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**Series 20**

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**Heavy Duty**

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**Variable Motors**

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**Service Parts Manual**

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**BLN-2-41626**

**February, 1988**



# FOR ALL 21-27 SERIES VARIABLE DISPLACEMENT MOTORS

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## **SERVICE PARTS IDENTIFICATION**

THE FOLLOWING INFORMATION AND PROCEDURE IS USED TO IDENTIFY THE ITEM NUMBER, PART NUMBER AND PART NAME OF THE PARTS INCLUDED IN 21-27 SERIES VARIABLE DISPLACEMENT MOTORS.

THE PARTS LISTED INCLUDE ALL PARTS WHICH MAY BE USED WHEN PERFORMING EITHER "MINOR REPAIRS" OR "MAJOR REPAIRS" ON 21-27 SERIES VARIABLE DISPLACEMENT MOTORS.

### **MODEL TO GROUP CROSS REFERENCE**

THE SUNDSTRAND-SAUER MODEL NUMBER IS NECESSARY FOR IDENTIFICATION OF THE SPECIFIC UNIT. THE MODEL NUMBER MUST BE USED IN CONJUNCTION WITH THE GROUP AND OPTION NUMBER WHEN ORDERING PARTS.

### **SERIAL NUMBER**

THE SUNDSTRAND-SAUER SERIAL NUMBER CAN BE USED TO IDENTIFY DESIGN CONFIGURATION CHANGES (PRODUCT IMPROVEMENTS, ETC.). CHANGES WHICH AFFECT INTERCHANGEABILITY OF PARTS ARE IDENTIFIED WITH A MANUFACTURING DATE. THE SERIAL NUMBER PROVIDES SUNDSTRAND-SAUER WITH A TOOL TO FURTHER IDENTIFY A UNIT AND SHOULD BE INCLUDED IN COMMUNICATIONS REGARDING THE ORDERING OF SERVICE PARTS.

### **NAME PLATE**

EACH MOTOR WILL HAVE A NAME PLATE AFFIXED TO THE HOUSING. THE NAME PLATE WILL INCLUDE THE MODEL NUMBER AND SERIAL NUMBER.

**PROCEDURE TO IDENTIFY A GIVEN PART/PART NUMBER  
COMMON PARTS AND OPTIONS**

- STEP 1. LOCATE THE MODEL NUMBER ON THE NAME PLATE AFFIXED TO THE HOUSING.
- STEP 2. MATCH THE MODEL NUMBER ON THE NAME PLATE TO THAT PORTION OF THE MODEL NUMBER IN THE "MODEL TO GROUP CROSS REFERENCE".
- STEP 3. REFERRING TO THE VARIABLE MOTOR DRAWING FORM NO. 2-41623 ON PAGE 8, LOCATE THE SERVICE PART AND CORRESPONDING PART REFERENCE NUMBER DESIRED.
- STEP 4. USE THE SERVICE PART REFERENCE NUMBER FROM THE DRAWING AND REFER TO THE "COMMON PARTS" OR "OPTIONS". LOCATE THE HEADING "PART REF", MOVE DOWN THE PAGE TO FIND THAT REFERENCE NUMBER. THEN MOVE ACROSS THE PAGE TO THE PART NUMBER, DESCRIPTION AND QUANTITY PER MODEL.
- STEP 5. IF THE PART REFERENCE NUMBER IS FOUND IN "OPTIONS" AND IS LISTED MORE THAN ONCE IN THAT GROUP REFER TO "MODEL TO GROUP CROSS REFERENCE". LOCATE YOUR MODEL NUMBER AND MOVE ACROSS THE PAGE TO THE OPTION NUMBER FOUND DIRECTLY UNDER THAT GROUP NAME. CROSS REFERENCE THIS OPTION NUMBER TO THE PART REFERENCE NUMBER IN THE GROUP. MOVE ACROSS THE PAGE TO PART NUMBER, DESCRIPTION AND QUANTITY PER MODEL.

**PROCEDURE TO IDENTIFY A GIVEN PART/PART NUMBER  
MANIFOLD/CONTROL KITS**

- STEP 1. MATCH THE MODEL NUMBER ON THE NAME PLATE TO THAT PORTION OF THE MODEL NUMBER IN THE "MODEL TO GROUP CROSS REFERENCE".
- STEP 2. MOVE ACROSS THE PAGE TO THE MANIFOLD/CONTROL FORM NO. SEE "TABLE OF CONTENTS" TO FIND THE PAGE NUMBER OF A FORM NO.
- STEP 3. WHEN YOU HAVE LOCATED THE DRAWING AND PARTS LIST FOR THE APPROPRIATE FORM NO., ENTER THE PORTION OF YOUR MODEL NUMBER REQUIRED IN THE BLANKS PROVIDED. REFER TO PARTS DRAWING AND PARTS LIST TO LOCATE THE SERVICE PART AND CORRESPONDING PART REFERENCE NUMBER DESIRED.

**SUNDSTRAND-SAUER  
STANDARD MODEL SPECIFICATIONS**

**21 SERIES VARIABLE DISPLACEMENT MOTOR**

<b>SWASHPLATE DISPLACEMENTS</b> CUBIC IN/REV 18 DEG. = 3.15	<b>MANIFOLD ORIFICE</b> .390	<b>MOUNTING FLANGE</b> SAE C	<b>CASE PORT SAE O-RING BOSS</b> 7/8-14 UNF 2B	<b>END CAP MAIN PORT</b> A = 1-3000 B = 1-6000
	<b>DISP CONTROL ORIFICE</b> .042			<b>OUTLINE DRAWING</b> 21-5402

**DRIVE SHAFT INFORMATION**

C = 14 T. SPLINE 1.2293 MAX. O.D. - 12/24 P  
 F = 21 T. SPLINE 1.3585 MAX. O.D. - 16/32 P

MODEL	SHAFT	END CAP	MANIFOLD	CONTROL	PISTON	MIN. ANGLE RANGE	COMMENTS
21-							
4501NJ-	C	A	NONE	SLAVE	FILLED	6.5	END CAP NOT DRILLED
4502AJ-	C	A	STD	SLAVE	FILLED	0.0	0.0 MIN. ANGLE LINK
4503AA-	C	A	STD	MDC	FILLED	6.5-18	
4504BJ-	C	A	RTRY BYPASS	SLAVE	FILLED	6.5-18	

**22 SERIES VARIABLE DISPLACEMENT MOTOR**

<b>SWASHPLATE DISPLACEMENTS</b> CUBIC IN/REV 18 DEG. = 4.26	<b>MANIFOLD ORIFICE</b> .390	<b>MOUNTING FLANGE</b> SAE C	<b>CASE PORT SAE O-RING BOSS</b> 7/8-14 UNF 2B	<b>END CAP MAIN PORT</b> A = 1-3000 B = 1-6000
	<b>DISP CONTROL ORIFICE</b> .042			<b>OUTLINE DRAWING</b> 22-5402

**DRIVE SHAFT INFORMATION**

C = 14 T. SPLINE 1.2293 MAX. O.D. - 12/24 P  
 F = 21 T. SPLINE 1.3585 MAX. O.D. - 16/32 P

MODEL	SHAFT	END CAP	MANIFOLD	CONTROL	PISTON	MIN. ANGLE RANGE	COMMENTS
22-							
4501NJ-	C	A	NONE	SLAVE	FILLED	6.5	END CAP NOT DRILLED
4502NJ-	C	A	NONE	SLAVE	FILLED	9.0	END CAP NOT DRILLED
4503NJ-	C	A	NONE	SLAVE	FILLED	0.0	END CAP NOT DRILLED
4504AA-	C	A	STD	MDC	FILLED	6.5-18	
4504AJ-	C	A	STD	SLAVE	FILLED	6.5-18	
4505AJ-	C	B	STD	SLAVE	WELDED	6.5-18	
4506AA-	F	A	STD	MDC	FILLED	6.5-18	

**SUNDSTRAND-SAUER  
STANDARD MODEL SPECIFICATIONS**

**23 SERIES VARIABLE DISPLACEMENT MOTOR**

<b>SWASHPLATE DISPLACEMENTS</b> CUBIC IN/REV 18 DEG. = 5.43	<b>MANIFOLD ORIFICE</b> .390	<b>MOUNTING FLANGE</b> SAE C	<b>CASE PORT SAE O-RING BOSS</b> 7/8-14 UNF 2B	<b>END CAP MAIN PORT</b> A = 1-3000 B = 1-6000
	<b>DISP CONTROL ORIFICE</b> .042			<b>OUTLINE DRAWING</b> 23-5402

**DRIVE SHAFT INFORMATION**

C = 14 T. SPLINE 1.2293 MAX. O.D. - 12/24 P  
 F = 21 T. SPLINE 1.3585 MAX. O.D. - 16/32 P  
 H = 23 T. SPLINE 1.4835 MAX. O.D. - 16/32 P 2.05 LONG

MODEL	SHAFT	END CAP	MANIFOLD	CONTROL	PISTON	MIN. ANGLE RANGE	COMMENTS
23-							
4501AA-	F	A	STD	MDC	FILLED	7.0-18	
4502AL-	F	B	STD	EDC	WELDED	7.0-18	
4502HR-	F	B	PILOT/STD	HDC	WELDED	7.0-18	TWO(2) .025 CONTROL ORIFICES -(HDC WITH NOPILOT SHUTTLE SPOOL)
4503AJ-	C	A	STD	SLAVE	WELDED	7.0-18	
4504AA-	C	A	STD	MDC	FILLED	7.0-18	
4505AA-	H	A	STD	MDC	FILLED	7.0-18	

**24 SERIES VARIABLE DISPLACEMENT MOTOR**

<b>SWASHPLATE DISPLACEMENTS</b> CUBIC IN/REV 18 DEG. = 7.24	<b>MANIFOLD ORIFICE</b> .390	<b>MOUNTING FLANGE</b> SAE D	<b>CASE PORT SAE O-RING BOSS</b> 7/8-14 UNF 2B	<b>END CAP MAIN PORT</b> A = 1-3000 B = 1-6000
	<b>DISP CONTROL ORIFICE</b> .042			<b>OUTLINE DRAWING</b> 24-5402

**DRIVE SHAFT INFORMATION**

A = 13 T. SPLINE 1.7210 MAX. O.D. - 8/16 P  
 J = 27 T. SPLINE 1.7335 MAX. O.D. - 16/32 P

MODEL	SHAFT	END CAP	MANIFOLD	CONTROL	PISTON	MIN. ANGLE RANGE	COMMENTS
24-							
4501AA-	A	B	STD	MDC	WELDED	7.0-18	NO CONTROL ORIFICE
4502CJ-	J	A	COVER	SLAVE	WELDED	7.0-18	



## SUNDSTRAND-SAUER STANDARD MODEL SPECIFICATIONS

### 25 SERIES VARIABLE DISPLACEMENT MOTOR

SWASHPLATE DISPLACEMENTS CUBIC IN/REV 18 DEG. = 10.12	MANIFOLD ORIFICE .390	MOUNTING FLANGE SAE E	CASE PORT SAE O-RING BOSS 1-7/8-12 UN 2B	END CAP MAIN PORT D = 1-1/2-6000
	DISP CONTROL ORIFICE .042			OUTLINE DRAWING 25-5402

#### DRIVE SHAFT INFORMATION

A = 13 T. SPLINE      1.7210 MAX. O.D. - 8/16 P  
 J = 27 T. SPLINE      1.7335 MAX. O.D. - 16/32 P  
 K = STRAIGHT KEY      1.7500 MAX. O.D. - 3/8 X 3/8 X 2-1/2

MODEL	SHAFT	END CAP	MANIFOLD	CONTROL	PISTON	MIN. ANGLE RANGE	COMMENTS
25- 4501AJ-	A	D	STD	SLAVE	WELDED	7.0-18	

### 26 SERIES VARIABLE DISPLACEMENT MOTOR

SWASHPLATE DISPLACEMENTS CUBIC IN/REV 18 DEG. = 13.87	MANIFOLD ORIFICE .390	MOUNTING FLANGE SAE E	CASE PORT SAE O-RING BOSS 1-7/8-12 UN 2B	END CAP MAIN PORT D = 1-1/2-6000
	DISP CONTROL ORIFICE .042			OUTLINE DRAWING 26-5402

#### DRIVE SHAFT INFORMATION

A = 13 T. SPLINE      1.7210 MAX. O.D. - 8/16 P

MODEL	SHAFT	END CAP	MANIFOLD	CONTROL	PISTON	MIN. ANGLE RANGE	COMMENTS
26- 4501AJ-	A	D	STD	SLAVE	WELDED	8.0-18	

### 27 SERIES VARIABLE DISPLACEMENT MOTOR

SWASHPLATE DISPLACEMENTS CUBIC IN/REV 18 DEG. = 20.36	MANIFOLD ORIFICE .390	MOUNTING FLANGE SAE F	CASE PORT SAE O-RING BOSS 1-7/8-12 UN 2B	END CAP MAIN PORT D = 1-1/2-6000
	DISP CONTROL ORIFICE .042			OUTLINE DRAWING 27-5402

#### DRIVE SHAFT INFORMATION

K = STRAIGHT KEY      2.5000 MAX. O.D. - 5/8 X 5/8 X 4  
 M = 15 T. SPLINE      1.9710 MAX. O.D. - 8/16 P  
 N = 40 T. SPLINE      2.5460 MAX. O.D. - 16/32

MODEL	SHAFT	END CAP	MANIFOLD	CONTROL	PISTON	MIN. ANGLE RANGE	COMMENTS
27- 4501AJ-	M	D	STD	SLAVE	WELDED	7.0-18	

## 21 - 27 SERIES VARIABLE MOTOR LETTER DESIGNATION

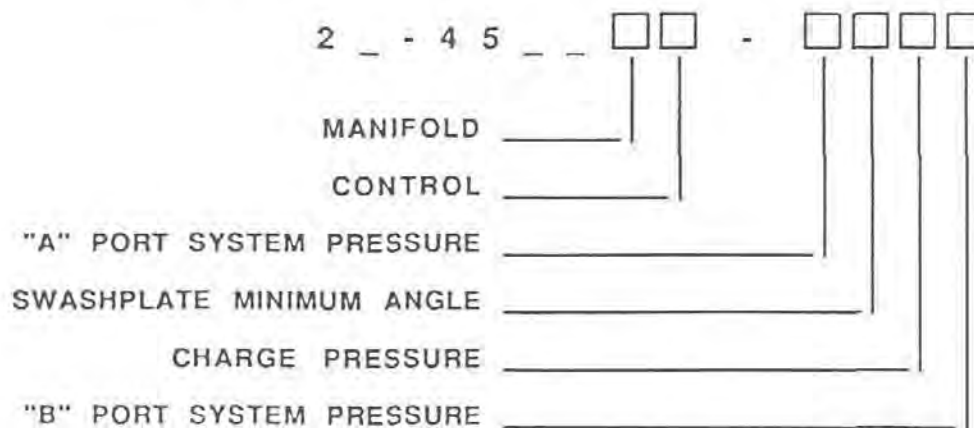


TABLE I

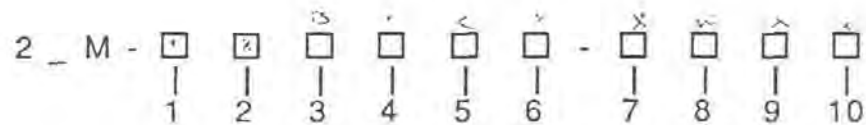
CODE	MANIFOLD	CONTROL	H P RELIEF	MIN ANGLE	CHG PRESS
A	STANDARD	MDC	1000 PSI	-	
B	ROTARY BYPASS		1500 PSI	17 DEG	160/180
C	COVER PLATE		2000 PSI	16 DEG	180/200
D	PILOT OP. RELIEFS		2500 PSI	15 DEG	200/220
E	SHUTTLE BLOCKED	MDC/ANNULAR	3000 PSI	14 DEG	220/240
F			3500 PSI	13 DEG	240/260
G			4000 PSI	12 DEG	260/280
H	STD/PILOT RELIEFS		4500 PSI	11 DEG	280/300
J		SLAVE PLATE	5000 PSI	10 DEG	300/320
K		SHIPPING PLAT	5500 PSI	9 DEG	320/340
L		EDC	6000 PSI@	8 DEG	340/360
M			6500 PSI@	7 DEG	360/380
N	NOT DRILLED	EDC/ANNULAR	7000 PSI@	6 DEG	380/400
P				5 DEG	
R		HDC		4 DEG	
S				3 DEG	
T		HDC/ANNULAR		2 DEG	
U				1 DEG	
W				0 DEG	PILOT OPER
X	NONE	NONE	NONE		NONE
Y				6.5 DEG	
Z	SPECIAL	SPECIAL	SPECIAL	-1 DEG	SPECIAL

@ = APPLICATION REVIEW REQUIRED

CHANGING THE MOTOR MINIMUM ANGLE DOES NOT NECESSITATE CREATING A NON-STANDARD MODEL IF THE DESIRED ANGLE FALLS INSIDE THE RANGE SPECIFIED FOR THE STANDARD MODEL (I.E., IT CAN BE OBTAINED BY ADJUSTING THE MOTOR STROKE LIMITER). IF THE DESIRED ANGLE FALLS OUTSIDE THE RANGE SPECIFIED BY THE STANDARD MODEL, IT CAN ONLY BE OBTAINED BY CHANGING A SWASHPLATE LINK, AND THUS REQUIRES A NON-STANDARD MODEL.

