Frick

Model XJS/XJF (95, 120 & 151) Screw Compressor

Parts/Maintenance Manual

Compliments Of

CENTRAL ICE MACHINE COMPANY, INC.
Refrigeration Supplies
800-228-7213 www.centralice.com

CENTRAL ICE MACHINE COMPANY
Refrigeration Supplies

6279 S. 118TH STREET ■ OMAHA, NEBRASKA 68137
402-731-4690 ■ 800-228-7213 ■ FAX 402-731-0823

WE CAN SUPPLY ALL YOUR REFRIGERATION NEEDS AND PARTS FOR USE IN THE FOLLOWING...

COMPRESSORS: York - Frick - Vilter - Fuller - Mycom - Sullair - FES - Howe - Crepaco - Grasso - Sabroe - Kobe - Dunham Bush - Stal - Howden

CONTROL VALVES: Refrigerating Specialties - Hansen - Phillips - Hubbell - Alco - Sporlan - Grasso - Danfoss

HAND VALVES: Refrigerating Specialties - Hansen - Herl - Frick - Henry - Shank - Grasso - Danvalve

RELIEF VALVES: Henry - Refrigerating Specialties - Hansen - Shank - Rego

CONDENSERS AND EVAPORATORS: Evapco - Frick - Imeco - Frigid Coil - Krack - Baltimore Air Coil - Vilter - Gebhardt - King

GAUGES: Marsh - Ashcroft - Danton - Duro - McDaniel - Wika

REFRIGERATION CONTROLS: Penn - Mercoid - Honeywell - Barber Coleman - Johnson Controls

REFRIGERATION PUMPS: Cornell - Viking - York IT - Blackmere - Hansen

PURGERS: Hansen - Refrigerating Specialties - Armstrong

MISCELLANEOUS: X-Pando Pipe Joint Compound - MSA Gas Masks - Sulphur Sticks for Ammonia Leak Detection - Litmus Paper - Coalescer Filter Elements

LOW PRICES – HUGE INVENTORY
KNOWLEDGEABLE SALES PEOPLE

Frick

S70-450 SPL/SEP 98

File: SERVICE MANUAL - Section 70
Replaces: S70-450 SPL/SEP 96
Dist: 3, 3a, 3b, 3c

Service Parts List

XJS/XJF

ROTARY SCREW COMPRESSORS

MODELS: 95, 120 and 151

CENTRAL ICE MACHINE COMPANY
Refrigeration Supplies
800-228-7213 FAX 402-731-0823

HOW TO USE SERVICE PARTS LIST

This Service Parts List is for standard Frick XJS and XJF, Rotary Screw Compressor Units. Units built with special options, modifications, or conversions are not taken into consideration.

This Service Parts List provides identification for detail parts by Figure and Index Number, Item Number and Description. To determine correct replacement item, locate item on Figure 1, 2, etc., note index number, refer to corresponding index number in parts list for item number and description. Quantity per assembly is located in QTY. column. Unit of measure is always "each" unless specified otherwise in Quantity column. When Ref. is in QTY. column, this means that the Item Number is for information only and is not necessarily a service replacement part. Contact Frick Parts Department for more information. REV. (Revision) column tells the level of the engineering drawing used here.

The Numerical Parts List can be used to locate a specific item in the Service Parts List. Look for the part by Frick Item Number and it will refer you to the Figure and Index Number where it is located.

Abbreviations found in this manual include:

A/R ..... As Required

Ref. ..... Reference

The **Model/SerialNumber Plate**, is located on the rotor casing assembly.

NOTE: PLEASE PROVIDE FRICK ORDER NUMBER, UNIT MODEL NUMBER, AND UNIT SERIAL NUMBER WHEN REQUESTING A QUOTATION OR PLACING AN ORDER. FAILURE TO INCLUDE THIS INFORMATION MAY DELAY PROCESSING OF YOUR REQUEST.

TABLE OF CONTENTS

How To Use Service Parts List 2
Recommended Spare Parts 3
Figure 1. XJS 95 & 120 General Arrangement 4
Figure 2. XJS 120 Slide Valve Stop Assembly, Handwheel ... 10
Figure 3. XJF 95 & 120 General Arrangement 12
Figure 4. XJF 151 General Arrangement 18
Frick Compressor Oils 23
Oil Analysis Kit 23
Frick Paint 23
Numerical Parts List 24

CENTRAL ICE MACHINE COMPANY
Refrigeration Supplies
800-228-7213 FAX 402-731-0823

XJS 95 & 120 RECOMMENDED SPARE PARTS KITS

DESCRIPTION	95S	95M	95L	120S	120M	120L
Shaft Seal Kit	111Q0043229	111Q0043229	111Q0043229	111Q0043231	111Q0043231	111Q0043231
O-ring & Gasket Kit	111Q0043226	111Q0043226	111Q0043226	111Q0043223	111Q0043223	111Q0043223
Slide Valve Kit	534M0041G01	534M0041G01	534M0041G01	534M0040G01	534M0040G01	534M0040G01
Jackshaft Kit (1)	534C0618G01	534C0618G02	534C0618G03	534C0618G04	534C0618G05	534C0618G06
Bearing Kit (2)	534M0488G01	534M0488G01	534M0488G01	534M0489G01	534M0489G01	534M0489G01
Thrust Bearing Kit (2)	534M0250G01	534M0250G01	534M0250G01	534M0251G01	534M0251G01	534M0251G01
Potentiometer Kit (3)	111Q0045464	111Q0045464	111Q0045464	111Q0045464	111Q0045464	111Q0045464
Compressor Tool Kit	534M0008G01	534M0008G01	534M0008G01	534M0008G02	534M0008G02	534M0008G02

Note: When stocking the above, the quantity should be adjusted to meet your individual requirements.
(1) Contains Shaft Seal Kit and shims.
(2) Thrust Bearing Kit items are included in Bearing Kit. Both contain shims.
(3) Potentiometer Kit is for machines with microprocessor controls, not those with electromechanical controls.

XJF 95 & 120 RECOMMENDED SPARE PARTS KITS

DESCRIPTION	95S	95M	95L	120S	120M	120L
Shaft Seal Kit	111Q0043229	111Q0043229	111Q0043229	111Q0043231	111Q0043231	111Q0043231
O-ring & Gasket Kit	111Q0043226	111Q0043226	111Q0043226	111Q0043223	111Q0043223	111Q0043223
Slide Valve Kit	534M0041G01	534M0041G01	534M0041G01	534M0040G01	534M0040G01	534M0040G01
Jackshaft Kit (1)(2)	534C0618G01	534C0618G02	534C0618G03	534C0618G04	534C0618G05	534C0618G06
Jackshaft Kit (1)(3)	534C1136G01	534C1136G02	534C1136G03	534C1136G04	534C1136G05	534C1136G06
Bearing Kit (4)	534M0488G02	534M0488G02	534M0488G02	534M0489G01	534M0489G01	534M0489G01
Thrust Bearing Kit (4)	534M0250G01	534M0250G01	534M0250G01	534M0251G01	534M0251G01	534M0251G01
Potentiometer Kit (5)	111Q0045464	111Q0045464	111Q0045464	111Q0045464	111Q0045464	111Q0045464
Compressor Tool Kit	534M0008G01	534M0008G01	534M0008G01	534M0008G02	534M0008G02	534M0008G02

Note: When stocking the above, the quantity should be adjusted to meet your individual requirements.
(1) Contains Shaft Seal Kit and shims.
(2) For machines prior to S/N 0061A, 0022B, 0054C, 0211D, 0098E, and 0085F, with Seal Housing.
(3) For machines S/N 0061A, 0022B, 0054C, 0211D, 0098E, 0085F and after, without Seal Housing.
(4) Thrust Bearing Kit items are included in Bearing Kit. Both contain shims.
(5) Potentiometer Kit is for machines with microprocessor controls, not those with electromechanical controls.

XJF 151 RECOMMENDED SPARE PARTS KITS

DESCRIPTION	151A	151M	151L	151N
Shaft Seal Kit	534M0602G02	534M0602G02	534M0602G02	534M0602G02
O-ring & Gasket Kit	534M0602G01	534M0602G01	534M0602G01	534M0602G01
Jackshaft Kit (1)	534M0602G04	534M0602G05	534M0602G06	534M0602G07
Bearing Kit (2)	534M0602G03	534M0602G03	534M0602G03	534M0602G03
Potentiometer Kit (3)	111Q0045464	111Q0045464	111Q0045464	111Q0045464
Compressor Tool Kit	534M0483G01	534M0483G01	534M0483G01	534M0483G01

Note: When stocking the above, the quantity should be adjusted to meet your individual requirements.
(1) Contains Shaft Seal Kit.
(2) Contain shims.
(3) Potentiometer Kit is for machines with microprocessor controls, not those with electromechanical controls.

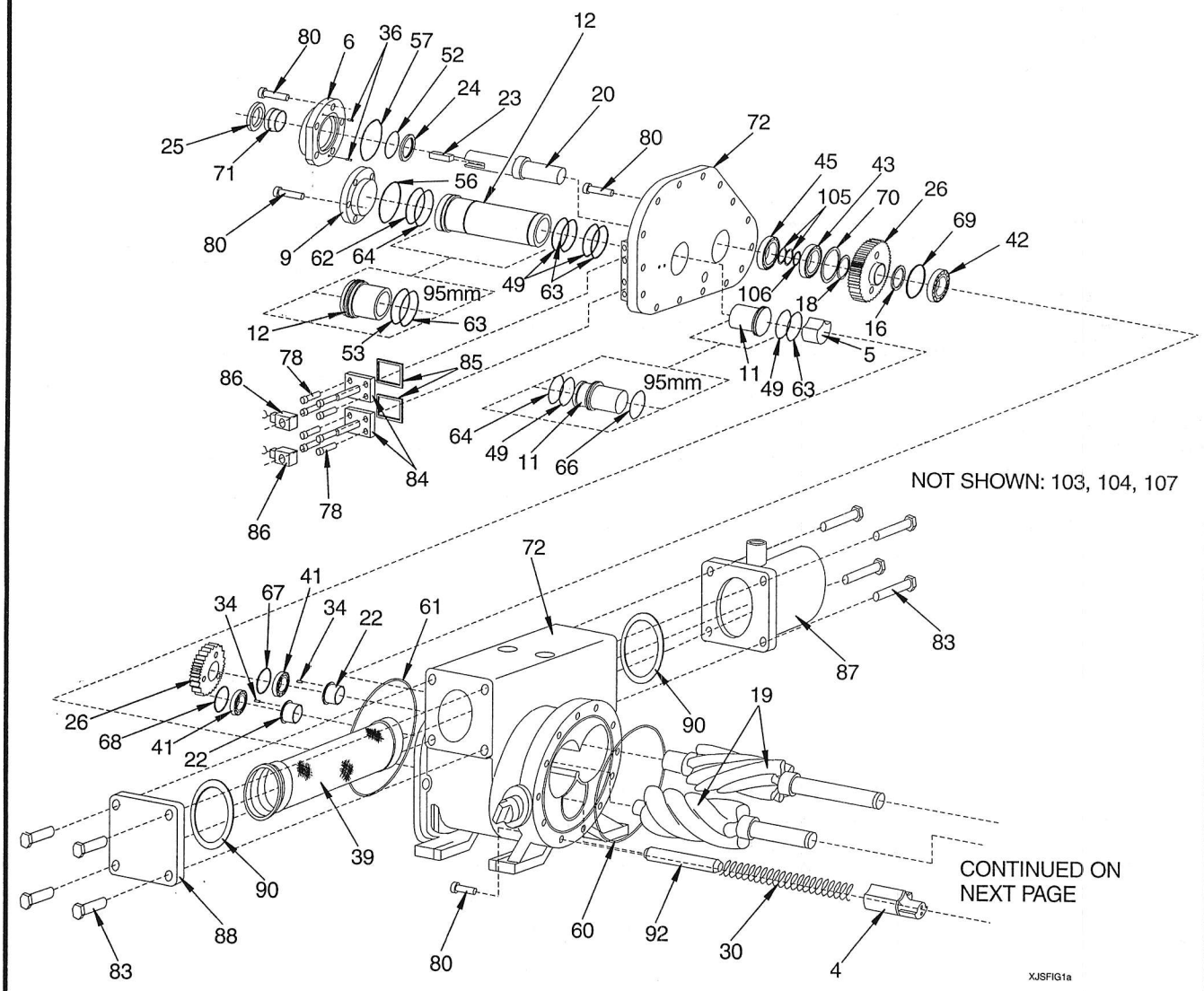


Figure 1a. XJS 95 & 120 Screw Compressor, Typical.

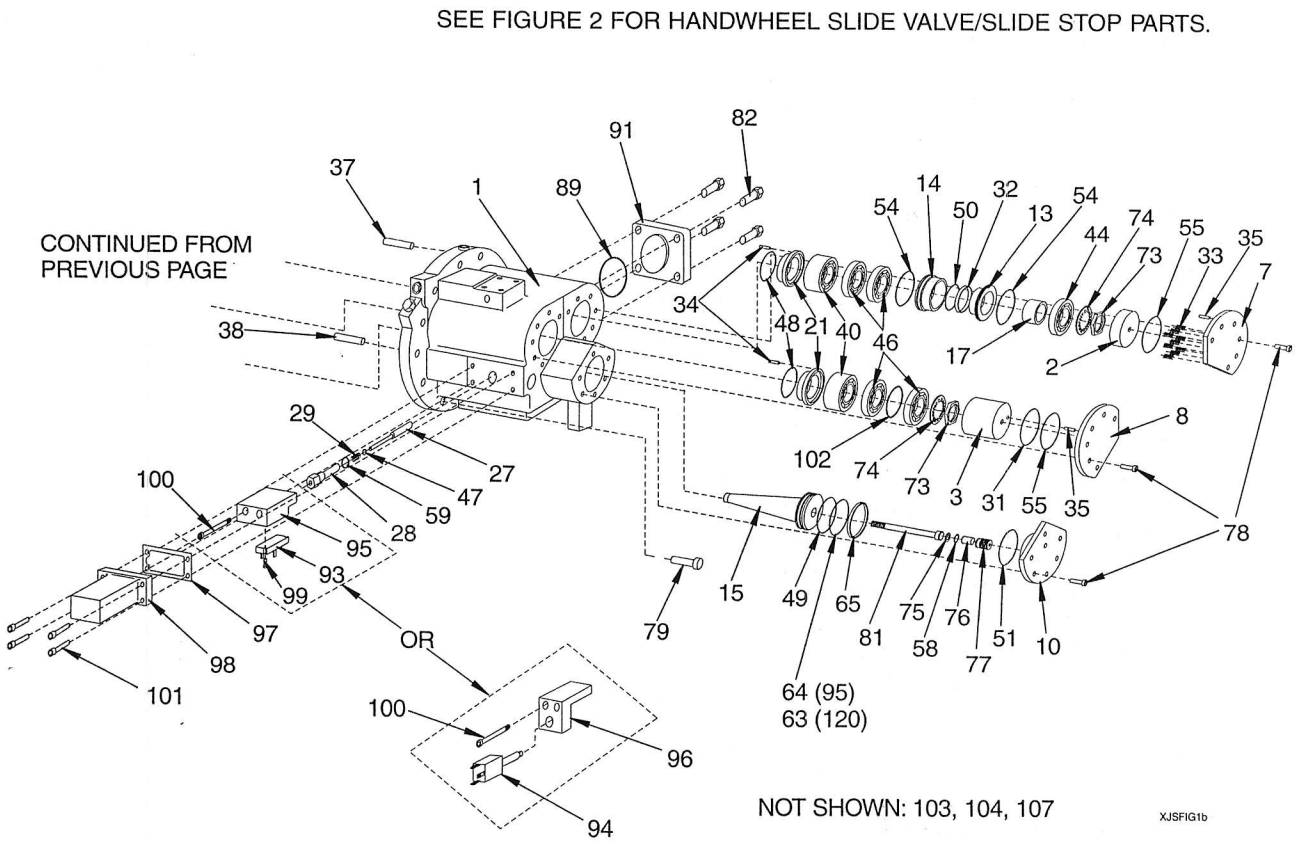


Figure 1b. XJS 95 & 120 Screw Compressor, Typical.

XJS/XJF ROTARY SCREW COMPRESSORS
SERVICE PARTS LIST

FIG. & INDEX	ITEM NUMBER	DESCRIPTION	QTY.	REV.
1—	534E0256	XJS 95S/M/L Screw Compressor, New	Ref.	P
	111Q0040020	XJS 95S Screw Compressor, Rebuilt	Ref.	
	111Q0040021	XJS 95M Screw Compressor, Rebuilt	Ref.	
	111Q0040022	XJS 95L Screw Compressor, Rebuilt	Ref.	
	534E0257	XJS 120S/M/L Screw Compressor, New	Ref.	R
	111Q0040023	XJS 120S Screw Compressor, Rebuilt	Ref.	
	111Q0040024	XJS 120M Screw Compressor, Rebuilt	Ref.	
	111Q0040025	XJS 120L Screw Compressor, Rebuilt	Ref.	
	534E0588	XJS 120S/M/L Screw Compressor, Hand Wheel, New	Ref.	E
—1	534E0195C01	Casing, Discharge, XJS 95	1	
	534E0194C01	Casing, Discharge, XJS 120	1	
—2	534C0473C01	Sleeve, Male Distance, XJS 95	1	
	534C0471C01	Sleeve, Male Distance, XJS 120	1	
—3	534C0474C01	Sleeve, Female Distance, XJS 95	1	
	534C0472C01	Sleeve, Female Distance, XJS 120	1	
—4	534D0342C01	Valve, Slide, XJS 95	1	
	534D0322C01	Valve, Slide, XJS 120	1	
—5	534C0415C01	Stop, Slide, XJS 95	1	
	534D0324C01	Stop, Slide, XJS 120	1	
—6	534C0614C01	Housing, Seal, XJS 95 ▲	1	
	534C0613C01	Housing, Seal, XJS 120 ▲	1	
—7	534C0419C01	Cover, Outlet Bore, XJS 95	1	
	534C0378C01	Cover, Outlet Bore, XJS 120	1	
—8	534C0419C02	Cover, Outlet Bore, XJS 95	1	
	534C0378C02	Cover, Outlet Bore, XJS 120	1	
—9	534C0423C01	Cover, Slide Stop, XJS 95	1	
	534C0375C01	Cover, Slide Stop, XJS 120	1	
—10	534C0424C01	Cover, Cylinder, XJS 95	1	
	534C0381C01	Cover, Cylinder, XJS 120	1	
—11	534D0344H01	Piston, Slide Stop, XJS 95	1	
	534D0326H01	Piston, Slide Stop, XJS 120	1	
—12	534D0343H01	Piston, Stepper, XJS 95	1	
	534D0325C01	Piston, Stepper, XJS 120	1	
—13	534C0482H01	Piston, Balance, XJS 95	1	
	534C0480H01	Piston, Balance, XJS 120	1	
—14	534C0483H01	Sleeve, Balance Piston, XJS 95	1	
	534C0481H01	Sleeve, Balance Piston, XJS 120	1	
—15	534D0640H01	Piston, Slide Valve, XJS 95 ★	1	
	534D0641H01	Piston, Slide Valve, XJS 120 ★	1	
—16	534A0167H01	Spacer, Bearing, XJS 95 ▲	1	
	534A0145H01	Spacer, Bearing, XJS 120 ▲	1	
—17	534B0234H01	Spacer, Bearing, XJS 95	1	
	534B0233H01	Spacer, Bearing, XJS 120	1	
—18	534A0230H01	Spacer, Bearing, XJS 95 ▲	1	
	534A0231H01	Spacer, Bearing, XJS 120 ▲	1	
—19	534A0195G01	Rotor Pair, XJS 95	1	
	534A0658G01	Rotor Pair, XJS 120	1	
—20	534C0612H01	Jackshaft, XJS 95 ▲	1	
	534C0611H01	Jackshaft, XJS 120 ▲	1	
—21	534C0446C01	Seal, Gas, XJS 95 ◆	2	
	534C0445C01	Seal, Gas, XJS 120 ◆	2	
—22	534C0426H01	Bushing, Male/Female Inlet, XJS 95 ◆	2	
	534C0373H01	Bushing, Female Inlet, XJS 120 ◆	1	
	534C0377H01	Bushing, Male Inlet XJS 120 ◆	1	
—23	534B0208H01	Key, XJS 95	1	
	534B0199H01	Key, XJS 120	1	
—24	534B0207H01	Shaft Seal, XJS 95 ●	1	
	534B0175H01	Shaft Seal, XJS 120 ●	1	

