



Section XIV. PARTS LISTS.

60. PARTS LISTS.

Use Figures 62 through 68 and the adjacent parts lists for ordering spare or replacement parts in accordance with the instructions contained in Paragraphs 3 and 4. Following the parts lists are photographs of the MG-540 Marine Gear.

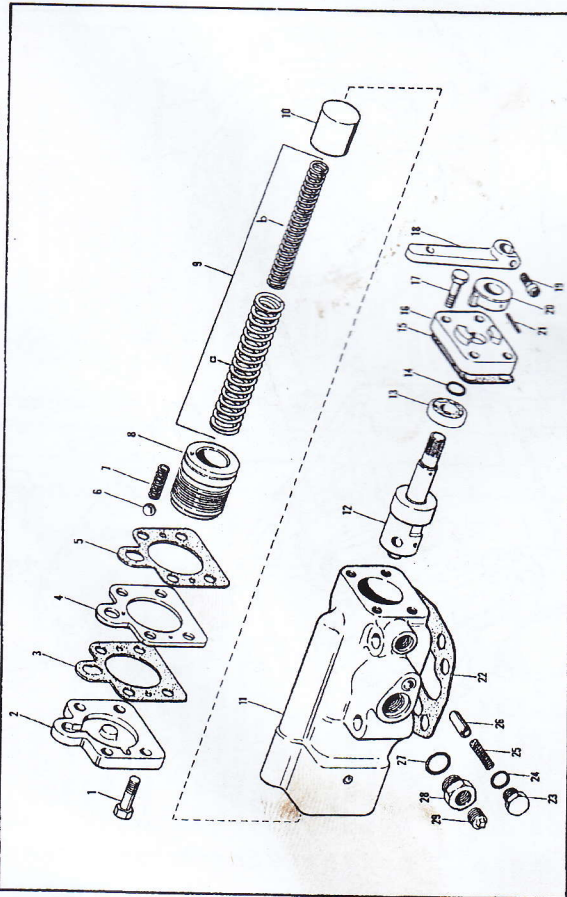


Figure 62. Selector and Regulating Valve.

SELECTOR AND REGULATING VALVE

Item	Description	Quantity	Item	Description	Quantity
1	CAPSCREW, hex-head (5/16-18 x 1)	4	15	GASKET	1
2	COVER PLATE	1	16	COVER, plate	1
3	GASKET, plate	1	17	CAPSCREW, hex-head (5/16-18 x 1)	4
4	PLATE, orifice	1	18	LEVER, selector	1
5	GASKET, plate	1	19	CAPSCREW, socket-head (1/4-20 x 7/8)	1
6	BALL, steel (7/16)	1	20	COLLAR, stop	1
7	SPRING	1	21	ROLL PIN	1
8	PISTON, pressure rate control	1	22	GASKET, valve body	1
9	SPRING ASSEMBLY	1	23	PLUG, (1/2-20)	1
a	SPRING, outer	1	24	"O" RING, (1/2)	1
b	SPRING, inner	1	25	SPRING, detent	1
10	PISTON, pressure regulating	1	26	DETTENT	1
11	BODY, valve	1	27	"O" RING (3/4)	1
12	SELECTOR VALVE	1	28	PLUG, (3/4-16) (special)	1
13	BALL BEARING	1	29	PLUG, pipe (1/4)	1
14	"O" RING	1			

