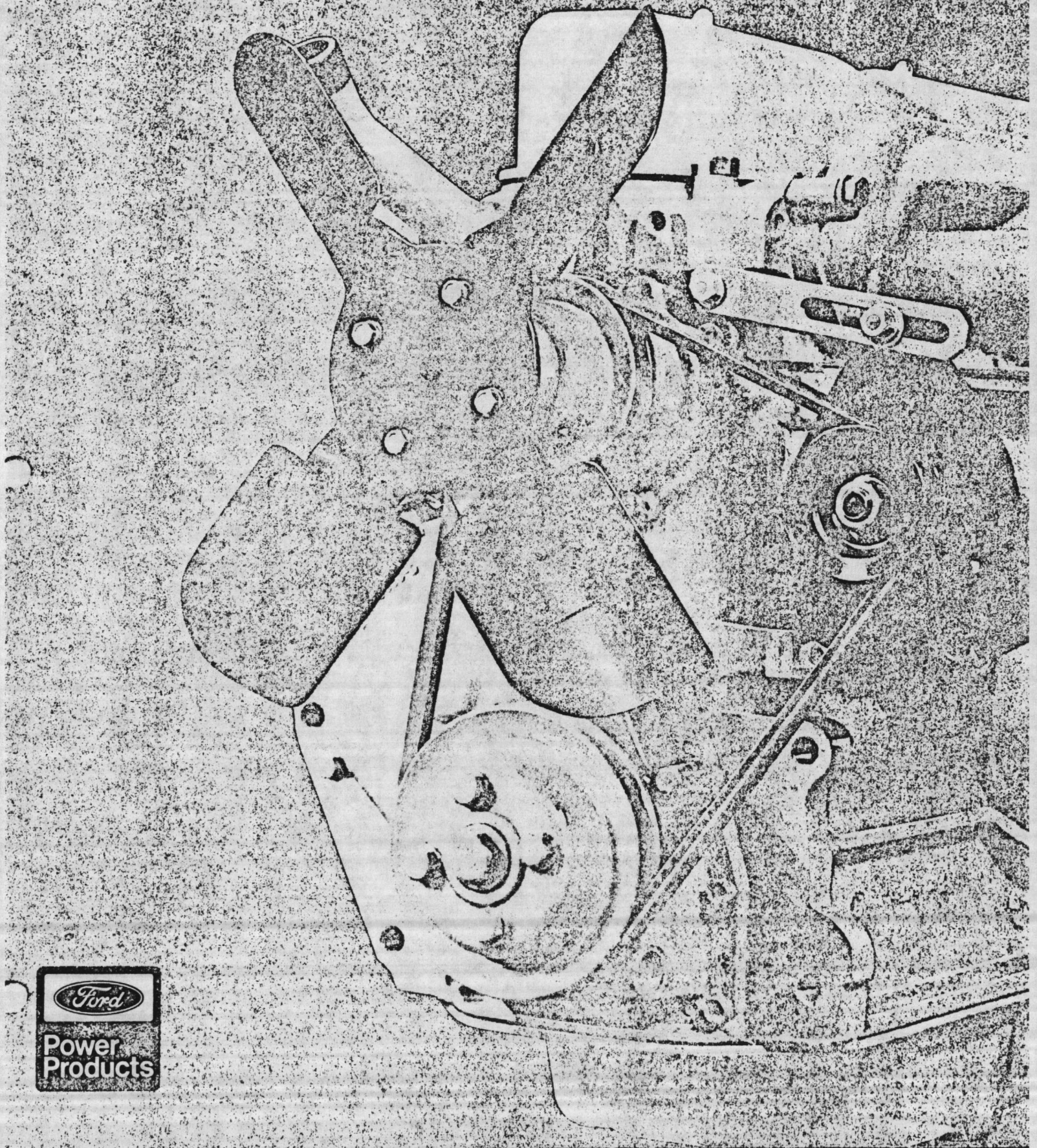

FIG. 4

Gear drives with special rotation (Figs. 2, 3 and 4) and gear drives with speed decreasing of 7:4 or higher ratios are manufactured to order, and such orders are not subject to cancellation without charge for parts processed.

