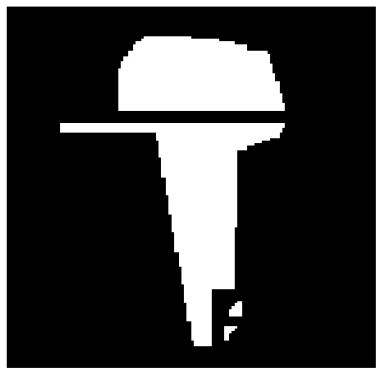


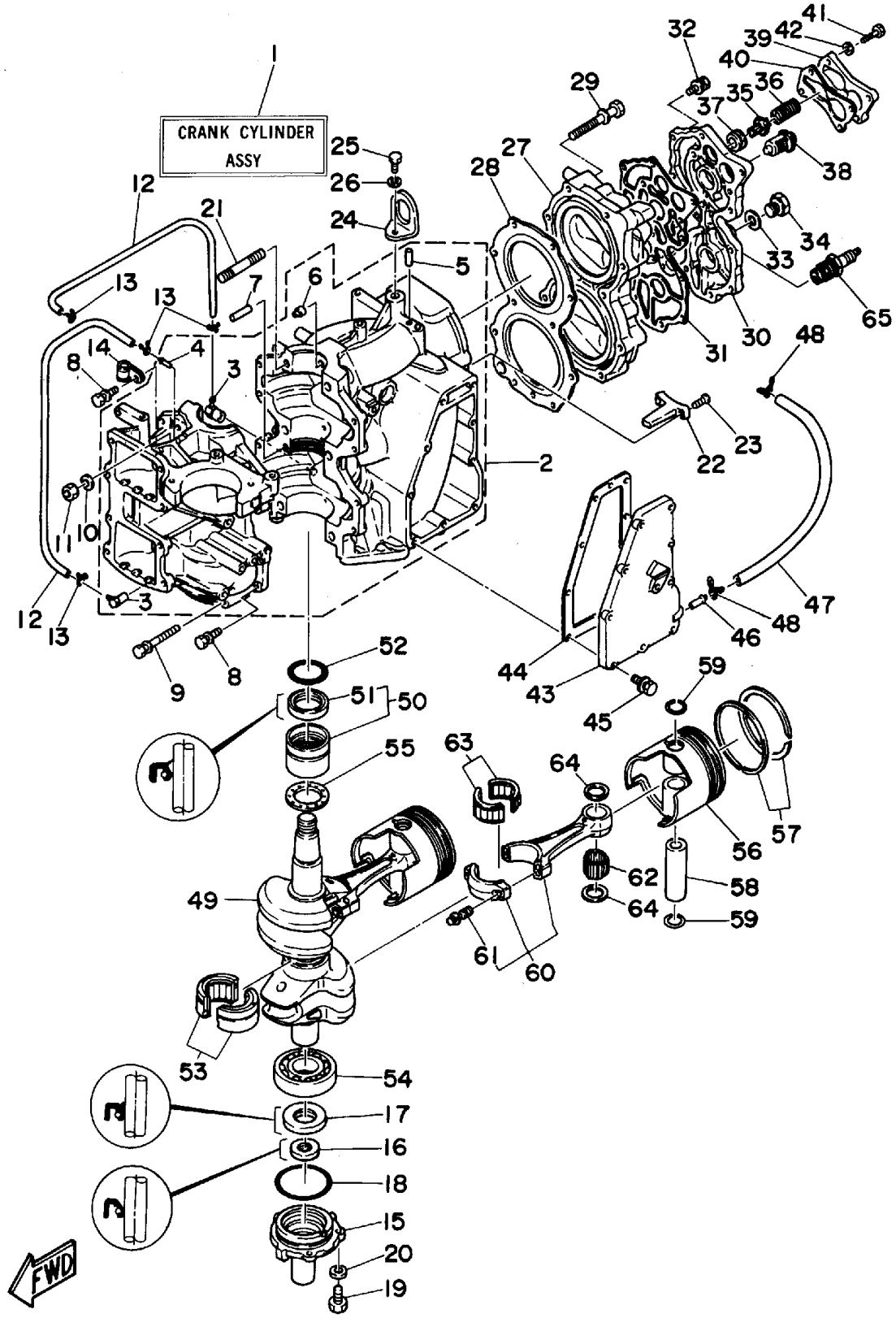
PARTS CATALOGUE
MODEL YEAR
C55ERS (697)
C55TRS (697)

Engine Serial No.	C55ELRS: 327976 and following

PUBLICATION	PART NUMBER	REMARKS
OWNER'S MANUAL	LIT-18626-01-98	
ASSEMBLY	---	
SERVICE MANUAL	LIT-18616-00-43	SUPPLEMENT

A1

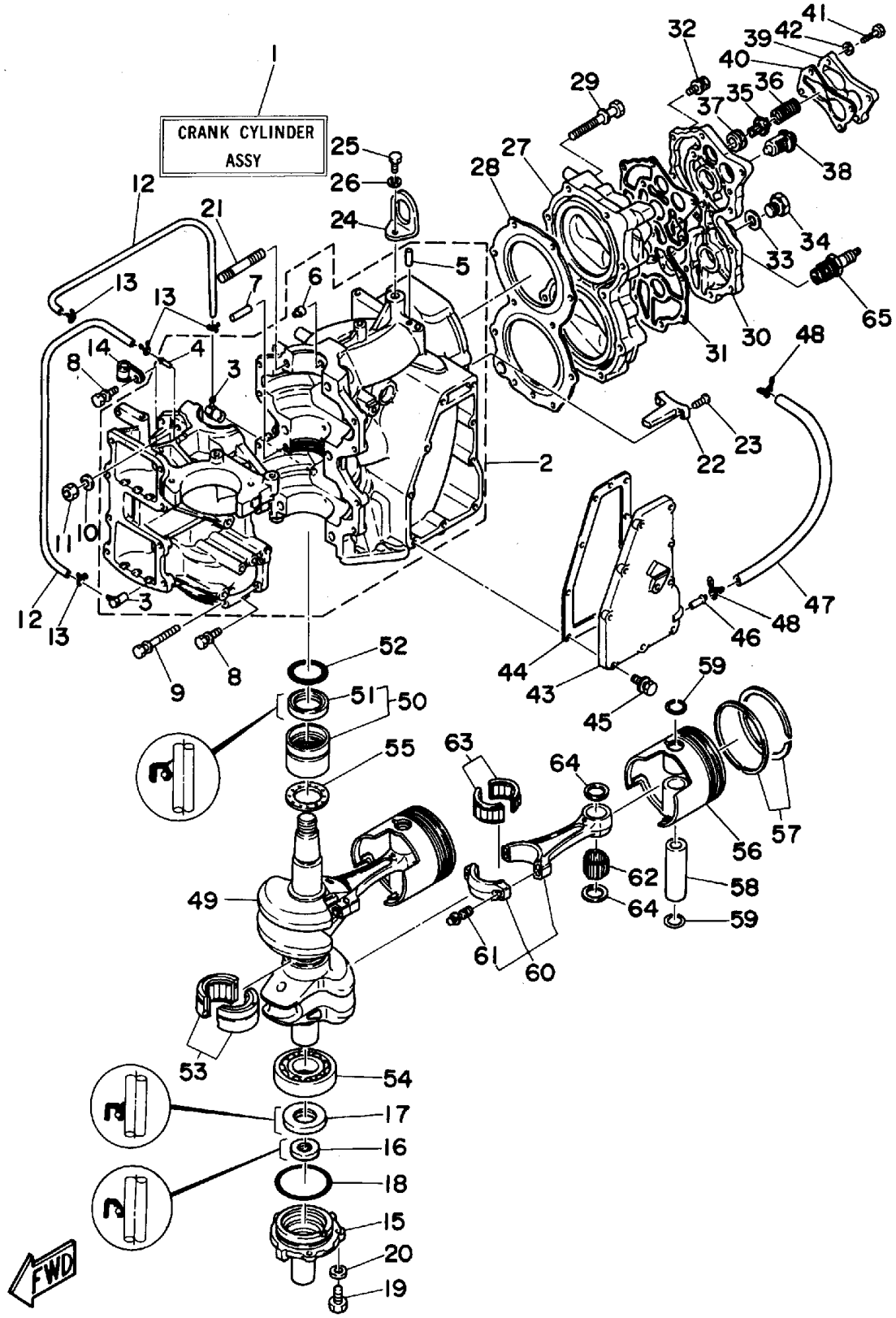
CYLINDER - CRANKCASE



Ref. No.	Part Number	Description	Qty	Remarks
1	697-W0090-05-4D	CRANK CYLINDER ASSEMBLY (REF. #2~64)	1	
2	697-15100-02-94	CRANKCASE ASSEMBLY	1	
3	650-11370-00-00	. CHECK VALVE ASSEMBLY	2	
4	624-14485-00-00	. PIPE, JOINT	1	
5	93604-08062-00	. PIN, DOWEL	1	
6	663-11518-01-00	. LOCK, BEARING	2	
7	93608-12063-00	PIN, DOWEL	1	
8	90119-06M12-00	BOLT, WITH WASHER	8	
9	90119-10M07-00	BOLT, WITH WASHER	4	
10	90201-100F7-00	WASHER, PLATE	2	
11	95313-10600-00	NUT	2	
12	90445-07240-00	HOSE	2	
13	90467-06016-00	CLIP	4	
14	90461-04011-00	CLAMP	1	
15	663-15359-01-94	HOUSING, OIL SEAL	1	
16	93104-18049-00	OIL SEAL	1	
17	93102-28135-00	OIL SEAL	1	
18	93210-62269-00	O-RING	1	
19	97095-06016-00	BOLT	3	
20	92990-06600-00	WASHER, PLATE	3	
21	90116-10177-00	BOLT, STUD	2	
22	663-11325-00-00	ANODE	1	
23	98680-04016-00	SCREW, OVAL HEAD	2	
24	697-11119-00-00	HANGER, ENGINE	1	
25	97013-08025-00	BOLT	1	
26	92990-08100-00	WASHER	1	
27	663-11111-02-94	HEAD, CYLINDER 1	1	
28	697-11181-A0-00	GASKET, CYLINDER HEAD 1	1	

CONTINUED ON NEXT FRAME ➤

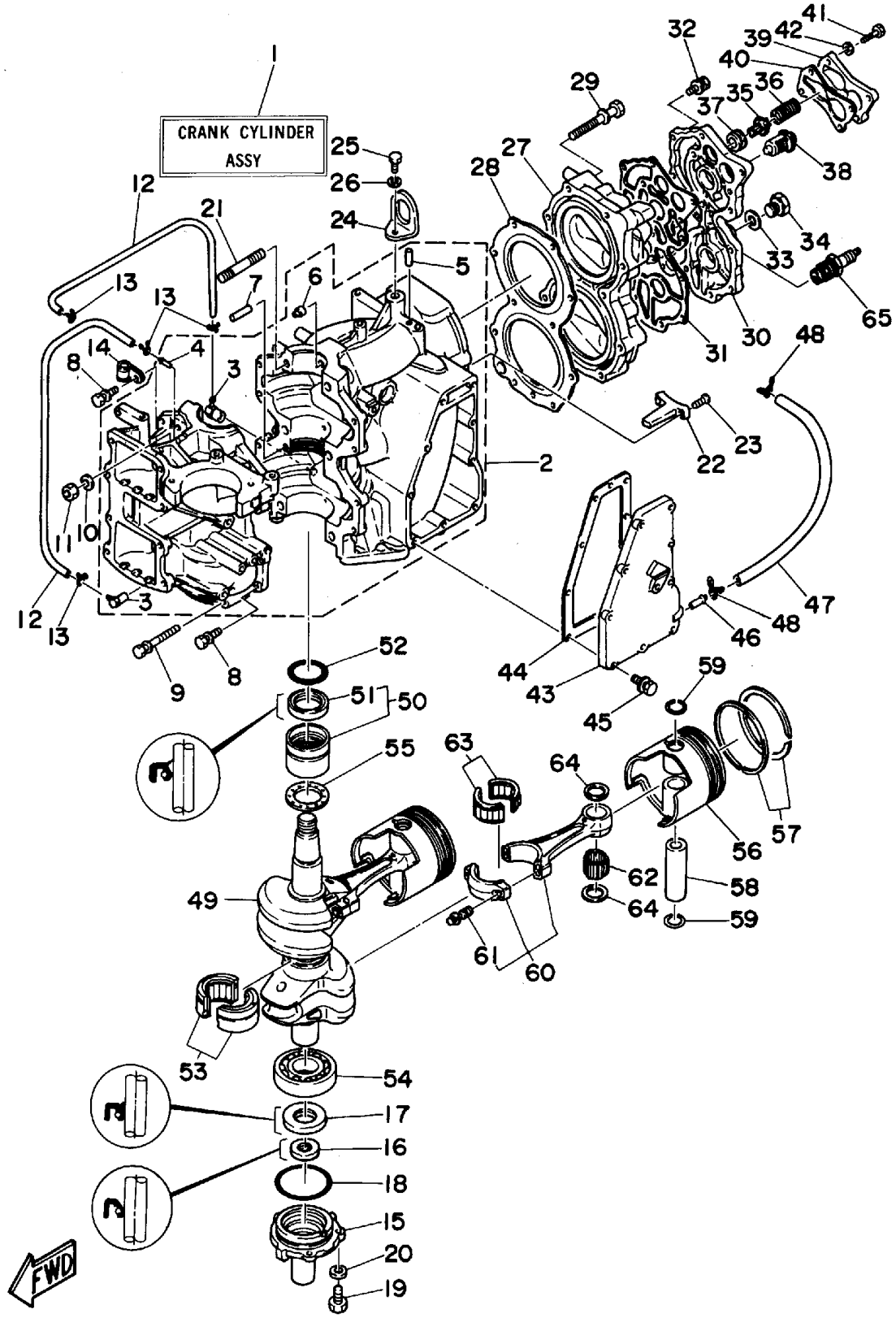
CYLINDER - CRANKCASE



Ref. No.	Part Number	Description	Qty	Remarks
29	90119-08M21-00	BOLT, WITH WASHER	10	
30	663-11191-00-9M	COVER, CYLINDER HEAD 1	1	
31	663-11193-A0-00	GASKET, HEAD COVER 1	1	
32	97595-06520-00	BOLT, WITH WASHER	12	
33	90430-14115-00	GASKET	1	
34	90340-14036-00	PLUG, STRAIGHT SCRW	1	
35	663-12416-00-00	VALVE, PRESSURE CONTROL	1	
36	90501-14234-00	SPRING, COMPRESSION	1	
37	90480-18065-00	GROMMET	1	
38	6F5-12411-02-00	THERMOSTAT	1	
39	663-12413-00-9M	COVER, THERMOSTAT	1	
40	663-12414-A0-00	GASKET, COVER	1	
41	97095-06030-00	BOLT	4	
42	92990-06600-00	WASHER, PLATE	4	
43	663-41113-00-9M	OUTER COVER, EXHAUST	1	
44	663-41114-A0-00	GASKET, EXHAUST OUTER COVER	1	
45	97595-06520-00	BOLT, WITH WASHER	9	
46	652-24461-00-00	PIPE, JOINT	1	
47	663-24312-01-00	PIPE 2	1	
48	90467-08004-00	CLIP	2	
49	663-11411-01-00	CRANKSHAFT	1	
50	93311-632U1-00	BEARING	1	
51	93102-32M07-00	. OIL SEAL	1	
52	93210-42159-00	O-RING	1	
53	93311-832U4-00	BEARING	1	
54	93306-206U4-00	BEARING	1	
55	663-11561-00-00	SHIM, CRANK 1	1	
56	688-11631-03-94	PISTON (STD)	2	

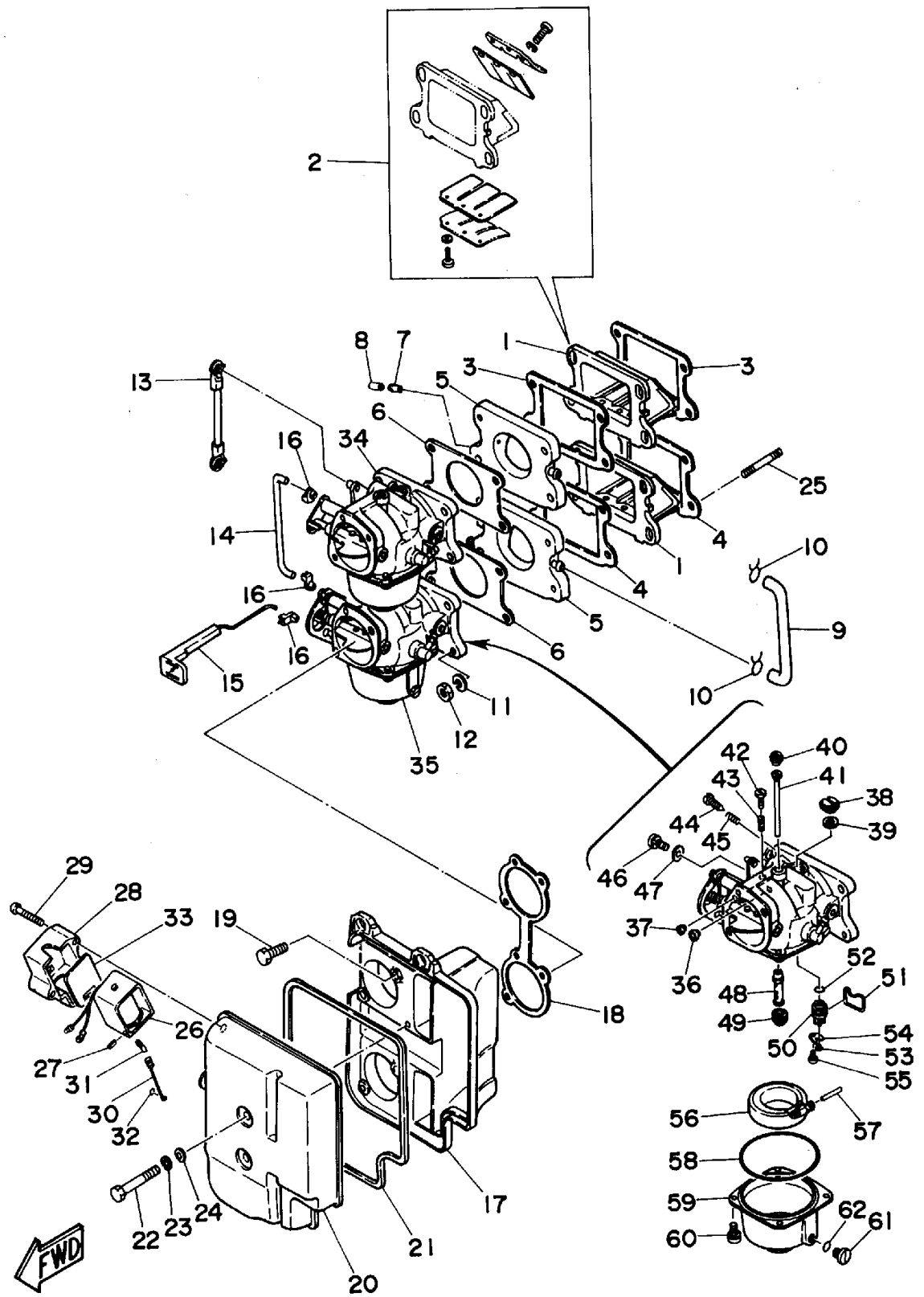
CONTINUED ON NEXT FRAME ➤

CYLINDER - CRANKCASE



Ref. No.	Part Number	Description	Qty	Remarks
56	688-11636-03-00	PISTON (0.50MM O/S)	2	AP
57	688-11603-A0-00	PISTON RING SET (STD)	2	
	688-11605-A0-00	PISTON RING SET (0.50MM O/S)	2	AP
58	663-11633-00-00	PIN, PISTON	2	
59	688-11634-00-00	CLIP, PISTON PIN	4	
60	688-11650-03-00	CONNECTING ROD ASSEMBLY	2	
61	90109-08M61-00	. BOLT	2	
62	93603-21111-00	PIN, DOWEL	56	
63	93310-730V8-00	BEARING, CYLINDRICAL	2	
64	90201-20417-00	WASHER, PLATE	4	
65	NGK-B8HS1-00-00	PLUG, SPARK	2	UR
	NGK-BR8HS-10-00	PLUG, SPARK	2	UR

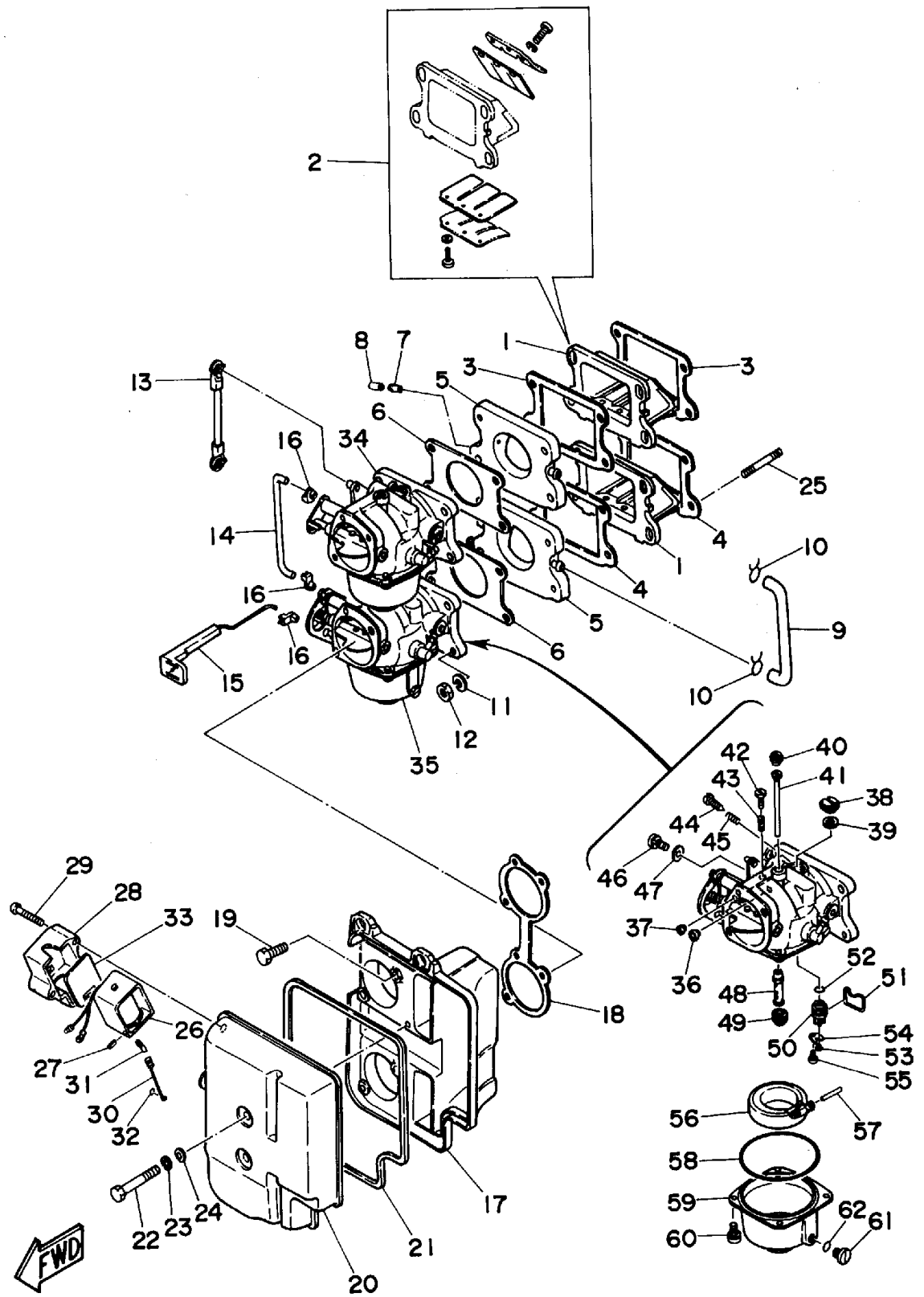
INTAKE



Ref. No.	Part Number	Description	Qty	Remarks
1	697-13610-00-00	REED VALVE ASSEMBLY	2	
2	692-W0004-00-00	. REED SET	1	
3	663-13621-A0-00	GASKET, VALVE SEAT	2	
4	663-13622-A0-00	GASKET, VALVE SEAT	2	
5	663-13641-02-94	MANIFOLD 1	2	
6	663-14198-A0-00	GASKET	2	
7	624-14485-00-00	PIPE, JOINT	2	
8	647-14395-60-00	CAP, OVERFLOW PIPE	1	
9	663-24321-00-00	PIPE 0	1	
10	90467-08004-00	CLIP	2	
11	92995-06100-00	WASHER, SPRING	8	
12	95604-06200-00	NUT, U FLANGE	8	
13	697-41217-01-00	ROD, ACCEL. LEVER	1	
14	663-41257-02-00	ROD, CHOKE 2	1	
15	663-41256-01-00	ROD, CHOKE 1	1	
16	661-41262-02-00	JOINT, CHOKE LEVER	3	
17	697-14417-00-94	COVER 1	1	
18	663-14483-A0-00	GASKET	1	
19	97095-06025-00	BOLT	4	
20	697-14418-00-94	COVER 2	1	
21	697-14416-00-00	GASKET, AIR CLEANER	1	
22	97095-06045-00	BOLT	2	
23	92995-06100-00	WASHER, SPRING	2	
24	92990-06600-00	WASHER, PLATE	2	
25	90116-06176-00	BOLT, STUD	8	
26	663-86110-02-00	SOLENOID	1	
27	91690-30010-00	PIN, SPRING	1	
28	663-86115-00-00	HOLDER, SOLENOID	1	
29	98580-05530-00	SCREW, PAN HEAD	2	

