



INSTRUCTIONS and PARTS LIST

SERIES A313I & A/C413I

WARNING

**READ THIS INSTRUCTION BOOK AND CA-1 BEFORE
INSTALLATION, OPERATION OR MAINTENANCE**

This manual now is
identified as part no.
SRM00014

Instructions 313I (R-3)

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IMO Pump Division
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MAY 1987

ORDERING INSTRUCTIONS

All correspondence pertaining to renewal parts for the equipment must refer to the instruction book number and should be addressed to the nearest IMO Pump Division Representative or Sales Office. See addresses of sales offices listed above.

The handling of renewal orders will be greatly facilitated if the following directions are carefully observed.

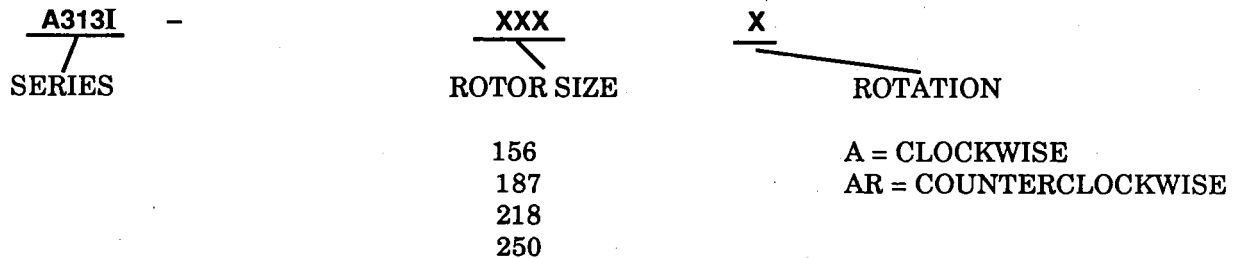
1. Give the number of the instruction book.
2. Give the serial number of the machine for which part is desired. This number appears on the name-plate.
3. Designate the desired part by the number and name as listed in this instruction book.
4. Give the drawing number or figure number in which the part is shown. (In the event the part is called out on an unnumbered sketch – the page number on which the sketch appears should be used in lieu of the drawing number as the reference.)

For Example:

Instruction Book No. A3D-6
Serial Number 505629
Part Number and Name 063, Power Rotor
Drawing Number (see item 4 above) SF-5377

FOREWORD

This instruction manual covers the series A313I and A/C413I Imo Pumps. The specific models are found on the pump nameplate and are identified as follows:



SPECIAL INSTALLATION INSTRUCTIONS

When integral mounted pumps are to be used, a careful check should be made as to the possibilities of the main unit ever reversing its rotation, which in turn would reverse the action of the pump. Unless provision is made to relieve the pressure on the suction line when this occurs, if a foot or check valve is used, failure of the pump is likely to occur.

OPERATIONAL SAFETY PRECAUTIONS

STRUCTURAL LIMITS

Operating conditions, such as speed, fluid viscosity, inlet pressure, discharge pressure, temperature, filtration, duty cycle, mounting, drive type, etc. are interrelated. Due to these variable conditions, the specific application limitations may be different from that of the structural limitations. This equipment must not be operated without verification that operating requirements are within published capabilities as shown in the appropriate pump data book (available from the local Imo Pump Division offices and representatives).

Under no circumstances are the following structural limitations to be exceeded.

Maximum Discharge Pressure – 150 PSIG

Maximum Inlet Pressure – 5 PSIG

Maximum Fluid Temperature – 200°F

ASSEMBLY AND DISASSEMBLY INSTRUCTIONS

The pump requires very little attention in normal usage. All moving parts are lubricated by the liquid being pumped. There is no packing box since the pump is arranged for mounting where the leakage can drain back to the reservoir.

Lubrication to the coupling is provided through a drilled passage in the power rotor (016). An orifice plug (020) allows the oil to reach the coupling end. In the event that a coupling requiring no lubrication is used, this plug must be sealed.

DISASSEMBLY – To disassemble pump, first remove bolts holding it to main unit. Draw pump clear of machine.

Remove thrust plate (012) by removing capscrews (011). Unscrew power rotor (016) along with balance piston (017) and thrust collar (018) which are brazed to power rotor.

