

## **ADDENDUM #2**

1. Bidder shall provide a licensed electrician at the site to properly disconnect and reconnect the wiring assembly for each pump.

2. High Service Pump #3 may contain asbestos in the motor gaskets or insulation unless these were replaced previously. If asbestos is present, all motor work must be performed using due care, handling and abatement practices as required by current applicable laws.

3. Low Service #1 Motor Tag Information

SN: 1357916

Frame A 445 UPH

75 HP

Design B

Code F

Low Service #1 Pump Tag Information

SN: VTP-12525

Size 20H-500W-2

4. High Service #3 Motor Tag Information

SN: 1361290

Frame A150PH

200 HP

3 PH

60 Cycles

440V

1200 RPM

Type HU

Design B

Code G

Bearing Sizes - Upper Thrust 7226GM; Lower Guide 6219J

High Service #3 Pump Tag Information

Size 24M425W 2

SN: VTP-12528

WORTHINGTON CORPORATION—BILL OF MATERIAL

For 24 M 425-V-2 STAGE Units Required 2 Serial No. VTP-12528 To VM-12529 Order DTP 24335

Elevation and Assembly DEN 14841  
Column seal detail W-11064  
Performance Curve DEN-15754

CONDITIONS OF SERVICE  
3500 GPM  
180 FT TDH  
1200 RPM

Painting:

1. All parts above and including the base plate shall be given one coat of paste filler followed by one coat of machinery grey enamel
2. Column pipe (inside and out) and outside of bowl assembly shall be coated with "COR-TAC" (epoxy spray) after cleaning and sand blasting. Paint shall be applied in accordance with manufacturer's recommendations (MFG. COOK PAINT CO. KANSAS CITY), so as to give an "orange peel" finished effect. Painting shall be done by "Western Filter Co."

WORTHINGTON CORPORATION - BILL OF MATERIAL

For 24M425-W-2 STAGE Units Required 2 Serial No. VTM-12528 To VTM-12529 Order DTP-24335

COST				PART NO.	NO. REQ'D	NO. IN UNIT	DESCRIPTION	MATERIAL	DRAWING	PATTERN
MATERIAL	LABOR	BURDEN	TOTAL							
							FLANGED COUPLING DETAILS STYLE "A" FOR 1 15/16" SHAFT			
				P&SHOP	2	1	DRIVER HALF COUPLING	STEEL	SK-154027	
				P&SHOP	2	1	DRIVEN HALF COUPLING	STEEL	SK-154026	
				SHOP	4	2	1/2" SQ. KEY x 4" LONG	STEEL	ROUND ENDS	
				SHOP	4	2	SPLIT RINGS 4 HALVES	STEEL	SK-154028	
				DRWG	12	6	H.H. BOLTS 3/8" - 16NC x 3 1/2" LONG	STEEL	} COUPLING HALVES TOGETHER	
				1310	12	6	H.H. NUTS 3/8"	STEEL		
				P&SHOP	2	1	UPPER MAINSHAFT 1 15/16" D. x 38 1/4" LONG	M4265VK-9731		
				P&SHOP	2	1	MOTOR STAND 20 x 20 x 20" TALL	M3112 R-99869 K6272H		
				261	8	4	H.H. BOLTS 5/8" x 2 1/2" LONG	STEEL	} MOTOR TO STAND	
				1280	8	4	HEX NUTS 5/8"	STEEL		
				P&SHOP	2	1	BASE PLATE 52" SQ w/ 23 1/2" D. CUTOUT	STEEL	VK-11586	
				267	8	4	H.H. BOLTS 3/4" x 2" LONG	STEEL	HEAD TO PLATE	
				Shop	1	1	SHAFT CENTERING GAUGE 1 15/16"	STEEL	VR-8176 LINE 7	
				STOCK	4	2	TAPER PINS #8 x 2 1/2" LONG	STEEL		

NOTE: MACHINE OFF CENTERING FIT TOP SIDE FOR MOUNTING MOTOR

Drawn By LBW

Date 11. 9. 64 Page 2 Of 9 Order DTP-24335

WORTHINGTON CORPORATION - BILL OF MATERIAL

For 24M425 W. 2 STAGE Units Required 2 Serial No. VTP-12528 To VTP-12529 Order DTP-24335