CONTINUED ON NEXT FRAME ➤

INTAKE



Ref. No.	Part Number	Description	Qty	Remarks
30	663-86116-01-00	WIRE, PULL	1	
31	676-86117-00-00	HOOK, WIRE PULL	1	
32	93210-03261-00	O-RING	1	
33	663-86118-00-00	DAMPER	1	
34	697-14501-04-00	CARBURETOR ASSEMBLY 1	1	
35	697-14502-04-00	CARBURETOR ASSEMBLY 2	1	
36	663-14950-27-00	. PILOT, AIR JET	2	
37	663-14945-32-00	. JET (#125)	2	
38	697-14991-00-00	. SCREW	2	
39	679-14557-00-00	. WASHER	2	
40	663-14567-01-00	. SCREW	2	
41	663-14942-19-00	. JET, PILOT	2	
42	6H1-14523-00-00	. SCREW, STOP	1	
43	90501-10326-00	. SPRING, COMPRESSION	1	
44	663-14923-00-00	. SCREW, PILOT	2	
45	90501-08214-00	. SPRING, COMPRESSION	2	
46	6K5-14592-00-00	. SCREW	1	
47	90201-05652-00	. WASHER, PLATE	1	
48	663-14947-01-00	. JET, NEEDLE	2	
49	663-14943-39-00	. JET, MAIN (#160)	2	
50	696-14590-00-00	. NEEDLE VALVE ASSEMBLY	2	
51	663-14159-00-00	. CLIP	2	
52	93210-07229-00	. O-RING	2	
53	676-14186-00-00	. PIN, FLOAT	2	
54	371-14919-60-00	. CLIP	2	
55	98580-04006-00	. SCREW, PAN HEAD	2	
56	6F0-14985-00-00	. FLOAT	2	
57	663-14548-00-00	. PIN, FLOAT ARM	2	
58	93210-64272-00	. O-RING	2	

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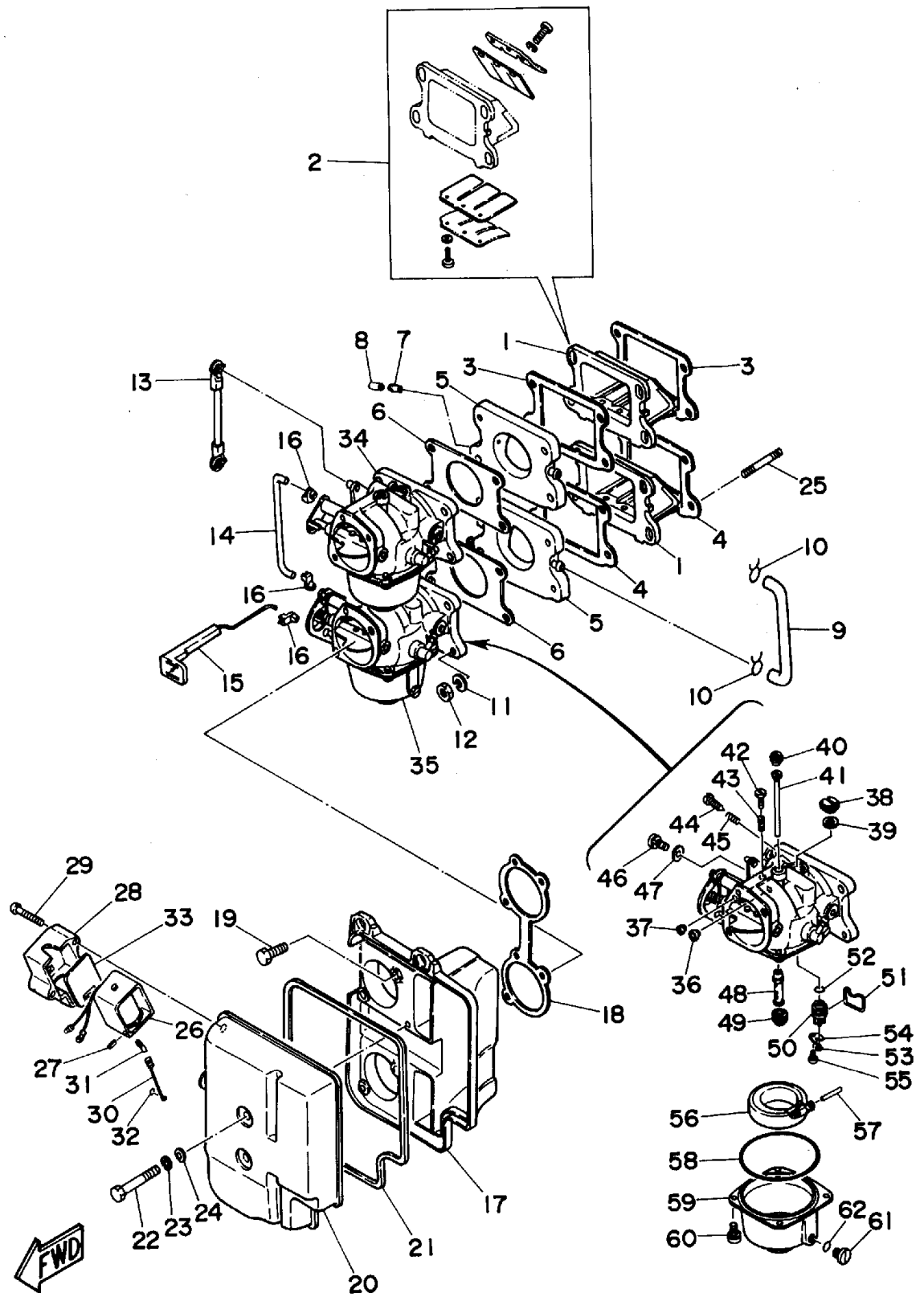
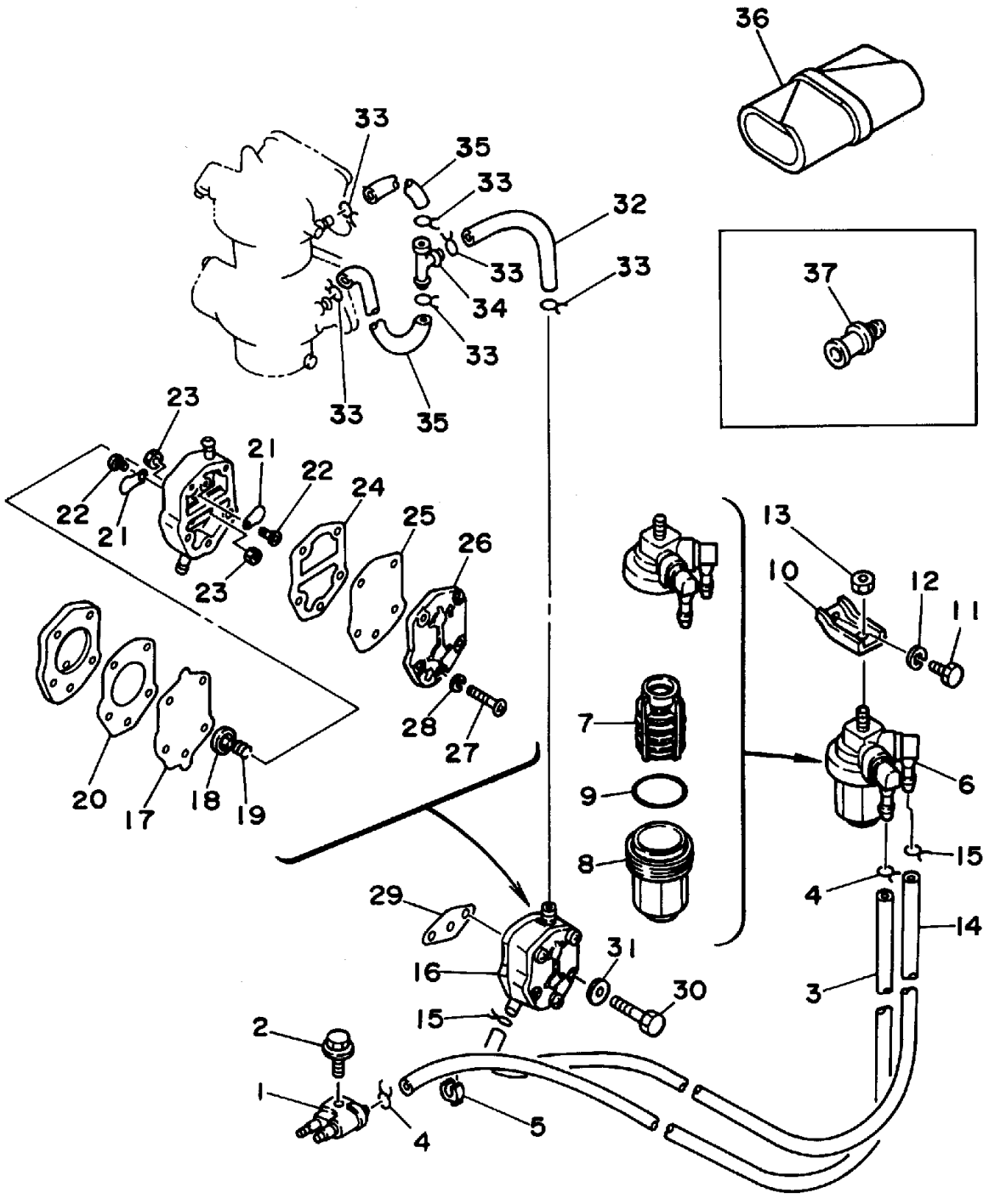
INTAKE



Ref. No.	Part Number	Description	Qty	Remarks
59	663-14980-00-00	. BODY, FLOAT CHAMBER . . .	2	
60	97980-04112-00	. SCREW, WITH WASHER	8	
61	6H3-14992-00-00	. SCREW, DRAIN	2	
62	93210-04230-00	. O-RING	2	

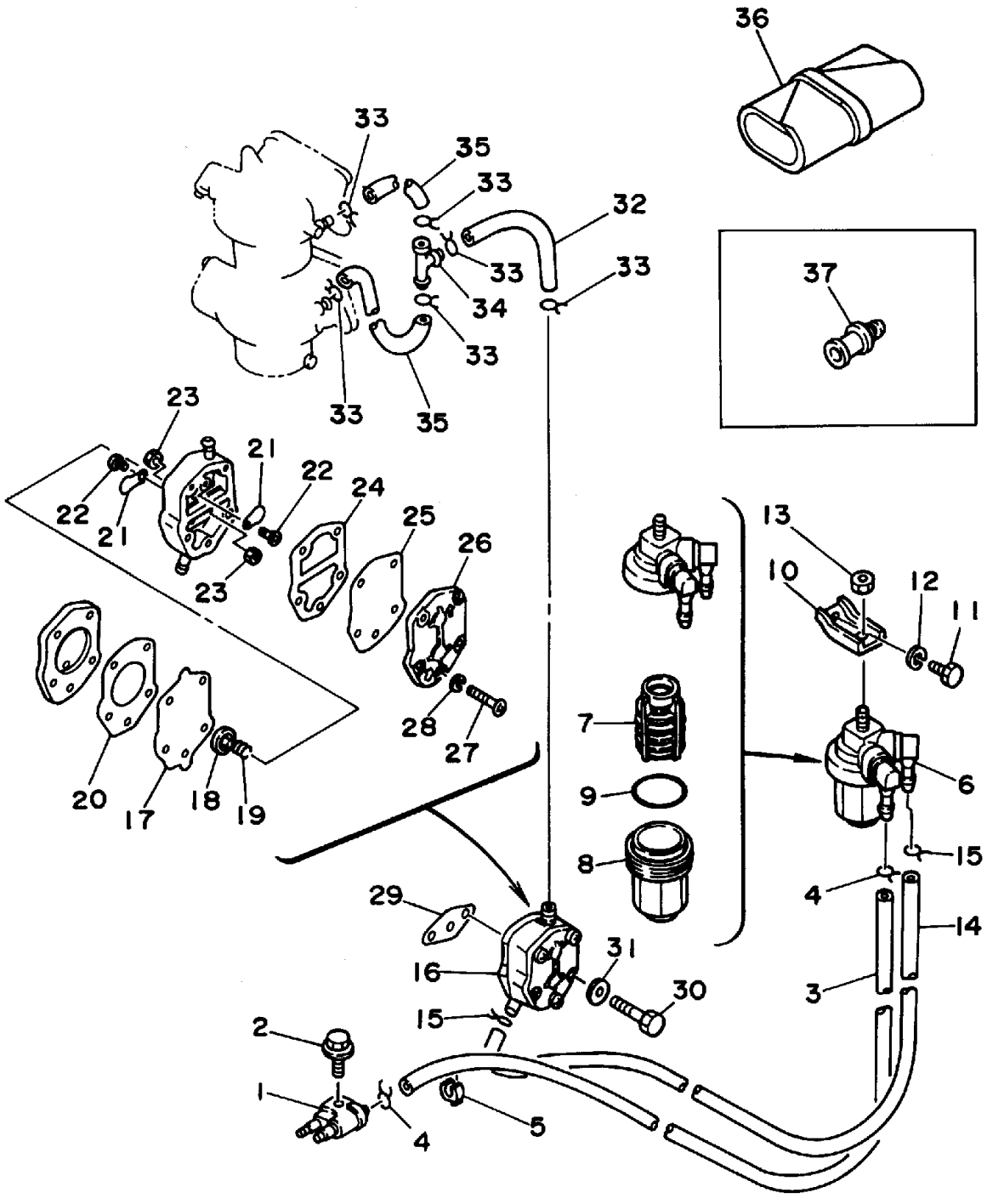
C55

FUEL



Ref. No.	Part Number	Description	Qty	Remarks
1	6G1-24304-02-00	FUEL PIPE JOINT COMP. 1	1	
2	97595-06520-00	BOLT, WITH WASHER	1	
3	90445-09M25-00	HOSE	1	
4	90467-08004-00	CLIP	2	
5	90464-04011-00	CLAMP	1	
6	61N-24560-00-00	FILTER ASSEMBLY	1	
7	61N-24563-00-00	. ELEMENT, FILTER	1	
8	61N-24521-00-00	. CUP, FILTER	1	
9	93210-32738-00	. O-RING	1	
10	6E9-24566-70-00	BRACKET, FILTER	1	
11	97313-06014-00	BOLT, HEXAGON	1	
12	92995-06100-00	WASHER, SPRING	1	
13	95380-08600-00	NUT	1	
14	90445-09100-00	HOSE	1	
15	90467-08004-00	CLIP	2	
16	692-24410-00-00	FUEL PUMP ASSEMBLY	1	
17	648-24411-00-00	. DIAPHRAGM	1	
18	648-24424-00-00	. SEAT, SPRING	1	
19	648-24423-00-00	. SPRING, DIAPHRAGM	1	
20	648-24434-01-00	. GASKET, BODY	1	
21	6A0-24421-01-00	. VALVE, CHECK	2	
22	6A0-14325-00-00	. SCREW, PAN HEAD	2	
23	95380-03600-00	. NUT	2	
24	648-24435-02-00	. GASKET, BODY 2	1	
25	663-24411-00-00	. DIAPHRAGM	1	
26	648-24413-01-00	. BODY 2	1	
27	98580-05530-00	. SCREW, PAN HEAD	3	
28	92990-05100-00	. WASHER, SPRING	3	
29	650-24431-A0-00	GASKET, FUEL PUMP 1	1	

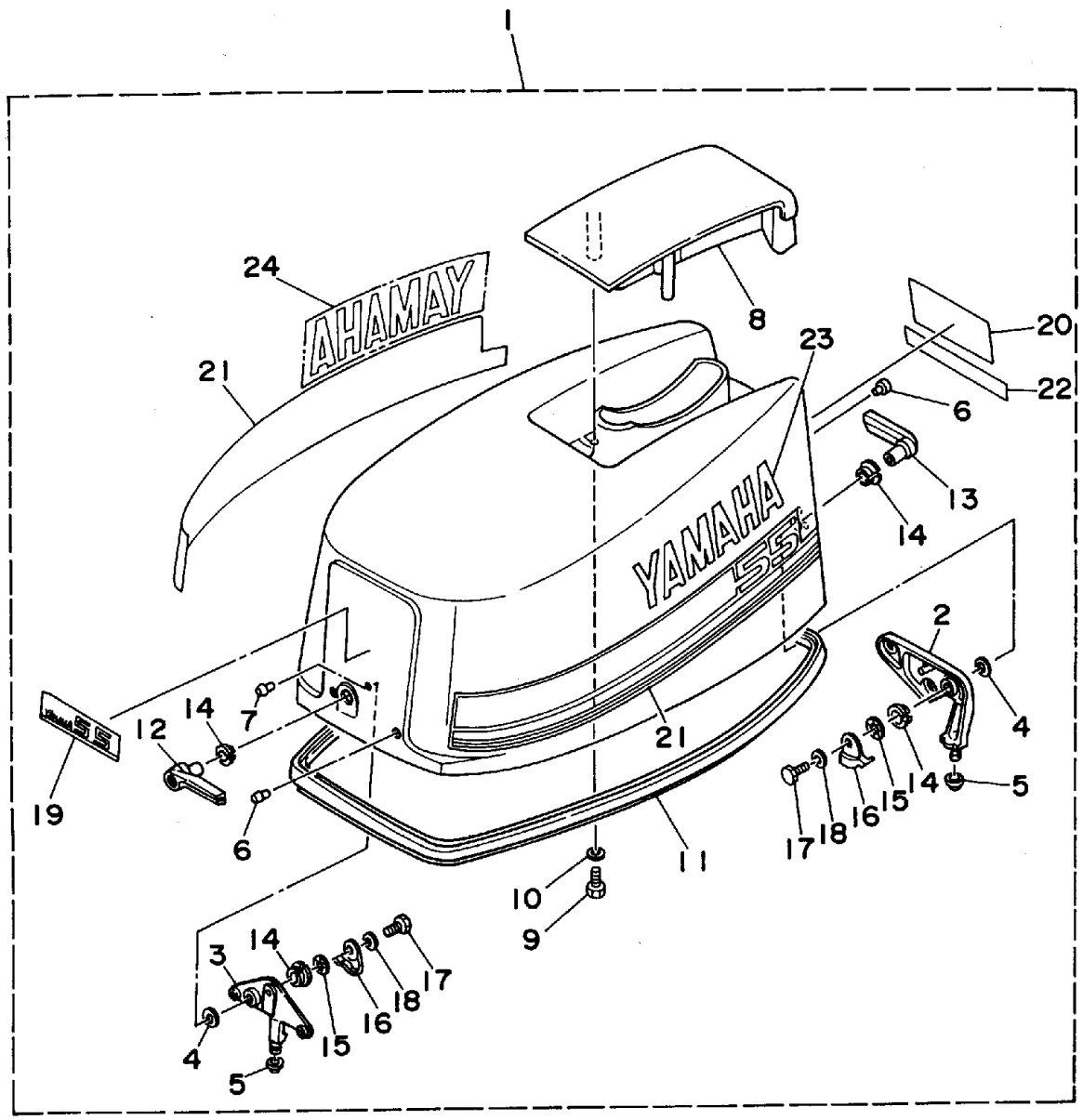
CONTINUED ON NEXT FRAME ➤



FUEL

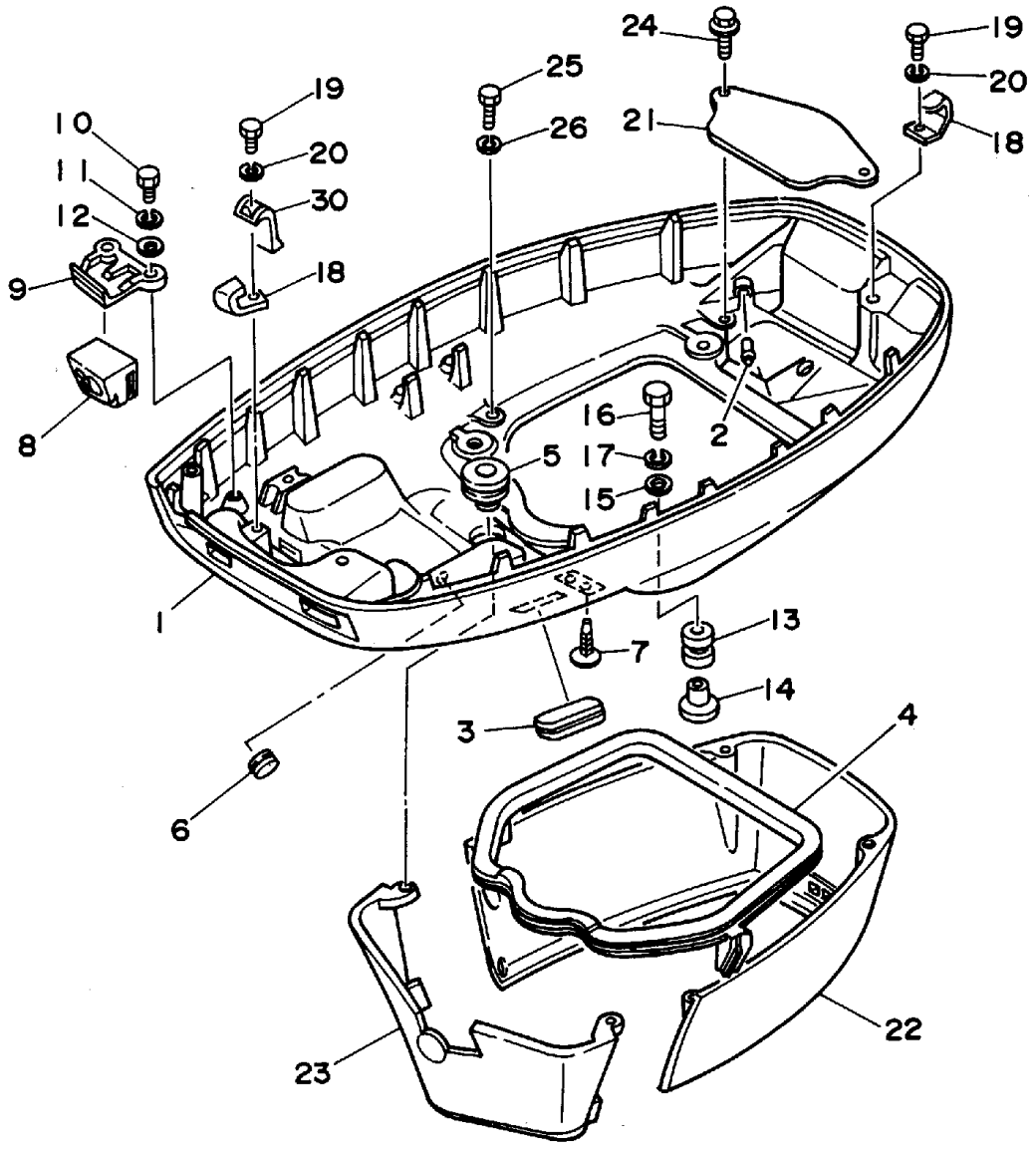
Ref. No.	Part Number	Description	Qty	Remarks
30	97095-06040-00	BOLT	2	
31	92990-06600-00	WASHER, PLATE	2	
32	90445-09089-00	HOSE	1	
33	90467-08004-00	CLIP	6	
34	688-24378-00-00	PIPE, JOINT 4	1	
35	90445-09061-00	HOSE	2	
36	656-W2810-02-00	TOOL KIT	1	
37	ABB-FLUSH-JD-00	PLUG, WATER CHECK (6E0-28193-00-94)	1	AP