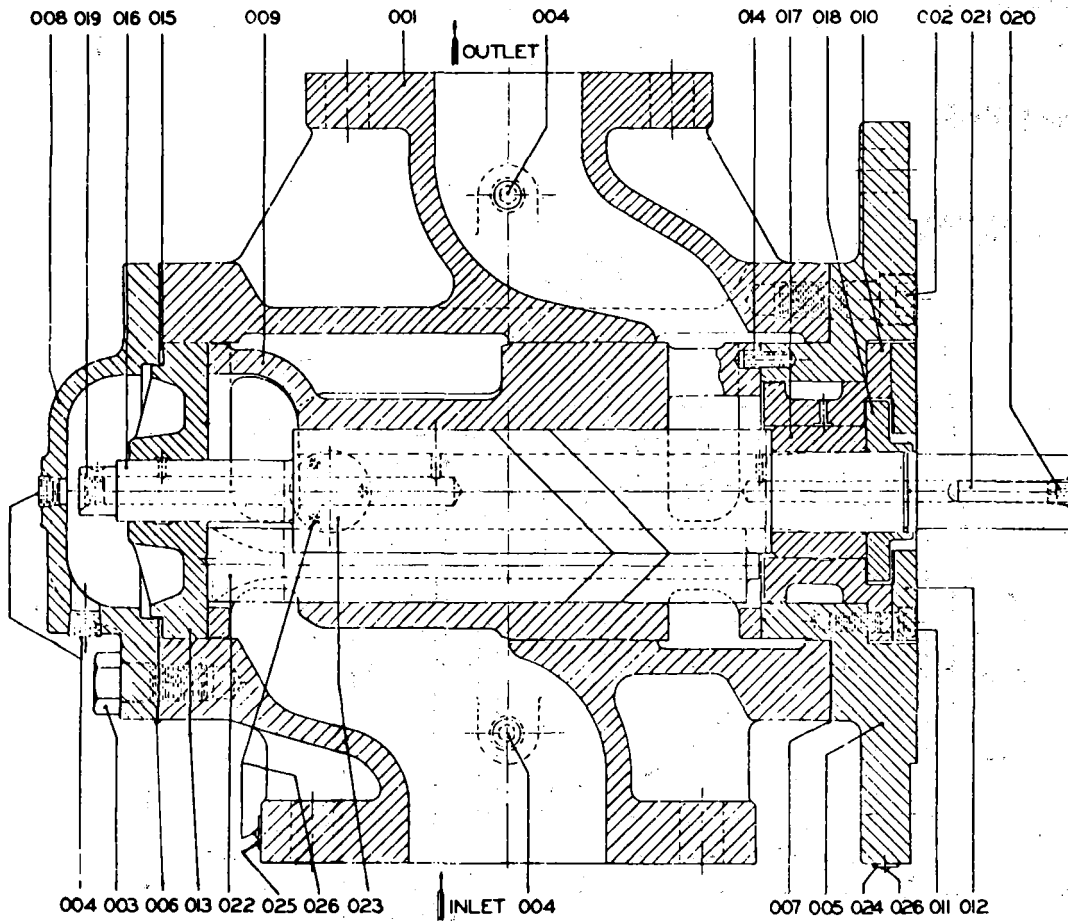
Remove cover (008), gasket (006), shim (015), and outboard bearing (013). Withdraw idlers (022), Housing bores may now be inspected.

To inspect or replace gasket (007), break joint between intermediate cover (005) and pump case (001).

If rotor housing (009) must be replaced, withdraw housing from either end.

REASSEMBLY – Reassembly is the reverse of the above procedure. In placing rotor housing (009) in case (001) care must be exercised aligning housing with roll pin (014).

To determine required thickness of shim (015), jack bearing (013) and rotor housing (009) firmly against intermediate cover (005) to assure that all parts are butted. Measure the difference in depth between the pump case (001) and outboard bearing (013). This is the required thickness of the shim.



