INSTRUCTION, INSTALLATION, MAINTENANCE AND REPAIR MANUAL
MODELS 411, 412 AND 413
SPLIT CASE PUMPS

6

IMPORTANT NOTE TO INSTALLER:

This manual contains important information about the installation, operation and safe use of this product. This information should be given to the owner/operator of this equipment.

ATTENTION: SAFETY WARNINGS:

Read and understand all warnings before installation or servicing pump.

HIGH PRESSURE SAFETY:

OPERATIONAL LIMITS: *
Maximum Operating Pressure: 250 psi
Maximum Operating Temperature: 275°F (135°C)
* See ASTM A126/ANSI B16.1 for pressure/temperature ratings of flanges.

ELECTRICAL SAFETY:

INSTALLATION

GENERAL. The life of your Aurora® pump can be extended considerably by carefully following the installation instructions contained herein. Each step of the pump installation instructions plays a vital part in assuring long life, efficient operation and reduced maintenance, from the initial location of the pump through prestarting directions.

UNPACKING YOUR PUMP. The crate containing your pump should be opened immediately upon receipt from the factory, and the pump generally inspected for damage and shortage of parts. Particular attention should be given to the discharge and suction nozzle threads or flanges. Any damage or shortage of parts should be reported to the carrier immediately.

PLANNING THE PUMP LOCATION. You probably have spent considerable time planning where your pump will be located. However, you may have overlooked some factor that may affect pump operation or efficiency.

HIGH TEMPERATURE SAFETY:

The pump should be located as close to the liquid source as possible so that the suction line can be short and direct.

PENTAIR AURORA®

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GROUTING THE INSTALLATION. [illegible]

[illegible]

DISCHARGE PIPING. [illegible]

PIPE. [illegible]

DISCHARGE VALVES. [illegible] *Refer Fig. 5.*

[illegible]

ELECTRICAL WIRING. [illegible]

PRESTARTING INSTRUCTION. [illegible]

(2) .

16. (38) (65). (36) a (37) a (3), a (52) a (56) (65) , (71) a . *Refer to Fig. 11.*

17. (41) a (40), a (42) a (43) a (44) .

18. (45) a (46) a (47). (48), a (52) a (56) .

1 . (57) (62) , (58) . (64) , (65) . (58) , (66) . *Refer to Fig. 12.*

20. (63) (5) a (64) (57) a (65) a (63) .

21. ( ) (61) (a) (5) 5, 6 a 7, (78). a (61) (5). 413 a (75) (74) a (6). (73).

22. (66, 67 a 68) (6) .

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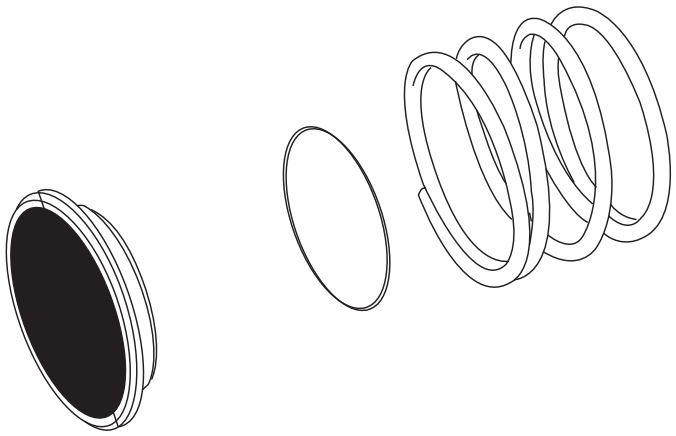

REASSEMBLY

Reassembly will generally be in reverse order of disassembly. If disassembly was not completed, use only those steps related to your particular repair program.

1. Position locating pins (67) in lower casing (69), adding swing bolt pins (68), if used on your pump. Install wearing ring pins (66). Tap pins gently to seat them in place. If nameplate (71) was removed, install it with screws (70). Install O-ring (58) in shaft sleeve (64).