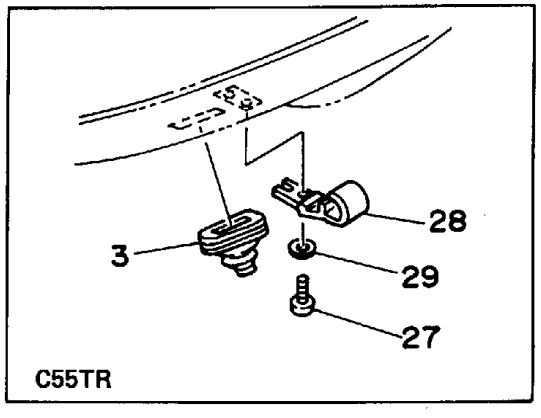
TOP COWLING



Ref. No.	Part Number	Description	Qty	Remarks
1	697-42610-30-4D	TOP COWLING ASSEMBLY	1	
2	697-42647-00-94	. HOLDER, CLAMP BAND	1	
3	697-42649-00-94	. HOLDER, CLAMP BAND	1	
4	90202-19M10-00	. WASHER, PLATE	2	
5	663-42662-00-00	. DAMPER	2	
6	90266-06M02-00	. RIVET	5	
7	90266-06M02-00	. RIVET	1	
8	697-42613-00-4D	. MOLDING, AIR DUCT	1	
9	97095-06016-00	. BOLT	4	
10	92990-06600-00	. WASHER, PLATE	4	
11	663-42615-02-00	. SEAL	1	
12	697-42815-10-98	. LEVER, CLAMP	1	
13	697-42817-10-98	. LEVER, CLAMP	1	
14	90386-13M38-00	. BUSH	4	
15	90206-13019-00	. WASHER, WAVE	2	
16	663-42816-02-00	. LEVER, CLAMP	2	
17	97095-06012-00	. BOLT	2	
18	90201-06M02-00	. WASHER, PLATE	2	
19	697-42677-01-00	. GRAPHIC, FRONT	1	
20	697-42678-02-00	. GRAPHIC, REAR	1	
21	697-W0070-30-00	. GRAPHIC SET	1	
22	697-4267A-30-00	. GRAPHIC, REAR 2	1	
23	697-42681-30-00	. MARK, COWLING	1	
24	697-42682-30-00	. MARK, COWLING	1	

BOTTOM COWLING



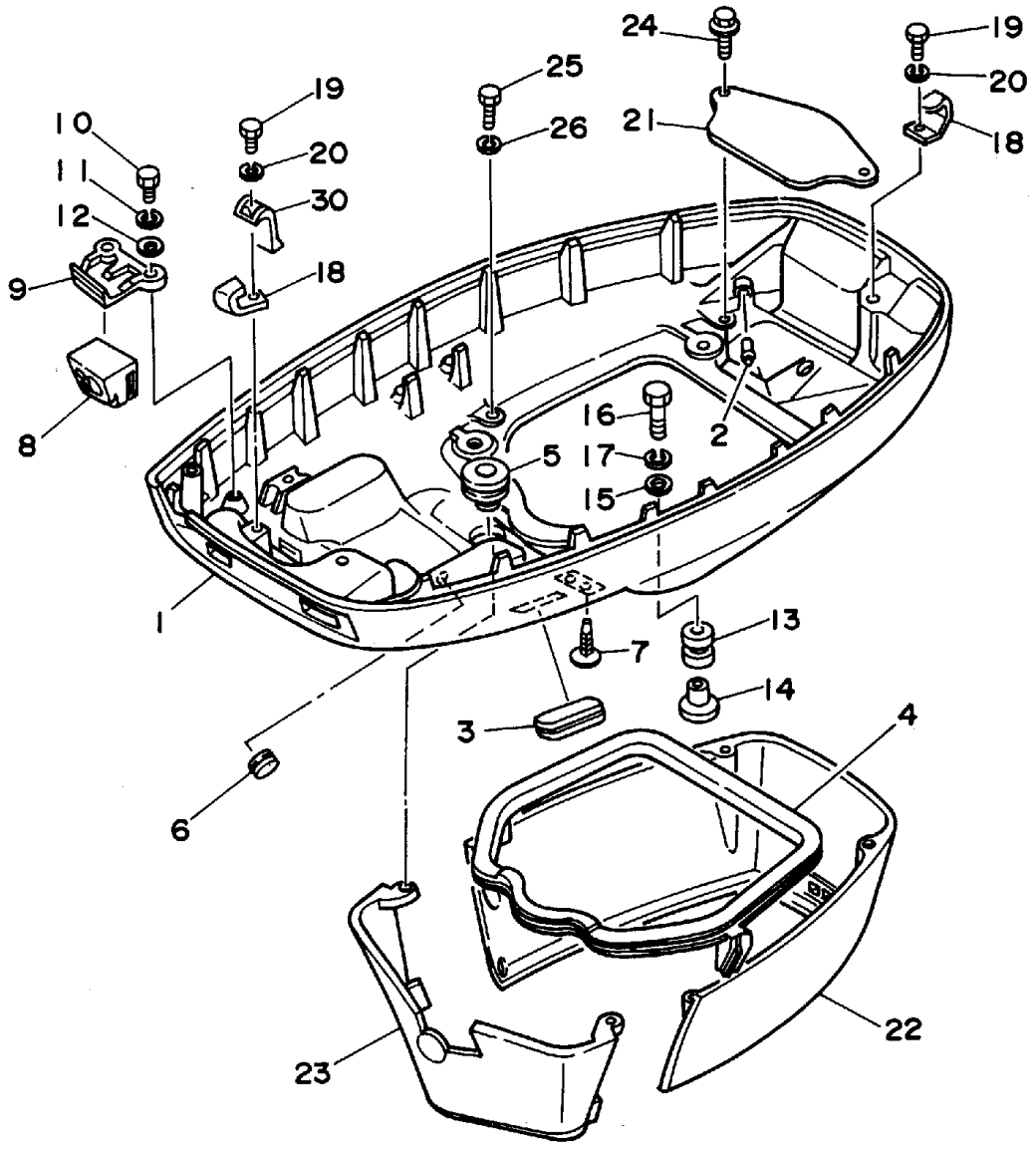


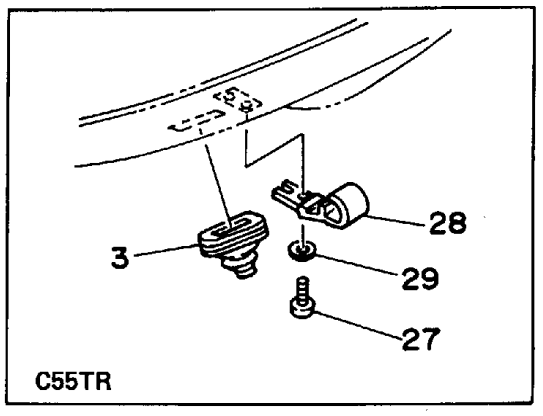
Ref. No.	Part Number	Description	Qty	Remarks
1	697-42711-01-4D	COWLING, BOTTOM	1	
2	663-24376-00-00	PIPE, JOINT 1	1	
3	688-42726-10-00	GROMMET	1	UR C55TR
	6H4-42726-00-00	GROMMET	1	UR C55ER
4	663-42716-01-00	RUBBER, SEAL 1	1	
5	663-42724-00-00	GROMMET	1	
6	90480-12004-00	GROMMET	1	
7	90338-05M03-00	PLUG	1	C55ER
8	663-42725-01-00	GROMMET	1	
9	663-42738-02-94	PLATE, FITTING	1	
10	97095-06016-00	BOLT	2	
11	92995-06100-00	WASHER, SPRING	2	
12	92990-06600-00	WASHER, PLATE	2	
13	90480-09M12-00	GROMMET	4	
14	90387-06M03-00	COLLAR	4	
15	90201-06416-00	WASHER, PLATE	4	
16	97095-06030-00	BOLT	4	
17	92995-06100-00	WASHER, SPRING	4	
18	663-42744-02-00	STAY	2	
19	97395-06014-00	BOLT	2	
20	92995-06100-00	WASHER, SPRING	2	
21	663-42723-01-94	COVER, BOTTOM	1	
22	663-42741-00-4D	APRON	1	
23	663-42771-01-4D	APRON	1	
24	97595-06420-00	BOLT, WITH WASHER	2	
25	97095-06025-00	BOLT	2	
26	92995-06100-00	WASHER, SPRING	2	
27	90157-06M01-00	SCREW, PAN HEAD	1	C55TR
28	6E5-24367-10-00	CLAMP, FUEL PIPE 2	1	C55TR

CONTINUED ON NEXT FRAME ➤

BOTTOM COWLING

Ref. No.	Part Number	Description	Qty	Remarks
29	92990-06600-00	WASHER, PLATE	1	C55TR
30	663-82594-03-00	CLAMP	1	





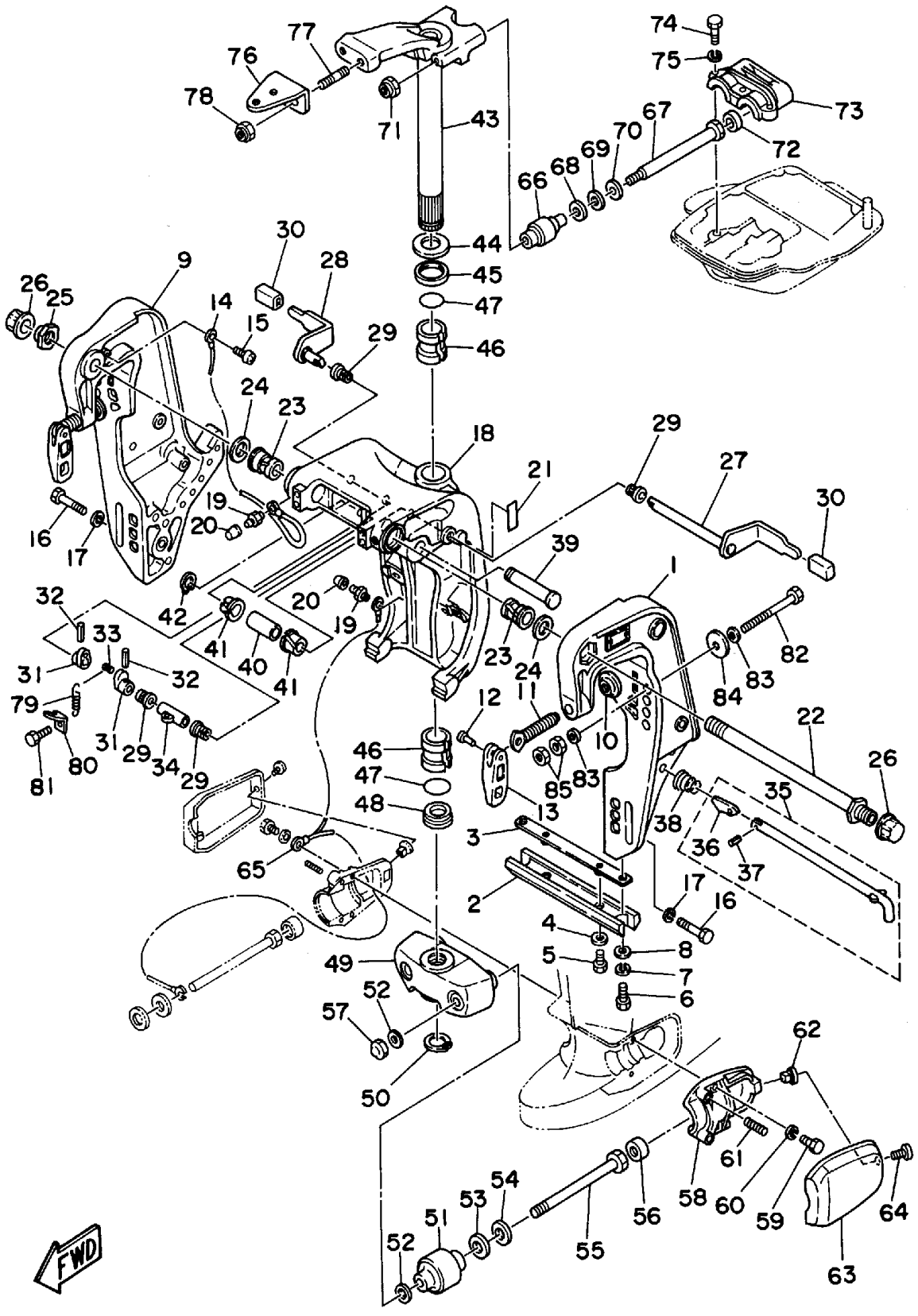
C55TR

FWD

BRACKET 1 (C55ER)

Ref. No.	Part Number	Description	Qty	Remarks
1	688-43111-12-4D	BRACKET, CLAMP	1	
2	6H1-45251-02-00	ANODE	1	
3	6H1-44526-00-00	PLATE	1	
4	90201-06M31-00	WASHER, PLATE	2	
5	97095-06012-00	BOLT	2	
6	97095-06016-00	BOLT	2	
7	92995-06100-00	WASHER, SPRING	2	
8	92990-06600-00	WASHER, PLATE	2	
9	688-43112-12-4D	BRACKET, CLAMP	1	
10	648-43114-01-00	PAD, TRANSOM CLAMP	2	
11	663-43116-01-00	SCREW, TRANSOM CLAMP	2	
12	90243-04007-00	PIN	2	
13	663-43118-00-4D	HANDLE, TRANSOM CLAMP	2	
14	6E5-82148-00-00	WIRE, LEAD 4	1	
15	98580-06012-00	SCREW, PAN HEAD	1	
16	97395-10045-00	BOLT	6	
17	92990-10100-00	WASHER, SPRING	6	
18	6H1-43311-01-4D	BRACKET, SWIVEL	1	
19	93700-06M03-00	NIPPLE, GREASE	3	
20	663-45119-00-00	CAP, GREASE NIPPLE	3	
21	688-43691-01-00	INDICATOR, TILT	1	
22	688-43131-03-00	BOLT, CLAMP BRACKET	1	
23	90386-22M15-00	BUSH	2	
24	90201-22M67-00	WASHER, PLATE	2	
25	90185-22M11-00	NUT, SELF-LOCKING	1	
26	6G5-43145-00-00	CAP, CLAMP BRACKET	2	
27	688-43181-10-00	LEVER, TILT STOP	1	
28	688-43185-10-00	LEVER, TILT STOP	1	
29	90386-10M16-00	BUSH	4	

CONTINUED ON NEXT FRAME ➤



BRACKET 1 (C55ER)

Ref. No.	Part Number	Description	Qty	Remarks
30	663-43318-00-00	COVER	2	
31	6G5-43148-00-00	COLLAR, DISTANCE	2	
32	91690-30020-00	PIN, SPRING	2	
33	90249-06M19-00	PIN	1	
34	90387-10M02-00	COLLAR	1	
35	688-43160-01-00	TILT ROD ASSEMBLY	1	
36	688-43165-00-00	. PLATE, TILT LOCK	1	
37	91690-30012-00	. PIN, SPRING	1	
38	90502-16M02-00	SPRING, CONICAL	1	
39	6E5-43126-02-00	PIN, UPPER SHOCK MOUNT	1	
40	90386-18M21-00	BUSH	1	
41	90386-18M35-00	BUSH	2	
42	93410-18M02-00	CIRCLIP	1	
43	663-42510-13-4D	STEERING BRACKET ASSEMBLY	1	
44	90201-30M00-00	WASHER, PLATE	1	
45	90386-30M78-00	BUSH	1	
46	90386-30M77-00	BUSH	2	
47	93210-29M94-00	O-RING	2	
48	90386-30M60-00	BUSH	1	
49	663-44551-01-4D	HOUSING, LOWER MOUNT RUBBER	1	
50	93410-28M06-00	CIRCLIP	1	
51	687-44555-00-94	MOUNT DAMPER, LOWER SIDE	2	
52	90201-12M16-00	WASHER, PLATE	4	
53	90202-25M04-00	WASHER, PLATE	2	
54	90201-13M19-00	WASHER, PLATE	2	
55	90109-12261-00	BOLT	2	
56	663-44575-00-00	DAMPER, LOWER MOUNT RUBBER	2	

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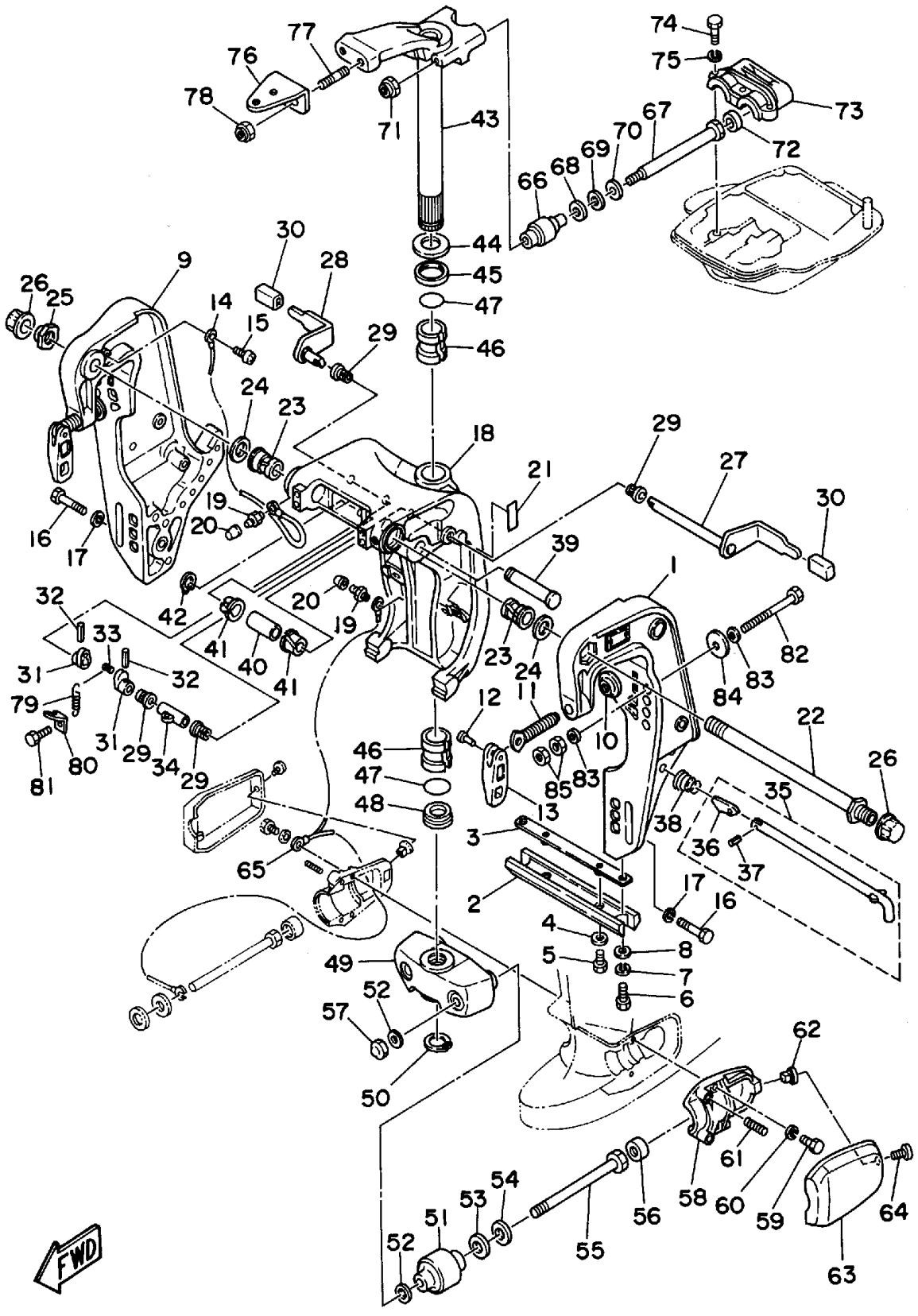