COST				PART NO.	NO. REQ'D	NO. IN UNIT	DESCRIPTION	MATERIAL	DRAWING	PATTERN
MATERIAL	LABOR	BURDEN	TOTAL							
				Cut # 5075	8	4	FOUNDATION BOLTS $\frac{3}{4}$ " x 12" LONG.	C-1018	TBE FOR 2"	
				1285	8	4	HH NUTS $\frac{3}{4}$ " - TOP END	STEEL		
				STOCK	8	4	$\frac{3}{4}$ " WASHER	STEEL		
				R-STOCK	8	4	ANCHOR PLATES w/ $\frac{13}{16}$ " DIA. HOLE	M3112		
				PTWCL	8	4	SQ. HEAD NUTS $\frac{3}{4}$ "	STEEL		
				Cut # 7125	8	4	ANCHOR BOLT SLEEVES $1\frac{1}{4}$ " x $7\frac{1}{2}$ " LONG	B.S.	PLAIN END	
				PTWCL	4	2	EYE BOLTS $\frac{3}{4}$ " ARMSTRONG #8	STEEL	PLAIN THREADED	
				D-DIRECT	2	1	2" ARCO "REGULAR" AIR & VACUUM VALVE	2"	No. 144	
				PTWCL	2	1	2" NIPPLE 15" LONG	B.S.		
				PTWCL	2	1	2" CLOSE NIPPLE	B.S.		
				PTWCL	2	1	2"-90° ELBOW	M.L.		

6-1-60

1" THRU 2" SHAFT  
OPEN OR ENCLOSED  
N-2010 DISCHARGE HEAD

WORTHINGTON CORPORATION—BILL OF MATERIAL

618-15

For Units Required 2 Serial No. VTP-12528 To VTP-12529 Order DTP-24335

COST				PART NO.	NO. REQ'D	NO. IN UNIT	DESCRIPTION	MATERIAL	DRAWING	PATTERN
MATERIAL	LABOR	BURDEN	TOTAL							
				BIS-2010	1	1	Discharge Head	M-3112	KY97868	UD-4469
				053	1	1	Companion Flange	C.I.	10" X 16"	
				<del>PIP-2010</del>	2	1	12" Top Column Pipe <i>SEE PAGE 1 FOR PAINTING</i>	B.S.	SK135255	<i>2.8" LONG</i>
				PIP-2010	1	1	10" Top Column Pipe	B.S.	SK135256	18" LONG
				2505	1	1	Gasket-Comp. Flange	ASB.	16" OD X 10" ID	
				GKT-2000	2	1	Gasket-Top Column Pipe	ASB.	SK135265	
				GKT-537	2	1	Gasket-Stuffing Box	ASB.	SK135264	
				253	12	12	HH Bolts 7/8" X 2"	Steel	Comp. Flange	
				256	32	16	HH Bolts 5/8" X 1-3/4"	Steel	Top Column Pipe	
				269	16	8	HH Bolts 5/8" X 1-1/2"	Steel	Stuffing Box	
				1553	4	2	1/2" Pipe Plugs	C.I.		
				2795	1	1	1-1/4" Pipe Plug	C.I.		
				1526	2	1	Name Plate	Alum.	SK158437	
				2548	8	4	PK Drive Screws	Steel	#4 X 1/4"	
				<i>WT 5119</i>	2	1	<i>MOTOR</i> Headshaft <i>1 1/2" D. X 5'-6 1/2" LONG</i>	C.1018	<i>VK-9727</i>	
				<i>NUT 5807</i>	2	1	Headshaft Nut <i>1 1/2"</i>	M-4212	<i>VK-5807</i>	
				<i>1607</i>	2	1	Set Screw <i>1/4" - 20 X 1 1/2" LONG</i>	Steel		
				<i>1196</i>	2	1	Gib Key <i>1/2" X 3" LONG</i>	M-4212	<i>DEV-1446</i>	
				<i>255</i>	8	4	HH Bolts <i>5/8" X 2 3/4" LONG</i>	Steel	<i>STAND TO</i>	
				<i>1280</i>	8	4	Hex Nuts <i>5/8"</i>	Steel	<i>DISCHARGE HEAD</i>	
				FRT-200	2	1	Protector - Top Column Pipe <i>12"</i>	STEEL		
<p>Note: Companion Flange Gasket and Bolts are not to be furnished unless specified on order.</p>										
				<i>Bas 20</i>	2	1	<i>N 20 MOTOR BASE</i>	<i>M3112</i>	<i>RX109876</i>	<i>UD4724</i>
				<i>1361</i>	1	1	Oiler Assembly			
				<i>2796</i>	2	1	<i>2" PIPE PLUG</i>	C.I.		
<p>Note: Oiler Assembly required on enclosed pumps only.</p>										
				<i>*FLG 2010 R</i>	2	1	<i>SOCK FLANGE 15 1/2" O.D. X 12 3/4" I.D.</i>	STEEL		