CODE "Z" - CONTACT FACTORY OR DISTRIBUTOR (SERIAL NUMBER) FOR DETAILED SPECIAL PART INFORMATION

## 21 - 27 SERIES NON-STANDARD VARIABLE MOTOR LETTER DESIGNATION



- |                  |                                    |
|------------------|------------------------------------|
| 1. MISCELLANEOUS | 6. CONTROL*                        |
| 2. MISCELLANEOUS | 7. "A" PORT HIGH PRESSURE RELIEF*  |
| 3. END CAP       | 8. MANIFOLD ORIFICE*               |
| 4. SHAFT         | 9. CHARGE PRESSURE RELIEF SETTING* |
| 5. MANIFOLD*     | 10. "B" PORT HIGH PRESSURE RELIEF* |

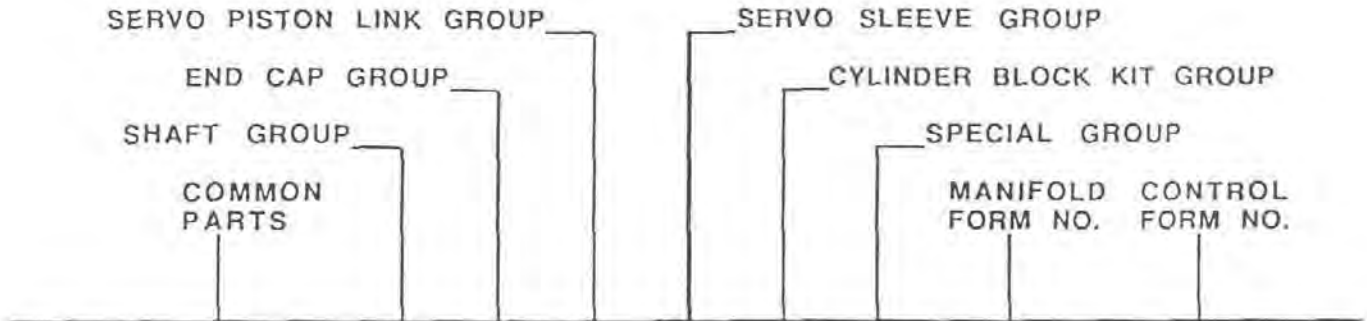
TABLE II

CODE	MISCELLANEOUS	MISCELLANEOUS	END CAP	SHAFT
A	.070 MANIFOLD ORIFICE	.036 CONTROL ORIFICE	1" - 3000	13 T.
B			1" - 6000	13T.TAPERED RT
C				14 T.
D	WELDED/BI-METAL		1-1/2"-6000	19 T.
E				20 T. TAPPED
F				21 T.
G				23 T. TAPPED
H				23 T. SPC L
J				27 T. TAPPED
K				STR KEY TAPPED
L				TAPERED
M	NO SHUTTLE			15 T.
N			NOT DRILLED	40 T.
P				21 T. TAPPED
R				13 T. 7" L
X	NO CHANGE	NO CHANGE	NO CHANGE	NO CHANGE
Z	SPECIAL	SPECIAL	SPECIAL	SPECIAL

\* REFER TO TABLE 1 FOR CODE LETTER



MODEL TO GROUP CROSS REFERENCE  
FOR ALL 21 SERIES VARIABLE DISPLACEMENT MOTORS  
USE WITH DRAWING FORM NO. 2-41623



	OPTION NO.								
21-4501NJ-	1	3	1	1	1	1	NO MANIFOLD	2-41627	
21-4502AJ-	1	1	2	1	1	1	2-41630	2-41627	
21-4503AA-	1	1	1	2	1	2	2-41630	2-41624	
21-4504BJ-	1	1	1	2	1	1	2-41631	2-41627	

COMMON PARTS

FOR ALL 21 SERIES VARIABLE DISPLACEMENT MOTORS

USE WITH DRAWING FORM NO. 2-41623

<u>PART REF</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY/ MODEL</u>
0	AS 19	ASSEMBLY SPECIFICATIONS	0
0	AS 7	ASSEMBLY SPECIFICATIONS	0
0	TS 322	TEST SPECIFICATIONS	0
7	9004800-3110	PIN	1
8	9004800-3708	PIN	2
9	* 9210204	END CAP GASKET	1
10	9210295	VARIABLE HOUSING	1
11	* 9004100-2280	O RING	2
12	9210293	THRUST PLATE	1
13	9510254	TRUNNION BEARING KIT	2
14	9004800-3708	PIN	2
15	9210279	VARIABLE SWASHPLATE	1
21	9510251	FRONT BEARING KIT	1
26	9210200	FRONT COVER	1
29	* 9210201	FRONT COVER GASKET	1
30	9510422-0002	TRUNNION SHIM KIT	1
31	9210018	TRUNNION	2
34	9210480	VALVE PLATE	1
36	9510253	BEAR BEARING KIT	1
38	9803390	CONTROL SCREEN FILTER	1
41	9006326-0025	RETAINING RING	1
42	99802396	FEEDBACK LINK PIN	1
43	9802016	FEEDBACK LINK	1
44	9007600-1103	DRIVE SCREW	2
47	9009610-3459	WASHER	6
49	9007200-3736	SCREW HEX HD	5
50	9007200-3728	SCREW HEX HD	3
51	9009610-4069	WASHER PLN	9
52	9007276-0011	SCREW TORX	4
53	9200087	RETAINERSLEEVE	2
55	9800999	LIFTING BRACKET	1
56	9800999	LIFTING BRACKET	1
60	* 9004100-1390	O RING	2
62	* 9004100-1360	O RING	2
68	9006300-0050	RETAINING RING	8
69	9004830-0012	PIN	4
70	9009610-4069	WASHER	3
71	9007200-3722	SCREW	2
77	* 9005001-1200	PIPE PLUG	1
78	9005100-4400	PLUG	1
79	9005100-8700	PLUG	1
80	* 9004100-0140	O RING	1
91	9007200-3112	SCREW	6

COMMON PARTS

FOR ALL 21 SERIES VARIABLE DISPLACEMENT MOTORS

USE WITH DRAWING FORM NO. 2-41623

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<u>PART REF</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY/ MODEL</u>
106	9200488	SERVO PISTON	2
107	9210620	SERVO PISTON LINK	1
109	9007575-0012	SCREW 12PT CAP	1
110	9009610-2850	WASHER	1
126	9510423-0002	SHIM KIT	1
B2	9210308	PILOT RING	1
B3	9006250-0212	RETAINING RING	1
B4	9210014	SPRING RETAINER	1
B5	9210015	SPRING GUIDE	1
B6	9220011	CYL BLK SPRING	1
B7	9210013	SPRING SEAT	1
B8	9200228	PIN	1
B9	9210576	CYLINDER BLOCK	1
B10	9210577	SLIPPER RETAINER GUIDE SPRING	6
B11	9210219	SLIPPER RETAINER GUIDE	1
B12	9210292	SLIPPER RETAINER	1
C	9510189	SHAFT SEAL KIT	1
C1	9510022	SEAL KIT	1
C2	* 9004104-1290	O RING	2
C3	9220242	SPRING	6
C4	* 9004100-2340	O RING	1
C5	9510441	SEAL RETAINER	1
C6	9006201-0334	RETAINING RING	1

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NOTE: THE ASTERISK \* PRECEDING THE PART NUMBER DENOTES THAT PART IS ALSO AVAILABLE IN A SEAL/GASKET OVERHAUL KIT PART NUMBER 9510229

OPTIONS

FOR ALL 21 SERIES VARIABLE DISPLACEMENT MOTORS

USE WITH DRAWING FORM NO. 2-41623

>>>>>>> SHAFT GROUP <<<<<<<<

<u>OPTION NO.</u>	<u>PART REF</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY/ MODEL</u>
1	23	9210467	'C' SPLINE 14T	1
2	23	9210205	'F' SPLINE 21T	1
3	23	9210538	'K' KEYED	1
	98	9003261-3132	KEY	1
4	23	9210428	'L' TAPERED	1
	98	9003310-3724	KEY	1
	4	9700169	SLOTTED NUT	1

>>>>>>> END CAP GROUP <<<<<<<<

<u>OPTION NO.</u>	<u>PART REF</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY/ MODEL</u>
1	30	9210490	'A' 1"-3000 PSI	1
2	30	9210442	'A' 1"-6000 PSI	1
3	30	9210510	'A' 1"-3000 PSI (NON-DRILLED)	1

>>>>>>> SERVO PISTON LINK GROUP <<<<<<<<

<u>OPTION NO.</u>	<u>PART REF</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY/ MODEL</u>
1	108	9210715	6.5 DEG	1
2	108	9210716	0.0 DEG	1



OPTIONS

FOR ALL 21 SERIES VARIABLE DISPLACEMENT MOTORS

USE WITH DRAWING FORM NO. 2-41623

>>>>>>> SERVO SLEEVE GROUP <<<<<<<<

<u>OPTION NO.</u>	<u>PART REF</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY/ MODEL</u>
1	61	9200528	SERVO SLEEVE (STANDARD)	1
	132	9200528	SERVO SLEEVE (STANDARD)	1
2	61	9200528	SERVO SLEEVE (STANDARD)	1
	132	9200529	SERVO SLEEVE (STROKE LIMITER)	1
	D	9200515	STROKE LIMITER KIT	1
	D1	9006375-0029	EXTERNAL RETAINING RING	1
	D2	9004104-1110	O RING	1
	D3	9004100-0210	O RING	1
	D4	9200595	LIMITER HOUSING	1
	D5	9200512	LIMITER ROD	1
	D6	9003561-5600	NUT	1
D7	9200617	LIMITER COVER	1	

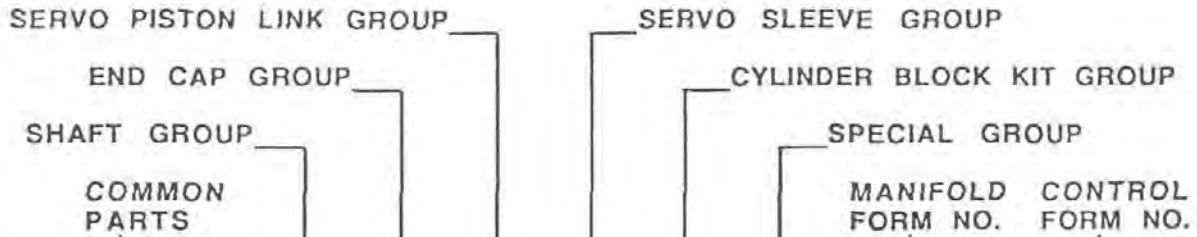
>>>>>>> CYLINDER BLOCK KIT GROUP <<<<<<<<

<u>OPTION NO.</u>	<u>PART REF</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY/ MODEL</u>
1	B	9210574	CYLINDER BLOCK KIT	1
	B1	9210337	BEARING PLATE - BRASS	1
	B13	9210553	PISTON - FILLED	9
2	B	9210696	CYLINDER BLOCK KIT	1
	B1	9210658	BEARING PLATE - BI-METAL	1
	B13	9210695	PISTON - WELDED	9

>>>>>>> SPECIAL GROUP <<<<<<<<

<u>OPTION NO.</u>	<u>PART REF</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY/ MODEL</u>
1	2	NONE	CONTROL ORIFICE	NONE
2	2	9801094	CONTROL ORIFICE - .042	1

MODEL TO GROUP CROSS REFERENCE  
FOR ALL 22 SERIES VARIABLE DISPLACEMENT MOTORS  
USE WITH DRAWING FORM NO. 2-41623



OPTION NO.

22-4501NJ-	1	3	1	1	1	1	NO MANIFOLD	2-41627
22-4502NJ-	1	3	3	1	1	1	NO MANIFOLD	2-41627
22-4503NJ-	1	3	2	1	1	1	NO MANIFOLD	2-41627
22-4504AA-	1	1	1	2	1	2	2-41630	2-41624
22-4504AJ-	1	1	1	2	1	1	2-41630	2-41627
22-4505AJ-	1	2	1	2	2	1	2-41630	2-41627
22-4506AA-	4	1	1	2	1	2	2-41630	2-41624

**COMMON PARTS**  
**FOR ALL 22 SERIES VARIABLE DISPLACEMENT MOTORS**  
**USE WITH DRAWING FORM NO. 2-41623**

<u>PART REF</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY/ MODEL</u>
0	AS 19	ASSEMBLY SPECIFICATIONS	0
0	AS 7	ASSEMBLY SPECIFICATIONS	0
0	TS 322	TEST SPECIFICATIONS	0
7	9004800-3110	PIN	1
8	9004800-3708	PIN	2
9	* 9221337	END CAP GASKET	1
10	9221250	VARIABLE HOUSING	1
11	* 9004100-2300	O RING	2
12	9220626	THRUST PLATE	1
13	9510257	TRUNNION BEARING KIT	2
14	9004800-3708	PIN	2
15	9220570	VARIABLE SWASHPLATE	1
21	9510256	FRONT BEARING KIT	1
26	9220418	FRONT COVER	1
29	* 9221213	FRONT COVER GASKET	1
30	9510422-0003	TRUNNION SHIM KIT	1
31	9220018	TRUNNION	2
34	9220992	VALVE PLATE	1
36	9510255	REAR BEARING KIT	1
38	9803390	CONTROL SCREEN FILTER	1
41	9006326-0025	EXTERNAL RETAINING RING	1
42	9802396	FEEDBACK LINK PIN	1
43	9802016	FEEDBACK LINK	1
44	9007600-1103	DRIVE SCREW	2
47	9009610-4069	WASHER	6
49	9007200-3736	SCREW	5
50	9007200-3728	SCREW	3
51	9009610-4069	WASHER	9
52	9007276-0011	TORX SCREW	4
53	9220419	SERVO SLEEVE RETAINER	2
55	9800999	LIFTING BRACKET	1
56	9800999	LIFTING BRACKET	1
60	* 9004100-1440	O RING	2
62	* 9004100-1420	O RING	2
68	9006300-0062	RETAINING RING	8
69	9004830-0010	PIN	4
70	9009610-4069	WASHER	13
71	9007200-3722	SCREW	12
77	9005001-1200	PIPE PLUG	1
78	9005100-4400	PLUG	1
79	9005100-8700	PLUG	1
80	* 9004100-0140	O RING	1
91	9007200-3712	SCREW	6

COMMON PARTS

FOR ALL 22 SERIES VARIABLE DISPLACEMENT MOTORS

USE WITH DRAWING FORM NO. 2-41623

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<u>PART REF</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY/ MODEL</u>
106	9221012	SERVO PISTON	2
107	9221367	SERVO PISTON LINK	1
109	9007276-0049	SCREW	1
110	9009610-2850	WASHER	1
126	9510423-0003	SHIM KIT	1
B1	9221335	BEARING PLATE (BI-METAL)	1
B2	9220633	PILOT RING	1
B3	9006250-0231	RETAINING RING	1
B4	9220043	SPRING RETAINER	1
B5	9220015	SPRING GUIDE	1
B6	9230627	CYL BLK SPRING	1
B7	9220042	SPRING SEAT	1
B8	9240217	PIN	1
B9	9221102	CYLINDER BLOCK	1
B10	9221105	SLIPPER RETAINER GUIDE SPRING	6
B11	9220500	SLIPPER RETAINER GUIDE	1
B12	9220628	SLIPPER RETAINER	1
B13	9510408-0001	PISTON KIT (WELDED)	3
C	9510189	SHAFT SEAL KIT	1
C1	9510022	SEAL KIT	1
C2	* 9004104-1290	ORING	2
C3	9220242	SPRING	6
C4	* 9004100-2340	ORING	1
C5	9510441	SEAL RETAINER	1
C6	9006201-0334	RETAINING RING	1

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NOTE: THE ASTERISK \* PRECEDING THE PART NUMBER DENOTES THAT PART IS ALSO AVAILABLE IN A SEAL/GASKET OVERHAUL KIT PART NUMBER 9510232

OPTIONS

FOR ALL 22 SERIES VARIABLE DISPLACEMENT MOTORS

USE WITH DRAWING FORM NO. 2-41623

>>>>>>> SHAFT GROUP <<<<<<<<

<u>OPTION NO.</u>	<u>PART REF</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY/ MODEL</u>
1	23	9220944	'C' SPLINE 14T	1
2	23	9220515	'D' SPLINE 19T	1
3	23	9220527	'E' SPLINE 20T TAPPED	1
4	23	9220417	'F' SPLINE 21T	1
5	23 98	9221065 9003261-3132	'K' KEYED KEY	1 1
6	23 98 4	9220884 9003310-3724 9700169	'L' TAPERED KEY SLOTTED NUT	1 1 1