FORD

4-CYLINDER IN-LINES, GAS & DIESEL

134
172
192
CID



Ford
Power Products

AUTOMATIC BATTERY CHARGERS

TYPE J - MODEL A-18

~~TYPE R - MODEL A-20~~

MANUFACTURERS AND ORIGINATORS OF THE WORLD'S MOST COMPLETE LINE OF BATTERY CHARGERS

for

COMPLETELY SAFE
UNATTENDED
24-HOUR-A-DAY
BATTERY MAINTENANCE

GENERAL DESCRIPTION

The type "J-6" La Marche Charger is for use with batteries of 3 lead-acid cells.

The type "J-12" Automatic Charger is for use with batteries of 6 cells.

The types R-24, R-30/32, R-36 La Marche Automatic Battery Chargers are for use with batteries of either 12, 15, 16 or 18 cells (24, 30, 32 or 36 volts).

Except for the difference in voltage output, the installation, setting, and operation of the types "J" and "R" are identical.

These FULLY AUTOMATIC Chargers are designed for permanent mounting near the engine and permanent connection to the battery and A.C. lines.

They will automatically charge one or two sets of batteries at some rate from $2\frac{1}{2}$ to 5 amps* depending on the state of charge of the battery.

Designed for 24-hour-a-day service on unloaded batteries; these chargers are normally set so they will automatically shut down to miliampere currents on fully charged batteries.

As all components are operated at far below their normal rating, you are assured of the longest possible service life.

Meets MIL-G 18050B(MC) for 20 and 40 KW trailer mounted diesel generator sets.

*See specifications on back.

DESIGN FEATURES

1. Automatic in operation and self-regulating.
2. Cannot discharge battery if A.C. line current goes off.
3. No radio interference.
4. No moving parts. Nothing to arc, spark or wear out.
5. Ammeter to tell rate of charge.
6. No external controls. Cannot be tampered with.
7. Complete isolation of the A.C. line from the D.C. charging circuit eliminates the danger of high voltage shock to personnel on ungrounded equipment.

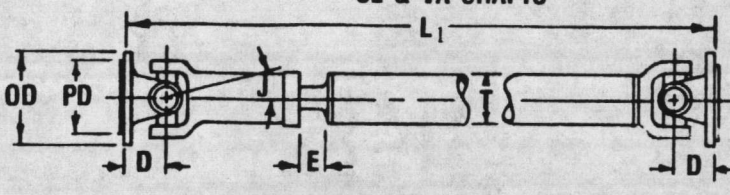
Supersedes Data Sheet and Prices on JR0016

#JR0017 Effective Sept. 1, 1974

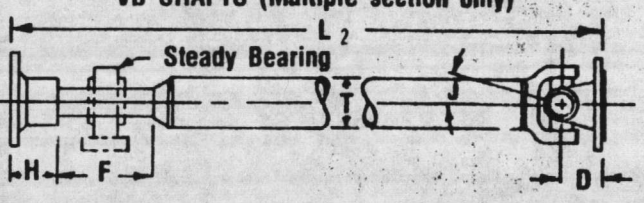
Printed in U.S.A.

SHAFT SPECIFICATIONS

SL & VA SHAFTS



VB SHAFTS (Multiple section only)