Issued By *[Signature]*

Date *11-9-64*

Page *4* of *9* Order *DTP-24335*

8-1-  
 1-11/16 AND 1-15/16  
 N16, N20 AND N24 SERIES  
 STUFFING BOX DETAILS  
 For OPEN SHAFT

618-25

WORTHINGTON CORPORATION - BILL OF MATERIAL

Units Required 2 Serial No. VTP 12528 To VTP 12529 Order DTP 24335

COST				PART NO.	NO. REQ'D	NO. IN UNIT	DESCRIPTION	MATERIAL	DRAWING	PATTERN
MATERIAL	LABOR	BURDEN	TOTAL							
FOR 1-11/16" SHAFT										
				BOX-516	1	1	Stuffing Box with BRG-516	M-3112	VY-5838	UE-1017
				PKG-516	1	1	Packing 1-11/16" X 2-11/16"	GA	5 Rings	
				CAG-516	1	1	Seal Cage	M-3431	VK-5850	
				GLD-516	1	1	Gland	M-3431	VK-5846	DEN-396
				2040	2	2	1/2" X 3" Gland Studs	Steel		
				1329	2	2	1/2" Hex Nuts	Bronze		
				803	1	1	Grease Cup - Gits Bros.			
				SLG-516	1	1	Water Slinger	Rubber	VK-7000	
FOR 1-15/16" SHAFT										
				BOX-519	2	1	Stuffing Box with BRG-519	M-3112	VY-5839	UE-1019
				PKG-519	2	1	Packing 1-15/16" X 2-3/16"	GA	5 Rings	
				CAG-519	2	1	Seal Cage	M-3431	VK-5851	
				GLD-519	2	1	Gland	M-3431	VK-5847	DEN-1685
				STU-619	4	2	5/8" X 3-1/4" Gland Studs	Steel		
				1330	4	2	5/8" Hex Nuts	Bronze		
				803	2	1	Grease Cup - Gits Bros.			
				SLG-519	2	1	Water Slinger	Rubber	VK-7000	

WORTHINGTON CORPORATION - BILL OF MATERIAL

For 24 M425-W-2 STAGE Units Required 2 Serial No. VTP 12528 To VTP 12529 Order DTP 24335

COST				PART NO	NO REQ'D	NO IN 1 UNIT	DESCRIPTION	MATERIAL	DRAWING	PATTERN
MATERIAL	LABOR	BURDEN	TOTAL							
							WELL SEAL DETAIL			
					1		SEAL BASE PLATE ASSEMBLY PER VY-1106A			
							EXISTING OF			
				P&Shop	2	1	SEAL BASE PLATE	STEEL	VY-11588	
				P&Shop	2	1	12" HOLE DRESSER COUPLING SLEEVE 38" O.D. 1/4" x 7" MIDDLE RING 3. REMOVABLE DRESSER COUPLING BY 1. DISMANTLING COUPLING PER CUTTING IN HALF 2. WELD HOLE MIDDLE RING TO PLATE 3. REASSEMBLE ONE DRESSER COUPLING CASNET AND FOLLOWER RING USING			
				PTRWC	16	8	STUD BOLTS 5/8" x 5 1/4" LONG	STAINLESS STEEL	DRESSER COUPLING	
				PTRWC	16	8	HEX NUTS 3/8"	STAINLESS STEEL	TO SEAL PLATE	
				PTRWC	4	2	EYE BOLTS 3/4" ARMSTRONG #8	STEEL	PLAIN FINISHED	
				PTRWC	48	24	STUD BOLTS 3/4" x 3" LONG	STAINLESS STEEL	COLUMN SEALING	
				PTRWC	48	24	HEX NUTS 3/4"	STAINLESS STEEL	TO SEAL SLEEVE	
				PTRWC	2	1	CASNET - 1/16" x 32" O.D. x 25 1/2" I.D. W/24 - 7/8" HOLES ON A 29 1/2" D.B.C.	RBR		

WORTHINGTON CORPORATION - BILL OF MATERIAL

For 24M425-W-2 STAGE Units Required 2 Serial No VTP 12528 to VTP 12529 Order DTP 24335