>>>>>>> END CAP GROUP <<<<<<<<

<u>OPTION NO.</u>	<u>PART REF</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY/ MODEL</u>
1	30	9220998	'A' 1"-3000 PSI	1
2	30	9220999	'A' 1"-6000 PSI	1
3	30	9221037	'A' 1"-3000 PSI (NON-DRILLED)	1

>>>>>>> SERVO PISTON LINK GROUP <<<<<<<<

<u>OPTION NO.</u>	<u>PART REF</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY/ MODEL</u>
1	108	9221507	6.5 DEG	1
2	108	9221508	0.0 DEG	1
3	108	9221509	9.0 DEG	1

OPTIONS

FOR ALL 22 SERIES VARIABLE DISPLACEMENT MOTORS

USE WITH DRAWING FORM NO. 2-41623

>>>>>> SERVO SLEEVE GROUP <<<<<<<<

<u>OPTION NO.</u>	<u>PART REF</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY/ MODEL</u>
1	61	9221149	SERVO SLEEVE (STANDARD)	1
	132	9221149	SERVO SLEEVE (STANDARD)	1
2	61	9221149	SERVO SLEEVE (STANDARD)	1
	132	9221153	SERVO SLEEVE (STROKE LIMITER)	1
	123	9221512	LIMITER COVER	1
	D	9510677-22	STROKE LIMITER KIT	1
	D1	9006371-5000	EXTERNAL RETAINING RING	1
	D2	9004104-1130	O RING	1
	D3	9004201-7500	O RING	1
	D4	9221431	LIMITER HOUSING	1
	D5	9221510	LIMITER ROD	1
	D6	9003561-7500	NUT	1
D7	9221512	LIMITER COVER	1	

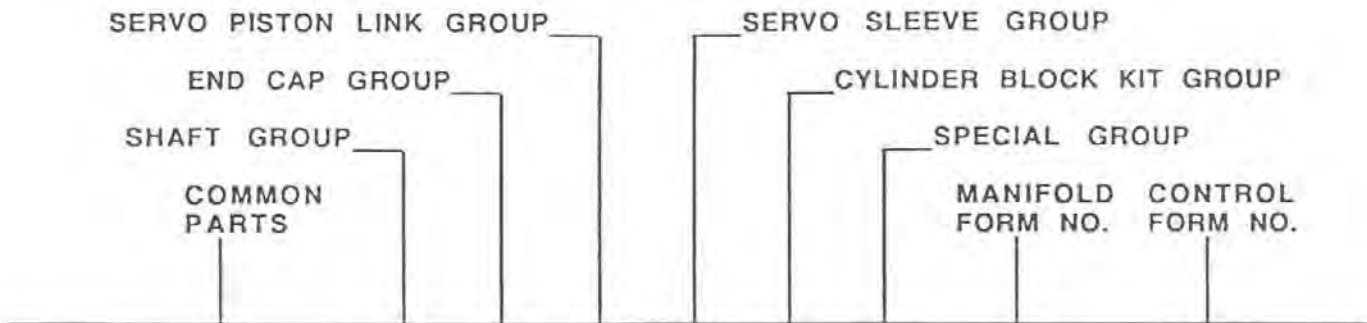
>>>>>> CYLINDER BLOCK KIT GROUP <<<<<<<<

<u>OPTION NO.</u>	<u>PART REF</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY/ MODEL</u>
1	B	9221444	CYLINDER BLOCK KIT W/FILLED	1
2	B	9221448	CYLINDER BLOCK KIT WWELDED	1

>>>>>> SPECIAL GROUP <<<<<<<<

<u>OPTION NO.</u>	<u>PART REF</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY/ MODEL</u>
1	2	NONE	CONTROL ORIFICE	NONE
2	2	9801094	CONTROL ORIFICE - .042	1

MODEL TO GROUP CROSS REFERENCE  
FOR ALL 23 SERIES VARIABLE DISPLACEMENT MOTORS  
USE WITH DRAWING FORM NO. 2-41623



OPTION NO.

23-4501AA-	3	1	1	2	1	2	2-41630	2-41624
23-4502AL-	3	2	1	2	2	3	2-41630	2-41628
23-4502HR-	3	2	1	2	2	4	2-41625	2-41629
23-4503AJ-	1	1	1	2	2	1	2-41630	2-41627
23-4504AA-	1	1	1	2	1	2	2-41630	2-41624
23-4505AA-	5	1	1	2	1	2	2-41630	2-41624
23-4506AA-	7	1	1	1	2	2	2-41630	2-41624
23-4507AA-	7	2	1	1	2	2	2-41630	2-41624

COMMON PARTS

FOR ALL 23 SERIES VARIABLE DISPLACEMENT MOTORS

USE WITH DRAWING FORM NO. 2-41623

<u>PART REF</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY/ MODEL</u>
0	AS 19	ASSEMBLY SPECIFICATIONS	0
0	AS 7	ASSEMBLY SPECIFICATIONS	0
0	TS 322	TEST SPECIFICATIONS	0
7	9004800-3110	PIN	1
8	9004800-3708	PIN	2
9	* 9230127	END CAP GASKET	1
10	9230783	VARIABLE HOUSING	1
11	* 9004100-2320	O RING	2
12	9230235	THRUST PLATE	1
13	9510639	TRUNNION BEARING KIT	2
14	9004800-3708	PIN	2
15	9230992	VARIABLE SWASHPLATE	1
21	9510259	FRONT BEARING KIT	1
26	9230128	FRONT COVER	1
29	* 9230124	FRONT COVER GASKET	1
30	9510422-0004	TRUNNION SHIM KIT	1
31	9240643	TRUNNION	2
34	9230562	VALVE PLATE	1
36	9510258	REAR BEARING KIT	1
38	9803390	CONTROL SCREEN FILTER	1
41	9006326-0025	EXTERNAL RETAINING RING	1
42	9802396	FEEDBACK LINK PIN	1
43	9800906	FEEDBACK LINK	1
44	9007600-1103	DRIVE SCREW	2
47	9009610-4778	WASHER	6
49	9007200-4438	SCREW	4
50	9007200-4430	SCREW	4
51	9009610-4778	WASHER	9
52	9007276-0011	TORX SCREW	4
53	9220419	SERVO SLEEVE RETAINER	2
55	9801000	LIFTING BRACKET	1
56	9801000	LIFTING BRACKET	1
60	* 9004100-1440	O RING	2
62	* 9004100-1420	O RING	2
68	9006300-0062	RETAINING RING	8
69	9004830-0010	PIN	4
70	9009610-4778	WASHER	13
71	9007200-4424	SCREW	8
77	9005001-1200	PIPE PLUG	1
78	9005100-4400	PLUG	1
79	9005100-8700	PLUG	1
80	* 9004101-0140	O RING	1
91	9007200-4416	SCREW	6
93	9007200-4422	SCREW	4



COMMON PARTS

FOR ALL 23 SERIES VARIABLE DISPLACEMENT MOTORS

USE WITH DRAWING FORM NO. 2-41623

PART REF	PART NUMBER	DESCRIPTION	QTY/ MODEL
106	9221012	SERVO PISTON	2
107	9230787	SERVO PISTON LINK	1
109	9007276-0049	SCREW	1
110	9009610-2850	WASHER	1
126	9510423-0004	SHIM KIT	1
B1	9230881	PLATE BEARING	1
B2	9230707	BEARING PLATE PILOT RING	1
B3	9006250-0250	RETAINING RING	1
B4	9230014	SPRING RETAINER	1
B5	9230015	SPRING GUIDE	1
B6	9230974	CYLINDER BLOCK SPRING	1
B7	9230013	SPRING SEAT	1
B8	9240217	PIN	1
B9	9230651	CYLINDER BLOCK	1
B10	9230655	SLIPPER RETAINER GUIDE SPRING	6
B11	9230158	SLIPPER RETAINER GUIDE	1
B12	9230234	SLIPPER RETAINER	1
B13	9510408-0002	PISTON KIT (WELDED)	3
C	9510190	SHAFT SEAL KIT	1
C1	9510021	SEAL KIT	1
C2	* 9004104-1360	O RING	2
C3	9220242	SPRING	8
C4	* 9004100-2380	O RING	1
C5	9510442	SEAL RETAINER	1
C6	9006201-0387	RETAINING RING	1

NOTE: THE ASTERISK \* PRECEDING THE PART NUMBER DENOTES THAT PART IS ALSO AVAILABLE IN A SEAL/GASKET OVERHAUL KIT PART NUMBER 9510235

OPTIONS

FOR ALL 23 SERIES VARIABLE DISPLACEMENT MOTORS

USE WITH DRAWING FORM NO. 2-41623

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>>>>>>> SHAFT GROUP <<<<<<<<				
<u>OPTION NO.</u>	<u>PART REF</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY/ MODEL</u>
1	23	9230476	'C' SPLINE 14T	1
2	23	9230194	'D' SPLINE 19T	1
3	23	9230325	'F' SPLINE 21T	1
4	23	9230173	'G' SPLINE 23T TAPPED	1
5	23	9230739	'H' SPLINE 23T SPCL LENGTH	1
6	23	9230147	'J' SPLINE 27T	1
7	23	9230626	'K' KEYED	1
	98	9003261-3732	KEY	1
8	23	9230445	'L' TAPERED	1
	98	9003310-3724	KEY	1
	4	9700169	SLOTTED NUT	1

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>>>>>>> END CAP GROUP <<<<<<<<				
<u>OPTION NO.</u>	<u>PART REF</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY/ MODEL</u>
1	30	9230566	'A' 1"-3000 PSI	1
2	30	9230576	'A' 1"-6000 PSI	1
3	30	9230575	'A' 1"-3000 PSI (NON-DRILLED)	1

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>>>>>>> SERVO PISTON LINK GROUP <<<<<<<<				
<u>OPTION NO.</u>	<u>PART REF</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY/ MODEL</u>
1	108	9231079	7.0 DEG	1

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OPTIONS

FOR ALL 23 SERIES VARIABLE DISPLACEMENT MOTORS

USE WITH DRAWING FORM NO. 2-41623

>>>>>> SERVO SLEEVE GROUP <<<<<<<<

<u>OPTION NO.</u>	<u>PART REF</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY/ MODEL</u>
1	61	9221149	SERVO SLEEVE (STANDARD)	1
	132	9221149	SERVO SLEEVE (STANDARD)	1
2	61	9221149	SERVO SLEEVE (STANDARD)	1
	132	9221153	SERVO SLEEVE (STROKE LIMITER)	1
	123	9221512	LIMITER COVER	1
	D	9510677-22	STROKE LIMITER KIT	1
	D1	9006371-5000	EXTERNAL RETAINING RING	1
	D2	9004104-1130	O RING	1
	D3	9004201-7500	O RING	1
	D4	9221431	LIMITER HOUSING	1
	D5	9221510	LIMITER ROD	1
	D6	9003561-7500	NUT	1
D7	9221512	LIMITER COVER	1	

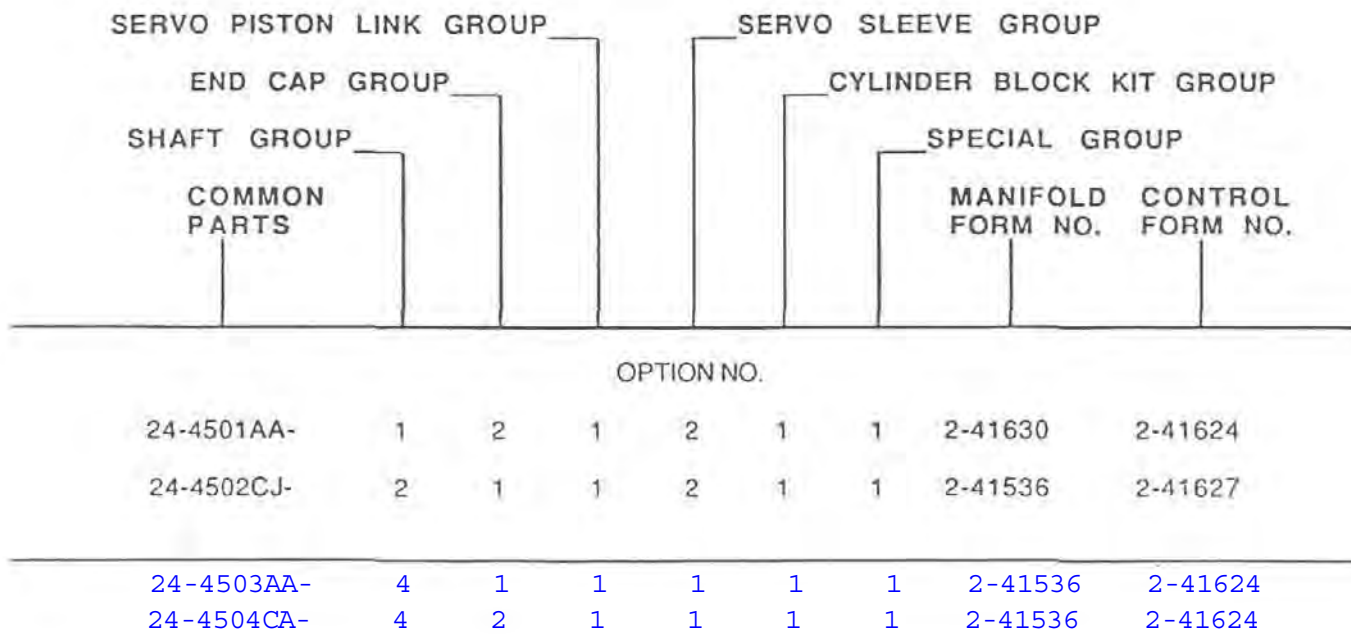
>>>>>> CYLINDER BLOCK KIT GROUP <<<<<<<<

<u>OPTION NO.</u>	<u>PART REF</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY/ MODEL</u>
1	B	9230941	CYLINDER BLOCK KIT W/FILLED	1
2	B	9230973	CYLINDER BLOCK KIT WWELDED	1

>>>>>> SPECIAL GROUP <<<<<<<<

<u>OPTION NO.</u>	<u>PART REF</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY/ MODEL</u>
1	2	NONE	CONTROL ORIFICE	NONE
2	2	9801094	CONTROL ORIFICE - .042	1
3	2	9801094	CONTROL ORIFICE - .042	2
4	2	9802412	CONTROL ORIFICE - .025	2

MODEL TO GROUP CROSS REFERENCE  
FOR ALL 24 SERIES VARIABLE DISPLACEMENT MOTORS  
USE WITH DRAWING FORM NO. 2-41623



COMMON PARTS

FOR ALL 24 SERIES VARIABLE DISPLACEMENT MOTORS

USE WITH DRAWING FORM NO. 2-41623

<u>PART REF</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY/ MODEL</u>
0	AS 19	ASSEMBLY SPECIFICATIONS	0
0	AS 7	ASSEMBLY SPECIFICATIONS	0
0	TS 322	TEST SPECIFICATIONS	0
7	9004800-3110	PIN	1
8	9004800-3708	PIN	2
9	* 9240549	END CAP GASKET	1
10	9240461	VARIABLE HOUSING	1
11	* 9004100-2340	O RING	2
12	9240124	THRUST PLATE	1
13	9510262	TRUNNION BEARING KIT	2
14	9004800-3708	PIN	2
15	9240197	VARIABLE SWASHPLATE	1
21	9510259	FRONT BEARING KIT	1
26	9240069	FRONT COVER	1
29	* 9240427	FRONT COVER GASKET	1
30	9510422-0005	TRUNNION SHIM KIT	1
31	9240018	TRUNNION	2
34	9240279	VALVE PLATE	1
36	9510261	REAR BEARING KIT	1
38	9803390	CONTROL SCREEN FILTER	1
41	9006326-0025	RETAINING RING	1
42	9802396	FEEDBACK LINK PIN	1
43	9800245	FEEDBACK LINK	1
44	9007600-1103	DRIVE SCREW	2
47	9009610-5387	WASHER	6
49	9007200-5042	SCREW	6
50	9007500-5044	SCREW 12PT HD	2
51	9009610-5387	WASHER	7
52	9007276-0011	TORX SCREW	4
53	9240076	SERVO SLEEVE RETAINER	2
55	9801000	LIFTING BRACKET	1
56	9801000	LIFTING BRACKET	1
60	* 9004100-1510	O RING	1
62	* 9004100-1500	O RING	1
68	9006300-0075	RETAINING RING	8
69	9004830-0008	PIN	4
70	9009610-5387	WASHER	13
71	9007200-5026	SCREW	12
77	9005001-1200	PIPE PLUG	1
78	9005100-4400	PLUG	1
79	9005100-8700	PLUG	1
80	* 9004101-0140	O RING	1
91	9007200-5022	SCREW	6