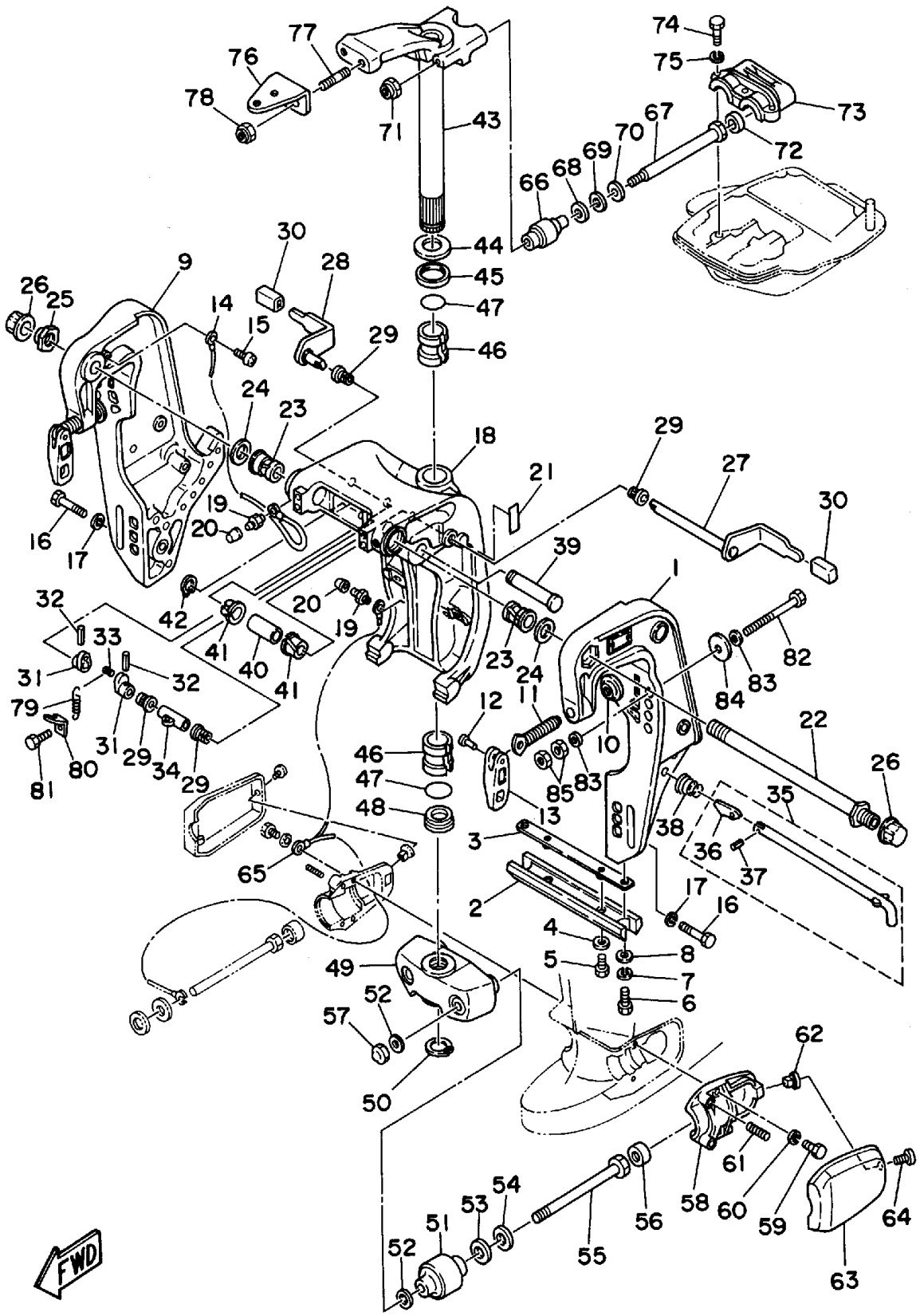
BRACKET 1 (C55ER)

Ref. No.	Part Number	Description	Qty	Remarks
57	95380-12800-00	NUT, CROWN	2	
58	687-44552-01-94	HOUSING, LOWER MOUNT RUBBER	2	
59	97395-08025-00	BOLT, HEXAGON	4	
60	92990-08100-00	WASHER	4	
61	90501-14236-00	SPRING, COMPRESSION	4	
62	90179-06066-00	NUT	2	
63	663-44553-00-4D	COVER, LOWER MOUNT	2	
64	98580-06016-00	SCREW, PAN HEAD	2	
65	688-82127-02-00	WIRE, LEAD 2	1	
66	670-44514-00-94	MOUNT DAMPER, UPPER SIDE	2	
67	90109-08262-00	BOLT	2	
68	90201-15423-00	WASHER, PLATE	2	
69	90202-15065-00	WASHER, PLATE	2	
70	90201-09425-00	WASHER, PLATE	2	
71	90185-08045-00	NUT, SELF-LOCKING	2	
72	663-44533-00-00	DAMPER, UPPER MOUNT RUBBER	2	
73	663-44511-00-94	COVER, UPPER MOUNT	1	
74	97090-08035-00	BOLT	3	
75	92990-08100-00	WASHER	3	
76	688-48511-01-4D	HOOK, STEERING	1	UR BALL POST TYPE
	688-48511-51-4D	HOOK, STEERING	1	UR STEERING GUIDE TYPE
77	90116-10175-00	BOLT, STUD	2	
78	90185-10051-00	NUT, SELF-LOCKING	2	
79	90506-14M24-00	SPRING, TENSION	1	
80	6G5-43144-00-00	HOOK, SPRING	1	
81	97095-06010-00	BOLT	1	
82	90101-12M51-00	BOLT	4	

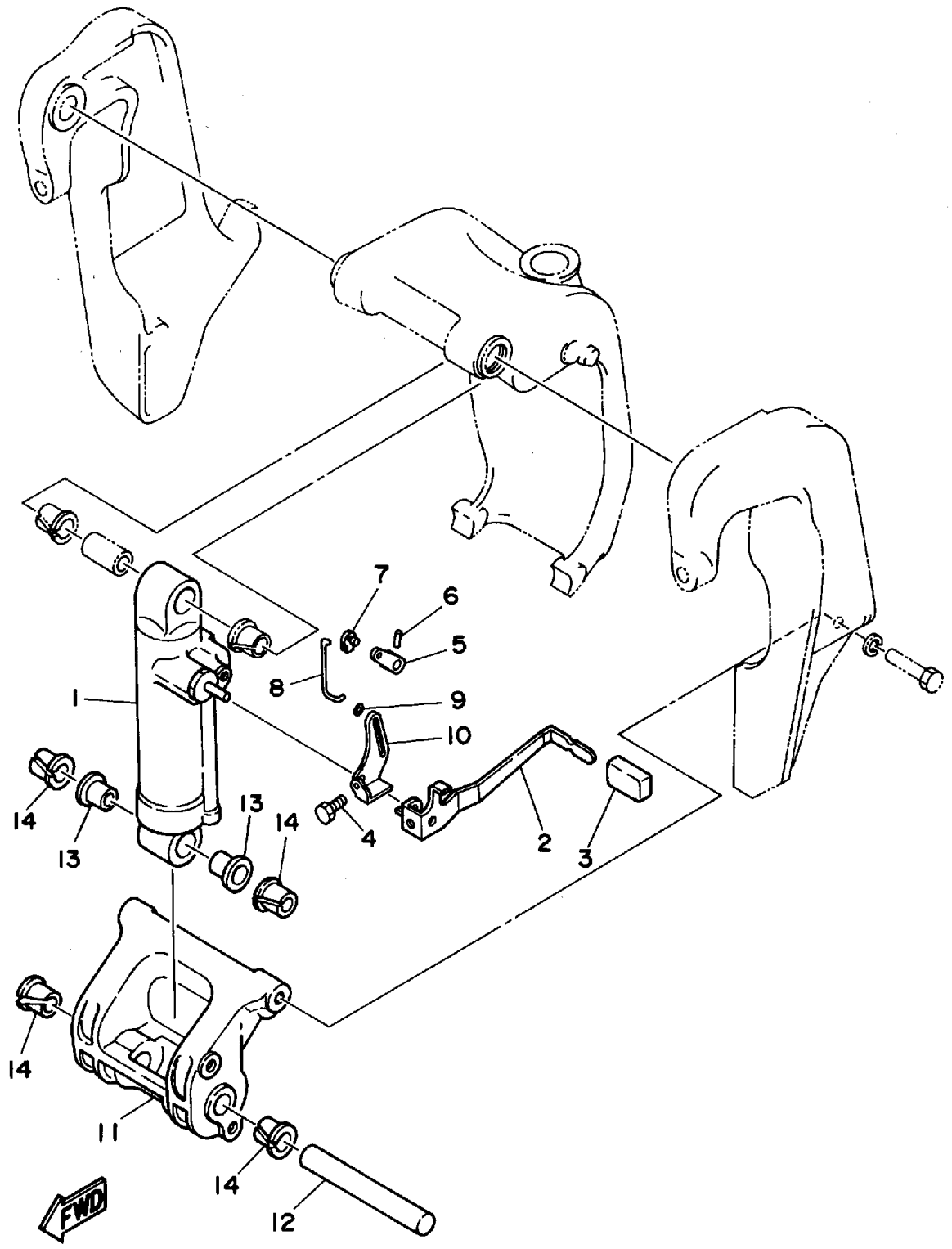
CONTINUED ON NEXT FRAME ➤

BRACKET 1 (C55ER)

Ref. No.	Part Number	Description	Qty	Remarks
83	92995-12200-00	WASHER	8	
84	90201-12426-00	WASHER, PLATE	4	
85	95380-12600-00	NUT	8	

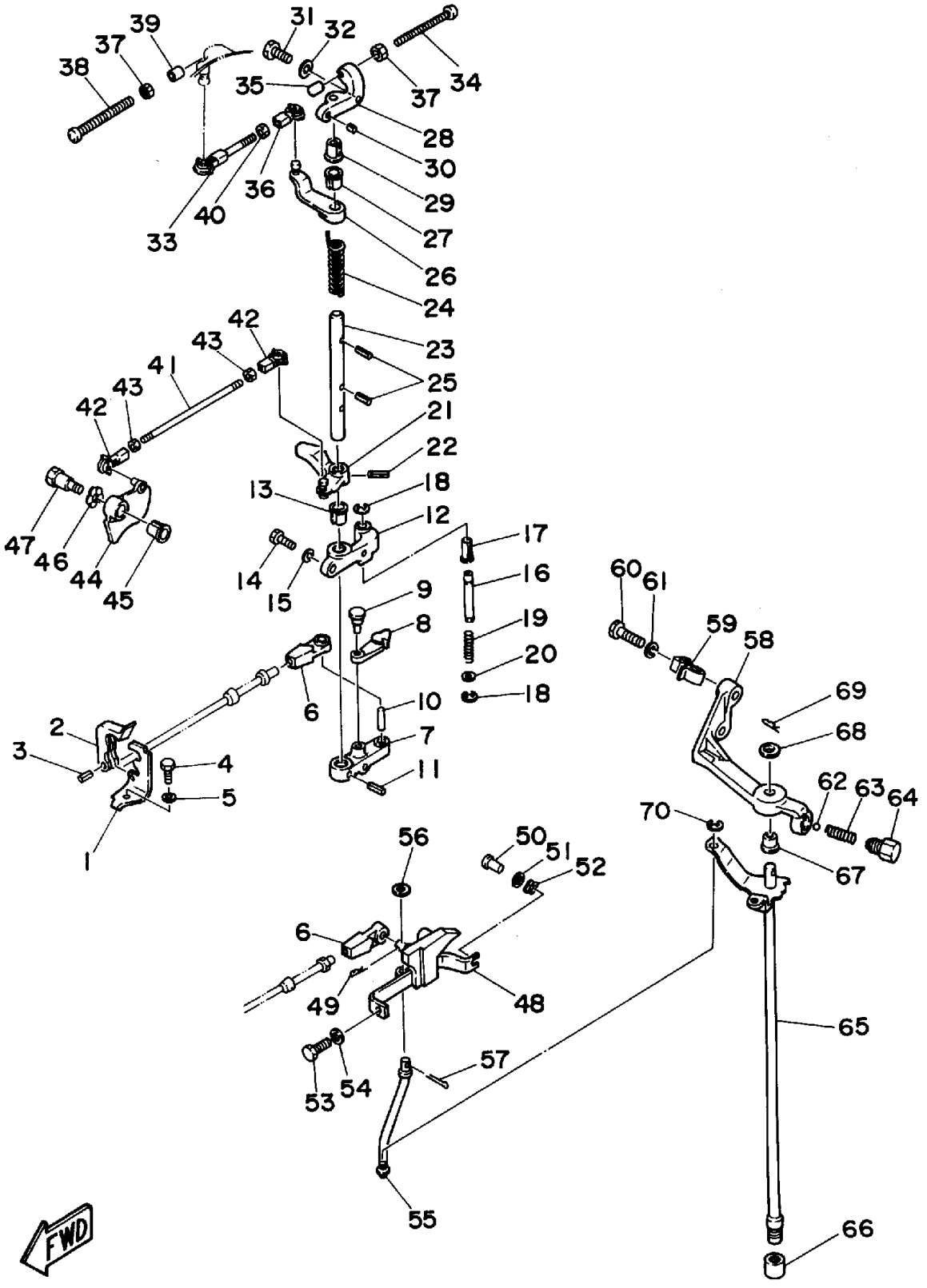


BRACKET 2 (C55ER)



Ref. No.	Part Number	Description	Qty	Remarks
1	688-43170-04-4D	SHOCK ABSORBER ASSEMBLY	1	
2	688-43631-10-00	LEVER, TILT	1	LONG
3	682-43318-01-00	COVER	1	
4	97095-06010-00	BOLT	1	
5	688-43186-00-00	LEVER	1	
6	91690-30020-00	PIN, SPRING	1	
7	6J8-41262-00-00	JOINT, CHOKE LEVER	1	
8	688-43616-00-00	ROD, TILT LOCK	1	
9	90202-03M51-00	WASHER, PLATE	1	
10	688-43651-00-00	LEVER, REVERSE LOCK 1	1	
11	688-43128-01-4D	SPACER, CLAMP BRACKET	1	
12	688-43124-02-00	PIN, LOWER SHOCK MOUNT	1	
13	90386-18M63-00	BUSH	2	
14	90386-18M35-00	BUSH	4	

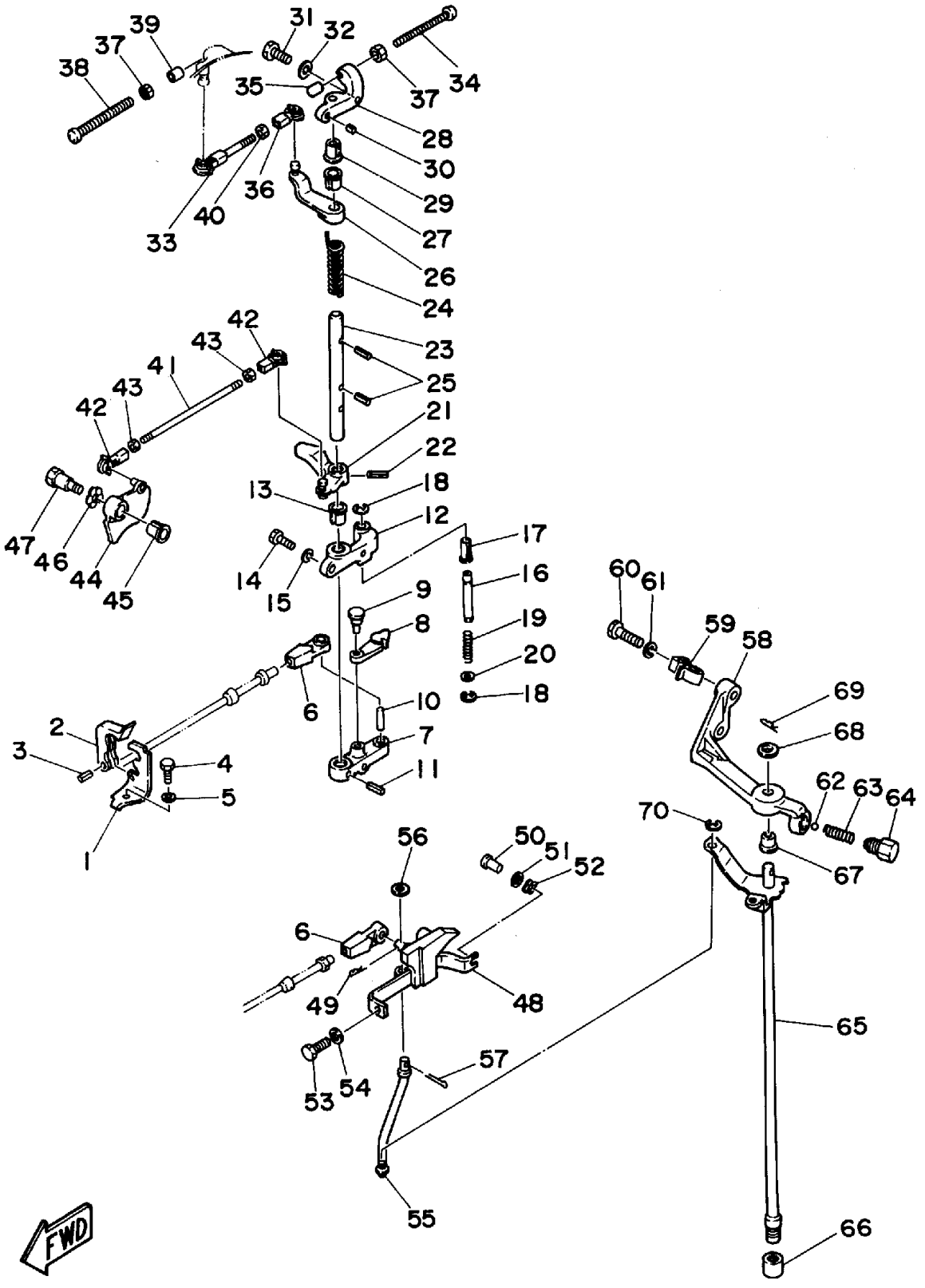
CONTROL



Ref. No.	Part Number	Description	Qty	Remarks
1	663-48531-00-00	BRACKET, REMOTE CONTROL 1	1	
2	663-48538-00-00	CLAMP, CABLE 1	1	
3	91690-30012-00	PIN, SPRING	1	
4	97395-08016-00	BOLT, HEXAGON	1	
5	92995-08100-00	WASHER	1	
6	663-48344-00-00	CABLE END, REMOTE CONTROL	2	
7	663-41632-00-94	LEVER, MAGNETO CONTROL	1	
8	663-41282-00-00	STOPPER, FREE ACCEL. LINK	1	
9	90249-05125-00	PIN	1	
10	93607-23110-00	PIN, DOWEL	1	
11	91690-30018-00	PIN, SPRING	1	
12	663-41662-00-94	BRACKET	1	
13	90386-10009-00	BUSH	1	
14	97080-06018-00	BOLT	2	
15	92990-06600-00	WASHER, PLATE	2	
16	663-44114-00-00	STOPPER	1	
17	90386-06M39-00	BUSH	1	
18	99080-05600-00	CIRCLIP	2	
19	90501-08232-00	SPRING, COMPRESSION	1	
20	92990-06600-00	WASHER, PLATE	1	
21	663-41633-00-94	LEVER, MAGNETO CONTROL	1	
22	91690-30018-00	PIN, SPRING	1	
23	663-41635-00-00	SHAFT, LINK CONNECTING	1	
24	90508-20169-00	SPRING, TORSION	1	
25	91690-30018-00	PIN, SPRING	2	
26	663-41631-00-94	LEVER, MAGNETO CONTROL	1	
27	90386-10009-00	BUSH	1	

CONTINUED ON NEXT FRAME ➤

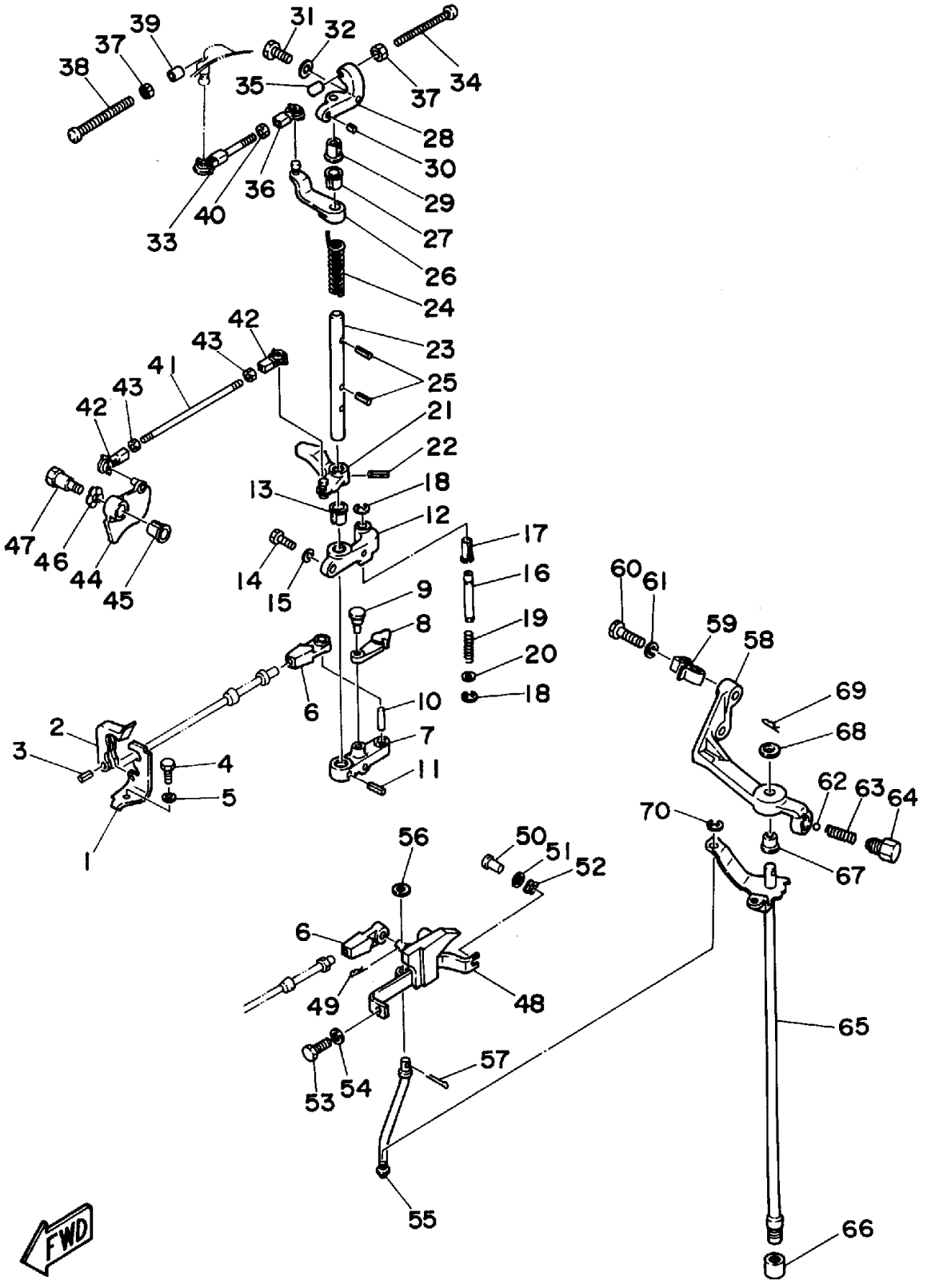
CONTROL



Ref. No.	Part Number	Description	Qty	Remarks
28	663-41661-00-94	BRACKET	1	
29	90386-10009-00	BUSH	1	
30	91690-40010-00	PIN, SPRING	1	
31	97080-06018-00	BOLT	1	
32	92990-06600-00	WASHER, PLATE	1	
33	688-41636-00-00	ROD, MAGNETO CONTROL	1	
34	90157-06M11-00	SCREW, PAN HEAD	1	
35	688-44194-00-00	CAP	1	
36	6H1-41237-00-00	JOINT, LINK	1	
37	95380-06700-00	NUT	2	
38	90157-06M12-00	SCREW, PAN HEAD	1	
39	663-44194-00-00	CAP	1	
40	95380-05600-00	NUT	1	
41	697-41211-00-00	LINK, ACCEL.	1	
42	6H4-41237-00-00	JOINT, LINK	2	
43	95380-05600-00	NUT	2	
44	663-41213-01-94	CAM, ACCEL.	1	
45	90386-10009-00	BUSH	1	
46	90206-10M04-00	WASHER, WAVE	1	
47	90109-06260-00	BOLT	1	
48	663-44117-01-00	BRACKET	1	
49	90468-18008-00	CLIP	1	
50	90241-06M00-00	PIN	1	
51	92990-06600-00	WASHER, PLATE	1	
52	90206-06040-00	WASHER, WAVE	1	
53	97313-06018-00	BOLT, HEXAGON	1	
54	92990-06600-00	WASHER, PLATE	1	
55	663-44121-01-00	LEVER, SHIFT ROD	1	
56	92990-06600-00	WASHER, PLATE	1	