COST				PART NO.	NO. REQ'D	NO. IN UNIT	DESCRIPTION	MATERIAL	DRAWINGS	PATTERN		
MATERIAL	LABOR	BURDEN	TOTAL									
				* D&SHOP	2	1	12 DISCHARGE TEE 6'-8 1/4" LONG	STEEL	VK 11569			
				PTWNC	2	1	12" PIPE COUPLING	STEEL	VK 8571	} ASSEMBLY		
				PRT-200	2	1	12" PROTECTOR	STEEL				
				D&SHOP	4	2	BEARING BRACKET 12 x 1 15/16"	M 3431	DEM 4678		DEM 2760A	
				BRS 119	4	2	BEARING 1 15/16"	RBR	RK 62853	} ASSEMBLY		
				RNG-1164	4	2	SNAP RING	BRASS	SK 147561			
				WAS-120	4	2	RETAINER WASHER	MA 266	SK 158488			
				* D&SHOP	2	1	12 COLUMN PIPE 6'-8 1/4" LONG	STEEL	VK 11599			
							W/ COUPLING & FLANGED LOWER END					
				PTWNC	2	1	12" PIPE COUPLING 1 1/2"	STEEL	VK 8571			
				D&SHOP	4	2	SHAFT 1 7/16" O.D. x 6'-9 1/4" LONG	MA 265	VK 5818			
				SLV-5855	4	2	SHAFT SLEEVE 1 15/16"	MA 266	VK 5855			
							ASSEMBLE SLEEVE TO SHAFT PER	SK 123330A				
				CPL 419	6	3	SHAFT COUPLING 1 15/16"	MA 212	VK 5825			
				* NOTE: SEE PAINTING NOTE PAGE 1								
				272	32	16	H.H. BOLTS 5/8"-11 NC x 3 1/4" LONG	STEEL		} COLUMN PIPE TO BOUL ASSEMBLY		
				1280	32	16	HEX NUTS 5/8"	STEEL				
				PTWNC	2	1	GASKET 1/32 TH. 15 3/4 O.D. x 13 5/16 I.D. w/ 16 - 3/4" HOLES ON A 14 1/2" DBC	ASB.				