FIG. & INDEX	ITEM NUMBER	DESCRIPTION	QTY.	REV.
—25	534B0182H02	Collar, Clamp, XJS 95 ●	1	
	534B0182H03	Collar, Clamp, XJS 120 ●	1	
—26	534A0157G01	Set, Gear, 66:31 Ratio, XJS 95 ▲	1	
	534A0157G02	Set, Gear, 60:37 Ratio, XJS 95 ▲	1	
	534A0157G03	Set, Gear, 55:42 Ratio, XJS 95 ▲	1	
	534A0147G01	Set, Gear, 66:31 Ratio, XJS 120 ▲	1	
	534A0147G02	Set, Gear, 60:37 Ratio, XJS 120 ▲	1	
	534A0147G03	Set, Gear, 55:42 Ratio, XJS 120 ▲	1	
—27	534B0185H01	Rod, Indicator, XJS 95	1	
	534B0235H01	Rod, Indicator, XJS 120	1	
—28	534C0382H01	Guide, Indicator Rod	1	
—29	534A0148H01	Spring, Indicator Rod	1	
—30	534A0143H01	Spring, Unloader	1	
—31	534C0479H11	Spring, Wave, XJS 95 ◆ ⬟	1	
	534C0479H12	Spring, Wave, XJS 120 ◆ ⬟	1	
—32	534C0479H04	Spring, Wave, XJS 95	2	
	534C0479H03	Spring, Wave, XJS 120	2	
—33	534A0219H01	Spring, Compression, XJS 95	7	
	534A0219H01	Spring, Compression, XJS 120	9	
—34	534A0038H06	Pin, Spring, .125 x .375″	4	
—35	534A0038H02	Pin, Spring, .187 x .625″	2	
—36	534A0037H12	Pin, Dowel	2	
—37	534B0149H02	Pin, Dowel	1	
—38	534B0193H01	Pin, Dowel, Special	1	
—39	534C0428G01	Assembly, Suction Strainer, XJS 95	1	
	534C0408G01	Assembly, Suction Strainer, XJS 120	1	
—40	534B0004H18	Bearing, Roller, XJS 95 ◆	2	
	534B0004H17	Bearing, Roller, XJS 120 ◆	2	
—41	534B0004H13	Bearing, Roller, XJS 95 ◆	2	
	534B0004H13	Bearing, Roller, Female Rotor, XJS 120 ◆	1	
	534B0004H15	Bearing, Roller, Male Rotor, XJS 120 ◆	1	
—42	534B0004H16	Bearing, Roller, XJS 95 ▲	1	
	534B0004H14	Bearing, Roller, XJS 120 ▲	1	
—43	534B0004H21	Bearing, Roller, XJS 95 ▲	1	
	534B0004H22	Bearing, Roller, XJS 120 ▲	1	
—44	534B0101H08	Bearing, Four-Point Contact Ball, XJS 95 ◆ ⬟	1	
	534B0101H07	Bearing, Four-Point Contact Ball, XJS 120 ◆ ⬟	1	
—45	534B0101H09	Bearing, Four-Point Contact Ball, XJS 95 ▲	1	
	534B0101H10	Bearing, Four-Point Contact Ball, XJS 120 ▲	1	
—46	534C0478H11	Bearing, Angular Contact Ball, XJS 95 ◆ ⬟	4	
	534C0478H10	Bearing, Angular Contact Ball, XJS 120 ◆ ⬟	4	
—47	980A0014A10	O-ring ■	1	
—48	980A0012A85	O-ring, XJS 95 ■	2	
	980A0012A93	O-ring, XJS 120 ■	2	
—49	980A0012A86	O-ring, XJS 95 ■ ★	2	
	980A0012A94	O-ring, XJS 120 ■ ★	4	
—50	980A0012A88	O-ring, XJS 95 ■	1	
	980A0012A95	O-ring, XJS 120 ■	1	
—51	980A0012A89	O-ring, XJS 95 ■ ★	1	
	980A0012A97	O-ring, XJS 120 ■ ★	1	
—52	980A0012A90	O-ring, XJS 95 ■ ●	1	
	980A0012A94	O-ring, XJS 120 ■ ●	1	
—53	980A0012A94	O-ring, XJS 95 ■	1	
—54	980A0012A96	O-ring, XJS 95 ■	2	
	980A0012B03	O-ring, XJS 120 ■	2	
—55	980A0012A97	O-ring, XJS 95 ■	2	
	980A0012B03	O-ring, XJS 120 ■	2	

XJS/XJF ROTARY SCREW COMPRESSORS
SERVICE PARTS LIST

FIG. & INDEX	ITEM NUMBER	DESCRIPTION	QTY.	REV.
—56	980A0012A98	O-ring, XJS 95 ■	1	
	980A0012B02	O-ring, XJS 120 ■	1	
—57	980A0012B04	O-ring, XJS 95 ■ ●	1	
	980A0012B72	O-ring, XJS 120 ■ ●	1	
—58	980A0012B35	O-ring ■ ★	1	
—59	980A0012K62	O-ring ■	1	
—60	980A0012B99	O-ring, XJS 95 ■	1	
	980A0012H05	O-ring, XJS 120 ■	1	
—61	980A0012H06	O-ring, XJS 95 ■ ▲	1	
	980A0012H10	O-ring, XJS 120 ■ ▲	1	
—62	980A0012A98	O-ring, XJS 120 ■	1	
—63	534C0187H08	Glyd-Ring, XJS 95 ■ ★	1	
	534C0187H08	Glyd-Ring, XJS 120 ■ ★	1	
—64	534C0187H10	Glyd-Ring, XJS 95 ■ ★	4	
	534C0187H09	Glyd-Ring, XJS 120 ■	2	
—65	534B0079H03	Slyd-Ring, XJS 95 ■ ★	1	
	534B0079H04	Slyd-Ring, XJS 120 ■ ★	1	
—66	534B0174H10	Ring, Retaining, XJS 95	1	
—67	534B0172H02	Ring, Retaining, Male Rotor, XJS 95	1	
	534B0174H03	Ring, Retaining, Male Rotor, XJS 120	1	
—68	534B0172H02	Ring, Retaining, Female Rotor, XJS 95	1	
	534B0174H02	Ring, Retaining, Female Rotor, XJS 120	1	
—69	534B0174H06	Ring, Retaining, XJS 95 ▲	1	
	534B0174H04	Ring, Retaining, XJS 120 ▲	1	
—70	534B0014H17	Ring, Retaining, XJS 95 ▲	1	
	534B0014H18	Ring, Retaining, XJS 120 ▲	1	
—71	534B0302H01	Ring, Seal Seat Back-up, XJS 95 ●	1	
	534B0301H01	Ring, Seal Seat Back-up, XJS 120 ●	1	
—72	534D0856G01	Assembly, Rotor Casing, XJS 95	1	
	534E0143C01	Casing, Rotor, XJS 120*	1	
	534E0155C01	Cover, Gear, XJS 120*	1	
—73	534A0035H12	Locknut, XJS 95 ◆	1	
	534A0571H03	Locknut w/nylon insert, XJS 120 ◆	2	
—74	534B0125H12	Lockwasher, XJS 95 ◆	2	
	534B0125H11	Lockwasher, XJS 120** ◆	2	
—75	534A0341H01	Washer, Check Valve Retainer ★	2	
—76	534A0173H01	Valve, Internal Check ★	1	
—77	534C0431H01	Retainer, Check Valve ★	1	
—78	901A0085H19	Capscrew, Socket Head, M8 x 30mm, XJS 95	1	
	901A0085H19	Capscrew, Socket Head, M8 x 30mm, XJS 120	25	
—79	111Q0740723	Capscrew, Socket Head, M12 x 55mm, XJS 95	26	
	111Q0740838	Capscrew, Socket Head, M12 x 65, XJS 120	4	
—80	111Q0740739	Capscrew, Socket Head, M12 x 45mm, XJS 95	5	
	111Q0740739	Capscrew, Socket Head, M12 x 45mm, XJS 120	31	
—81	534A0343H01	Capscrew, Socket Head, M10 x 120mm ★	32	
—82	111Q0740741	Capscrew, Socket Head, M20 x 75mm	1	
—83	111Q0740840	Capscrew, Socket Head, M20 x 90mm, XJS 95 Suction Flange	4	
	111Q0740748	Capscrew, Socket Head, M20 x 65mm, XJS 95 Blank Flange	4	
	111Q0740782	Capscrew, Socket Head, M22 x 75mm, XJS 120 Suction Flange	4	
	111Q0740781	Capscrew, Socket Head, M22 x 60mm, XJS 120 Blank Flange	4	
—84	111Q0993344	Valve, Solenoid	4	
—85	534A0171H01	Gasket, Solenoid Valve, XJS 95 ■	2	
	534A0154H01	Gasket, Solenoid Valve, XJS 120 ■	2	
—86	111Q0992127	Coil, Solenoid, 115VAC	2	
—87	535B0261H01	Assembly, Suction Flange, 2-1/2", XJS 95	2	
	535B0262H01	Assembly, Suction Flange, 3", XJS 95	1	
	535B0259H01	Assembly, Suction Flange, 3", XJS 120	1	
	535B0260H01	Assembly, Suction Flange, 4", XJS 120	1	

* Rotor Casing and Gear Cover must be ordered as a set.
** Not needed with 534A0571H03 Locknut.

FIG. & INDEX	ITEM NUMBER	DESCRIPTION	QTY.	REV.
—88	534D0349C01	Flange, Blank, XJS 95	1	
	534D0341C01	Flange, Blank, XJS 120	1	
—89	959A0057H06	Gasket, Flange, XJS 95 ■	1	
	959A0057H18	Gasket, Flange, XJS 120 ■	1	
—90	959A0066H12	Gasket, Flange, XJS 95 ■	2	
	959A0066H11	Gasket, Flange, XJS 120 ■	2	
—91	580D0071H24	Flange, Socket Weld, 2-1/2", XJS 95	1	
	944A0296H06	Flange, Socket Weld, 3", XJS 120	1	
—92	534B0201H01	Support, Spring	1	
—93	534B0293H01	Potentiometer ✱	1	
—94	111Q0452188	Switch	1	
—95	534C0625H01	Support, Potentiometer ✱	1	
—96	534B0210H01	Bracket, Switch Mounting	1	
—97	534B0110H01	Gasket ■	1	
—98	534C0432C01	Cover	1	
—99	111Q0740784	Machine Screw, #1-72UNF x 1/2" ✱	2	
—100	111Q0740839	Capscrew, Socket Head, M8 x 100mm (Potentiometer) ✱	2	
	111Q0740800	Capscrew, Socket Head, M8 x 50mm (Switch)	2	
—101	901A0085H04	Capscrew, Socket Head, M8 x 20mm	4	
	534C0096H05	Washer, 8mm	6	
—102	534C0486H08	Shim, Female Discharge Bearings, XJS 95 ◆ ⬟	1	
	534C0486H04	Shim, Female Discharge Bearings, XJS 120 ◆ ⬟	1	
—103	333Q0000703	Shim Pack, Discharge Bearings, XJS 95	A/R	
—104	333Q0000717	Shim Pack, Shaft Seal/Bearings Arrangement, XJS 95	A/R	
—105	534C0486H09	Shim, XJS 120	2	
—106	534C0486H10	Shim, XJS 120	1	
—107	534A0342H01	Strainer ●	1	
		Recommended Spare Parts/Service Replacement Parts Kits:		
	111Q0043229	● Shaft Seal Kit, XJS 95 (Contains Shaft Seal Tool)	1	
	111Q0043231	● Shaft Seal Kit , XJS 120 (Contains Shaft Seal Tool)	1	
	111Q0043226	■ O-ring and Gasket Kit, XJS 95	1	
	111Q0043223	■ O-ring and Gasket Kit, XJS 120	1	
	534M0041G01	★ Slide Valve Retrofit Kit, XJS 95	1	
	534M0040G01	★ Slide Valve Retrofit Kit, XJS 120	1	
	534C0618G01	▲ Jackshaft Kit, XJS 95S (1)	1	
	534C0618G02	▲ Jackshaft Kit, XJS 95M (1)	1	
	534C0618G03	▲ Jackshaft Kit, XJS 95L (1)	1	
	534C0618G04	▲ Jackshaft Kit, XJS 120S (1)	1	
	534C0618G05	▲ Jackshaft Kit, XJS 120M (1)	1	
	534C0618G06	▲ Jackshaft Kit, XJS 120L (1)	1	
	534M0008G01	Compressor Tool Kit, XJS 95 (Disassembly/Assembly)	1	
	534M0008G02	Compressor Tool Kit, XJS 120 (Disassembly/Assembly)	1	
	534M0488G01	◆ Bearing Kit, XJS 95 (2)(3)	1	
	534M0489G01	◆ Bearing Kit, XJS 120 (2)(3)	1	
	534M0250G01	⬟ Thrust Bearing Kit. XJS 95 (2)(3)	1	
	534M0251G01	⬟ Thrust Bearing Kit, XJS 120 (2)(3)	1	
	111Q0045464	✱ Potentiometer Kit (4)	1	

(1) Contains Shaft Seal Kit and shims.
(2) Thrust Bearing Kit items are included in Bearing Kit.
(3) Contains shims.
(4) For units with microprocessor controls. Units with electromechanical controls use switch, item 94.

SEE FIGURE 1 FOR OTHER SERVICE PARTS.

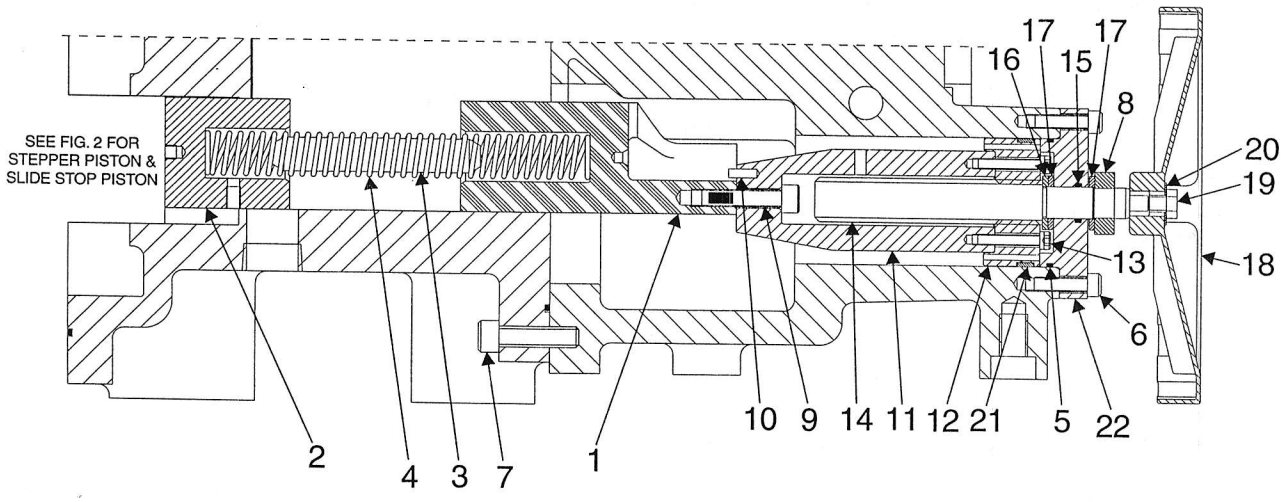


Figure 2. XJS 120 Slide Valve Stop Assembly, Hand Wheel.

FIG. & INDEX	ITEM NUMBER	DESCRIPTION	QTY.	REV.
2—	534E0558	XJS 120 S/M/L Screw Compressor, Hand Wheel, New	Ref.	E
—1	534D0322C01	Valve, Slide	1	
—2	534D0324C01	Stop, Slide	1	
—3	534B0201H01	Support, Spring	1	
—4	534A0143H01	Spring, Unloader	1	
—5	980A0012A97	O-ring* ■	1	
—6	901A0085H19	Capscrew, Socket Head, M8 x 30mm	26	
—7	111Q0740739	Capscrew, Socket Head, M12 x 45mm	32	
—8	534B0182H04	Collar, Clamp*	1	
—9	534A0725H01	Capscrew, Socket Head, w/nylon insert, M10 x 45mm*	1	
—10	534A0037H03	Pin, Dowel*	1	
—11	534B0672H01	Spindle*	1	
—12	534B0673H01	Piston*	1	
—13	333Q0000584	Capscrew, Socket Head, M6 x 35mm*	4	
—14	534B0671H01	Screw, Acme*	1	
—15	980A0012A65	O-Ring* ■	1	
—16	534A0726H01	Washer, Steel*	1	
—17	534A0727H01	Washer, Brass*	2	
—18	581B0001H03	Wheel, Hand*	1	
—19	111Q0110110	Capscrew, Hex Head, 3/8-10 x 3/4" *	1	
—20	581A0011H07	Washer, Spring*	1	
—21	534B0079H04	Ring, Slyd* ■	1	
—22	534B0674H01	Cover, Cylinder*	1	
	*534E0661G01	Kit, Retrofit, XJS 120 Handwheel (1)	1	

(1) To update XJS120 Manual Adjustment Compressors manufactured prior to 6/98. There is no serial number break. For visual identification: Retrofit Kit is needed if your compressor does not have a handwheel as pictured.

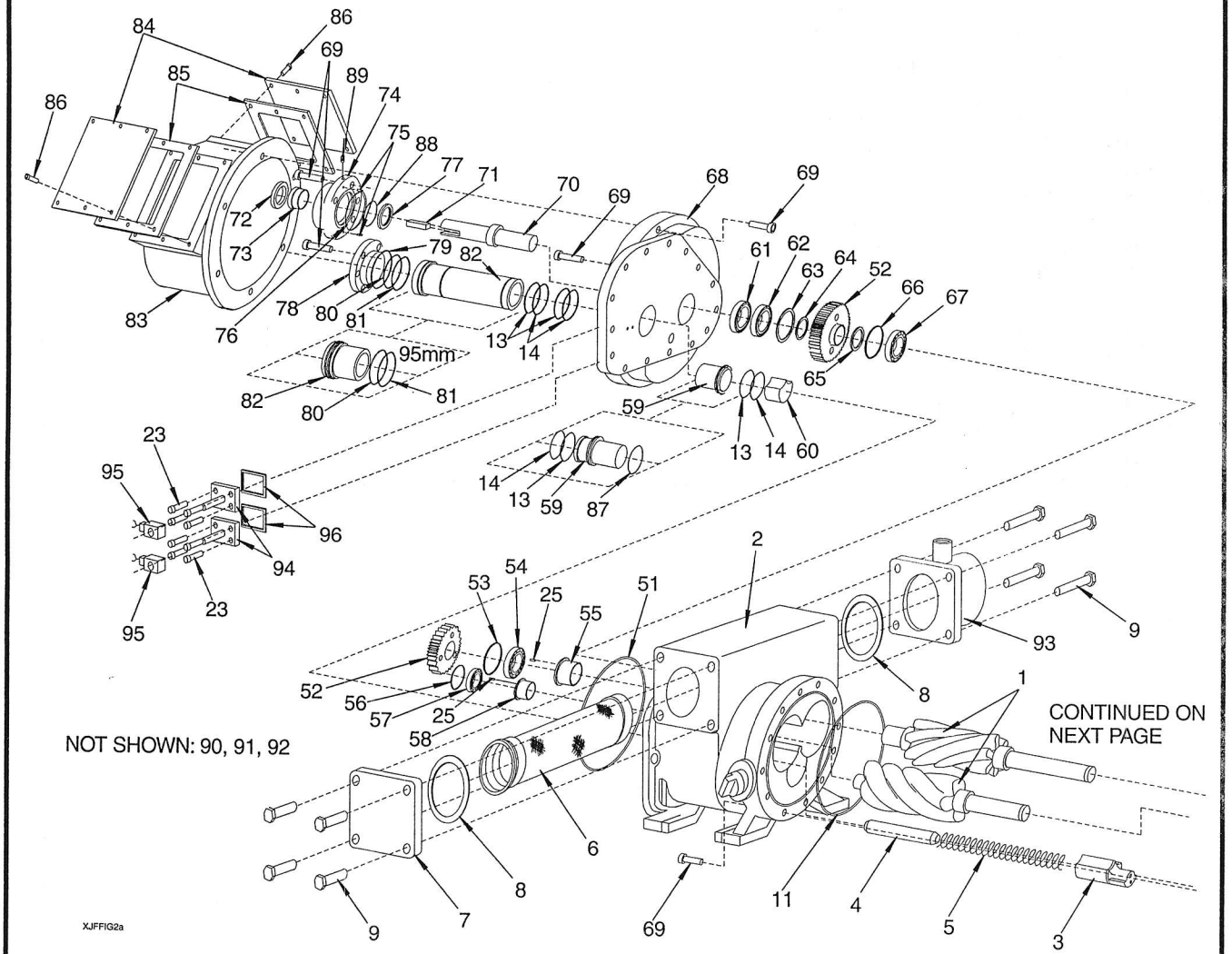


Figure 3a. XJF 95 & 120 Screw Copmpressor, Typical.