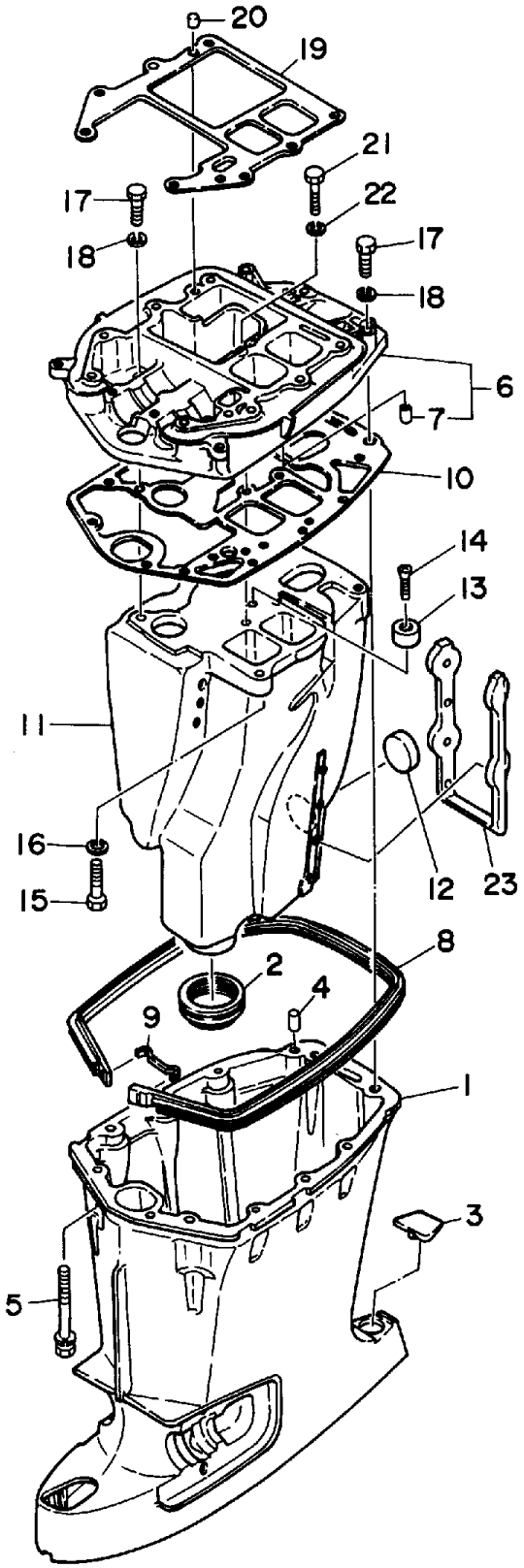
CONTINUED ON NEXT FRAME ➤

CONTROL



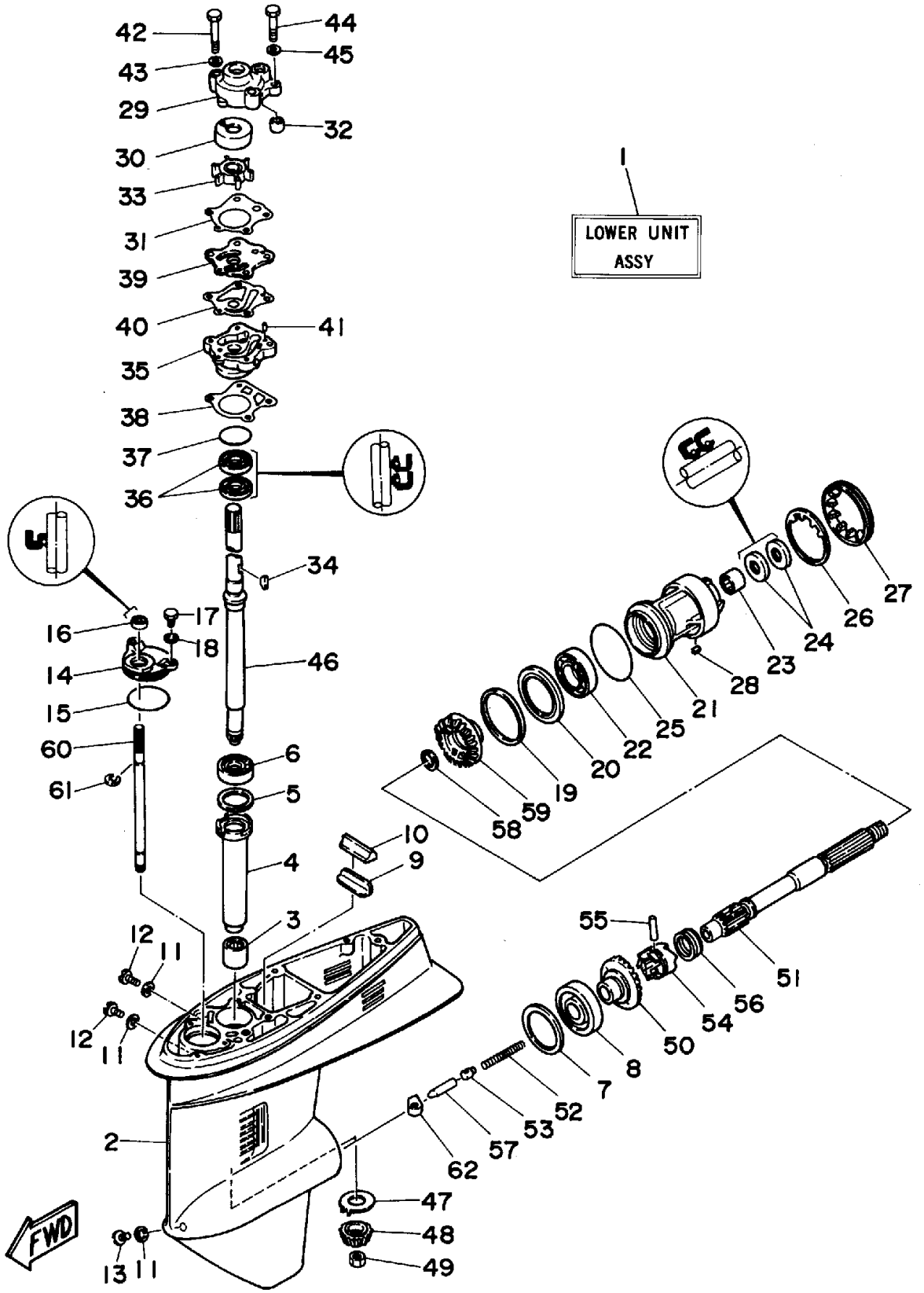
Ref. No.	Part Number	Description	Qty	Remarks
57	91490-16020-00	PIN, COTTER	1	
58	688-44118-00-94	BRACKET	1	
59	90462-05M02-00	CLAMP	1	
60	97313-08030-00	BOLT, HEXAGON	2	
61	92990-08100-00	WASHER	2	
62	93501-04M02-00	BALL	1	
63	90501-12082-00	SPRING, COMPRESSION	1	
64	648-42715-00-00	BUSHING	1	
65	697-44120-11-00	HANDLE GEAR SHIFT ASSEMBLY	1	
66	696-44147-00-00	BOOT, SHIFT ROD	1	
67	90386-08006-00	BUSH	1	
68	92990-08200-00	WASHER, PLAIN	1	
69	90468-18008-00	CLIP	1	
70	99080-05600-00	CIRCLIP	1	

UPPER CASING



Ref. No.	Part Number	Description	Qty	Remarks
1	691-45111-12-4D	CASING, UPPER	1	
2	663-45123-00-00	GASKET, MUFFLER	1	
3	663-45155-10-00	CAP	1	
4	93606-12019-00	PIN, DOWEL	2	
5	90119-08M82-00	BOLT, WITH WASHER	8	
6	663-41137-03-5B	GUIDE, EXHAUST	1	
7	90386-02M04-00	. BUSH	1	
8	663-45127-00-00	SEAL	1	
9	663-45129-00-00	HOOK, DAMPER SEAL	1	
10	697-45114-A0-00	GASKET, UPPER CASING	1	
11	663-14711-12-5B	MUFFLER 1	1	
12	90334-30017-00	PLUG, STRAIGHT	1	
13	663-45251-00-00	ANODE	1	
14	92180-06025-00	SCREW, OVAL HEAD	1	
15	97090-08035-00	BOLT	1	
16	92990-08100-00	WASHER	1	
17	97395-08030-00	BOLT	6	
18	92990-08100-00	WASHER	6	
19	696-45113-A0-00	GASKET, UPPER CASING	1	
20	93606-12019-00	PIN, DOWEL	2	
21	97395-08040-00	BOLT (97095-08040-00)	1	
22	92990-08100-00	WASHER	1	
23	663-14737-10-00	DAMPER, MUFFLER	1	

LOWER CASING - DRIVE 1



Ref. No.	Part Number	Description	Qty	Remarks
1	697-45300-11-4D	LOWER UNIT ASSEMBLY (REF. #2~62)	1	
2	697-45311-01-4D	CASING, LOWER	1	
3	93315-32224-00	BEARING	1	
4	663-45536-00-00	SLEEVE, DRIVE SHAFT	1	
5	663-45587-01-10	SHIM (T:0.10MM)	1	UR
	663-45587-01-12	SHIM (T:0.12MM)	1	UR
	663-45587-01-15	SHIM (T:0.15MM)	1	UR
	663-45587-01-18	SHIM (T:0.18MM)	1	UR
	663-45587-01-30	SHIM (T:0.30MM)	1	UR
	663-45587-01-40	SHIM (T:0.40MM)	1	UR
	663-45587-01-50	SHIM (T:0.50MM)	1	UR
6	93332-00001-00	BEARING	1	
7	663-45567-01-10	SHIM (T:0.10MM)	1	UR
	663-45567-01-12	SHIM (T:0.12MM)	1	UR
	663-45567-01-15	SHIM (T:0.15MM)	1	UR
	663-45567-01-18	SHIM (T:0.18MM)	1	UR
	663-45567-01-30	SHIM (T:0.30MM)	1	UR
	663-45567-01-40	SHIM (T:0.40MM)	1	UR
	663-45567-01-50	SHIM (T:0.50MM)	1	UR
8	93332-00003-00	BEARING	1	
9	663-45376-00-94	GUIDE, SEAL DAMPER	1	
10	663-45375-00-00	DAMPER, SEAL	1	
11	90430-08020-00	GASKET	3	
12	90340-08M04-00	PLUG, STRAIGHT SCREW	2	
13	688-45341-00-00	PLUG, DRAIN	1	
14	663-45321-00-00	PLATE	1	
15	93210-49046-00	O-RING	1	
16	93106-09014-00	OIL SEAL	1	

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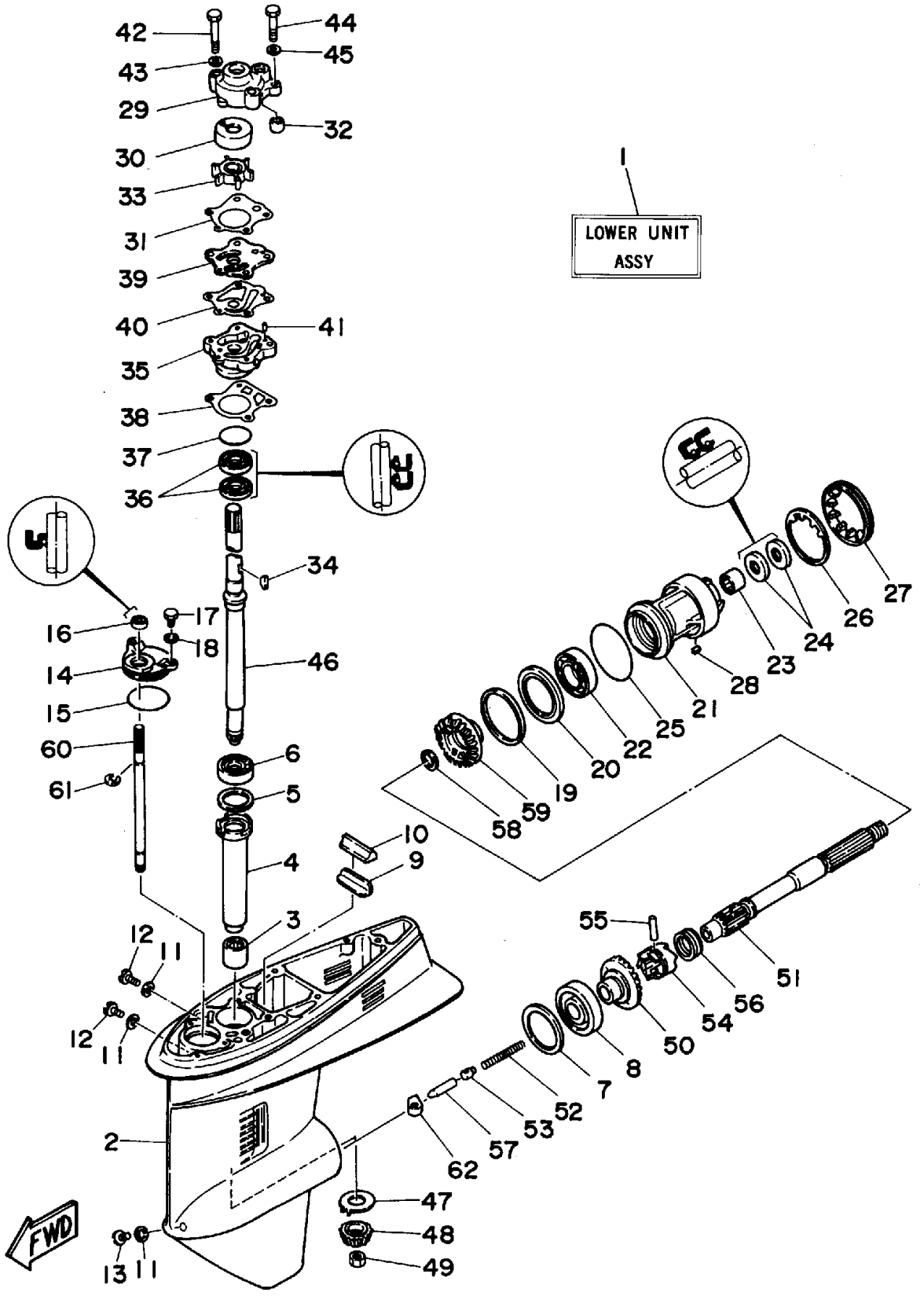
LOWER CASING - DRIVE 1



Ref. No.	Part Number	Description	Qty	Remarks
17	97095-06016-00	BOLT	2	
18	92990-06600-00	WASHER, PLATE	2	
19	663-45577-01-10	SHIM (T:0.10MM)	1	UR
	663-45577-01-12	SHIM (T:0.12MM)	1	UR
	663-45577-01-15	SHIM (T:0.15MM)	1	UR
	663-45577-01-18	SHIM (T:0.18MM)	1	UR
	663-45577-01-30	SHIM (T:0.30MM)	1	UR
	663-45577-01-40	SHIM (T:0.40MM)	1	UR
	663-45577-01-50	SHIM (T:0.50MM)	1	UR
20	663-45576-00-00	WASHER, THRUST	1	
21	663-45331-00-94	HOUSING, BEARING	1	
22	93306-00702-00	BEARING	1	
23	93317-22204-00	BEARING	1	
24	93101-22067-00	OIL SEAL	2	
25	93210-66M98-00	O-RING	1	
26	90214-48M03-00	WASHER, CLAW	1	
27	697-45384-00-00	NUT	1	
28	90282-04010-00	KEY, STRAIGHT	1	
29	663-44311-02-00	HOUSING, WATER PUMP	1	
30	663-44322-00-00	INSERT, CARTRIDGE	1	
31	663-44315-A0-00	GASKET, WATER PUMP	1	
32	663-44366-00-00	DAMPER, WATER SEAL	1	
33	697-44352-00-00	IMPELLER	1	
34	90280-03M03-00	KEY, WOODRUFF	1	
35	663-44341-00-94	HOUSING, WATER PUMP	1	
36	93101-23070-00	OIL SEAL	2	
37	93210-41042-00	O-RING	1	
38	663-44316-A0-00	GASKET, WATER PUMP	1	
39	663-44323-00-00	OUTER PLATE, CARTRIDGE	1	

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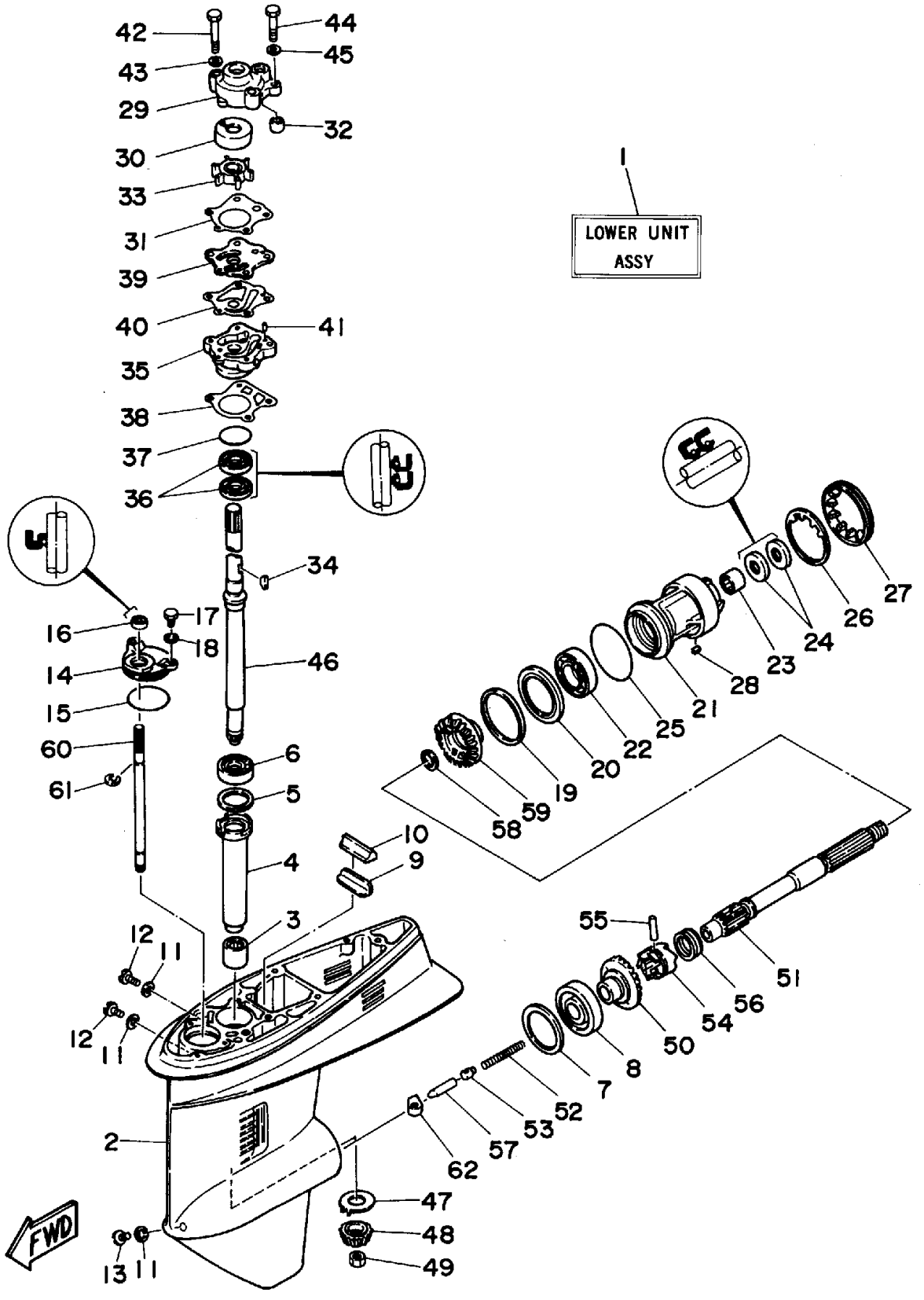
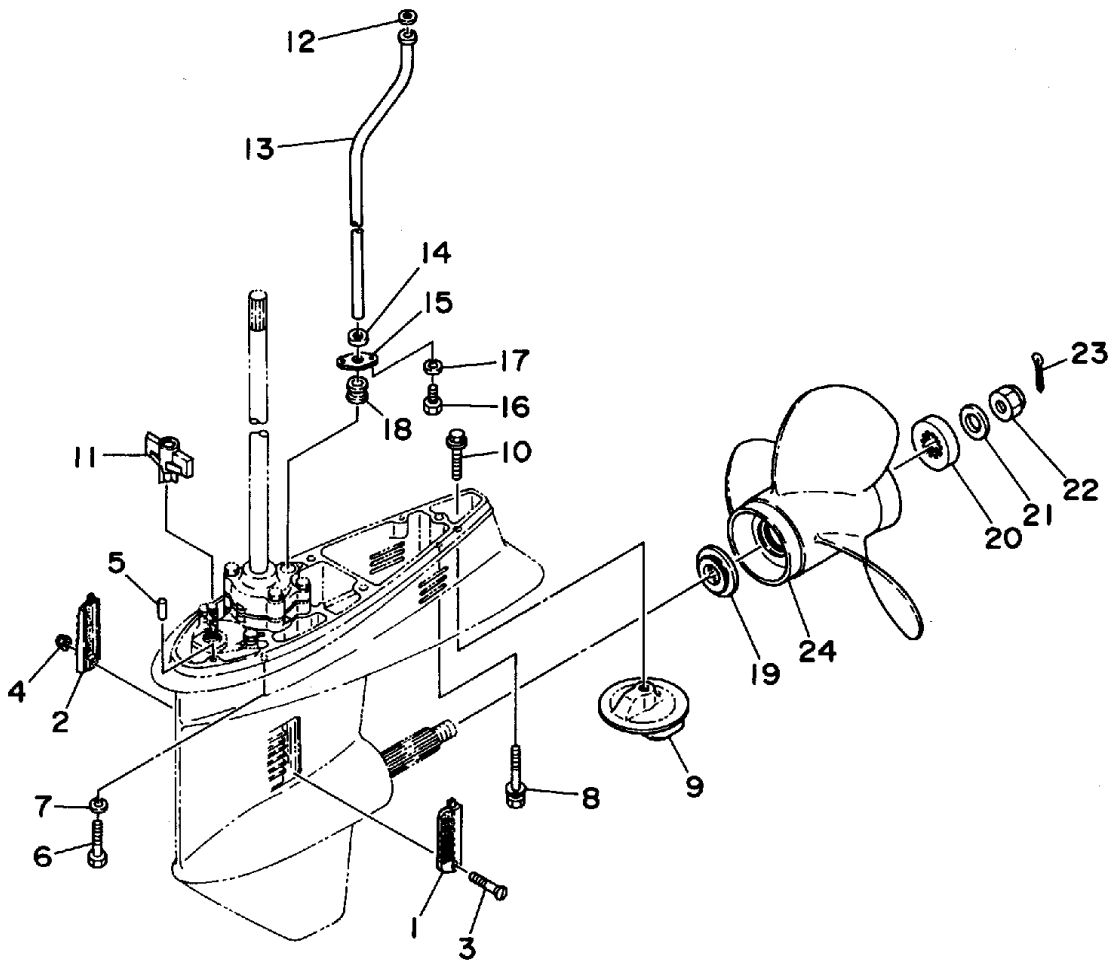
LOWER CASING - DRIVE 1