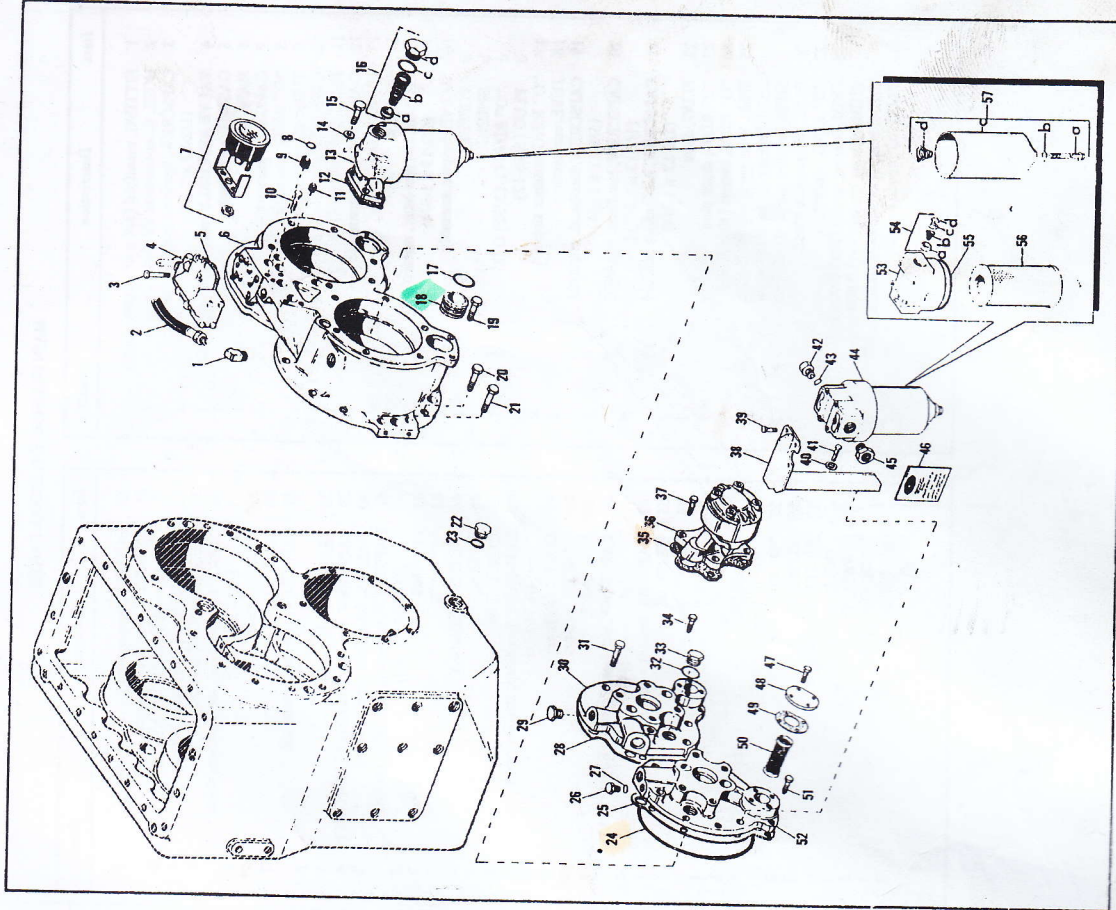


Figure 63. Main Housing External Parts - Manifold.

MAIN HOUSING EXTERNAL PARTS

Item	Description	Quantity
1	FITTING, manifold (3/4 x 45 degree elbow)	1
2	HOSE, filter-to-manifold (3/4 x 26-1/2)	1
3	CAPSCREW, hex-head, selector valve (1/2-13 x 2-1/2)	4
4	VALVE ASSEMBLY, main (250 psi pressure)	1
5	GASKET, valve body	1
6	MANIFOLD	1
7	GAUGE, oil pressure	1
8	"O" RING, connecting tube (7/8 diameter)	4
9	TUBE, connecting	4
10	CAPSCREW, hex-head, manifold (1/2-13 x 7)	2
11	PLUG, manifold (3/4)	1
12	GASKET, filter-to-manifold	1
13	HEAD, filter	1
14	WASHER	4
15	CAPSCREW, hex-head, manifold (1/2-13 x 1-3/4)	4
16	VALVE, by-pass assembly	4
a	POCKET	1
b	SPRING	1
c	"O" RING (1-13/32) O.D.	1
d	PLUG (5/16-12)	1
17	TUBE, connecting	1
18	"O" RING, strainer sleeve (5/8-11 x 1-3/4)	4
19	CAPSCREW, hex-head, manifold (1/2-13 x 1-1/2)	2
20	CAPSCREW, hex-head, manifold (1/2-13 x 1-1/2)	8
21	CAPSCREW, hex-head, manifold (1/2-13 x 1-3/4)	4
22	PLUG, drain	1
23	"O" RING, drain plug	1
24	"O" RING, carrier (Rev. & For.)	6
25	SHIM, bearing carrier 0.005 inch	3
26	SHIM, bearing carrier 0.007 inch	3
27	PLUG, oil pressure check	1
28	"O" RING, (carrier)	2
29	SHIM, bearing carrier (Rev) 0.005 inch	3
30	SHIM, bearing carrier (Rev) 0.007 inch	3
31	SHIM, bearing carrier (Rev) 0.020 inch	3
32	PLUG, oil pressure check	1

Item	Description	Quantity
30	CARRIER, bearing and pump mount (Rev. & For.) (1/2-13 x 1-1/2)	1
31	CAPSCREW, hex-head, carrier	8
32	"O" RING, drain plug, come home plug	4
33	PLUG, come home screw	4
34	CAPSCREW, hex-head, carrier-to-manifold (1/2-13 x 2-1/2)	2
35	GASKET, pump	2
36	PUMP, oil	2
37	CAPSCREW, hex-head, manifold (1/2-13 x 1-1/2)	8
38	BRACKET, lube oil filter	1
39	CAPSCREW, hex-head, manifold (3/8-16 x 1)	4
40	WASHER, lube filter bracket (1/2)	2
41	CAPSCREW, hex-head, lube filter bracket (1/2-13 x 1-3/4)	2
42	FITTING	1
43	"O" RING	1
44	FILTER ASSEMBLY	1
45	FITTING	1
46	LABEL, filter	1
47	CAPSCREW, hex-head, strainer cover (3/8-16 x 1)	8
48	COVER, strainer	2
49	GASKET, strainer	2
50	STRAINER	2
51	CAPSCREW, hex-head, carrier (Rev. & For.) (3/8-16 x 1-1/4)	4
52	CARRIER, bearing and pump mount	1
53	HEAD, filter	1
54	VALVE, by-pass assembly	1
a	POCKET	1
b	SPRING	1
c	WASHER	1
d	RING, snap, internal	1
55	"O" RING	2
56	ELEMENT	2
57	FILTER ASSEMBLY	2
a	BOLT, hold down	1
b	WASHER	1
c	BODY, filter	1
d	SPRING	1