2. On a right-hand unit, thread inboard sleeve (64) onto shaft (65) distance A (refer to figure 14) based on pump size. On a left-hand unit, thread outboard sleeve (57) onto the shaft a distance A (refer to figure 15). When the sleeve is in position its keyway should align with keyway on shaft. Coat key and keyway with Loctite® Sealant Grade 242. Insert key (63) into keyways of shaft and sleeve. Tap it firmly in place.

3. Coat inside diameters of impeller wearing rings (61) (optional) with Loctite Sealant Grade 271 and press them over hubs of impeller (59). Do not attempt to hammer impeller wear rings into position, since they are a press fit. Use of an arbor press is preferred. However, placing a block of wood over the impeller wearing ring and pressing it in will work satisfactorily. For power frames 5, 6B and 7 only, two setscrews (78) will be installed by drilling into wearing rings and impeller. The opposite surface of the impeller should be protected from damage throughout the procedures by resting it against soft wood on the surface of work bench.

   Impeller wearing rings must be given special care because they are press fit. Be sure rings are positioned squarely over hubs of impeller. A soft headed hammer may be used to gently tap impeller wearing rings into correct alignment before they are pressed into place.

4. Coat impeller (59) keyway with Loctite Sealant Grade 242 and slide onto shaft until it is firmly against the shaft sleeve. Place O-ring (58) in shaft sleeve (57) and thread shaft sleeve firmly against the impeller.

NOTE

When assembling rotating element of a 410 Series pump, it is important that the curve of the impeller blades is in agreement with pump rotation. *Refe i elle a i ske ches, Figs. 22 24.*

Carefully check that proper shaft sleeve has been keyed into place for rotation of pump. If correct shaft sleeve is not keyed onto shaft, it can spin loose during operation of pump and cause excessive damage.

Carefully check that the proper shaft sleeve has been keyed into place for rotation of pump. If correct shaft sleeve is not keyed onto shaft, it can spin loose during operation of pump and cause extensive damage.

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STARTING PUMP AFTER REASSEMBLY

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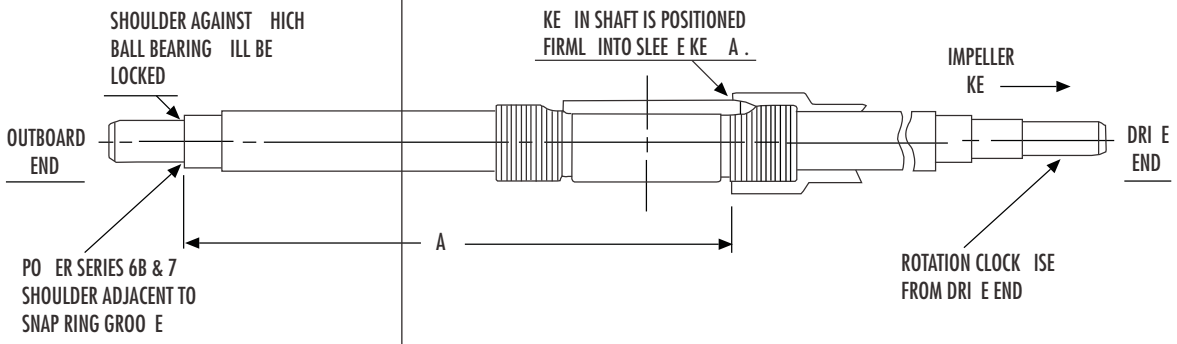
NOTE:



POWER SERIES	PUMP SIZE	A
1	2 x 2-1/2 x 9	8-15/64
	2 x 2-1/2 x 10	
	2 x 2-1/2 x 12	
2	2-1/2 x 3 x 10	10-31/64
	2-1/2 x 3 x 12	
	3 x 4 x 10	
	3 x 4 x 14	
	4 x 5 x 10	
3	4 x 5 x 11	11-11/64
	4 x 5 x 13	
	4 x 5 x 15	

