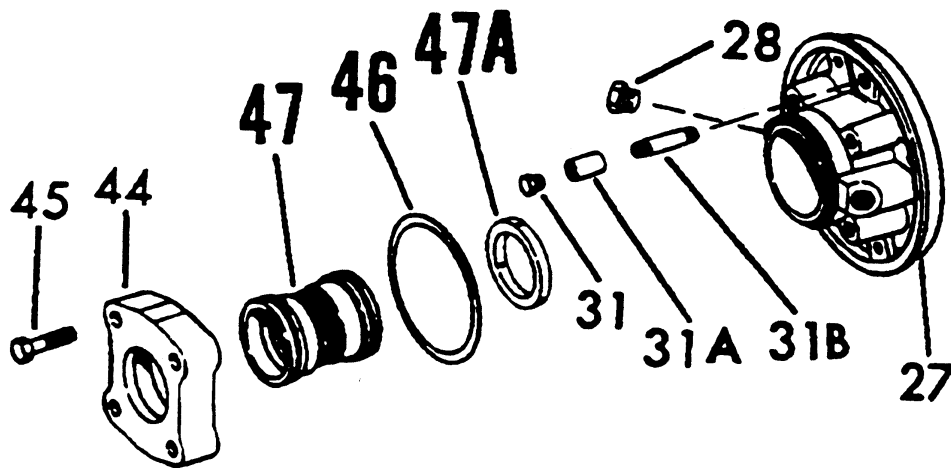




AURORA®



REPAIR PART KITS, PACKING KITS, SEAL KITS, ROTATING ASSEMBLIES AND POWER FRAME ASSEMBLIES

KIT SECTION

NOTE! To the installer: Please make sure you provide this manual to the owner of the equipment or to the responsible party who maintains the system.

KIT SECTION PAGE 2

Dated **APRIL 2001**

Supersedes Issue

Dated NOVEMBER 1998

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- (1) Impellers will be trimmed and balanced. Diameter must be specified on order transmittal.
- (2) No material substitutions except with Aurora approval.
- (3) Rotating Assemblies and Power Frame Assemblies are shipped assembled. Kits are shipped unassembled.

REFER TO MASTER PARTS PRICE LIST FOR PRICING OF ABOVE KITS AND ASSEMBLIES.
CURRENT PARTS PRICE MULTIPLIERS APPLY.

MATERIAL CODE INDEX

MATERIAL CODE	DESCRIPTION
010	Gray Cast Iron - Class 30
028	Malleable Cast Iron
053	Ductile Iron 60-45-10
058	Wrought Carbon Steel C1018
062	Carbon Steel C1040
063	Carbon Steel C1045
080	Steel Fasteners SAE #2
082	Steel Fasteners SAE #5
087	Wrought Steel Misc. Appl
088	Wrought Spring Steel
100	303 Stainless Steel
104	316 Stainless Steel
107	416 Stainless Steel
108	440 C Stainless Steel Hardened
109	416 Stainless Steel - Heat Treated
111	Alloy 20 Stainless Steel
190	Bronze Fastener Hardware
199	Lead Semi-Red Brass 81-3-7-9
208	Lead Red Brass 85-5-5-5
225	Cast Silicon Brass
319	Cast or Wrought Aluminum
360	Cadmium Plated Steel
370	Chrome Plated Cast Iron
387	Galvanized Malleable Iron
457	Buna-N
478	Neoprene
494	Viton
500	Nylon Resin Zytel ST801
503	Polyethylene Plastic
505	Polyvinyl Chloride Tubing

MATERIAL CODE	DESCRIPTION
507	Teflon Coated Steel
511	Nylon
512	25% Glass Filled Teflon
522	Glass Filled Teflon
548	Ceramic Coated 316SS
554	Bronze Ring Construction
598	Cellulose & Cork CN-705
603	Nitrile Butadiene
614	Victolex 258/N852 Accopac
621	Sealant - Loctite/STA-LOK
642	All Iron Construction
643	All Bronze Construction
644	Bronze Fitted Construction
645	Aluminum Construction
646	Stainless Steel Construction
647	Ball or Roller Bearings
651	Lube Fittings
652	Oilers
653	Grease or Oil Seals
656	Oil Breathers
660	Gland (Bronze/316 S/S)
661	Gland (Steel/Steel)
662	Gland (Bronze/Steel)
749	B30 P66 171 John Crane Seal
754	BP2CI John Crane Seal
755	B30 P66 271 John Crane Seal
758	BP871 John Crane Seal
764	XP1C1 John Crane Seal
802	Non Asbestos Packing
999	Vendors Standard Material

110A SERIES SEAL KIT (WITH BEARINGS)

KIT SECTION PAGE 5

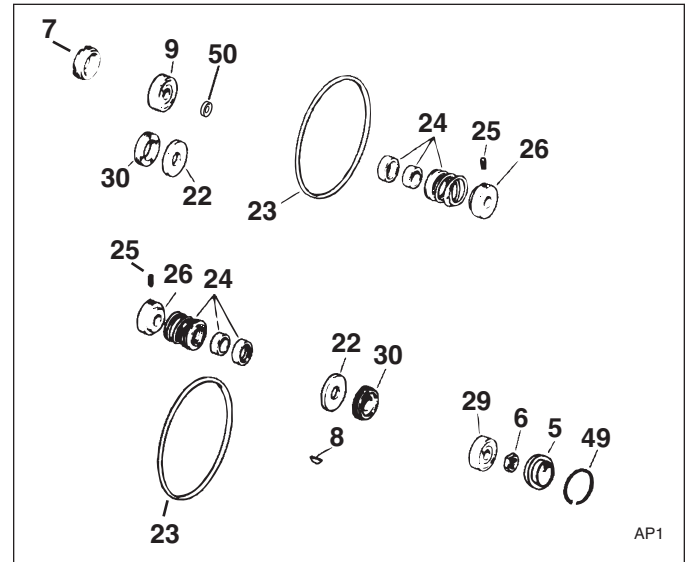
Dated APRIL 2001

Supersedes Issue

Dated NOVEMBER 1998

SEAL/BEARING KIT

Model	Kit Number	Model	Kit Number	
A35S	476-0750-644	J5S	476-0753-644	
A4S		K5S		
B4S		L5S		
C4S		M5S		
D4S		N5S		
E4S		P5S		
F4S		476-0752-644		D5TS
G4S				E5TS
H4S				F5TS
I4S				G5TS
I4AS	476-0751-644	H5TS	476-0754-644	
M4S		I5TS		
P4S		G6S		
R4S	476-0750-644	H6S	476-0754-644	
D4TS		J6S		
E4TS		K6S		
F4TS		D6TS		
G4TS		E6TS		
I4TS		F6TS		
I4TAS	476-0752-644	G6TS	476-0754-644	
D5S		H6TS		
E5S		J6TS		
F5S		K6TS		
G5S				
H5S				
I5S				



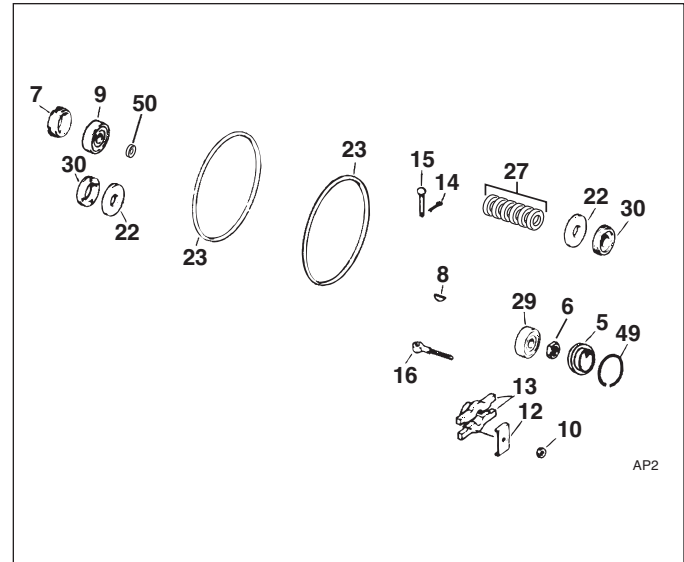
PARTS INCLUDED IN MECHANICAL SEAL KIT

PC#	Part Description	Material Code
		644
5	Retainer	500
6	Nut	080
7	Retainer	500
8	Key	087
9	Bearing	647
22	Slinger	478
23	O Ring	478
24	Mechanical Seal	755
25	Setscrew	104
26	Collar	208
29	Bearing	647
30	Retainer	500
49	Int. Ret. Ring	088
50	Tolerance Ring	114

110A SERIES PACKING KIT (WITH BEARINGS)

PACKING/BEARING KIT

Model	Kit Number	Model	Kit Number	
A35	476-0755-644	J5	476-0758-644	
A4		K5		
B4		L5		
C4		M5		
D4		N5		
E4		P5		
F4		476-0757-644		D5T
G4				E5T
H4				F5T
I4				G5T
I4A	H5T	476-0759-644		
M4	I5T			
P4	476-0756-644		G6	
R4			H6	
D4T	476-0755-644	J6	476-0757-644	
E4T		K6		
F4T		D6T		
G4T		E6T		
I4T		F6T		
I4TA	G6T	476-0757-644		
D5	H6T			
E5	J6T			
F5	K6T			
G5				
H5				
I5				



PARTS INCLUDED IN PACKING KIT

PC#	Part Description	Material Code
		644
5	Retainer	500
6	Nut	080
7	Retainer	500
8	Key	087
9	Bearing	647
10	Nut	080
12	Clamp	360
13	Gland	662 or 010
14	Cotter Pin	087
15	Clevis Pin	360
16	Swing Bolt	080
22	Slinger	478
23	O Ring	478
27	Packing	802
29	Bearing	647
30	Retainer	500
49	Int. Ret. Ring	088
50	Tolerance Ring	114

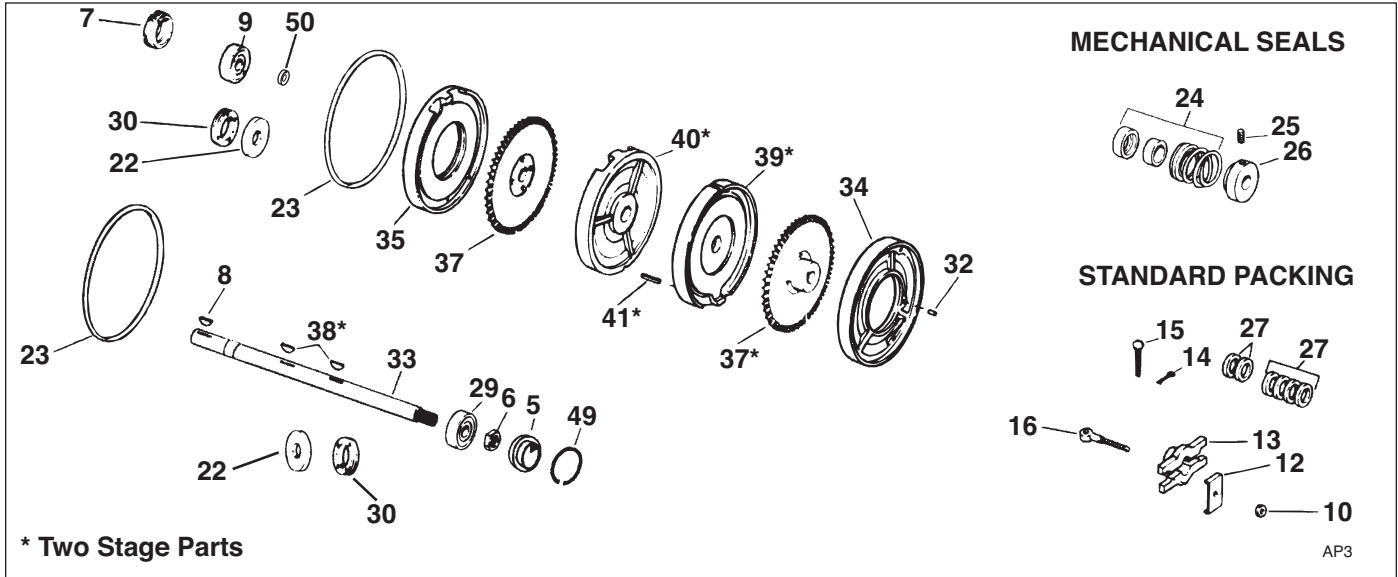
110A SERIES REPAIR PARTS KITS

KIT SECTION PAGE 7

Dated APRIL 2001

Supersedes Issue

Dated NOVEMBER 1998



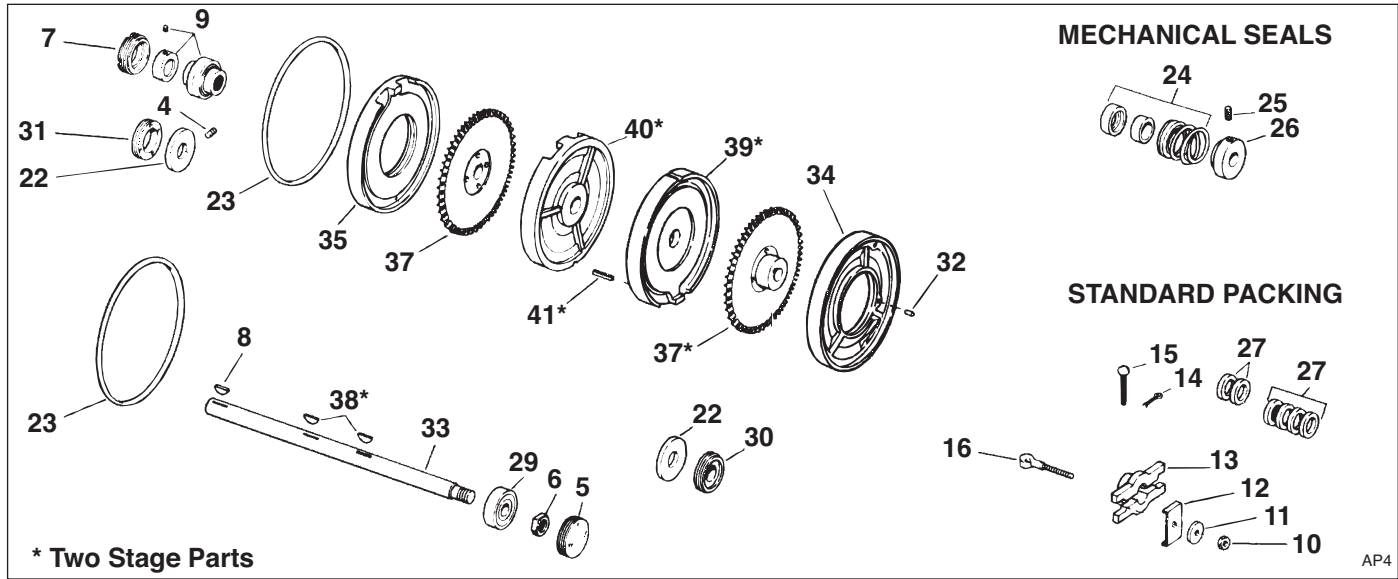
REPAIR KIT PACKED		REPAIR KIT SEAL	
Model	Kit Number	Model	Kit Number
A35	476-0485----	A35S	476-0525----
A4	476-0486----	A4S	476-0526----
B4	476-0487----	B4S	476-0527----
C4	476-0488----	C4S	476-0528----
D4	476-0489----	D4S	476-0529----
E4	476-0490----	E4S	476-0530----
F4	476-0491----	F4S	476-0531----
G4	476-0492----	G4S	476-0532----
H4	476-0493----	H4S	476-0533----
I4	476-0494----	I4S	476-0534----
I4A	476-0495----	I4AS	476-0535----
M4	476-0496----	M4S	476-0536----
P4	476-0497----	P4S	476-0537----
R4	476-0498----	R4S	476-0538----
D4T	476-0499----	D4TS	476-0539----
E4T	476-0500----	E4TS	476-0540----
F4T	476-0501----	F4TS	476-0541----
G4T	476-0502----	G4TS	476-0542----
I4T	476-0503----	I4TS	476-0543----
I4TA	476-0504----	I4TAS	476-0544----
D5	476-0474----	D5S	476-0545----
E5	476-0475----	E5S	476-0546----
F5	476-0473----	F5S	476-0547----
G5	476-0476----	G5S	476-0548----
H5	476-0477----	H5S	476-0549----
I5	476-0478----	I5S	476-0550----
J5	476-0506----	J5S	476-0551----
K5	476-0507----	K5S	476-0552----
L5	476-0508----	L5S	476-0553----
M5	476-0509----	M5S	476-0554----
N5	476-0510----	N5S	476-0555----
P5	476-0511----	P5S	476-0556----
D5T	476-0479----	D5TS	476-0557----
E5T	476-0480----	E5TS	476-0558----
F5T	476-0481----	F5TS	476-0559----
G5T	476-0482----	G5TS	476-0560----
H5T	476-0483----	H5TS	476-0561----
I5T	476-0484----	I5TS	476-0562----
G6	476-0512----	G6S	476-0563----
H6	476-0513----	H6S	476-0564----
J6	476-0514----	J6S	476-0565----
K6	476-0515----	K6S	476-0566----
D6T	476-0516----	D6TS	476-0567----
E6T	476-0517----	E6TS	476-0568----
F6T	476-0518----	F6TS	476-0569----
G6T	476-0519----	G6TS	476-0570----
H6T	476-0520----	H6TS	476-0571----
J6T	476-0521----	J6TS	476-0572----
K6T	476-0522----	K6TS	476-0573----

PARTS INCLUDED IN REPAIR KIT

PC #	Part Description	Material Codes			
		644	643	642	554
		BF	AB	AI	BR
5	Retainer	500	500	500	500
6	Nut	080	080	080	080
7	Retainer	500	500	500	500
8	Key	087	087	087	087
9	Bearing	647	647	647	647
10	Nut	080	190	080	080
12	Clamp	360	190	360	360
13	Gland (A35-I4A) (M4-K6)	662 010	660 208	661 010	662
010					
14	Cotter Pin	087	087	087	087
15	Clevis Pin	360	360	360	360
16	Swing Bolt	080	190	080	080
22	Slinger	478	478	478	478
23	O Ring	478	478	478	478
24	Mechanical Seal	755	754	758	755
25	Setscrew	104	104	104	104
26	Collar	208	208	208	087
27	Packing	802	802	802	802
29	Bearing	647	647	647	647
30	Retainer	500	500	500	500
32	Pin	104	104	104	104
33	Shaft	109	109	109	109
34	Channel Ring O.B.	010	208	010	208
35	Channel Ring I.B.	010	208	010	208
37	Impeller	208	208	053	208
38	Key	100	100	100	100
39	Spacer	010	208	010	208
40	Spacer	010	208	010	208
41	Key	104	104	104	104
49	Int. Ret. Ring	088	088	088	088
50	Tolerance Ring	114	114	114	114

For BF Construction Use Material Code 644 at end of Kit Number.
 For AB Construction Use Material Code 643 at end of Kit Number.
 For AI Construction Use Material Code 642 at end of Kit Number.
 For BR Construction Use Material Code 554 at end of Kit Number.