Ref. No.	Part Number	Description	Qty	Remarks
40	663-44324-A0-00	GASKET, CARTRIDGE	1	
41	93604-08062-00	PIN, DOWEL	2	
42	97395-08055-00	BOLT	2	
43	92990-08600-00	WASHER, PLATE	2	
44	97395-08045-00	BOLT	2	
45	92990-08600-00	WASHER, PLATE	2	
46	663-45510-11-00	DRIVE SHAFT ASSEMBLY	1	
47	663-45552-00-00	BEARING, PLAIN	1	
48	697-45551-00-00	PINION	1	
49	90170-12138-00	NUT	1	
50	697-45560-00-00	GEAR	1	
51	697-45611-00-00	SHAFT, PROPELLER	1	
52	90501-16233-00	SPRING, COMPRESSION	1	
53	663-45634-00-00	SLIDE, SHIFT	1	
54	663-45631-01-00	CLUTCH, DOG	1	
55	90250-06023-00	PIN, STRAIGHT	1	
56	663-45633-00-00	RING, CROSS PIN	1	
57	688-45635-00-00	PLUNGER, SHIFT	1	
58	90201-22429-00	WASHER, PLATE	1	
59	697-45571-00-00	GEAR	1	
60	663-44144-01-00	ROD, SHIFT	1	
61	99001-08600-00	CIRCLIP	1	
62	663-44151-00-00	CAM, SHIFT	1	

LOWER CASING - DRIVE 2



Ref. No.	Part Number	Description	Qty	Remarks
1	688-45214-02-00	COVER, WATER INLET	1	
2	688-45215-02-00	COVER, WATER INLET	1	
3	98780-05540-00	SCREW, OVAL HEAD	1	
4	90185-05002-00	NUT, SELF-LOCKING	1	
5	93606-12019-00	PIN, DOWEL	2	
6	97395-10040-00	BOLT	4	
7	92990-10100-00	WASHER, SPRING	4	
8	90119-08M84-00	BOLT, WITH WASHER	1	
9	679-45371-00-00	TAB-TRIM	1	
10	90105-10M00-00	BOLT, WASHER BASED	1	
11	697-43662-00-00	GUIDE, REVERSE ROD	1	
12	90202-12060-00	WASHER, PLATE	1	
13	663-44361-10-00	TUBE, WATER	1	
14	90430-12072-00	GASKET	1	
15	663-44373-00-00	SET PLATE, WATER TUBE	1	
16	97095-06012-00	BOLT	2	
17	92995-06100-00	WASHER, SPRING	2	
18	663-44367-00-00	DAMPER, WATER SEAL	1	
19	663-45987-02-00	SPACER	1	
20	670-45997-02-00	SPACER	1	
21	92990-16200-00	WASHER, PLAIN	1	
22	90171-16011-00	NUT, CASTLE	1	
23	91490-40030-00	PIN, COTTER	1	
24	663-45930-00-98	PROPELLER (3X10-1/4"X14"-G)	1	UR
	663-45941-01-EL	PROPELLER (3X10-3/4"X17"-G)	1	UR
	663-45947-02-EL	PROPELLER (3X11-5/8"X11"-G)	1	UR
	663-45949-01-EL	PROPELLER (3X10-3/4"X16"-G)	1	UR
	663-45956-01-EL	PROPELLER (3X12-1/4"X9"-G)	1	UR
	663-45958-01-EL	PROPELLER (3X11-1/4"X14"-G)	1	UR

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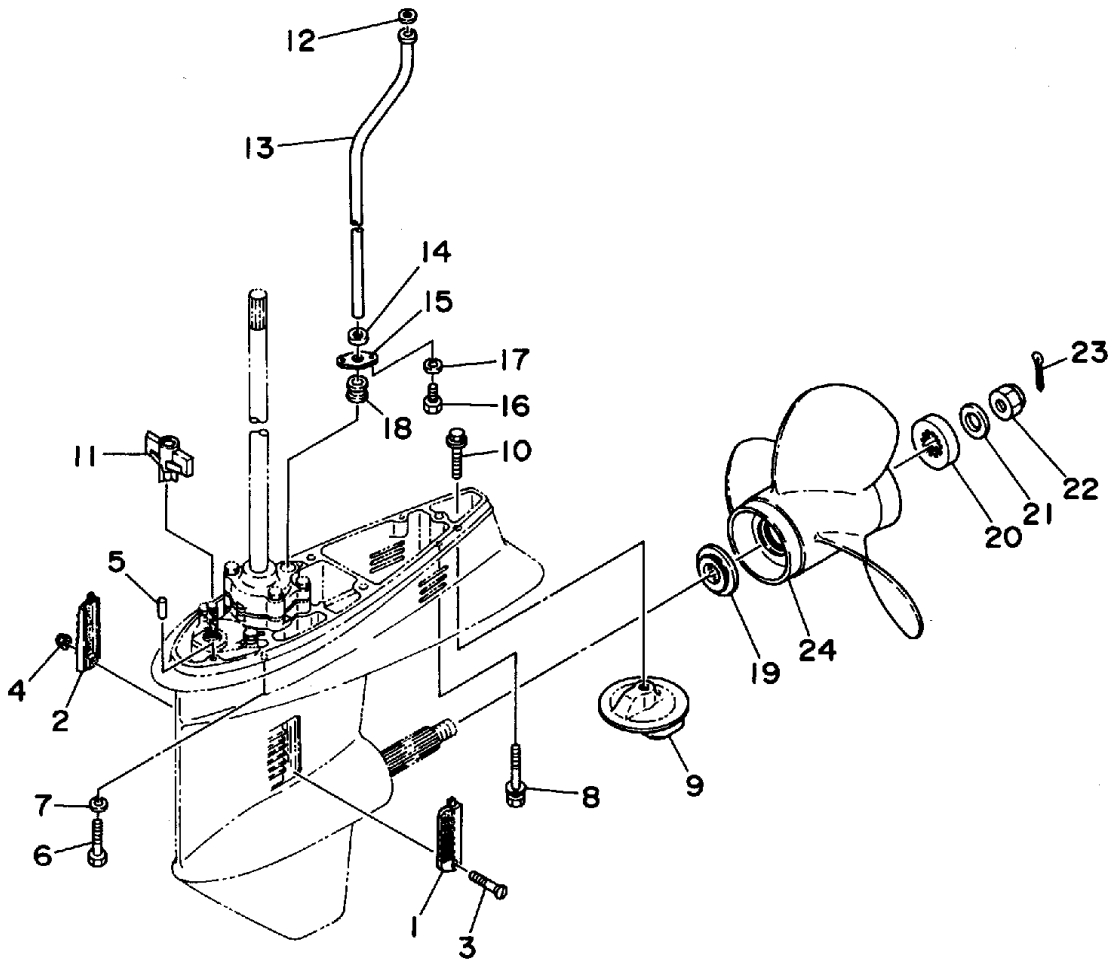
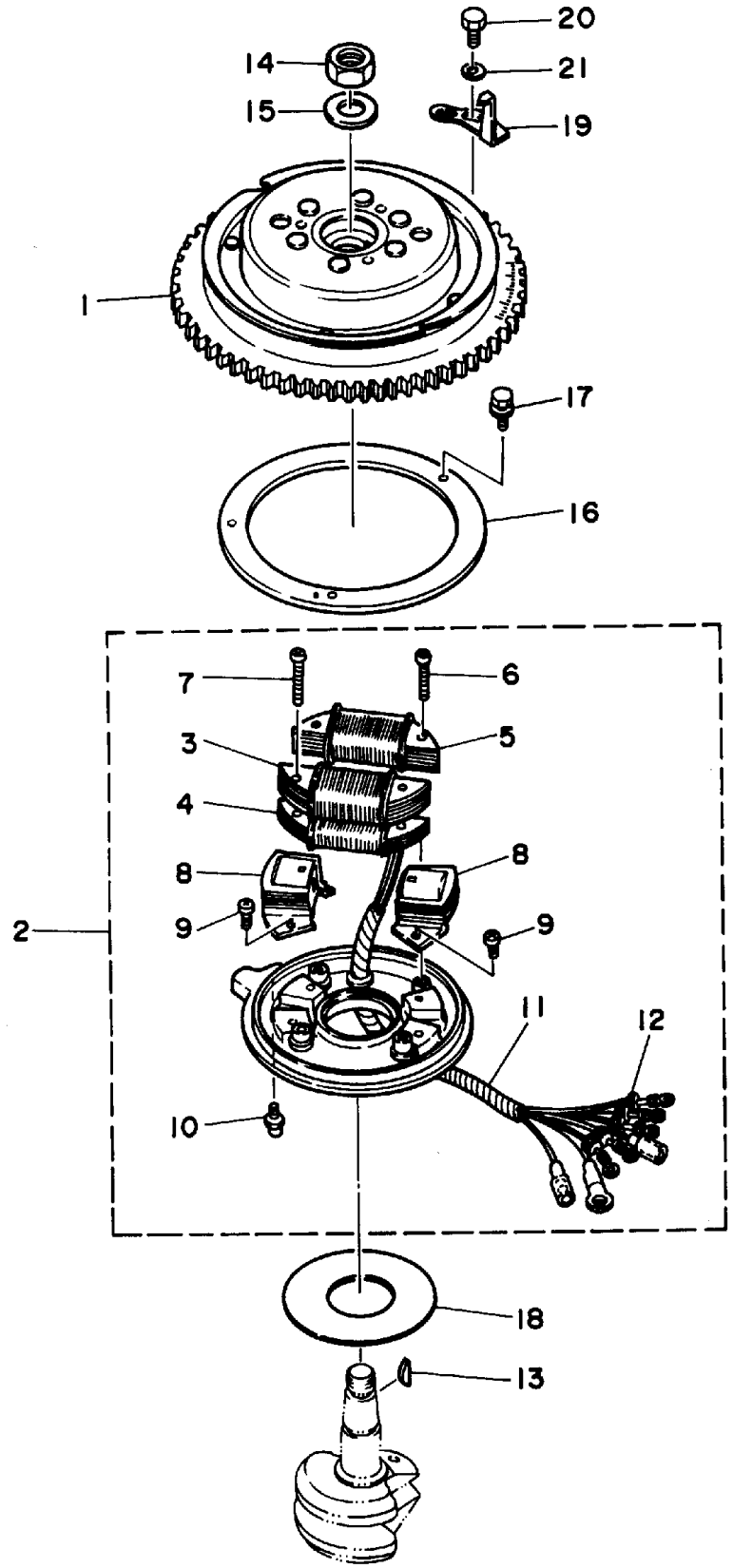


LOWER CASING - DRIVE 2

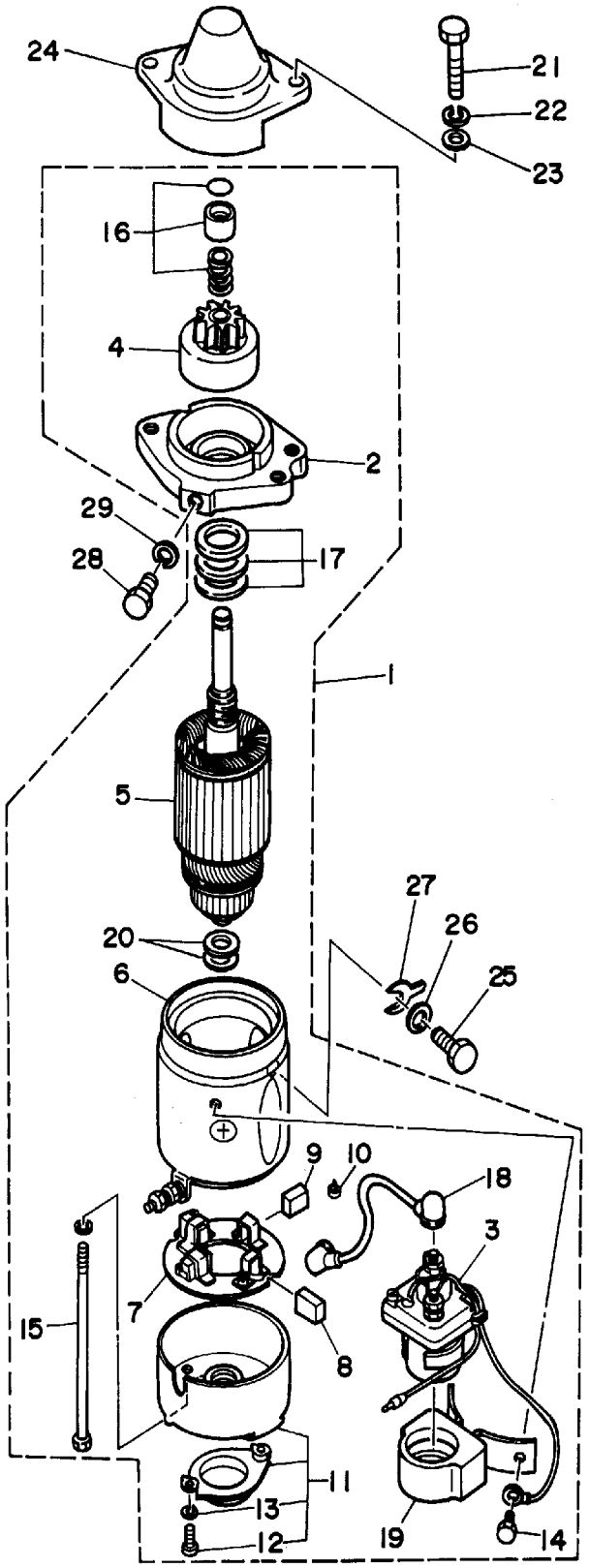
Ref. No.	Part Number	Description	Qty	Remarks
24	663-45970-60-98	PROPELLER (3X11-3/4"X12"-G)	1	UR
	663-45972-60-98	PROPELLER (3X12"X11"-G) . .	1	UR
	663-45974-60-98	PROPELLER (3X11-1/2"X13"-G)	1	UR
	663-45976-00-98	PROPELLER (3X10-1/4"X15"-G)	1	UR
	663-45978-00-98	PROPELLER (3X10-1/4"X16"-G)	1	UR
	6H5-45943-00-EL	PROPELLER (3X10"X15"-G) . .	1	UR
	6H5-45945-00-EL	PROPELLER (3X10-3/8"X13"-G)	1	UR
	6H5-45952-00-EL	PROPELLER (3X10-5/8"X12"-G)	1	UR



MAGNETO

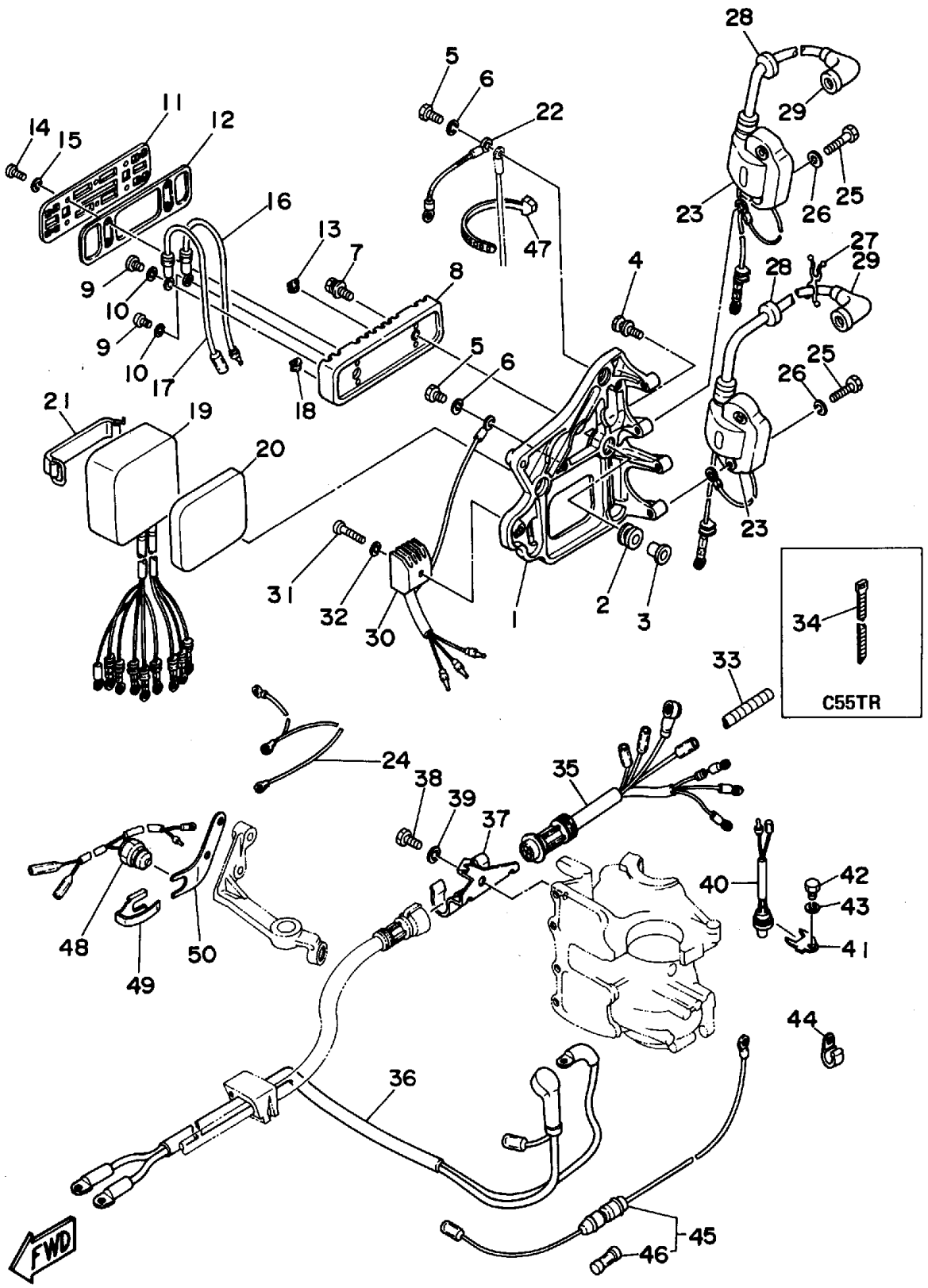
Ref. No.	Part Number	Description	Qty	Remarks
1	697-85550-A0-00	ROTOR ASSEMBLY	1	
2	697-85560-A1-00	BASE ASSEMBLY	1	
3	663-85541-A0-00	. COIL, CHARGE	1	
4	663-85565-A0-00	. COIL, TRIGGER	1	
5	663-81313-A0-00	. COIL, LIGHTING 1	1	
6	98580-05530-00	. SCREW, PAN HEAD	2	
7	98580-05035-00	. SCREW, PAN HEAD	2	
8	663-85580-10-00	. COIL, PULSER	2	
9	98580-04010-00	. SCREW, PAN HEAD	4	
10	663-85518-00-00	. JOINT, BALL	1	
11	697-85515-10-00	. LEAD WIRE ASSEMBLY	1	
12	90480-06158-00	. GROMMET	5	
13	90280-05049-00	KEY, WOODRUFF	1	
14	90170-20137-00	NUT	1	
15	90201-21M18-00	WASHER, PLATE	1	
16	663-41612-00-00	RETAINER, MAGNETO BASE	1	
17	97595-06520-00	BOLT, WITH WASHER	3	
18	663-41619-00-00	WASHER, MAGNETO	1	
19	697-81332-00-00	PLATE, TIMING	1	
20	97095-06016-00	BOLT	1	
21	92990-06600-00	WASHER, PLATE	1	

STARTING MOTOR



Ref. No.	Part Number	Description	Qty	Remarks
1	697-81800-12-00	STARTING MOTOR ASSEMBLY	1	
2	676-81830-10-00	. FRONT BRACKET ASSEMBLY	1	
3	682-81941-11-00	. STARTER RELAY ASSEMBLY	1	
4	663-81832-11-00	. PINION ASSEMBLY	1	
5	676-81850-11-00	. ARMATURE ASSEMBLY	1	
6	663-81810-11-00	. STATOR ASSEMBLY	1	
7	663-81840-11-00	. BRUSH HOLDER ASSEMBLY	1	
8	663-81811-11-00	. BRUSH 1	2	
9	663-81812-11-00	. BRUSH 2	2	
10	663-81813-10-00	. SPRING, BRUSH	4	
11	663-81820-12-00	. REAR BRACKET ASSEMBLY	1	
12	98517-04012-00	. . SCREW, PAN HEAD	2	
13	92901-04100-00	. . WASHER, SPRING	2	
14	97313-06010-00	. BOLT	2	
15	663-81826-10-00	. BOLT	2	
16	697-81857-11-00	. PINION STOPPER SET	1	
17	697-81809-10-00	. WASHER KIT	1	
18	697-81815-10-00	. CORD, STARTER MOTOR	1	
19	697-81952-10-00	. HOLDER, RELAY	1	
20	688-81824-00-00	. WASHER 2	2	
21	97313-08040-00	BOLT, HEXAGON (97322-08040)	2	
22	92990-08100-00	WASHER	2	
23	92990-08600-00	WASHER, PLATE	2	
24	663-81842-00-94	COVER	1	
25	97013-08025-00	BOLT	1	
26	92990-08100-00	WASHER	1	
27	663-81162-00-00	WASHER, PLAIN	1	
28	97313-08016-00	BOLT, HEXAGON	1	
29	92990-08100-00	WASHER	1	