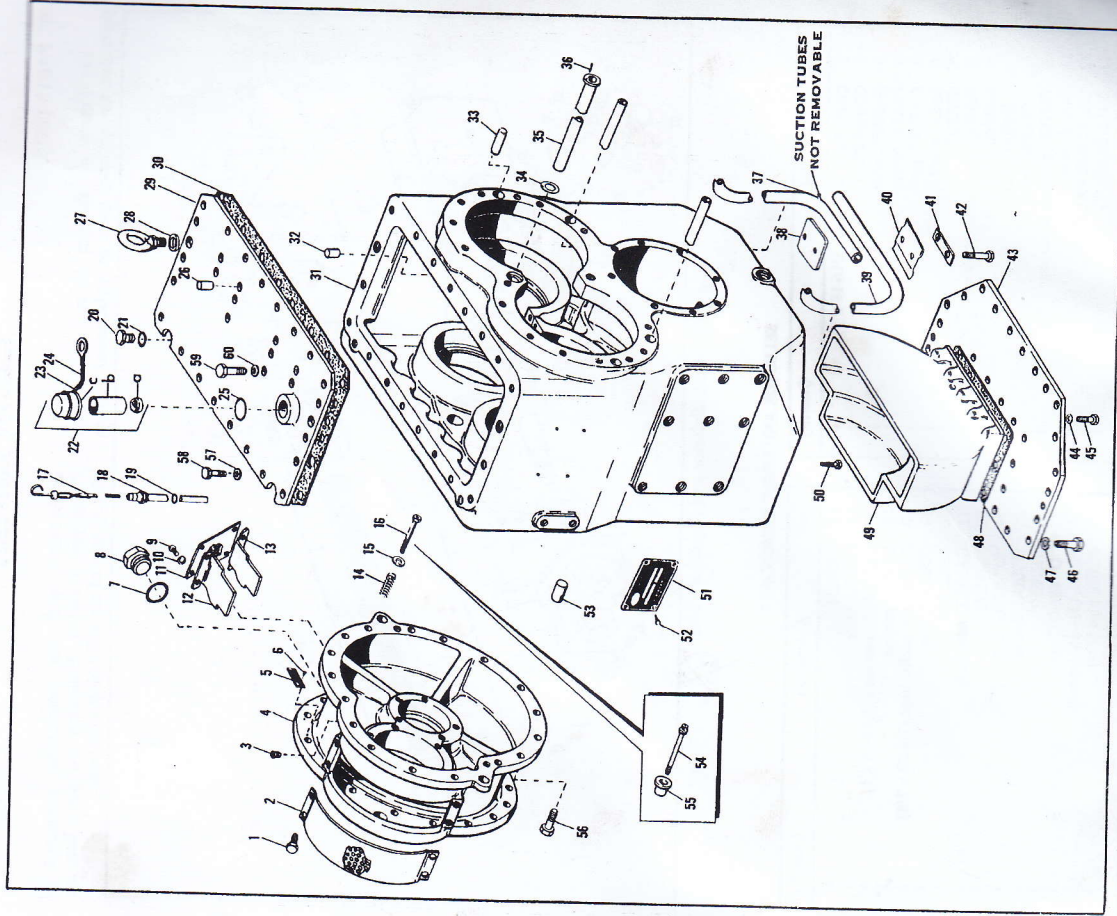


Figure 64. Main Housing Group of Parts (Top, Bottom and Front).

Model MG-540

MAIN HOUSING GROUP OF PARTS (TOP-BOTTOM-FRONT)

Item	Description	Quantity
1	CAPSCREW, hex-head, screw access (5/16-18 x 1/2)	4
2	COVER, housing, bolt access	1
3	PLUG, pipe (1/4) (for front housing)	1
4	HOUSING, front	1
5	PLATE, rotation indicator	1
6	SCREW, drive, rotation indicator	2
7	"O" RING, plug, gear mesh inspection	1
8	PLUG, gear mesh inspection	1
9	CAPSCREW, hex-head, block (rubber) access (3/8-16 x 3/4)	4
10	WASHER, air baffle	4
11	COVER, block access	1
12	BAFFLE * front housing air	1
13	BAFFLE * front housing air	1
14	SPRING, oil return tube	1
15	PLATE, poppet valve	1
16	STEM, lube valve	1
17	GAUGE, oil level	1
18	TUBE, oil level	1
19	"O" RING, oil level tube	1
20	PLUG, oil level tube hole	1
21	"O" RING, oil level tube hole plug	1
22	BREATHER ASSEMBLY	1
a	BAFFLE	1
b	NIPPLE	1
c	CAP	1
23	LINK, "S" breather	1
24	CHAIN, breather cap	1
25	"O" RING, breather	1
26	PIN, dowel 1/2 x 1-1/4	6
27	EYEBOLT (3/4-10)	2
28	WASHER, eyebolt	2
29	COVER, housing top	2
30	GASKET, main housing cover	1
31	HOUSING, main	1
32	PIN, dowel	4
33	PIN, dowel	2
34	GASKET, oil return tube	1
35	TUBE, oil return	1
36	ROLL PIN, oil return tube (1/8 x 1/2)	1
37	TUBE, suction L.H. +	1
38	CLAMP, suction tube	1
39	TUBE, suction R.H. +	1
40	CLAMP, suction tube	1
41	LOCK, suction tube, screw	1
42	CAPSCREW, hex-head, suction tube clamp (5/16-18 x 2)	2
43	COVER, housing, bottom	1
44	WASHER, gear pan	12
45	CAPSCREW, hex-head, gear pan (3/8-16 x 1-1/4)	12
46	CAPSCREW, hex-head, bottom cover, (1/2-13 x 1-1/4)	24
47	WASHER, bottom cover	24
48	PAN, gear	2
49	GASKET, gear pan	1
50	CAPSCREW, hex-head, output shaft bearing (1/2-13 x 1-3/8)	1
51	PLATE, instruction	1
52	SCREW, drive instruction plate	4
53	DOWEL	2
54	STEM, lube valve **	1
55	PLATE, poppet valve **	1
56	CAPSCREW, hex-head, front housing (1/2-13 x 1-1/2)	17
57	WASHER, top cover	18
58	CAPSCREW, hex-head, top cover (1/2-13 x 1-1/4)	18
59	CAPSCREW, hex-head, bearing cap-to-cover	6
60	WASHER, top cover	6

