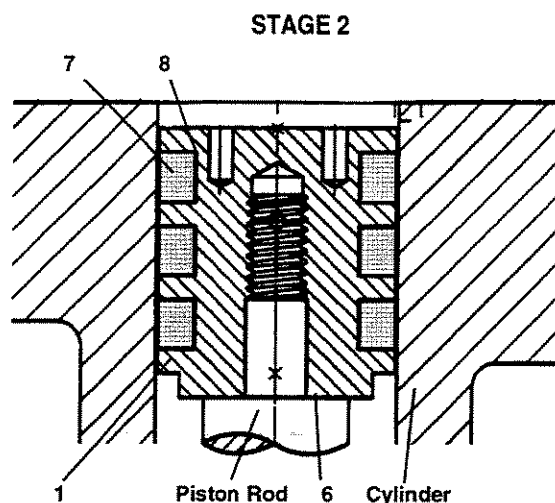
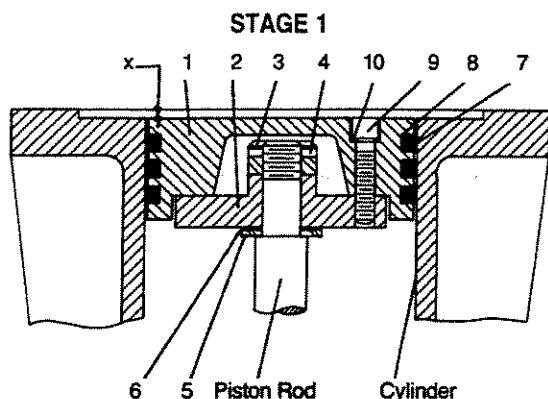


PISTON ASSEMBLIES MODEL FD151

SERVICE PAGE	MANUAL E201
AUGUST FIRST	1999 ISSUE



TWO-STAGE		MODEL FD151			
Piston Assembly No.		1981-1X		5201-X	
Piston Diameter		2-1/2" (6.35 cm)		Stage 1	1-1/4" (3.17 cm) Stage 2
Ref. No.	Part Name	Part No.	Qty./Piston	Part No.	Qty./Piston
1.	Head, Iron	1981-1	1	5201	1
2.	Piston Platform	1982-1	1		
3.	Locknut	1482	1 -Torque to		
4.	Lock Pin	1483	1 60 Ft. Lbs.		
5.	Thrust Washer	1527	1		
6.	Shim Washer, Thick	1528	As	1378	As
	Shim Washer, Thin	1528-1	Req.		Req.
7.	Piston Ring	1771	3	3572	3
8.	Ring Expander	1774	3	4209	3
9.	Screw, Sco. Hd.	7002-008 NC125A	6 -Torque to	*	
10.	Lock Washer	7207-008A	6 36 In. Lbs.		

PISTON CLEARANCE (COLD)

MODEL	"X" INCHES (MILLIMETER)	
	MINIMUM	MAXIMUM
FD151	0.025 (0.64)	0.049 (1.24)

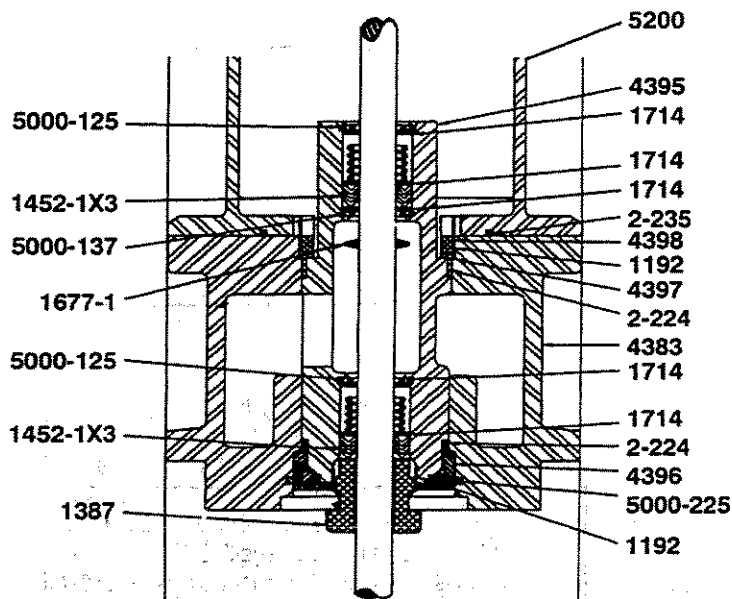
* Assemble piston head to piston rod using wrench no. 5207-X and piston alignment tool no. 5267-X. Torque piston to 15 Ft. Lbs.