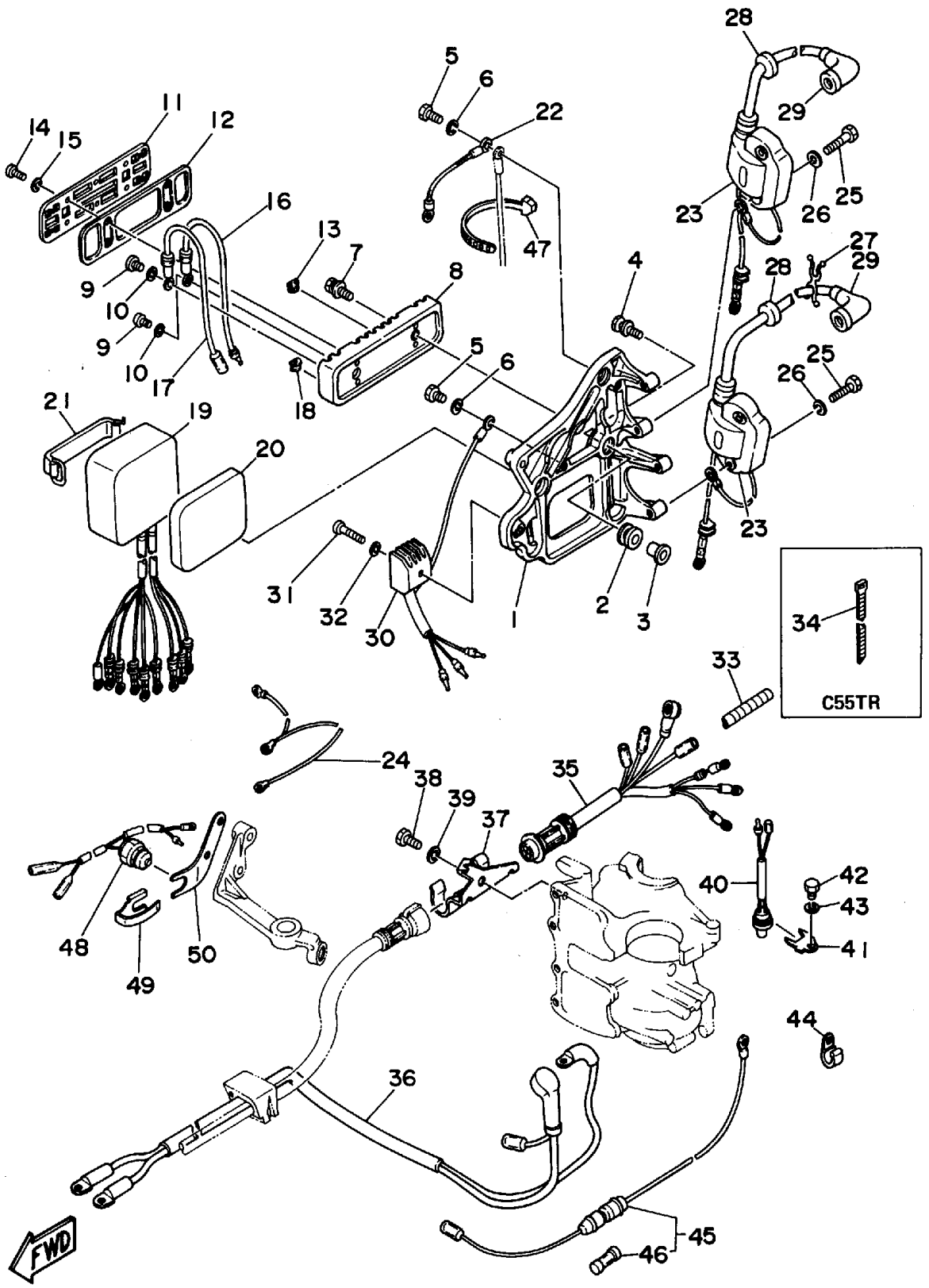
ELECTRICAL 1



Ref. No.	Part Number	Description	Qty	Remarks
1	663-85542-00-94	BRACKET	1	
2	6A0-82317-00-00	DAMPER, IGNITION COIL	3	
3	624-42542-00-00	PIPE	3	
4	90119-06M90-00	BOLT, WITH WASHER	3	
5	97095-06012-00	BOLT	2	
6	92995-06100-00	WASHER, SPRING	2	
7	97985-06218-00	SCREW, WITH WASHER	2	
8	663-81925-01-00	TERMINAL	1	
9	98580-04008-00	SCREW, PAN HEAD	10	
10	92990-04200-00	WASHER, PLAIN	10	
11	697-81916-01-00	COVER, TERMINAL	1	
12	663-81921-00-00	GASKET, TERMINAL	1	
13	90480-06066-00	GROMMET	1	
14	98580-04020-00	SCREW, PAN HEAD	4	
15	92990-04100-00	WASHER, SPRING	4	
16	663-81315-00-00	LEAD WIRE ASSEMBLY	1	
17	663-81316-00-00	WIRE, LEAD 2	1	
18	663-81922-00-00	GROMMET	1	
19	663-85540-15-00	C.D.I. UNIT ASSEMBLY	1	
20	663-85547-01-00	DAMPER	1	
21	663-82131-01-00	BAND, BATTERY	1	
22	662-82519-00-00	WIRE, EARTH LEAD	1	
23	697-85570-11-00	IGNITION COIL ASSEMBLY	2	
24	697-82519-00-00	WIRE, EARTH LEAD	1	
25	97095-06030-00	BOLT	4	
26	92990-06600-00	WASHER, PLATE	4	
27	90464-08M02-00	CLAMP	1	
28	90480-25161-00	GROMMET	2	
29	663-82370-01-00	PLUG CAP ASSEMBLY	2	UR

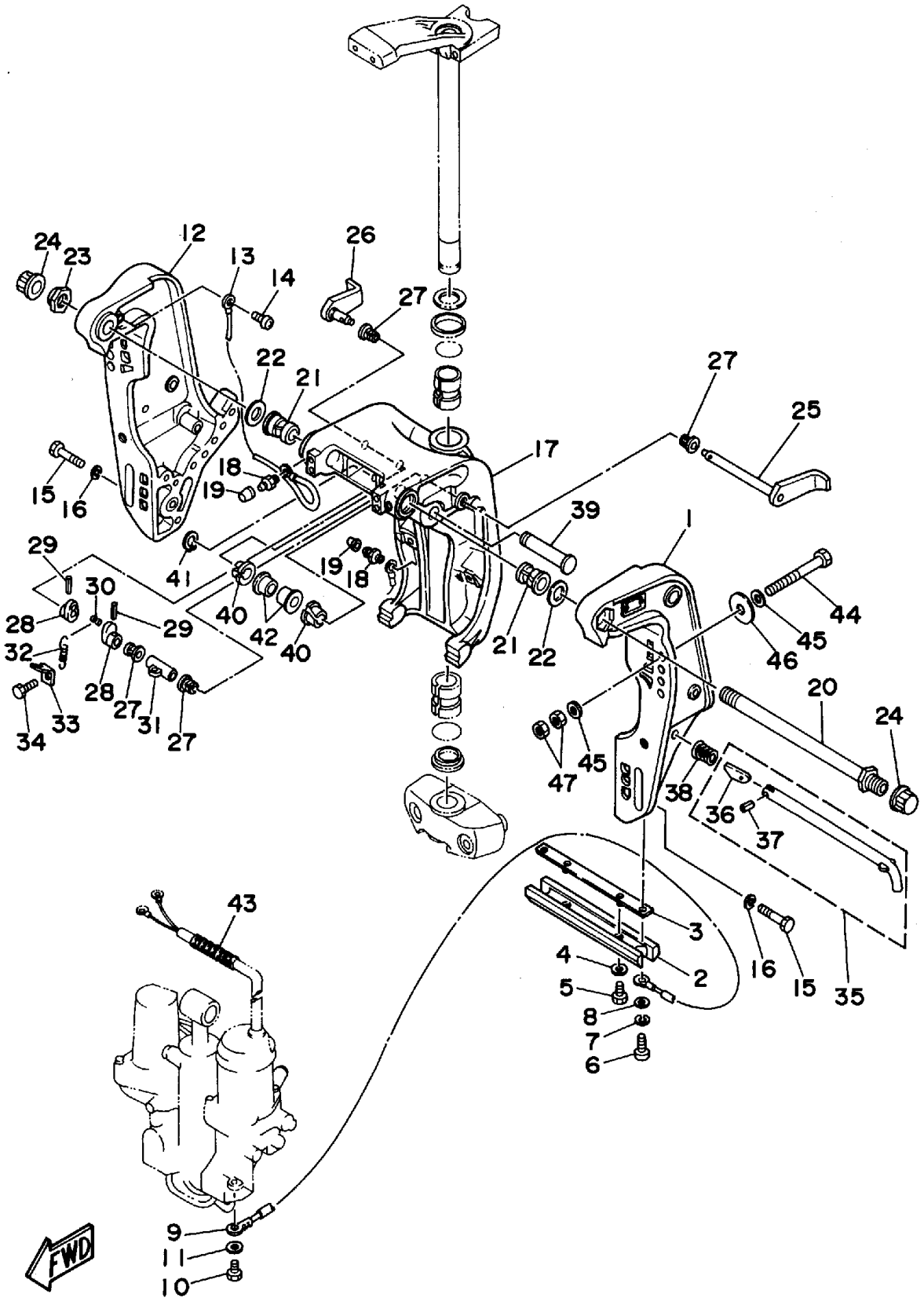
CONTINUED ON NEXT FRAME ➤

ELECTRICAL 1



Ref. No.	Part Number	Description	Qty	Remarks
30	664-81970-61-00	RECTIFIER ASSEMBLY	1	
31	98580-05530-00	SCREW, PAN HEAD	1	
32	92990-05100-00	WASHER, SPRING	1	
33	90446-10M02-00	HOSE	1	UR C55TR
	90446-10M02-00	HOSE	3	UR C55ER
34	90465-11M10-00	CLAMP	2	C55TR
35	697-82590-11-00	WIRE HARNESS ASSEMBLY	1	UR C55ER
	697-82590-20-00	WIRE HARNESS ASSEMBLY	1	UR C55TR
36	697-82105-12-00	WIRE HARNESS	1	UR C55ER
	697-82105-20-00	WIRE HARNESS	1	UR C55TR
37	697-82594-00-00	CLAMP	1	
38	97395-08016-00	BOLT, HEXAGON	1	
39	92995-08600-00	WASHER	1	
40	688-82560-00-00	THERMOSWITCH ASSEMBLY	1	
41	663-82588-00-00	PLATE	1	
42	97313-06010-00	BOLT	1	
43	92995-06100-00	WASHER, SPRING	1	
44	90465-08028-00	CLAMP	1	
45	682-82150-10-00	FUSE HOLDER ASSEMBLY	1	
46	682-82151-00-00	. FUSE (20A)	1	
47	90465-13M39-00	CLAMP	1	
48	697-82540-01-00	NEUTRAL SWITCH ASSEMBLY	1	
49	663-82554-01-00	STAY, NEUTRAL SWITCH	1	
50	663-82555-01-00	DAMPER, MAIN SWITCH	1	

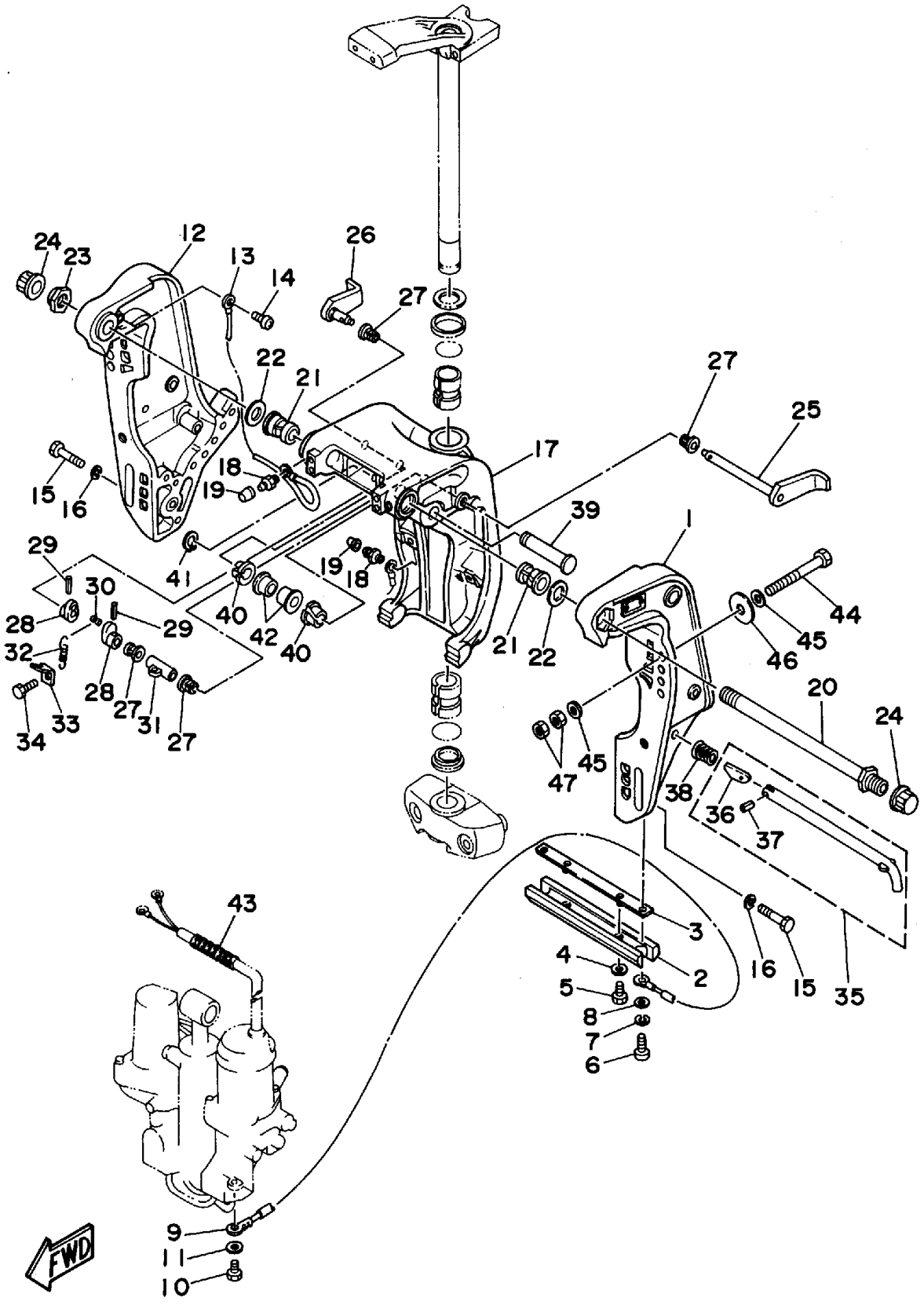
ALTERNATE 1 (BRACKET 1: C55TR)



Ref. No.	Part Number	Description	Qty	Remarks
1	6H1-43111-00-4D	BRACKET, CLAMP	1	
2	6H1-45251-02-00	ANODE	1	
3	6H1-44526-00-00	PLATE	1	
4	90201-06M31-00	WASHER, PLATE	2	
5	97095-06012-00	BOLT	2	
6	97095-06016-00	BOLT	2	
7	92995-06100-00	WASHER, SPRING	2	
8	92990-06600-00	WASHER, PLATE	2	
9	6H1-82148-00-00	WIRE, LEAD 4	1	
10	97095-06010-00	BOLT	1	
11	92990-06600-00	WASHER, PLATE	1	
12	6H1-43112-00-4D	BRACKET, CLAMP	1	
13	6E5-82148-00-00	WIRE, LEAD 4	1	
14	98580-06012-00	SCREW, PAN HEAD	1	
15	97395-10045-00	BOLT	6	
16	92990-10100-00	WASHER, SPRING	6	
17	6H1-43311-01-4D	BRACKET, SWIVEL	1	
18	93700-06M03-00	NIPPLE, GREASE	3	
19	663-45119-00-00	CAP, GREASE NIPPLE	3	
20	688-43131-03-00	BOLT, CLAMP BRACKET	1	
21	90386-22M15-00	BUSH	2	
22	90201-22M67-00	WASHER, PLATE	2	
23	90185-22M11-00	NUT, SELF-LOCKING	1	
24	6G5-43145-00-00	CAP, CLAMP BRACKET	2	
25	6H1-43181-01-00	LEVER, TILT STOP	1	
26	6H1-43185-01-00	LEVER, TILT STOP	1	
27	90386-10M16-00	BUSH	4	
28	6G5-43148-00-00	COLLAR, DISTANCE	2	
29	91690-30020-00	PIN, SPRING	2	

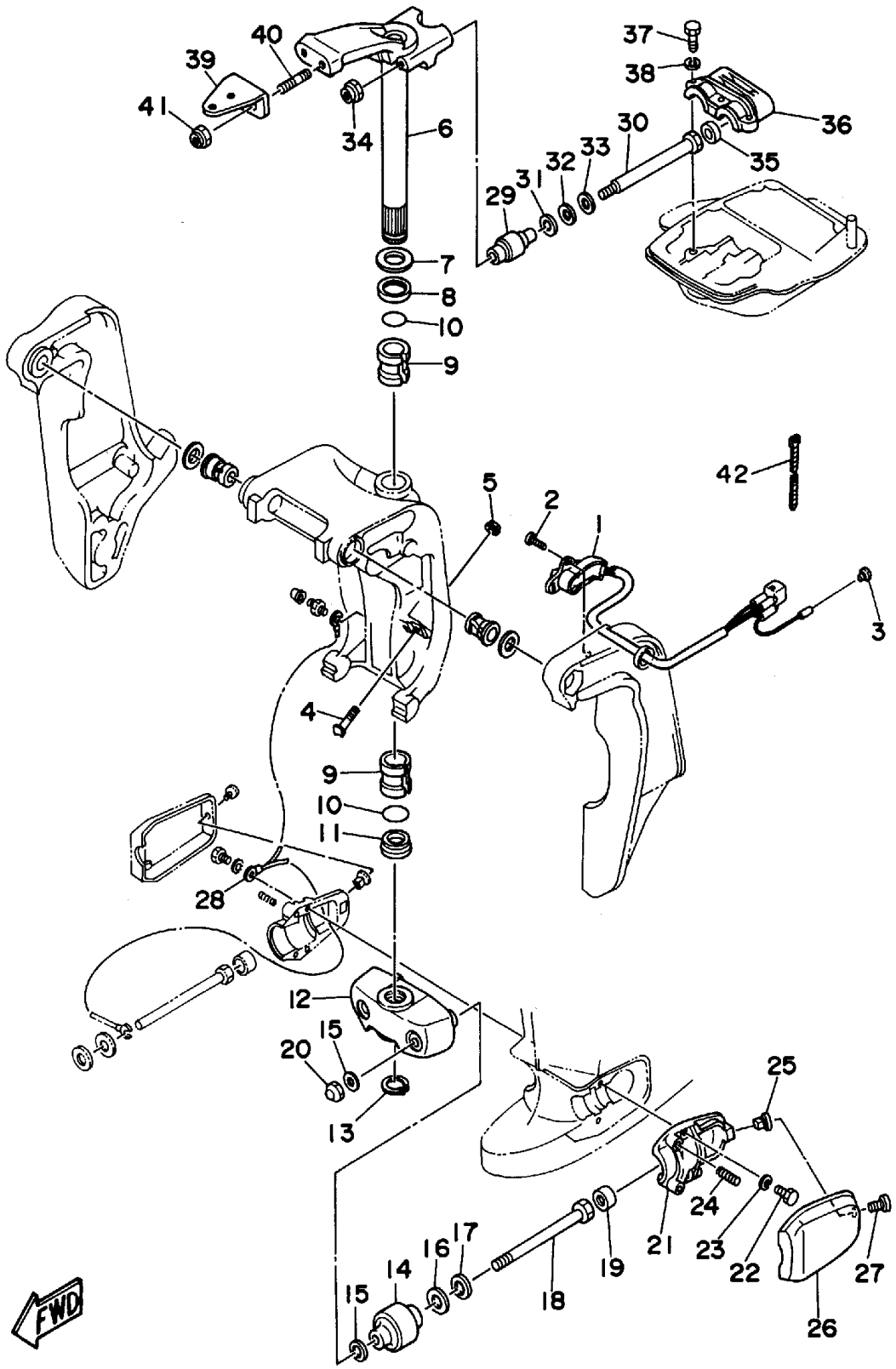
CONTINUED ON NEXT FRAME ➤

ALTERNATE 1 (BRACKET 1: C55TR)



Ref. No.	Part Number	Description	Qty	Remarks
30	90249-06M19-00	PIN	1	
31	90387-10M02-00	COLLAR	1	
32	90506-14M24-00	SPRING, TENSION	1	
33	6G5-43144-00-00	HOOK, SPRING	1	
34	97095-06010-00	BOLT	1	
35	688-43160-01-00	TILT ROD ASSEMBLY	1	
36	688-43165-00-00	. PLATE, TILT LOCK	1	
37	91690-30012-00	. PIN, SPRING	1	
38	90502-16M02-00	SPRING, CONICAL	1	
39	6E5-43126-02-00	PIN, UPPER SHOCK MOUNT	1	
40	90386-18M35-00	BUSH	2	
41	93410-18M02-00	CIRCLIP	1	
42	90386-18M63-00	BUSH	2	
43	90440-14M00-00	TUBE, STRUCTURE	1	
44	90101-12M51-00	BOLT	4	
45	92995-12200-00	WASHER	8	
46	90201-12426-00	WASHER, PLATE	4	
47	95380-12600-00	NUT	8	

ALTERNATE 2 (BRACKET 2: C55TR)



Ref. No.	Part Number	Description	Qty	Remarks
1	6H1-83672-11-00	TRIM SENDER	1	
2	98580-06016-00	SCREW, PAN HEAD	2	
3	703-82119-00-00	COVER, LEAD WIRE	1	
4	6H1-43376-00-00	BOLT, THRUST RECEIVER	2	
5	95780-08300-00	NUT, SELF-LOCKING	2	
6	663-42510-13-4D	STEERING BRACKET ASSEMBLY	1	
7	90201-30M00-00	WASHER, PLATE	1	
8	90386-30M78-00	BUSH	1	
9	90386-30M77-00	BUSH	2	
10	93210-29M94-00	O-RING	2	
11	90386-30M60-00	BUSH	1	
12	663-44551-01-4D	HOUSING, LOWER MOUNT RUBBER	1	
13	93410-28M06-00	CIRCLIP	1	
14	687-44555-00-94	MOUNT DAMPER, LOWER SIDE	2	
15	90201-12M16-00	WASHER, PLATE	4	
16	90202-25M04-00	WASHER, PLATE	2	
17	90201-13M19-00	WASHER, PLATE	2	
18	90109-12261-00	BOLT	2	
19	663-44575-00-00	DAMPER, LOWER MOUNT RUBBER	2	
20	95380-12800-00	NUT, CROWN	2	
21	687-44552-01-94	HOUSING, LOWER MOUNT RUBBER	2	
22	97395-08025-00	BOLT, HEXAGON	4	
23	92990-08100-00	WASHER	4	
24	90501-14236-00	SPRING, COMPRESSION	4	
25	90179-06066-00	NUT	2	
26	663-44553-00-4D	COVER, LOWER MOUNT	2	