PARTS LIST

<u>No.</u>	<u>Name</u>	<u>No.</u>	<u>Name</u>	<u>No.</u>	<u>Name</u>
001	Pump Case	010	Balance Piston Housing XX	019	Pipe Plug
002	Capscrew (8)	011	Capscrew	020	Orifice Plug
003	Bolt (8)	012	Thrust Plate XX	021	Key
004	Pipe Plug (4)	013	Outboard Bearing XX	022	Idler Rotor *XX (2 or 3)
005	Intermediate Cover	014	Roll Pin	023	Name Plate
006	Gasket X	015	Shim XX	024	Name Plate
007	Gasket X	016	Power Rotor XX	025	Name Plate
008	Cover	017	Balance Piston	026	Drive Rivet (4)
009	Rotor Housing XX	018	Thrust Collar		

Recommended Spare Parts

All items marked X make up a minor repair kit

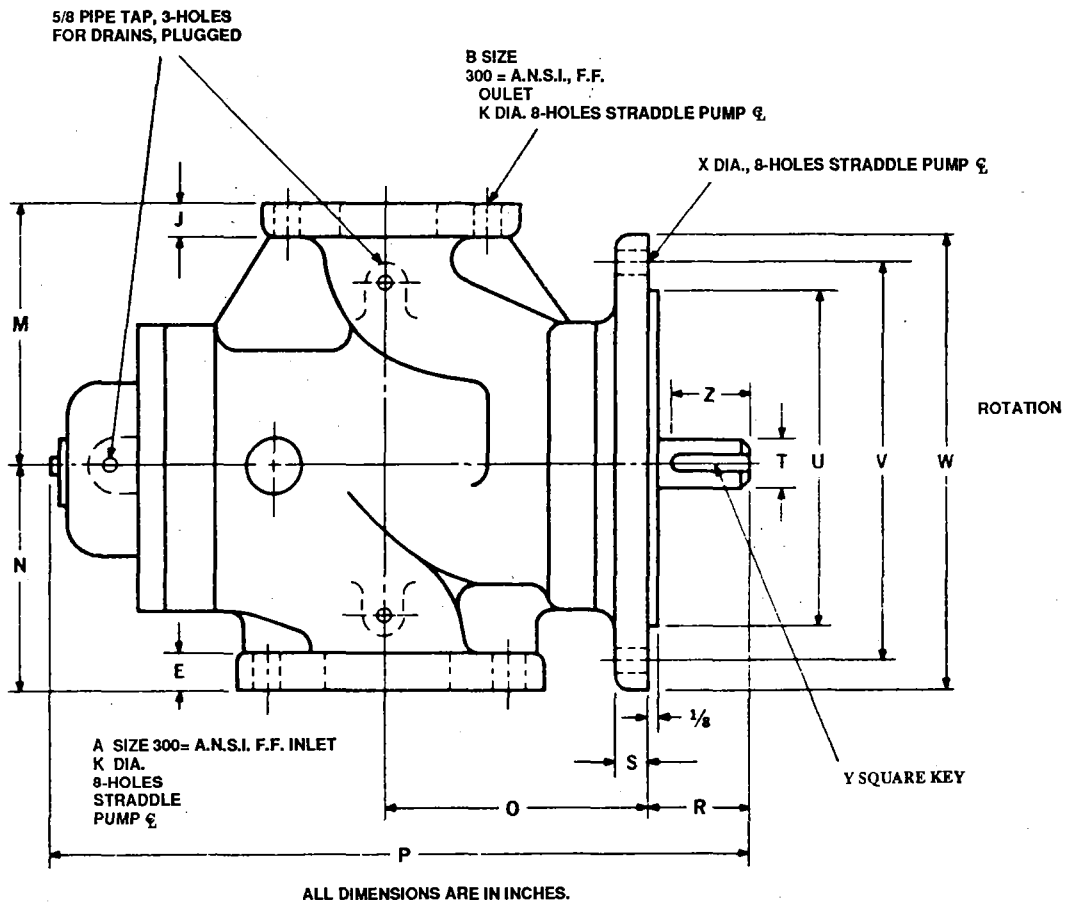
All items marked X and XX make up a major repair kit

All quantities are one except when noted in parentheses

*A313I has 2 idler rotors

A413I has 3 idler rotors

**SERIES A313I
& A413I
PUMP
DIMENSIONS**



Rotor Size	A	B	E	J	K	M	N	O	P	R	S	T	U	V	W	X	Y	Z	WEIGHT LBS.
156 187	3	2	1 1/8	7/8	3/4	6	6	5 3/8	16 1/4	2 3/8	5/8	1.0000 .9995	7.248 7.247	8 1/2	9 3/4	9/16	1/4	1 3/8	120
218 250	4	3	1 1/4	1 1/8	7/8	8 1/2	7 1/2	8 1/8	21 1/16	3 1/4	1	1.5000 1.4995	10.998 10.997	13	15	7/8	3/8	2 1/2	180

*Units can be furnished for either rotation.