Caution: Always relieve pressure in the units before attempting any repairs.

DISTANCE PIECE DETAILS MODEL FD151 COMPRESSOR

SERVICE PAGE	MANUAL E272-1
AUGUST FIRST	1999 ISSUE

Packing Spec. A



PART NO.	PART NAME
1192	Locking Device TFE 1/8" dia. x 1/4" long
1387	Adjustment Screw
1452-1	Female Packing Ring
1453-1	Male Packing Ring
1454	Packing Ring
1628	Packing Spring
1677-1	Oil Deflector Ring
1714	Packing Box Washer
4383	Crosshead Guide
4395	Packing Cartridge
4396	Cartridge Plate
4397	Spacer
4398	Cartridge Holddown Screw
5200	Cylinder (FD151)
1183-6	Adapter Plate
5000-125	Retainer Ring
5000-225	Retainer Ring
2-224J	O-Ring - H.D. Viton
2-235J	O-Ring - H.D. Viton
4005	Packing Inst. Tool - Not Shown

ASSEMBLY NO.	PART NAME
1132-X	Crosshead-Piston Rod Assembly
1132-X3	Quantity 1 (FD151)
1132-X4	Quantity 1 (FD151 - 2nd Stage)
1452-1X3	Packing Set with 1452-1, 1453-1, 1454 (5), 1628, 1714
1452-2X3	Packing Set - Alloy - (Optional)
4383-X	Crosshead Guide Assembly with 4383, 4396, 5000-225

Use cone 4005 for installation of packing.

Replace the same quantity of 1454 packing rings that were removed.

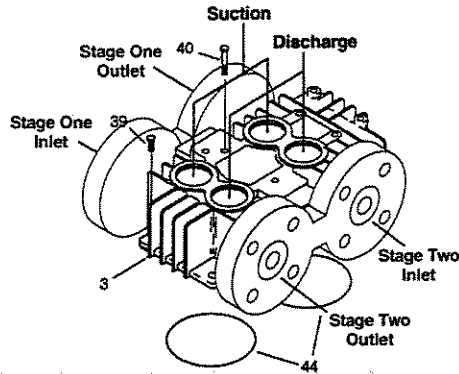
For O-ring Material Coding See Page A500.

Caution: Always relieve pressure in the unit before attempting any repairs.