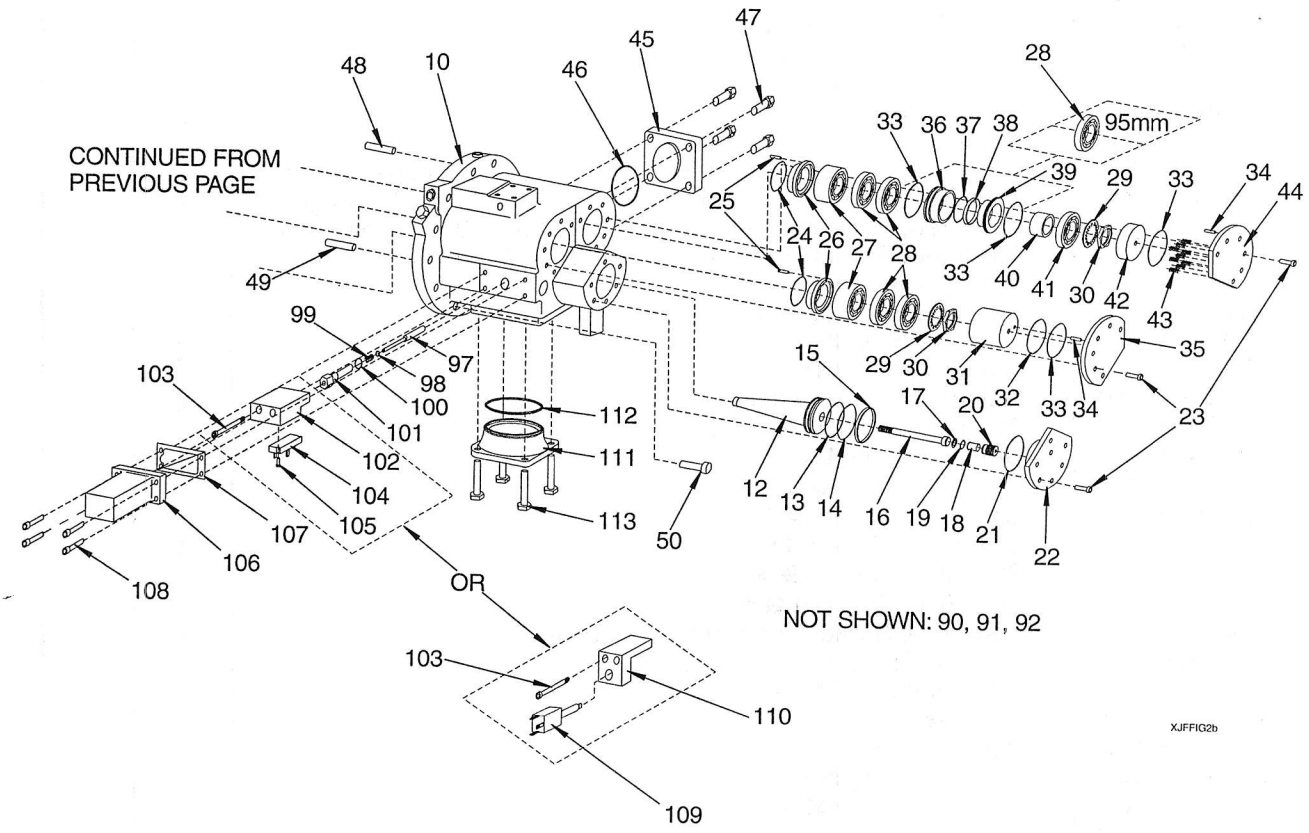


Figure 3b. XJF 95 & 120 Screw Compressor, Typical.

XJS/XJF ROTARY SCREW COMPRESSORS
SERVICE PARTS LIST

FIG. & INDEX	ITEM NUMBER	DESCRIPTION	QTY.	REV.
3—	534E0452	XJF 95S/M/L Screw Compressor, New	Ref.	C
	534E0305	XJF 120S/M/L Screw Compressor, New	Ref.	L
	111Q0040524	XJF 120S Screw Compressor, Rebuilt	Ref.	
	111Q0040538	XJF 120M Screw Compressor, Rebuilt	Ref.	
	111Q0040539	XJF 120L Screw Compressor, Rebuilt	Ref.	
—1	534A0195G01	Rotor Pair, XJF 95	1	
	534A0658G01	Rotor Pair, XJF 120	1	
—2	534D0860G01	Casing, Rotor*, XJF 95	1	
	534E0143C01	Casing, Rotor*, XJF 120	1	
—3	534D0342C01	Valve, Slide, XJF 95	1	
	534D0322C01	Valve, Slide, XJF 120	1	
—4	534B0201H01	Support, Spring	1	
—5	534A0143H01	Spring, Unloader	1	
—6	534C0428G01	Assembly, Suction Strainer, XJF 95	1	
	534C0408G01	Assembly, Suction Strainer, XJF 120	1	
—7	534D0349C01	Flange, Blank, XJF 95	1	
	534D0341C01	Flange, Blank, XJF 120	1	
—8	959A0066H12	Gasket, Flange, XJF 95 ■	2	
	959A0066H11	Gasket, Flange, XJF 120 ■	2	
—9	111Q0740840	Capscrew, Socket Head, M20 x 90mm, XJF 95 Suction Flange	4	
	111Q0740748	Capscrew, Socket Head, M20 x 65mm, XJF 95 Blank Flange	4	
	901A0192H07	Capscrew, Socket Head, M22 x 80mm, XJF 120 Suction Flange	4	
	111Q0740781	Capscrew, Socket Head, M22 x 60mm, XJF 120 Blank Flange	4	
—10	534E0446C01	Casing, Discharge, XJF 95	1	
	534E0307C01	Casing, Discharge, XJF 120	1	
—11	980A0012B99	O-ring, XJF 95 ■	1	
	980A0012H05	O-ring, XJF 120 ■	1	
—12	534D0640H01	Piston, Slide Valve, XJF 95 ★	1	
	534D0641H01	Piston, Slide Valve, XJF 120 ★	1	
—13	980A0012A86	O-ring, XJF 95 ■ ★	2	
	980A0012A94	O-ring, XJF 120 ■ ★	4	
—14	534C0187H10	Glyd-ring, XJF 95 ■ ★	2	
	534C0187H08	Glyd-ring, XJF 120 ■ ★	4	
—15	534B0079H03	Slyd Ring, XJF 95 ■ ★	1	
	534B0079H04	Slyd Ring, XJF 120 ■ ★	1	
—16	534A0343H01	Capscrew, Socket Head, M10 x 120mm	1	
—17	534A0341H01	Washer, Check Valve Retainer	1	
—18	534A0173H01	Valve, Internal Check	1	
—19	980A0012B35	O-ring ■ ★	1	
—20	534C0431H01	Retainer, Check Valve	1	
—21	980A0012A89	O-ring, XJF 95 ■ ★	1	
	980A0012A97	O-ring, XJF 120 ■ ★	1	
—22	534C0424C01	Cover, Cylinder, XJF 95	1	
	534C0381C01	Cover, Cylinder, XJF 120	1	
—23	901A0085H19	Capscrew, Socket Head, M8 x 30mm, XJF 95	25	
	901A0085H19	Capscrew, Socket Head, M8 x 30mm, XJF 120	26	
—24	980A0012A85	O-ring, XJF 95 ■	2	
	980A0012A93	O-ring, XJF 120 ■	2	
—25	534A0038H06	Pin, Spring, .125 x .375"	4	
—26	534C0446C01	Seal, Gas, XJF 95 ◆	2	
	534C0445C01	Seal, Gas, XJF 120 ◆	2	
—27	534B0004H18	Bearing, Roller, XJF 95 ◆	2	
	534B0004H17	Bearing, Roller, XJF 120 ◆	2	
—28	534C0478H11	Bearing, Angular Contact Ball, XJF 95 ◆ ⬟	5	
	534C0478H10	Bearing, Angular Contact Ball, XJF 120 ◆ ⬟	4	
—29	534B0125H12	Lockwasher, XJF 95 ◆	2	
	534B0125H11	Lockwasher, XJF 120** ◆	2	

* Rotor Casing and Gear Cover must be ordered as a set.

** Not needed with 534A0571H03 Locknut (3—30).

FIG. & INDEX	ITEM NUMBER	DESCRIPTION	QTY.	REV.
—30	534A0035H12	Locknut, XJF 95 ◆	2	
	534A0571H03	Locknut w/nylon insert, XJF 120 ◆	2	
—31	534C0474C01	Sleeve, Female Distance, XJF 95	1	
	534C0472C01	Sleeve, Female Distance, XJF 120	1	
—32	534C0479H11	Spring, Wave, XJF 95 ◆ ⬟	1	
	534C0479H12	Spring, Wave, XJF 120 ◆ ⬟	1	
—33	980A0012A97	O-ring, XJF 95 ■	2	
	980A0012B03	O-ring, XJF 120 ■	4	
—34	534A0038H02	Pin, Spring	2	
—35	534C0419C02	Cover, Outlet Bore, XJF 95	1	
	534C0378C02	Cover, Outlet Bore, XJF 120	1	
—36	534C0481C01	Sleeve, Balance Piston, XJF 120	1	
—37	980A0012A95	O-ring, XJF 120 ■	1	
—38	534C0479H03	Spring, Wave, XJF 120	2	
—39	534C0480H01	Piston, Balance, XJF 120	1	
—40	534B0483H01	Spacer, Bearing, XJF 95	1	
	534B0233H01	Spacer, Bearing, XJF 120	1	
—41	534C0478H11	Bearing, Angular Contact Ball, XJF 95 ◆	1	
	534B0101H07	Bearing, Four-Point Contact Ball, XJF 120 ◆	1	
—42	534C0473C01	Sleeve, Male Distance, XJF 95	1	
	534C0471C01	Sleeve, Male Distance, XJF 120	1	
—43	534A0219H01	Spring, Compression, XJF 95	7	
	534A0219H01	Spring, Compression, XJF 120	9	
—44	534C0419C01	Cover, Outlet Bore, XJF 95	1	
	534C0378C01	Cover, Outlet Bore, XJF 120	1	
—45	534C0703C01	Flange, Discharge Blank, XJF 120	1	
—46	980A0012B74	O-ring, XJF 120 ■	1	
—47	111Q0740792	Capscrew, Hex Head, XJF 120	4	
—48	534B0149H02	Pin, Dowel, XJF 120	1	
—49	534B0193H01	Pin, Dowel, XJF 120	1	
—50	901A0085H10	Capscrew, Socket Head, M12 x 60, XJF 95	6	
	111Q0740838	Capscrew, Socket Head, M12 x 65, XJF 120	5	
—51	980A0012H06	O-ring, XJF 95 ■ ▲	1	
	980A0012H10	O-ring, XJF 120 ■ ▲	1	
—52	534A0157G01	Set, Gear, 66:31 Ratio, XJF 95S ▲	1	
	534A0147G01	Set, Gear, 66:31 Ratio, XJF 120S ▲	1	
	534A0157G03	Set, Gear, 55:42 Ratio, XJF 95M ▲	1	
	534A0147G03	Set, Gear, 55:42 Ratio, XJF 120M ▲	1	
	534A0157G02	Set, Gear, 60:37 Ratio, XJF 95L ▲	1	
	534A0147G02	Set, Gear, 60:37 Ratio, XJF 120L ▲	1	
—53	534B0174H02	Ring, Retaining, XJF 95	1	
	534B0174H03	Ring, Retaining, XJF 120	1	
—54	534B0004H13	Bearing, Roller, XJF 95 ◆	1	
	534B0004H15	Bearing, Roller, XJF 120 ◆	1	
—55	534C0426H01	Bushing, Male Inlet, XJF 95 ◆	1	
	534C0377H01	Bushing, Male Inlet, XJF 120 ◆	1	
—56	534B0174H02	Ring, Retaining	1	
—57	534B0004H13	Bearing, Roller ◆	1	
—58	534C0426H01	Bushing, Female Inlet, XJF 95 ◆	1	
	534C0373H01	Bushing, Female Inlet, XJF 120 ◆	1	
—59	534D0344H01	Piston, Slide Stop, XJF 95	1	
	534D0326H01	Piston, Slide Stop, XJF 120	1	
—60	534C0415C01	Stop, Slide, XJF 95	1	
	534D0324C01	Stop, Slide, XJF 120	1	
—61	534B0101H09	Bearing, Four-Point Angular Contact, XJF 95 ▲	1	
	534B0101H10	Bearing, Four-Point Angular Contact, XJF 120 ▲	1	
—62	534B0004H21	Bearing, Roller, XJF 95 ▲	1	
	534B0004H22	Bearing, Roller, XJF 120 ▲	1	

XJS/XJF ROTARY SCREW COMPRESSORS
SERVICE PARTS LIST

FIG. & INDEX	ITEM NUMBER	DESCRIPTION	QTY.	REV.
—63	534B0014H17	Ring, Retaining, XJF 95 ▲	1	
	534B0014H18	Ring, Retaining, XJF 120 ▲	1	
—64	534A0230H01	Spacer, Bearing, XJF 95 ▲	1	
	534A0231H01	Spacer, Bearing, XJF 120 ▲	1	
—65	534A0167H01	Spacer, Bearing, XJF 95 ▲	1	
	534A0145H01	Spacer, Bearing, XJF 120 ▲	1	
—66	534B0174H06	Ring, Retaining, XJF 95 ▲	1	
	534B0174H04	Ring, Retaining, XJF 120 ▲	1	
—67	534B0004H16	Bearing, Roller, XJF 95 ▲	1	
	534B0004H14	Bearing, Roller, XJF 120 ▲	1	
—68	534D0860G01	Cover, Gear*, XJF 95	1	
	534E0272C01	Cover, Gear*, XJF 120	1	
—69	901A0085H09	Capscrew, Socket Head, M12 x 45mm, XJF 95	15	
	111Q0740739	Capscrew, Socket Head, M12 x 45mm, XJF 120	37	
—70	534C0612H01	Jackshaft, XJF 95 ▲	1	
	534C0611H01	Jackshaft, XJF 120 ▲	1	
—71	534B0208H01	Key, Jackshaft, XJF 95	1	
	534B0199H01	Key, Jackshaft, XJF 120	1	
—72	534B0182H02	Collar, Clamp, XJF 95 ●	1	
	534B0182H03	Collar, Clamp, XJF 120 ●	1	
—73	534B0302H01	Ring, Seal Seat Backup, XJF 95 ●	1	
	534B0301H01	Ring, Seal Seat Backup, XJF 120 ●	1	
—74	534C0614C01	Housing, Seal, XJF 95	1	
	534C0613C01	Housing, Seal, XJF 120	1	
—75	534A0037H12	Pin, Dowel	2	
—76	980A0012B04	O-ring, XJF 95 ● ■	1	
	980A0012B72	O-ring, XJF 120 ● ■	1	
—77	534B0207H01	Shaft Seal, XJF 95 ●	1	
	534B0175H01	Shaft Seal, XJF 120 ●	1	
—78	534C0423C01	Cover, Slide Stop, XJF 95	1	
	534C0661C01	Cover, Slide Stop, XJF 120	1	
—79	980A0012A98	O-ring, XJF 95 ■	1	
	980A0012B02	O-ring, XJF 120 ■	1	
—80	980A0012A94	O-ring, XJF 95 ■	1	
	980A0012A98	O-ring, XJF 120 ■	1	
—81	534C0187H08	Glyd-Ring, XJF 95 ■	1	
	534C0187H09	Glyd-Ring, XJF 120 ■	1	
—82	534C1044H01	Piston, Stepper, XJF 95	1	
	534D0325C01	Piston, Stepper, XJF 120	1	
—83	534E0437C01	Support, Motor, XJF 95	1	
	534E0273C01	Support, Motor, XJF 120	1	
—84	534C1011H01	Plate, Cover, XJF 95	2	
	534C0660H01	Plate, Cover, XJF 120	2	
—85	534C0709H01	Gasket, Cover Plate, XJF 120	2	
—86	901A0085H04	Capscrew, Socket Head, M8 x 20mm, XJF 95	12	
	333Q0000738	Washer, Flat, XJF 95	12	
	534A0506H01	Grommet, XJF 95	12	
	111Q0740740	Capscrew, Socket Head, M12 x 30mm, XJF 120	12	
—87	534B0174H10	Ring, Retaining	1	
—88	980A0012A90	O-ring, XJF 95 ● ■	1	
	980A0012A94	O-ring, XJF 120 ● ■	1	
—89	534A0342H01	Strainer ●	1	
—90	534C0486H08	Shim, Female Bearing Installation, XJF 95 ⬟	1	
—91	333Q0000703	Shim Pack, XJF 95 (As Required)	2	
—92	333Q0000717	Shim Pack, XJF 95 (As Required)	1	

* Rotor Casing and Gear Cover must be ordered as a set.

FIG. & INDEX	ITEM NUMBER	DESCRIPTION	QTY.	REV.
—93	535B0261H01	Assembly, Suction Flange, 2-1/2", XJF 95	1	
	535B0262H01	Assembly, Suction Flange, 3", XJF 95	1	
	535B0259H01	Assembly, Suction Flange, 3", XJF 120	1	
	535B0260H01	Assembly, Suction Flange, 4", XJF 120	1	
—94	111Q0993344	Valve, Solenoid	2	
—95	111Q0992127	Coil, Solenoid , 110VAC	2	
	111Q0992387	Coil, Solenoid, 220VAC (Optional)	2	
—96	534A0171H01	Gasket, Solenoid Valve, XJF 95 ■	2	
	534A0154H01	Gasket, Solenoid Valve, XJF 120 ■	2	
—97	534B0185H01	Rod, Indicator, XJF 95	1	
	534B0235H01	Rod, Indicator, XJF 120	1	
—98	980A0014A10	O-ring ■	1	
—99	534A0148H01	Spring, Indicator Rod	1	
—100	980A0012K62	O-ring ■	1	
—101	534C0382H01	Guide, Indicator Rod	1	
—102	534C0625H01	Support, Potentiometer ✱	1	
—103	111Q0740839	Capscrew, Socket Head, M8 x 100mm (Potentiometer) ✱	2	
	111Q0740800	Capscrew, Socket Head, M8 x 50mm (Switch)	2	
	534C0096H05	Lockwasher, 8mm	2	
—104	534B0293H01	Potentiometer ✱	1	
—105	111Q0740784	Machine Screw, #1-72UNF x 1/2" ✱	2	
—106	534C0432C01	Cover	1	
—107	534B0110H01	Gasket, Cover ■	1	
—108	901A0085H04	Capscrew, Socket Head, M8 x 20mm	4	
	534C0096H05	Lockwasher, 8mm	4	
—109	111Q0452188	Switch	1	
—110	534B0210H01	Bracket, Switch Mounting	1	
—111	580D0071H24	Flange, Socket Weld, 2-1/2", XJF 95	1	
	944A0296H06	Flange, Socket Weld, 3", XJF 120	1	
—112	959A0057H06	Gasket, Flange, XJF 95 ■	1	
	959A0057H18	Gasket, Flange, XJF 120 ■	1	
—113	111Q0740741	Capscrew, Socket Head, M20 x 60mm	4	
		Recommended Spare Parts/Service Replacement Parts Kits:		
	111Q0043229	● Shaft Seal Kit, XJF 95 (Contains Shaft Seal Tool)	1	
	111Q0043231	● Shaft Seal Kit , XJF 120 (Contains Shaft Seal Tool)	1	
	111Q0043226	■ O-ring and Gasket Kit, XJF 95	1	
	111Q0043223	■ O-ring and Gasket Kit, XJF 120	1	
	534M0041G01	★ Slide Valve Retrofit Kit, XJF 95	1	
	534M0040G01	★ Slide Valve Retrofit Kit, XJF 120	1	
	(*)	▲ Jackshaft Kit, XJF 95S (1)	1	
	(*)	▲ Jackshaft Kit, XJF 95M (1)	1	
	(*)	▲ Jackshaft Kit, XJF 95L (1)	1	
	(*)	▲ Jackshaft Kit, XJF 120S (1)	1	
	(*)	▲ Jackshaft Kit, XJF 120M (1)	1	
	(*)	▲ Jackshaft Kit, XJF 120L (1)	1	
	534M0008G01	Compressor Tool Kit, XJF 95 (Disassembly/Assembly)	1	
	534M0008G02	Compressor Tool Kit, XJF 120 (Disassembly/Assembly)	1	
	534M0488G02	◆ Bearing Kit, XJF 95 (2)(3)	1	
	534M0489G01	◆ Bearing Kit, XJF 120 (2)(3)	1	
	534M0250G01	⬟ Thrust Bearing Kit. XJF 95 (2)(3)	1	
	534M0251G01	⬟ Thrust Bearing Kit, XJF 120 (2)(3)	1	
	111Q0045464	✱ Potentiometer Kit (4)	1	

(*) See Page 3, Recommended Spare Parts List, for correct part number.
(1) Contains Shaft Seal Kit and necessary shims.
(2) Thrust Bearing Kit items are included in Bearing Kit.
(3) Contains shims.
(4) For units with microprocessor controls. Units with electromechanical controls use switch, item 109.