	SPECIFICATIONS FOR VA, VB & SL SHAFTS												
	27-31	37	41	48	55	61	71	81	88	91	95	205	215
L - Std. length, Inches	24.36	24,36,48	24,36,48	24,36,48	24,36,48	24,36,48	48	48	48	—	—	—	—
- Min. possible, mid-slip	15¼"	16¾"	17½"	16¾"	17"	[5] 25⅜"	24¼"	26 7/16"	27⅜"	31⅞"	46 9/16"	49 11/16"	63 15/16"
T - Standard tube	2½x.083	3 x.083	3½x.083	3½x.083	3½x.095	3½x.134	4 x.134	4½x.134	4½x.259	4¾x.250	5¼ x .375	8 x.300	9 x.625
- Special tube	3½x.083	4½x.095	4½x.095	4½x.095	4½x.095	4½x.095	[1]	[1]	[1]	[1]	5¼ x .375	—	—
D - Joint center to face	1⅜"	1 9/16"	1 11/16"	2"	2"	2¾"	3"	3⅜"	3½"	4¼"	8⅝"	9½"	11¾"
[2] E - lengthen or shortens	1 9/16"	1 13/16"	1 11/16"	1¼"	1¼"	2 7/16"	1 15/16"	1 11/16"	1¾"	1 7/16"	2½"	1 7/16"	2½"
J - Max. clearance angle	15°	20°	20°	22°	22°	22°	22°	30°	22°	15°	20°	20°	20°
- Preferred working angle	1° to 8°	1° to 8°	1° to 8°	1° to 8°	1° to 8°	1° to 8°	1° to 8°	1° to 8°	1° to 8°	1° to 8°	1° to 8°	1° to 8°	1° to 8°
PD - Pilot dia.	2⅜"	2¾"	2¾"	3¾"	3¾"	6⅝"	7¾"	7¾"	7"	7"	8¼"	10⅜"	13 11/16"
OD - Outside dia.	3⅞"	4 9/16"	4 9/16"	5⅞"	5⅞"	6⅞"	8"	8"	9⅝"	9⅝"	11 3/16"	13⅝"	17½"
F - Steady bearing seat	6"	6"	6"	8"	8"	8"	8"	8"	8"	7¼"	8¼"	12¼"	18"
H - Flange length	2 1/16"	2 1/16"	2 9/16"	2⅛"	2 15/16"	2 15/16"	3 11/16"	3 11/16"	4⅝"	5 3/16"	5¼"	5 11/16"	7 7/16
G - Steady bearing dia.	1 3/16"	1 3/16"	1 7/16"	1 11/16"	1 15/16"	1 15/16"	2 3/16"	2 7/16"	2 15/16"	3 3/16"	3 7/16"	4 7/16	6½"
WT - 48" shaft - L'	18#	24#	27#	32#	42#	56½#	80#	108#	175#	198#	417#	853#	1412#
WT - 48" shaft - L²	17½#	23#	26#	28½#	44#	41½#	69#	98#	105#	188#	400#	—	—
- Add or subtract per ft.	2.1#	2.6#	3#	3#	3.5#	4.8#	5.5#	6.1#	11.8#	12.1#	29.4#	30.5#	50#
[3] Elect. motor torque, lb. ft.	195	310	375	500	640	975	1,330	1,850	2,550	3,600	5,400	11,500	22,500
Static Torque lb. ft.	800	1,240	1,500	2,000	2,400	3,650	4,800	6,500	8,900	12,000	18,000	36,000	72,000
Elastic limit, lb. ft.	1,600	2,260	2,700	3,330	4,400	6,500	8,000	12,000	16,000	20,800	34,000	68,000	136,000
Max. RPM	6,000	5,000	5,000	5,000	5,000	4,500	4,500	4,500	3,000	2,500	2,500	2,000	1,500
WR² - 48" shaft, lb. ft.²	.118	.221	.349	.456	.786	1.584	2.355	4.074	6.306	6.596	31.144	50.000	134.000
- Add or subtract per ft.	.020	.038	.061	.061	.069	.096	.140	.219	.363	.421	1.553	2.486	6.813
[4] Max. eff. length @ 600	145"	156"	172"	172"	172"	172"	180"	180"	180"	180"	180"	180"	180"
[4] Max. eff. length @ 900	117"	127"	140"	140"	140"	140"	150"	156"	156"	156"	175"	180"	180"
[4] Max. eff. length @ 1200	103"	111"	122"	122"	122"	122"	130"	136"	136"	136"	152"	167"	175"
[4] Max. eff. length @ 1800	84"	91"	101"	101"	101"	101"	106"	111"	111"	111"	125"	136"	—

[1] Consult engineering department for special tube sizes for these shafts.

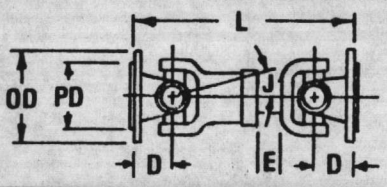
[2] Shafts will lengthen or shorten by "E" dimension giving a total movement of 2E. Length "L" is with slip joint in its mid-slip position.

[3] Electric motor torque is based on 6000 Hrs. of B-10 Life @ 1750 RPM.