POWER SERIES	PUMP SIZE	A
4	4 x 6 x 18	11-59/64
	5 x 6 x 11	
	5 x 6 x 15	
	5 x 6 x 17	
	6 x 8 x 11	
	8 x 8 x 11	
5	6 x 8 x 15	13-31/64
	6 x 8 x 18	
	6 x 8 x 20	
	8 x 10 x 12	
	8 x 10 x 15	

POWER SERIES	PUMP SIZE	A
5	8 x 10 x 17	13-31/64
6B	8 x 10 x 21	15-31/32
	10 x 12 x 12B	
	10 x 12 x 15B	
	10 x 12 x 18	
7	12 x 14 x 15B	18-3/64
	12 x 14 x 18	
	14 x 16 x 18	

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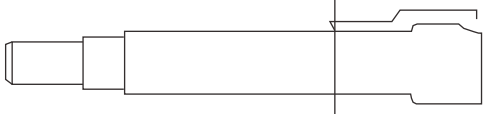

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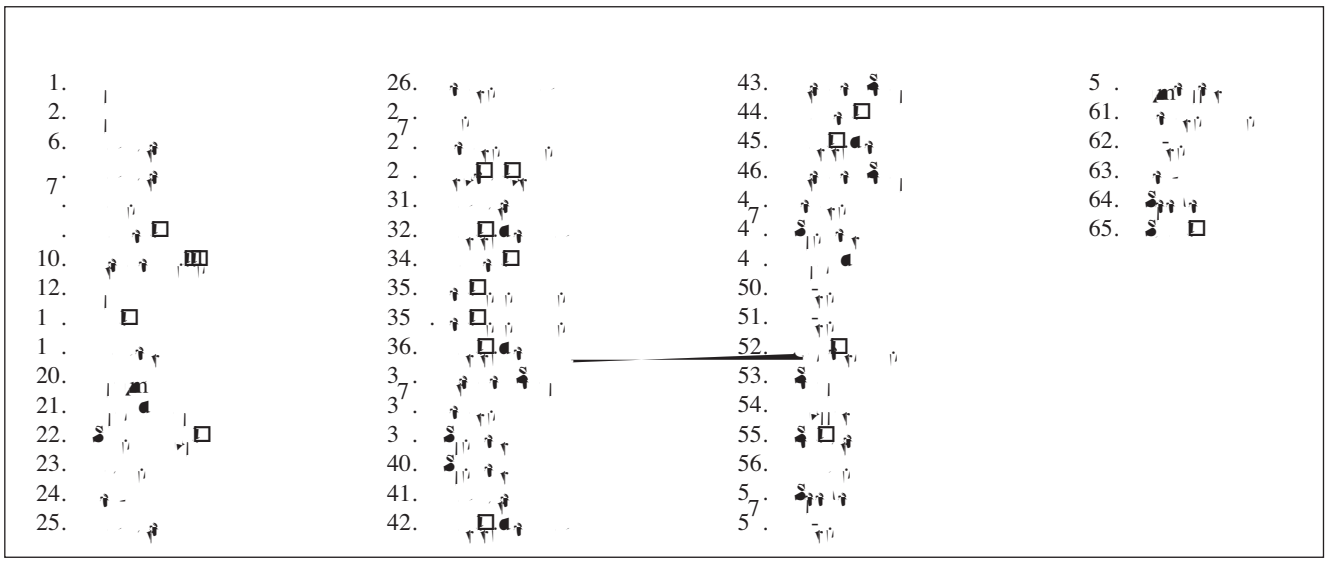