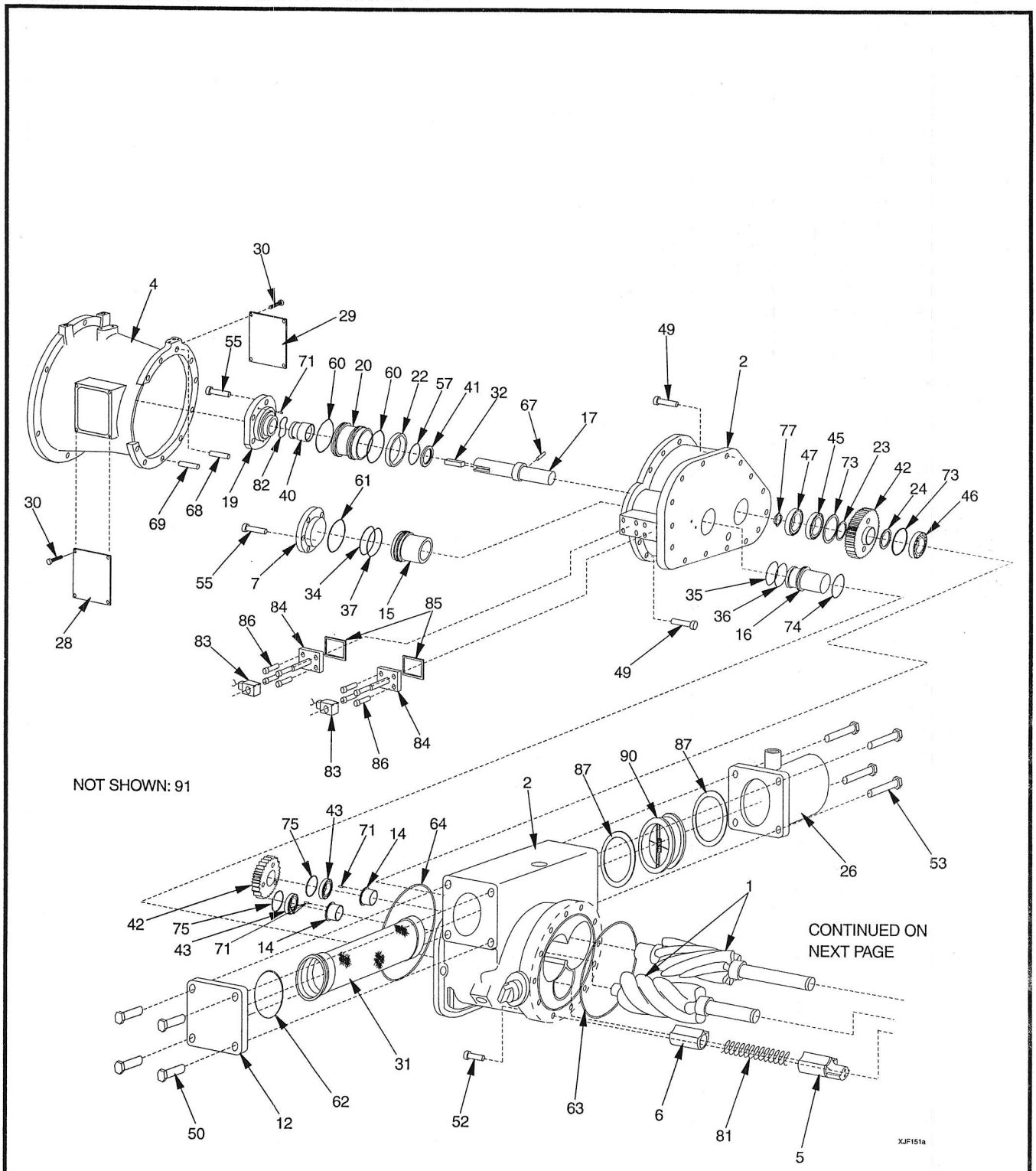


Figure 4a. XJF 151 Screw Compressor.

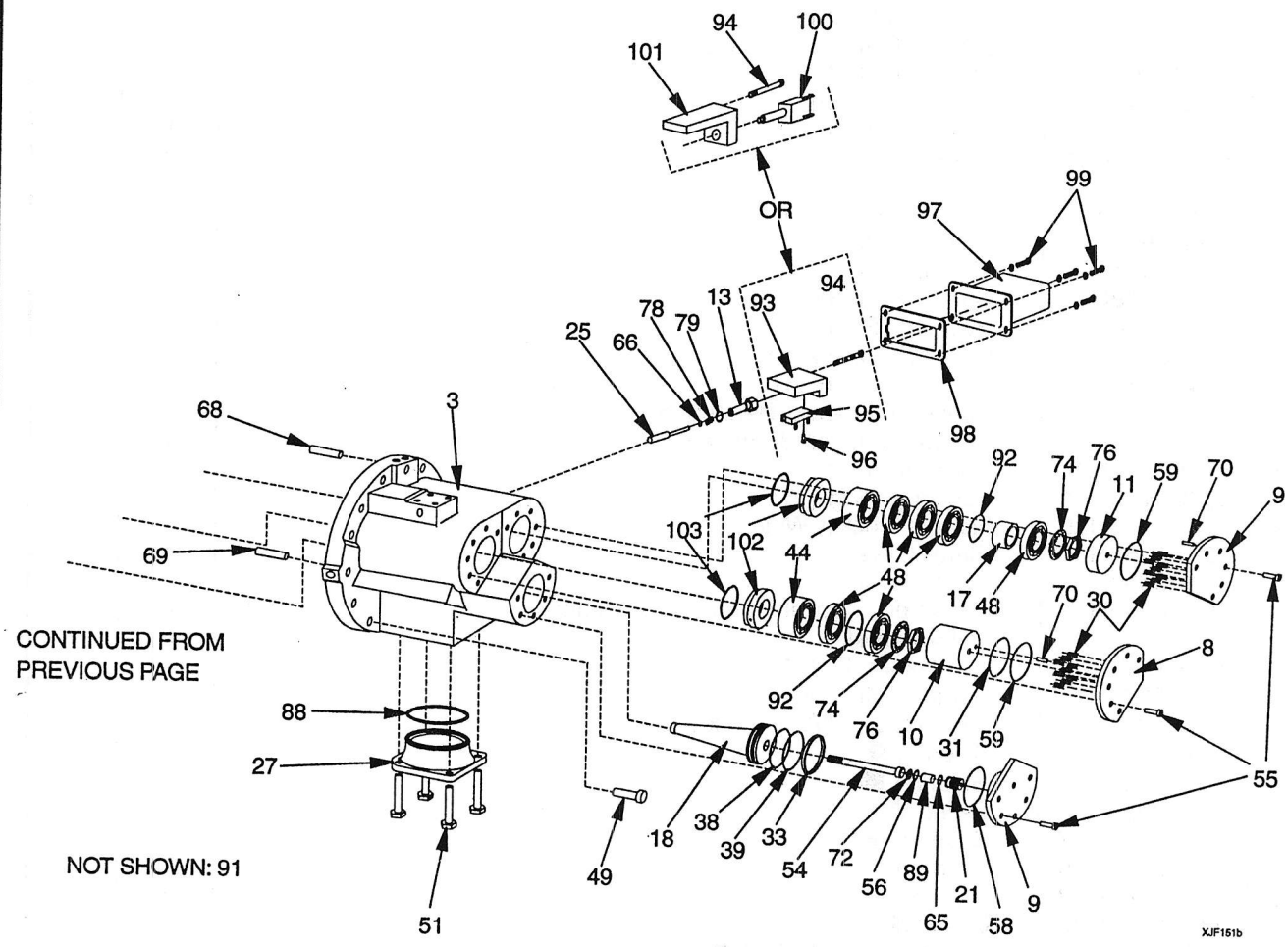


Figure 4b. XJF 151 Screw Compressor.

XJS/XJF ROTARY SCREW COMPRESSORS
SERVICE PARTS LIST

FIG. & INDEX	ITEM NUMBER	DESCRIPTION	QTY.	REV.
4—	534E0533	XJF 151 A,M,L,N Screw Compressor, New	Ref.	D
—1	534A0542G02	Rotor Pair	1	
—2	534D0925G01	Assembly, Rotor Casing	1	
—3	534D0914C01	Casing, Discharge	1	
—4	534E0521C01	Support, Motor	1	
—5	534D0916C01	Valve, Slide	1	
—6	534D0917H01	Stop, Slide	1	
—7	534C1057C01	Cover, Slide Stop	1	
—8	534C1058C01	Cover, Cylinder	1	
—9	534C1059C01	Cover, Outlet Bore	2	
—10	534C1060C01	Sleeve, Female Distance	1	
—11	534C1061C01	Sleeve, Male Distance	1	
—12	535B0243H01	Flange, Suction	1	
—13	534C1064H01	Guide, Indicator Rod	1	
—14	534C1072H01	Bushing, Inlet ◆	2	
—15	534D0918H01	Piston, Stepper	1	
—16	534D0919H01	Piston, Slide Stop	1	
—17	534D0920H01	Jackshaft ▲	1	
—18	534D0921H01	Piston, Slide Valve	1	
—19	534D0929C01	Cover, Seal Housing	1	
—20	534D0940H01	Housing, Seal	1	
—21	534A0555H01	Retainer, Check Valve	1	
—22	534A0559H01	Spacer, Seal Housing	1	
—23	534A0560H01	Spacer, Outboard Bearing ▲	1	
—24	534A0561H01	Spacer, Inboard Bearing ▲	1	
—25	534B0516H01	Rod, Indicator	1	
—26	535B0143G01	Suction Flange, 5″	1	
—27	580D0071H26	Flange, Socket Weld, 4″	1	
—28	534A0566H01	Plate, Cover	1	
—29	534A0567H01	Plate, Cover	1	
—30	901A0085H04	Capscrew, Socket Head, M8 x 20mm	8	
	534A0506H01	Grommet	8	
	333Q0000738	Washer, Flat, M8	8	
—31	534B0527H01	Strainer, Suction	1	
—32	534A0062H01	Key, Square, 1/2 x 1/2 x 3-1/2″	1	
—33	534B0079H08	Slydring ■	1	
—34	534C0187H16	Glydring ■	1	
—35	980A0012H51	O-ring ■	1	
—36	534C0187H17	Glydring ■	1	
—37	980A0012H55	O-ring ■	1	
—38	534C0187H18	Glydring ■	1	
—39	980A0012H49	O-ring ■	1	
—40	534B0537H01	Assembly, Shaft Seal ●	1	
—41	333Q0000910	Seal, Lip ●	1	
—42	534A0564G01	Gear Set, 51:46, XJF 151A ▲	1	
	534A0564G02	Gear Set, 55:42, XJF 151M ▲	1	
	534A0564G03	Gear Set, 60:37, XJF 151L ▲	1	
	534A0564G04	Gear Set, 64:33, XJF 151N ▲	1	
—43	534B0004H28	Bearing, Cylindrical Roller ◆	2	
—44	534B0004H29	Bearing, Cylindrical Roller ◆	2	
—45	534B0004H30	Bearing, Cylindrical Roller ▲	1	
—46	534B0004H31	Bearing, Cylindrical Roller ▲	1	
—47	534B0101H15	Bearing, 4-Point Angular Contact ▲	1	
—48	534C0478H12	Bearing, Angular Contact Ball ◆	6	
—49	111Q0740737	Capscrew, Socket Head, M16 x 50mm	36	
—50	111Q0740749	Capscrew, Hex Head, M24 x 65mm	4	
—51	111Q0740782	Capscrew Hex Head, M22 x 75mm	4	

FIG. & INDEX	ITEM NUMBER	DESCRIPTION	QTY.	REV.
—52	111Q0740807	Capscrew, Socket Head, M16 x 70mm	6	
—53	333Q0001522	Capscrew, Hex Head, M24 x 90mm	4	
—54	534A0572H01	Capscrew, Socket Head, M12 x 170mm	1	
—55	901A0085H08	Capscrew, Socket Head, M12 x 40mm	25	
—56	980A0012A62	O-ring ■	1	
—57	980A0012B63	O-ring ■●	1	
—58	980A0012B72	O-ring ■	1	
—59	980A0012B73	O-ring ■	2	
—60	980A0012B76	O-ring ■●	2	
—61	980A0012B78	O-ring ■	1	
—62	980A0012B91	O-ring ■	1	
—63	980A0012H10	O-ring ■	1	
—64	980A0012H12	O-ring ■▲	1	
—65	980A0012K66	O-ring ■	8	
—66	980A0014A10	O-ring ■	1	
—67	534A0037H12	Pin, Dowel	1	
—68	534B0149H01	Pin, Dowel	2	
—69	534B0151H01	Pin, Dowel, Special	2	
—70	534A0038H02	Pin, Spring	2	
—71	534A0038H06	Pin, Spring	5	
—72	534A0570H01	Ring, Retaining	1	
—73	534B0014H09	Ring, Retaining ▲	2	
—74	534B0015H13	Ring, Retaining	1	
—75	534B0174H17	Ring, Retaining	2	
—76	534A0571H01	Locknut ◆	2	
—77	534A0571H02	Locknut ▲	1	
—78	534A0148H01	Spring, Compression	1	
—79	980A0012K62	O-ring ■	2	
—80	534A0219H01	Spring, Compression	16	
—81	534A0569H01	Spring, Unloader	1	
—82	534A0591H01	Spring, Wave ▲	1	
—83	111Q0992127	Coil, Solenoid Valve	2	
—84	111Q0993344	Valve, Solenoid	2	
—85	534A0565H01	Gasket, Solenoid Valve ■	2	
—86	901A0085H19	Capscrew, Socket Head, M8 x 30	8	
—87	959A0044H11	Gasket ■	2	
—88	959A0057H09	Gasket ■	1	
—89	534A0173H01	Valve, Check	1	
—90	956A0015H03	Valve, Check	1	
—91	333Q0000908	Shim Pack, (As Required) ◆	2	
—92	534A0568H05	Shim ◆	1	
—93	534C0625H01	Support, Potentiometer	1	
—94	111Q0740839	Capscrew, Socket Head, M8 x 100mm (Potentiometer) ✱	2	
	111Q0740800	Capscrew, Socket Head, M8 x 50mm (Switch)	2	
	534C0096H05	Lockwasher, 8mm	2	
—95	534B0293H01	Potentiometer ✱	1	
—96	111Q0740784	Machine Screw, #1-72UNF x 1/2" ✱	2	
—97	534C0432C01	Cover	1	
—98	534B0110H01	Gasket, Cover	1	
—99	901A0085H04	Capscrew, Socket Head, M8 x 20mm	4	
	534C0096H05	Lockwasher, 8mm	4	
—100	111Q0452188	Switch	1	
—101	534B0210H01	Bracket, Switch Mounting	1	
—102	534C1160H01	Seal, Gas ◆	2	
—103	980A0012B02	O-ring ■	2	

FIG. & INDEX	ITEM NUMBER	DESCRIPTION	QTY.	REV.
4—	534E0533	XJF 151 A,M,L,N Screw Compressor, New, Continued	Ref.	D
		Recommended Spare Parts/Service Replacement Parts Kits:		
	534M0602G02	● Shaft Seal Kit	1	
	534M0602G01	■ O-ring and Gasket Kit	1	
	534M0602G04	▲ Jackshaft Kit, XJF151A (1)	1	
	534M0602G05	▲ Jackshaft Kit, XJF151M (1)	1	
	534M0602G06	▲ Jackshaft Kit, XJF151L (1)	1	
	534M0602G07	▲ Jackshaft Kit, XJF151N (1)	1	
	534M0483G01	Compressor Tool Kit	1	
	534M0602G03	◆ Bearing Kit (2)	1	
	111Q0045464	✱ Potentiometer Kit (3)	1	

(1) Contains Shaft Seal Kit.
(2) Contains shims.
(3) For units with microprocessor controls. Units with electromechanical controls use switch, item 100.

FRICK COMPRESSOR OILS		
NUMBER	5 GALLON	55 GALLON
2A	111Q0550019	111Q0550020
3	111Q0550001	111Q0550010
4	—	111Q0550005
5	—	111Q0550009
6	333Q0000940	333Q0000941
7	111Q0550024	111Q0550025
9	333Q0000850	333Q0000849
10	333Q0000740	333Q0000739
11	333Q0000852	333Q0000851
12	333Q0001141	333Q0001142
14	333Q0001144	333Q0001145

FRICK BLUE PAINT	
SIZE EACH	ITEM NUMBER
1 PT.	993A0001H01*
1 GAL.	333Q0000404
2 GAL.	333Q0000724**

* Spray Can
** Matte finish epoxy paint. One gallon each of resin and cure which require mixing.