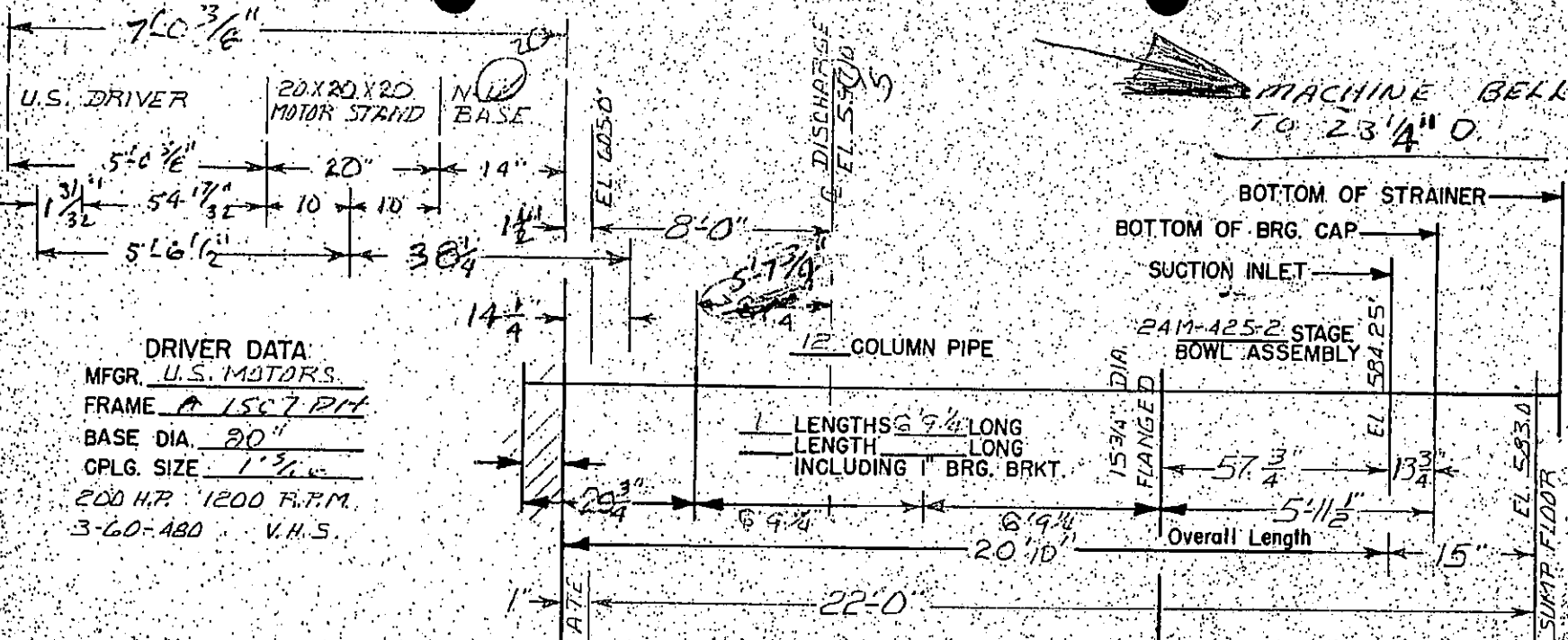


WORTHINGTON CORPORATION - BILL OF MATERIAL

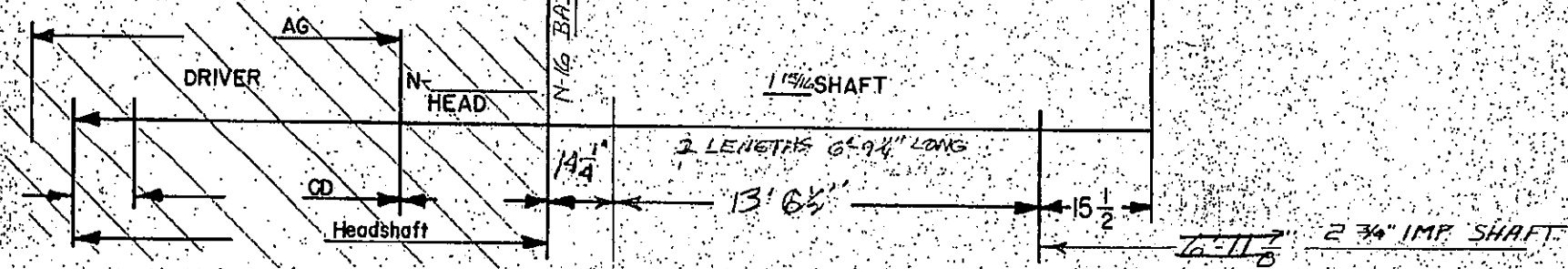
For 24M425 W. 2 STAGE Units Required 2 Serial No VTP-12528 To VTP-12529 Order DTP-24335

COST				PART NO.	NO. REQ'D	NO. IN UNIT	DESCRIPTION	MATERIAL	DRAWING	PATTERN
MATERIAL	LABOR	BURDEN	TOTAL							
				P&SHOP	2	1	SUCTION BELL (TURN LIN TO 2 3/4" DIA.)	M3112	VW7323	VW7237
				RBRG-10248	2	1	BEARING	M3431	VK8378	
				RNG-1190	2	1	WEARING RING	M3427	VK7313	VK7313
							ASSEMBLE BEARING & WEARING RING TO BELL			
				PLW-121	2	1	SUCTION CASE PLUG	M3112	R/127833	R/127833
				RNG-50851	2	1	CLIPPER SEAL	RBR	VK-5085	
				CAP-126	2	1	BEARING CAP	M3112	SK164210	SK164210
				1603	4	2	SET SCREW 3/8" x 1/2"	STEEL		
				RNG-6275	2	1	IMPELLER SHAFT 2 3/4" DIA. 7'-0" LONG	M4265	VK11666	(1 1/2" THRD)
				P&SHOP	1	1	24M425 IMPELLER	M3431	VK7231	VW7230
				P&SHOP	4	2	24M425 IMPELLER 1 5/8" DIA.	M3431	VK7875	VW7793
				BWS-398	4	2	IMPELLER COLLET	M4212	R/129548	
				PIN-317	4	2	IMPELLER COLLET PIN	M4265	SK164257	
				NUT-33	4	2	IMPELLER COLLET NUT	M3431	SK164192	
				P&SHOP	2	1	UPPER BOWL	M3112	VK7536	VW7233
				RBRG-10248	2	1	BOWL BEARING	M3431	SK164213	
							ASSEMBLE BEARING TO BOWL			
				P&SHOP	2	1	DISCHARGE CASE 12"	M3112	VW7501	VW7246
				P&SHOP	1	1	DISCHARGE CASE 14"	M3112	VW10667	VW8907
				267	96	78	H.H. CAP SCREWS 3/8" 10NC X 2" LONG	STEEL	BOWLS TOGETHER	
							FOR OPEN PUMPS ONLY			
				RBRG-5274	2	1	DISCHARGE CASE BEARING	M3431	SK164085	VK5274
				1564	8	4	3/4" SOCKET PIPE PLUGS	C.I.		
							FOR ENCLOSED PUMPS ONLY			
				RNG-425	1	1	CONNECTOR BEARING 2 1/2" x 3 1/4"	M3431	SK148761	
				RNG-50841	1	1	SEAL O-RING	RBR	VK-5084	
							SHAFT COUPLING	M4212		





**DRIVER DATA**  
 MFR. U.S. MOTORS.  
 FRAME A 1567 PM  
 BASE DIA. 20"  
 CPLG. SIZE 1 3/16"  
 200 H.P. 1200 F.P.M.  
 3-60-480 V.H.S.