110 SERIES (OLD STYLE PUMP) REPAIR PARTS KITS**



AP4

**Availability of old style repair kits dependent upon availability of lock collar bearing, Piece 9.

REPAIR KIT PACKED		REPAIR KIT SEAL	
Model	Kit Number	Model	Kit Number
A35	476-0100----	A35S	476-0153----
A4	476-0101----	A4S	476-0154----
B4	476-0102----	B4S	476-0155----
C4	476-0103----	C4S	476-0156----
D4	476-0104----	D4S	476-0157----
E4	476-0105----	E4S	476-0158----
F4	476-0106----	F4S	476-0159----
G4	476-0107----	G4S	476-0160----
H4	476-0108----	H4S	476-0161----
I4	476-0109----	I4S	476-0162----
I4A	476-0110----	I4AS	476-0163----
M4	476-0111----	M4S	476-0164----
P4	476-0112----	P4S	476-0165----
R4	476-0113----	R4S	476-0166----
D4T	476-0114----	D4TS	476-0167----
E4T	476-0115----	E4TS	476-0168----
F4T	476-0116----	F4TS	476-0169----
G4T	476-0117----	G4TS	476-0170----
I4T	476-0119----	I4TS	476-0172----
I4TA	476-0120----	I4TAS	476-0173----
D5	476-0121----	D5S	476-0174----
E5	476-0122----	E5S	476-0175----
F5	476-0123----	F5S	476-0176----
G5	476-0124----	G5S	476-0177----
H5	476-0125----	H5S	476-0178----
I5	476-0126----	I5S	476-0179----
J5	476-0127----	J5S	476-0180----
K5	476-0128----	K5S	476-0181----
L5	476-0129----	L5S	476-0182----
M5	476-0130----	M5S	476-0183----
N5	476-0131----	N5S	476-0184----
P5	476-0132----	P5S	476-0185----
D5T	476-0133----	D5TS	476-0186----
E5T	476-0134----	E5TS	476-0187----
F5T	476-0135----	F5TS	476-0188----
G5T	476-0136----	G5TS	476-0189----
H5T	476-0137----	H5TS	476-0190----
I5T	476-0138----	I5TS	476-0191----
G6	476-0142----	G6S	476-0195----
H6	476-0143----	H6S	476-0196----
J6	476-0144----	J6S	476-0197----
K6	476-0145----	K6S	476-0198----
D6T	476-0146----	D6TS	476-0199----
E6T	476-0147----	E6TS	476-0200----
F6T	476-0148----	F6TS	476-0201----
G6T	476-0149----	G6TS	476-0202----
H6T	476-0150----	H6TS	476-0203----
J6T	476-0151----	J6TS	476-0204----
K6T	476-0152----	K6TS	476-0205----

PARTS INCLUDED IN REPAIR KIT

PC #	Part Description	Material Codes			
		644	643	642	554
		BF	AB	AI	BR
4	Setscrew	511	511	511	511
5	Adj. Nut	500	500	500	500
6	Nut	080	080	080	080
7	Adj. Nut	500	500	500	500
8	Key	087	087	087	087
9	Bearing & Collar	647	647	647	647
10	Nut	080	190	080	080
11	Washer	360	190	360	360
12	Clamp	360	190	360	360
13	Gland Half (A35-I4A) (M4-K6)	662 010	660 208	661 010	662
010					
14	Cotter Pin	087	087	087	087
15	Clevis Pin	360	360	360	360
16	Swing Bolt	080	190	080	080
22	Slinger	478	478	478	478
23	O Ring	478	478	478	478
24	Mechanical Seal	755	754	758	755
25	Setscrew	104	104	104	104
26	Collar	208	208	208	087
27	Packing	802	802	802	802
29	Bearing	647	647	647	647
30	Adj. Nut	500	500	500	500
31	Adj. Nut	500	500	500	500
32	Pin	104	104	104	104
33	Shaft	109	109	109	109
34	Channel Ring O.B.	010	208	010	208
35	Channel Ring I.B.	010	208	010	208
37	Impeller	208	208	053	208
38	Key	100	100	100	100
39	Spacer	010	208	010	208
40	Spacer	010	208	010	208
41	Key	104	104	104	104

For BF Construction Use Material Code 644.
For AB Construction Use Material Code 643.
For AI Construction Use Material Code 642.
For BR Construction Use Material Code 554.

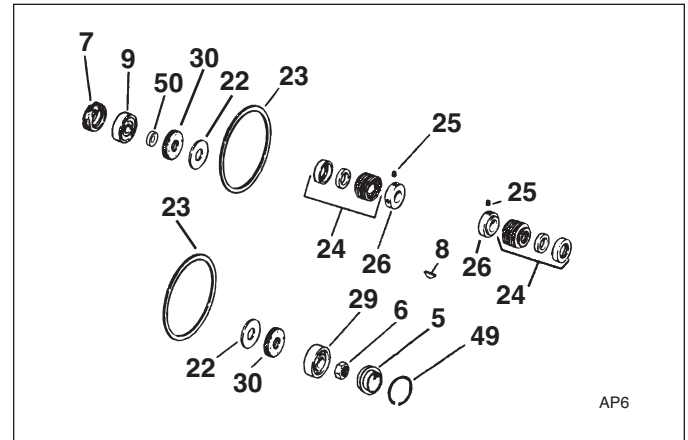
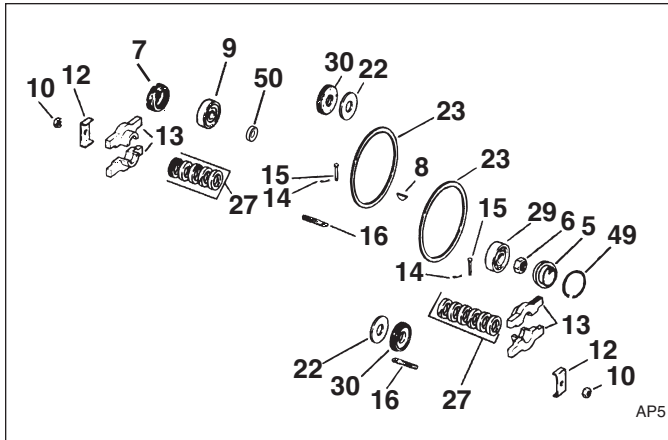
120A/B SERIES PACKING/SEAL KITS (WITH BEARINGS)

KIT SECTION PAGE 9

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PACKING KIT

Model	Kit Number
EX4 FX4 GX4 HX4 IX4 EX4T FX4T GX4T HX4T IX4T	476-0761-644

SEAL KIT

Model	Kit Number
EX4S FX4X GX4S HX4S IX4S EX4TS FX4TS GX4TS HX4TS IX4TS	476-0762-644

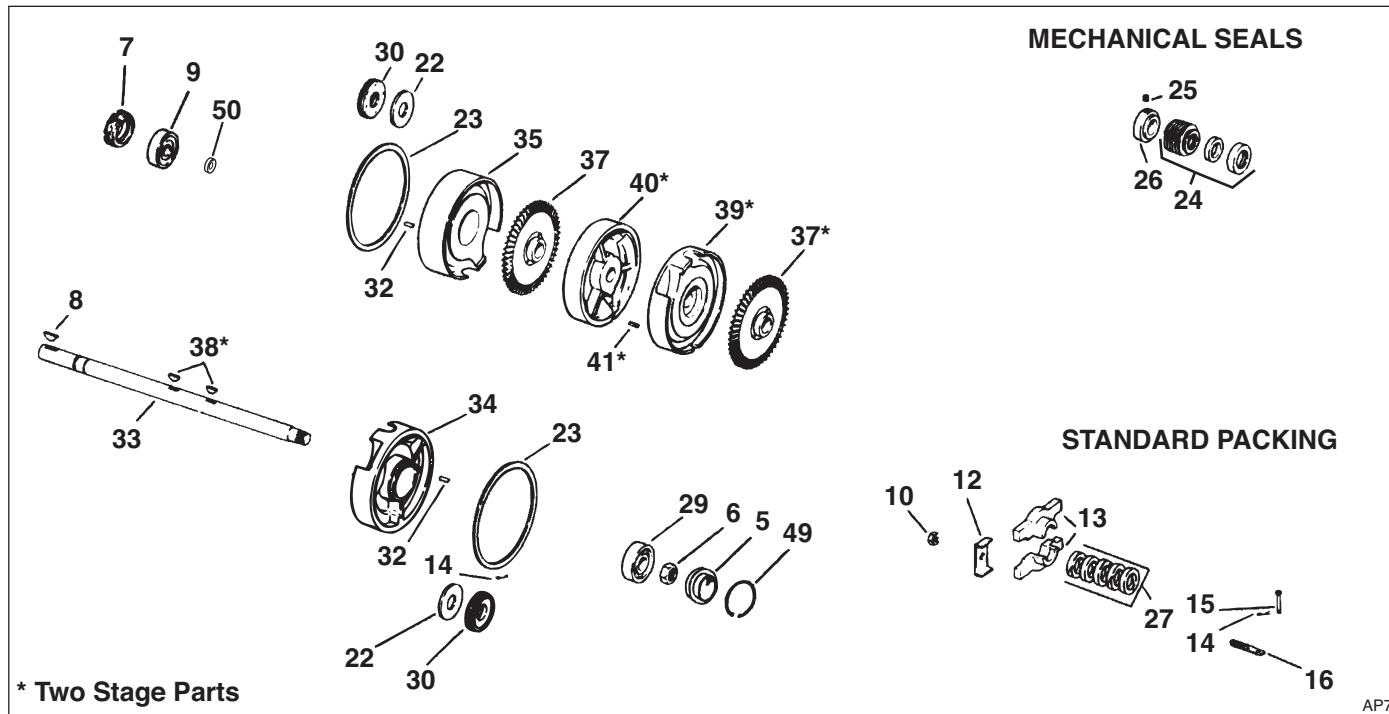
PARTS INCLUDED IN PACKING KIT

PC#	Part Description	Material Code
		644
5	Retainer	500
6	Nut	080
7	Retainer	500
8	Key	087
9	Bearing	647
10	Nut	080
12	Clamp	360
13	Gland	010
14	Cotter Pin	087
15	Clevis Pin	360
16	Swing Bolt	080
22	Slinger	478
23	O Ring	478
27	Packing	802
29	Bearing	647
30	Retainer	500
49	Int. Ret. Ring	088
50	Tolerance Ring	114

PARTS INCLUDED IN MECHANICAL SEAL KIT

PC#	Part Description	Material Code
		644
5	Retainer	500
6	Nut	080
7	Retainer	500
8	Key	087
9	Bearing	647
22	Slinger	478
23	O Ring	478
24	Mechanical Seal	755
25	Setscrew	104
26	Collar	208
29	Bearing	647
30	Retainer	500
49	Int. Ret. Ring	088
50	Tolerance Ring	114

120B SERIES REPAIR PARTS KITS



REPAIR KIT PACKED		REPAIR KIT SEAL	
Model	Kit Number	Model	Kit Number
EX4	476-0662----	EX4S	476-0672----
FX4	476-0663----	FX4X	476-0673----
GX4	476-0664----	GX4S	476-0674----
HX4	476-0665----	HX4S	476-0675----
IX4	476-0666----	IX4S	476-0676----
EX4T	476-0667----	EX4TS	476-0677----
FX4T	476-0668----	FX4TS	476-0678----
GX4T	476-0669----	GX4TS	476-0679----
HX4T	476-0670----	HX4TS	476-0680----
IX4T	476-0671----	IX4TS	476-0681----

PARTS INCLUDED IN REPAIR PARTS KIT

PC #	Part Description	Material Codes	
		644	642
		BF	AI
5	Retainer	500	500
6	Nut	080	080
7	Retainer	500	500
8	Key	087	087
9	Bearing	647	647
10	Nut	080	080
12	Clamp	360	360
13	Gland	010	010
14	Cotter Pin	087	087
15	Clevis Pin	360	360
16	Swing Bolt	080	080
22	Slinger	478	478
23	O Ring	478	478
24	Mechanical Seal	755	758
25	Setscrew	104	104
26	Collar	208	087
27	Packing	802	802
29	Bearing	647	647
30	Retainer	500	500
32	Pin	104	104
33	Shaft	109	109
34	Channel Ring O.B.	010	010
35	Channel Ring I.B.	010	010
37	Impeller	208	053
38	Key	100	100
39	Spacer	010	010
40	Spacer	010	010
41	Key	104	104
49	Int. Ret. Ring	088	088
50	Tolerance Ring	114	114

For BF Construction Use Material Code 644.
For AI Construction Use Material Code 642.

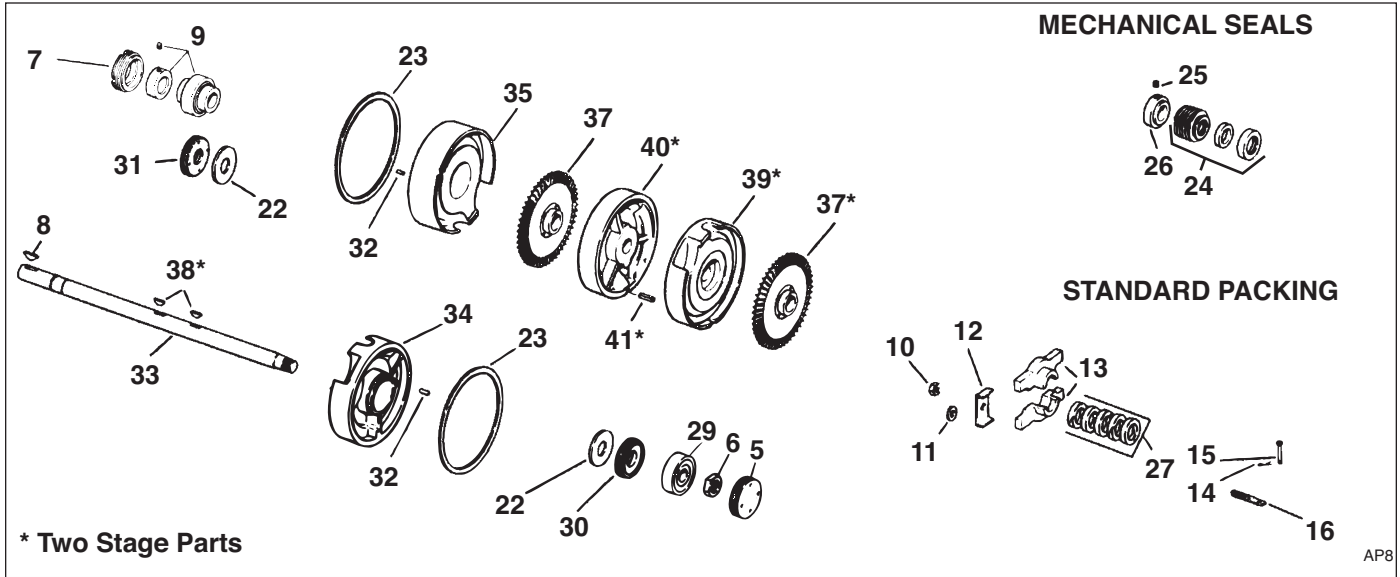
120A SERIES (OLD STYLE PUMP) REPAIR PARTS KIT**

KIT SECTION PAGE 11

Dated APRIL 2001

Supersedes Issue

Dated NOVEMBER 1998



****Availability of old style repair kits dependent upon availability of lock collar bearing, Piece 9.**

REPAIR KIT PACKED		REPAIR KIT SEAL	
Model	Kit Number	Model	Kit Number
EX4	476-0256----	EX4S	476-0266----
FX4	476-0257----	FX4X	476-0267----
GX4	476-0258----	GX4S	476-0268----
HX4	476-0259----	HX4S	476-0269----
IX4	476-0260----	IX4S	476-0270----
EX4T	476-0261----	EX4TS	476-0271----
FX4T	476-0262----	FX4TS	476-0272----
GX4T	476-0263----	GX4TS	476-0273----
HX4T	476-0264----	HX4TS	476-0274----
IX4T	476-0265----	IX4TS	476-0275----

PARTS INCLUDED IN REPAIR KIT

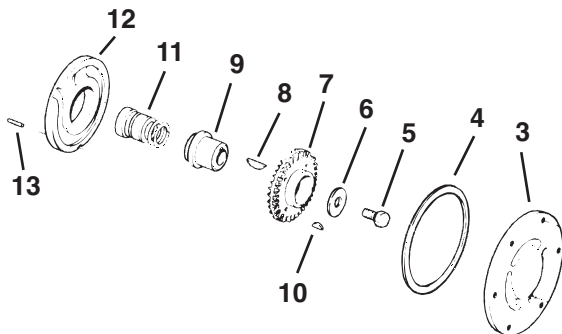
PC #	Part Description	Material Codes	
		644	642
		BF	AI
4	Setscrew	511	511
5	Adj. Nut	500	500
6	Nut	080	080
7	Adj. Nut	500	500
8	Key	087	087
9	Bearing & Collar	647	647
10	Nut	080	080
11	Washer	360	360
12	Clamp	360	360
13	Gland Half	010	010
14	Cotter Pin	087	087
15	Clevis Pin	360	360
16	Swing Bolt	080	080
22	Slinger	478	478
23	O Ring	478	478
24	Mechanical Seal	755	758
25	Setscrew	104	104
26	Collar	208	087
27	Packing	802	802
29	Bearing	647	647
30	Adj. Nut	500	500
31	Adj. Nut	500	500
32	Pin	104	104
33	Shaft	109	109
34	Channel O.B.	010	010
35	Channel I.B.	010	010
37	Impeller	208	053
38	Key	100	100
39	Spacer	010	010
40	Spacer	010	010
41	Key	104	104

For BF Construction Use Material Code 644.
For AI Construction Use Material Code 642.

MODEL 133-134-135

REPAIR PARTS KITS

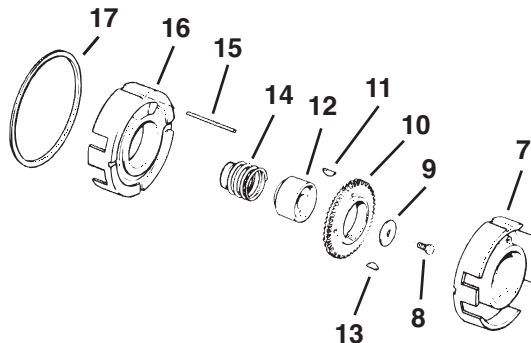
133



AP9

Pump Size	Kit Number
D 03	476-0075----
E 03	476-0076----
F 03	476-0077----
G 03	476-0078----

134-135



AP10

Pump Size	56C-184T Kit Number	213T-256T Kit Number
A 04	476-0079----	
B 04	476-0080----	
C 04	476-0081----	
D 04	476-0082----	
F 05	476-0084----	476-0092----
G 05	476-0085----	476-0093----
H 05	476-0086----	476-0094----
I 05	476-0087----	476-0095----
J 05	476-0088----	476-0096----
K 05	476-0089----	476-0097----

PC #	Part Description	Material Codes			
		644	643	642	554
3	Cover	208	208	370	208
4	Gasket	457	457	457	457
5	Capscrew	104	104	104	104
6	Washer	104	104	104	104
7	Impeller	208	208	053	208
8	Key	100	100	100	100
9	Sleeve	208	208	104	208
10	Key	100	100	100	100
11	Mechanical Seal	749	764	749	749
12	Inner Ring	208	208	370	208
13	Pin	104	104	104	104

PC #	Part Description	Material Codes			
		644	643	642	554
7	Outer Ring (134)	208	208	370	208
	(135)	010	208	370	208
8	Capscrew	104	104	104	104
9	Washer	104	104	104	104
10	Impeller	208	208	053	208
11	Key	100	100	100	100
12	Sleeve	208	208	104	208
13	Key	100	100	100	100
14	Mechanical Seal	749	764	749	749
15	Pin	104	104	104	104
16	Inner Ring (134)	208	208	010	208
	(135)	010	208	370	208
17	Gasket	457	457	457	457

FOR BRONZE FITTED CONSTRUCTION, USE MATERIAL CODE 644.
 FOR ALL BRONZE CONSTRUCTION, USE MATERIAL CODE 643.
 FOR ALL IRON CONSTRUCTION, USE MATERIAL CODE 642.
 FOR BRONZE RING CONSTRUCTION, USE MATERIAL CODE 554.