XJS/XJF ROTARY SCREW COMPRESSORS
NUMERICAL PARTS LIST

ITEM NUMBER	FIG. & INDEX NO.
111Q0110110	2—19
111Q0452188	1—94
111Q0452188	3—109
111Q0452188	4—100
111Q0740723	1—79
111Q0740737	4—49
111Q0740739	1—80
111Q0740739	1—80
111Q0740739	2—7
111Q0740739	3—69
111Q0740740	3—86
111Q0740741	1—82
111Q0740741	3—113
111Q0740748	1—83
111Q0740748	3—9
111Q0740749	4—50
111Q0740781	1—83
111Q0740781	3—9
111Q0740782	1—83
111Q0740782	3—9
111Q0740782	4—51
111Q0740784	1—99
111Q0740784	3—105
111Q0740784	4—96
111Q0740792	3—47
111Q0740800	1—100
111Q0740800	3—103
111Q0740800	4—94
111Q0740807	4—52
111Q0740838	1—79
111Q0740838	3—50
111Q0740839	1—100
111Q0740839	3—103
111Q0740839	4—94
111Q0992127	1—86
111Q0992127	3—95
111Q0992127	4—83
111Q0992387	3—95
111Q0993344	1—84
111Q0993344	3—94
111Q0993344	4—84
333Q0000584	2—13
333Q0000703	1—103
333Q0000703	3—91
333Q0000717	1—104
333Q0000717	3—92
333Q0000738	3—86
333Q0000738	4—30
333Q0000908	4—91
333Q0000909	4—53
333Q0000910	4—41
534A0035H12	1—73
534A0035H12	3—30
534A0037H03	2—10
534A0037H12	1—36
534A0037H12	3—75
534A0037H12	4—67
534A0038H02	1—35
534A0038H02	3—34
534A0038H02	4—70
534A0038H06	1—34
534A0038H06	3—25
534A0038H06	4—71
534A0062H01	4—32
534A0143H01	1—30
534A0143H01	2—4
534A0143H01	3—5
534A0145H01	1—16
534A0145H01	3—65
534A0147G01	1—26
534A0147G01	3—52
534A0147G02	1—26
534A0147G02	3—52
534A0147G03	1—26
534A0147G03	3—52
534A0148H01	1—29
534A0148H01	3—99
534A0148H01	4—78
534A0154H01	1—85
534A0154H01	3—96
534A0157G01	1—26
534A0157G01	3—52
534A0157G02	1—26
534A0157G02	3—52
534A0157G03	1—26
534A0157G03	3—52
534A0167H01	1—16
534A0167H01	3—65
534A0171H01	1—85
534A0171H01	3—96
534A0173H01	1—76
534A0173H01	3—18
534A0173H01	4—89
534A0195G01	1—19
534A0195G01	3—1
534A0219H01	1—33
534A0219H01	3—43
534A0219H01	4—80
534A0230H01	1—18
534A0230H01	3—64
534A0231H01	1—18
534A0231H01	3—64
534A0341H01	1—75
534A0341H01	3—17
534A0342H01	1—107
534A0342H01	3—89
534A0343H01	1—81
534A0343H01	3—16
534A0506H01	3—86
534A0506H01	4—30
534A0540G01	4—1
534A0555H01	4—21
534A0559H01	4—22
534A0560H01	4—23
534A0561H01	4—24
534A0564G01	4—42
534A0564G02	4—42
534A0564G03	4—42
534A0564G04	4—42
534A0565H01	4—85
534A0566H01	4—28
534A0567H01	4—29
534A0568H05	4—92
534A0569H01	4—81
534A0570H01	4—72
534A0571H01	4—76
534A0571H02	4—77
534A0571H03	1—73
534A0571H03	3—30
534A0572H01	4—54
534A0591H01	4—82
534A0658G01	1—19
534A0658G01	3—1
534A0725H01	2—9
534A0726H01	2—16
534A0727H01	2—17
534B0004H13	1—41
534B0004H13	3—54
534B0004H13	3—57
534B0004H14	1—42
534B0004H14	3—67
534B0004H15	1—41
534B0004H15	3—54
534B0004H16	1—42
534B0004H16	3—67
534B0004H17	1—40
534B0004H17	3—27
534B0004H18	1—40
534B0004H18	3—27
534B0004H21	1—43
534B0004H21	3—62
534B0004H22	1—43
534B0004H22	3—62
534B0004H28	4—43
534B0004H29	4—44
534B0004H30	4—45
534B0004H31	4—46
534B0014H09	4—73
534B0014H17	1—70

ITEM NUMBER	FIG. & INDEX NO.
534B0014H17	3—63
534B0014H18	1—70
534B0014H18	3—63
534B0015H13	4—74
534B0044G01	1—87
534B0044G01	3—93
534B0079H03	1—65
534B0079H03	3—15
534B0079H04	1—65
534B0079H04	2—21
534B0079H04	3—15
534B0079H08	4—33
534B0101H07	1—44
534B0101H07	3—41
534B0101H08	1—44
534B0101H09	1—45
534B0101H09	3—61
534B0101H10	1—45
534B0101H10	3—61
534B0101H15	4—47
534B0110H01	1—97
534B0110H01	3—107
534B0110H01	4—98
534B0125H11	1—74
534B0125H11	3—29
534B0125H12	1—74
534B0125H12	3—29
534B0149H01	4—68
534B0149H02	1—37
534B0149H02	3—48
534B0151H01	4—69
534B0172H02	1—67
534B0172H02	1—68
534B0174H02	1—68
534B0174H02	3—53
534B0174H02	3—56
534B0174H03	1—67
534B0174H03	3—53
534B0174H04	1—69
534B0174H04	3—66
534B0174H06	1—69
534B0174H06	3—66
534B0174H10	1—66
534B0174H10	3—87
534B0174H17	4—75
534B0175H01	1—24
534B0175H01	3—77
534B0182H02	1—25
534B0182H02	3—72
534B0182H03	1—25
534B0182H03	3—72
534B0182H04	2—8
534B0185H01	1—27
534B0185H01	3—97
534B0193H01	1—38
534B0193H01	3—49
534B0199H01	1—23
534B0199H01	3—71
534B0201H01	1—92
534B0201H01	2—3
534B0201H01	3—4
534B0207H01	1—24
534B0207H01	3—77
534B0208H01	1—23
534B0208H01	3—71
534B0210H01	1—96
534B0210H01	3—110
534B0210H01	4—101
534B0233H01	1—17
534B0233H01	3—40
534B0234H01	1—17
534B0235H01	1—27
534B0235H01	3—97
534B0293H01	1—93
534B0293H01	3—104
534B0293H01	4—95
534B0301H01	1—71
534B0301H01	3—73
534B0302H01	1—71
534B0302H01	3—73
534B0483H01	3—40
534B0516H01	4—25
534B0527H01	4—31
534B0537H01	4—40
534B0671H01	2—14
534B0672H01	2—11
534B0673H01	2—12
534C0096H05	1—101
534C0096H05	3—103
534C0096H05	3—108
534C0096H05	4—94
534C0096H05	4—99
534C0187H08	1—63
534C0187H08	3—14
534C0187H08	3—81
534C0187H09	1—64
534C0187H09	3—81
534C0187H10	1—64
534C0187H10	3—14
534C0187H16	4—34
534C0187H17	4—36
534C0187H18	4—38
534C0373H01	1—22
534C0373H01	3—58
534C0375C01	1—9
534C0377H01	1—22
534C0377H01	3—55
534C0378C01	1—7
534C0378C01	3—44
534C0378C02	1—8
534C0378C02	3—35
534C0381C01	1—10
534C0381C01	3—22
534C0382H01	1—28
534C0382H01	3—101
534C0408G01	1—39
534C0408G01	3—6
534C0415C01	1—5
534C0415C01	3—60
534C0419C01	1—7
534C0419C01	3—44
534C0419C02	1—8
534C0419C02	3—35
534C0423C01	1—9
534C0423C01	3—78
534C0424C01	1—10
534C0424C01	3—22
534C0426H01	1—22
534C0426H01	3—55
534C0426H01	3—58
534C0428G01	1—39
534C0428G01	3—6
534C0431H01	1—77
534C0431H01	3—20
534C0432C01	1—98
534C0432C01	3—106
534C0432C01	4—97
534C0445C01	1—21
534C0445C01	3—26
534C0446C01	1—21
534C0446C01	3—26
534C0471C01	1—2
534C0471C01	3—42
534C0472C01	1—3
534C0472C01	3—31
534C0473C01	1—2
534C0473C01	3—42
534C0474C01	1—3
534C0474C01	3—31
534C0478H10	1—46
534C0478H10	3—28
534C0478H11	1—46
534C0478H11	3—28
534C0478H11	3—41
534C0478H12	4—48
534C0479H03	1—32
534C0479H03	3—38
534C0479H04	1—32
534C0479H11	1—31

XJS/XJF ROTARY SCREW COMPRESSORS
NUMERICAL PARTS LIST

ITEM NUMBER	FIG. & INDEX NO.
534C0479H11	3—32
534C0479H12	1—31
534C0479H12	3—32
534C0480H01	1—13
534C0480H01	3—39
534C0481C01	3—36
534C0481H01	1—14
534C0482H01	1—13
534C0483H01	1—14
534C0486H04	1—102
534C0486H08	1—102
534C0486H08	3—90
534C0486H09	1—105
534C0486H10	1—106
534C0611H01	1—20
534C0611H01	3—70
534C0612H01	1—20
534C0612H01	3—70
534C0613C01	1—6
534C0613C01	3—74
534C0614C01	1—6
534C0614C01	3—74
534C0625H01	1—95
534C0625H01	3—102
534C0625H01	4—93
534C0660H01	3—84
534C0661C01	3—78
534C0703C01	3—45
534C0709H01	3—85
534C1011H01	3—84
534C1044H01	3—82
534C1057C01	4—7
534C1058C01	4—8
534C1059C01	4—9
534C1060C01	4—10
534C1061C01	4—11
534C1062C01	4—12
534C1064H01	4—13
534C1072H01	4—14
534C1160H01	4—102
534D0322C01	1—4
534D0322C01	2—1
534D0322C01	3—3
534D0324C01	1—5
534D0324C01	2—2
534D0324C01	3—60
534D0325C01	1—12
534D0325C01	3—82
534D0326H01	1—11
534D0326H01	3—59
534D0341C01	1—88
534D0341C01	3—7
534D0342C01	1—4
534D0342C01	3—3
534D0343H01	1—12
534D0344H01	1—11
534D0344H01	3—59
534D0349C01	1—88
534D0349C01	3—7
534D0640H01	1—15
534D0640H01	3—12
534D0641H01	1—15
534D0641H01	3—12
534D0856G01	1—72
534D0860G01	3—2
534D0860G01	3—68
534D0914C01	4—3
534D0916C01	4—5
534D0917H01	4—6
534D0918H01	4—15
534D0919H01	4—16
534D0920H01	4—17
534D0921H01	4—18
534D0925G01	4—2
534D0929C01	4—19
534D0940H01	4—20
534E0143C01	1—72
534E0143C01	3—2
534E0155C01	1—72
534E0194C01	1—1
534E0195C01	1—1
534E0272C01	3—68
534E0273C01	3—83
534E0307C01	3—10
534E0437C01	3—83
534E0446C01	3—10
534E0521C01	4—4
535B0039G01	1—87
535B0039G01	3—93
535B0040G01	1—87
535B0040G01	3—93
535B0043G01	1—87
535B0043G01	3—93
535B0143G01	4—26
580D0071H24	1—91
580D0071H24	3—111
580D0071H26	4—27
581A0011H07	2—20
581B0001H03	2—18
901A0085H04	1—101
901A0085H04	3—86
901A0085H04	3—108
901A0085H04	4—30
901A0085H04	4—99
901A0085H08	4—55
901A0085H09	3—69
901A0085H10	3—50
901A0085H19	1—78
901A0085H19	2—6
901A0085H19	3—23
901A0085H19	4—86
944A0296H06	1—91
944A0296H06	3—111
956A0015H03	4—90
959A0044H11	4—87
959A0057H06	1—89
959A0057H06	3—112
959A0057H09	4—88
959A0057H18	1—89
959A0057H18	3—112
959A0066H11	1—90
959A0066H11	3—8
959A0066H12	1—90
959A0066H12	3—8
980A0012A62	4—56
980A0012A65	2—15
980A0012A85	1—48
980A0012A85	3—24
980A0012A86	1—49
980A0012A86	3—13
980A0012A88	1—50
980A0012A89	1—51
980A0012A89	3—21
980A0012A90	1—52
980A0012A90	3—88
980A0012A93	1—48
980A0012A93	3—24
980A0012A94	1—49
980A0012A94	1—52
980A0012A94	1—53
980A0012A94	3—13
980A0012A94	3—80
980A0012A94	3—88
980A0012A95	1—50
980A0012A95	3—37
980A0012A96	1—54
980A0012A97	1—51
980A0012A97	1—55
980A0012A97	2—5
980A0012A97	3—21
980A0012A97	3—33
980A0012A98	1—56
980A0012A98	1—62
980A0012A98	3—79
980A0012A98	3—80
980A0012B02	1—56
980A0012B02	3—79
980A0012B02	4—103
980A0012B03	1—54

ITEM NUMBER	FIG. & INDEX NO.
980A0012B03	1—55
980A0012B03	3—33
980A0012B04	1—57
980A0012B04	3—76
980A0012B35	1—58
980A0012B35	3—19
980A0012B63	4—57
980A0012B72	1—57
980A0012B72	3—76
980A0012B72	4—58
980A0012B73	4—59
980A0012B74	3—46
980A0012B76	4—60
980A0012B78	4—61
980A0012B91	4—62
980A0012B99	1—60
980A0012B99	3—11
980A0012H05	1—60
980A0012H05	3—11
980A0012H06	1—61
980A0012H06	3—51
980A0012H10	1—61
980A0012H10	3—51
980A0012H10	4—63
980A0012H12	4—64
980A0012H49	4—39
980A0012H51	4—35
980A0012H55	4—37
980A0012K62	1—59
980A0012K62	3—100
980A0012K62	4—79
980A0012K66	4—65
980A0014A10	1—47
980A0014A10	3—98
980A0014A10	4—66

Frick

CENTRAL ICE MACHINE COMPANY
Refrigeration Supplies
800-228-7213 FAX 402-731-0823

JSA 17268-0997

Printed in USA

S70-660 SM/JAN 2001

File: SERVICE MANUAL - Section 70
Replaces: NOTHING: New Information
Dist: 3, 3a, 3b, 3c

Service Instructions

BARE ROTARY SCREW COMPRESSOR REPLACEMENT

Models TDSH/TDSL - XJS/XJF - SGC

Table of Contents

TDSH/TDSL/XJS COMPRESSOR REPLACEMENT 2
XJF/SGC COMPRESSOR REPLACEMENT 2
XJS/XJF SLIDE VALVE SOLENOID VALVES 2
TDSH 163 and 193 3
ECONOMIZER PLUGS 3
REPLACING TDSL 3-STEP WITH 4-STEP COMPRESSOR 4
REPLACING TDSH 355 WITH TDSB 355 6
RETURNING THE OLD COMPRESSOR 8

Figure 1. TDSH 163 & 193mm Econ. Port and Plug after 1/94. 3
Figure 2. RWBII, RDB, TDSH 163-193 Liq. Inj. and Econ. Plugs. 3
Figure 3. TDSL 3-Step P & I Diagram with 4-Step Machine. 5
Figure 4. TDSL 3-Step Wiring Diagram with 4-Step Machine. 5
Figure 5. 355 Compressor Ports 7

Table 1. COMPRESSOR WEIGHTS 8
Table 2. TORQUE SPECIFICATIONS 8

TDSH/TDSL/XJS COMPRESSOR REPLACEMENT

The purpose of this manual is to provide instructions to replace an existing Frick Screw Compressor with a replacement screw compressor.

The following procedure is required when a compressor is replaced in the field:

1. Verify that main power to the unit is disconnected, and lockout and tag the switch.
2. Remove all tubing, piping, and wiring that is connected to the compressor.

⚠ CAUTION **To prevent injury or damage to components, and for complete details regarding pressurized refrigerant vapor transfer and recovery, see the current Installation-Operation-Maintenance Manual for your unit.**

3. Disconnect the coupling from the motor shaft.
4. Support the compressor by attaching a crane to the lifting eyebolts supplied with the compressor. Remove bolts from the compressor feet and discharge flange. Carefully remove compressor from base. See Table 1 for compressor weights.
5. Thoroughly clean the replacement compressor and motor feet and mounting pads of burrs and other foreign matter to ensure firm seating of the compressor.
6. Clean the discharge flange surfaces on the compressor and separator.
7. Support the new compressor in the same fashion as the old compressor. Remove the solid plate from the discharge port. The gasket between the flange and solid plate will be used to seal the compressor to the separator flange.
8. Measure the clearance between the compressor feet and the base plate with a feeler gauge. Shim the compressor feet (gauge reading + .002"). A pry or jack can be used to left the compressor .002". Reinstall and tighten bolts in feet.
9. Re-install drive coupling.
10. Install tubing, piping and wiring. Use the suction gasket supplied with the new compressor. Gasket is located between solid plate and suction port. Refer to the Installation, Operation and Maintenance manual for P & I diagram.
11. The shaft alignment must be measured and aligned to .004" total indicator reading. Verification of the alignment is necessary after the compressor is operated for approximately four hours.

Note: Failure to follow this procedure could result in binding of internal parts, i.e. slide valve, slide stop, and bearings which could result in improper operation or premature failure of machine.

XJF/SGC COMPRESSOR REPLACEMENT

The procedure for replacing the XJF or SGC compressor (with a motor support) is similar to that of compressors TDSH, TDSL and XJS (without motor supports) in regards to cleaning, gaskets and mounting. For compressors with motor supports, care must be given to support the compressor to motor tunnel and the motor. The motor to compressor tunnel is reused when replacing the compressor. Measuring the alignment is not necessary due to the tunnel's design to allow for self-alignment. If removing the motor becomes necessary, tag and re-use shims that may be located under the motor feet. On RXF compressor units the microprocessor is mounted on the compressor to motor tunnel, care must be taken to ensure that the microprocessor is supported. Assemble the new compressor to the tunnel by inserting the two dowel pins, if applicable, and hand tighten the bolts in a star pattern. Refer to Table 2 for torque specifications.

XJS/XJF SLIDE VALVE SOLENOID VALVES

All replacement XJS/XJF compressors have a 2-1/4 x 2 inch block mounted on top of the discharge housing. This block covers the ports for the slide valve solenoid valve. If the compressor being replaced has the solenoid mounted on the discharge housing, remove the solenoid from the old compressor and remount on the new compressor.

If the compressor being replaced has the slide valve solenoid mounted on the base of the unit, DO NOT remount the solenoid on the discharge housing. Reconnect the solenoid tubing in the same ports as was removed from the old compressor.

TDSH 163 and 193
ECONOMIZER PLUGS

On TDSH 163mm and 193mm machines built after January 1994, the economizer port and plug configuration is different than 233, 283 and 355mm machines.

On the latter mentioned machines one piece of machined steel incorporates the economized cover and plug. This is also true for the XJS and XJF compressors. On the TDS_ 163mm and TDS_ 193mm machines only, the plug is inserted through the discharge casing, perpendicular to the economizer port. See Figure 1.

The economizer plug is held in place by a straight-thread o-ring plug. A spring is used between the straight-thread plug and the economizer plug to keep the economizer plug from rattling if the economizer port is not used. Both the spring and the economizer plug must be removed in order for the vapor to flow through the economizer port and into the compressor. The existence of the economizer plug would block all flow of vapor through the economizer port.

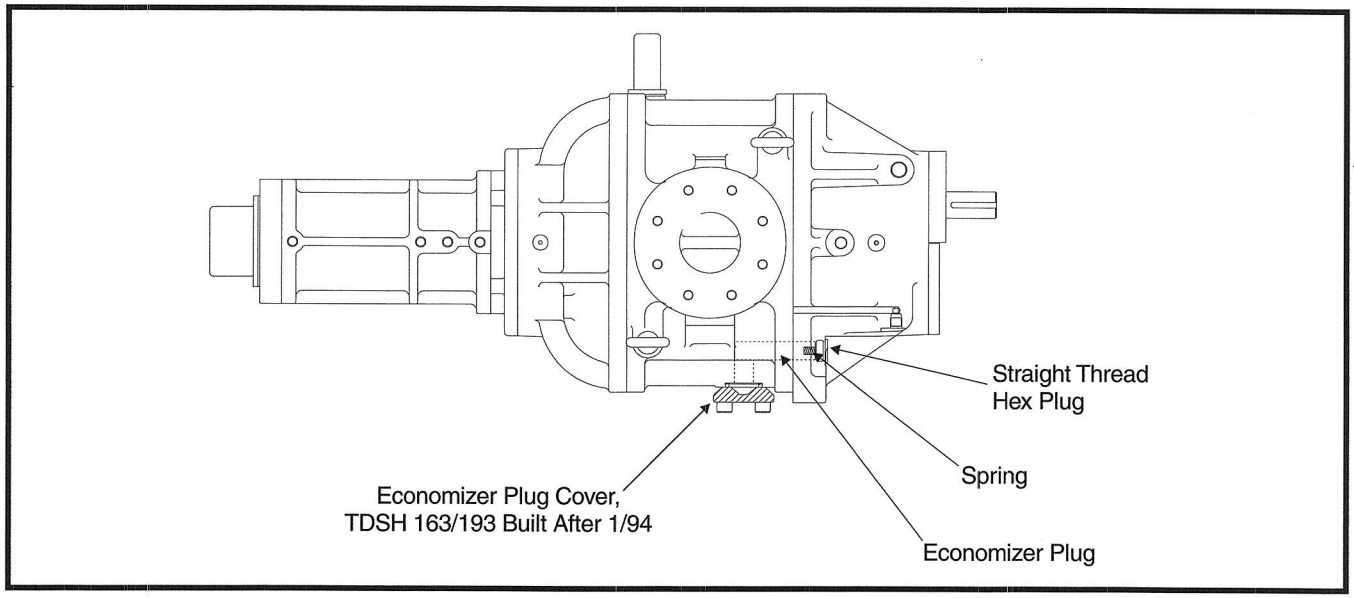


Figure 1. TDSH 163 & 193mm Economizer Port and Plug after 1/94.