+ Suction tubes not removable
 * One used based on engine rotation
 ** Service assembly kit XB-2213

Marine Gear

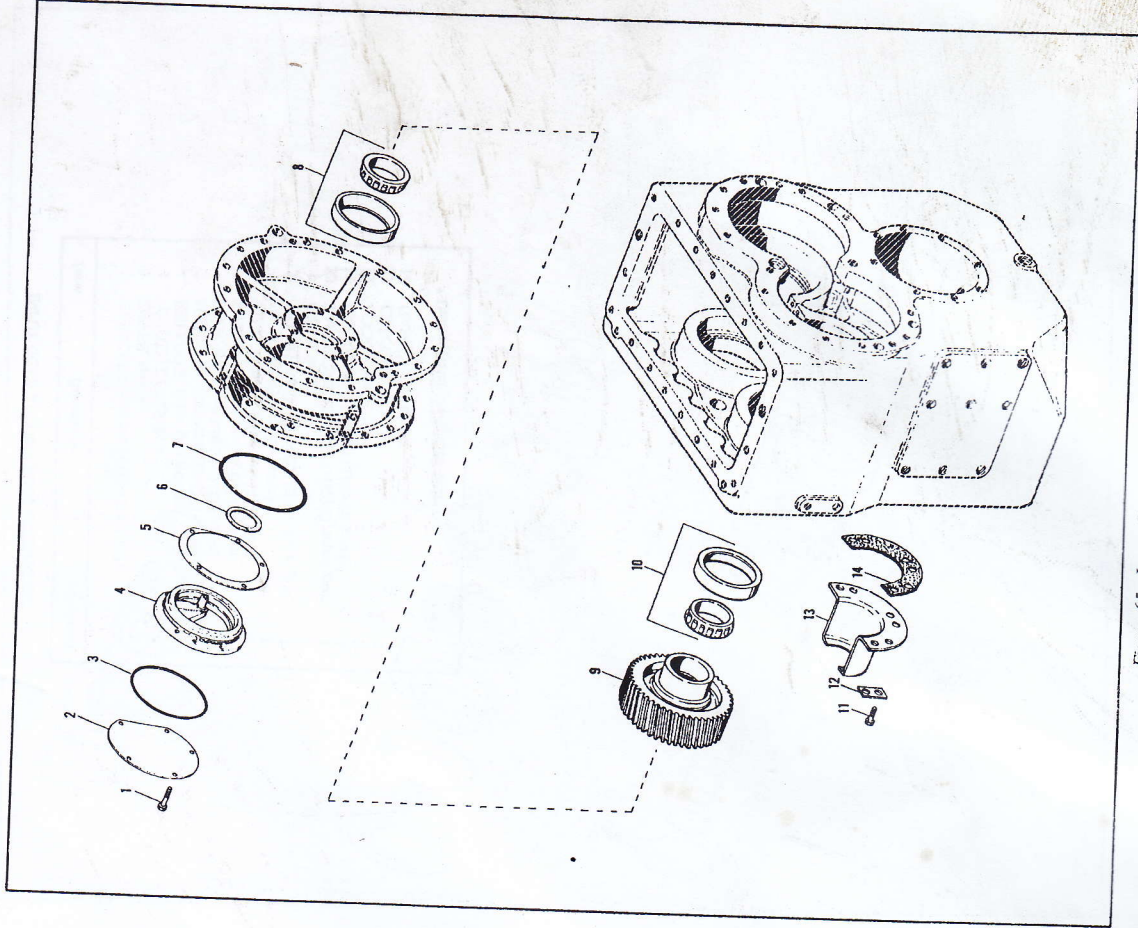


Figure 65. Input Gear and Bearing Assemblies.