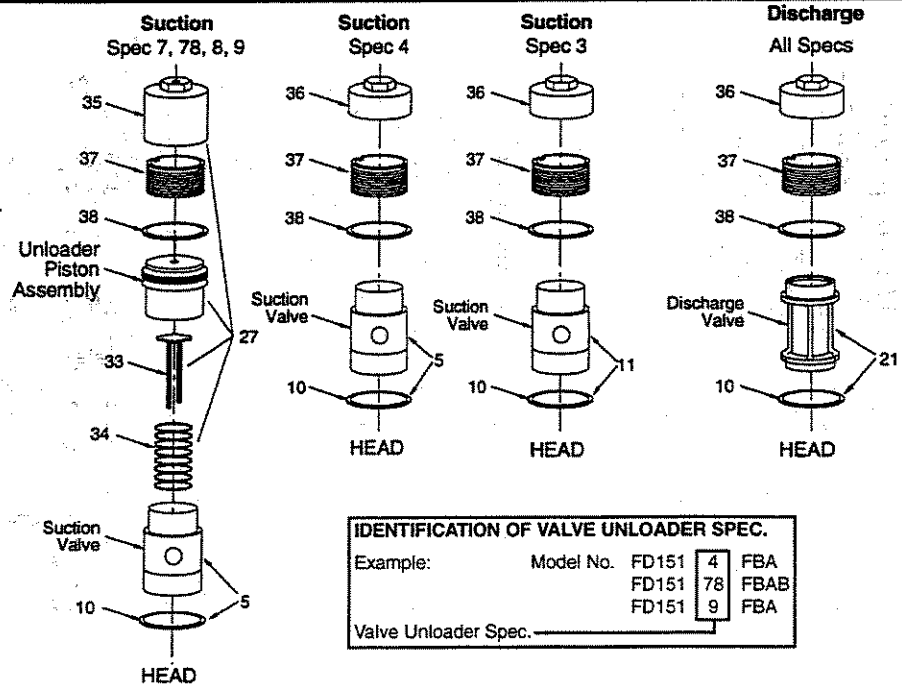
HEAD ASSEMBLY DETAILS FD151 ALL MODELS

SERVICE MANUAL
PAGE E302
AUGUST 1999
FIRST ISSUE

HEAD

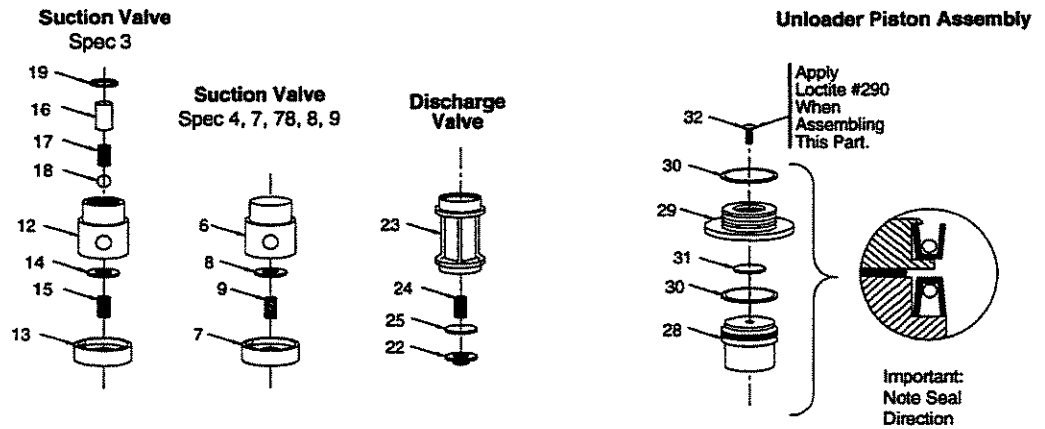


VALVE REMOVAL



IDENTIFICATION OF VALVE UNLOADER SPEC.			
Example:	Model No.	FD151	4 FBA
		FD151	78 FBAB
		FD151	9 FBA
	Valve Unloader Spec.		

VALVE DETAILS



HEAD ASSEMBLY DETAILS
FD151
ALL MODELS

Refer to diagram on previous page.

REF. NO.	PART NO.	PART NAME
3.	4371-3C	Head Model (ANSI Flange) Coated
5.	3483-X	Suction Valve Assy, Spec 4,7,78,8,9
(b)	3483-X1	Same as above but with Copper Gaskets
(b)	3483-X2	Same as above but with Iron-Lead Gaskets
6.	3483	Suction Valve Seat
7.	3484	Suction Valve Bumper
8.	3972	Suction Valve Plate
9.	4009	Suction Spring
10.	2717	Valve Gasket, Alum.
(b)	2717-1	Valve Gasket, Copper
(b)	2717-2	Valve Gasket, Iron-Lead
11.	3483-4X	Suction Valve Assy, Spec 3
(b)	3483-4X1	Same as above but with Copper Gaskets
(b)	3483-4X2	Same as above but with Iron-Lead Gaskets
13.	3484	Suction Valve Bumper
14.	3972	Suction Valve Plate
15.	4009	Suction Spring
16.	3977	Suction Valve Relief Housing
17.	1411	Spring
18.	1410	Ball
19.	5000-77	Retainer Ring
21.	3485-X	Discharge Valve Assy
(b)	3485-X1	Same as above but with Copper Gaskets
(b)	3485-X2	Same as above but with Iron-Lead Gaskets
22.	3485	Discharge Valve Seat
23.	3486	Discharge Valve Bumper
24.	4008	Discharge Spring
25.	3973	Discharge Valve Plate
27.	3919-X	Unloader Assy
28.	3919	Unloader Piston
29.	2857	Piston Cap
30.	2619-X	Piston Seat Assy
31.	2858	Unloader Piston Cap Gasket
32.	1910	Bolt 1/4-20 x 1/2 Soc. Button Hd.
33.	3975	Unloader Actuator
34.	3976	Unloader Spring
35.	2598-1	Unloader Cap
36.	2714-1C	Valve Cap - Coated
37.	2715C	Holddown Screw - Coated
(c) 38.	2-031J	O-ring (H.D. Viton)
39.	7001-050	
	NC100A	Bolt, 1/2" x 13 x 1" Gr. 5 Hex Hd.
40.	7001-050	
	NC300A	Center Head Bolt (4)
41.	2732	Gasket
(c) 44.	2-236J	O-ring (H.D. Viton)

Note: When ordering parts use
"PART NO." not "REF NO."