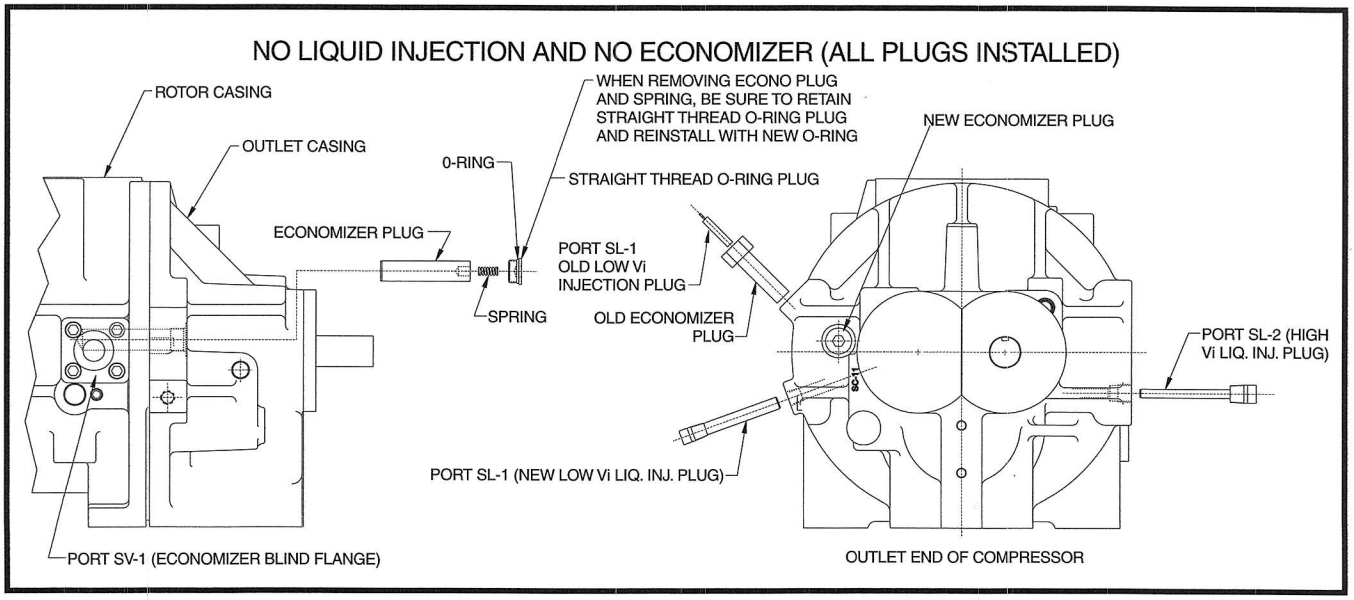


Figure 2. RWBII, RDB, TDSH 163-193 Liquid Injection and Economizer Plugs.

REPLACING TDSL THREE-STEP WITH A FOUR-STEP COMPRESSOR

When replacing a three step RDB/TDSL compressor with a four step machine, the increased heat of rejection while running at 25% to 50% capacity needs to be considered.

If the oil cooling process, or oil flow, is not sufficient to counter this increase in heat rejection, the first plug valve from the discharge end of the machine will need to be piped direct so that when the machine starts it will be closed, and will stay closed for the duration of the run. See Figure 3. By piping the valve direct, there will be no need to add the third solenoid or make changes to the control sequence.

If the cooling process and oil flow is sufficient for this increase in heat rejection, and the customer would like to take advantage of the third plug valve, the following steps will need to be taken to utilize the third plug:

- On an RDB Plus panel the E-prom chips (U-4 & -5) will need to be replaced with four-step chips to actuate the third solenoid valve. On a Quantum controller you will need to contact your Frick Factor to access "Factory Setup" and change the compressor to "RDB 4-Step".

- A third solenoid valve will need to be mounted to the package. Oil supply will need to be tubed to the solenoid valve and from the solenoid valve to the third plug valve. See Figure 4.

- On an RDB Plus panel, wire the added solenoid valve to wire #15, output four. On a Quantum controller, wire the solenoid to wire #16, output six. See Figure 4.

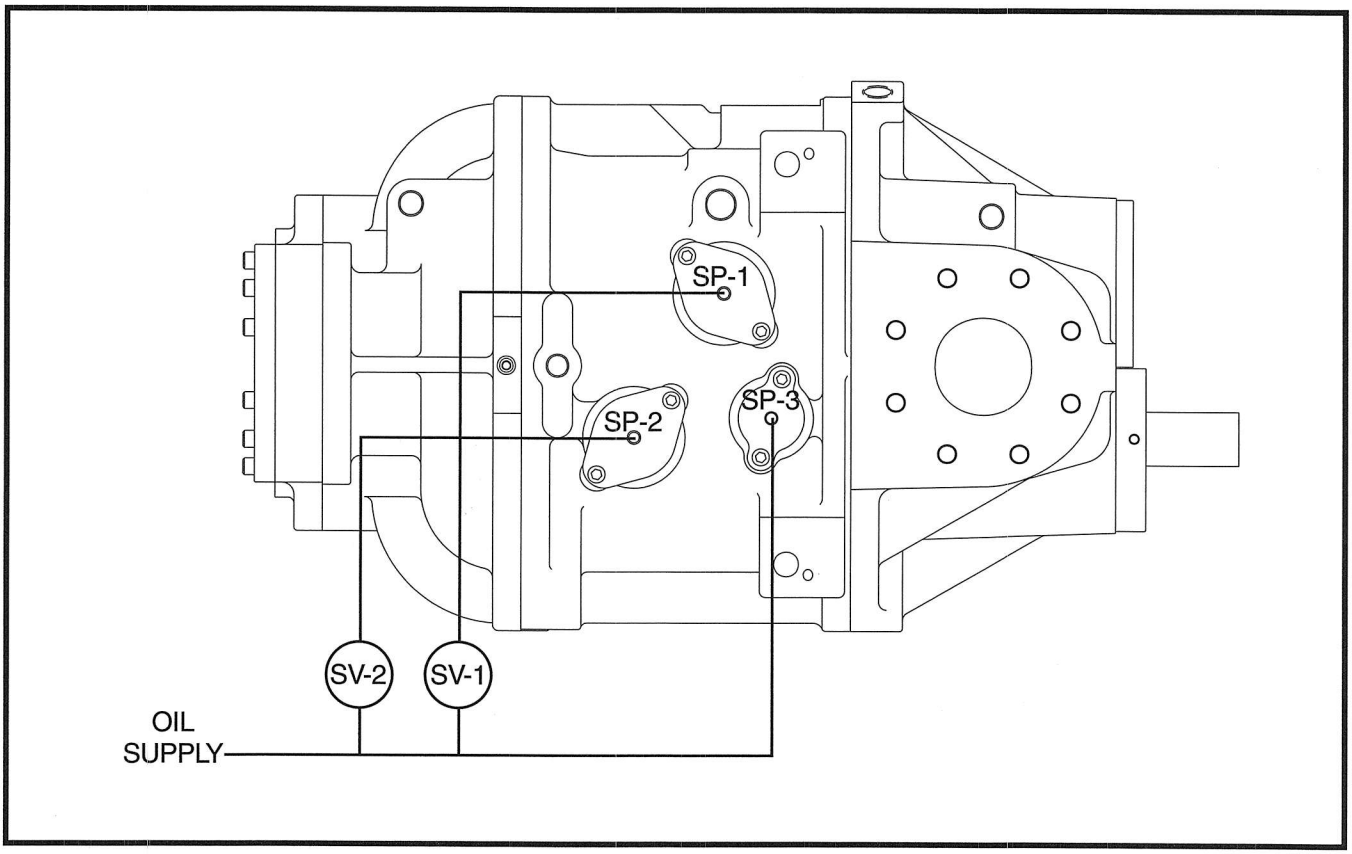


Figure 3. TDSL Three-Step P & I Diagram with Four-Step Machine.

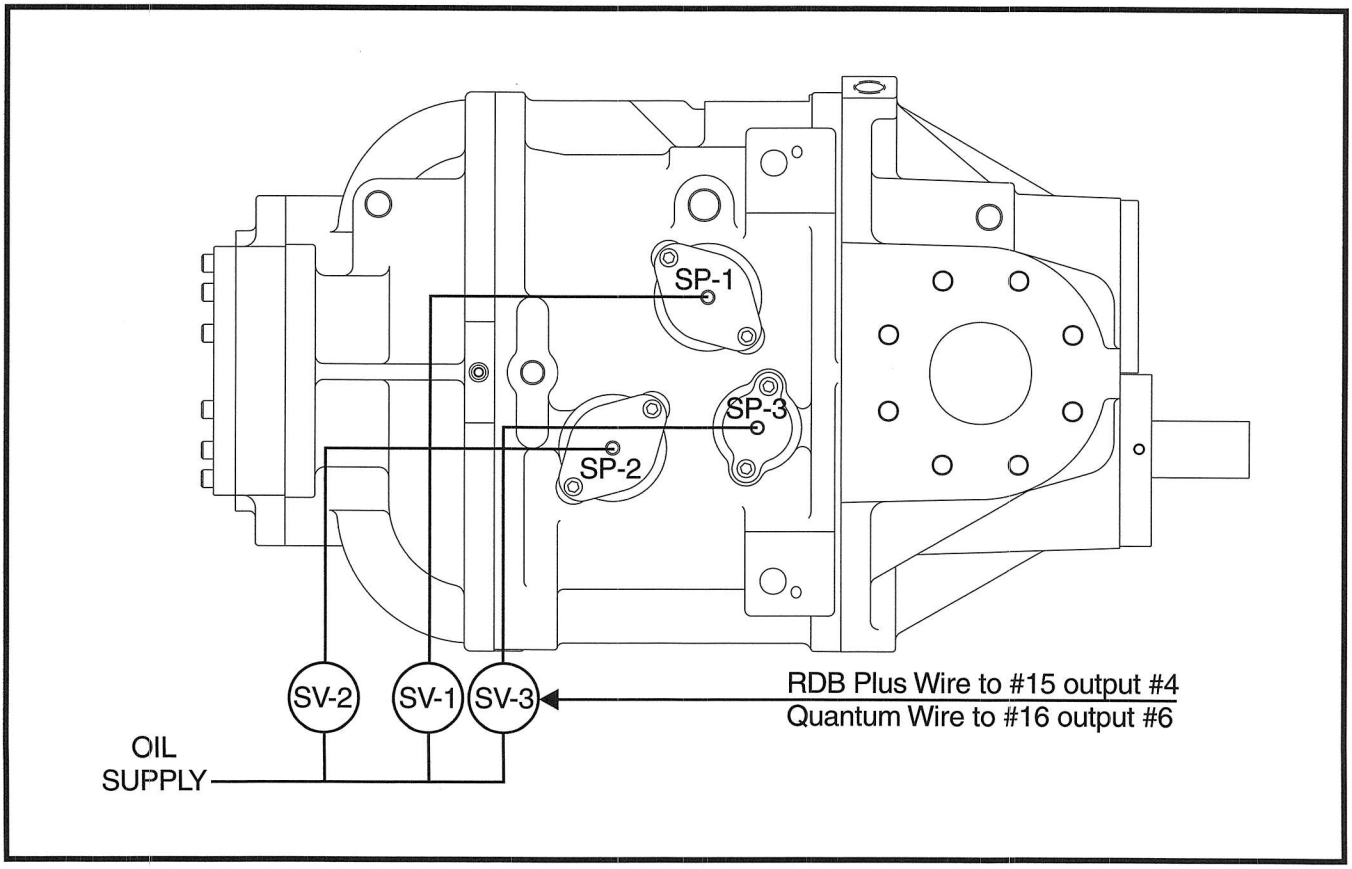


Figure 4. TDSL Three-Step Wiring Diagram with Four-Step Machine.

REPLACING TDSH 355 WITH TDSB 355

Due to the difference in the thrust bearing arrangement between the TDSH 355mm and TDSB 355mm compressors, changes to the balance piston piping and microprocessor chips are required. The following procedure explains the changes that must be completed:

OIL PIPING

Remove the oil piping arrangement to the balance piston. TDSH 355 compressors in a high stage application are equipped with a regulating valve, solenoid valve and external orifice in the piping to the balance piston. A TDSH 355 compressor in a booster application has only a .125 inch orifice installed in the balance piston port SB-8. When replacing a TSDH 355 compressor used in either a booster, or high stage, application with a TDSB 355, the balance piston piping must be changed to allow direct oil pressure from the oil manifold to the balance piston port SB-8. In the case of the high stage application, the regulating valve, solenoid valve, and orifice must be removed. A section of tubing needs to be installed in place of the valve arrangement removed. In the case of the booster application, the orifice connection at port SB-8 must be removed and a standard size connection installed. Port SB-8 is a 3/4 inch x 14 NPT connection.

MICROPROCESSOR

High stage TDSH 355 compressor units equipped with a RWBII Plus Microprocessor operates with a special program that monitors the balance piston regulating devices. When installing a TDSB 355 compressor, the U-4 and U-5 micro chips must be replaced with new chips without the balance piston monitoring function. To order new chips, contact Frick Controls, at 717-762-2121. You will need to supply the information printed on the original chips, advise that the balance piston control function must be eliminated, and a purchase order number. A request can be made by fax to 717-762-0654 "E-Prom Chip Ordering".

QUANTUM CONTROL

The "Balance Piston Setup" must be disabled. This can be done through the "Factory Setup" function. For "Factory Setup" function, contact your Frick Factor.

Frick®

S70-451 SM/JUN 2000

File: SERVICE MANUAL - Section 70
Replaces: Nothing: New Information
Dist: 3, 3a, 3b, 3c

Service Instructions
Jackshaft Assembly

XJS and XJF
ROTARY SCREW COMPRESSORS

MODELS: 95 and 120

TABLE OF CONTENTS

GENERAL
- Model and Serial Number Explanation 2
- General Maintenance 2
- Torque Data 3
- Special Tools and Test Equipment 3
- Safety Precautions 3
- General Safety Practices 3

SECTION 1 – JACKSHAFT TEARDOWN
- Jackshaft Disassembly 4
- Shaft Seal - Removal 6
- Jackshaft and Gears - Removal 7

SECTION 2 – JACKSHAFT REPLACEMENT
- Jackshaft and Gears - Installation 8
- Shaft Seal - Installation 10

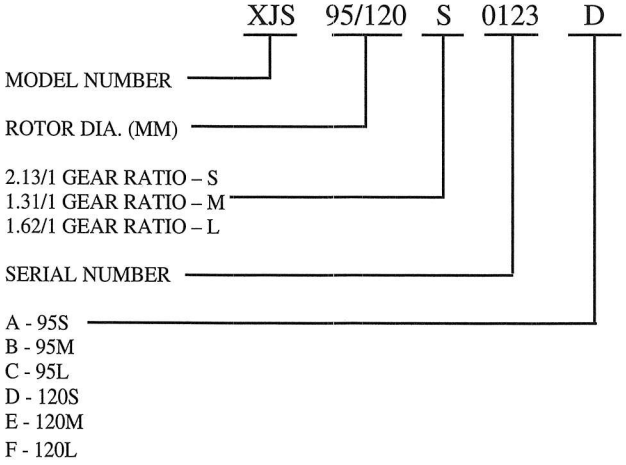
Figure 1-1. Compressor Gear Cover - End View 4
Figure 1-2. Shaft Seal, Jackshaft, Gears 5
Figure 1-3. Using Clamp Collar Installation Tool 11
Figure 1-4. Measuring XJS Gear Cover Thickness 12
Jackshaft Kits Chart 12

GENERAL

This manual provides approved procedures for jackshaft replacement of Model XJS and XJF 95/120 compressors, manufactured by Frick and installed on RXB and RXF Rotary Screw Compressor Units.

To avoid errors when ordering parts, always provide complete Model Number and Serial Number.

MODEL AND SERIAL NUMBER EXPLANATION



GENERAL MAINTENANCE

Proper maintenance is important in order to ensure continued, trouble-free service from your compressor. Some areas critical to optimum compressor operation are:

• Keep refrigerant and oil clean and dry to avoid moisture contamination. After servicing any portion of the refrigeration system, evacuate to remove moisture before returning to service. Water vapor condensing in the compressor while it is running, or more likely while it is shut down, can cause rusting of critical components and reduce the service life of the unit.

• Keep suction strainer clean. Check periodically, particularly on new systems where welding slag or pipe scale could find its way into the compressor suction. Excessive dirt in the suction strainer could cause it to collapse, dumping debris into the compressor.

• Keep oil filters clean. If filters show increasing pressure drop (indicating dirt or water), stop compressor and change filters. Running a compressor for long periods with high filter pressure drop can cause oil starvation and lead to premature bearing failure.

• Avoid slugging compressor with liquid refrigerant. While screw-type compressors are probably the most tolerant to ingestion of some refrigerant liquid, they are not liquid pumps. Be sure to maintain adequate superheat, and properly size suction accumulators to avoid dumping liquid refrigerant into compressor suction.

• Keep liquid injection valves properly adjusted and in good condition to avoid flooding compressor with liquid. Liquid can cause a reduction in compressor life, and in extreme cases, can cause complete failure.

• Protect compressor during extended periods of shutdown. If compressor will be setting for long periods without running, it is advisable to evacuate to low pressure and charge with dry nitrogen or oil, particularly on systems known to contain amounts of water vapor.

• Preventive maintenance inspection is recommended any time a compressor exhibits a noticeable change in vibration level, noise level, and/or performance.

NOTE: Some photographs or illustrations in this manual may be of prototype or special order units. Production models may vary in some detail from those shown.

NOTE: Some photographs or illustrations in this manual may show units with optional equipment installed. These items are available through your authorized Frick Factor.

TORQUE DATA

Torque requirements applicable to the procedures contained in this manual are listed below.

TORQUE SPECIFICATIONS

CAPSCREW SIZE	TORQUE VALUE		
	ENGLISH	METRIC	SOCKET SIZE
M4	2 ft-lb	2.7Nm	3 mm
M5	4 ft-lb	5.4 Nm	4 mm
M6	7 ft-lb	9.5 Nm	5 mm
M8	18 ft-lb	24.4 Nm	6 mm
M12	58 ft-lb	78.7 Nm	10 mm
M16	144 ft-lb	195.3 Nm	14 mm
M20	260 ft-lb	352.5 Nm	17 mm
M22*	368 ft-lb	499 Nm	32 mm

*** Hex Head**
NOTE: To convert foot-pounds of torque to metric Newton-meters, multiply foot-pounds times 1.3558 (Example: 75 ft-lbs x 1.3558 equals 101.7 Nm)

SPECIAL TOOLS AND TEST EQUIPMENT

Special tools and/or test equipment required to perform the maintenance procedures contained in this manual are listed below.

Frick Manufactured		
Compressor Size	**95mm**	**120mm**
Equipment	**Item No.**	**Item No.**
Gear Cover Guide Rod	534B0192H01	534B0192H01
8mm T-wrench	534C0456G01	534C0456G01
Pinion Gear Puller	534C0521G01	534C0520G01
Seal Installation and Removal Tool	534C0523H01	534C0387H01
Clamping Collar Installation Tool	534C0673G01	534C0673G02
Tool Shaft Seal	534A0310H01	534A0310H02
Screw, 8mm	111Q0740796	111Q0740796

Local Sourced		
Equipment	**Manufacturer**	**Part No.**
Bearing Puller	Owattona Tool Co.	943
Roller Bearing Inner Race Puller	Owattona Tool Co.	1123
12mm GuidePins- (3-1/2" lg. and 5-1/2" lg.)	Local Purchase	—
4" Hose Clamp	Local Purchase	—

SAFETY PRECAUTIONS

DANGERS, WARNINGS, CAUTIONS, and NOTES are strategically placed throughout this manual to further emphasize the importance of personal safety, qualifications of user personnel, and proper use or maintenance of the equipment. These precautions supplement and/or complement standard industry practices and the safety information decals affixed to applicable areas of the equipment. Safety Precautions are defined as follows:

DANGER — **Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.**

WARNING — **Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.**

CAUTION — **Indicates a potentially hazardous situation or practice which, if not avoided,will result in damage to equipment and/or minor injury.**

NOTE: — **Indicates an operating procedure, practice, etc., or portion thereof which is essential to highlight.**

GENERAL SAFETY PRACTICES

It would be impossible to compile a list of all Safety Practices applicable to the operation and maintenance of the equipment covered in this manual. This is brought about in part by the diverse operating environments, as well as the varied applications and customer-specified configurations. The following Safety Practices are provided as a guide in promoting safety during routine operation, service, inspection, and maintenance of Frick compressors. This information, combined with standard industry safety practices, local, state, and federal regulations, establish the overall safety requirements for the workplace.

WARNING — **Always shut down unit and disconnect power before making any adjustments or repairs.**

WARNING — **Operating a damaged unit is not only unsafe, but continued use will cause additional damage and/or component failure.**

WARNING — **DO NOT attempt any operation or perform any maintenance before you read and understand all Safety Practices in this manual.**

WARNING — **Ensure that work area is adequately ventilated, and wear proper safety equipment when compressor is open to atmosphere.**

GENERAL SAFETY PRACTICES (Cont'd)

1. If you are not familiar with this particular Frick compressor, take time to ***read the operator's manual*** (IOM) before attempting to run the unit for any purpose.