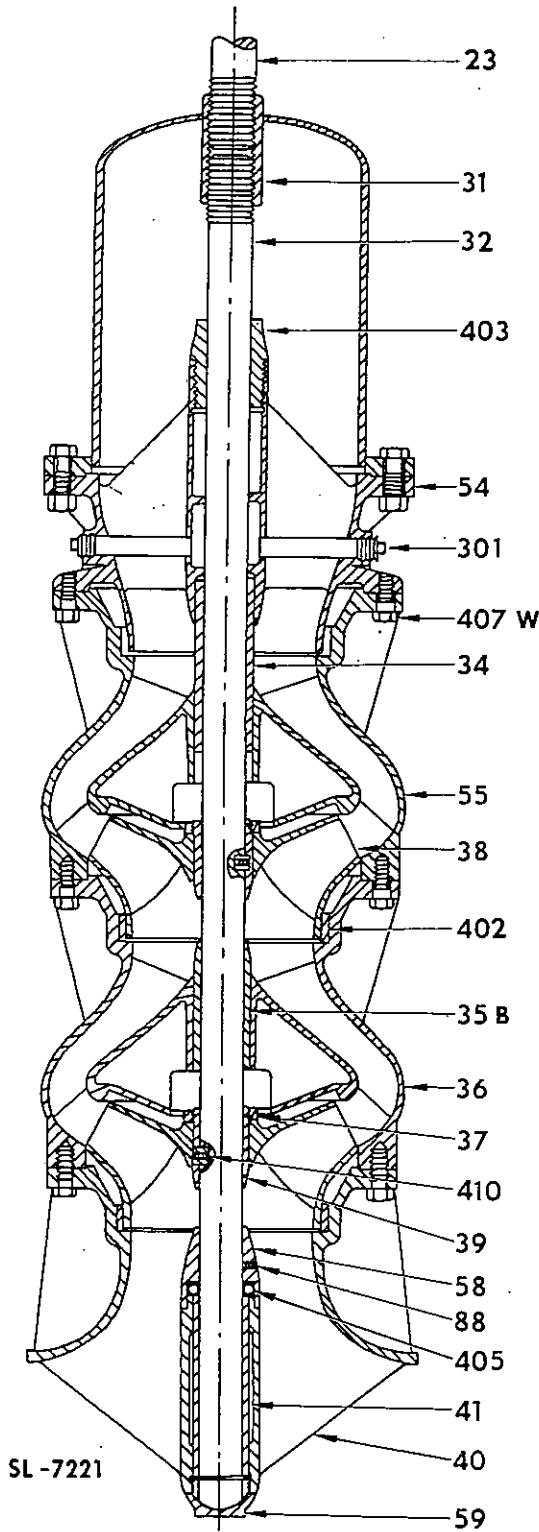


WELL PUMP LAYOUT  
 OPEN LINESHAFT CONSTRUCTION

DTP-24335  
 DEN-14841

PUMP BOWL ASSEMBLY 16" AND LARGER OPEN LINESHAFT

16" AND LARGER  
OPEN LINE SHAFT



REF. NO.	LIST OF PARTS
23	LINE SHAFT
301	PIPE PLUG
31	PUMP SHAFT COUPLING
32	PUMP SHAFT
34	TOP BOWL BEARING
35B	INTERMEDIATE BOWL BEARING
36	INTERMEDIATE BOWL
37	IMPELLER COLLET LOCK NUT
38	IMPELLER
39	IMPELLER LOCK COLLET
40	SUCTION CASE (BELL TYPE)
40F	SUCTION CASE (FLANGE TYPE)
41	SUCTION CASE BEARING
54	DISCHARGE CASE
55	TOP BOWL
58	SUCTION CASE SAND COLLAR
59	SUCTION CASE PLUG
88	SET SCREW
402	WEARING RING
403W	DISCHARGE CASE BEARING
405	GREASE SEAL
407	BOWL BOLTS
410	IMPELLER LOCK PIN