COMMON PARTS

FOR ALL 24 SERIES VARIABLE DISPLACEMENT MOTORS

USE WITH DRAWING FORM NO. 2-41623

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<u>PART REF</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY/ MODEL</u>
106	9240297	SERVO PISTON	2
107	9240584	SERVO PISTON LINK	1
109	9007276-0050	SCREW	1
110	9009610-3459	WASHER	1
126	9510423-0005	SHIM KIT	1
B1	9240560	BEARING PLATE	1
B2	9240135	BEARING PLATE PILOT RING	1
B3	9006250-0275	RETAINING RING	1
B4	9240014	SPRING RETAINER	1
B5	9240015	SPRING GUIDE	1
B6	9240518	CYLINDER BLOCK SPRING	1
B7	9240013	SPRING SEAT	1
B8	9240217	PIN	1
B9	9240394	CYLINDER BLOCK	1
B10	9240393	SLIPPER RETAINER GUIDE SPRING	6
B11	9240097	SLIPPER RETAINER GUIDE	1
B12	9240125	SLIPPER RETAINER	1
B13	9510408-0004	PISTON KIT (WELDED)	3
C	9510190	SHAFT SEAL KIT	1
C1	9510021	SEAL KIT	1
C2	* 9004104-1360	O RING	2
C3	9220242	SPRING	8
C4	* 9004100-2380	O RING	1
C5	9510442	SEAL RETAINER	1
C6	9006201-0387	RETAINING RING	1

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NOTE: THE ASTERISK \* PRECEDING THE PART NUMBER DENOTES THAT PART IS ALSO AVAILABLE IN A SEAL/GASKET OVERHAUL KIT PART NUMBER 9510238

OPTIONS

FOR ALL 24 SERIES VARIABLE DISPLACEMENT MOTORS

USE WITH DRAWING FORM NO. 2-41623

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>>>>>>> SHAFT GROUP <<<<<<<<				
OPTION NO.	PART REF	PART NUMBER	DESCRIPTION	QTY/ MODEL
1	23	9240215	'A' SPLINE 13T	1
2	23	9240153	'J' SPLINE 27T	1
3	23 98	9240316 9003261-3732	'K' KEYED KEY	1 1
4	23 98 4	9240231 9003326-0005 9700189	'L' TAPERED KEY SLOTTED NUT	1 1 1

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>>>>>>> END CAP GROUP <<<<<<<<				
OPTION NO.	PART REF	PART NUMBER	DESCRIPTION	QTY/ MODEL
1	30	9240284	'A' 1"-3000 PSI	1
2	30	9240294	'A' 1"-6000 PSI	1

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>>>>>>> SERVO PISTON LINK GROUP <<<<<<<<				
OPTION NO.	PART REF	PART NUMBER	DESCRIPTION	QTY/ MODEL
1	108	9240720	7.0 DEG	1
2	108	9240508	9.0 DEG	1

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OPTIONS

FOR ALL 24 SERIES VARIABLE DISPLACEMENT MOTORS

USE WITH DRAWING FORM NO. 2-41623

>>>>>> SERVO SLEEVE GROUP <<<<<<<<

<u>OPTION NO.</u>	<u>PART REF</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY/ MODEL</u>
1	61	9240356	SERVO SLEEVE (STANDARD)	1
	132	9240356	SERVO SLEEVE (STANDARD)	1
2	61	9240356	SERVO SLEEVE (STANDARD)	1
	132	9240358	SERVO SLEEVE (STROKE LIMITER)	1
	D	9510677-24	STROKE LIMITER KIT	1
	D1	9006371-5000	EXTERNAL RETAINING RING	1
	D2	9004104-1140	O RING	1
	D3	9004201-7500	O RING	1
	D4	9240627	LIMITER HOUSING	1
	D5	9240721	LIMITER ROD	1
	D6	9003561-7500	NUT	1
D7	9240358	SERVO SLEEVE (STROKE LIMITER)	1	

>>>>>> CYLINDER BLOCK KIT GROUP <<<<<<<<

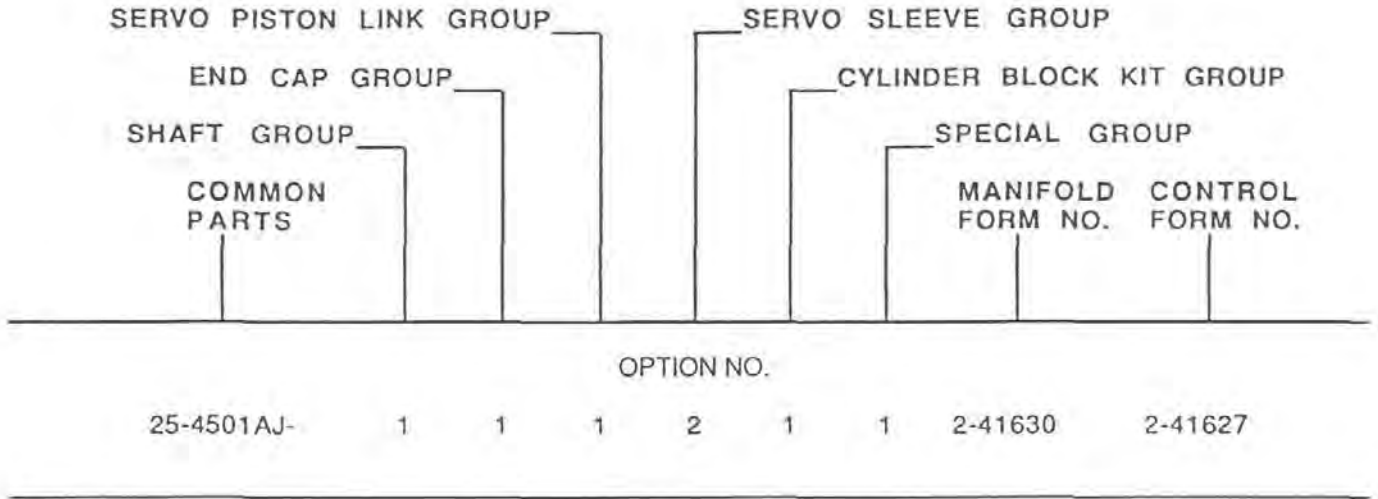
<u>OPTION NO.</u>	<u>PART REF</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY/ MODEL</u>
1	B	9240641	CYLINDER BLOCK KIT	1

>>>>>> SPECIAL GROUP <<<<<<<<

<u>OPTION NO.</u>	<u>PART REF</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY/ MODEL</u>
1		NONE	CONTROL ORIFICE	NONE
2	2	9801094	CONTROL ORIFICE - .042	1



MODEL TO GROUP CROSS REFERENCE  
FOR ALL 25 SERIES VARIABLE DISPLACEMENT MOTORS  
USE WITH DRAWING FORM NO. 2-41623



COMMON PARTS

FOR ALL 25 SERIES VARIABLE DISPLACEMENT MOTORS

USE WITH DRAWING FORM NO. 2-41623

<u>PART REF</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY/ MODEL</u>
0	AS 19	ASSEMBLY SPECIFICATIONS	0
0	AS 7	ASSEMBLY SPECIFICATIONS	0
0	TS 322	TEST SPECIFICATIONS	0
7	9004800-3110	PIN	1
8	9004810-5012	PIN	2
9	* 9250587	END CAP GASKET	1
10	9250524	VARIABLE HOUSING	1
11	* 9004100-2360	O RING	2
12	9250171	THRUST PLATE	1
13	9510265	TRUNNION BEARING KIT	2
14	9004800-3110	PIN	2
15	9250164	VARIABLE SWASHPLATE	1
21	9510264	FRONT BEARING KIT	1
26	9250156	FRONT COVER	1
29	* 9250158	FRONT COVER GASKET	1
30	9510422-0006	TRUNNION SHIM KIT	1
31	9250018	TRUNNION	2
34	9250629	VALVE PLATE	1
36	9510263	REAR BEARING KIT	1
38	9803390	CONTROL SCREEN FILTER	1
41	9006326-0025	RETAINING RING	1
42	9802396	FEEDBACK LINK PIN	1
43	9802754	FEEDBACK LINK	1
44	9007600-1103	DRIVE SCREW	2
47	9009610-6690	WASHER	6
49	9007200-6248	SCREW	6
50	9007200-6238	SCREW	2
51	9009610-6690	WASHER	9
52	9007276-0011	TORX SCREW	4
53	9240076	SERVO SLEEVE RETAINER	2
55	9801001	BRACKET LIFTING	1
56	9801000	BRACKET LIFTING	1
60	* 9004100-1510	O RING	2
62	* 9004100-1500	O RING	2
68	9006300-0075	RETAINING RING	8
69	9004830-0008	PIN	4
70	9009610-5387	WASHER	13
71	9007200-5026	SCREW	12
77	9005001-1200	PIPE PLUG	1
78	9005100-4400	PLUG	2
79	9005100-9200	PLUG	1
80	* 9004101-0140	O RING	1
91	9007200-6221	SCREW HEX HD	6

COMMON PARTS

FOR ALL 25 SERIES VARIABLE DISPLACEMENT MOTORS

USE WITH DRAWING FORM NO. 2-41623

PART REF	PART NUMBER	DESCRIPTION	QTY/ MODEL
106	9240297	SERVO PISTON	2
107	9250617	SERVO PISTON LINK	1
109	9007276-0054	SCREW HEX HD	1
110	9009610-3459	WASHER	1
126	9510423-0006	SHIM	1
152	9005100-5600	PLUG ST THD	1
B1	9250627	BEARING PLATE	1
B2	9250628	BEARING PLATE PILOT RING	1
B3	9006250-0314	RETAINING RING	1
B4	9250179	SPRING RETAINER	1
B5	9250015	SPRING GUIDE	1
B6	9250676	CYLINDER BLOCK SPRING	1
B7	9250013	SPRING SEAT	1
B8	9240217	PIN	1
B9	9250470	CYLINDER BLOCK	1
B10	9250471	SLIPPER RETAINER GUIDE SPRING	6
B11	9250073	SLIPPER RETAINER GUIDE	1
B12	9250170	SLIPPER RETAINER	1
B13	9510408-0005	PISTON KIT (WELDED)	3
C	9510190	SHAFT SEAL KIT	1
C1	9510021	SEAL KIT	1
C2	* 9004104-1360	ORING	2
C3	9220242	SPRING	8
C4	* 9004100-2380	ORING	1
C5	9510442	SEAL RETAINER	1
C6	9006201-0387	RETAINING RING	1

NOTE: THE ASTERISK \* PRECEDING THE PART NUMBER DENOTES THAT PART IS ALSO AVAILABLE IN A SEAL/GASKET OVERHAUL KIT PART NUMBER ~~9510251~~

9510241

OPTIONS

FOR ALL 25 SERIES VARIABLE DISPLACEMENT MOTORS

USE WITH DRAWING FORM NO. 2-41623

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>>>>>>> SHAFT GROUP <<<<<<<<

<u>OPTION NO.</u>	<u>PART REF</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY/ MODEL</u>
1	23	9250327	'A' SPLINE 13T	1
2	23	9250272	'J' SPLINE 27T	1
3	23 98	9250409 9003261-3732	'K' KEYED KEY	1 1

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>>>>>>> END CAP GROUP <<<<<<<<

<u>OPTION NO.</u>	<u>PART REF</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY/ MODEL</u>
1	30	9250373	'A' 1-1/2" - 3000 PSI	1

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>>>>>>> SERVO PISTON LINK GROUP <<<<<<<<

<u>OPTION NO.</u>	<u>PART REF</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY/ MODEL</u>
1	108	9250498	7.0 DEG	1

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OPTIONS

FOR ALL 25 SERIES VARIABLE DISPLACEMENT MOTORS

USE WITH DRAWING FORM NO. 2-41623

>>>>>>> SERVO SLEEVE GROUP <<<<<<<<

<u>OPTION NO.</u>	<u>PART REF</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY/ MODEL</u>
1	61	9240356	SERVO SLEEVE (STANDARD)	1
	132	9240356	SERVO SLEEVE (STANDARD)	1
2	61	9240356	SERVO SLEEVE (STANDARD)	1
	132	9240358	SERVO SLEEVE (STROKE LIMITER)	1
	D	9510677-24	STROKE LIMITER KIT	1
	D1	9006371-5600	EXTERNAL RETAINING RING	1
	D2	9004104-1140	O RING	1
	D3	9004201-7500	O RING	1
	D4	9240627	LIMITER HOUSING	1
	D5	9240721	LIMITER ROD	1
D6	9003561-7500	NUT	1	
D7	9240726	LIMITER COVER	1	

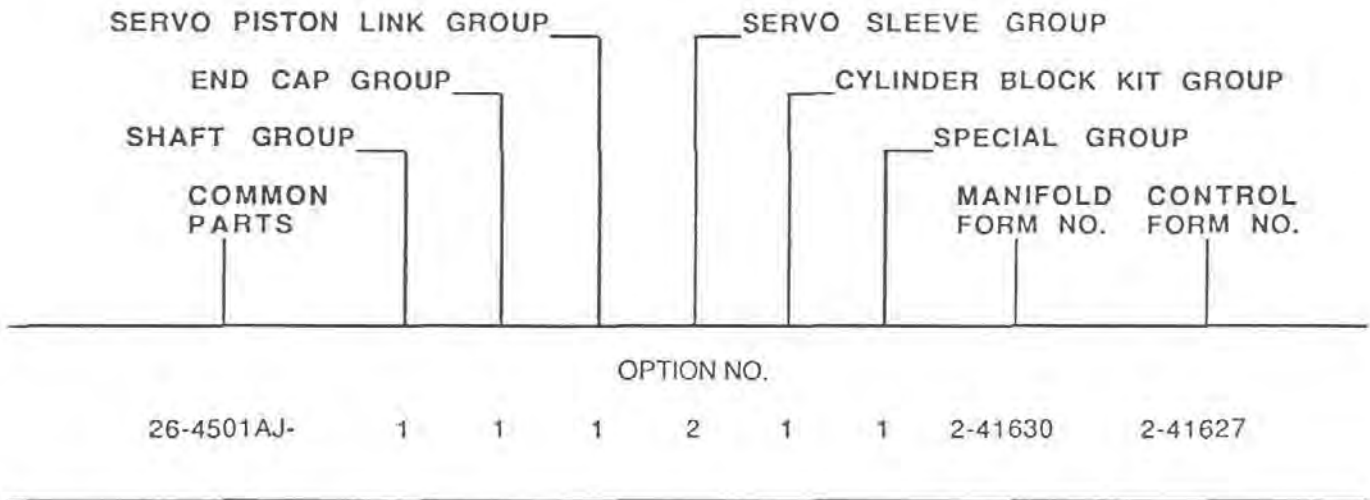
>>>>>>> CYLINDER BLOCK KIT GROUP <<<<<<<<

<u>OPTION NO.</u>	<u>PART REF</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY/ MODEL</u>
1	B	9250685	CYLINDER BLOCK KIT	1

>>>>>>> SPECIAL GROUP <<<<<<<<

<u>OPTION NO.</u>	<u>PART REF</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY/ MODEL</u>
1	2	NONE	CONTROL ORIFICE	NONE

MODEL TO GROUP CROSS REFERENCE  
FOR ALL 26 SERIES VARIABLE DISPLACEMENT MOTORS  
USE WITH DRAWING FORM NO. 2-41623



COMMON PARTS

FOR ALL 26 SERIES VARIABLE DISPLACEMENT MOTORS

USE WITH DRAWING FORM NO. 2-41623

<u>PART REF</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY/ MODEL</u>
0	AS 19	ASSEMBLY SPECIFICATIONS	0
0	AS 7	ASSEMBLY SPECIFICATIONS	0
0	TS 322	TEST SPECIFICATIONS	0
7	9004800-3110	PIN	1
8	9004810-5012	PIN	2
9	* 9260144	END CAP GASKET	1
10	9260280	VARIABLE HOUSING	1
11	* 9004100-2400	O RING	2
12	9260073	THRUST PLATE	1
13	9510268	TRUNNION BEARING KIT	2
14	9004810-5012	PIN	2
15	9260152	VARIABLE SWASHPLATE	1
21	9510267	FRONT BEARING KIT	1
26	9260138	FRONT COVER	1
29	* 9260145	FRONT COVER GASKET	1
30	9510422-0007	TRUNNION SHIM KIT	1
31	9260136	TRUNNION	2
34	9260357	VALVE PLATE	1
36	9510266	REAR BEARING KIT	1
38	9803390	CONTROL SCREEN FILTER	1
41	9006326-0025	RETAINING RING	1
42	9802396	FEEDBACK LINK PIN	1
43	9801232	FEEDBACK LINK	1
44	9007600-1103	DRIVE SCREW	2
47	9009610-6690	WASHER	6
49	9007200-7552	SCREW	8
51	9009610-8092	WASHER	9
52	9007276-0011	TORX SCREW	4
53	9270178	SERVO SLEEVE RETAINER	2
55	9801001	BRACKET LIFTING	1
56	9801000	BRACKET LIFTING	1
57	9005110-9500	PLUG	1
60	* 9004100-1560	O RING	2
62	* 9004100-2430	O RING	2
68	9006300-0087	RETAINING RING	8
69	9004830-0009	PIN	4
70	9009610-5387	WASHER	15
71	9007200-5026	SCREW	14
77	9005001-1200	PIPE PLUG	1
78	9005100-4400	PLUG	1
79	9005100-9700	PLUG	1
80	* 9004101-0140	O RING	1
91	9007200-6222	SCREW	6