INPUT GEAR AND BEARING ASSEMBLIES

Item	Description	Quantity
1	CAPSCREW, hex-head (1/2-13 x 1-1/2)	5
2	COVER, retainer	1
3	"O" RING, (7.25 dia.)	1
4	RETAINER, input gear bearing	1
5	SHIM, input gear bearing 0.005 inches	3
	SHIM, input gear bearing 0.007 inches	3
6	SHIM, input gear bearing 0.020 inches	3
7	RING, spiralox, input gear (4.25 inch)	1
8	"O" RING, (9 inch diameter)	1
9	TAPERED ROLLER BEARING, input gear	1
10	GEAR, input	1
11	TAPERED ROLLER BEARING, input gear	1
12	CAPSCREW, hex-head (5/16-18 x 5/8)*	1
13	LOCK, screw*	6
14	CATCHER, oil *	3
	GASKET, oil catcher	1

* Used on later production units

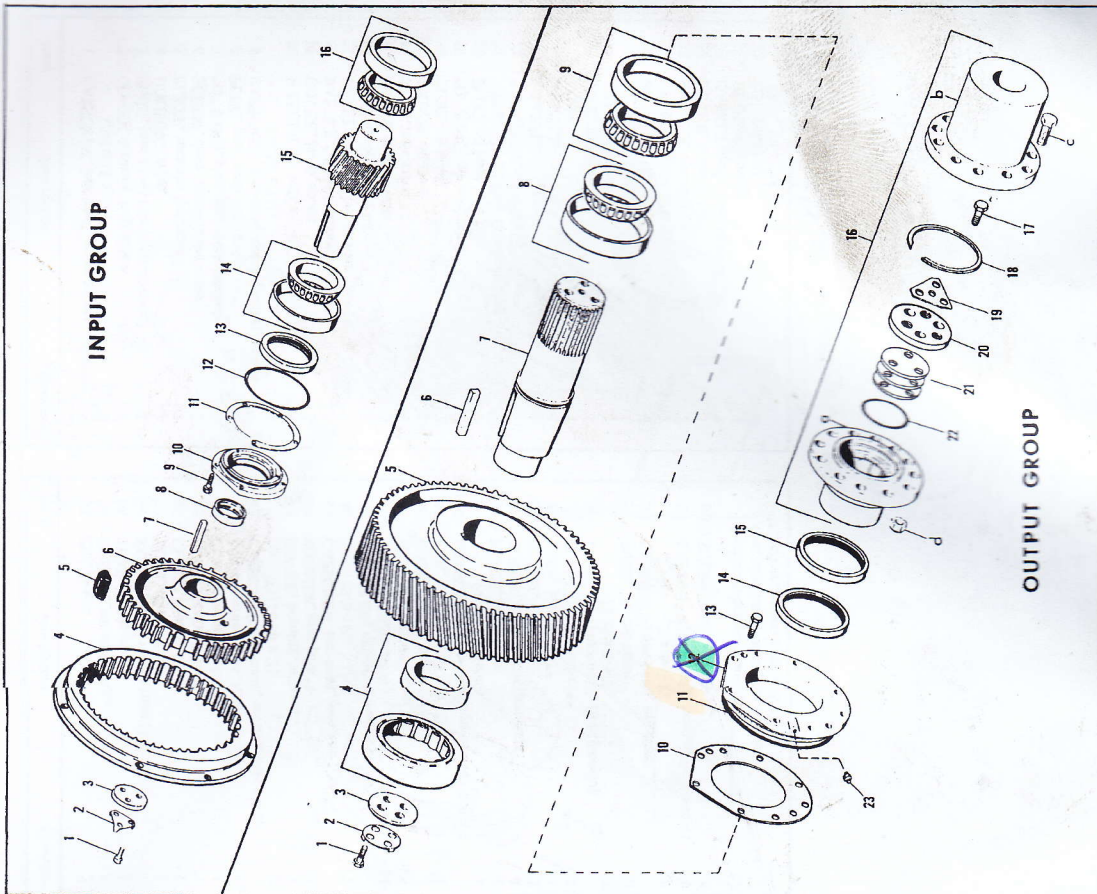


Figure 66. Input and Output Group of Parts.



Model MG-540

INPUT AND OUTPUT GROUP OF PARTS

Item	Description	Quantity
INPUT GROUP OF PARTS		
1	CAPSCREW, hex-head, drive spider (5/8-18 x 1-1/2)	3
2	LOCK, screw, drive spider	1
3	WASHER, retainer, drive spider	1
4	RING, driving	1
5	BLOCK, double width, heavy duty	32
6	SPIDER, drive	1
7	KEY, drive spider (1/2 x 1/2 x 3-1/2)	1
8	SLEEVE, wear, seal *	1
9	CAPSCREW, hex-head, input retainer (1/2-13 x 1-1/2)	5
10	RETAINER, input pinion bearing	1
11	SHIM, input gear bearing 0.005 inches	3
12	SHIM, input gear bearing 0.007 inches	3
13	SHIM, input gear bearing 0.020 inches	3
14	"O" RING, input cover	1
15	SEAL, oil, input shaft	1
16	TAPERED ROLLER BEARING	1
OUTPUT GROUP OF PARTS		
1	CAPSCREW, hex-head, output shaft (7/8-14 x 2)	4
2	LOCK, screw, output shaft	1
3	WASHER, retainer, output shaft	1
4	ROLLER BEARING, output shaft	1
5	GEAR, output	1
6	KEY	1
7	SHAFT, output	1
8	TAPERED ROLLER BEARING	1
9	TAPERED ROLLER BEARING	1
10	SHIM, bearing retainer 0.005 inches	4
11	SHIM, bearing retainer 0.007 inches	4
12	SHIM, bearing retainer 0.020 inches	4
13	"O" RING, output bearing retainer (1.3 inches Dia.)	1
14	RETAINER, output shaft bearing retainer (5/8-11 x 1-3/4)	1
15	CAPSCREW, hex-head, output shaft bearing retainer (5/8-11 x 1-3/4)	8
16	SEAL, oil, output flange	1
17	SEAL, oil, output flange	1
18	FLANGE ASSEMBLY, companion (consists of)	1
19	FLANGE, output	1
20	FLANGE, companion	1
21	CAPSCREW, hex-head (1-1/8-1 x 3-1/2)	12
22	NUT, hex (1-1/8)	12
23	CAPSCREW, hex-head (1-1/4 x 2)	3
24	RING, snap, internal, output flange	1
25	LOCK, screw, output flange	1
26	WASHER, retainer, output flange	1
27	SHIM, output flange retainer 0.0060-0.0080 inches	A/R
28	SHIM, output flange retainer 0.0085-0.0115 inches	A/R
29	SHIM, output flange retainer 0.0180-0.0220 inches	A/R
30	"O" RING, output flange (6 inch diameter)	1
31	FITTING, grease	1