**NOTE:** WHEN ORDERING PARTS USE DRAWING NUMBER SL-7221 WITH REF. NO.

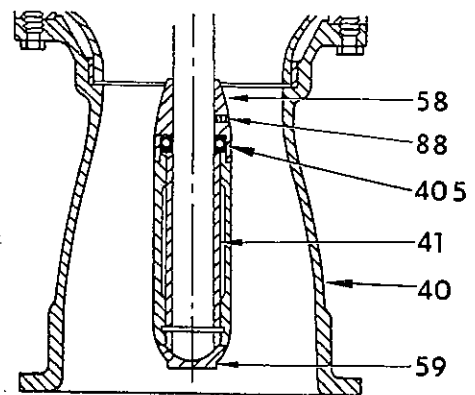
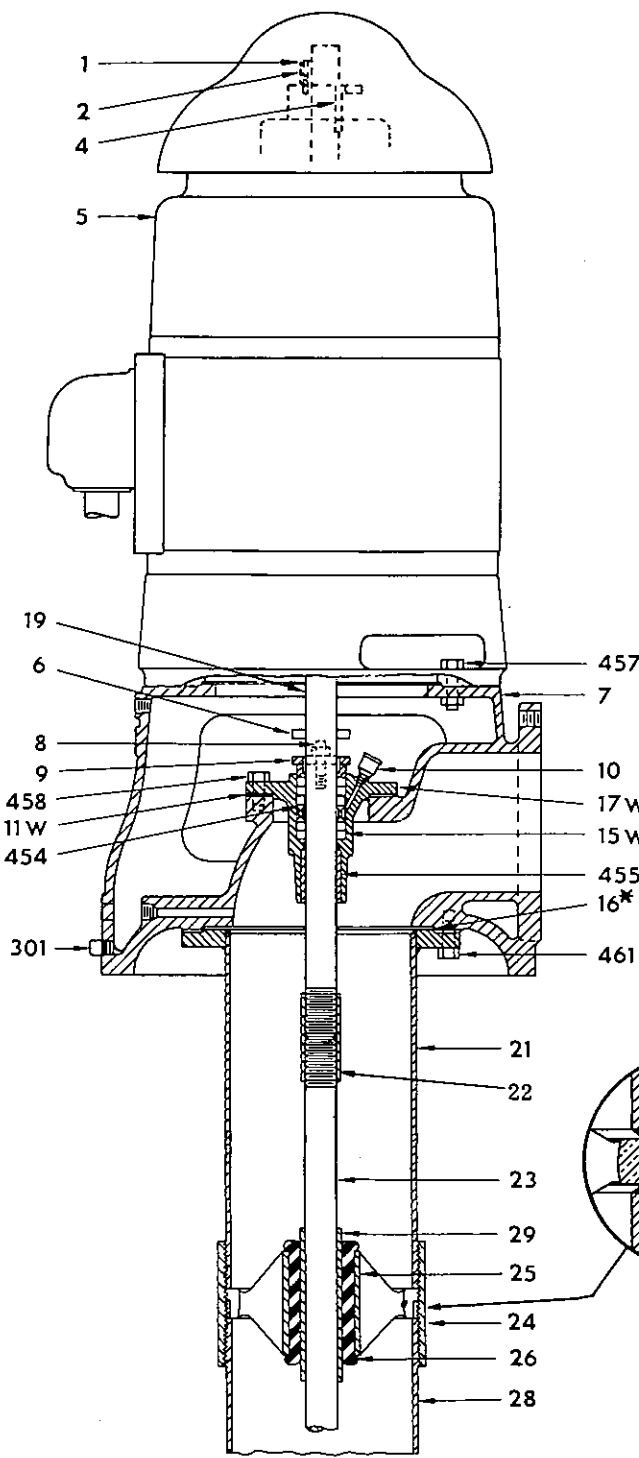


Figure 3-3. Open Pump Bowl Assembly and List of Parts



RW97902B

REF. NO.	NAME OF PART
1	ADJUSTING NUT
2	LOCK SCREW
4	DRIVE COUPLING KEY
5	MOTOR
6	WATER SLINGER
7	SURFACE DISCHARGE HEAD
8	GLAND STUDS AND NUTS
9	GLAND
10	GREASE CUP
11W	STUFFING BOX GASKET
15W	PACKING
16*	TOP PIPE GASKET
17W	STUFFING BOX
19	TOP SHAFT
21	TOP COLUMN PIPE
22	LINESHAFT COUPLING
23	LINESHAFT
24	COLUMN PIPE COUPLING
25	BEARING BRACKET
26	LINESHAFT BEARING
28	COLUMN PIPE
29	LINESHAFT SLEEVE
301	PIPE PLUG
454	SEAL CAGE
455	STUFFING BOX BEARING
457	MOTOR BOLTS AND NUTS
458	STUFFING BOX BOLT
461	TOP COLUMN BOLT

NOTE: WHEN ORDERING PARTS USE DRAWING NUMBER RW97902B; RX124826, RX119090 WITH REF. NO.