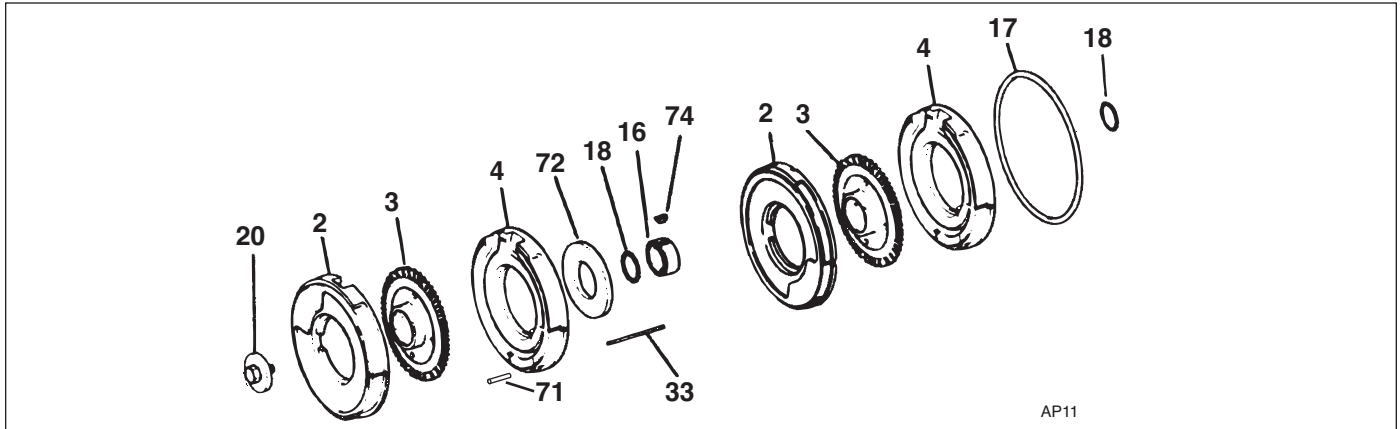
150 SERIES REPAIR PARTS KITS

KIT SECTION PAGE 13

Dated APRIL 2001

Supersedes Issue

Dated NOVEMBER 1998



AP11

Model	Pump Size	Kit Number
151	CT-111	476-0319----
151	CT-211	476-0320----
151	CT-212	476-0321----
152	CT-713	476-0322----
152	CT-715	476-0323----
152	CT-811	476-0324----
152	CT-911	476-0325----
152	CT-912	476-0326----
152	CT-913	476-0327----
152	CT-914	476-0328----
153-154	CT-723	476-0329----
153-154	CT-725	476-0330----
153-154	CT-821	476-0331----
153-154	CT-921	476-0332----
153-154	CT-922	476-0333----
153-154	CT-923	476-0334----
153-154	CT-924	476-0335----
153-154	CT-991	476-0332----
153-154	CT-992	476-0333----
153-154	CT-993	476-0334----
153-154	CT-994	476-0335----

PARTS INCLUDED IN 151-152 REPAIR KIT

PC #	Part Description	Material Codes		
		623	642	493
2	Channel Ring, RH	548	010	010
3	Impeller	104	053	104
4	Channel Ring, LH	548	010	010
17	O Ring	494	494	494
18	O Ring	494	494	494
20	Impeller Screw	104	104	104
33	Pin	104	104	104

PARTS INCLUDED IN 153-154 REPAIR KIT

PC #	Part Description	Material Codes		
		623	642	493
2	Channel Ring, RH	548	010	010
3	Impeller	104	053	104
4	Channel Ring, LH	548	010	010
16	Sleeve Extension	104	104	104
17	O Ring	494	494	494
18	O Ring	494	494	494
20	Impeller Screw	104	104	104
33	Pin	104	104	104
71	Pin	104	104	104
72	Bushing	104	104	104
74	Key	104	104	104

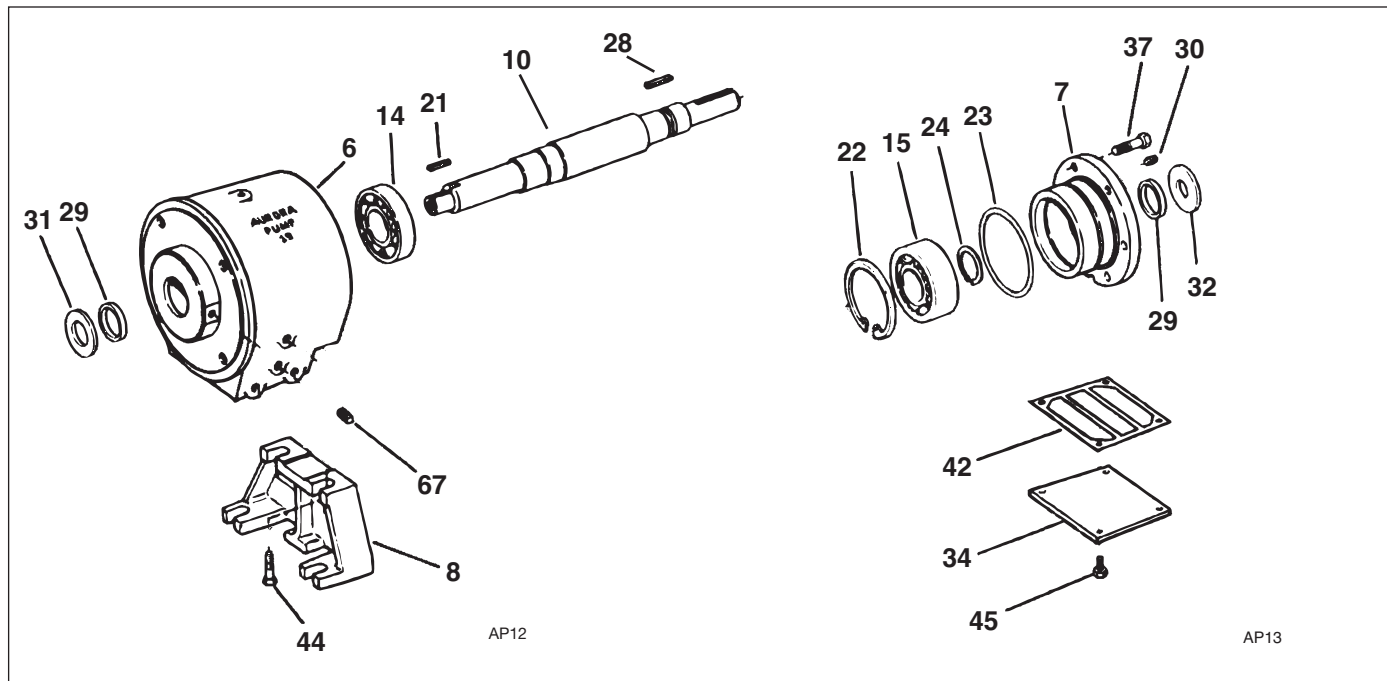
For Pump Material Code 14, Use 623. (316 ST. STL)

For Pump Material Code 19, Use 642. (ALL IRON)

For Pump Material Code 23, Use 493. (ST. STL/C)

Note: Kits do not contain Mechanical Seal or gland due to numerous different applications. Refer to factory.

150 SERIES POWER FRAME ASSEMBLIES



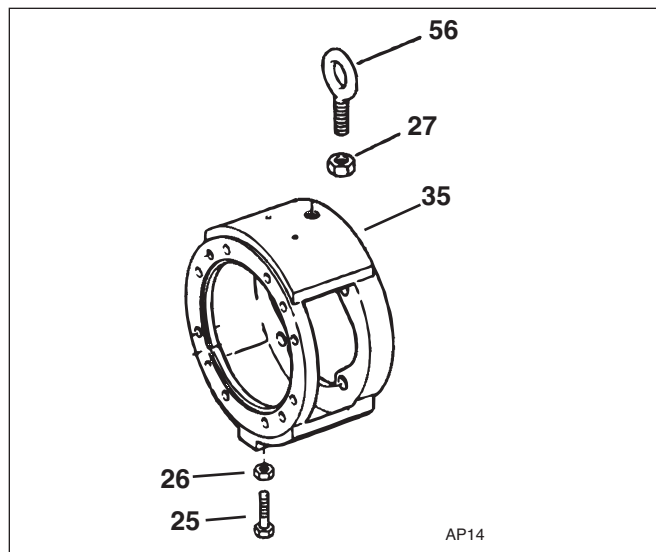
Model	Assy. No. Standard Frame	Assy. No. Water Jacketed
151	355-0069----	N/A
152	355-0033----	355-0070----
153	355-0036----	355-0071----
154	355-0036----	355-0071----

PARTS INCLUDED IN POWER FRAME ASSEMBLY

PC #	Part Description	Material Codes		
		623 14	644 *	646 22
6	Bearing Frame	010	010	010
7	Cartridge	010	010	010
8	Foot	010	010	010
10	Shaft	104	063	111
14	Bearing	647	647	647
15	Bearing	647	647	647
22	Retaining Ring	088	088	088
23	O Ring	457	457	457
24	Retaining Ring	088	088	088
28	Key	087	087	087
29	Seal	653	653	653
31	Slinger	522	522	522
32	Slinger	522	522	522
34	Cover (Opt)	087	087	087
37	Capscrew	082	082	082
42	Gasket (Opt)	614	614	614
44	Capscrew	082	082	082
45	Capscrew	082	082	082
67	Pipe Plug	087	087	087

For Pump Material Code 14, Use 623. (316 ST. STL)
 * For Pump Material Code 19, 20, 21, 23, 24, Use 644. (SS/CI)
 For Pump Material Code 22, Use 646. (ALLOY 20)

BRACKET KITS



Model	Kit Number
151	N/R
152	476-0336-642
153	476-0336-642
154	476-0336-642

PARTS INCLUDED IN BRACKET KITS

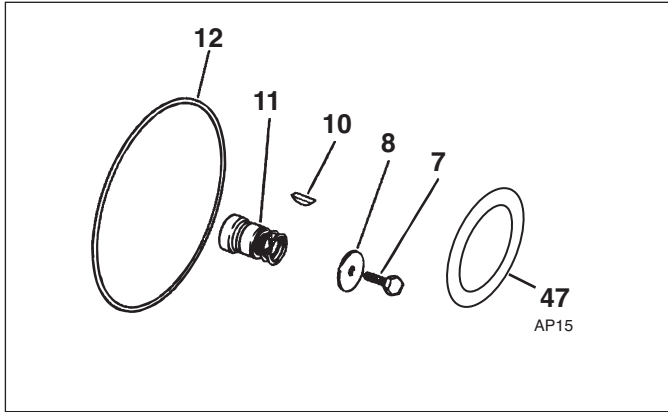
PC #	Part Description	Material Code
		642
25	Capscrew	082
26	Nut	080
27	Nut	080
35	Bracket	010
56	Eyebolt	080

320 SERIES SEAL KIT

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Dated APRIL 2001

Supersedes Issue
Dated NOVEMBER 1998

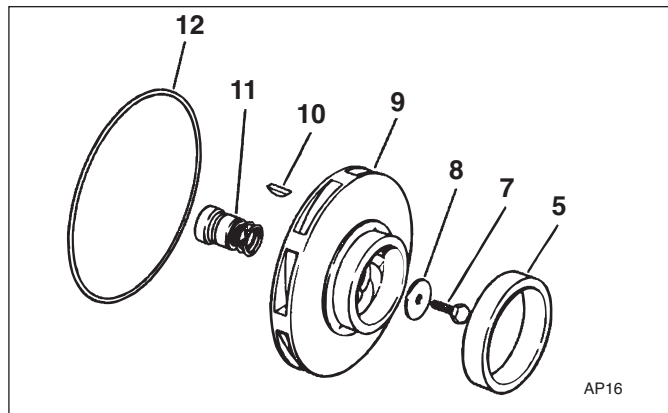


NOTE: PC #47 included with Model 323 kits only.

Pump Model	Pump Construction	Kit Number
321, 324A & 326A	Brz Ftd & All Iron	476-0278-644
	All Bronze	476-0278-643
323	Brz Ftd & All Iron	476-0788-644
Kits with 250 Degree F. Seals		
321 & 324A	Brz Ftd & All Iron	476-0787-644
323	Brz Ftd & All Iron	476-0791-644

PC#	Part Description	Material Code	
		644	643
7	Capscrew	104	104
8	Washer	104	104
10	Key	100	100
11	Seal (Std)	749	764
	Seal (Hi-Temp)	745	745
12	O Ring	457	457
47	Gasket	603	—

REPAIR PARTS KIT MODELS 321, 323 & 324A



Pump Size	Kit Number
3/4 x 1 x 6A	476-0337----
3/4 x 1 x 7A	476-0338----
3/4 x 1 x 7B	476-0339----
1 x 1-1/4 x 4	476-0340----
1 x 1-1/4 x 5	476-0341----
1 x 1-1/4 x 6	476-0342----
1-1/4 x 1-1/2 x 5	476-0343----
1-1/4 x 1-1/2 x 7A	476-0344----
1-1/4 x 1-1/2 x 7B	476-0345----
1-1/4 x 1-1/2 x 9	476-0346----
1-1/2 x 2 x 4	476-0347----
1-1/2 x 2 x 7	476-0348----
2 x 2-1/2 x 4	476-0349----
2 x 2-1/2 x 5	476-0350----
2 x 2-1/2 x 6	476-0351----
2 x 2-1/2 x 7	476-0352----
3 x 3 x 6	476-0353----

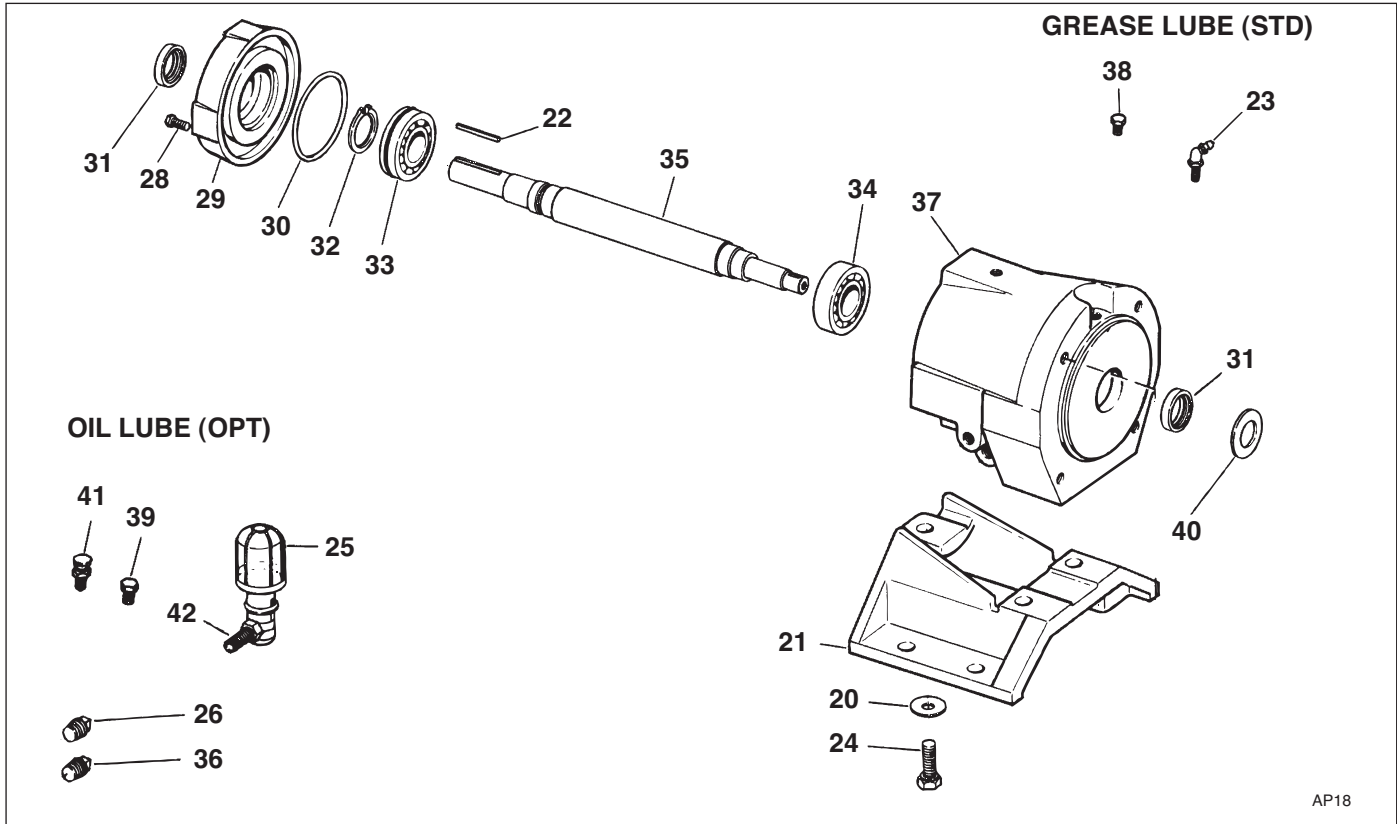
NOTE: IMPELLERS IN THESE KITS
WILL BE FURNISHED AT FULL
DIAMETER UNLESS SPECIFIED.

PARTS INCLUDED IN REPAIR PARTS KIT

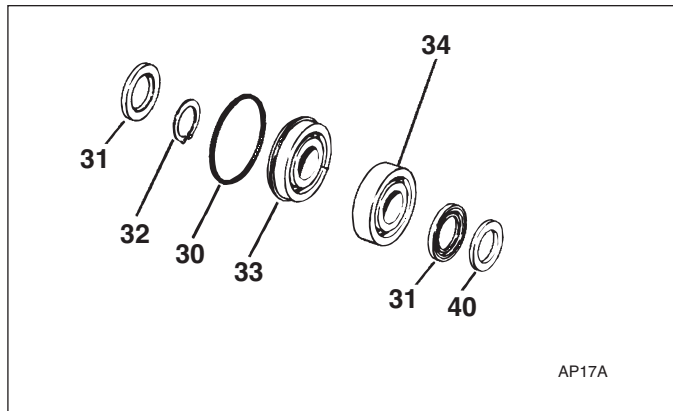
PC #	Part Description	Material Codes		
		644	643	642
		BF	AB	AI
5	Case Ring	208	208	010
7	Capscrew	104	104	104
8	Washer	104	104	104
9	Impeller	208	208	010
10	Key	100	100	100
11	Mechanical Seal	749	764	749
12	Gasket	457	457	457

For Bronze Fitted Construction, Use Material Code 644.
For All Bronze Construction, Use Material Code 643.
Some Kits available in All Iron Construction, consult factory.

MODEL 324A POWER FRAME ASSEMBLIES



POWER FRAME REPAIR KIT



Power Frame No.	Kit Number Grease Lube	Kit Number Oil Lube
1	476-0621-644	476-0624-644

Lubrication	Assy # 416 S/S Shaft	Assy # 316 S/S Shaft
Grease	355-0010-644	355-0010-646
Oil	355-0041-644	355-0041-646

PARTS INCLUDED IN POWER FRAME ASSEMBLY

PC #	Part Description	Material Codes	
		644	646
20	Washer	360	360
21	Support	010	010
22	Key	087	087
23	Grease Fitting	653	653
24	Capscrew	082	082
25	Oiler Assembly	652	652
26	Pipe Plug	087	087
28	Capscrew	082	082
29	Bearing Cap	010	010
30	O Ring	457	457
31	Seal	653	653
32	Retainer Ring	088	088
33	Bearing	647	647
34	Bearing	647	647
35	Shaft	104	104
36	Pipe Plug	087	087
37	Frame	010	010
38	Pipe Plug	087	087
39	Pipe Plug	087	087
40	Slinger	478	478
41	Breather	656	656
42	Nipple	387	387

PARTS INCLUDED IN POWER FRAME REPAIR KIT

PC #	Part Description	Material Code
		644
30	Gasket	457
31	Seal	653
32	Retaining Ring	088
33	Bearing	647
34	Bearing	647
40	Slinger	478

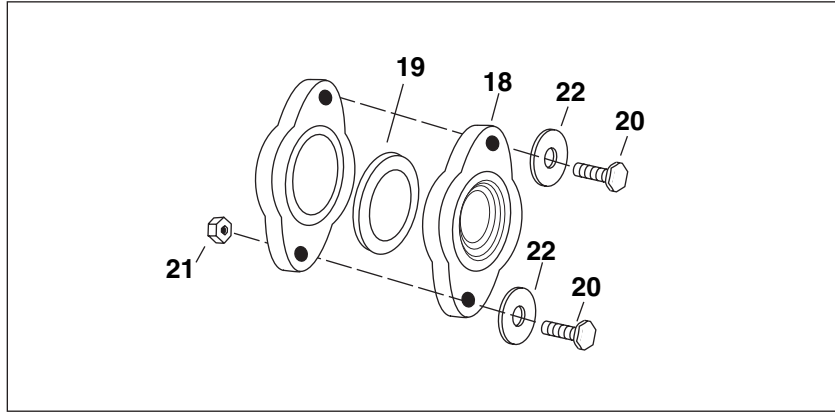
326A SERIES FLANGE GASKET KIT

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Dated **APRIL 2001**

Supersedes Issue

Dated **NOVEMBER 1998**



Flange Size	Kit Number
1-1/4" Flange, 1-1/4" NPT	476-0783
1-1/4" Flange, 1-1/2" NPT	476-0784
1-1/2" Flange, 1-1/2" NPT	476-0785
2" Flange, 2" NPT	476-0786

PARTS INCLUDED IN FLANGE GASKET KIT.