**COMMON PARTS**  
**FOR ALL 26 SERIES VARIABLE DISPLACEMENT MOTORS**  
**USE WITH DRAWING FORM NO. 2-41623**

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<u>PART REF</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY/ MODEL</u>
106	9270355	SERVO PISTON	2
107	9260252	SERVO PISTON LINK	1
109	9007276-0055	SCREW	1
110	9009610-4069	WASHER	1
126	9510423-0007	SHIM KIT	1
B1	9260321	BEARING PLATE	1
B2	9260358	PILOT RING	1
B3	9006250-0343	RETAINING RING	1
B4	9260014	SPRING RETAINER	1
B5	9260015	SPRING GUIDE	1
B6	9260326	CYLINDER BLOCK SPRING	1
B7	9260013	SPRING SEAT	1
B8	9260088	PIN	1
B9	9260231	CYLINDER BLOCK	1
B10	9260232	SLIPPER RETAINER GUIDE SPRING	6
B11	9260047	SLIPPER RETAINER GUIDE	1
B12	9260072	SLIPPER RETAINER	1
B13	9510408-0006	PISTON KIT (WELDED)	3
C	9510275	SHAFT SEAL KIT	1
C2	* 9004104-1440	O RING	2
C3	9220242	SPRING	10
C4	* 9004100-2420	O RING	1
C5	9260050	SEAL RETAINER	1
C6	9006201-0433	RETAINING RING	1

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NOTE: THE ASTERISK \* PRECEDING THE PART NUMBER DENOTES THAT PART IS ALSO AVAILABLE IN A SEAL/GASKET OVERHAUL KIT PART NUMBER 9510318



OPTIONS

FOR ALL 26 SERIES VARIABLE DISPLACEMENT MOTORS

USE WITH DRAWING FORM NO. 2-41623

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>>>>>>> SHAFT GROUP <<<<<<<<				
<u>OPTION NO.</u>	<u>PART REF</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY/ MODEL</u>
1	23	9260140	'A' SPLINE 13T	1
2	23	9260176	'K' KEYED	1
	98	9003261-5040	KEY	1

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>>>>>>> END CAP GROUP <<<<<<<<				
<u>OPTION NO.</u>	<u>PART REF</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY/ MODEL</u>
1	30	9260146	1-1/2" - 3000 PSI	1

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>>>>>>> SERVO PISTON LINK GROUP <<<<<<<<				
<u>OPTION NO.</u>	<u>PART REF</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY/ MODEL</u>
1	108	9260333	8.0 DEG	1
2	108	9260147	7.0 DEG	1
3	108	9260245	11.0 DEG	1
4	108	9260243	15.0 DEG	1

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OPTIONS

FOR ALL 26 SERIES VARIABLE DISPLACEMENT MOTORS

USE WITH DRAWING FORM NO. 2-41623

>>>>>>> SERVO SLEEVE GROUP <<<<<<<<

<u>OPTION NO.</u>	<u>PART REF</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY/ MODEL</u>
1	61	9270596	SERVO SLEEVE (STANDARD)	1
	57	9005110-9500	PLUG	1
	132	9270596	SERVO SLEEVE (STROKE LIMITER)	1
	D	9510677-26	STROKE LIMITER KIT	1
	D1	9006371-6900	EXTERNAL RETAINING RING	1
	D2	9004104-1160	O RING	1
	D3	9004201-9200	O RING	1
	D4	9260364	LIMITER HOUSING	1
	D5	9260421	LIMITER ROD	1
	D6	9003561-8700	NUT	1
	D7	9260422-0026	LIMITER COVER	1

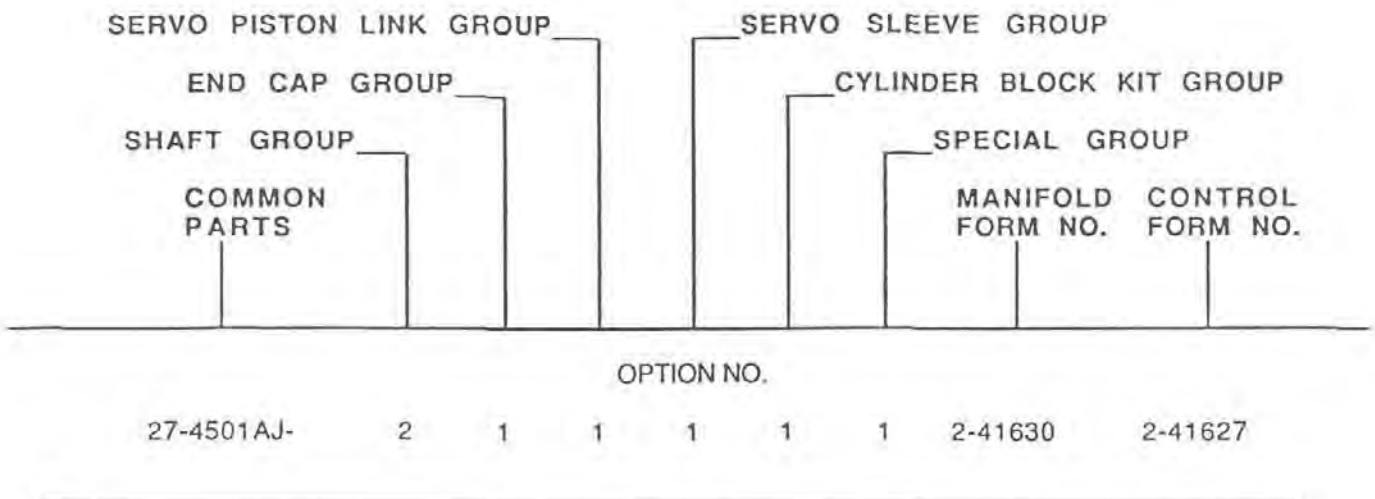
>>>>>>> CYLINDER BLOCK KIT GROUP <<<<<<<

<u>OPTION NO.</u>	<u>PART REF</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY/ MODEL</u>
1	B	9260369	CYLINDER BLOCK KIT	1

>>>>>>> SPECIAL GROUP <<<<<<<

<u>OPTION NO.</u>	<u>PART REF</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY/ MODEL</u>
1	2	NONE	CONTROL ORIFICE	NONE

MODEL TO GROUP CROSS REFERENCE  
FOR ALL 27 SERIES VARIABLE DISPLACEMENT MOTORS  
USE WITH DRAWING FORM NO. 2-41623



COMMON PARTS

FOR ALL 27 SERIES VARIABLE DISPLACEMENT MOTORS

USE WITH DRAWING FORM NO. 2-41623

<u>PART REF</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY/ MODEL</u>
0	AS 19	ASSEMBLY SPECIFICATIONS	0
0	AS 7	ASSEMBLY SPECIFICATIONS	0
0	TS 322	TEST SPECIFICATIONS	0
7	9004800-3110	PIN	1
8	9004810-5012	PIN	2
9	* 9270710	END CAP GASKET	1
10	9270586	VARIABLE HOUSING	1
11	* 9004100-2450	O RING	2
12	9270482	PLATE THRUST	1
13	9510271	TRUNNION BEARING KIT	2
14	9004800-5012	PIN	2
15	9270462	VARIABLE SWASHPLATE	1
21	9510270	FRONT BEARING KIT	1
23	9270422	SHAFT	1
26	9270188	FRONT COVER	1
29	* 9270175	FRONT COVER GASKET	1
30	9510422-0008	TRUNNION SHIM KIT	1
31	9270018	TRUNNION	2
34	9270655	VALVE PLATE	1
36	9510386	REAR BEARING KIT	1
38	9803390	CONTROL SCREEN FILTER	1
41	9006326-0025	RETAINING RING	1
42	9802396	FEEDBACK LINK PIN	1
43	9800589	FEEDBACK LINK	1
44	9007600-1103	DRIVE SCREW	2
47	9009650-6200	WASHER TOOTHCLK	6
49	9007200-7552	SCREW	4
50	9007200-7556	SCREW	2
51	9009610-8092	WASHER	9
52	9007276-0011	TORX SCREW	4
53	9270178	SERVO SLEEVE RETAINER	2
55	9801001	BRACKET LIFTING	1
56	9801000	BRACKET LIFTING	1
57	9005110-9500	PLUG	1
60	* 9004100-1560	O RING	2
62	* 9004100-2430	O RING	2
68	9006300-0087	RETAINING RING	8
69	9004830-0009	PIN	4
70	9009610-5387	WASHER	15
71	9007200-5026	SCREW	14
77	9005001-1200	PIPE PLUG	1
78	9005100-4400	PLUG	2
79	9005100-9700	PLUG	1
80	* 9004101-0140	O RING	1
91	9007200-6222	SCREW	6

COMMON PARTS

FOR ALL 27 SERIES VARIABLE DISPLACEMENT MOTORS

USE WITH DRAWING FORM NO. 2-41623

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<u>PART REF</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY/ MODEL</u>
101	9007200-7542	SCREW	2
106	9270355	SERVO PISTON	2
107	9270653	SERVO PISTON LINK	1
109	9007276-0055	SCREW	1
110	9009610-4069	WASHER	1
126	9510423	SHIM KIT	1
B1	9270657	BEARING PLATE	1
B2	9270656	BEARING PLATE PILOT RING	1
B3	9006250-0400	RETAINING RING	1
B4	9270209	SPRING RETAINER	1
B5	9270015	SPRING GUIDE	1
B6	9270488	CYLINDER BLOCK SPRING	1
B7	9270013	SPRING SEAT	1
B8	9260088	PIN	1
B9	9270495	CYLINDER BLOCK	1
B10	9270496	SLIPPER RETAINER GUIDE SPRING	6
B11	9270105	SLIPPER RETAINER GUIDE	1
B12	9270486	SLIPPER RETAINER	1
B13	9510408-0009	PISTON KIT (WELDED)	3
C	9510191	SHAFT SEAL KIT	1
C2	* 9004104-1490	O RING	2
C3	9220242	SPRING	12
C4	* 9004100-2430	O RING	1
C5	9510454	SEAL RETAINER	1
C6	9006201-0450	RETAINING RING	1

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NOTE: THE ASTERISK \* PRECEDING THE PART NUMBER DENOTES THAT PART IS ALSO AVAILABLE IN A SEAL/GASKET OVERHAUL KIT PART NUMBER 9510244

OPTIONS

FOR ALL 27 SERIES VARIABLE DISPLACEMENT MOTORS

USE WITH DRAWING FORM NO. 2-41623

>>>>>>> SHAFT GROUP <<<<<<<<

<u>OPTION NO.</u>	<u>PART REF</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY/ MODEL</u>
1	23	9270427	'K' KEYED	1
	98	9003261-6244	KEY	1
2	23	9270422	'M' SPLINE 15T	1
3	23	9270189	'N' SPLINE 40T	1

>>>>>>> END CAP GROUP <<<<<<<<

<u>OPTION NO.</u>	<u>PART REF</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY/ MODEL</u>
1	30	9270409	'A' 1-1/2" - 3000 PSI	1

>>>>>>> SERVO PISTON LINK GROUP <<<<<<<<

<u>OPTION NO.</u>	<u>PART REF</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY/ MODEL</u>
1	108	9270524	7.0 DEG	1

OPTIONS

FOR ALL 27 SERIES VARIABLE DISPLACEMENT MOTORS

USE WITH DRAWING FORM NO. 2-41623

>>>>>>> SERVO SLEEVE GROUP <<<<<<<<

<u>OPTION NO.</u>	<u>PART REF</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY/ MODEL</u>
1	61	9270596	SERVO SLEEVE (STANDARD)	1
	57	9005110-9500	PLUG	1
	132	9270596	SERVO SLEEVE (STROKE LIMITER)	1
	123	9260422-0027	LIMITER COVER	1
	D	9510677-26	STROKE LIMITER KIT	1
	D1	9006371-6900	EXTERNAL RETAINING RING	1
	D2	9004104-1160	O RING	1
	D3	9004201-9200	O RING	1
	D4	9260364	LIMITER HOUSING	1
	D5	9260421	LIMITER ROD	1
	D6	9003561-8700	NUT	1
	D7	9260422-0027	LIMITER COVER	1

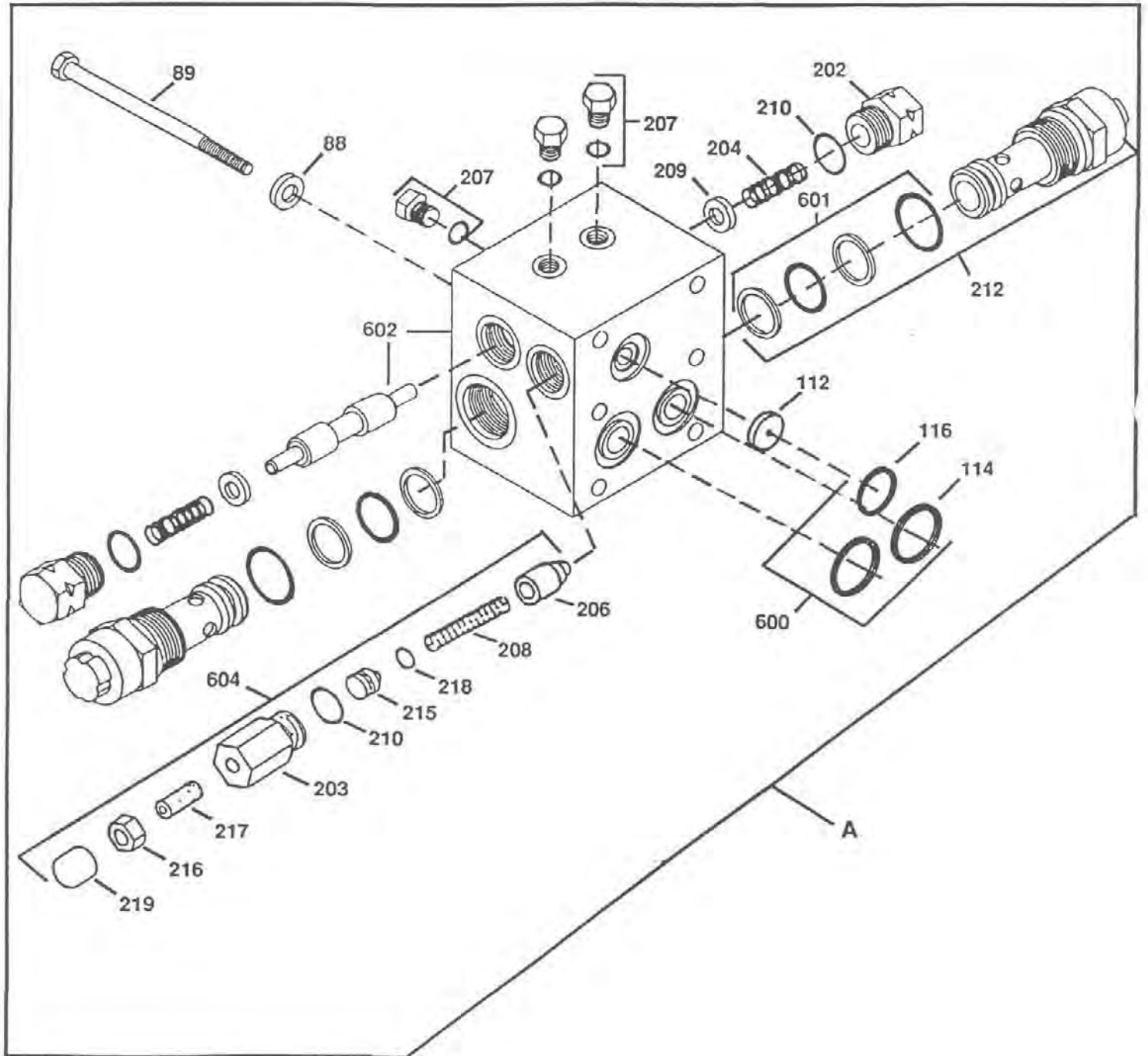
>>>>>>> CYLINDER BLOCK KIT GROUP <<<<<<<<

<u>OPTION NO.</u>	<u>PART REF</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY/ MODEL</u>
1	B	9270658	CYLINDER BLOCK KIT	1

>>>>>>> SPECIAL GROUP <<<<<<<<

<u>OPTION NO.</u>	<u>PART REF</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY/ MODEL</u>
1		NONE	CONTROL ORIFICE	NONE

STANDARD MANIFOLD ASSEMBLY KIT  
PARTS LIST  
REF # A 9510648-□□□□



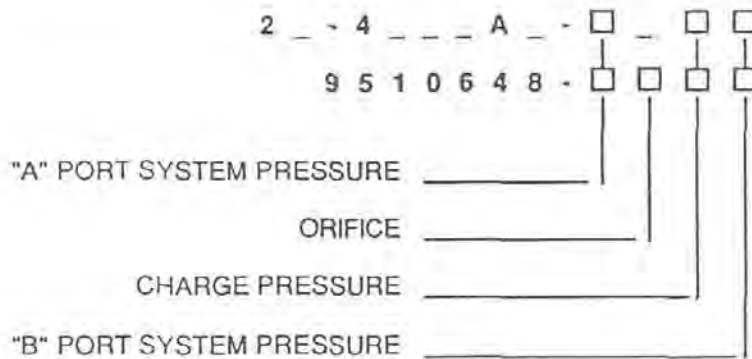


STANDARD MANIFOLD ASSEMBLY KIT

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REF # A 9 5 1 0 6 4 8 - □ □ □ □