\*WHEN ORDERING GASKETS, SPECIFY WHETHER FOR USE WITH TOP COLUMN OR COLUMN PIPE FLANGE

RX119090

Figure 6-2. Above Ground Discharge Open Lineshaft Pump and List of Parts

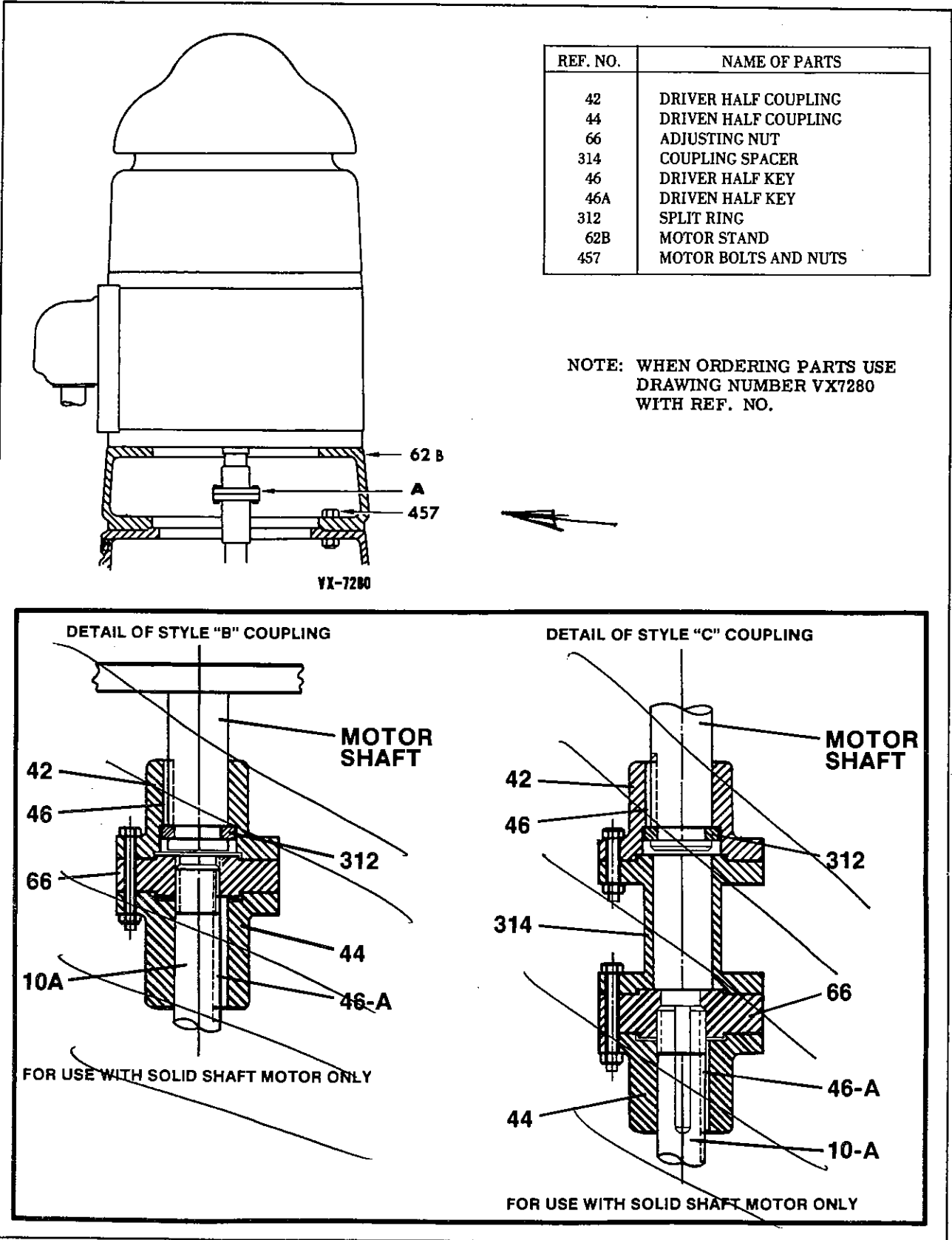


Figure 6-3. Flanged Adjustable Coupling