PC #	Part Description	Material Codes		
		644	643	642
		BF	AB	AI
18	Flange	010	208	010
19	Flange Gasket	457	457	457
20	Flange Bolts	082	190	080
21	Flange Nuts	080	190	080
22	Flange Washers	080	190	080

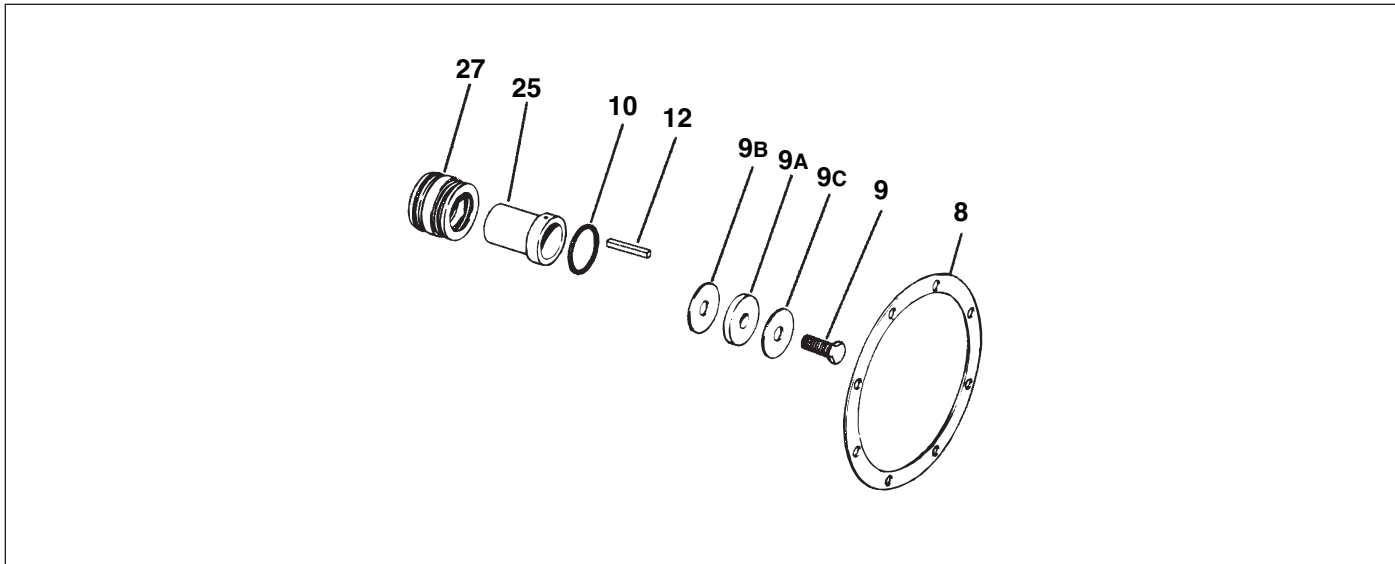
For Bronze Fitted Construction Use Material Code 644.

For All Bronze Construction, Use Material Code 643.

For All Iron Construction, Use Material Code 642.

Note: Flange Gasket Kit contains sufficient parts for 1 pump.

340 SERIES SEAL KITS



THESE SEAL KITS CAN BE USED IN 341A, 342A, 344A AND 382A PUMPS.

Pump Size	Kit Number
Small Bore (STD SEAL)	476-0250----
Large Bore (STD SEAL)	476-0253----

KITS WITH 250°F MECHANICAL SEAL

Small Bore HT	476-0789----
Large Bore HT	476-0790----

BULK PACKAGED SEAL KITS (STD SEAL ONLY)

Qty	Pump Size	Kit Number
6 Pack	Small Bore	476-0770-644
6 Pack	Large Bore	476-0771-644
Baker's Dozen	Small Bore	476-0768-644
Baker's Dozen	Large Bore	476-0769-644

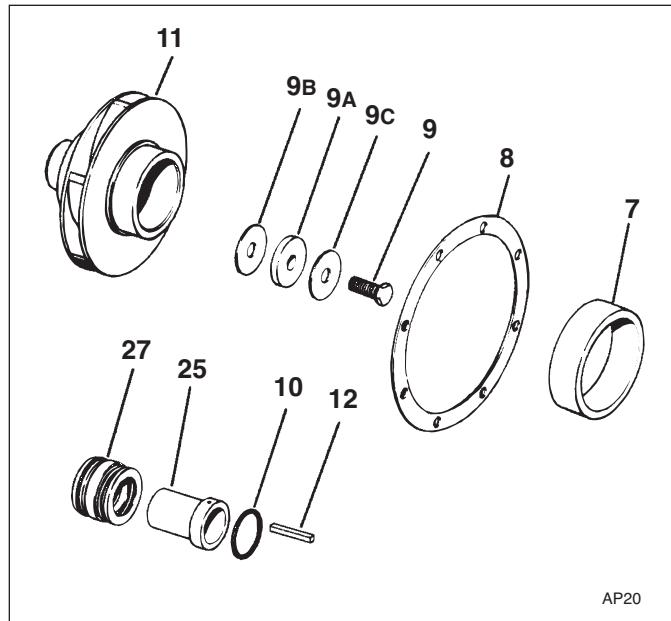
PARTS INCLUDED IN SEAL KIT

PC #	Part Description	Material Codes	
		644	642
8	Gasket	603	603
9	Capscrews	113	113
9A	Washer	087	087
9B	Gasket	603	603
9C	Capscrew Seal	999	999
10	"O" Ring	457	457
12	Impeller Key	087	087
25	Sleeve	208	104
27	Mechanical Seal (STD)	749	749
	Mechanical Seal (HI TEMP)	745	745

For Bronze Fitted Construction, Use Material Code 644.
For All Iron Construction, Use Material Code 642.

340 SERIES REPAIR PARTS KITS

Pump Size	Bore	Kit Number
1-1/4 x 1-1/2 x 7	S	476-0401----
1-1/2 x 2 x 7	S	476-0402----
2 x 2-1/2 x 7A	S	476-0403----
2 x 2-1/2 x 7A	L	476-0404----
2 x 2-1/2 x 7B	S	476-0405----
2-1/2 x 3 x 7A	S	476-0406----
2-1/2 x 3 x 7A	L	476-0407----
2-1/2 x 3 x 7B	S	476-0408----
2-1/2 x 3 x 7B	L	476-0409----
4 x 4 x 7A	S	476-0410----
4 x 4 x 7A	L	476-0411----
4 x 4 x 7B	S	476-0412----
4 x 4 x 7B	L	476-0413----
1-1/4 x 1-1/2 x 9B	S	476-0414----
1-1/2 x 2 x 9A,C	S	476-0415----
1-1/2 x 2 x 9B	S	476-0416----
1-1/2 x 2 x 9C	L	476-0417----
2 x 2-1/2 x 9	S	476-0418----
2 x 2-1/2 x 9	L	476-0419----
2-1/2 x 3 x 9	S	476-0420----
2-1/2 x 3 x 9	L	476-0421----
3 x 4 x 9A	S	476-0422----
3 x 4 x 9A	L	476-0423----
3 x 4 x 9B	S	476-0424----
3 x 4 x 9B	L	476-0425----
4 x 5 x 9A	S	476-0426----
4 x 5 x 9A	L	476-0427----
4 x 5 x 9B	S	476-0428----
4 x 5 x 9B	L	476-0429----
6 x 6 x 9	S	476-0430----
6 x 6 x 9	L	476-0431----
1-1/2 x 2 x 11	S	476-0399----
1-1/2 x 2 x 11	L	476-0400----
2 x 3 x 11	S	476-0432----
2 x 3 x 11	L	476-0433----
3 x 4 x 11	S	476-0434----
3 x 4 x 11	L	476-0435----
4 x 5 x 11	S	476-0436----
4 x 5 x 11	L	476-0437----
5 x 6 x 11	S	476-0438----
5 x 6 x 11	L	476-0439----
6 x 6 x 11	L	476-0463----
6 x 6 x 11A	L	476-0464----
1-1/2 x 2 x 12	S	476-0440----
1-1/2 x 2 x 12	L	476-0441----
2 x 2-1/2 x 12	S	476-0442----
2 x 2-1/2 x 12	L	476-0443----
2-1/2 x 3 x 12	S	476-0444----
2-1/2 x 3 x 12	L	476-0445----
3 x 4 x 12	S	476-0446----
3 x 4 x 12	L	476-0447----
4 x 5 x 12	L	476-0448----
5 x 6 x 12	L	476-0449----
6 x 6 x 12, 12A	L	476-0450----
6 x 6 x 12B	L	476-0574----



PARTS INCLUDED IN REPAIR PARTS KIT

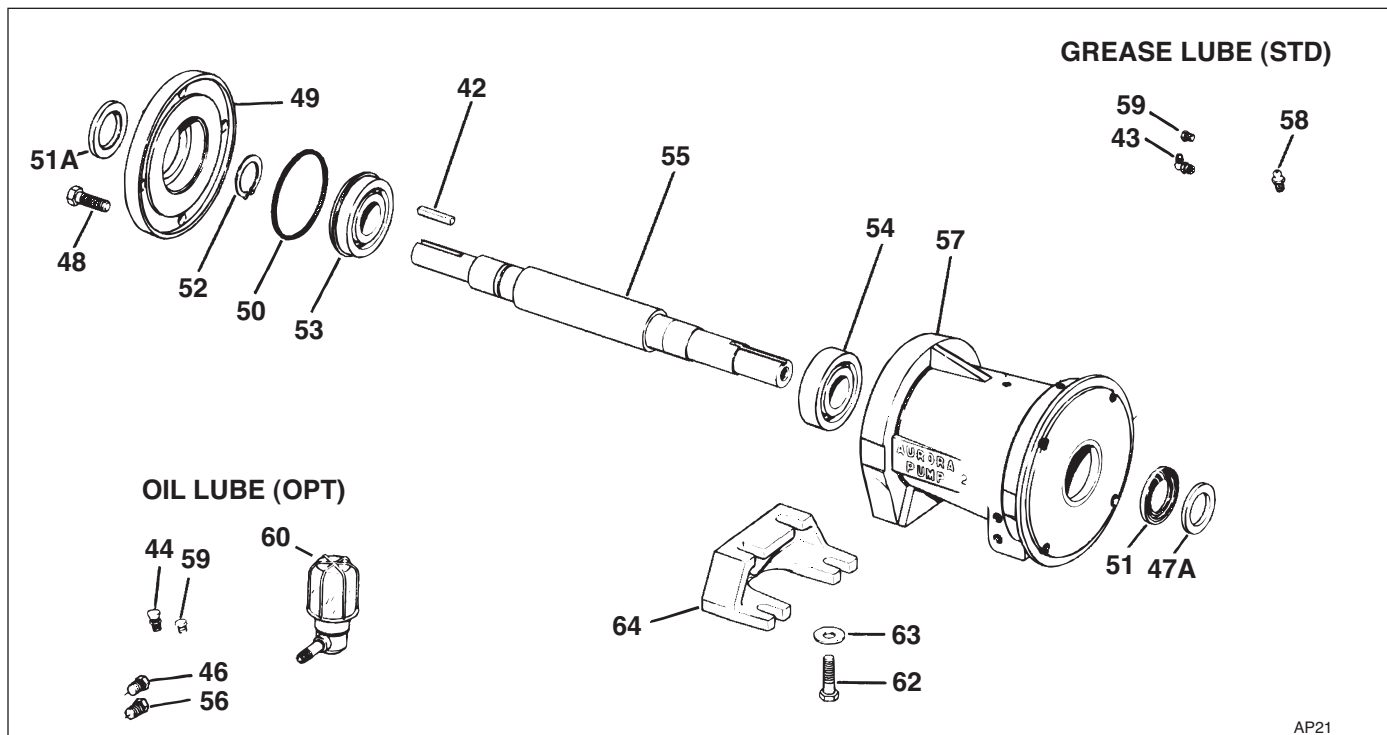
PC #	Part Description	Material Codes	
		644 BF	642 AI
7	Case Ring	208	010
8	Gasket	603	603
9	Capscrew	113	113
9A	Washer	087	087
9B	Gasket	603	603
9C	Capscrew Seal	999	999
10	O Ring	457	457
11	Impeller	225	010
12	Impeller Key	087	087
25	Sleeve	208	104
27	Mechanical Seal	749	749

For BF Construction, Use Material Code 644.

For AI Construction, Use Material Code 642.

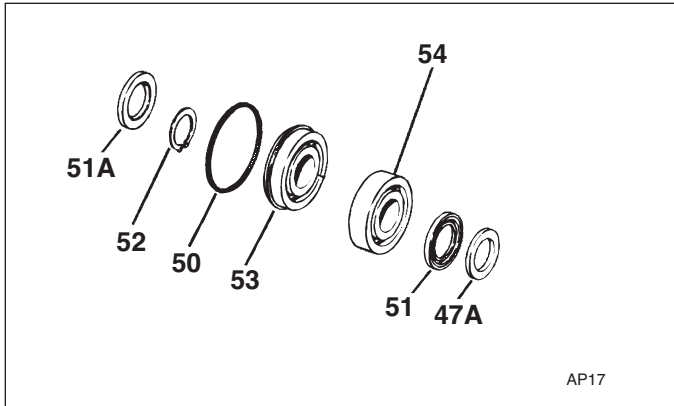
**NOTE: IMPELLERS IN THESE KITS
WILL BE FURNISHED AT FULL
DIAMETER UNLESS SPECIFIED.**

MODEL 344A POWER FRAME ASSEMBLIES



AP21

POWER FRAME REPAIR KIT



AP17

Power Frame No.	Kit Number Grease Lube	Kit Number Oil Lube
1	476-0621-644	476-0624-644
2	476-0622-644	476-0625-644
3	476-0623-644	476-0626-644

PARTS INCLUDED IN POWER FRAME REPAIR KIT

PC #	Part Description	Material Code
		644
47A	Slinger	478
50	Gasket	457
51	Seal	653
51A	Seal	653
52	Retaining Ring	088
53	Bearing	647
54	Bearing	647

Pump Size	Assy # Grease Lube	Assy # Oil Lube
Power Frame 1	355-0006----	355-0022----
Power Frame 2	355-0008----	355-0023----
Power Frame 3	355-0009----	355-0024----

PARTS INCLUDED IN POWER FRAME ASSEMBLIES

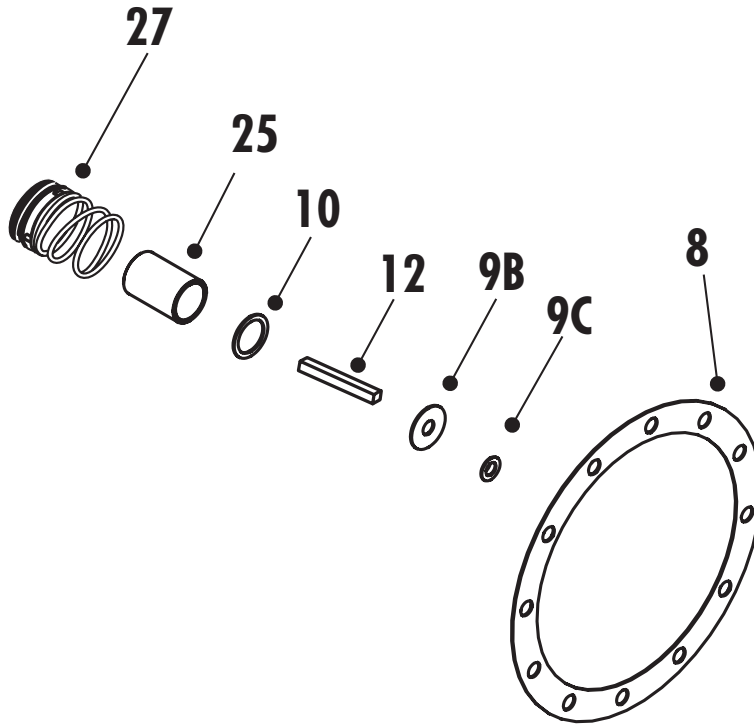
PC #	Part Description	Material Codes	
		644	646
42	Key	087	087
43	Grease Fitting	651	651
44	Vent Tube	656	656
46	Protector	503	503
47A	Slinger	478	478
48	Capscrew	082	082
49	Bearing Cap	010	010
50	Gasket	457	457
51	Seal	653	653
51A	Seal	653	653
52	Retaining Ring	088	088
53	Bearing	647	647
54	Bearing	647	647
55	Shaft	063	104
56	Protector	503	503
57	Frame	010	010
58	Grease Fitting	651	651
59	Pipe Plug	087	087
60	Oiler Assy	652	652
62	Capscrew	082	082
63	Washer	080	080
64	Support	010	010

For C1045 Steel Shaft, Use Material Code 644.

For 316 S/S Shaft, Use Material Code 646.

3340 SERIES

Seal Kits



Pump Size	Kit Number
Small Bore	476-1000-644
Large Bore	476-1001-644
Ex Large Bore	476-1022-644

PC#	Part Description	Material Code
8	Casing Gasket	603
9C	Impeller Bolt Gasket	603
9B	Impeller Washer Gasket	999
12	Impeller Key	087
10	Sleeve Gasket	603
25	Shaft Sleeve	208
29	Mechanical Seal	753

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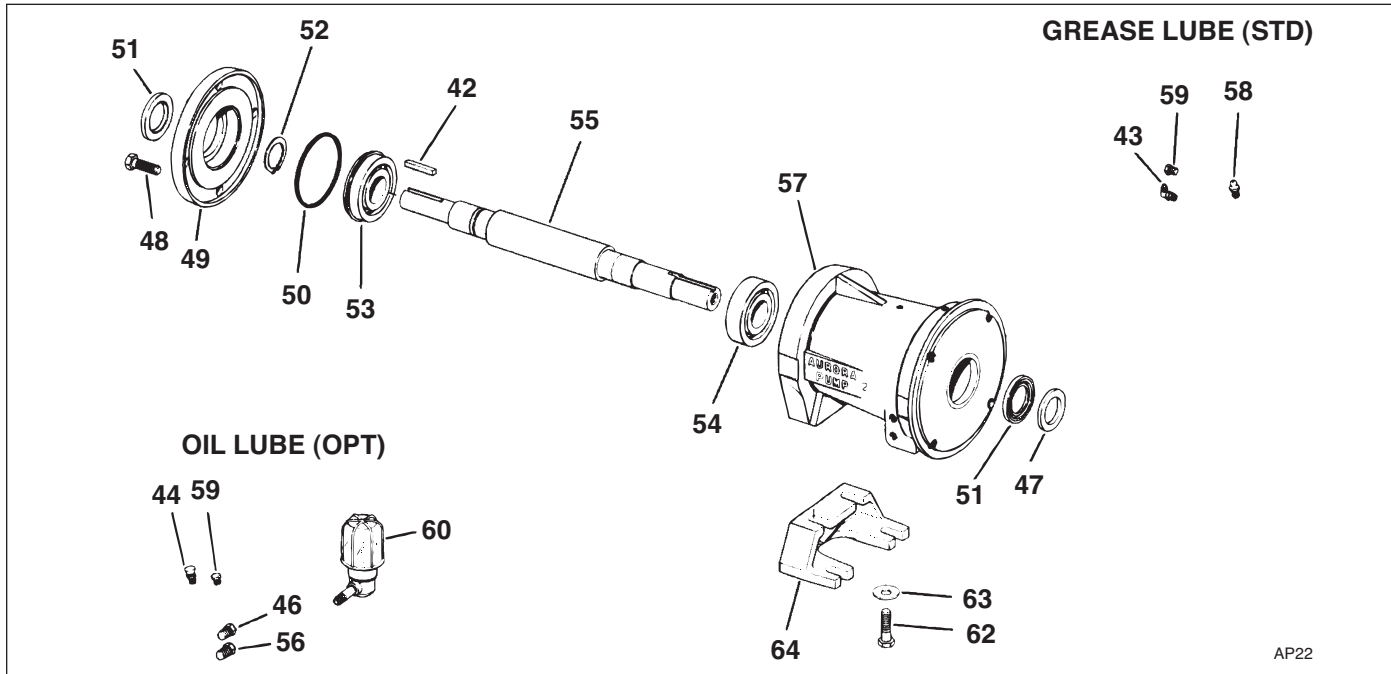
MODEL 364A POWER FRAME ASSEMBLIES

KIT SECTION PAGE 23

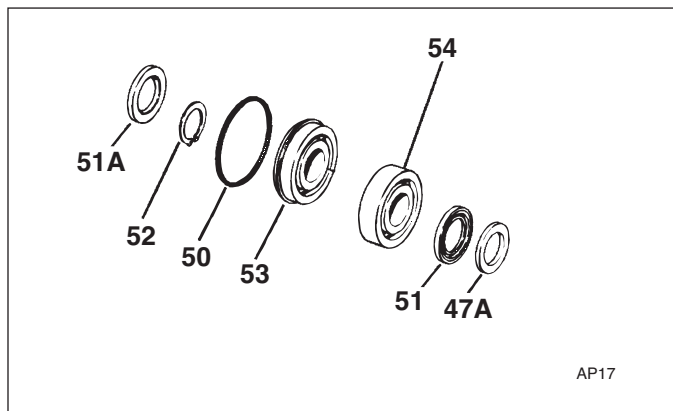
Dated APRIL 2001

Supersedes Issue

Dated NOVEMBER 1998



POWER FRAME REPAIR KIT



Power Frame No.	Kit Number Grease Lube	Kit Number Oil Lube
1	476-0621-644	476-0624-644
2	476-0622-644	476-0625-644
3	476-0623-644	476-0626-644
21	476-0627-644	476-0627-644