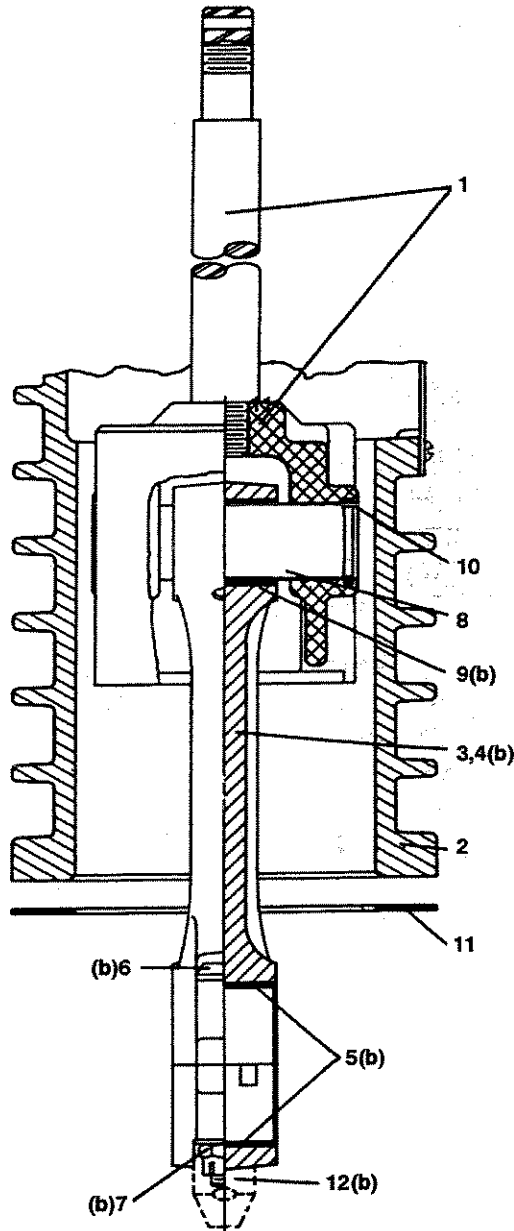
CAUTION: Always Relieve Pressure In The Unit
Before Attempting Any Repairs.

NOTES:

- (a) Not Shown.
- (b) Optional.
- (c) For O-ring Material Coding see Page A500.

CONNECTING ROD AND CROSSHEAD ASSEMBLY DETAILS
ALL MODELS
ALL SPECIFICATIONS

SERVICE	MANUAL
PAGE	E350J
MAY	1997
SUPERSEDES	E350I



REFER TO PARTS LIST
ON BACK SIDE OF
THIS SHEET.