2. INSPECT COMPRESSOR VISUALLY before start-up. Tighten/replace any loose or missing bolts, nuts, etc. Repair any leaks; replace any damaged hoses, lines, and/or fittings; repair/replace any damaged electrical wiring and/or components.

3. USE CAUTION PRIOR TO DISASSEMBLY, as compressor may still be pressurized. Evacuate compressor in accordance with S70-101 IOM and applicable Federal, State, and local ordinances, prior to begining any disassembly.

4. DO NOT make adjustments while the unit is operating, unless required for service or maintenance checks.

5. DO NOT operate a damaged compressor. Always complete all repairs before running unit.

6. STAY ALERT at all times. Watch what you are doing at all times. Be aware of all persons in the immediate vicinity of operating equipment. Allow only authorized personnel in the area.

7. NEVER operate compressor if you are taking medication that causes blurred vision, dizziness, drowsiness, or slowed reflexes.

8. DO NOT operate compressor if excessive vibration occurs. Immediately shut down unit and complete all necessary repairs and required checks before attempting to restart.

9. DO NOT operate compressor exhibiting excessive pressure and/or temperature changes. Immediately shut down unit and complete all necessary repairs and functional checks before attempting to restart.

10. NEVER alter compressor from original design. Only those alterations approved by Frick Company and/or performed by authorized Frick service personnel are permitted.

11. KEEP COMPRESSOR CLEAN, free of debris, and properly lubricated. A clean, properly lubricated unit will perform more efficiently and operate trouble-free much longer.

REMEMBER: Any piece of equipment is only as safe as those who use and maintain it.

1.0 JACKSHAFT TEARDOWN.

The procedures presented in this manual assume that all maintenance will be performed by qualified, Frick-trained service personnel equipped with all special tools and test equipment necessary to properly teardown and rebuild Model XJS and XJF 95/120 compressors.

⚠WARNING **XJS and XJF 95 weigh 500 lb.(227 kg);XJS and XJF 120 weigh 750 lb.(340 kg). Ensure that rigging is properly attached and secure before lifting compressor.**

1.0.1 JACKSHAFT – DISASSEMBLY. Disassembly shall be accomplished in the following order:

1. Shaft Seal – Removal (Refer to section 1.1.1).

2. Jackshaft and Gears – Removal (Refer to section 1.1.2).

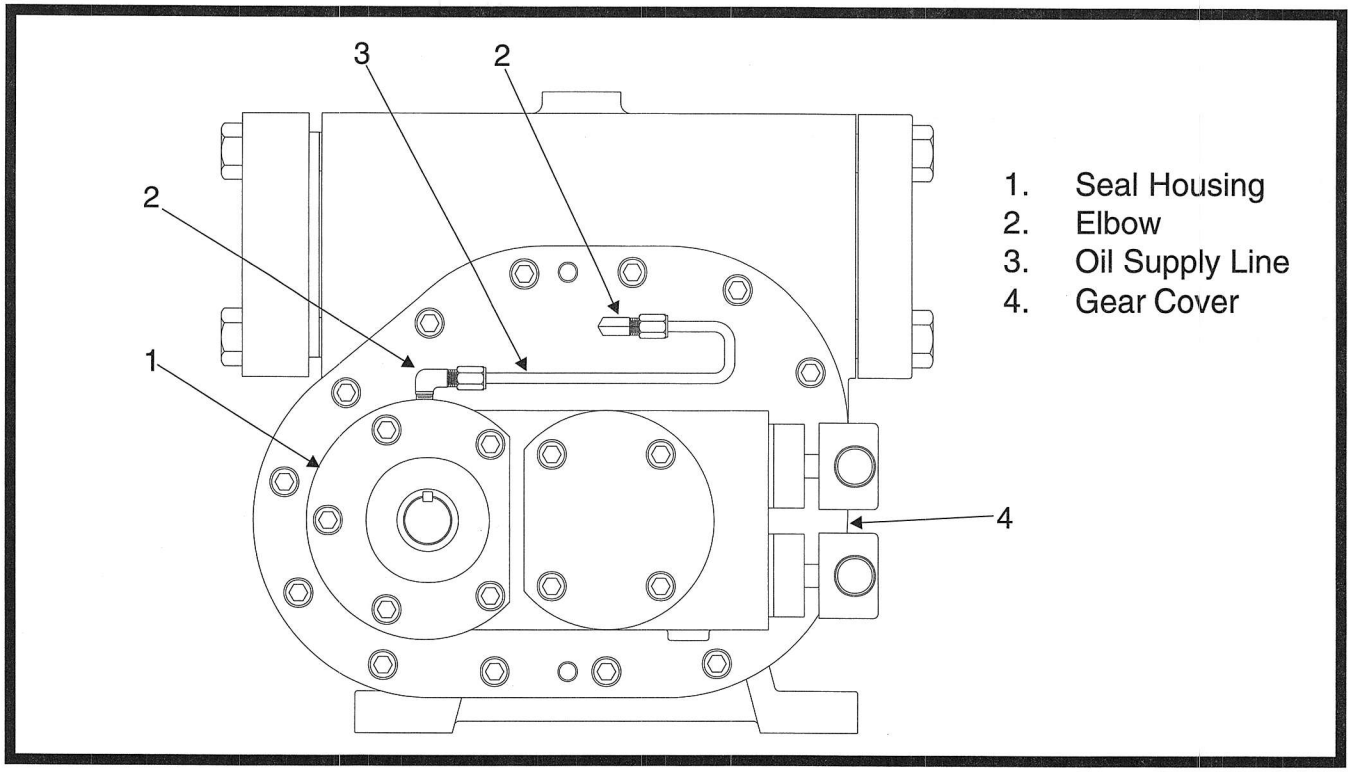
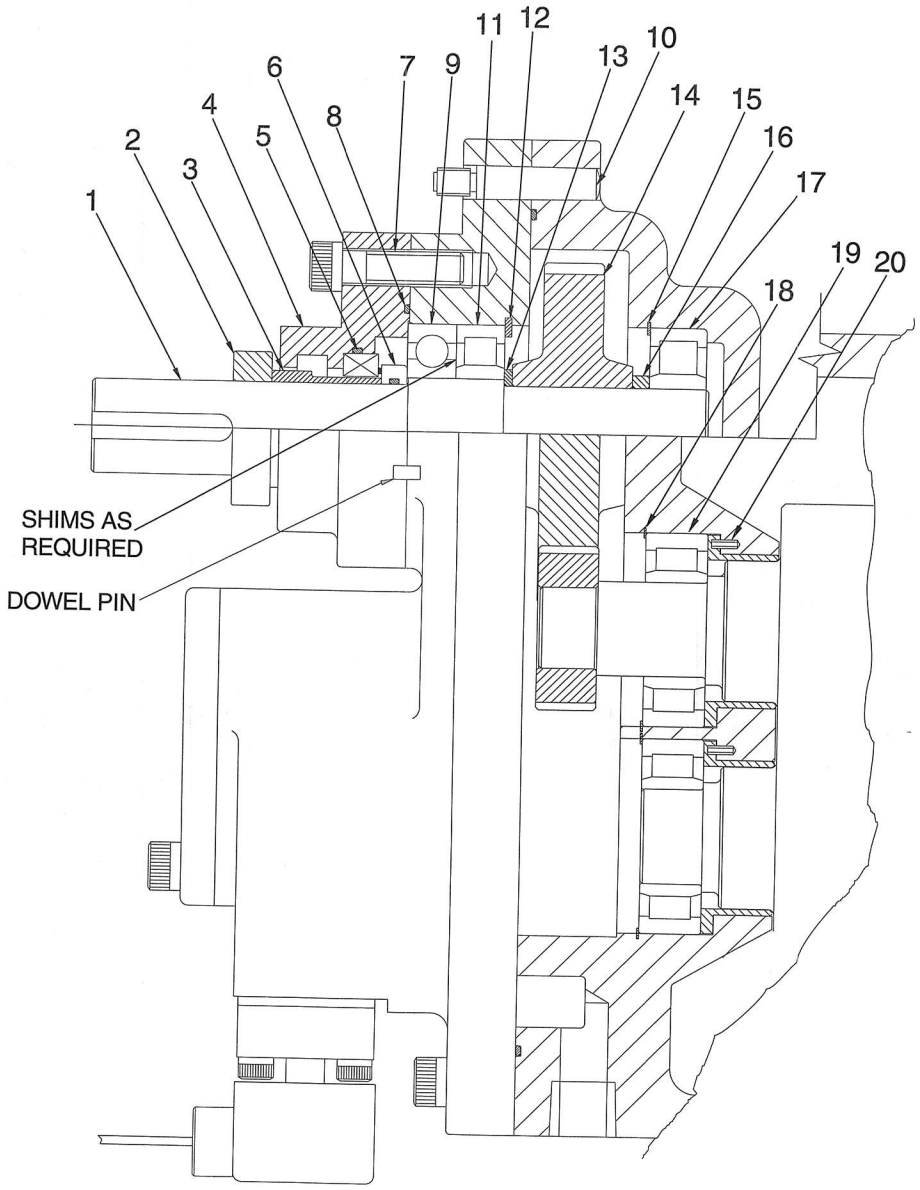


Figure 1-1. Compressor Gear Cover – End View.



1. Jackshaft
2. Clamp Collar
3. Seal Seat Backup Ring
4. Seal Housing
5. O-Ring
6. Shaft Seal Assembly
7. Socket Head Capscrew
8. O-Ring
9. Four-Point Contact Ball Bearing
10. Dowel Pin, Tapered
11. Roller Bearing
12. Retaining Ring
13. Bearing Spacer
14. Gear Set
15. Retaining Ring
16. Bearing Spacer
17. Roller Bearing
18. Retaining Ring
19. Roller Bearing
20. Spring Pin

Figure 1-2. Shaft Seal, Jackshaft, Gears,

1.1.1 SHAFT SEAL – REMOVAL. Shaft seal removal shall be accomplished as follows:

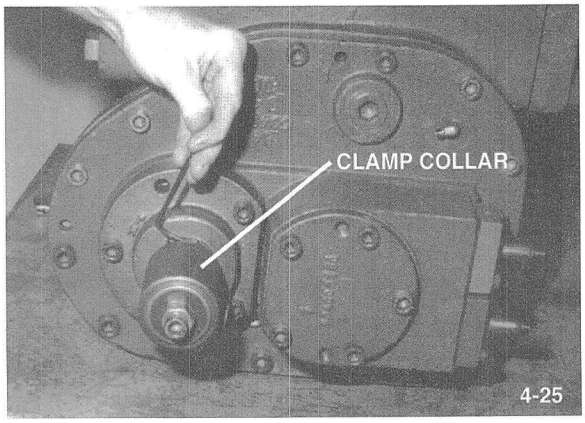
NOTE: Index numbers refer to Figure 1-2, unless otherwise noted.

1. Evacuate compressor and oil separator (refer to S70-101 IOM).

2. Remove flexible drive coupling (refer to S70-101 IOM).

3. Loosen oil supply line nuts at elbows (2, Figure 1-1), which are located on seal housing and gear cover.

4. Loosen hex-head screw in clamp collar (2); remove clamp collar and seal seat backup ring (3) from jackshaft (1).

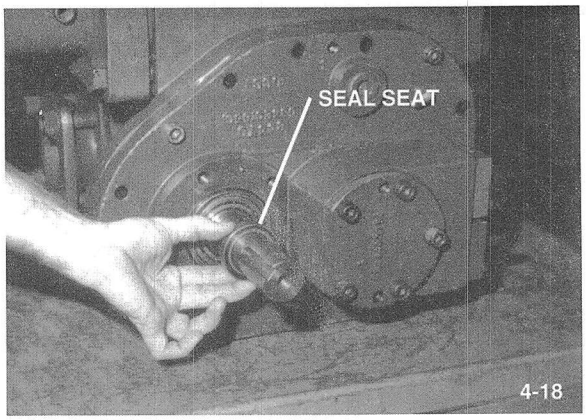


5. Remove capscrews (7) securing seal housing (4) to gear cover. Remove seal housing and seal housing o-ring (8). A small amount of oil will drain from housing.

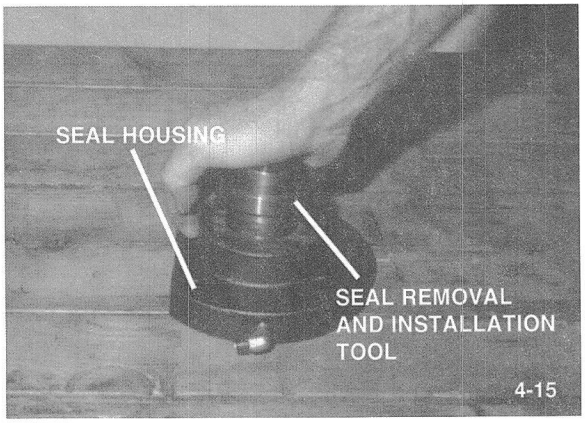
NOTE: Provisions should be made to catch residual oil that will drain when seal housing is removed.

6. Remove seal housing oil supply tubing (3, Figure 1-1).

7. Remove rotating seal seat portion of shaft seal assembly (6) from jackshaft (1).



8. Place seal housing (4) on workbench with inboard side facing down; using Seal Installation and Removal Tool, push carbon-faced seal assembly out of housing.



9. Remove carbon-faced seal assembly o-ring (5) from seal housing.

10. Remove oil supply line elbow (2, Figure 1-1) and strainer from seal housing.

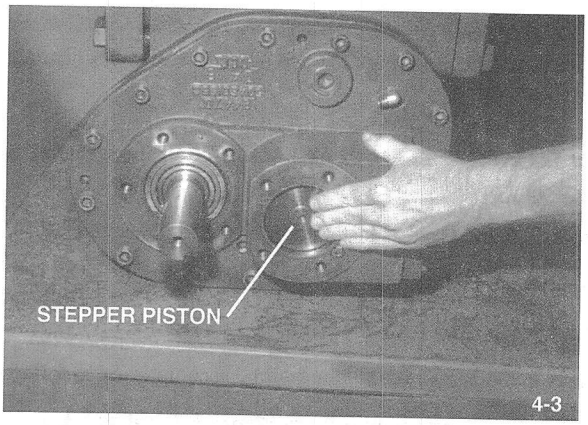
1.1.2 JACKSHAFT AND GEARS – REMOVAL. Jackshaft removal shall be accomplished as follows:

NOTE: Index numbers refer to Figure 1-2, unless otherwise noted.

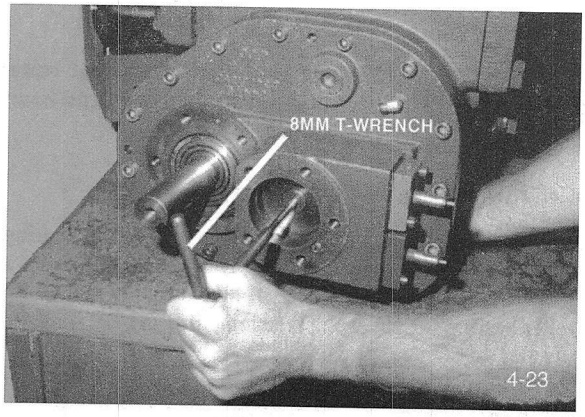
1. Place suitable drain pan under compressor oil drain, remove drain plug located at the center bottom on the gear cover and drain plug.

2. Remove shaft seal. (Refer to section 1.1.1.)

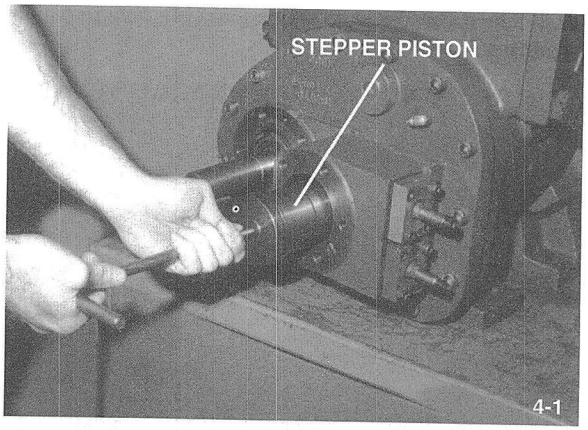
3. Place suitable drain pan under slide stop cover and remove capscrews (7) securing slide stop cover to gear cover; remove slide stop cover and o-ring, while holding stepper piston in by hand.



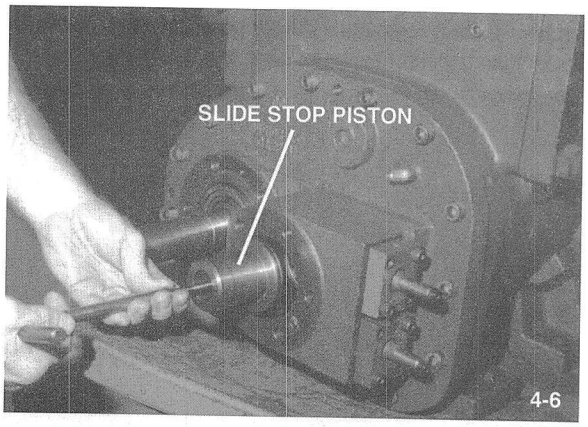
4. Thread 8mm T-wrench into stepper piston and push piston in against spring force. With finger through oil drain hole, located in bottom of rotor housing beneath slide stop, push in against spring force and feel along bottom of slide stop. When threaded hole in slide stop is located, insert 8mm screw (Frick p/n 111Q0740796) through oil drain hole and thread into slide stop.



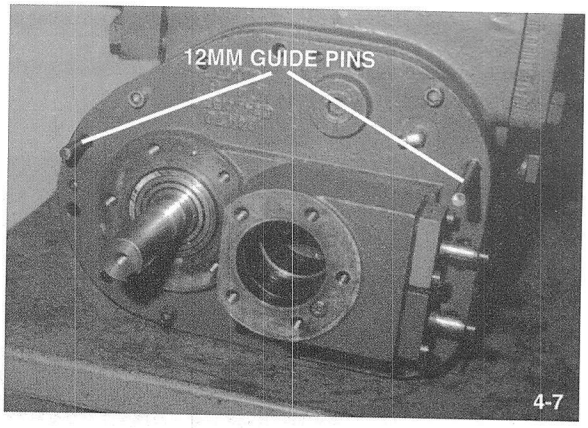
5. Remove stepper piston with glyd-rings and o-rings. If glyd-rings and o-rings are to be replaced, cut glyd-rings off of stepper piston using knife and discard o-rings.



6. Thread T-wrench into slide stop piston; remove slide stop piston with glyd-ring and o-ring. If glyd-ring and o-ring are to be replaced, cut glyd-rings off of stepper piston using knife and remove and discard o-rings.

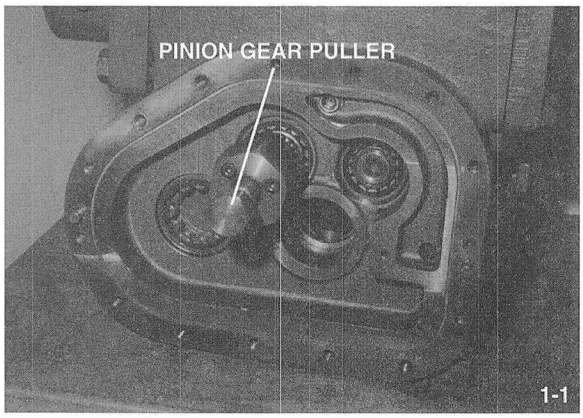


7. Remove two capscrews (7) from opposite sides of gear cover. Install two 12mm guide pins (3½-inches long).

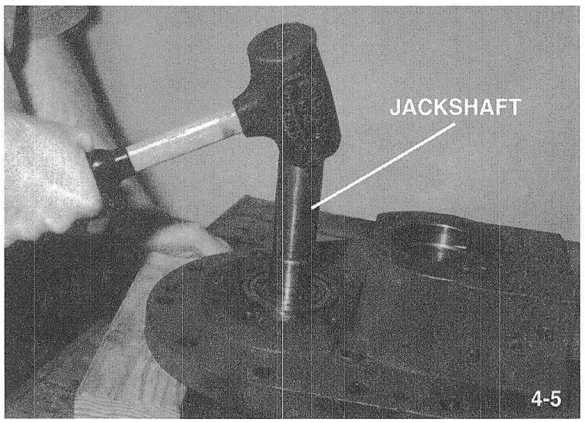


8. Remove remaining capscrews from gear cover. Thread two 12mm capscrews into jacking holes in gear cover and spread cover away from rotor casing. Hold on to jackshaft and remove gear cover and o-ring.