*Shaft and sleeve can be supplied together for service. Note convenient service group number on the unit specification.

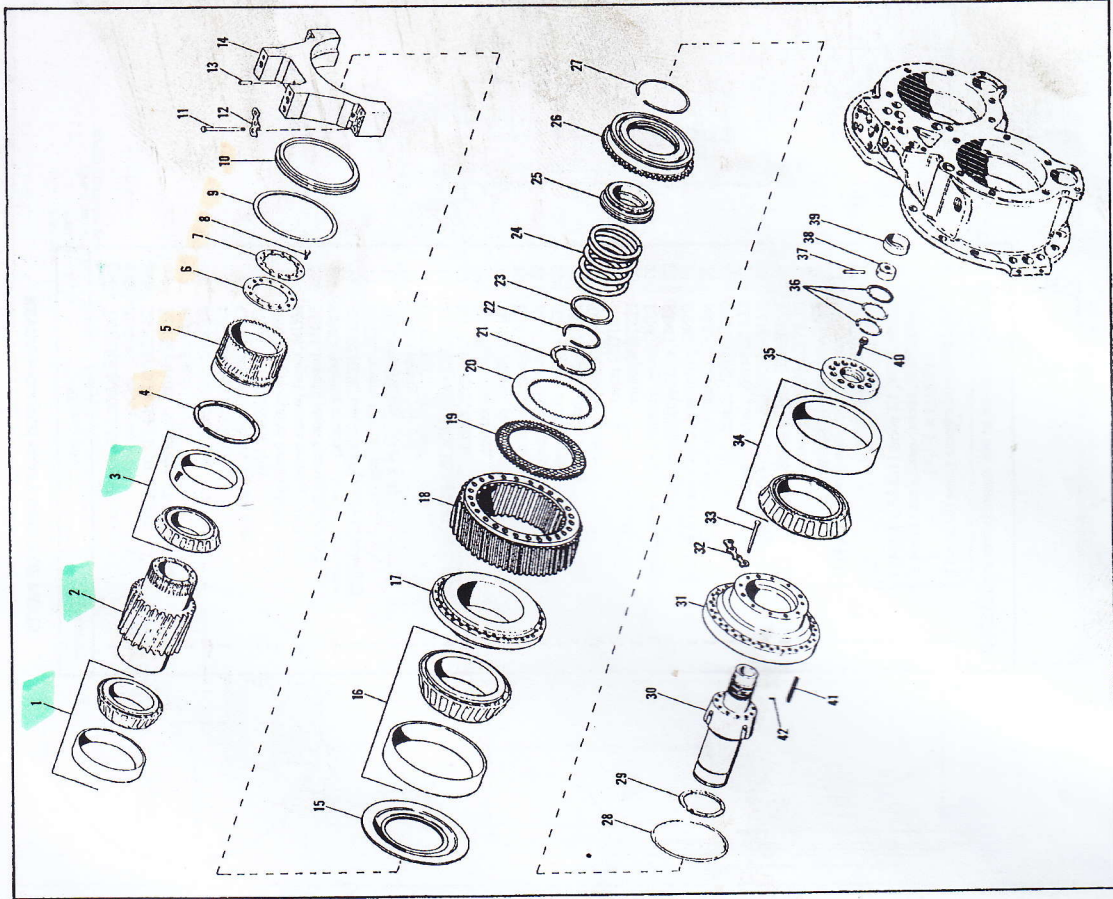


Figure 67. Reverse Clutch Shaft Group of Parts.