**CAUTION: ALWAYS RELIEVE PRESSURE IN THE
UNIT BEFORE ATTEMPTING ANY REPAIRS.**

CONNECTING ROD AND CROSSHEAD ASSEMBLY DETAILS
 ALL MODELS
 ALL SPECIFICATIONS

MODEL NUMBER	91	A91 D91	T91	191	A191 D191 FO151	T191	291	A291 D291	T291	391 W391 491	A391 W391 D391 WD391 A491 D491-3 D491	T391 T491-3 T491	A590 WA590 D590 WD590 A691 WAG90 D691 D691-4 WD690 WD690-4	SPEC. K.P. ONLY	SPEC. K.P. ONLY	SPEC. M ONLY	SPEC. M ONLY	590 W590 W690 691	D791 D8091
NO.	DESCRIPTION																		
1.	1132-X2	1132-X3	1132-X7 1132-X9 (f)	1132-X1 (g) 1132-X2	1132-X3 1132-X4	1132-X8 (g) 1132-X9 (f) 1132-X10 (f)(g)	1132-X2 (f)	1132-X3 1132-X5	1132-X7 1132-X9 (f)	1384-X 2785(f) 1366(f)	1384-X1 1384-X4 (f)	1384-X2 1384-X3 (f)	1717-X	SPEC. K.P. ONLY	SPEC. K.P. ONLY	SPEC. M ONLY	SPEC. M ONLY	3544-X5 3544-X4	3544-X3
2.	2240	2240	4940-X	4393	4383	4383-X	4393	4383-X	4383-X	2773-X	2773-X	2773-X	1716-X	SPEC. K.P. ONLY	SPEC. K.P. ONLY	SPEC. M ONLY	SPEC. M ONLY	2405-X	2405-1
3.	1889-1X	1889-1X	1889-1X	1889-X	1889-X	1889-X	1889-X	1889-X	1889-X	1490-X	1490-X	1490-X	1720-X	SPEC. K.P. ONLY	SPEC. K.P. ONLY	SPEC. M ONLY	SPEC. M ONLY	3785-X1	3785-X
4.	1889-1	1889-1	1889-1	1889	1889	1889	1889	1889	1889	1490	1490	1490	1720	SPEC. K.P. ONLY	SPEC. K.P. ONLY	SPEC. M ONLY	SPEC. M ONLY	3785	3785
5.	1367	1367	1367	1367	1367	1367	1367	1367	1367	1491	1491	1491	1719	SPEC. K.P. ONLY	SPEC. K.P. ONLY	SPEC. M ONLY	SPEC. M ONLY	3542	3542
6.	1599	1599	1599	1599	1599	1599	1599	1599	1599	1492	1492	1492	1726	SPEC. K.P. ONLY	SPEC. K.P. ONLY	SPEC. M ONLY	SPEC. M ONLY	1726	1726
7.	1600(c)	1600(c)	1600(c)	1600(c)	1600(c)	1600	1600(c)	1600(c)	1600	1493(d)	1493(d)	1493(d)	1727(e)	SPEC. K.P. ONLY	SPEC. K.P. ONLY	SPEC. M ONLY	SPEC. M ONLY	1727(e)	1727(e)
8.	2505	2505	2505	2505	2505	2505	2505	2505	2505	1496	1496	1496	1718	SPEC. K.P. ONLY	SPEC. K.P. ONLY	SPEC. M ONLY	SPEC. M ONLY	3540	3540
9.	1846-X(a)	1846-X(a)	1846-X(a)	1846-X(a)	1846-X(a)	1846-X(a)	1846-X(a)	1846-X(a)	1846-X(a)	1495-X(a)	1495-X(a)	1495-X(a)	1495-X(a)	SPEC. K.P. ONLY	SPEC. K.P. ONLY	SPEC. M ONLY	SPEC. M ONLY	3541-X(k)	3541-X(k)
10.	1498	1498	1498	1498	1498	1498	1498	1498	1498	1498	1498	1498	1498	SPEC. K.P. ONLY	SPEC. K.P. ONLY	SPEC. M ONLY	SPEC. M ONLY	3590	3590
11.	2526	2526	2526	2702	2702	2702	2702	2702	2702	1489	1489	1489	1761	SPEC. K.P. ONLY	SPEC. K.P. ONLY	SPEC. M ONLY	SPEC. M ONLY	1761	1761
12.	2011	2011	2011	2011	2011	2011	2011	2011	2011	1761	1761	1761	1761	SPEC. K.P. ONLY	SPEC. K.P. ONLY	SPEC. M ONLY	SPEC. M ONLY	1761	1761

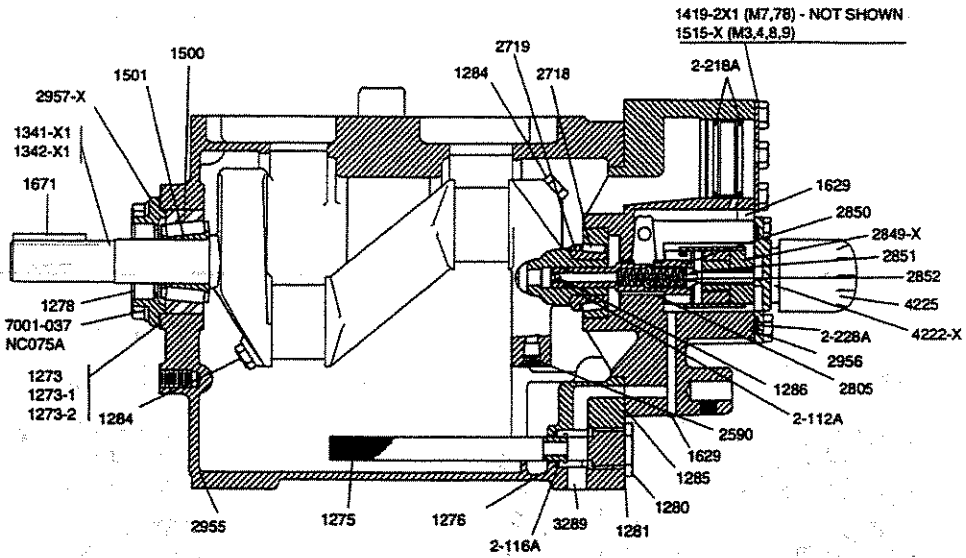
NOTES:
 (a) Must be rebored after replacing (0.8754/0.8751 Dia.)
 (b) Included with Connecting Rod Assembly
 (c) Torque Connecting Rod Nut to 28 ft.lbs.
 (d) Torque Connecting Rod Nut to 30 ft.lbs.
 (e) Torque Connecting Rod Nut to 40 ft.lbs.
 (f) Optional Chrome Oxide Piston Rods Only
 (g) Second Stage (Smaller Piston)
 (h) S/N XC30633 and Later
 (i) Prior to S/N XC30633
 (k) Must be rebored after replacing (1.1256/1.1252 Dia.)
 Never attempt to separate the Piston Rod and Crosshead. When repair becomes necessary the entire Crosshead Assembly must be replaced.