9. Attach Pinion Gear Puller to pinion gear (14); remove pinion gear from male rotor.

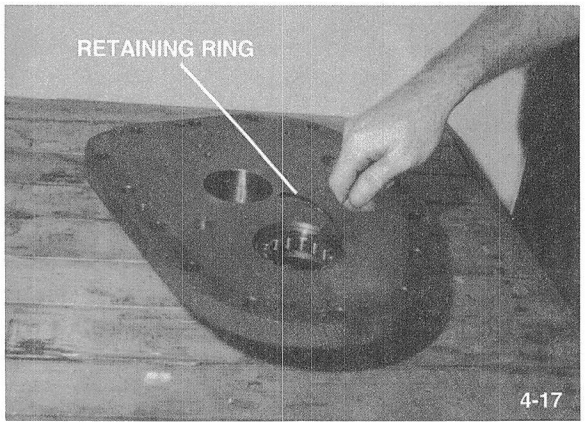


10. With gear cover elevated on wood blocks, remove jackshaft and gear assembly from cover by tapping on outboard end of jackshaft with rubber mallet; remove jackshaft, gear assembly, and outboard section of inner race of four-point contact ball bearing (9).

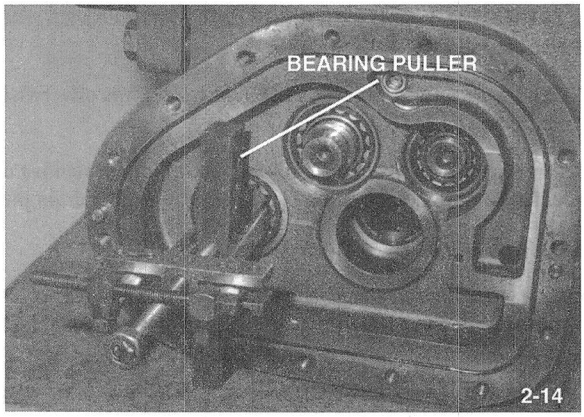


11. Remove remaining section of four-point bearing from gear cover.

12. Remove retaining ring (12) from gear cover using screwdriver. Some models may require snap ring pliers.



13. Remove outer race of roller bearing (11) from gear case by tapping out.



14. Remove retaining ring (15) and outer race of roller bearing (17) from rotor casing.

1.2.0 JACKSHAFT – REPLACEMENT. Replacement shall be accomplished in the following order:

1. Jackshaft and Gears – Installation (Refer to paragraph 1.2.1).

2. Shaftseal – Installation (Refer to paragraph 1.2.2).

1.2.1 JACKSHAFT AND GEARS – INSTALLATION.

Jackshaft and gears installation shall be accomplished as follows:

NOTE: Index numbers refer to Figure 1-2, unless otherwise noted.

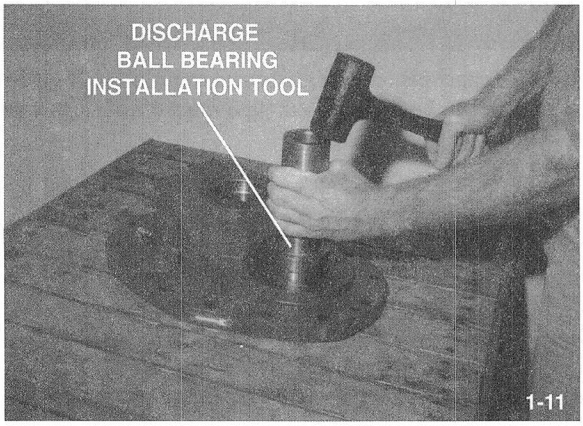
1. Thoroughly clean all parts with OSHA approved, nonflammable degreaser and clean, lint-free rags.

NOTE: In preparation for installing pinion gear in step 12, heat gear to maximum 450°F (121°C) for approximately three hours.

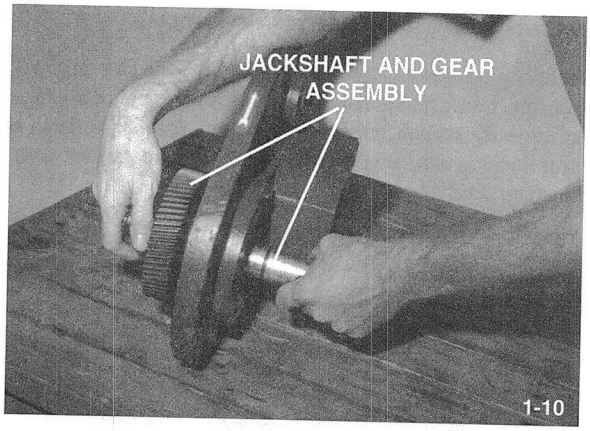
⚠ CAUTION **Ensure that tool is against outer race and not against cage and bearing rollers.**

2. Install retaining ring (12) in gear cover.

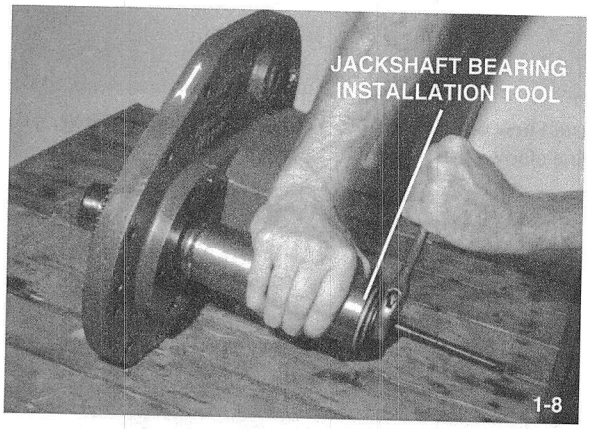
3. Install outer race of roller bearing (11) in gear cover. Bearing can be installed by freezing and installing it in gear cover or by using Discharge Ball Bearing Installation Tool and rubber mallet. Ensure that roller bearing is tight against retaining ring (12).



4. Slide jackshaft and gear set assembly (14) into gear cover until inner race of roller bearing is seated under the rollers of inner race bearing.



5. Using Jackshaft Bearing Installation Tool, press inboard half of four-point contact ball bearing (9) inner race against inner race of roller bearing (11).



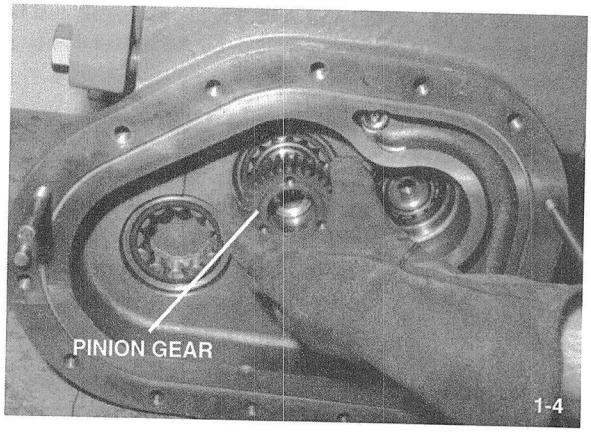
6. Press outer race of four-point bearing into gear cover, using seal housing (4); remove seal housing.

7. Using Jackshaft Bearing Installation Tool , press outboard half of four-point contact ball bearing (9) inner race in place.

⚠WARNING **Protective, heat-resistant gloves must be worn when installing pinion gear.**

⚠CAUTION **DO NOT force pinion gear into position. If pinion gear does not seat properly on first attempt, remove, reheat, and reinstall.**

8. Install heated pinion gear on male rotor shaft. Push pinion gear against shaft shoulder; hold in place until gear cools and grips jackshaft. **Do not** use hammer to install gear.



9. Lubricate all internal compressor parts with a thin coat of clean refrigerant oil.

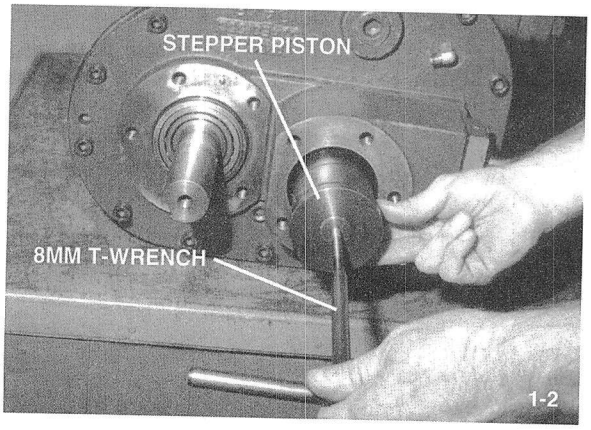
NOTE: If 12mm guide pins were taken out after gear cover was removed, reinstall pins in opposite sides of casing, to facilitate cover installation.

10. Install new o-ring in drive-end of rotor casing; use a light coating of grease to hold o-ring place

⚠CAUTION **It is important that jackshaft rotates when cover is installed. If shaft does not rotate, it may be binding in roller bearing.**

11. Install the gear cover and secure in place with capscrews (7); tighten capscrews to a torque value of 58 foot-pounds (79 Nm). Remove guide pins.

12. Place slide stop piston inside stepper piston. Thread 8mm T-wrench into stepper piston; install stepper piston and slide stop piston in compressor.



13. Push stepper piston against spring force and remove 8mm screw previously threaded into slide stop through drain hole; keep hand pressure against piston and remove T-wrench.

14. Position slide stop cover, with new o-ring on gear housing; secure slide stop cover to gear housing with capscrews (7). Tighten capscrews to a torque value of 58 foot-pounds (79 Nm).

15. Install compressor drain plug.

1.2.2 SHAFT SEAL – INSTALLATION. The new seal must be installed after the new jackshaft is installed. Shaft seal installation shall be accomplished as follows:

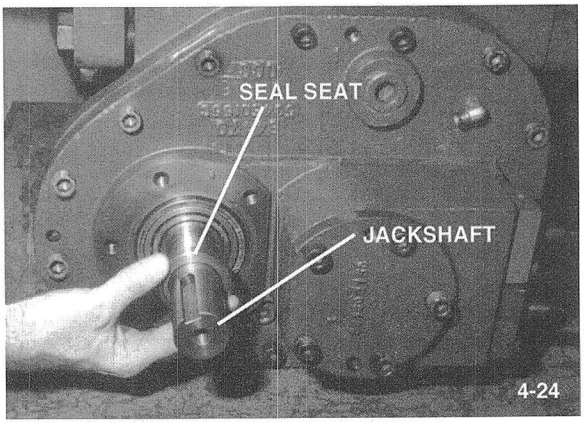
NOTE: Index numbers refer to Figure 1-2, unless other-wise noted.

⚠ CAUTION **Avoid damaging carbon-faced seal and rotating seal seat. Mishandling will shorten seal life. Do not touch sealing surfaces. Surfaces can be blemished by perspiration. Ensure that carbon is not chipped or cracked.**

1. Clean jackshaft; polish minor scratches with crocus cloth, wipe clean and coat shaft with clean refrigerant oil. Ensure that keyway edges are free of burrs.

2. Before installing rotating seal seat, coat seat surface with clean refrigerant oil.

3. With shiny side of seal seat facing out, coat seat with refrigerant oil and slide over jackshaft. **Do not damage o-ring** (Photo 4-24). Once seat is positioned on shaft, use seal seat back-up ring to push on seat.

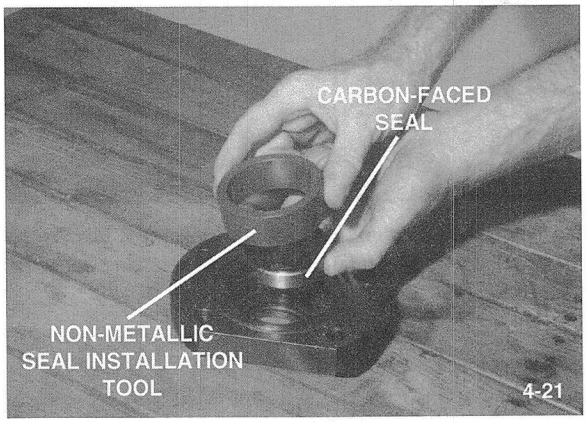


⚠ CAUTION **Before installing seal housing, ensure that feed hole below elbow is free of obstructions.**

4. Place seal housing on workbench, with outboard side down. Coat new o-ring with clean refrigerant oil; install o-ring in groove in seal housing, located in stationary carbon bore.

5. Coat carbon-faced seal with clean refrigerant oil.

6. Carefully place carbon-faced seal assembly, with carbon end up, in seal housing. Using nonmetallic Seal Installation Tool and being careful not to touch carbon, push seal assembly **(hand pressure only)** into seal housing until it is evenly seated, with no gap between seal and housing.



7. Install new oil strainer, p/n 534A0342H01, in gear cover oil supply line elbow port.



8. Install oil line elbow (2, Figure 1-1) in seal housing.

9. Install oil supply tubing (3, Figure 1-1) on elbow located on gear cover.

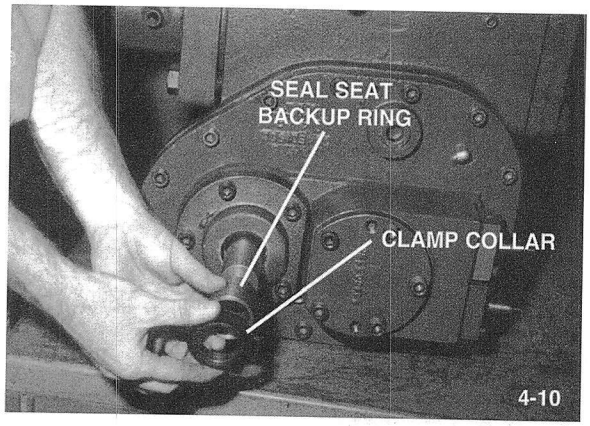
10. Place new o-ring (8) on seal housing and install seal housing over jackshaft, using care not to damage carbon-faced seal.

11. Install end of oil supply tubing into elbow on seal housing, ensuring that dowel pin in gear cover engages hole in seal housing; align elbow with oil supply line, as necessary.

12. Secure seal housing to gear cover with capscrews (7); tighten capscrews evenly, in crisscross pattern, to a torque value of 58 foot-pounds (79 Nm).

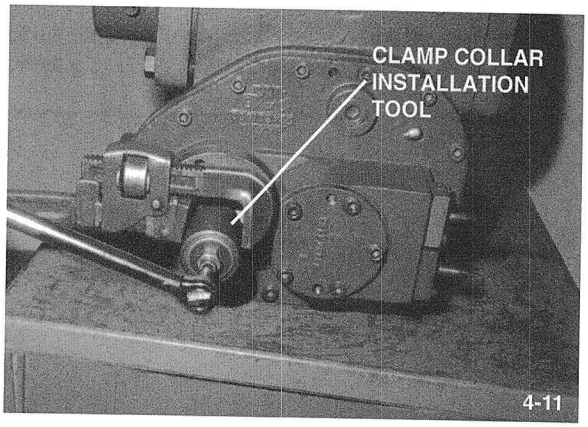
13. Tighten nuts at elbows of oil supply line (2, Figure 1-1), which are located on seal housing and gear cover.

14. Install seal seat backup ring (3) and clamp collar (2) over jackshaft (1) and against rotating seal seat.



15. Using Clamp Collar Installation Tool, tighten clamp collar and seal seat backup ring against rotating seal seat to a torque value of 15 Ft lbs. Back off, hand tighten, then torque to 3 to 5 Ft lbs. (See Figure 1-3.)

16. Tighten collar Allen-head bolt; remove Installation Tool.



17. Install flexible drive coupling. (Refer to S70-101 IOM.)

18. Evacuate compressor and oil separator. (Refer to S70-101 IOM.)

1. O-ring
2. Carbon Face
3. Rotating Seal Seat Assembly (with shiny side of seat facing outward)
4. O-ring
5. Gear Cover
6. Four-Point Contact Ball Bearing
7. Clamp Collar Installation Tool
8. Shaft
9. Clamp Collar
10. Seal Seat Backup Ring
11. Seal Housing
12. Carbon Faced Seal Assembly

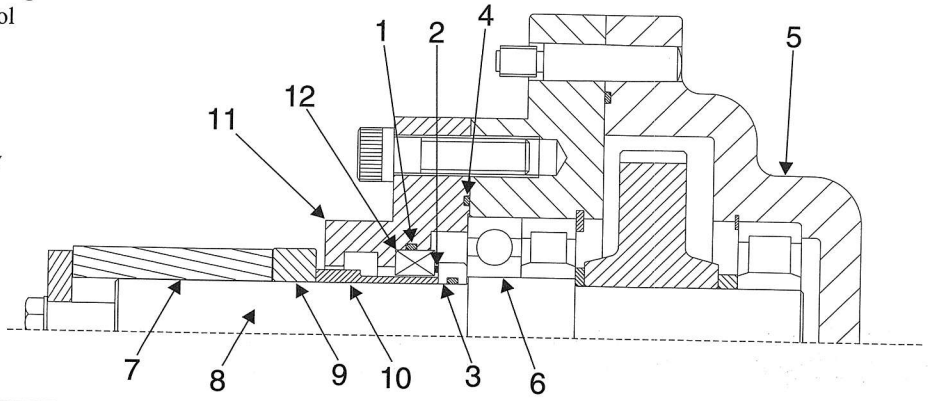
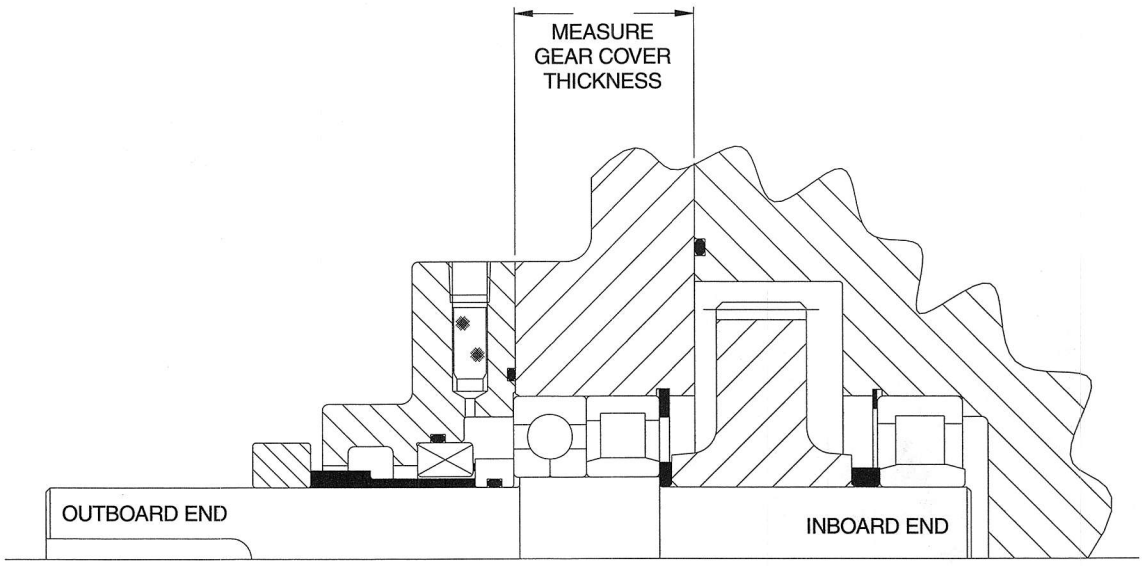


Figure 1-3. Using Clamp Collar Installation Tool.

JACKSHAFT KITS

	95S	95M	95L	120S	120M	120L
Jackshaft Kit XJS (1)	534C1457G01	534C1457G02	534C1457G03	534C1458G01	534C1458G02	534C1458G03
Jackshaft Kit XJS (2)	534C1465G01	534C1465G02	534C1465G03	534C1451G01	534C1451G02	534C1451G03
Jackshaft Kit XJF	534C1465G01	534C1465G02	534C1465G03	534C1451G01	534C1451G02	534C1451G03

(1) For XJS units with a gear cover thickness of 1.63″ for the 95mm and 1.69″ for the 120mm.
(2) For XJS units with a gear cover thickness of 1.75″ for the 95mm and 1.81″ for the 120mm.



MEASURE GEAR COVER THICKNESS TO DETERMINE CORRECT JACKSHAFT KIT

Figure 1-4. Measuring XJS Gear Cover Thickness.

Frick®
100 CV Avenue • P.O. Box 997 • Waynesboro, Pennsylvania USA 17268-0997
Phone: 717-762-2121 • FAX: 717-762-8624