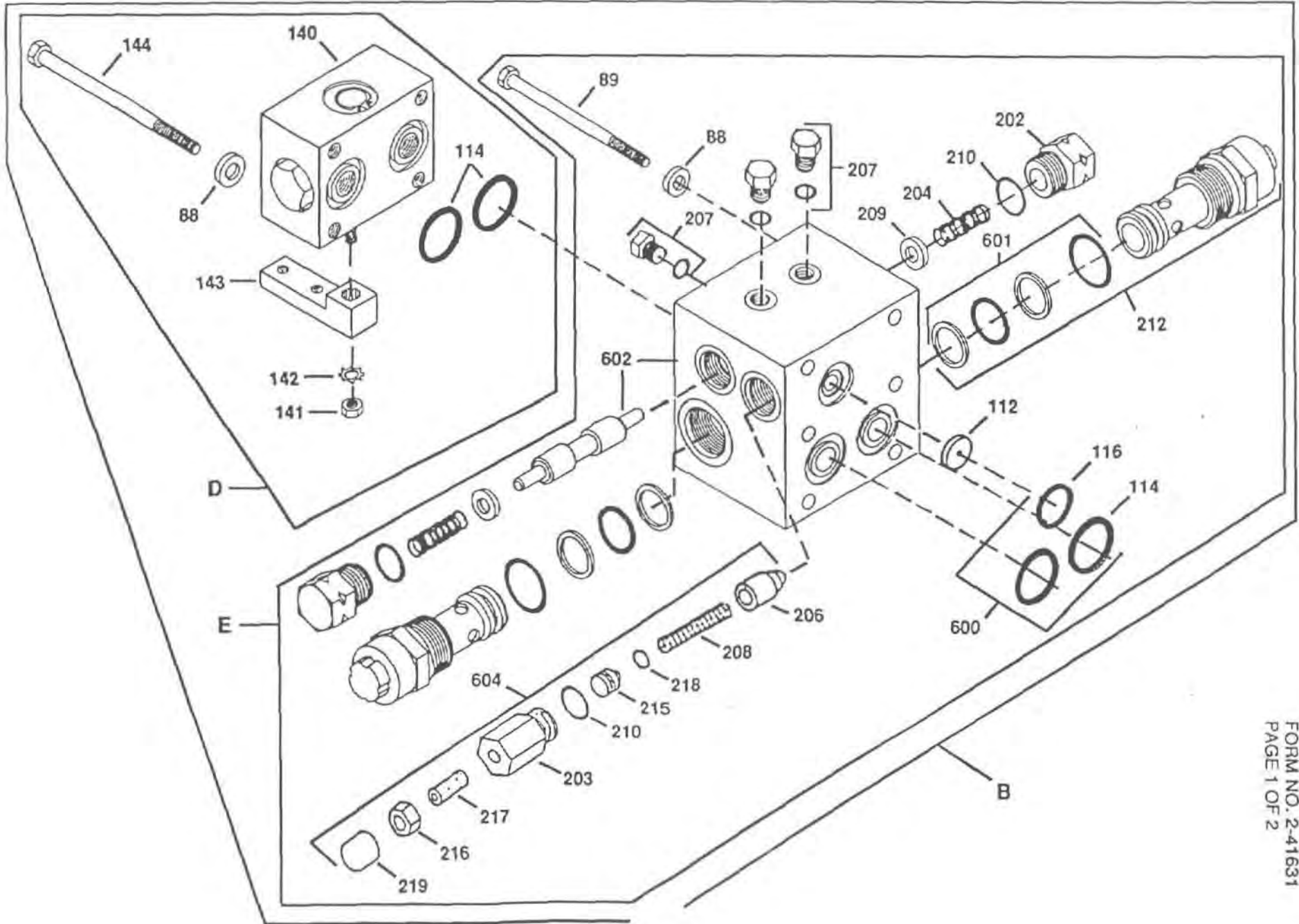
REF #	PART NUMBER	DESCRIPTION	QTY
88	9009610-3459	WASHER	6
89	9007200-3142	HEX HD CAP SCREW	6
112	SEE BELOW	ORIFICE	1
114	9004375-0012	O RING	2
116	9004375-0017	O RING	1
202	9802034	HEX PLUG	2
203	9803461	CHARGE RELIEF PLUG	1
204	9800366	SHUTTLE VALVE SPRING	2
206	9801206	CHARGE RELIEF VALVE	1
207	9005100-4400	HEX PLUG	3
208	9803311	CHARGE RELIEF SPRING	1
209	9009625-2901	WASHER	2
210	9004201-6200	O RING	3
212	SEE BELOW	HIGH PRESSURE RELIEF	2
215	9803462	PLUNGER	1
216	9003561-3700	NUT	1
217	9007774-0007	SET SCREW	1
218	9004100-0120	O RING	1
219	9803352	COVER	1
600	9510049	O RING KIT	1
601	9510048	RELIEF VALVE SEAL KIT	1
602	9510649	MANIFOLD HSG ASS'Y	1
604	9510683	CHARGE RELIEF ASS'Y	1



CODE	SYSTEM PRESSURE	REF # 212	ORIFICE SIZE	REF # 112	CHARGE PRESSURE
A	1000 PSI	9510650-A	-	-	-
B	1500 PSI	9510650-B	-	-	160/180
C	2000 PSI	9510650-C	-	-	180/200
D	2500 PSI	9510650-D	-	-	200/220
E	3000 PSI	9510650-E	-	-	220/240
F	3500 PSI	9510650-F	.070 SPCL	9803457-0070	240/260
G	4000 PSI	9510650-G	-	-	260/280
H	4500 PSI	9510650-H	-	-	280/300
J	5000 PSI	9510650-J	-	-	300/320
K	5500 PSI	9510650-K	-	-	320/340
L	6000 PSI	9510650-L	-	-	340/360
M	6500 PSI	9510650-M	-	-	360/380
N	7000 PSI	9510650-N	-	-	-
S	-	-	.390 STD	9803457-390	-
W	PLT OPERATED	-	-	-	-

ROTARY BYPASS/MANIFOLD ASSEMBLY KIT  
PARTS LIST

REF # B 9510664-□□□□

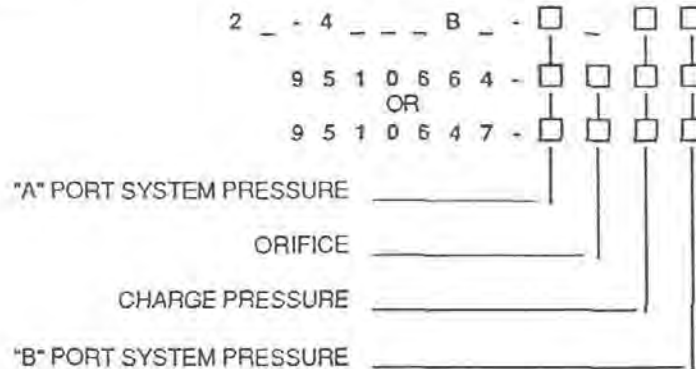


# ROTARY BYPASS/MANIFOLD ASSEMBLY KIT

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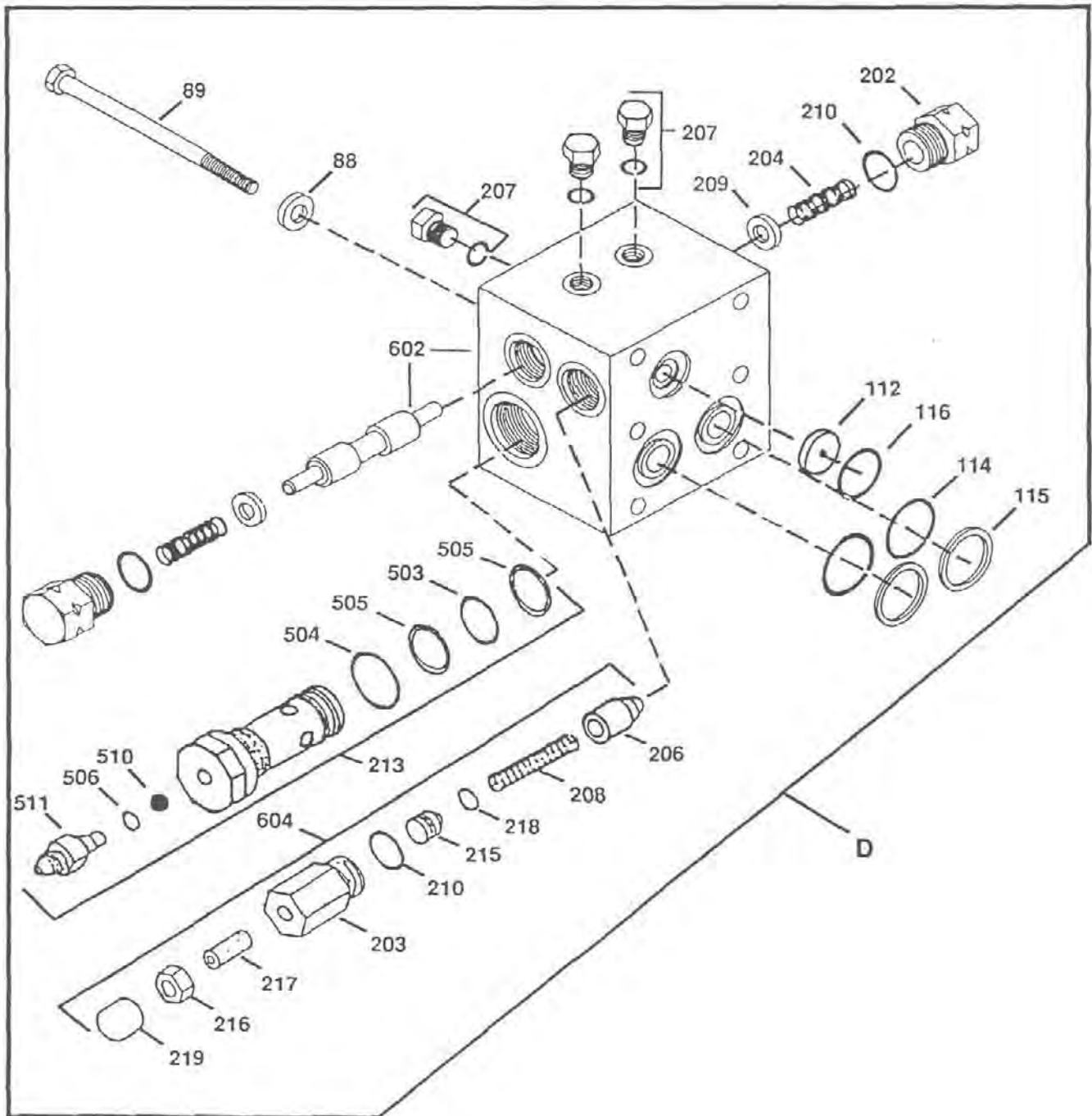
REF # B 9 5 1 0 6 6 4 - □ □ □ □

REF #	PART NUMBER	DESCRIPTION	QTY
D	9510173	ROTARY BYPASS KIT	1
88	9009610-3459	WASHER	4
114	9004375-0012	O RING	2
140	9801231-01	BYPASS VALVE ASSEMBLY	1
141	9003560-2500	NUT	1
142	9009660-2500	TOOTHLOCK WASHER	1
143	9803418	HANDLE	1
144	9007200-3156	SCREW	4
E	9510647-	MANIFOLD ASSEMBLY KIT	
88	9009610-3459	WASHER	6
89	9007200-3142	HEX HD CAP SCREW	2
112	SEE BELOW	ORIFICE	1
114	9004375-0012	O RING	4
116	9004375-0017	O RING	1
202	9802034	HEX PLUG	2
203	9803461	CHARGE RELIEF PLUG	1
204	9800366	SHUTTLE VALVE SPRING	2
206	9801206	CHARGE RELIEF VALVE	1
207	9005100-4400	HEX PLUG	3
208	9803311	CHARGE RELIEF SPRING	1
209	9009625-2901	WASHER	2
210	9004201-6200	O RING	3
212	SEE BELOW	HIGH PRESSURE RELIEF	2
215	9803462	PLUNGER	1
216	9003561-3700	NUT	1
217	9007774-0007	SET SCREW	1
218	9004100-0120	O RING	1
219	9803352	COVER	1
600	9510049	O RING KIT	1
601	9510048	RELIEF VALVE SEAL KIT	1
604	9510683	CHARGE RELIEF ASS'Y	1



CODE	SYSTEM PRESSURE	REF # 212	ORIFICE SIZE	REF # 112	CHARGE PRESSURE
A	1000 PSI	9510650-A	-	-	-
B	1500 PSI	9510650-B	-	-	160/180
C	2000 PSI	9510650-C	-	-	180/200
D	2500 PSI	9510650-D	-	-	200/220
E	3000 PSI	9510650-E	-	-	220/240
F	3500 PSI	9510650-F	.070 SPCL	9803457-0070	240/260
G	4000 PSI	9510650-G	-	-	260/280
H	4500 PSI	9510650-H	-	-	280/300
J	5000 PSI	9510650-J	-	-	300/320
K	5500 PSI	9510650-K	-	-	320/340
L	6000 PSI	9510650-L	-	-	340/360
M	6500 PSI	9510650-M	-	-	360/380
N	7000 PSI	9510650-N	-	-	-
S	-	-	390 STD	9803457-0390	-
W	PLT OPERATED	-	-	-	-

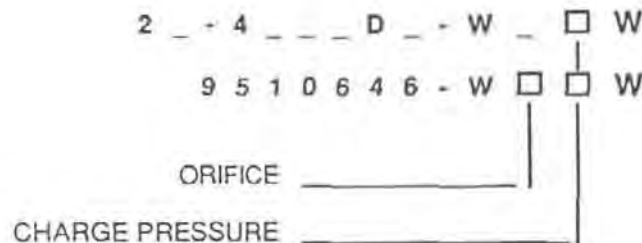
REMOTE PILOT RELIEF MANIFOLD ASSEMBLY KIT  
PARTS LIST  
REF # D 9510646 - W□□W