**CRANKCASE DETAILS
ALL MODELS 151, 191, 291
COMPRESSORS
CRANKCASE SPECIFICATION: M**

SERVICE PAGE	MANUAL E402G
DECEMBER 1999	
SUPERSEDES	E402F

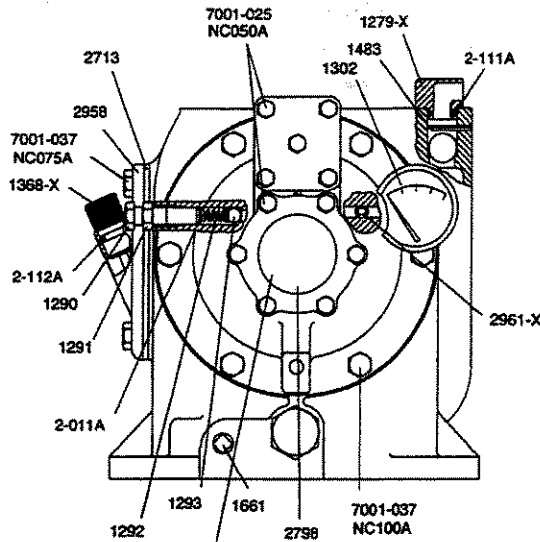
CRANKCASE DETAILS - FD151

IDENTIFICATION OF VALVE/UNLOADER SPEC.
 Example: Model No. FD151AM 4 FBA
 Valve/Unloader Spec. _____



**Crankcase Assembly No. 2955-X1 (M3, 4, 8, 9)
Crankcase Assembly No. 2955-X2 (M7, 78)**

**2549-X1 Flywheel Assembly Not Shown (16")
Optional Flywheel Assembly 3271-X1 Not Shown (14")**



2848-X USED ON ALL COMPRESSORS
WITHOUT OIL FILTER ASSEMBLY

Caution: Always relieve pressure in the units
before attempting any repairs.