[4] For reference only; maximum effective length shown is based on using standard tubing. Add dimension shown in TABLE 2 for maximum L_1 & L_2. NOTE: These lengths were calculated for CRITICAL SPEEDS ONLY.

[5] Note: Because of stackup dimensions, the SL61 x 24" will have a collapsed dimensions of 22 15/16" and an extended dimension of 27 11/16".

SC SHORT COUPLED SHAFTS



	SPECIFICATIONS FOR SHORT COUPLED SHAFTS												
	27-31	37	41	48	55	61	71	81	88	90	95	205	215
L - Std. lengths, Inches	8¾"	9⅞"	9⅞"	9"	10¼"	9½"	11"	13 31/32"	14⅛"	22⅜"	37 9/16"	40 5/16"	—
D - Joint center to face	1⅜"	1 9/16"	1 11/16"	1½"	2"	1⅞"	2"	2 19/32"	2½"	3⅞"	8⅝"	9½"	—
[2] E - Lengthens or shortens	⅜"	⅜"	⅜"	½"	½"	⅜"	⅜"	9/16"	½"	11/16"	1¾"	15/16"	—
J - Max. clearance angle	18°	20°	22°	8°	8°	8°	8°	12°	8°	8°	20°	20°	—
- Preferred working angle	1° to 5°	1° to 5°	1° to 5°	1° to 5°	1° to 5°	1° to 5°	1° to 5°	1° to 5°	1° to 5°	1° to 5°	1° to 8°	1° to 8°	—
PD - Pilot dia.	2⅜"	2¾"	2¾"	3¾"	3¾"	6⅝"	7¾"	7¾"	7"	8¾"	8¼"	10⅜"	—
OD - Outside dia.	3⅞"	4 9/16"	4 9/16"	5⅞"	5⅞"	6⅞"	8"	8"	9⅝"	10⅞"	11 3/16"	13⅝"	—
Weight	7#	11#	13#	19#	28#	34#	45#	70#	90#	175#	400#	800#	—
Max. RPM	6000	5000	5000	5000	5000	4500	4500	4500	3000	2500	2500	2000	—
WR² - lb. ft²	.071	.073	.148	.148	.474	1.480	1.778	3.047	4.180	6	34.250	—	—

NOTE: Torque ratings for short coupled shafts are the same as the VA & VB shafts.

[6] New series information not available at time of printing.