REVERSE CLUTCH SHAFT GROUP OF PARTS

Item	Description	Quantity
1	TAPERED ROLLER BEARING	1
2	PINION, output	1
3	TAPERED ROLLER BEARING	1
4	RING, piston, clutch hub (7-1/2 inches)	1
5	HUB, clutch	1
6	RETAINER, clutch hub	1
7	LOCK, screw, pinion	1
8	CAPSCREW, hex-head, clutch hub (5/16-24 x 3/4)	12
9	SHIM, input pinion bearing 0.005 inch	3
10	SHIM, input pinion bearing 0.007 inch	3
11	SHIM, input pinion bearing 0.020 inch	3
12	RING, bearing retainer	1
13	CAPSCREW, hex-head* (1-1/4-13 x 4-1/2)	6
14	LOCK, screw, bearing cap	2
15	PIN, bearing cap* (1/4 x 1)	2
16	CATCHER, oil	1
17	TAPERED ROLLER BEARING	1
18	BACK PLATE, clutch	1
19	GEAR, reverse driving	1
20	PLATE, faced, clutch drive	11
21	RING, piston seal, steel clutch driven	10
22	RING, snap, clutch shaft (4 inches)	1
23	RETAINER, clutch spring	1
24	SPRING, clutch release	1
25	PISTON, inner	1
26	PISTON, outer	1
27	RING, snap, external, clutch piston, inner	1
28	RING, multi-seal, clutch piston	1
29	RING, piston seal, clutch shaft (4 inches)	1
30	SHAFT, clutch	1
31	CYLINDER, clutch	1
32	LOCK, screw, clutch cylinder	6
33	CAPSCREW, hex-head (1/2-13 x 7)	24
34	TAPERED ROLLER BEARING	1
35	PLATE, cylinder fastening	1
36	RING, piston, clutch shaft	3
37	PIN, dowel, pump drive (1/4-13 x 1-1/4)	1
38	SLEEVE, wear	1
39	SLEEVE, wear	1
40	CAPSCREW, 12 point (1/2-13 x 1-1/4)	12
41	CAPSCREW, socket-head, come home (5/8-11 x 3-1/4)	4
42	ROLLPIN, come home screw (3/16 x 1)	4

* Supplied for service as one assembly number X-9890-B.

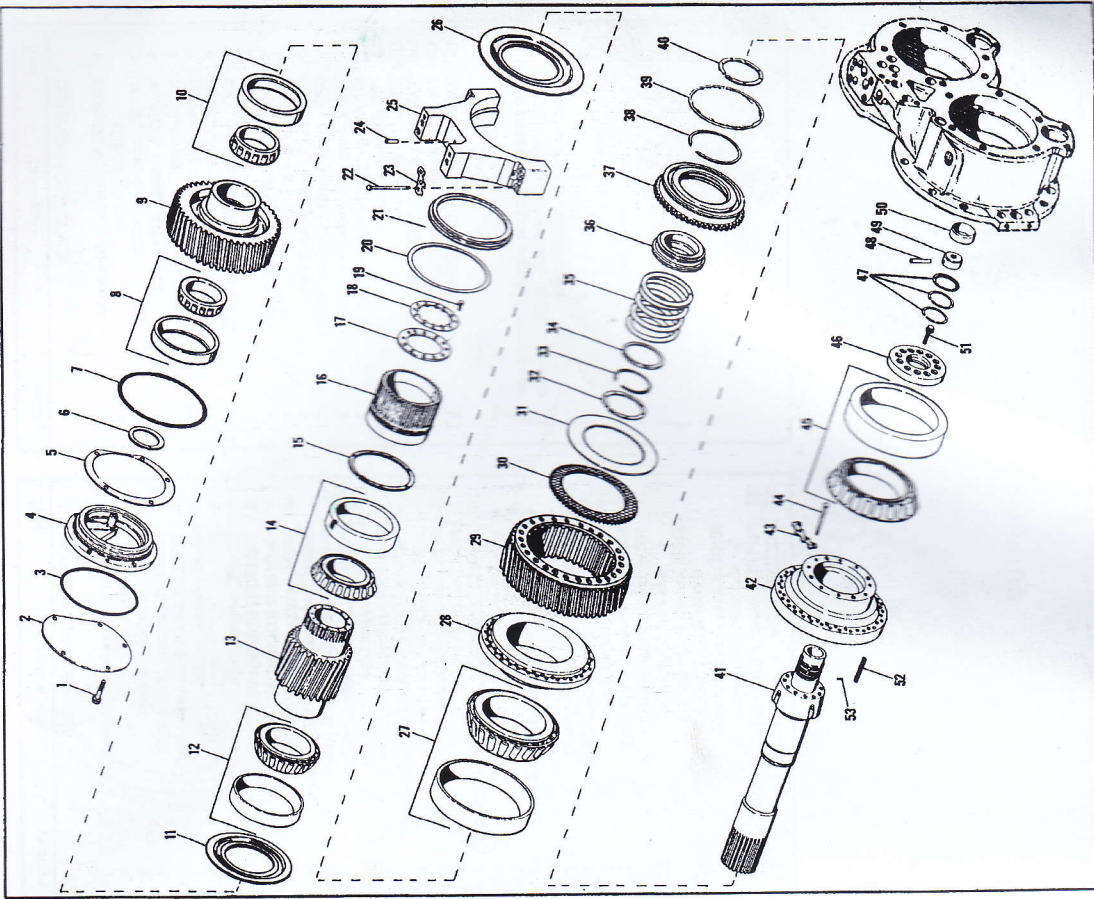


Figure 68. Forward Clutch Shaft Group of Parts.

