SERVICE BULLETIN

Title: O-Ring Replacement Procedure
Models Affected: 23XL

Number: C9613
Date: 4/23/96
Supersedes:
Date:

Purpose:

The following is a step by step procedure of how to take apart the major components to replace any O-ring on the 23XL compressor due to a leak. This procedure does not require the major overhaul 23XL Service Tool Kit nor removal of the bearings.

File: Compressor

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Reference:

1. 23XL Stop Major Workbook - catalog no. 039-292
2. 23XL Motor Rework Procedure - bulletin no. C9512
3. 23XL Maintenance Tools - bulletin no. C9607

Procedure:

Notice: the work area must be kept as clean as possible, cover with oil and seal in plastic all parts right after removal. Note: numbers in { } refer to slide numbers as listed in the 23XL Stop Major Workbook, catalog no. 039-292.

The instructions below are for 23XL frame 1 & 2.

1. Disconnect motor cooling line {8} and remove motor end cover {34}.
2. Disconnect leads at the breaker and move the unit mounted starter about 6".

   Note: Free Standing Starter - remove leads at the motor terminals.

3. Remove stator housing {35} and pull motor rotor {37}.
4. Remove slide valve assy. {29,30,31} and set aside.
5. Move the oil separator {39,40} to expose the check valve.
6. Check end clearance using the push-pull method {33}.

7. Note: this step eliminates steps {41-49} as shown in the slides.
   Performing this step will remove the outlet (discharge) casing with screw rotors and bearings as one piece unit, a deviation from the teardown as shown in the 23XL Stop Major Video.
   Set up rigging using eye bolt on the top of the outlet casing.
   Remove bolts from outlet casing. Slide the outlet (discharge) casing about 6 in. (150 mm) and install a nylon sling around the screw rotors. Support the assembly using the eye bolt installed on the top of the outlet casing and nylon sling around the rotors. Install protective sleeve around motor rotor shaft to prevent damage to the roller bearing.

7a. Remove the outlet casing assembly with screw rotors as a single unit. It weights approximately 640 lb (290 kg).

8. Remove the screw rotor casing {52}.

Compressor Reassembly.

9. Install new o-rings (item 3), (item 9) and rotor casing {61}.
10. Note: this step eliminates steps {64-75} as shown in slides.
    Install new o-ring (item 4), (item 9). Rig the outlet casing assembly with male, female screw rotors and bearings as a single unit.
11. Check end clearance using the push-pull method {76}.
12. Install motor rotor {83} and check runout. The bolt torque should not exceed 15 lb-ft (20 nm).

13. Install new o-ring (item 2) and stator {85}.
14. Install motor cover {87} with new o-ring (item 2).
15. Install the slide valve assembly {82} with new o-ring (item 63) and (item 5).
16. Install Oil Separator with new O-rings (item 269) and ring gasket (item 214).
17. To complete the installation install the starter, etc.

Guidelines: Frame 4 chiller only

Use the above instructions with following changes for above steps.

Step 2. Remove the unit mounted starter.

Step 5. Instead of removing the horizontal separator, remove the bolts from suction and discharge flanges. Lift the entire compressor (minus motor and slide valve assy.) and rotate 15 degrees to expose the check valve and set it back on the cooler suction flange and secure it with 4 bolts. Then proceed with above step no. 6.

Rigging weights:

Chiller size Compressor size	Frame 1 & 2 C6		Frame 4 D6	
Components	lb	kg	lb	kg
Motor casing w/stator	536	243	748	340
Motor rotor	69	31	110	50
Slide valve assy.	185	84	250	113
Outlet casing w/ screw rotors	640	290	900	408
Rotor casing	345	157	518	235
Inlet casing	450	204	732	332
Compressor weight	2400	1088	3400	1542
Oil separator	1180	535	2880	1306

Note: for compressor size C2 and C4 use above weights for C6 and for D4 use D6.

Parts:

The following is the list of the major O-rings and gaskets that are required to overhaul the 23XL Screw Compressor. Other internal and external seal parts may be required.

Item	Qty	Fr 1 & 2	Fr. 1 & 2 ssn 2593J	Fr 4	Description
2	2	8TC0114C	8TC0114C	8TD0080C	O-ring, motor casing
3	1	8TC0115C	8TC0115C	8TD0088C	O-ring, rotor casing inlet end
4	1	8TC0116C	8TC0116C	8TD0081C	O-ring, rotor casing outlet end
5	1	8TC0117C	8TC0117C	8TD0082C	O-ring, outlet casing
9	2	8TC0151C	8TC0151C	8TC0151C	O-ring, oil feed
56*	1	8TC0119C	not req.	8TC0119C	O-ring, slide valve casing
63	1	8TC0235C	8TC0235C	8TD0089C	O-ring, slide valve separator plate
64*	1	8TC0120C	8TC0420C	8TD0087C	O-ring, slide valve cover
214	1	19XB55002506	19XB55002506	N/A	Gasket, 4" ring
217	1	N/A	N/A	19XB55002503	Gasket 8" ring compr. suction
218	2	19XB55002502	19XB55002502	N/A	Gasket, 6" ring suction & disch.
269#	1	23XL25003901	KK71EW443	N/A	O-ring, compressor discharge
273	1	N/A	N/A	23XL45001301	Gasket, compressor discharge
275	1	KK71EW228	KK71EW229	N/A	O-ring, motor cooling
282	1	N/A	N/A	KK71EW229	O-ring, motor cooling

*New design slide valve assembly. The separator plate and casing were combined into a one piece unit on compressor built after 9/93.

O-ring groove design change in 5/93.

Contact RCD for other parts and check the kitting system for repair kits.