Shaft Guard

PROTECTS EMPLOYEES FROM POSSIBLE INJURY

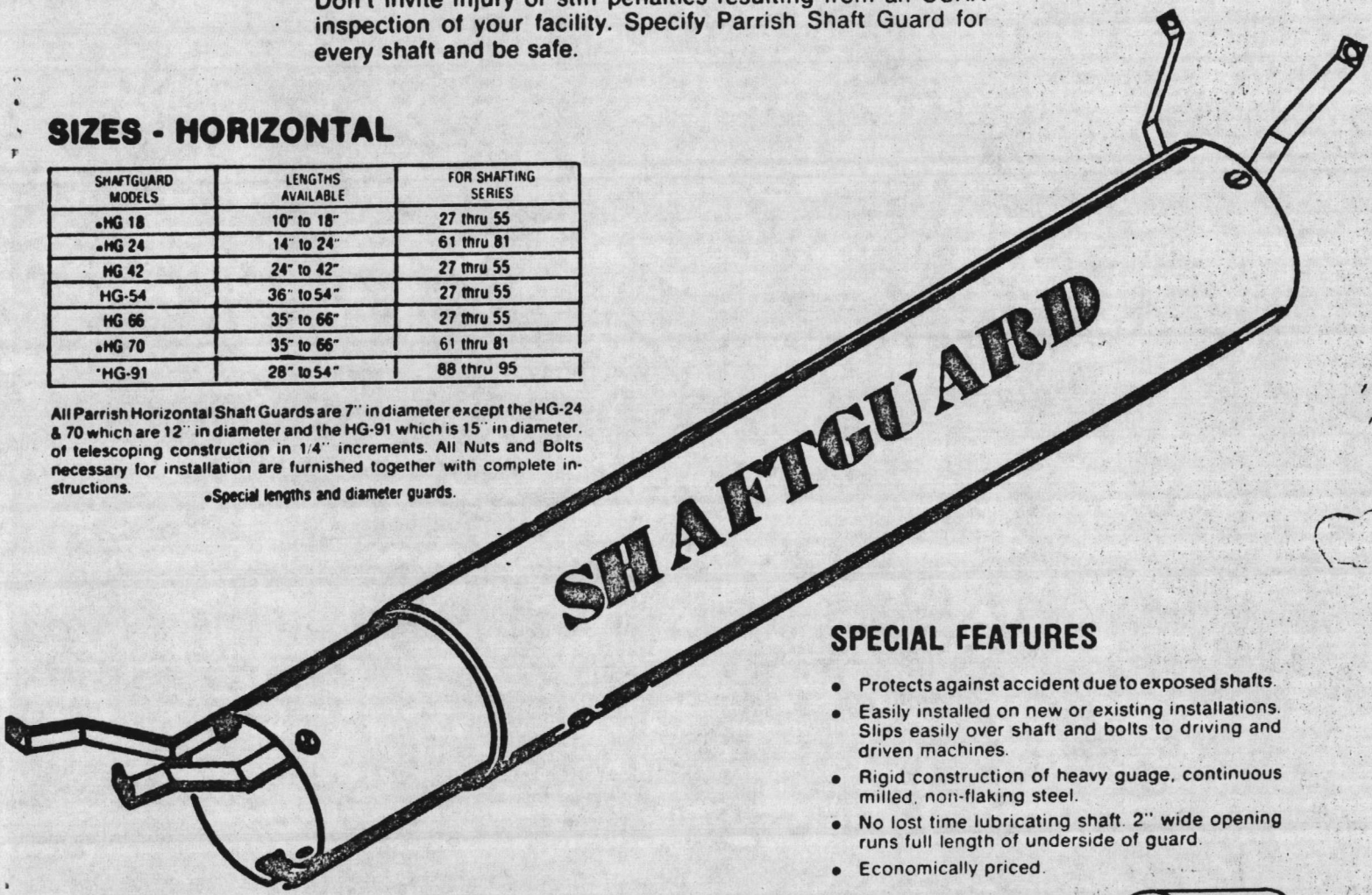
The Occupational Safety and Health Act requires that all employees be protected from possible injury. A spinning drive shaft can seriously hurt someone if it isn't installed safely. Don't invite injury or stiff penalties resulting from an OSHA inspection of your facility. Specify Parrish Shaft Guard for every shaft and be safe.

SIZES - HORIZONTAL

SHAFTGUARD MODELS	LENGTHS AVAILABLE	FOR SHAFTING SERIES
•HG 18	10" to 18"	27 thru 55
•HG 24	14" to 24"	61 thru 81
HG 42	24" to 42"	27 thru 55
HG-54	36" to 54"	27 thru 55
HG 66	35" to 66"	27 thru 55
•HG 70	35" to 66"	61 thru 81
*HG-91	28" to 54"	88 thru 95

All Parrish Horizontal Shaft Guards are 7" in diameter except the HG-24 & 70 which are 12" in diameter and the HG-91 which is 15" in diameter, of telescoping construction in 1/4" increments. All Nuts and Bolts necessary for installation are furnished together with complete instructions.

•Special lengths and diameter guards.



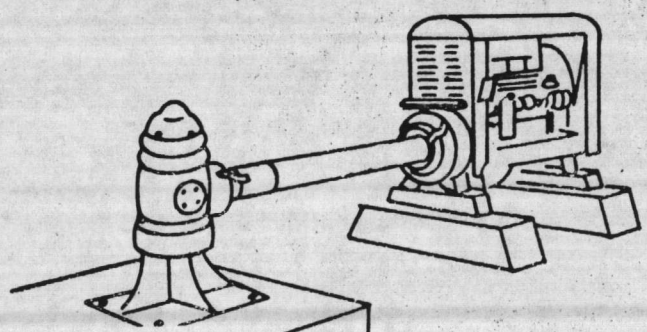
SPECIAL FEATURES

- Protects against accident due to exposed shafts.
- Easily installed on new or existing installations. Slips easily over shaft and bolts to driving and driven machines.
- Rigid construction of heavy guage, continuous milled, non-flaking steel.
- No lost time lubricating shaft. 2" wide opening runs full length of underside of guard.
- Economically priced.