PARTS INCLUDED IN POWER FRAME REPAIR KIT

PC #	Part Description	Material Code	
		644	646
47A	Slinger	478	
50	Gasket	457	
51	Seal	653	
51A	Seal	653	
52	Retaining Ring	088	
53	Bearing	647	
54	Bearing	647	

POWER FRAME ASSEMBLIES

Pump Size	Assy # Grease Lube	Assy # Oil Lube
PF #1	355-0011-	355-0025-
PF #2	355-0013-	355-0026-
PF #3	355-0014-	355-0027-
Double Row Bearings (Std. for Semi-Open)		
PF #1	355-0015-	355-0055-
PF #2	355-0016-	355-0056-
PF #3	355-0017-	355-0057-
PF #21	355-0051-	355-0054-

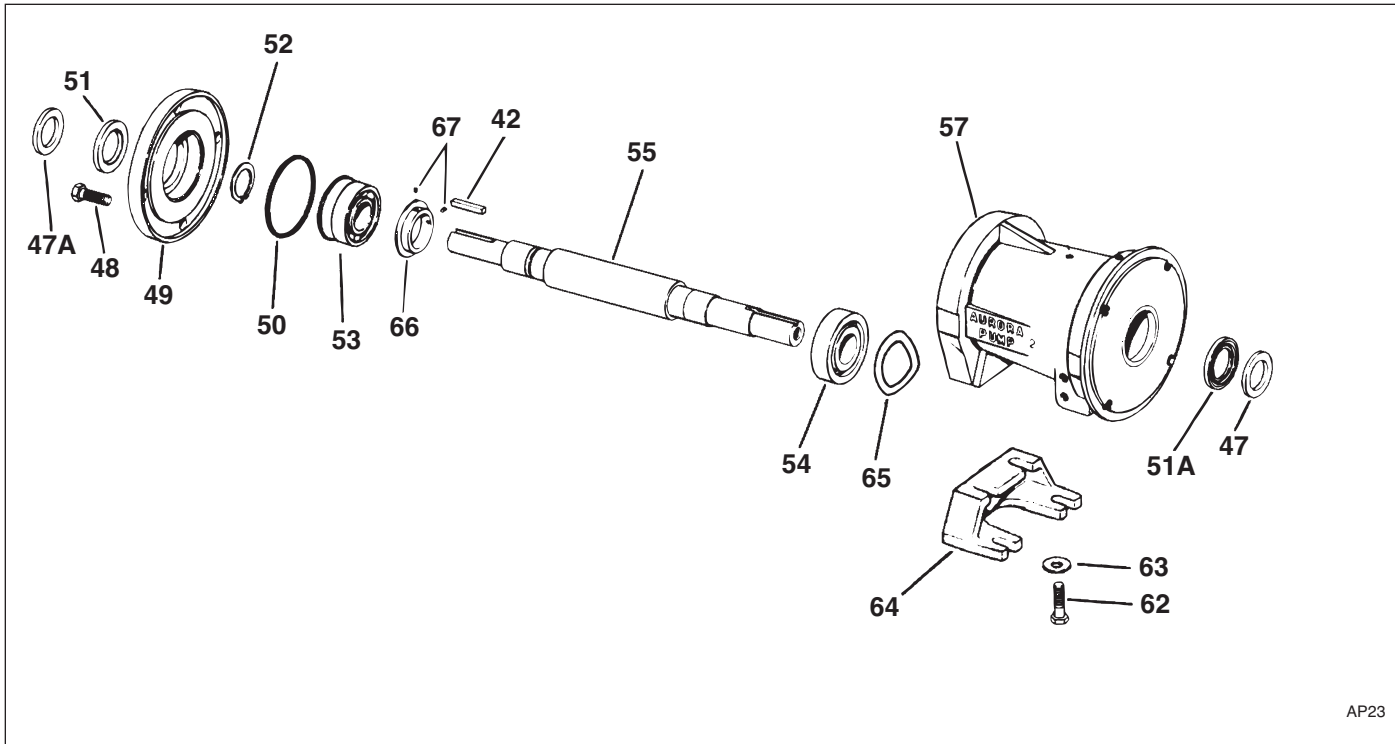
PARTS INCLUDED IN POWER FRAME ASSEMBLY

PC #	Part Description	Material Codes	
		644	646
42	Key	087	087
43	Grease Fitting	651	651
44	Vent Tube	656	656
46	Protector	503	503
48	Capscrew	082	082
49	Bearing Cap	010	010
50	Gasket	457	457
51	Seal	653	653
52	Retaining Ring	088	088
53	Bearing	647	647
54	Bearing	647	647
55	Shaft	063	104
56	Protector	503	503
57	Frame	010	010
58	Grease Fitting	651	651
59	Pipe Plug	087	087
60	Oiler Assy	652	652
62	Capscrew	082	082
63	Washer	080	080
64	Support	010	010

For C1045 Steel Shaft, Use Material Code 644.

For 316 SS Shaft, Use Material Code 646.

MODEL 374B POWER FRAME ASSEMBLIES



AP23

Pump Size	Assy # Grease Lube	Assy # Oil Lube
Power Frame 2	355-0030----	355-0039----
Power Frame 3A	355-0048----	355-0049----
Power Frame 3	355-0029----	355-0040----

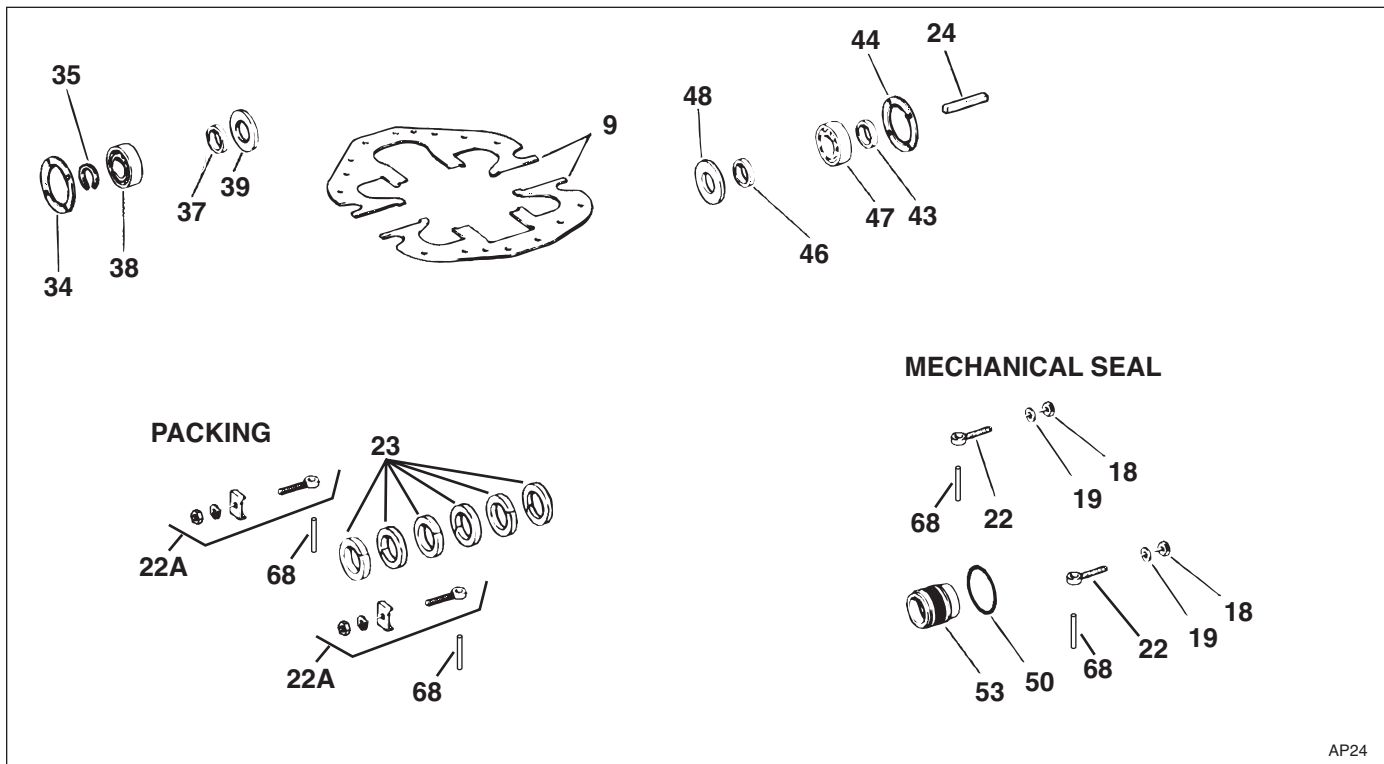
PARTS INCLUDED IN POWER FRAME ASSEMBLIES

PC #	Part Description	Material Codes	
		644	646
42	Key	087	087
47	Slinger	478	478
47A	Slinger	478	478
48	Capscrew	082	082
49	Bearing Cap	010	010
50	Gasket	457	457
51	Seal	653	653
51A	Seal	653	653
52	Retaining Ring	088	088
53	Bearing	647	647
54	Bearing	647	647
55	Shaft	063	104
57	Frame	010	010
62	Capscrew	082	082
63	Washer	080	080
64	Support	010	010
65	Spring Washer	088	088
66	Grease Retainer	058	058
67	Setscrew	104	104

For C1045 Steel Shaft, Use Material Code 644.

For 316 SS Shaft, Use Material Code 646.

410 SERIES PACKING AND SEAL REPAIR KITS



AP24

Power Series	Packing Kit	Seal Kit
1	476-0629-644	476-0636-644
2	476-0630-644	476-0637-644
3	476-0631-644	476-0638-644
4	476-0632-644	476-0639-644
5	476-0633-644	476-0640-644
6B	476-0634-644	476-0641-644
7	476-0635-644	476-0642-644

PARTS INCLUDED IN PACKING/SEAL REPAIR KITS

PC #	Part Description	Material Code
		644
9	Gasket	598
18	Nut	080
19	Washer	080
22	Swingbolt	360
22A	Swingbolt Assy	644
23	Packing	802
24	Coupling Key	087
34	Gasket	653
35	Retaining Ring	088
37	Grease Seal	653
38	Bearing	647
39	Slinger	478
43	Grease Seal	653
44	Gasket	614
46	Grease Seal	653
47	Bearing	647
48	Slinger	478
50	O Ring	457
53	Mechanical Seal	749
68	Drive Pin PS #1, 2 Only	104

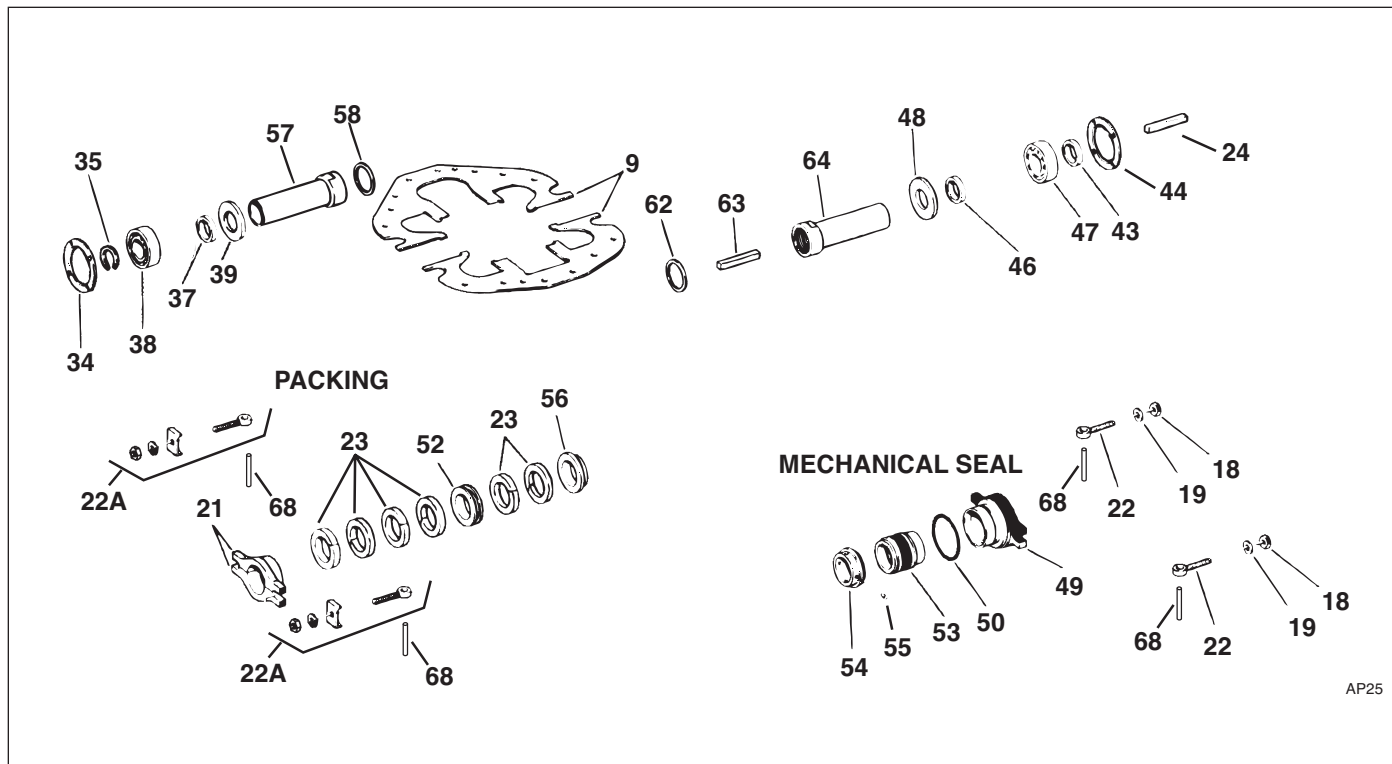
410 SERIES OVERHAUL KITS

KIT SECTION PAGE 29

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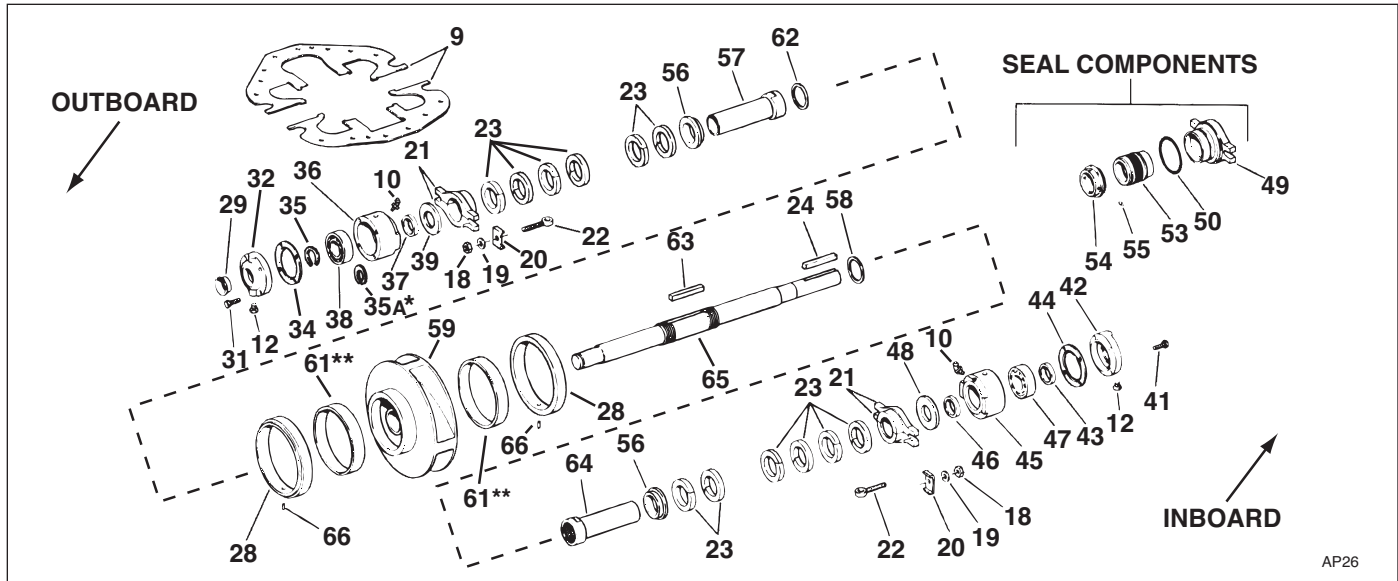


Power Series	Overhaul Kit with Packing	Overhaul Kit with Seals
1	476-0370-644	476-0382-644
2	476-0371-644	476-0383-644
3	476-0372-644	476-0384-644
4	476-0373-644	476-0385-644
5	476-0374-644	476-0386-644
6B	476-0375-644	476-0387-644
7	476-0376-644	476-0388-644

PARTS INCLUDED IN OVERHAUL KITS

PC #	Part Description	Material Code	
		644	
		BF	
9	Gasket	598	
18	Nut	080	
19	Washer	080	
21	Packing Gland	010	
22	Swingbolt	360	
22A	Swingbolt Assy	644	
23	Packing	802	
24	Coupling Key	087	
34	Gasket	653	
35	Retaining Ring	088	
37	Grease Seal	653	
38	Bearing	647	
39	Slinger	478	
43	Grease Seal	653	
44	Gasket	614	
46	Grease Seal	653	
47	Bearing	647	
48	Slinger	478	
49	Seal Gland	010	
50	O Ring	457	
52	Lantern Ring	512	
53	Mechanical Seal	749	
54	Collar	208	
55	Setscrew	104	
56	Bushing	208	
57	Sleeve	208	
58	O Ring	457	
62	O Ring	457	
63	Impeller Key	107	
64	Sleeve	208	
68	Drive Pin		
	PS # 1 & 2 Only	104	