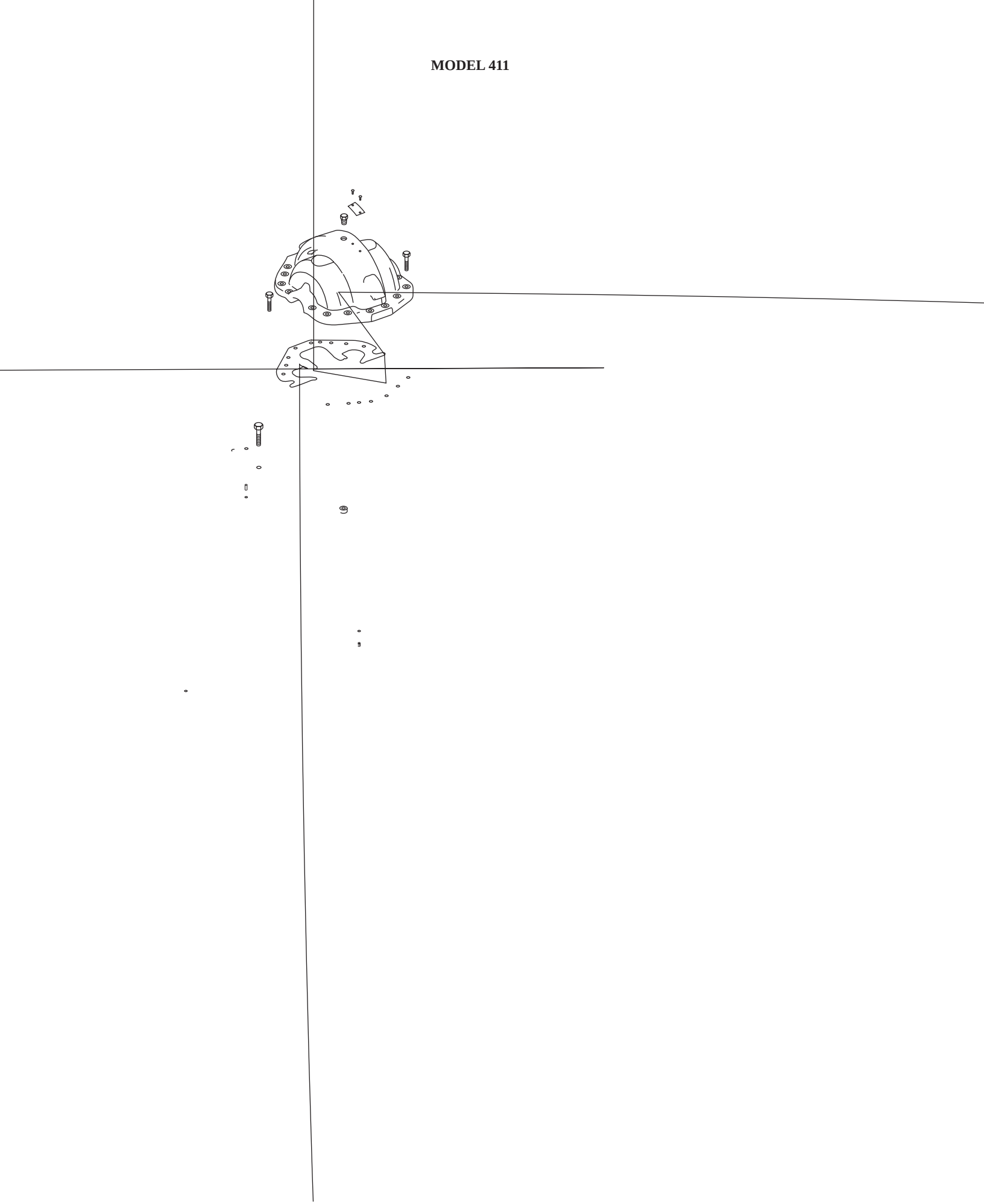

NOTE

When ordering spare parts, always include the pump type, size, serial number and the piece number from the exploded view in this manual.

Order all parts from your local authorized distributor or the factory at Aurora, Illinois.

NOTE

Pentair® reserves the right to make revisions to its products and their specifications, this bulletin and related information without notice.