CRANKCASE DETAILS
ALL MODELS 151, 191, 291
COMPRESSORS
CRANKCASE SPECIFICATION: M

PART NO.	PART NAME
1273	Bearing Adjustment Shim (0.005")
1273-1	Bearing Adjustment Shim (0.007")
1273-2	Bearing Adjustment Shim (0.020")
1275	Oil Filter Screen
1276	Filter Screen Washer
1278	Oil Seal
1279	Breather Cap
1280	Filter Screw
1281	Filter Screen Screw Gasket
1284	Crankshaft Orifice (2)
1285	Bearing Carrier Gasket
1286	Pump Shaft Drive Pin
1290	Relief Valve Adjusting Screw
1291	Adjusting Screw Locknut
1292	Relief Valve Spring
1293	Relief Valve Ball
1302	Oil Pressure Gauge
1368-X	Oil Bayonet
1483	Piston Lock Pin - 1/8 x 1"
1500	Bearing Cup
1501	Bearing Cone
1629	Pipe Plug - 1/16 NPT, Flush Seal
1661	Pipe Plug - 3/8 NPT
1671	Flywheel Key
2590	Pipe Plug - 1/8 NPT, Flush Seal
2713	Crankcase Inspection Plate Gasket
2718	Bearing Cup
2719	Bearing Cone
2796	Breather Ball
2798	Pump Cover Pin
2805	Pump Shaft Bushing
2848-X	Pump Cover (Includes Pin)
2849-X	Oil Pump Assembly (Individual pump parts not available)
2850	Pump Shaft Adapter
2851	Spring Guide
2852	Oil Pump Spring
2955	Crankcase
2956	Bearing Carrier
2957	Bearing Cover
2958	Crankcase Inspection Plate
3289	Pipe Plug - 1/4 NPT, Flush Seal
4222-X	Oil Filter Assembly
4225	Filter
2-011A	O-Ring (Relief Valve Adj. Screw)
2-111A	O-Ring (Breather Cap)
2-112A	O-Ring (Oil Bayonet)
2-112A	O-Ring (Pump Shaft)
2-116A	O-Ring (Filter Screen)
2-218A	O-Ring (Closure Body) (2 Required) (Spec 3, 4, 8, 9 Only)
2-228A	O-Ring (Pump Cover)
7001-025 NC050A	Bolt, 1/4-20 x 1/2, Hex Head
7001-037 NC075A	Bolt, 3/8-16 x 3/4, Hex Head
7001-037 NC100A	Bolt, 3/8-16 x 1, Hex Head

ASSEMBLY NO.	ASSEMBLY NAME
1279-X	Breather Cap Assembly with 1279, 2-111A
1341 -X1	Crankshaft Assembly with 1284 (2), 1286, 1341, 1501, 2590, 2719
(a) 1342-X1	Extended Crankshaft Assembly with 1284 (2), 1286, 1342, 1501, 2590, 2719
1368-X1	Oil Bayonet Assembly with 1368-X, 2-112A
1419-2X1	Hydraulic Unloader Assembly (Up to 200 psi) (Spec 7, 78 Only)
(a) 1419-2X2	Hydraulic Unloader Assembly (200 psi & Above) (Spec 7, 78 Only)
1515-X	Closure Cap Assembly including 2-218A (2) (Spec 3, 4, 8, 9 Only)
2549-X1	Flywheel Assembly, 16" O.D. 3 Groove with 2549 and 3218 (Not part of Crankcase Assembly) (Not Shown)
2956-X	Bearing Carrier Assembly with 1285, 1290, 1291, 1292, 1293, 1515-X, 2718, 2805, 2806 (2), 2848-X, 2849-X, 2850, 2851, 2852, 2956, 2961 -X, 2-011A, 2-112A, 2-228A.
2957-X	Bearing Cover Assembly with 2957 and 1278
2961 -X	Air Release Valve Assembly with 2961, 2962, 2963
(a) 3271-X1	Flywheel Assembly, 14" O.D. 2 Groove with 3218 and 3271 (Not part of Crankcase Assembly) (Not Shown)
4222-X	Oil Filter Assembly with 4222, 4225, 2798 (Standard on All Models Starting January 1, 1993)

NOTES:

(a) Optional Equipment

Crankcase Capacity: 1.5 Quarts (1.4 Liters)

Caution: Always relieve pressure in the unit before attempting any repairs.

Bill of Materials



Equipment	Part No.	Qty	Description
3206-X1J	2-236J	2	O-RING, VITON - HIGH PRESSURE
	1285	1	BEARING CARRIER GASKET - 191/2
	1651	1	INSPECTION PLATE GASKET - 191/
	1771	3	PISTON RING-TEFLON - 2-1/2"
	1774	3	RING EXPANDER - 2-1/2", 2-3/4"
	2-031J	4	O-RING, VITON - HIGH PRESSURE
	2-224J	4	O-RING, VITON - HIGH PRESSURE
	1281	1	FILTER SCREEN SCREW GASKET
	2-235J	2	O-RING, VITON - HIGH PRESSURE
	P1452-1X3	4	PACKING SET-TEFLON - 'D' STYLE
	2702	1	CRANKCASE GASKET - 191/291
	2713	1	CRANKCASE INSPECTION PLATE GAS
	2717	4	VALVE GASKET, ALUMINUM - 91-29
	3483-5X2	2	SUCTION VALVE ASSY, IRON-LEAD,
	3485-X2	2	DISCHARGE VALVE ASSY, IRON-LEA
	4209	3	RING EXPANDER - 1-1/4"
	5297	3	PISTON RING-TEFLON - 1-1/4"
	2-228A	1	O-RING, BUNA N