410 SERIES ROTATING ASSEMBLIES



AP26

Pump Size	PS	Rotating Assy w/Packing (Brz Sleeves)	Rotating Assy w/Packing (440 C Sleeves)	Rotating Assy w/Packing w/Imp. Rings (Brz Sleeves)	Rotating Assy w/Seals (Brz Sleeves)	Rotating Assy w/Seals (316SS Sleeves)	Rotating Assy w/Seals w/Imp. Rings (Brz Sleeves)
2 x 2.5 x 9	1	700-0001-644	700-0301-644	700-0500-644	700-0043-644	700-0343-644	700-0550-644
2 x 2.5 x 10	1	700-0002-644	700-0302-644	700-0501-644	700-0044-644	700-0344-644	700-0551-644
2 x 2.5 x 12	1	700-0003-644	700-0303-644	700-0502-644	700-0045-644	700-0345-644	700-0552-644
2.5 x 3 x 10B	2	700-0084-644	700-0384-644	700-0503-644	700-0085-644	700-0385-644	700-0553-644
2.5 x 3 x 12	2	700-0005-644	700-0305-644	700-0504-644	700-0047-644	700-0347-644	700-0554-644
3 x 4 x 10B	2	700-0006-644	700-0306-644	700-0505-644	700-0048-644	700-0348-644	700-0555-644
3 x 4 x 10C	2	700-0544-644	700-0661-644	700-0545-644	700-0546-644	700-0662-644	700-0547-644
3 x 4 x 14	2	700-0007-644	700-0307-644	700-0506-644	700-0049-644	700-0349-644	700-0556-644
4 x 5 x 10B	2	700-0008-644	700-0308-644	700-0507-644	700-0050-644	700-0350-644	700-0557-644
4 x 5 x 11A	3	700-0009-644	700-0309-644	700-0508-644	700-0051-644	700-0351-644	700-0558-644
4 x 5 x 11C	3	700-0023-644	700-0323-644	700-0509-644	700-0053-644	700-0353-644	700-0559-644
4 x 5 x 15	3	700-0012-644	700-0312-644	700-0510-644	700-0055-644	700-0355-644	700-0560-644
4 x 6 x 18B	4	700-0024-644	700-0324-644	700-0511-644	700-0056-644	700-0356-644	700-0561-644
5 x 6 x 11A	4	700-0013-644	700-0313-644	700-0512-644	700-0057-644	700-0357-644	700-0562-644
5 x 6 x 11C (3500)	4	700-0484-644	700-0405-644	700-0513-644	700-0489-644	700-0373-644	700-0563-644
5 x 6 x 11C (1750)	4	700-0485-644	700-0406-644	700-0514-644	700-0490-644	700-0374-644	700-0564-644
5 x 6 x 15	4	700-0014-644	700-0314-644	700-0515-644	700-0058-644	700-0358-644	700-0565-644
5 x 6 x 17	4	700-0015-644	700-0315-644	700-0516-644	700-0059-644	700-0359-644	700-0566-644
6 x 8 x 11	4	700-0025-644	700-0325-644	700-0517-644	700-0060-644	700-0360-644	700-0567-644
6 x 8 x 15	5	700-0018-644	700-0318-644	700-0518-644	700-0063-644	700-0363-644	700-0568-644
6 x 8 x 18A	5	700-0026-644	700-0326-644	700-0519-644	700-0064-644	700-0364-644	700-0569-644
6 x 8 x 18B	5	700-0486-644	700-0407-644	700-0520-644	700-0491-644	700-0375-644	700-0570-644
6 x 8 x 18C	5	700-0487-644	700-0408-644	700-0521-644	700-0492-644	700-0376-644	700-0571-644
6 x 8 x 20	5	700-0019-644	700-0319-644	700-0522-644	700-0065-644	700-0365-644	700-0572-644
8 x 8 x 11B	4	700-0017-644	700-0317-644	700-0523-644	700-0062-644	700-0362-644	700-0573-644
8 x 10 x 12	5	700-0027-644	700-0327-644	700-0524-644	700-0066-644	700-0366-644	700-0574-644
8 x 10 x 12A	5	700-0536-644	700-0663-644	700-0537-644	700-0538-644	700-0664-644	700-0539-644
8 x 10 x 15A	5	700-0020-644	700-0320-644	700-0525-644	700-0067-644	700-0367-644	700-0575-644
8 x 10 x 15B	5	700-0104-644	700-0404-644	700-0526-644	700-0103-644	700-0403-644	700-0576-644
8 x 10 x 17B	5	700-0021-644	700-0321-644	700-0527-644	700-0068-644	700-0368-644	700-0577-644
8 x 10 x 21	6B	700-0658-644	700-0409-644	700-0657-644	700-0655-644	700-0377-644	700-0656-644
8 x 10 x 21A	6B	700-0678-644	700-0668-644	700-0680-644	700-0679-644	700-0669-644	700-0681-644
10 x 12 x 12B	6B	700-0087-644	700-0387-644	700-0528-644	700-0092-644	700-0392-644	700-0578-644
10 x 12 x 15B	6B	700-0088-644	700-0388-644	700-0529-644	700-0093-644	700-0393-644	700-0579-644
10 x 12 x 15C	6B	700-0488-644	700-0410-644	700-0530-644	700-0493-644	700-0378-644	700-0580-644
10 x 12 x 18	6B	700-0089-644	700-0389-644	700-0531-644	700-0094-644	700-0394-644	700-0581-644
12 x 14 x 15B	7	700-0090-644	700-0390-644	700-0532-644	700-0095-644	700-0395-644	700-0582-644
12 x 14 x 18	7	700-0031-644	700-0331-644	700-0533-644	700-0096-644	700-0396-644	700-0583-644
12 x 14 x 18A	7	700-0540-644	700-0665-644	700-0541-644	700-0542-644	700-0667-644	700-0543-644
14 x 16 x 18	7	700-0091-644	700-0391-644	700-0534-644	700-0097-644	700-0397-644	700-0584-644

The rotating assemblies listed above are in bronze fitted construction (644). For all iron construction, change material code to (642). If no price is listed in the Master Parts Price List, refer to factory.

* Piece 35A is used on PS 6B & 7 Only. ** Piece 61 Impeller Rings Optional.

Note: For Chlorinated Water, elements may be available with 208 or 243 bronze impellers. Consult factory.

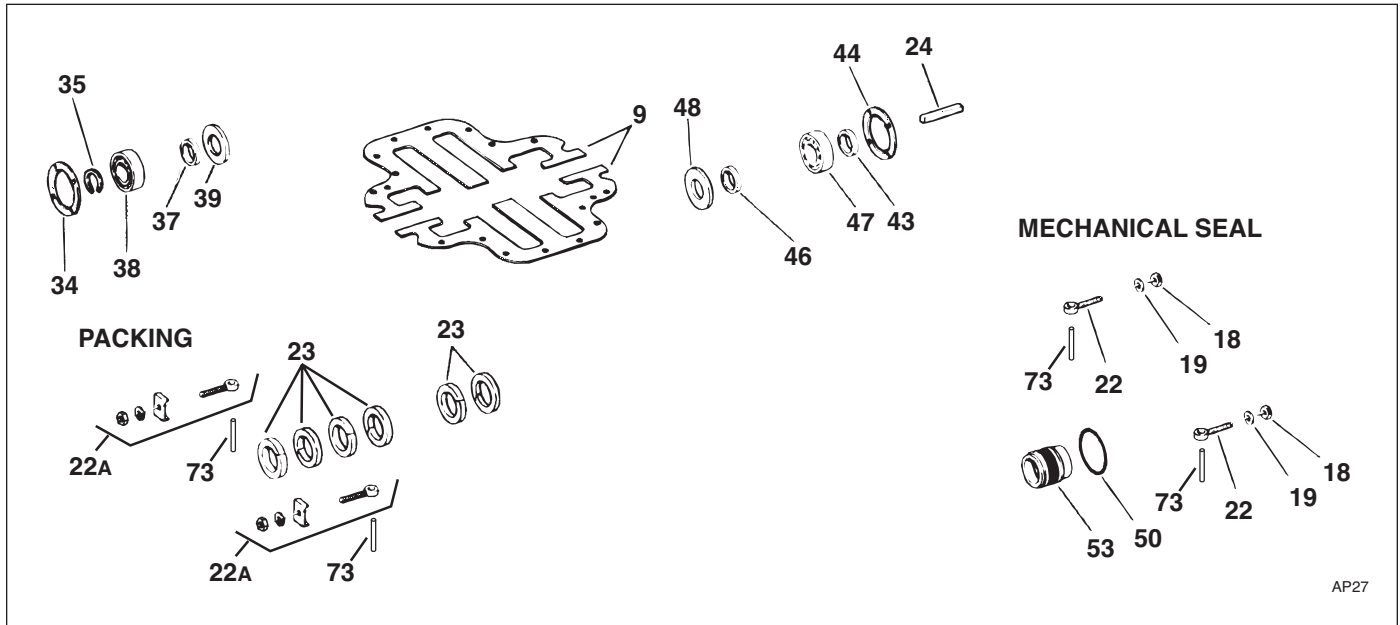
420 SERIES PACKING AND SEAL REPAIR KITS

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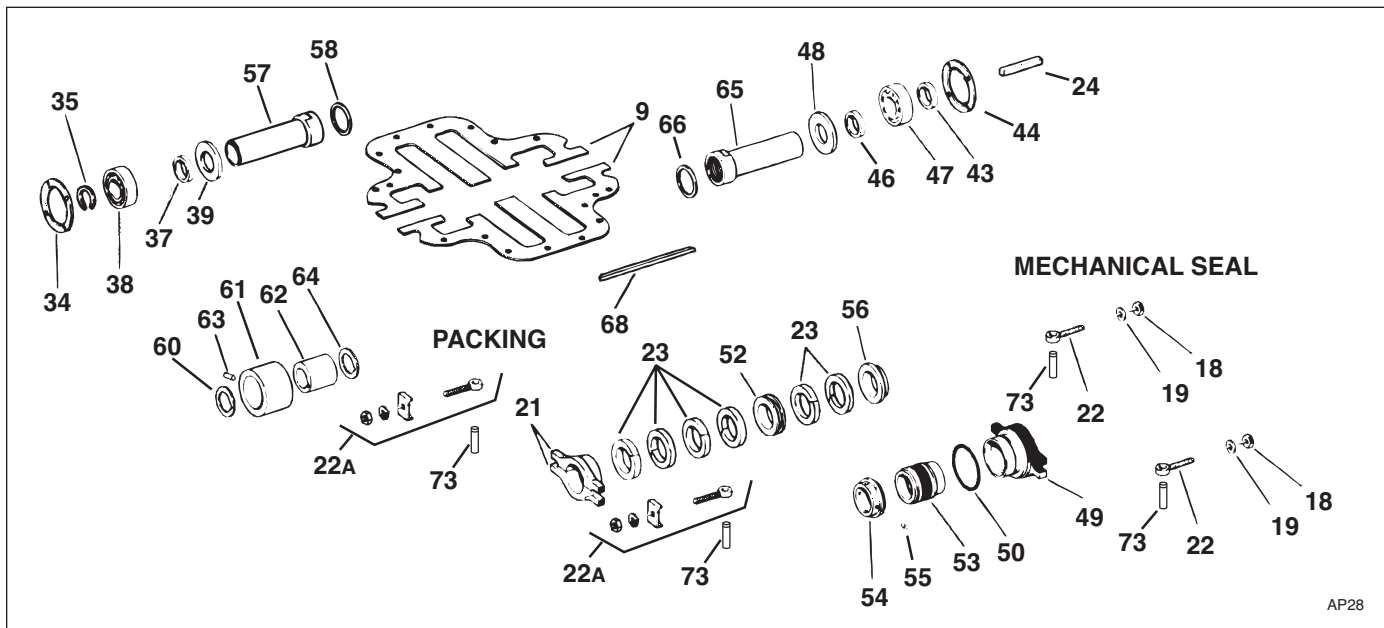


Power Series	Packing Kit	Seal Kit
2	476-0643-644	476-0647-644
3	476-0644-644	476-0648-644
4	476-0645-644	476-0649-644
5	476-0646-644	476-0650-644

PARTS INCLUDED IN SEAL/PACKING KIT

PC #	Part Description	Material Code
		644
9	Gasket	598
18	Nut	080
19	Washer	080
22	Swingbolt	360
22A	Swingbolt Assy	644
23	Packing	802
24	Coupling Key	087
34	Gasket	614
35	Retaining Ring	088
37	Grease Seal	653
38	Bearing	647
39	Slinger	478
43	Grease Seal	653
44	Gasket	614
46	Grease Seal	653
47	Bearing	647
48	Slinger	457
50	O Ring	457
53	Mechanical Seal	749
73	Drive Pin (PS #2 Only)	104

420 SERIES PACKING AND SEAL OVERHAUL KITS

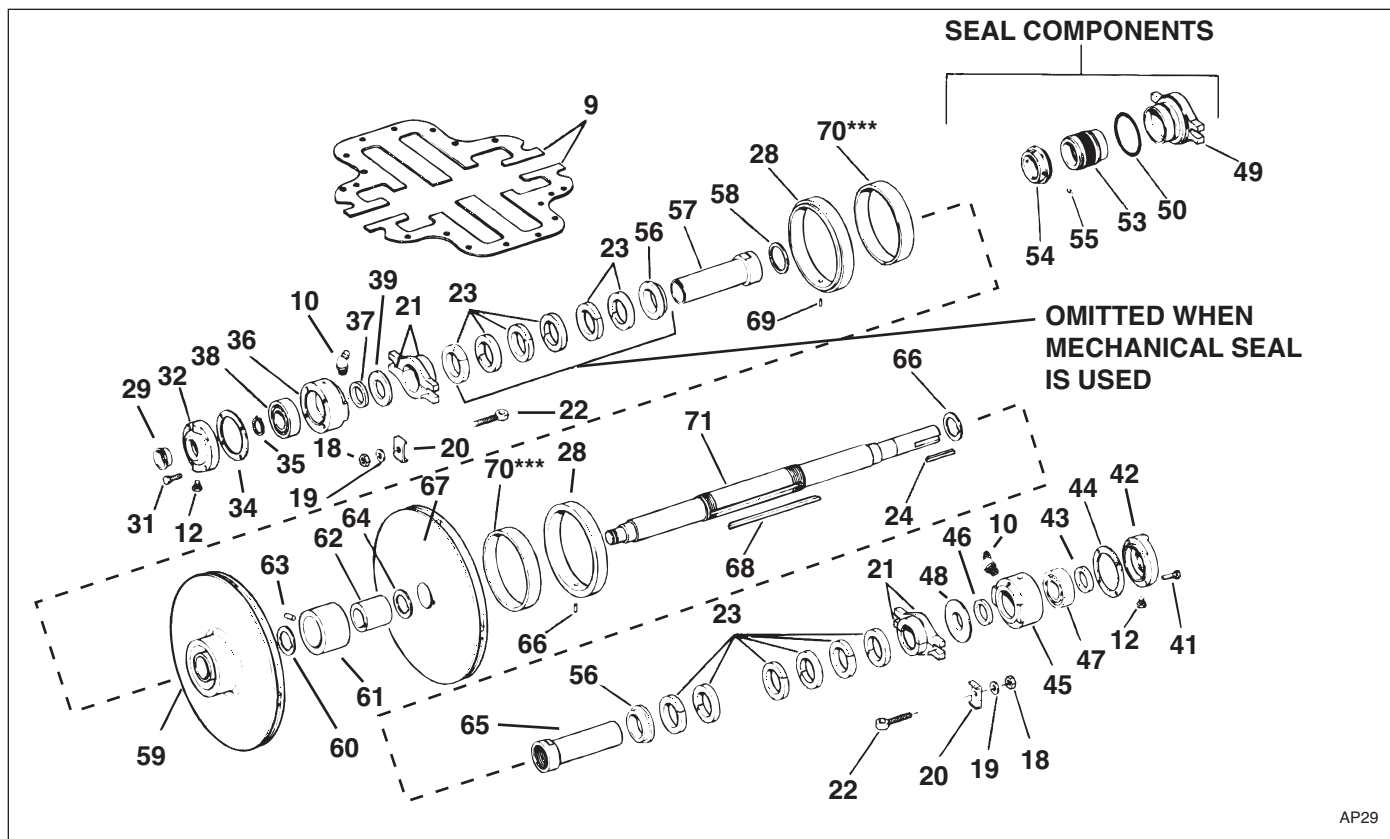


Power Series	Overhaul Kit with Packing	Overhaul Kit with Seals
2	476-0377-644	476-0389-644
3	476-0378-644	476-0390-644
4	476-0379-644	476-0391-644
5	476-0380-644	476-0392-644

PARTS INCLUDED IN OVERHAUL KIT

PC #	Part Description	Material Code
		644
		BF
9	Gasket	598
18	Nut	080
19	Washer	080
21	Packing Gland	010
22	Swingbolt	360
22A	Swingbolt Assy	644
23	Packing	802
24	Coupling Key	087
34	Gasket	614
35	Retaining Ring	088
37	Grease Seal	653
38	Bearing	647
39	Slinger	478
43	Grease Seal	653
44	Gasket	614
46	Grease Seal	653
47	Bearing	647
48	Slinger	478
49	Seal Gland	010
50	O Ring	457
52	Lantern Ring	512
53	Mechanical Seal	749
54	Collar	208
55	Setscrew	104
56	Bushing	208
57	Sleeve	208
58	O Ring	457
60	O Ring	457
61	Bushing	226
62	Sleeve	215
63	Pin	360
64	O Ring	457
65	Sleeve	208
66	O Ring	457
68	Impeller Key	107
73	Drive Pin (PS #2 Only)	104

420 SERIES ROTATING ASSEMBLIES PIECE NUMBERS



Size	Rotating Assy w/Packing	Rotating Assy w/Packing w/Imp Rings	Rotating Assy w/Seals	Rotating Assy w/Seals w/Imp Rings
2 x 2-1/2 x 12A*	700-0032-644	700-0594-644	700-0073-644	700-0608-644
2 x 2-1/2 x 12A**	700-0444-644	700-0445-644	700-0447-644	700-0448-644
2 x 2-1/2 x 12B	700-0033-644	700-0595-644	700-0074-644	700-0609-644
2-1/2 x 3 x 12A*	700-0034-644	700-0596-644	700-0075-644	700-0610-644
2-1/2 x 3 x 12A**	700-0450-644	700-0451-644	700-0453-644	700-0454-644
3 x 4 x 14A	700-0035-644	700-0597-644	700-0076-644	700-0611-644
3 x 4 x 14B	700-0036-644	700-0598-644	700-0077-644	700-0612-644
4 x 5 x 15	700-0037-644	700-0599-644	700-0078-644	700-0613-644
5 x 6 x 15	700-0038-644	700-0600-644	700-0079-644	700-0614-644
6 x 8 x 17A	700-0039-644	700-0601-644	700-0080-644	700-0615-644
6 x 8 x 17B	700-0040-644	700-0602-644	700-0081-644	700-0616-644

*To be used for Impellers larger than 9" diameter.

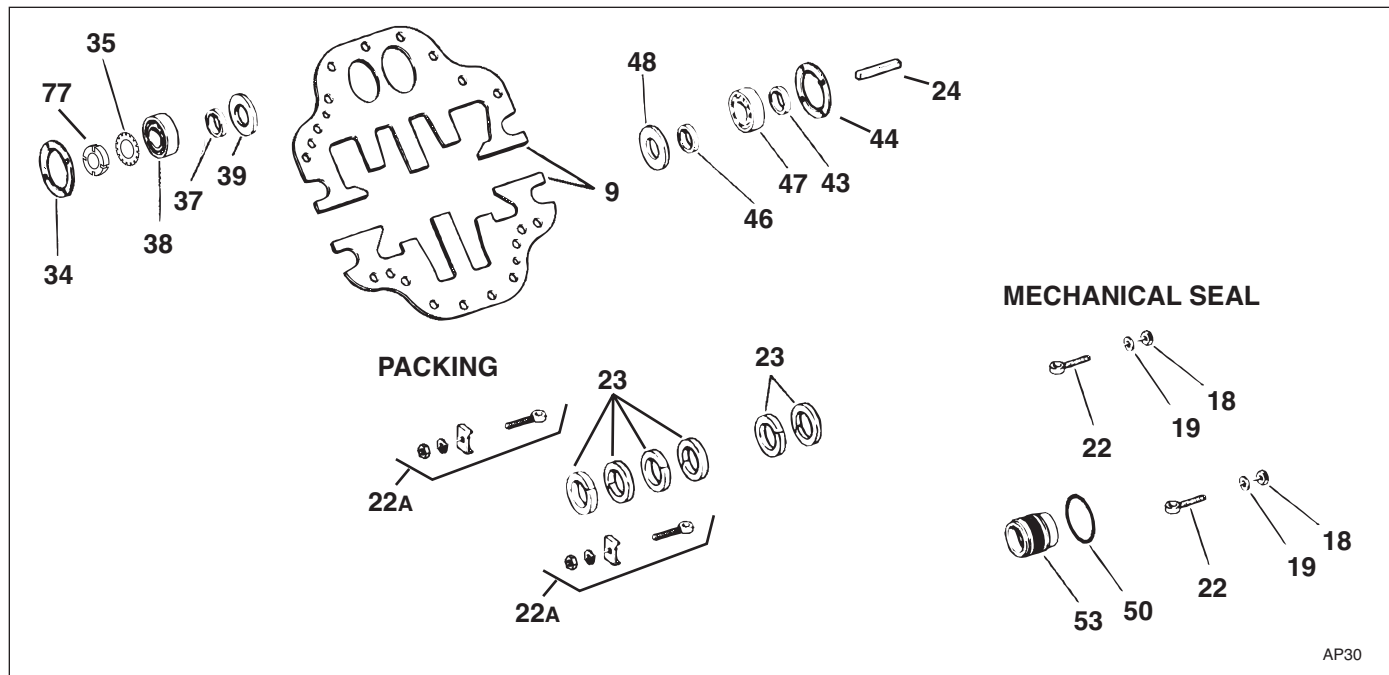
** To be used for Impellers 9" diameter or smaller, or for pumps operating at 3500 RPM.

*** Impeller Rings are optional.

For Chlorinated Water, Impellers may be available in 208 or 243 bronze, refer to factory.

The rotating assemblies listed above are in bronze fitted construction (644). For all iron construction, change material code to (642). If no price is listed in the Master Parts Price List, refer to factory.

430B SERIES PACKING AND SEAL REPAIR KITS



AP30

GREASE LUBE		
Power Series	Packing Kit	Seal Kit
2	476-0651-644	476-0652-644
3A	476-0764-644	476-0765-644

OIL LUBE		
Power Series	Packing Kit	Seal Kit
2	476-0775-644	476-0776-644
3A	476-0777-644	476-0778-644

PARTS INCLUDED IN SEAL/PACKING KIT

PC #	Part Description	Material Code
		644
		BF
9	Gasket	598
18	Nut	080
19	Washer	080
22	Swingbolt	360
22A	Swingbolt Assy	644
23	Packing	806
24	Coupling Key	087
34	Gasket	614
35	Lock Washer	080
37	Grease Seal	653
38	Bearing	647
39	Slinger	478
43	Grease Seal	653
44	Gasket	614
46	Grease Seal	653
47	Bearing	647
48	Slinger	478
50	O Ring	457
53	Mechanical Seal	749
77	Locknut	080

Note: Pc #35 Retaining Ring is supplied in kits for older PS 2 430 series pumps.