REMOTE PILOT RELIEF MANIFOLD ASSEMBLY KIT

REF # D 9 5 1 0 6 4 6 - W □ □ W

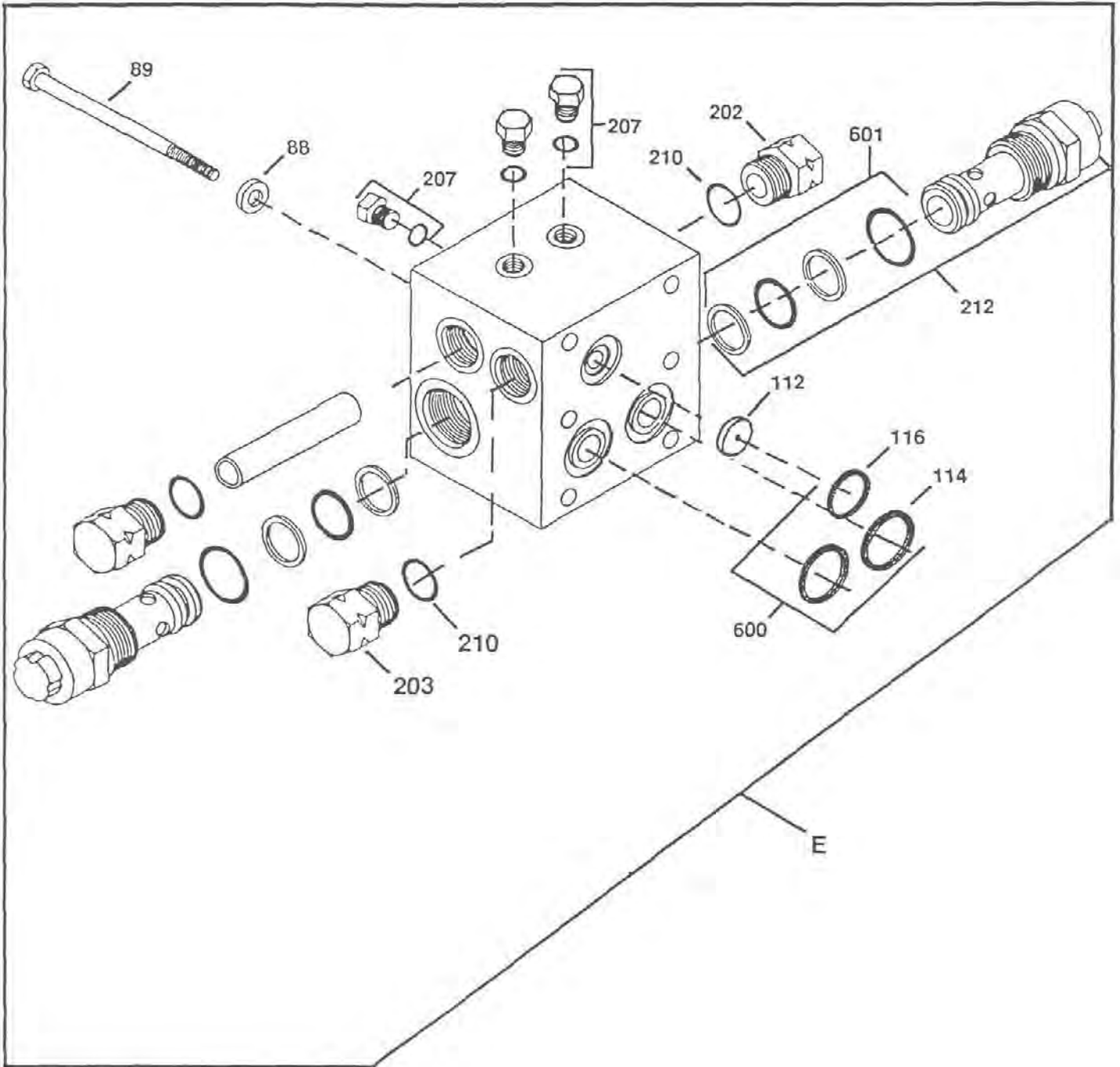
REF #	PART NUMBER	DESCRIPTION	QTY
88	9009610-3459	WASHER	6
89	9007200-3142	HEX HD CAP SCREW	6
112	SEE BELOW	ORIFICE	1
114	9004105-1190	O RING	2
115	9006150-1190	BACKUP RING	2
116	9004105-0200	O RING	1
202	9802034	HEX PLUG	2
203	9803461	CHARGE RELIEF PLUG	1
204	9800366	SHUTTLE VALVE SPRING	2
206	9801206	CHARGE RELIEF VALVE	1
207	9005100-4400	HEX PLUG	3
208	9803311	CHARGE RELIEF SPRING	1
209	9009625-2901	WASHER	2
210	9004201-6200	O RING	3
212	9803347	HIGH PRESSURE RELIEF	2
215	9803462	PLUNGER	1
216	9003561-3700	NUT	1
217	9007774-0007	SET SCREW	1
218	9004100-0120	O RING	1
219	9803352	COVER	1
503	9004105-1170	O RING	2
504	9004202-8700	O RING	2
505	9006110-1170	BACKUP RING	2
506	9004202-3100	O RING	2
510	9001212-2500	BALL	2
511	9803232	SPECIAL FITTING	2
602	9510649	MANIFOLD HSG ASS'Y	1
604	9510683	CHARGE RELIEF ASS'Y	1



CODE	ORIFICE SIZE	REF #	CHARGE PRESSURE
A	-	-	-
B	-	-	160/180
C	-	-	180/200
D	-	-	200/220
E	3-	-	220/240
F	.070 SPCL	9803457-0070	240/260
G	-	-	260/280
H	-	-	280/300
J	-	-	300/320
K	-	-	320/340
L	-	-	340/360
M	-	-	360/380
N	-	-	-
S	.390 STD	9803457-0390	-
W	-	-	-

BLOCKED SHUTTLE (BOTH PORTS) MANIFOLD ASSEMBLY KIT  
PARTS LIST

REF # E 9510652- □ SX □



BLOCKED SHUTTLE (BOTH PORTS) MANIFOLD ASSEMBLY KIT

REF # E 9 5 1 0 6 5 2 - □ S X □

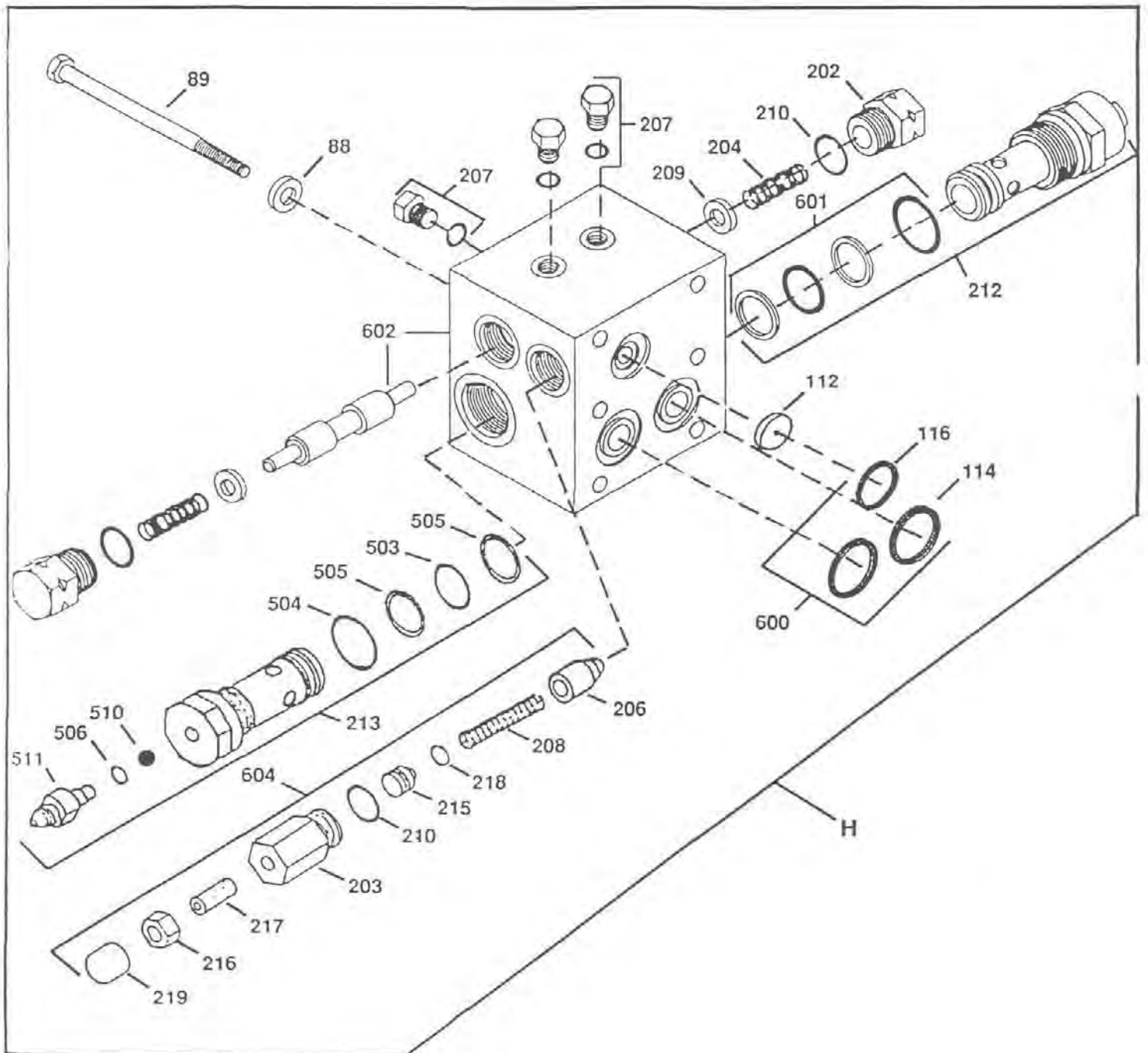
REF #	PART NUMBER	DESCRIPTION	QTY
88	9009610-3459	WASHER	6
89	9007200-3142	HEX HD CAP SCREW	6
112	9803457-0390	ORIFICE	1
114	9004375-0012	O RING	2
116	9004375-0017	O RING	1
202	9005100-8700	HEX PLUG	2
203	9005100-8700	HEX PLUG	1
207	9005100-4400	HEX PLUG	3
210	9004201-6200	O RING	3
212	SEE BELOW	HIGH PRESSURE RELIEF	2
223	9004810-6234	PIN	1
600	9510049	O RING KIT	1
601	9510048	RELIEF VALVE SEAL KIT	1

2 \_ - 4 \_ \_ \_ E \_ - □ S X □  
9 5 1 0 6 5 2 - □ S X □

"A" PORT SYSTEM PRESSURE \_\_\_\_\_  
"B" PORT SYSTEM PRESSURE \_\_\_\_\_

CODE	SYSTEM PRESSURE	REF # 212
A	1000 PSI	9510650-A
B	1500 PSI	9510650-B
C	2000 PSI	9510650-C
D	2500 PSI	9510650-D
E	3000 PSI	9510650-E
F	3500 PSI	9510650-F
G	4000 PSI	9510650-G
H	4500 PSI	9510650-H
J	5000 PSI	9510650-J
K	5500 PSI	9510650-K
L	6000 PSI	9510650-L
M	6500 PSI	9510650-M
N	7000 PSI	9510650-N
S	-	-
W	PLT OPERATED	-

REMOTE/STANDARD PILOT RELIEF MANIFOLD ASSEMBLY KIT  
PARTS LIST  
REF # H 9510674 - W □□□

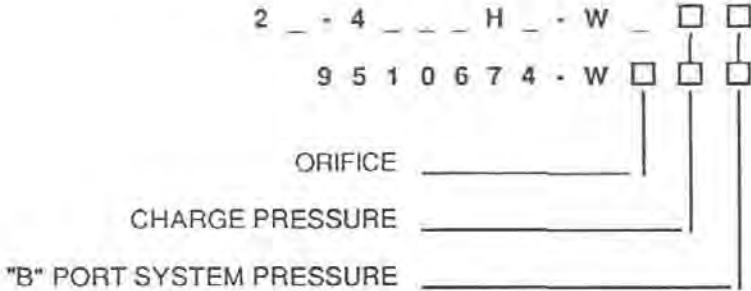




REMOTE/STANDARD PILOT RELIEF MANIFOLD ASSEMBLY KIT

REF # H 9 5 1 0 6 7 4 - W □ □ □

REF #	PART NUMBER	DESCRIPTION	QTY
88	9009610-3459	WASHER	6
89	9007200-3142	HEX HD CAP SCREW	6
112	SEE BELOW	ORIFICE	1
114	9004375-0012	O RING	2
116	9004375-0017	O RING	1
203	9803461	CHARGE RELIEF PLUG	1
204	9800366	SHUTTLE VALVE SPRING	2
206	9801206	CHARGE RELIEF VALVE	1
207	9005100-4400	HEX PLUG	3
208	9803311	CHARGE RELIEF SPRING	1
209	9009625-2901	WASHER	2
210	9004201-6200	O RING	3
212	SEE BELOW	HIGH PRESSURE RELIEF	1
213	9803347	HIGH PRESSURE RELIEF	1
215	9803462	PLUNGER	1
216	9003561-3700	NUT	1
217	9007774-0007	SET SCREW	1
218	9004100-0120	O RING	1
219	9803352	COVER	1
503	9004105-1170	O RING	2
504	9004202-8700	O RING	1
505	9006110-1170	BACKUP RING	2
506	9004202-3100	O RING	1
510	9001212-2500	BALL	1
511	9803232	SPECIAL FITTING	1
600	9510049	O RING KIT	1
602	9510649	MANIFOLD HSG ASS'Y	1
604	9510683	CHARGE RELIEF ASS'Y	1

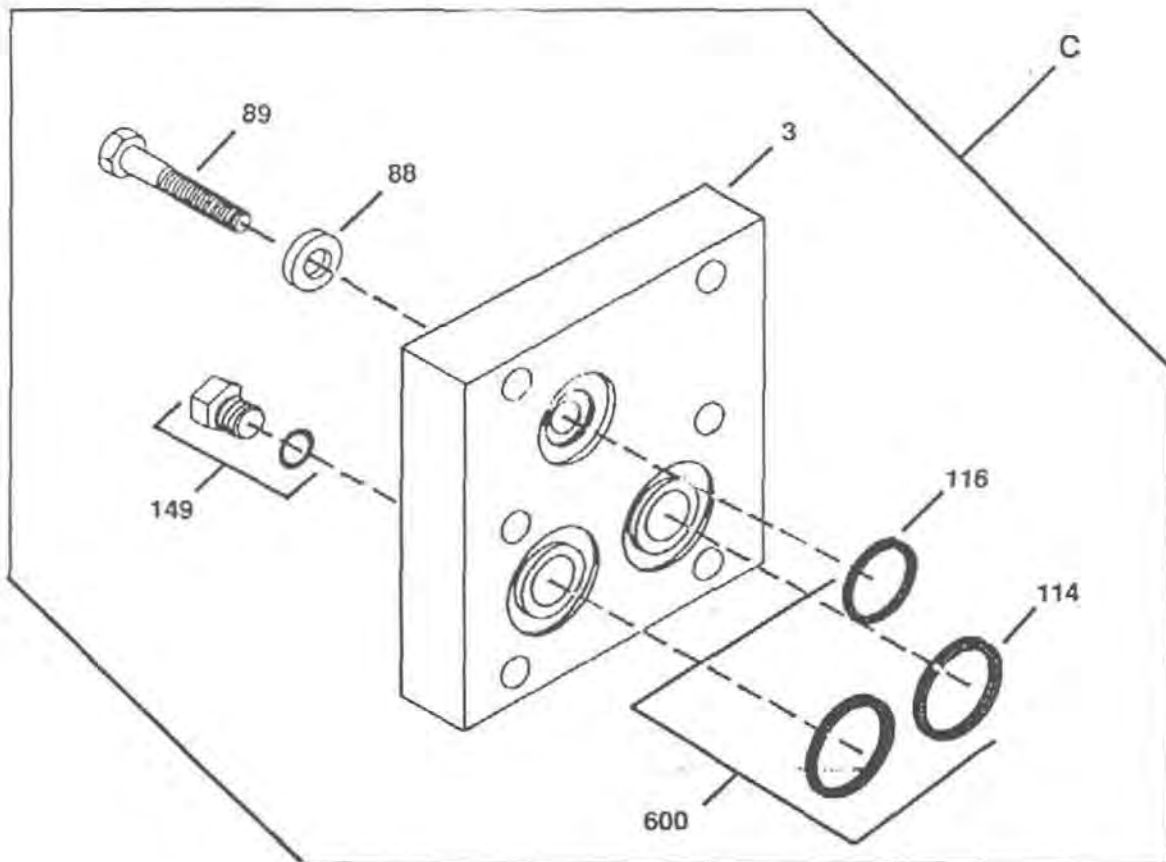


CODE	SYSTEM PRESSURE	REF # 212	ORIFICE SIZE	REF # 112	CHARGE PRESSURE
A	1000 PSI	9510650-A	-	-	-
B	1500 PSI	9510650-B	-	-	160/180
C	2000 PSI	9510650-C	-	-	180/200
D	2500 PSI	9510650-D	-	-	200/220
E	3000 PSI	9510650-E	-	-	220/240
F	3500 PSI	9510650-F	.070 SPCL	9803457-0070	240/260
G	4000 PSI	9510650-G	-	-	260/280
H	4500 PSI	9510650-H	-	-	280/300
J	5000 PSI	9510650-J	-	-	300/320
K	5500 PSI	9510650-K	-	-	320/340
L	6000 PSI	9510650-L	-	-	340/360
M	6500 PSI	9510650-M	-	-	360/380
N	7000 PSI	9510650-N	-	-	-
S	-	-	.390 STD	9803457-0390	-
W	PLT OPERATED	-	-	-	-

MANIFOLD COVER PLATE KIT

REF # C 9510157

<u>REF #</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY</u>
3	9801172	COVER PLATE	1
88	9009610-3459	WASHER	6
89	9007200-3122	SCREW	6
114	9004375-0012	O RING	2
116	9004375-0017	O RING	1
149	9005100-4400	HEX PLUG	2
600	9510049	O RING KIT	1