HORIZONTAL APPLICATION

Parrish Shaft Guard should be used wherever a spinning drive shaft could accidentally injure an employee.

The unit is easily installed on horizontal applications such as pumping operations, generators, rolling mills, heavy machinery, etc.



Parrish Power Products Inc.

3912 Funston St., Toledo, Ohio 43612 • Phone 419/478-0301 Telex No. 28-6045

PUMPING TEST DATA

Test conducted by: CAROLINA WELL & PUMP CO FOR EAST COAST CONST. CO
Well Owner: U.S. NAVY Address: CAMP LEJEUNE NC
Pumped Well No.: "A" Location: MCAS, NEW RIVER NC County: ONSLOW
Observation Well Locations:
Airline Lengths: Pumped Well 122' Observation Wells
Remarks: CONTRACT N62470-76-C-6800 REPLACE WATER WELLS CAMP LEJEUNE NC
Pumping rate measured with: 6"X5" ORIFICE Water levels measured with: ELECTRIC TAPE

Pump Well Data

Sheet 1 of 2

Date and Time 4-5-78	Elapsed Time Min.	Piezometer Tube Reading Inches	Pumping Rate GPM	Pump Discharge Pressure	Altitude Gauge Reading Feet	Feet to Water	Remarks
1:30 P	START		100			23'-11"	STATIC
1:45	15 MIN		↑			30'-2"	
2:00	15 MIN					30'-1"	
2:30	30 MIN					30'-0"	
3:00	30 MIN					30'-0"	
3:30	30 MIN		↓			29'-11"	
4:00	30 MIN		100			29'-11"	
4:15	15 MIN		150			33'-2"	
4:30	15 MIN		↑			33'-2"	
5:00	30 MIN					33'-2"	
5:30	30 MIN					33'-1"	
6:00	30 MIN		↓			33'-2"	
6:30	30 MIN		150			33'-2"	
6:45	15 MIN		200			36'-10	
7:00	15 MIN		↑			36'-10½"	
7:30	30 MIN					36'-10"	
8:00	↑					36'-10"	
8:30	↓					36'-10"	
9:00	30 MIN		200			36'-10"	
9:15	15 MIN		250			40'-8"	
9:30	15 MIN		↑			40'-11"	
0:00	30 MIN					41'-6"	
0:30	↑					41'-8"	
1:00						42'-0"	
1:30	30 MIN		23[illegible]			42'-4"	
1:45	15 MIN		300			43'-10"	
2:00	15 MIN		↓			44'-0"	
4-6-78							
12:30A	30 MIN		300			44'-3"	
1:00	↑		↑			44'-2"	
1:30	↓					44'-3"	
2:00	30 MIN		300			44'-3"	
2:15	15 MIN		350			47'-5"	
2:30	15 MIN		↑			47'-10"	
3:00	30 MIN					48'-0"	
3:30	↑					48'-3"	
4:00	↓					48'-4"	
4:30	30 MIN		350			48'-5"	
4:45	15 MIN		400			51'-8"	
5:00	15 MIN		↑			57'-0"	
5:30	30 MIN					57'-0"	
6:00	↑					57'-3"	
6:30	↓					57'-4"	
7:00	30 MIN		400			57'-6"	

ATLANTIC DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
NORFOLK, VIRGINIA 23511
APPROVED
APPROVED AS NOTED
SUBJECT TO THE COMMENTS OF
05-76-6800
THE DATA DOES NOT INCLUDE
SUPPORTS THE DATA
SHALL BE RESPONSIBLE
PHYSICAL DIMEN
19 JUN 1978
DATE
FOR OFFICER IN CHARGE OF CONSTRUCTION

PUMPING TEST DATA

CS

Test conducted by: Carolina Well & Pump Co For East Coast Co
Well Owner: U.S. Navy Address: Camp Lejeune, NC
Pumped Well No.: "A" Location: MCAS, New River, NC County: Onslow
Observation Well Locations:
Airline Lengths: Pumped Well Observation Wells
Remarks:

Pumping rate measured with: Water levels measured with:

Pump Well Data

Date and Time	Elapsed Time Min.	Piezometer Tube Reading Inches	Pumping Rate GPM	Pump Discharge Pressure	Altitude Gauge Reading Feet	Feet to Water	Remarks
7:15	15 MIN		450			63'-0"	
7:30	15 MIN		↑			63'-2"	
8:00	30 MIN					63'-5"	
8:30	↑					63'-9"	
9:00	↓		↓			63'-11"	
9:30	30 MIN		450			64'-0"	
9:45	15 MIN		500			69'-4"	
10:00	15 MIN		↑			69'-6"	
10:30	30 MIN					69'-9"	
11:00	↑					69'-10"	
11:30	↓					69'-10"	
12:00	30 MIN					70'-0"	
1:00 P	60 MIN					70'-2"	
2:00	↑					70'-1"	
3:00						70'-2"	
4:00						70'-1"	
5:00						70'-0"	
6:00						70'-0"	
7:00						70'-0"	
8:00						70'-0"	
9:00						70'-0"	
10:00						70'-0"	
11:00						70'-0"	
12:00						70'-0"	
1:00 A						70'-0"	
2:00						70'-0"	
3:00						70'-0"	
4:00						70'-0"	
5:00						70'-0"	
6:00						70'-0"	
7:00						70'-0"	
8:00						70'-0"	
9:00						70'-0"	
10:00						70'-0"	
11:00	↓		↓			70'-0"	
12:00	60 MIN		500			70'-0"	
		RECOVERY DATA					
12:05						26'-0"	
12:15						25'-5"	
12:25						25'-0"	
12:35						24'-9"	
12:45						24'-6"	
12:55						24'-4"	
1:05						24'-3"	

EAST COAST CONSTRUCTION CO., INC
CONTRACT N62470-76-C-6800
REPLACE WATER WELLS
MARINE CORPS BASE
CAMP LEJUENE, NC

CS

WATER ANALYSIS LABORATORY
802 HAMLET HIGHWAY
BENNETTSVILLE SOUTH CAROLINA
29512

(803) 479-4639

CONSULTANTS FOR
INDUSTRY
MUNICIPALITIES
HOME OWNERS
DEVELOPERS
IRRIGATION
OTHERS

DATE: May 29, 1978

Report To: Carolina Well & Pump Co.
Sanford, N. C.

Date Analyzed: 5/29/78
Sample Number: "A" Air Field

Analysis Results--Parts Per Million

Determination		Determination	
pH	7.2	Carbon Dioxide (CO_2)	2
Iron (Fe)	0.1	Total Acidity ($CaCO_3$)	3
Nitrate (NO_3)	Trace	Calcium Hardness ($CaCO_3$)	128
Fluoride (F)	0.6	Magnesium Hardness ($CaCO_3$))	37
Manganese (Mn)	Trace	Carbonate Hardness ($CaCO_3$)	165
Total Hardness ($CaCO_3$)	165	Noncarbonate Hardness ($CaCO_3$)	0
Chlorides (Cl)	12	Alkalinity (Phenolphthalein) ($CaCO_3$)	0
Sulfate (SO_4)	8.7	Carbonate Alkalinity ($CaCO_3$)	0
Phosphate (PO_4)	0	Bicarbonate Alkalinity ($CaCO_3$)	280
Magnesium (Mg)	9.1	Total Alkalinity ($CaCO_3$)	280
Calcium (Ca)	51.2	Total Dissolved Solids	280
Carbonate (CO_3)	0	Specific Conductance (micromhos at 25°)	400
Bicarbonate (HCO_3)	242	Appearance When Analyzed	Clear
Hydroxide (OH)	0	Odor When Analyzed	Not Objectionable

SIGNED _____
LABORATORY DIRECTOR

ANALYTICAL METHODS REFERENCES: 'STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTE-WATER,' APHA, AWWA AND WPCF AND 'METHODS FOR COLLECTION AND ANALYSIS OF WATER SAMPLES,' WATER SUPPLY PAPER 1454 (1960), U. S. GEOLOGICAL SURVEY, WASHINGTON, D. C.