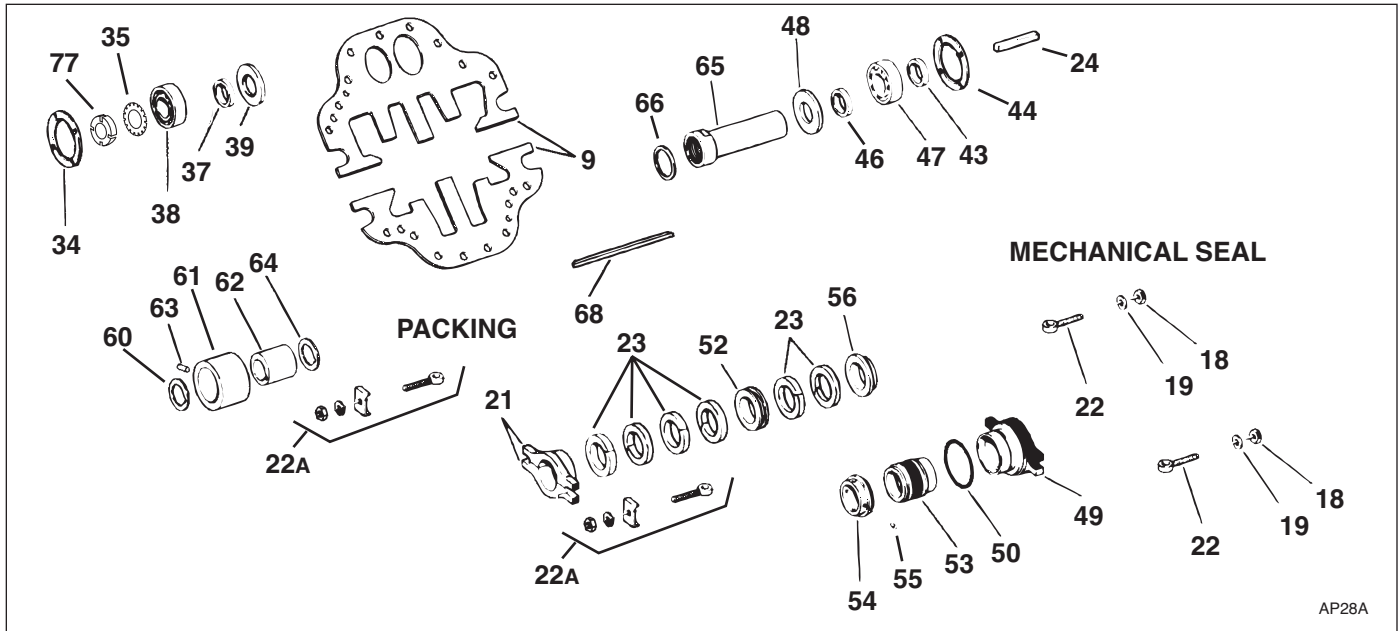
430B SERIES OVERHAUL KITS

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AP28A

GREASE LUBE		
Power Series	Overhaul Kit with Packing	Overhaul Kit with Seals
2	476-0381-644	476-0393-644
3A	476-0766-644	476-0767-644

OIL LUBE		
Power Series	Overhaul Kit with Packing	Overhaul Kit with Seals
2	476-0779-644	476-0780-644
3A	476-0781-644	476-0782-644

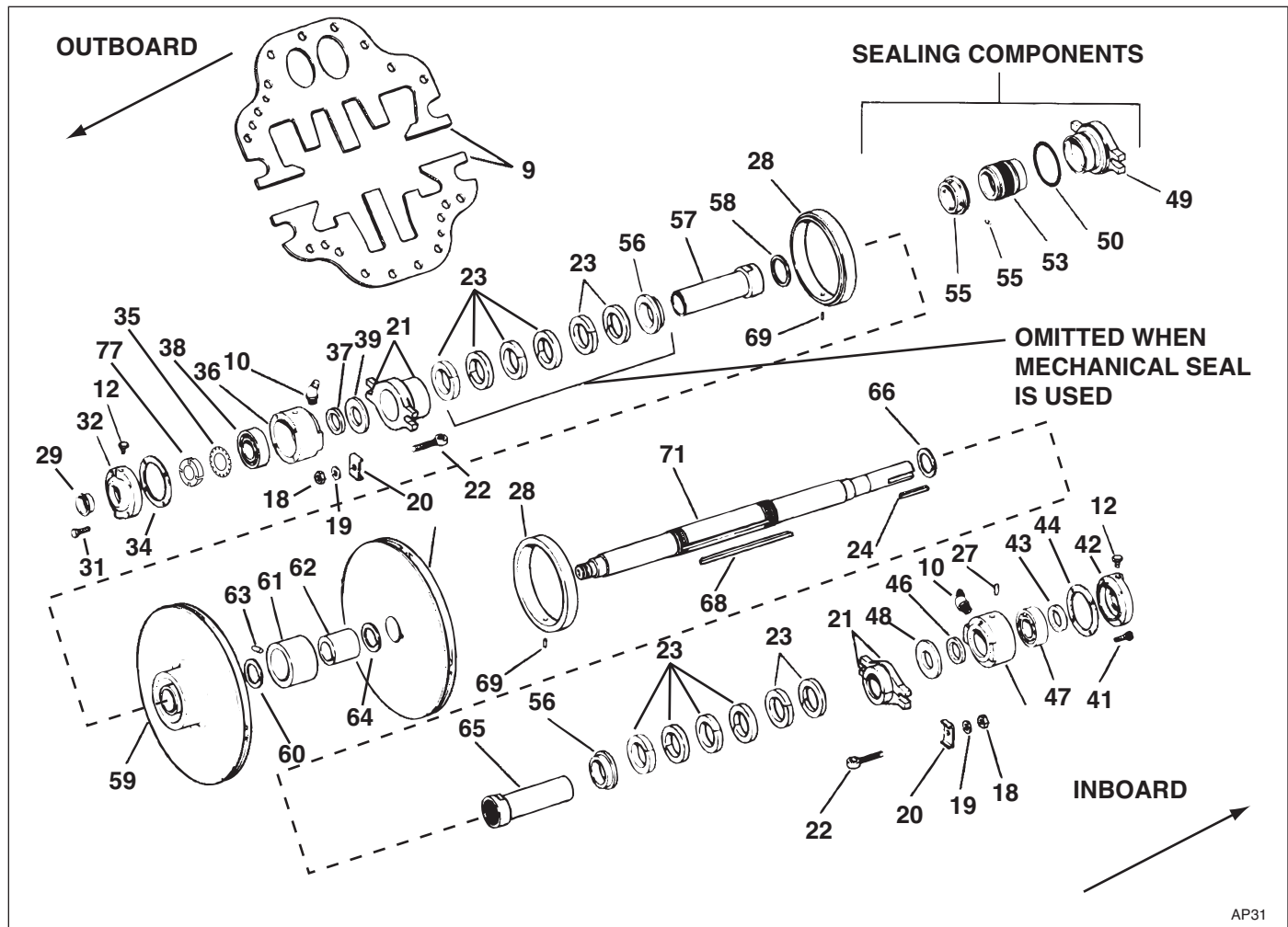
The 431B PS 2 Overhaul Kits have been modified to include both the lock nut and lock washer for the improved 431B pumps as well as the snap ring for the former Model 431.

The Packing Overhaul Kit has been updated to include high temperature packing.

PARTS INCLUDED IN OVERHAUL KITS

PC #	Part Description	Material Code
		644
		BF
9	Gasket	598
18	Nut	080
19	Washer	080
21	Packing Gland	010
22	Swingbolt	360
22A	Swingbolt Assy	644
23	Packing	806
24	Coupling Key	087
34	Gasket	614
35	Retaining Ring	088
37	Grease Seal	653
38	Bearing	647
39	Slinger	478
43	Grease Seal	653
44	Gasket	614
46	Grease Seal	653
47	Bearing	647
48	Slinger	478
49	Seal Gland	010
50	O Ring	457
53	Mechanical Seal	749
54	Collar	208
55	Setscrew	104
56	Bushing	208
57	Sleeve	208
58	O Ring	474
60	O Ring	474
61	Bushing	226
62	Sleeve	215
63	Pin	107
64	O Ring	474
65	Sleeve	208
66	O Ring	474
68	Impeller Key	107
77	Lock Nut	080

430B SERIES ROTATING ASSEMBLIES



AP31

Size	Rotating Assy w/Packing (Brz Sleeves)	Rotating Assy w/Packing and 440C Sleeves	Rotating Assy w/Seals (Brz Sleeves)	Rotating Assy w/Seals and 316SS Sleeves
1-1/2 x 3 x 9	700-0670-644	700-0674-644	700-0672-644	700-0676-644
2 x 4 x 9	700-0671-644	700-0675-644	700-0673-644	700-0677-644
1-1/2 x 3 x 11	700-0252-644	700-0254-644	700-0253-644	700-0255-644
2 x 4 x 11	700-0256-644	700-0258-644	700-0257-644	700-0259-644

These Rotating Assemblies have been modified to include the new standard features of the improved Model 431B pumps and are interchangeable with the Model 431 pumps built prior to May 1, 1992.

Rotating assemblies with impeller wearing rings are no longer available.

The rotating assemblies listed above are in bronze fitted construction (644). For all iron construction, change material code to (642). If no price is listed in the Master Parts Price List, refer to factory.

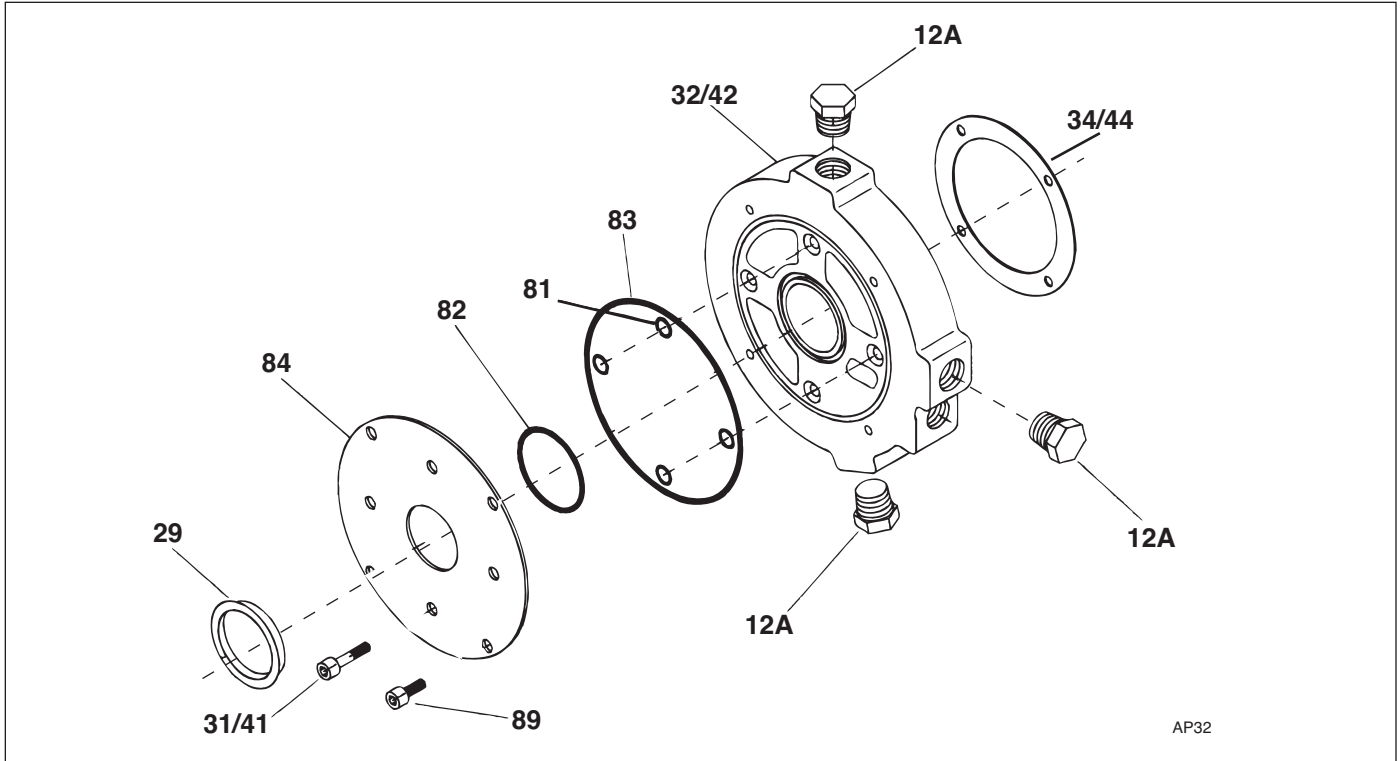
430B SERIES WATER COOLED CARTRIDGE CAP KITS

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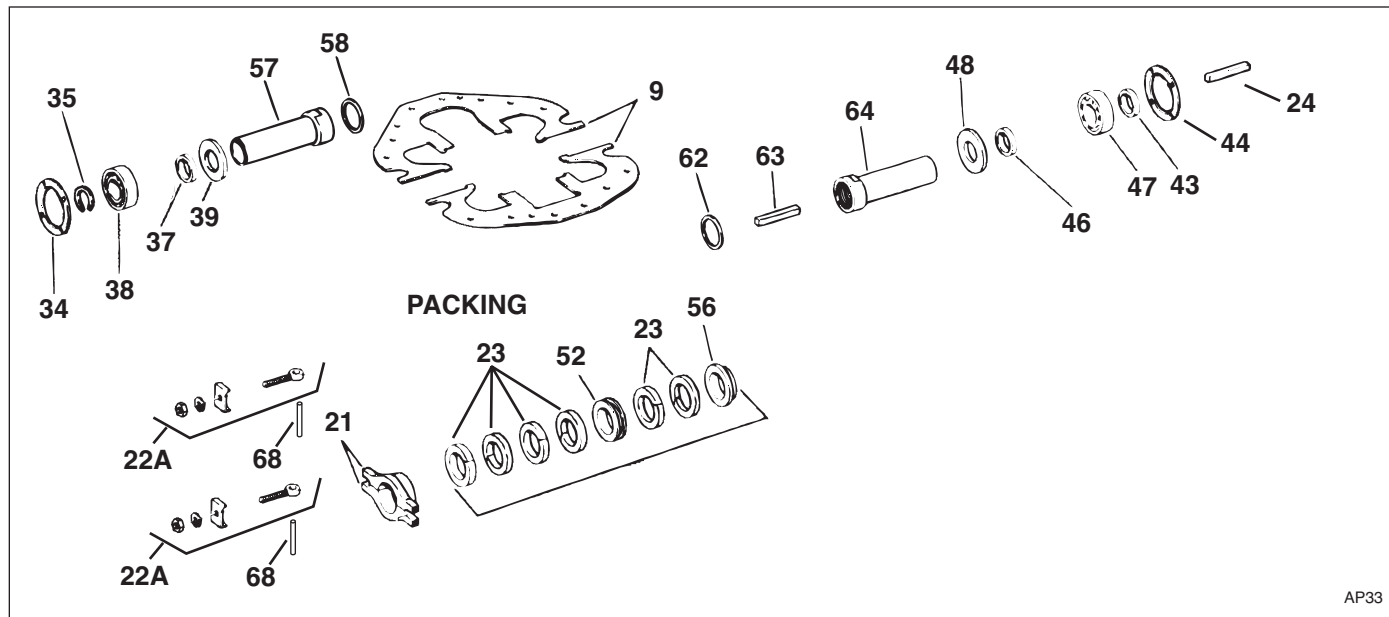
Power Series	Kit Number
2	476-0745-644
3A	476-0749-644

PARTS INCLUDED IN CARTRIDGE CAP KITS

PC #	Part Description	Material Code
		644
12A	Plug	087
29	Protector	087
31/41	Capscrews	082
32/42	Cartridge Cap	010
34/44	Gasket	614
81	O Rings (PS 2 Only)	457
82	O Ring	457
83	O Ring	457
84	Cover Plate	087
89	Capscrews	082

Each kit includes parts for water cooling one cartridge.
Two kits required per pump.

481-483 SERIES OVERHAUL KITS FOR FIRE PUMPS



AP33

Power Series	Kit Number
2	476-0371-483
3	476-0372-483
4	476-0373-483
5	476-0374-483
6B	476-0375-483
7	476-0376-483

PARTS INCLUDED IN OVERHAUL KIT

PC #	Part Description	Material Code
		BF
9	Gasket	598
21	Packing Gland	208
22A	Swingbolt Assy	644
23	Packing	802
24	Coupling Key	087
34	Gasket	653
35	Retaining Ring	088
37	Grease Seal	653
38	Bearing	647
39	Slinger	478
43	Grease Seal	653
44	Gasket	614
46	Grease Seal	653
47	Bearing	647
48	Slinger	478
52	Lantern Ring	512
56	Bushing	208
57	Sleeve	208
58	O Ring	457
62	O Ring	457
63	Impeller Key	107
64	Sleeve	208
68	Drive Pins PS #2 Only	104

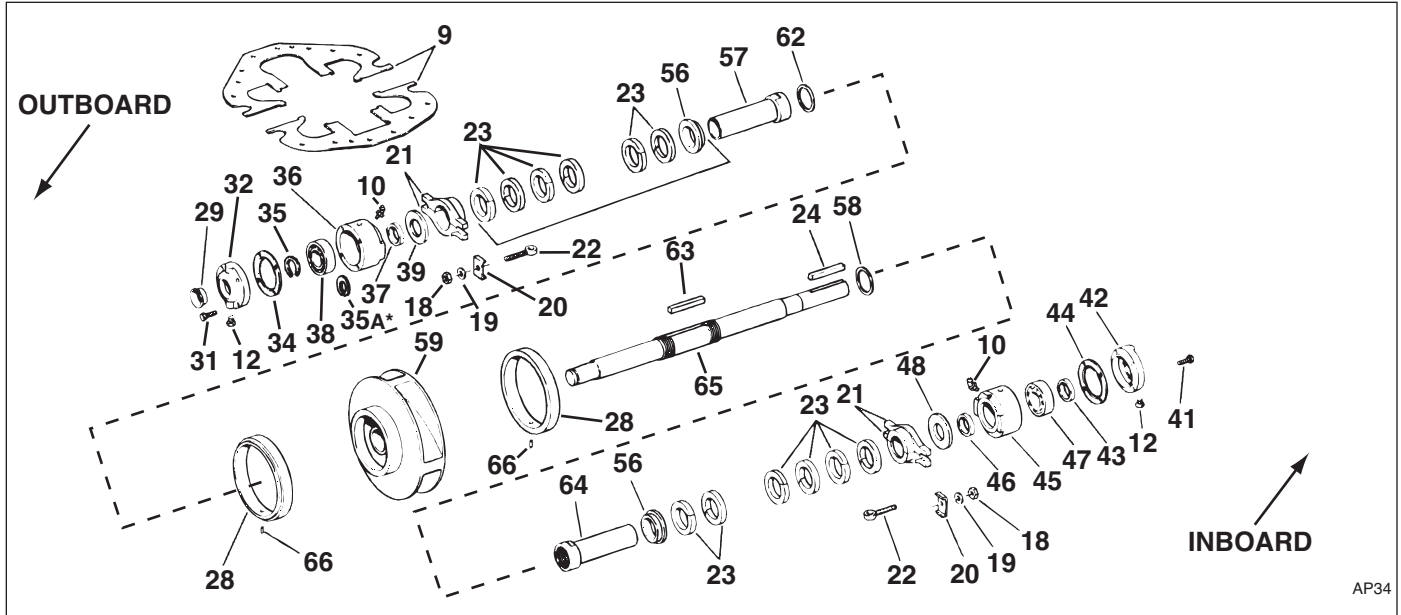
481-483-485 SERIES FIRE PUMPS ROTATING ASSEMBLIES

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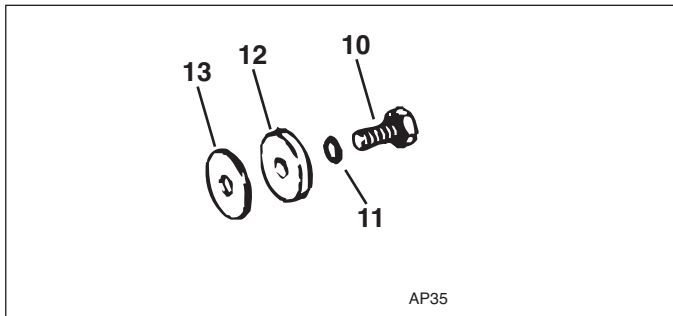