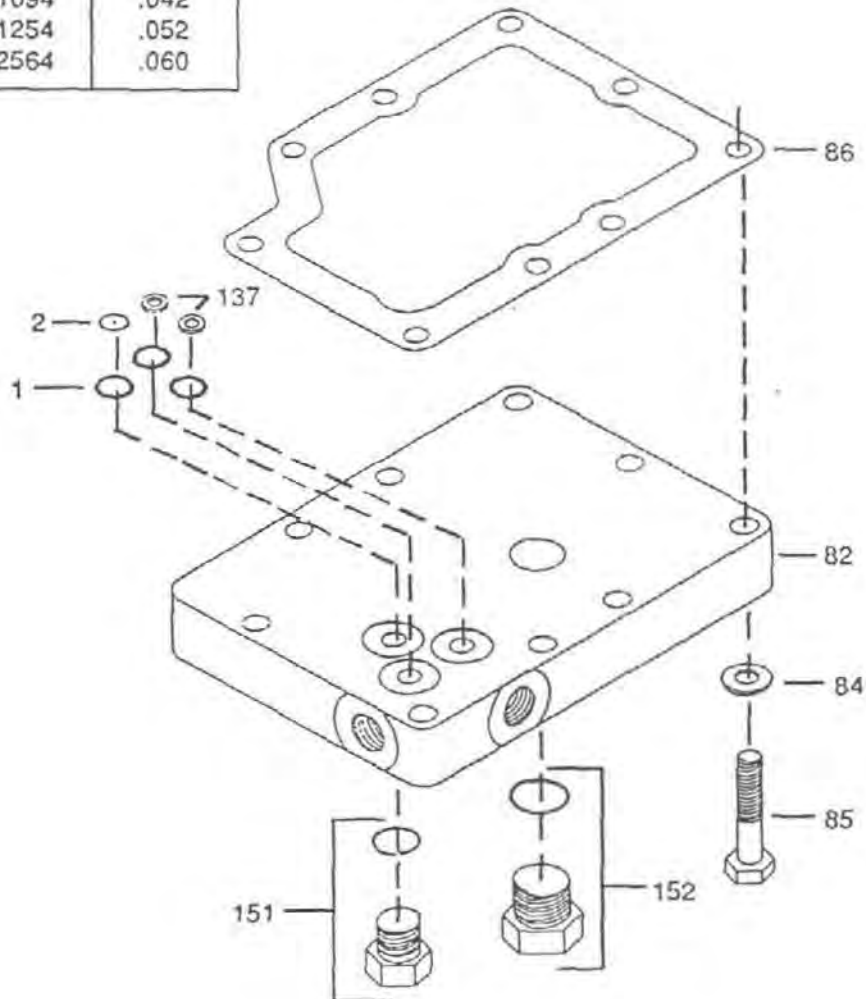


# CONTROL SLAVE PLATE

FORM NO. 2-41627  
PAGE 1 OF 1

REF. NUMBER	PART NUMBER	DESCRIPTION	QTY
1	9004101-0140	O RING	3
2	SEE 'SPECIAL GROUP'	ORIFICE	1
82	9801487	SLAVE PLATE	1
84	9009610-2850	WASHER	9
85	9007200-2522	SCREW	9
86	9803340	CONTROL GASKET	1
137	9803326	CONTROL PLUG	2
151	9005100-4400	PLUG	1
152	9005100-5600	PLUG	1

REF. NO. 2 ORIFICE	ORIFICE SIZE
9802412	.025
9801202	.036
9801094	.042
9801254	.052
9802564	.060



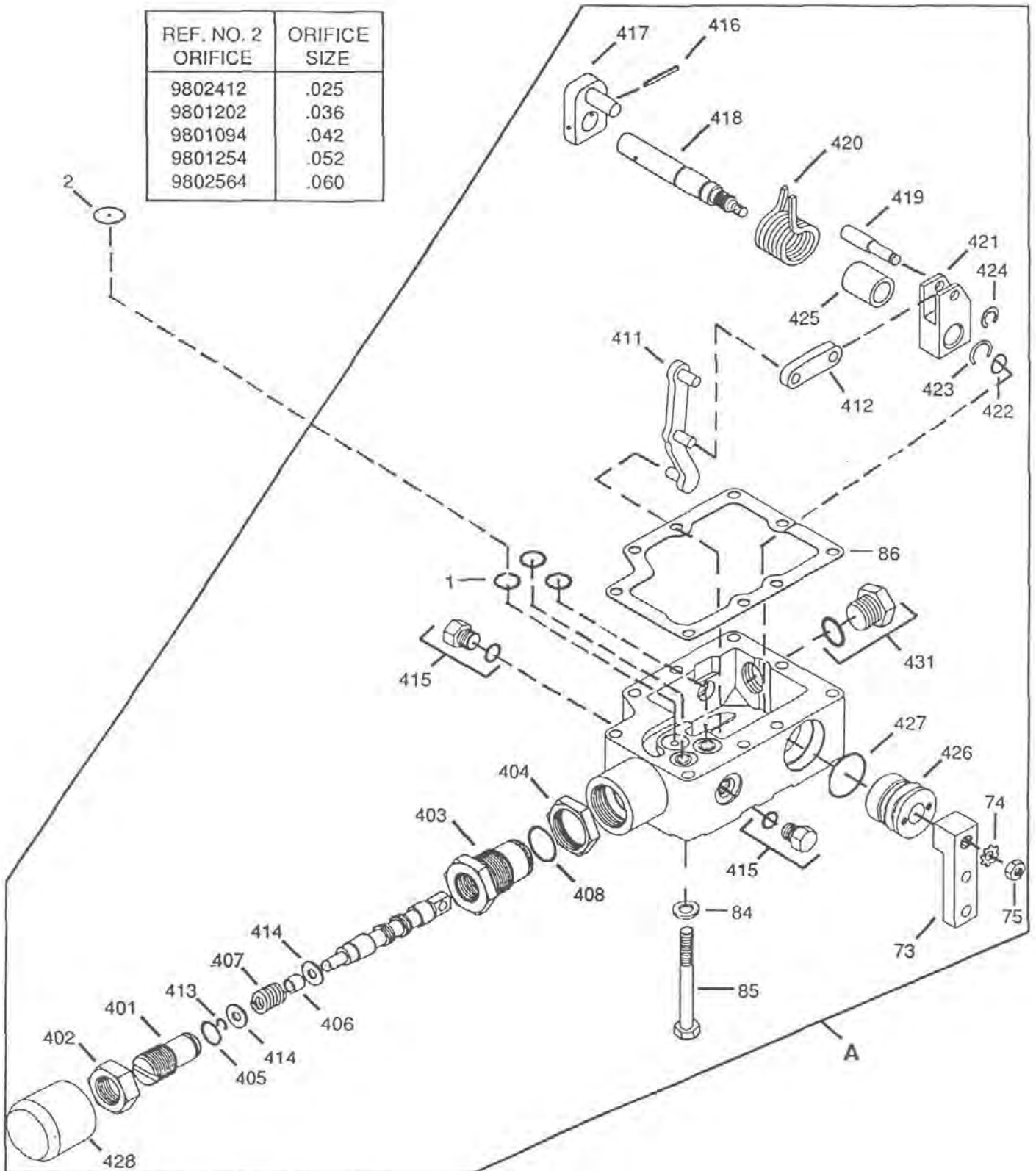
# MANUAL DISPLACEMENT CONTROL VALVE

FORM NO. 2-41624

PAGE 1 OF 2

REF # A 9510368 - □ □ □ □

REF. NO. 2 ORIFICE	ORIFICE SIZE
9802412	.025
9801202	.036
9801094	.042
9801254	.052
9802564	.060



**MANUAL DISPLACEMENT CONTROL  
VALVE ASSEMBLY KIT**

FORM NO. 2-41624  
PAGE 2 OF 2

9 5 1 0 3 6 8 - □ □ □ □

<u>REF. NUMBER</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY</u>
A	SEE TABLE II	CONTROL VALVE SERVICE KIT	1
1	9004101-0140	O RING	3
2	SEE 'SPECIAL GROUP'	ORIFICE (NOT INCLUDED IN KIT)	1
72	9800917	SPACER	1
73	9803418	HANDLE	1
74	9009660-2500	WASHER	1
75	9003560-2500	NUT	1
84	9009610-2850	WASHER	1
85	9007200-2530	SCREW	9
86	9803340	CONTROL GASKET	9
401	9803304	SCREW	1
402	9003571-7500	NUT	1
403	9800214	CENTERING SPRING HOUSING	1
404	9003575-0001	LOCKING NUT	1
405	9004101-0140	O RING	1
406	9801035	SLEEVE	1
407	9801036	SPRING	1
408	9004100-0190	O RING	1
411	SEE TABLE II	CONTROL LINK ASSEMBLY	1
412	SEE TABLE II	LINK	1
413	9006326-0025	RETAINING RING	1
414	9009625-2502	CENTERING SPRING WASHER	1
415	9005100-4400	PLUG	2
416	9004700-1216	SPRING PIN	2
417	9800213	ACTUATOR	1
418	9800204	CONTROL HANDLE SHAFT	1
419	9800908	RETURN SPRING STOP	1
420	9801931	SPRING	1
421	9800909	CONTROL SHAFT LINK	1
422	9004101-0120	O RING	1
423	9006320-0050	RETAINING RING	1
424	9006375-0026	RETAINING RING	1
425	9801930	SPRING SLEEVE	1
426	9800997	CONTROL SHAFT BUSHING	1
427	9004100-0230	O RING	1
428	9800883	COVER	1
431	9005100-7500	PLUG	1

TABLE II

FRAME SIZE	REF. NO. 411 LINK ASS'Y	REF. NO 412 LINK	2x-45xxxA-xxxx CONTROL KIT
21-22	9801721	9800905	9510368-4001
23	9802041	9800907	9510368-4002
24	9801749	9800905	9510368-4003
25-26	9801747	9800906	9510368-4004
27	9801748	9800907	9510368-4005

# ELECTRONIC DISPLACEMENT CONTROL

FORM NO. 2-41628  
PAGE 1 OF 1

REF. NO.	PART NUMBER	DESCRIPTION	QTY
1	9804101-0140	O RING	SEE TABLE II
2	SEE "SPECIAL GROUP"	ORIFICE	2
16	SEE TABLE I	LINK & BALL ASS'Y	1
37	SEE TABLE I	SPACER PLATE	1
* 82	SEE CONTROL SERIAL TAG	EDC	1
83	SEE TABLE I	SCREW	2
85	SEE TABLE I	SCREW	5
86	9803340	CONTROL GASKET	SEE TABLE II

\* CONTACT SUNDSTRAND-SAUER MINNEAPOLIS FOR AVAILABILITY

TABLE I

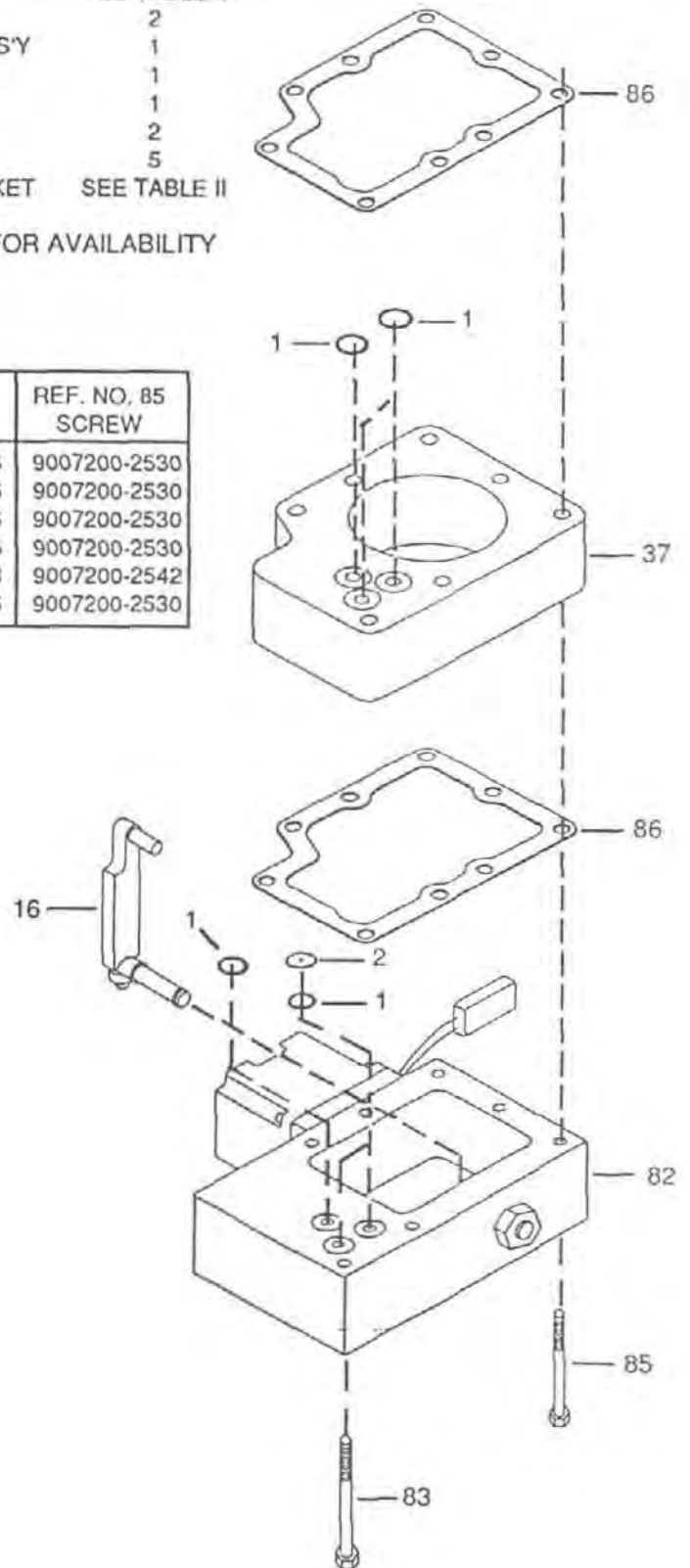
FRAME SIZE	REF. NO. 16 LINK & BALL	REF. NO. 37 SPACER PLATE	REF. NO. 83 SCREW	REF. NO. 85 SCREW
21-22	12499678-003	NOT REQUIRED	9007200-2536	9007200-2530
23	12499678-004	NOT REQUIRED	9007200-2536	9007200-2530
24	12499678-005	NOT REQUIRED	9007200-2536	9007200-2530
25	12499678-006	NOT REQUIRED	9007200-2536	9007200-2530
26	12499678-007	9803195-0002	9007200-2548	9007200-2542
27	12499678-008	NOT REQUIRED	9007200-2536	9007200-2530

TABLE II

REF. NO. 1 O RING QTY	REF. NO. 86 GASKET QTY
3	1
3	1
3	1
3	1
6	2
3	1

TABLE III

REF. NO 2 ORIFICE P/N	ORIFICE SIZE
9802412	.025
9801202	.036
9801094	.042
9801254	.052
9802564	.060



# HYDRAULIC DISPLACEMENT CONTROL

FORM NO. 2-41629  
PAGE 1 OF 1

REF. NUMBER	PART NUMBER	DESCRIPTION	QTY
1	9004101-0140	O RING	3
2	SEE 'SPECIAL GROUP'	ORIFICE	1
16	SEE TABLE II	LINK & BALL ASS'Y	1
* 82	SEE CONTROL SERIAL TAG	HDC	1
85	9007200-2530	SCREW	7
86	9803340	CONTROL GASKET	1

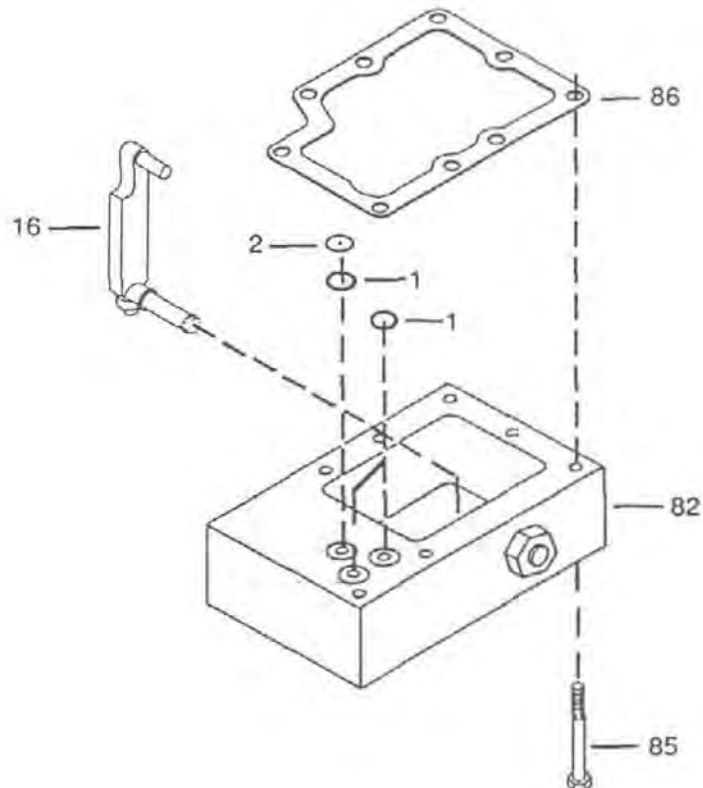
\* CONTACT SUNDSTRAND-SAUER MINNEAPOLIS FOR AVAILABILITY

TABLE I

REF. NO. 2 ORIFICE P/N	ORIFICE SIZE
9802412	.025
9801202	.036
9801094	.042
9801254	.052
9802564	.060

TABLE II

FRAME SIZE	REF. NO. 16 LINK & BALL
21-22	12499678-003
23	12499678-004
24	12499678-005
25	12499678-006
26	12499678-007
27	12499678-008



NOTES:





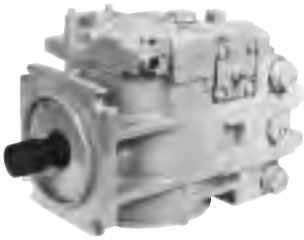



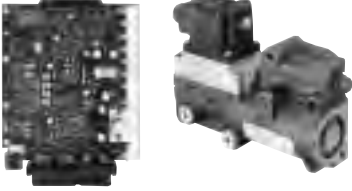
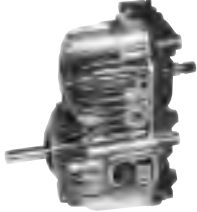



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