Model MG-540

FORWARD CLUTCH SHAFT GROUP OF PARTS

Item	Description	Quantity
1	CAPSCREW, hex-head (1/2-13 x 1-1/2)	5
2	COVER, retainer	1
3	"O" RING	1
4	RETAINER, input gear bearing	1
5	SHIM, input gear bearing 0.005 inch	3
6	SHIM, input gear bearing 0.007 inch	3
7	SHIM, input gear bearing 0.020 inch	3
8	RING, spratolox	1
9	"O" RING	1
10	TAPERED ROLLER BEARING	1
11	GEAR, input	1
12	TAPERED ROLLER BEARING	1
13	CATCHER, oil	1
14	TAPERED ROLLER BEARING	1
15	HUB, clutch	1
16	RETAINER, clutch hub	1
17	LOCK, screw, pinion	1
18	CAPSCREW, hex-head (5/16-24 x 3/4)	12
19	SHIM, output pinion 0.0045-0.0055 inch	3
20	SHIM, output pinion 0.00625-0.00775 inch	3
21	SHIM, output pinion 0.0185-0.0215 inch	1
22	RING, bearing retainer	1
23	LOCK, screw *	6
24	PIN, roll-bearing cap (1/4 x 1)	2
25	CAP, bearing *	1
26	CATCHER, oil	1
27	TAPERED ROLLER BEARING	1
28	BACKPLATE, clutch	1
29	GEAR, reverse driving	1
30	PLATE, clutch faced	11
31	PLATE, clutch steel, driven	10
32	RING, oil seal (4 inches)	1
33	RING, snap, external	1
34	RETAINER, clutch spring	1
35	SPRING, clutch release	1
36	PISTON, clutch inner	1
37	PISTON, clutch outer	1
38	RING, snap, external	1
39	RING, multi-seal, clutch piston (10.25 inches)	1
40	RING, multi-seal, clutch shaft (4 inches)	1
41	SHAFT, clutch	1
42	CYLINDER, clutch	1
43	LOCK, screw, clutch cylinder	1
44	CAPSCREW, hex-head, clutch cylinder (1/2-13 x 7)	6
45	TAPERED ROLLER BEARING	24
46	PLATE, cylinder fastening	1
47	RING, piston, clutch shaft (2.75 inches)	3
48	PIN, dowel, pump drive	1
49	SLEEVE, pump drive	1
50	SLEEVE, wear seal	1
51	CAPSCREW 12 point (1/2-13 x 1-1/4)	12
52	CAPSCREW, socket-head, come home (5/8-11 x 3-1/4)	4
53	ROLLPIN, come home screw (3/16 x 1)	4

* Not serviced separately. Order X-9890-B.

Marine Gear

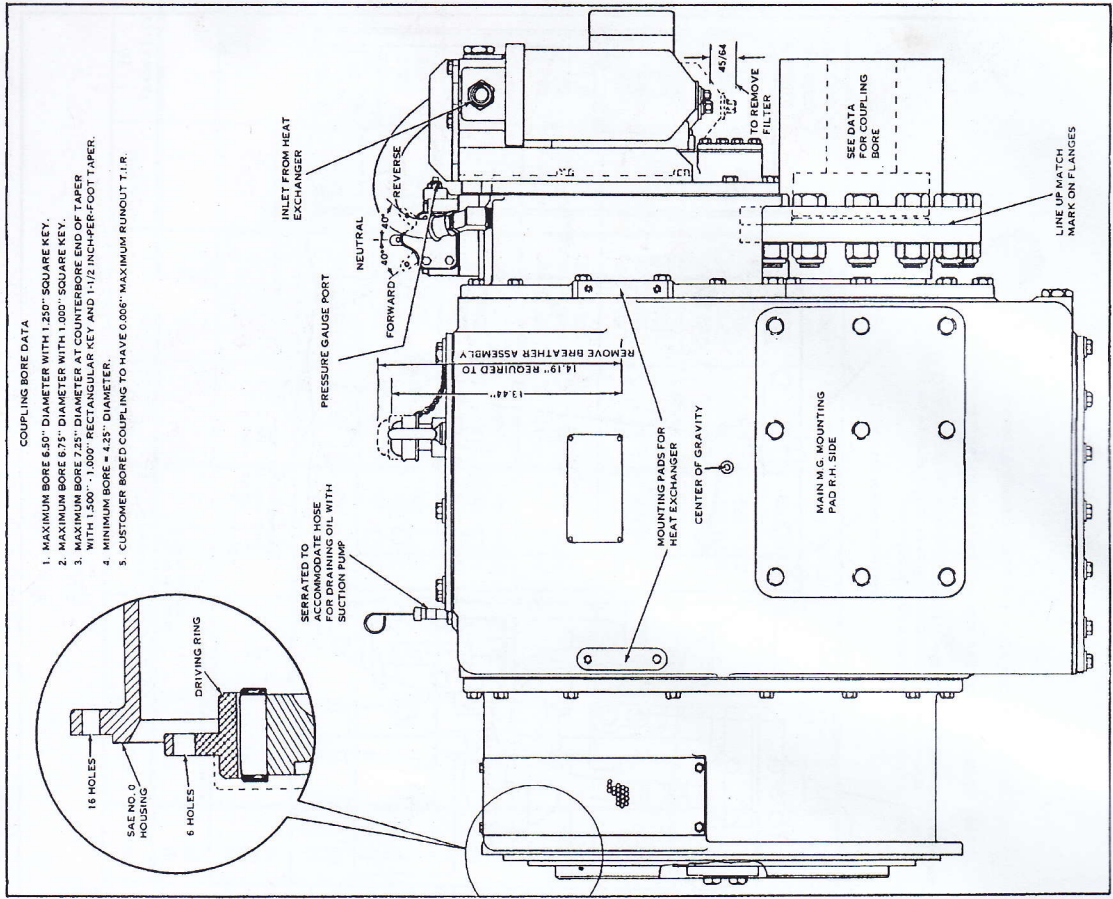


Figure 69. Aids to Installation and Service.