AP34

Pump Model	Power Series	Part Number
2 1/2-481-10B/2 1/2-483-10B	2	700-0084-483
3-481-10/3-483-10	2	700-0006-483
4-481-11A/4-483-11A	3	700-0009-483
4-481-11C/4-483-11C	3	700-0023-483
4-481-15/4-483-15	3	700-0012-483
5-481-11B/5-483-11B	4	700-0101-483
5-481-11C/5-483-11C	4	700-0484-483
5-481-11D	4	700-0496-483
5-481-15/5-483-15	4	700-0014-483
5-481-17/5-483-17	4	700-0015-483
6-481-11/6-483-11	4	700-0025-483
6-481-15/6-483-15	5	700-0018-483
6-481-15B/6-483/15B	5	700-0250-483
6-481-18B/6-483-18B	5	700-0486-483
6-481-18C/6-483-18C	5	700-0487-483
6-481-20/6-483-20	5	700-0019-483
8-481-12/8-483-12	5	700-0027-483
8-481-17B/8-483-17B	5	700-0021-483
8-481-21	6B	700-0658-483
8-481-21A	6B	700-0659-483
10-481/15C	6B	700-0488-583
10-481-18	6B	700-0089-483
12-481-18A	7	700-0540-483
4-485-15	3	700-0037-483
5-485-15	4	700-0038-483
6-485-17A	5	700-0039-483

**610A-650A-660A SERIES
IMPELLER FASTENER &
LEAKAGE ACCUMULATOR KITS**

**610/610A SERIES
IMPELLER FASTENER KITS**

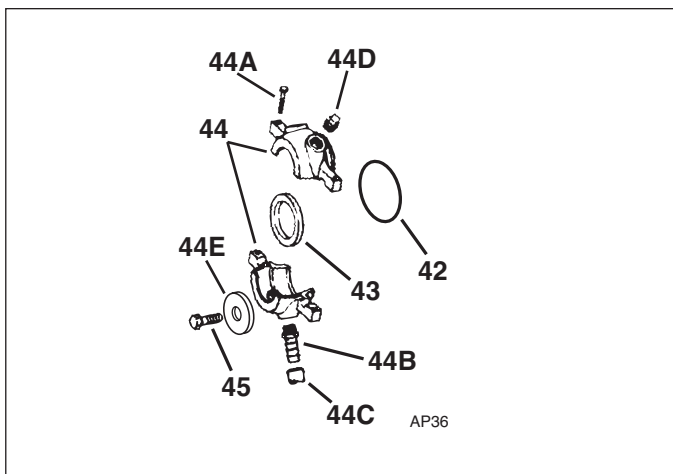


Power Frame	Kit Number
4A, 4C, 4D	476-0030-644
5A, 5B, 5E, 5F	476-0031-644
5C, 5D, 5G, 5H	476-0032-644
6A, 6B, 6D, 6E, 6L, 6F, 8	476-0032-644

PARTS INCLUDED IN IMPELLER FASTENER KITS

PC #	Part Description	Material Code
		644
10	Cap screw	082
11	Cap screw Seal	999
12	Washer	062
13	Gasket	607

**610/610A 650/650A 660/660A SERIES
LEAKAGE ACCUMULATOR KITS
(FOR PACKING WITH VERTICAL PUMPS)**



Power Frame	Kit Number
4A	476-0279-645
4C, D	476-0395-645
5A, B, C, D	476-0280-645
5E, F, G, H	476-0396-645
6A, B, L	476-0281-645
6D, E	476-0397-645

PARTS INCLUDED IN LEAKAGE ACCUMULATOR KITS

PC #	Part Description	Material Code
		644
42	O Ring	457
43	Slinger	478
44	Gland	319
44A	Cap screw	080
44B	Hose Connector	503
44C	Hose	505
44D	Pipe Plug	511
44E	Washer	080
45	Cap screw	082
75	Sealant (not shown)	621

*Piece No's apply to 610A Series, numbers may vary for other series.

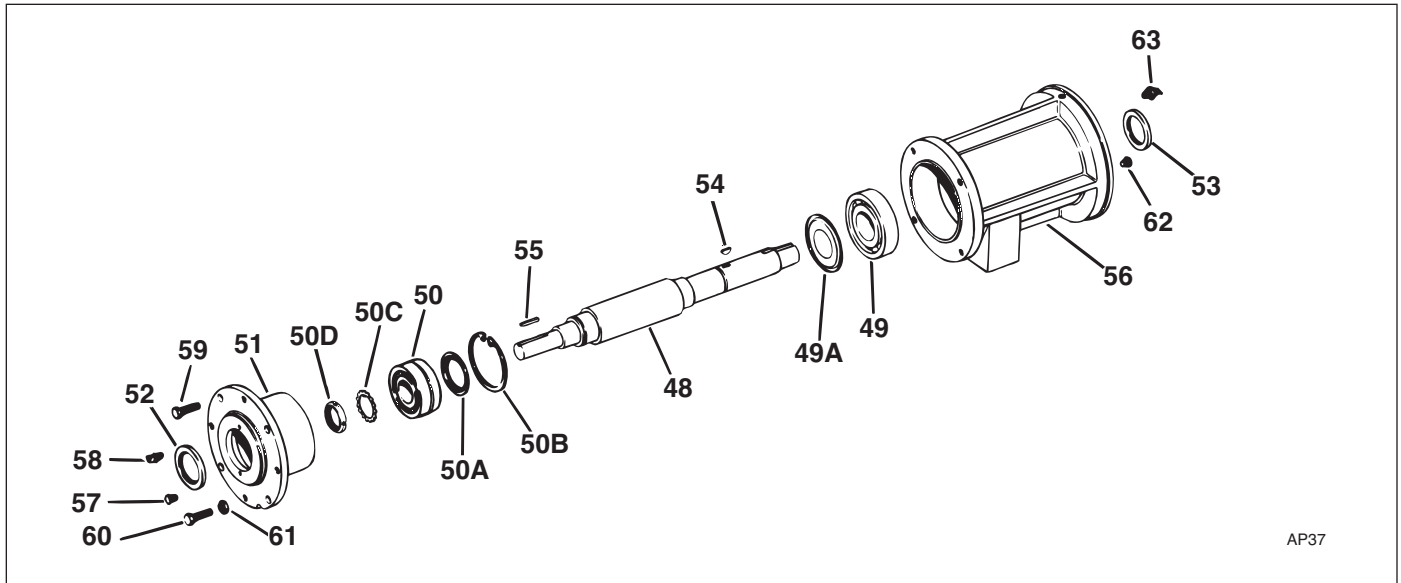
610A-650A-660A SERIES POWER FRAME ASSEMBLIES

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Supersedes Issue

Dated NOVEMBER 1998



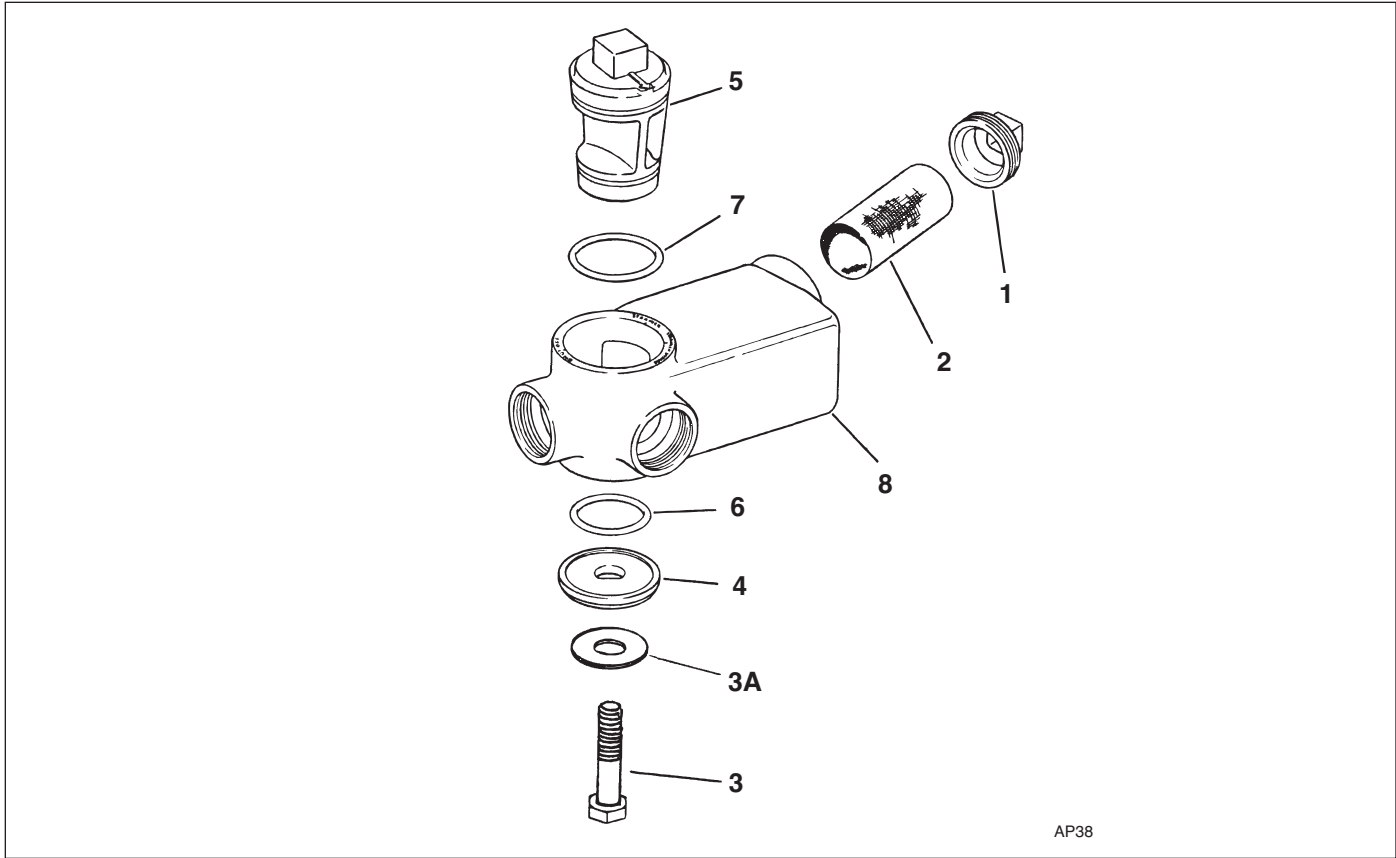
AP37

Power Frame	Assy # C1045 Shaft (Std)	Assy # 316 S/S Shaft (Opt)
3C	355-0074-642	355-0074-646
4C	355-0075-642	355-0075-646
4D	355-0076-642	355-0076-646
5E	355-0077-642	355-0077-646
5F	355-0078-642	355-0078-646
5G	355-0079-642	355-0079-646
5H	355-0080-642	355-0080-646
6D	355-0081-642	355-0081-646
6E	355-0082-642	355-0082-646
8	355-0083-642	355-0083-646

PARTS INCLUDED IN POWER FRAME ASSEMBLY

PC #	Part Description	Material Codes	
		642	646
48	Shaft	063	104
49	Bearing	647	647
49A	Grease Shield	087	087
50	Bearing	647	647
50A	Grease Shield	010	010
50B	Retaining Ring	088	088
50C	Capscrews PF 6E & 8	082	082
	Retaining Ring PF 3C, 4C & D	088	088
50D	Lock Washer	080	080
	Lock Nut	080	080
51	Bearing Cartridge	010	010
52	Grease Seal	653	653
53	Grease Seal	653	653
54	Key, Sleeve	087	087
55	Key, Shaft	087	087
56	Power Frame	010	010
57	Pipe Plug	087	087
58	Grease Fitting	651	651
59	Capscrew	082	082
60	Shim Pack PF 3C	517	517
	Capscrew	080	080
61	Jam Nut	080	080
62	Pipe Plug	087	087
63	Grease Fitting	651	651
	Pipe Plug PF 6	087	087

3-WAY VALVE ASSEMBLIES



AP38

Size	Assembly Number
1-1/4"	032-0392-644
2"	032-0393-644
3"	032-0394-644

PARTS INCLUDED IN 3-WAY VALVE ASSEMBLIES

PC #	Part Description	Material Code
		644
1	Pipe Plug	028
2	Strainer	190
3	Cap screw	080
3A	Washer	080
4	Washer	080
5	Valve Plug	010
6	O Ring	457
7	O Ring	457
8	Valve Body	010

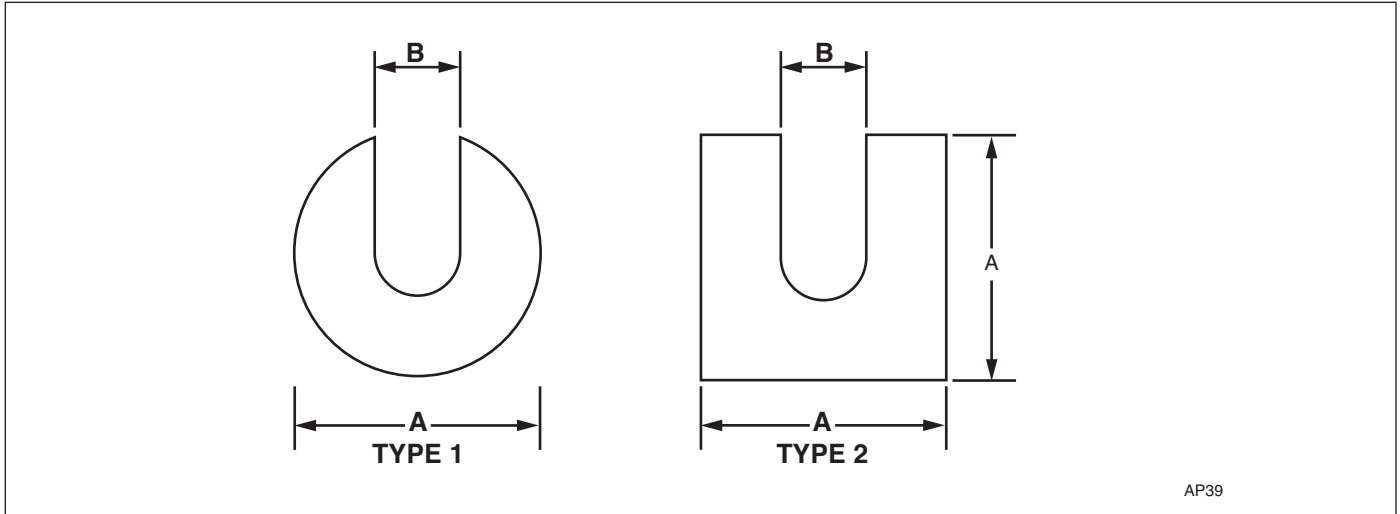
SHIM KITS

KIT SECTION PAGE 43

Dated APRIL 2001

Supersedes Issue

Dated NOVEMBER 1998



AP39

Available in Bulk Package Kit (200 Shims)

Part # 741-0099-087

PARTS INCLUDED IN SHIM KIT

Qty	Part Number	Type	Size A X B X Thickness
25	740-0003-087	1	1-1/4 x 7/16 x .006"
25	740-0007-087	1	1-3/4 x 3/4 x .006"
25	740-0011-087	1	1-1/4 x 7/16 x .015"
25	740-0015-087	1	1-3/4 x 3/4 x .015"
25	740-0019-087	1	1-1/4 x 7/16 x .030"
25	740-0023-087	1	1-3/4 x 3/4 x .030"
25	740-0130-087	2	3 x 1-1/16 x .030"
25	740-0131-087	2	3 x 1-1/16 x .015"



WARRANTY

Seller warrants equipment (and its component parts) of its own manufacture against defects in materials and workmanship under normal use and service for one (1) year from the date of installation or start-up, or for eighteen (18) months after the date of shipment, whichever occurs first. Seller does not warrant accessories or components that are not manufactured by Seller; however, to the extent possible, Seller agrees to assign to Buyer its rights under the original manufacturer's warranty, without recourse to Seller. Buyer must give Seller notice in writing of any alleged defect covered by this warranty (together with all identifying details, including the serial number, the type of equipment, and the date of purchase) within thirty (30) days of the discovery of such defect during the warranty period. No claim made more than 30 days after the expiration of the warranty period shall be valid. Guarantees of performance and warranties are based on the use of original equipment manufactured (OEM) replacement parts. Seller assumes no responsibility or liability if alterations, non-authorized design modifications and/or non-OEM replacement parts are incorporated. If requested by Seller, any equipment (or its component parts) must be promptly returned to Seller prior to any attempted repair, or sent to an authorized service station designated by Seller, and Buyer shall prepay all shipping expenses. Seller shall not be liable for any loss or damage to goods in transit, nor will any warranty claim be valid unless the returned goods are received intact and undamaged as a result of shipment. Repaired or replaced material returned to customer will be shipped F.O.B., Seller's factory. Seller will not give Buyer credit for parts or equipment returned to Seller, and will not accept delivery of any such parts or equipment, unless Buyer has obtained Seller's approval in writing. The warranty extends to repaired or replaced parts of Seller's manufacture for ninety (90) days or for the remainder of the original warranty period applicable to the equipment or parts being repaired or replaced, whichever is greater. This warranty applies to the repaired or replaced part and is not extended to the product or any other component of the product being repaired. Repair parts of its own manufacture sold after the original warranty period are warranted for a period of one (1) year from shipment against defects in materials and workmanship under normal use and service. This warranty applies to the replacement part only and is not extended to the product or any other component of the product being repaired. Seller may substitute new equipment or improve part(s) of any equipment judged defective without further liability. All repairs or services performed by Seller, which are not covered by this warranty, will be charged in accordance with Seller's standard prices then in effect.

THIS WARRANTY IS THE SOLE WARRANTY OF SELLER AND SELLER HEREBY EXPRESSLY DISCLAIMS AND BUYER WAIVES ALL OTHER WARRANTIES EXPRESSED, IMPLIED IN LAW OR IMPLIED IN FACT, INCLUDING ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Seller's sole obligation under this warranty shall be, at its option, to repair or replace any equipment (or its component parts) which has a defect covered by this warranty, or to refund the purchase price of such equipment or part. Under the terms of this warranty, Seller shall not be liable for (a) consequential, collateral, special or liquidated losses or damages; (b) equipment conditions caused by normal wear and tear, abnormal conditions of use, accident, neglect, or misuse of said equipment; (c) the expense of, and loss or damage caused by, repairs or alterations made by anyone other than the Seller; (d) damage caused by abrasive materials, chemicals, scale deposits, corrosion, lightning, improper voltage, mishandling, or other similar conditions; (e) any loss, damage, or expense relating to or resulting from installation, removal or reinstallation of equipment; (f) any labor costs or charges incurred in repairing or replacing defective equipment or parts, including the cost of reinstalling parts that are repaired or replaced by Seller; (g) any expense of shipment of equipment or repaired or replacement parts; or (h) any other loss, damage or expense of any nature.

The above warranty shall not apply to any equipment which may be separately covered by any alternate or special warranties.

PERFORMANCE: In the absence of Certified Pump Performance Tests, equipment performance is not warranted or guaranteed. Performance curves and other information submitted to Buyer are approximate and no warranty or guarantee shall be deemed to arise as a result of such submittal. All testing shall be done in accordance with Seller's standard policy under Hydraulic Institute procedures.

LIABILITY LIMITATIONS: Under no circumstances shall the Seller have any liability under the Order or otherwise for liquidated damages or for collateral, consequential or special damages or for loss of profits, or for actual losses or for loss of production or progress of construction, regardless of the cause of such damages or losses. In any event, Seller's aggregate total liability under the Order or otherwise shall not exceed the contract price.

ACTS OF GOD: Seller shall in no event be liable for delays in delivery of the equipment or other failures to perform caused by fires, acts of God, strikes, labor difficulties, acts of governmental or military authorities, delays in transportation or procuring materials, or causes of any kind beyond Seller's control.

COMPLIANCE WITH LAW: Seller agrees to comply with all United States laws and regulations applicable to the manufacturing of the subject equipment. Such compliance shall include: The Fair Labor Standards Acts of 1938, as amended; Equal Employment Opportunity clauses of Executive Order 11246, as amended; Occupational Safety and Health Act of 1970 and the standards promulgated thereunder, if applicable. Since compliance with the various Federal, State, and Local laws and regulations concerning occupational health and safety, pollution or local codes are affected by the use, installation and operation of the equipment and other matters over which Seller has no control, Seller assumes no responsibility for compliance with those laws and regulations, whether by way of indemnity, warranty, or otherwise. It is incumbent upon the Buyer to specify equipment which complies with local codes and ordinances.



AURORA®

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