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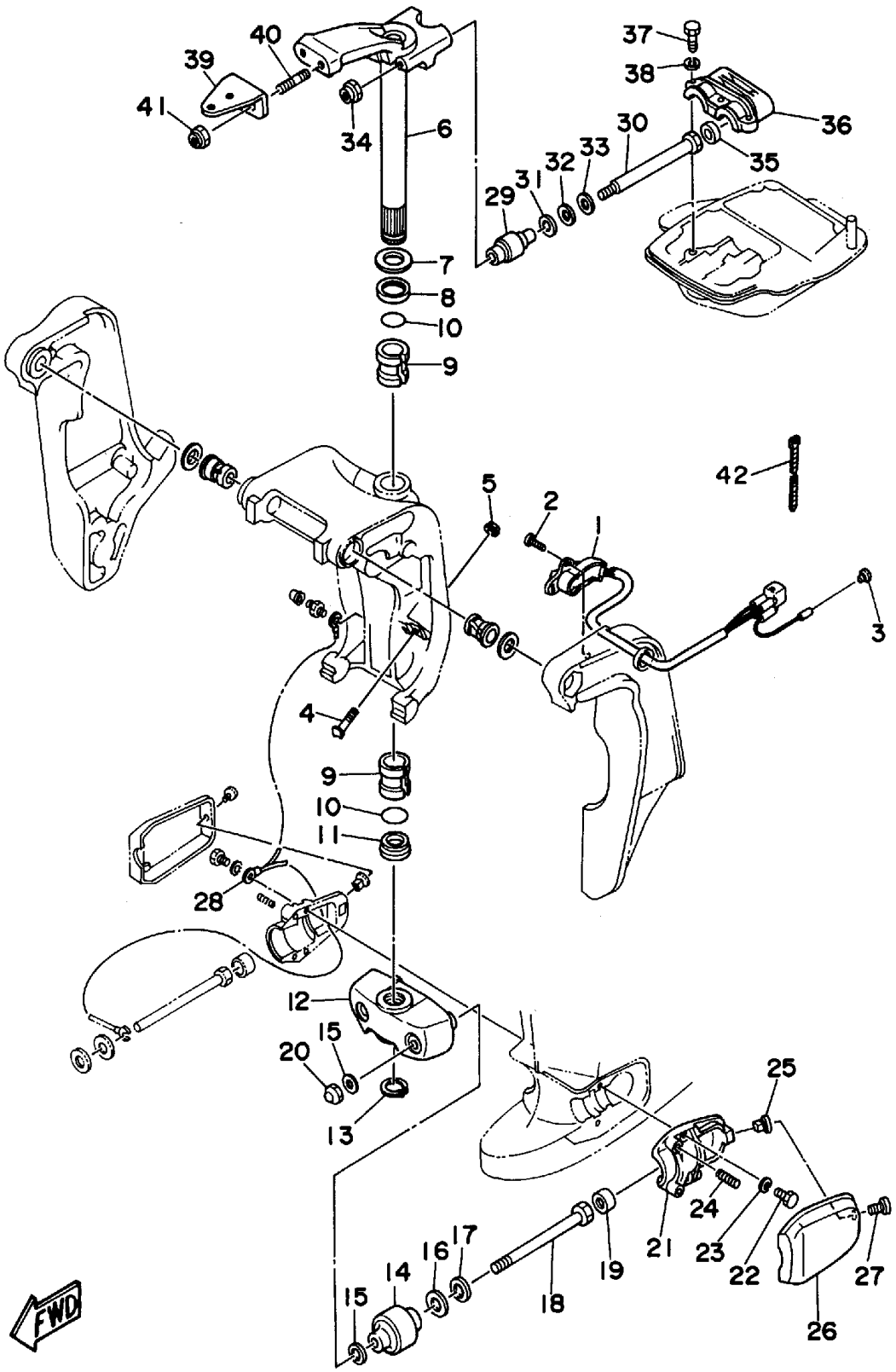
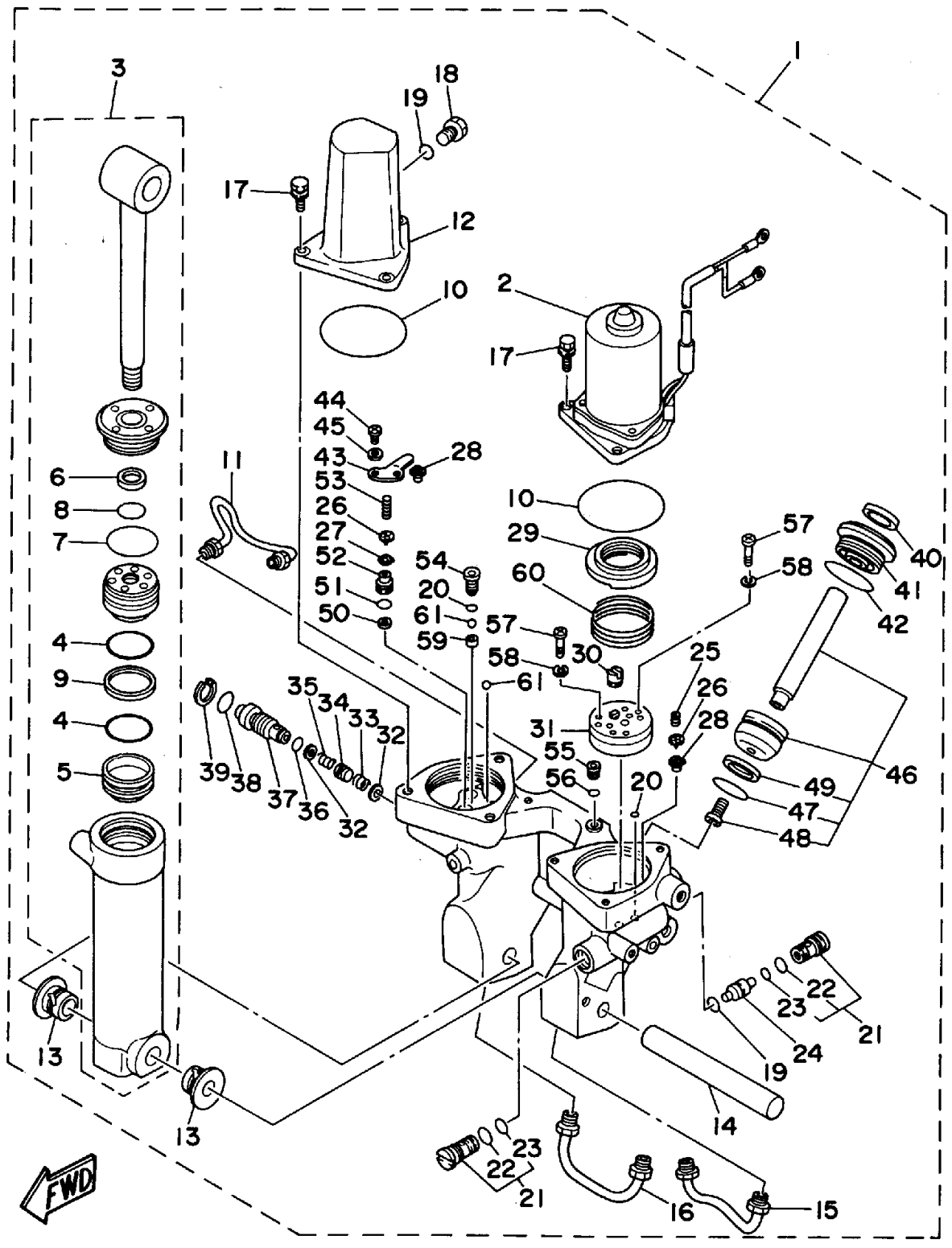
ALTERNATE 2 (BRACKET 2: C55TR)



Ref. No.	Part Number	Description	Qty	Remarks
27	98580-06016-00	SCREW, PAN HEAD	2	
28	688-82127-02-00	WIRE, LEAD 2	1	
29	670-44514-00-94	MOUNT DAMPER, UPPER SIDE	2	
30	90109-08262-00	BOLT	2	
31	90201-15423-00	WASHER, PLATE	2	
32	90202-15065-00	WASHER, PLATE	2	
33	90201-09425-00	WASHER, PLATE	2	
34	90185-08045-00	NUT, SELF-LOCKING	2	
35	663-44533-00-00	DAMPER, UPPER MOUNT RUBBER	2	
36	663-44511-00-94	COVER, UPPER MOUNT	1	
37	97090-08035-00	BOLT	3	
38	92990-08100-00	WASHER	3	
39	688-48511-01-4D	HOOK, STEERING	1	UR BALL POST TYPE
	688-48511-51-4D	HOOK, STEERING	1	UR STEERING GUIDE TYPE
40	90116-10175-00	BOLT, STUD	2	
41	90185-10051-00	NUT, SELF-LOCKING	2	
42	90465-11M10-00	CLAMP	3	

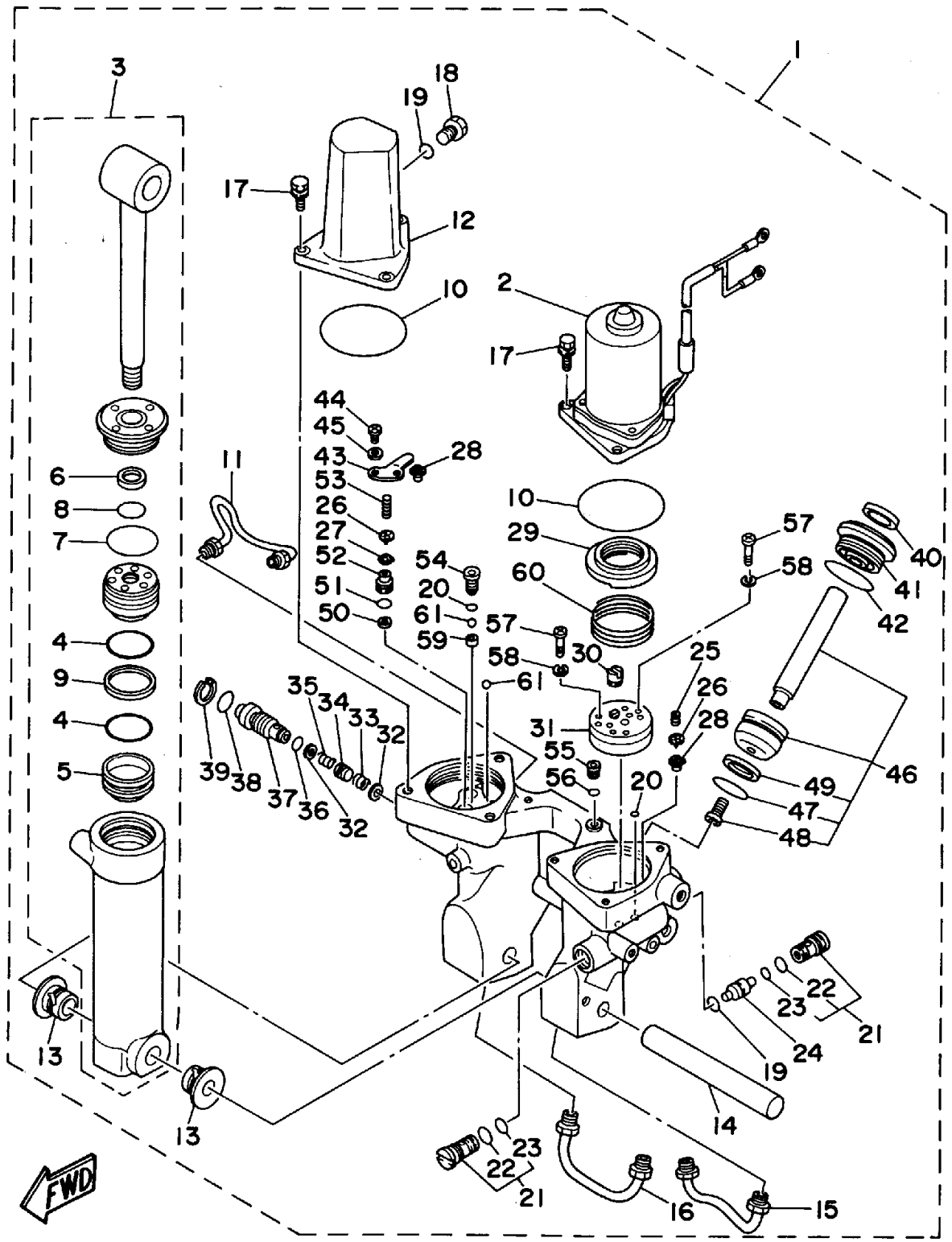
ALTERNATE 3 (POWER TRIM & TILT ASSEM



Ref. No.	Part Number	Description	Qty	Remarks
1	62F-43800-00-4D	POWER TRIM & TILT ASSEMBLY	1	
2	6H1-43880-02-00	. MOTOR ASSEMBLY	1	
3	6H1-43840-11-00	. POWER TILT ASSEMBLY	1	
4	6H1-43861-10-00	. . O-RING	2	
5	6H1-43814-11-00	. . PISTON, FREE	1	
6	6H1-43872-10-00	. . RING, BACK UP	1	
7	6H1-43861-00-00	. . O-RING	1	
8	93210-18322-00	. . O-RING	1	
9	6H1-43871-10-00	. . RING, BACK UP	1	
10	93210-65752-00	. O-RING	2	
11	6H1-43835-10-00	. PIPE	1	
12	6H1-43828-10-00	. BODY, RESERVOIR	1	
13	90386-18M14-00	. BUSH	2	
14	6E5-43818-00-00	. PIN, LOWER SHOCK MOUNT	1	
15	6H1-43833-10-00	. PIPE	1	
16	6H1-43834-00-00	. PIPE	1	
17	97595-06420-00	. BOLT, WITH WASHER	6	
18	6H1-43829-00-00	. PLUG, RESERVOIR	1	
19	93210-09350-00	. O-RING	2	
20	93210-06519-00	. O-RING	3	
21	6T4-43802-00-00	. VALVE SUB ASSEMBLY (MN)	2	
22	6H1-43866-00-00	. . O-RING	1	
23	6H1-43867-00-00	. . O-RING	1	
24	6H1-43841-10-00	. PISTON, SHUTTLE	1	
25	6H1-43856-10-00	. SPRING, DOWN RELIEF	1	
26	6H1-43844-10-00	. PIN, VALVE SUPPORT	2	
27	6H1-4384G-11-00	. SEAL, RELIEF VALVE	1	
28	61A-4384F-00-00	. SEAL, MAIN VALVE	2	

CONTINUED ON NEXT FRAME ➤

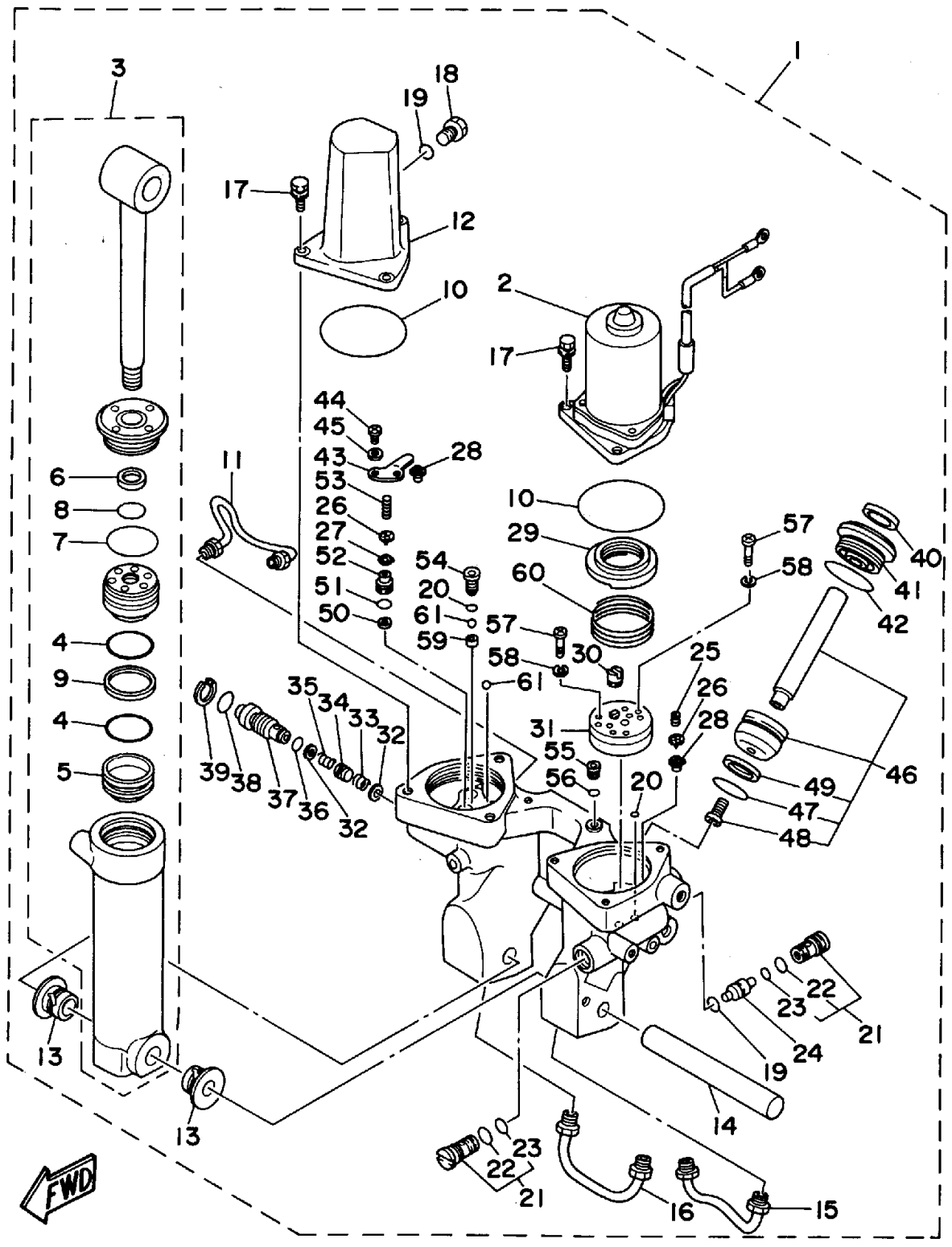
ALTERNATE 3 (POWER TRIM & TILT ASSEM



Ref. No.	Part Number	Description	Qty	Remarks
29	6H1-43817-01-00	. FILTER 2	1	
30	6H1-43831-10-00	. CONNECTOR, SHAFT	1	
31	6H1-43830-11-00	. GEAR PUMP ASSEMBLY	1	
32	6H1-43847-00-00	. SEAT, MANUAL VALVE	2	
33	6H1-43899-00-00	. SPRING, MANUAL RELEASE	1	
34	6H1-4382A-10-00	. ADAPTOR 1	1	
35	6H1-43854-00-00	. SPRING, MANUAL RELEASE	1	
36	93210-10M74-00	. O-RING	1	
37	6H1-43845-01-00	. SCREW, MANUAL RELEASE	1	
38	93210-18M75-00	. O-RING	1	
39	6H1-43875-00-00	. RING, SNAP	1	
40	6H1-43822-10-00	. SEAL, TRIM DUST	2	
41	6H1-43821-11-00	. SCREW, TRIM CYLINDER END	2	
42	6H1-43861-10-00	. O-RING	2	
43	6H1-4384E-20-00	. SPRING, TRIM	1	
44	98580-05010-00	. SCREW, PAN HEAD	2	
45	92990-05200-00	. WASHER, PLAIN	2	
46	6H1-43820-11-00	. PISTON SUB ASSEMBLY	2	
47	6H1-43864-00-00	. . O-RING	1	
48	91316-08016-00	. . BOLT, SOCKET HEAD	1	
49	6H1-43874-00-00	. . RING, BACK UP	1	
50	6H1-43816-00-00	. FILTER 1	1	
51	6H1-43896-00-00	. O-RING	1	
52	6H1-43895-11-00	. SEAT, RELIEF VALVE	1	
53	62F-43855-00-00	. SPRING, UP RELIEF	1	
54	6H1-43843-11-00	. SCREW, VALVE LOCK	1	
55	6H1-4388E-11-00	. PLUG, TAPPER SCREW	1	
56	6H1-43868-00-00	. O-RING	1	
57	98511-04025-00	. SCREW, PAN HEAD	4	

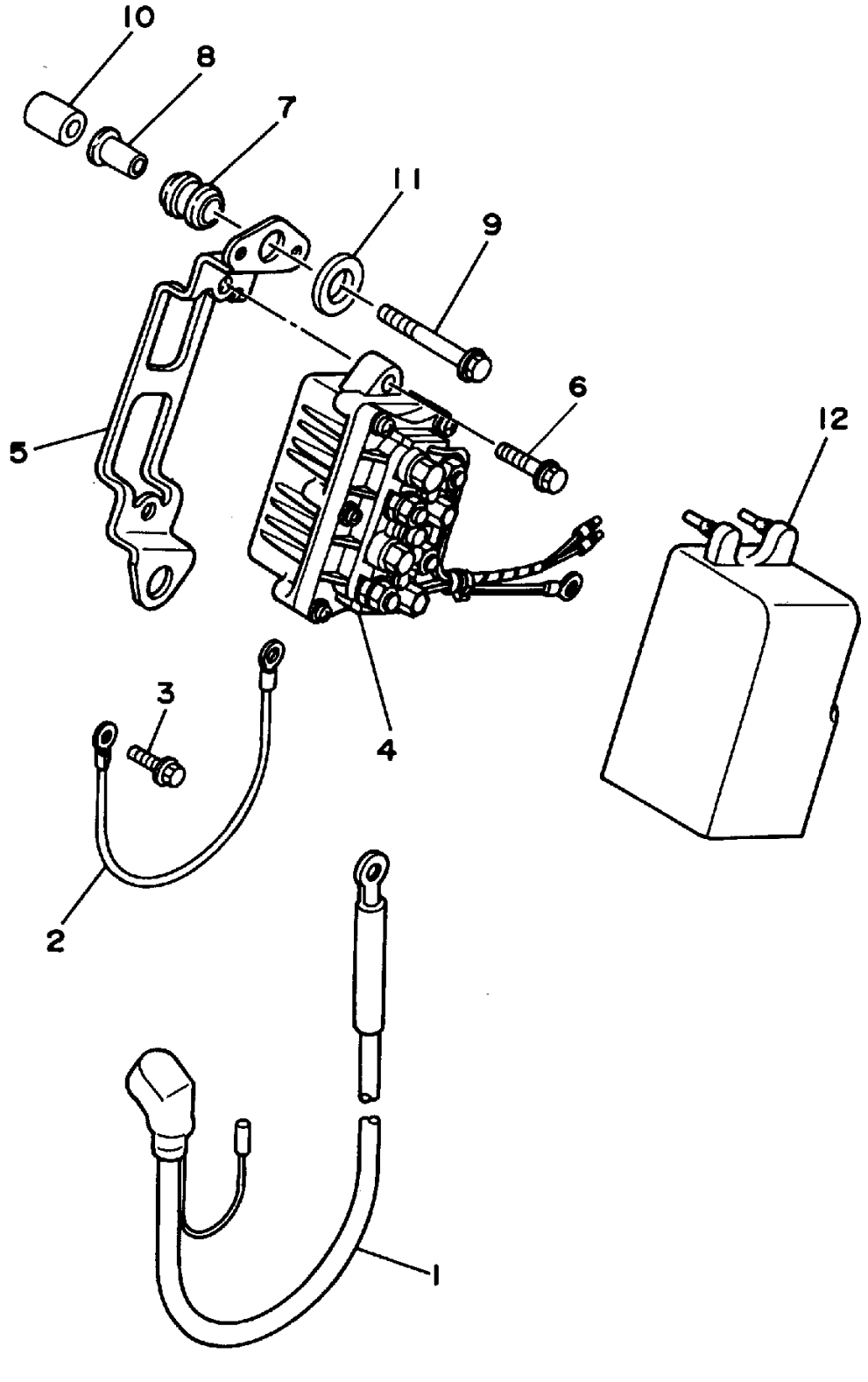
CONTINUED ON NEXT FRAME ➤

ALTERNATE 3 (POWER TRIM & TILT ASSEM

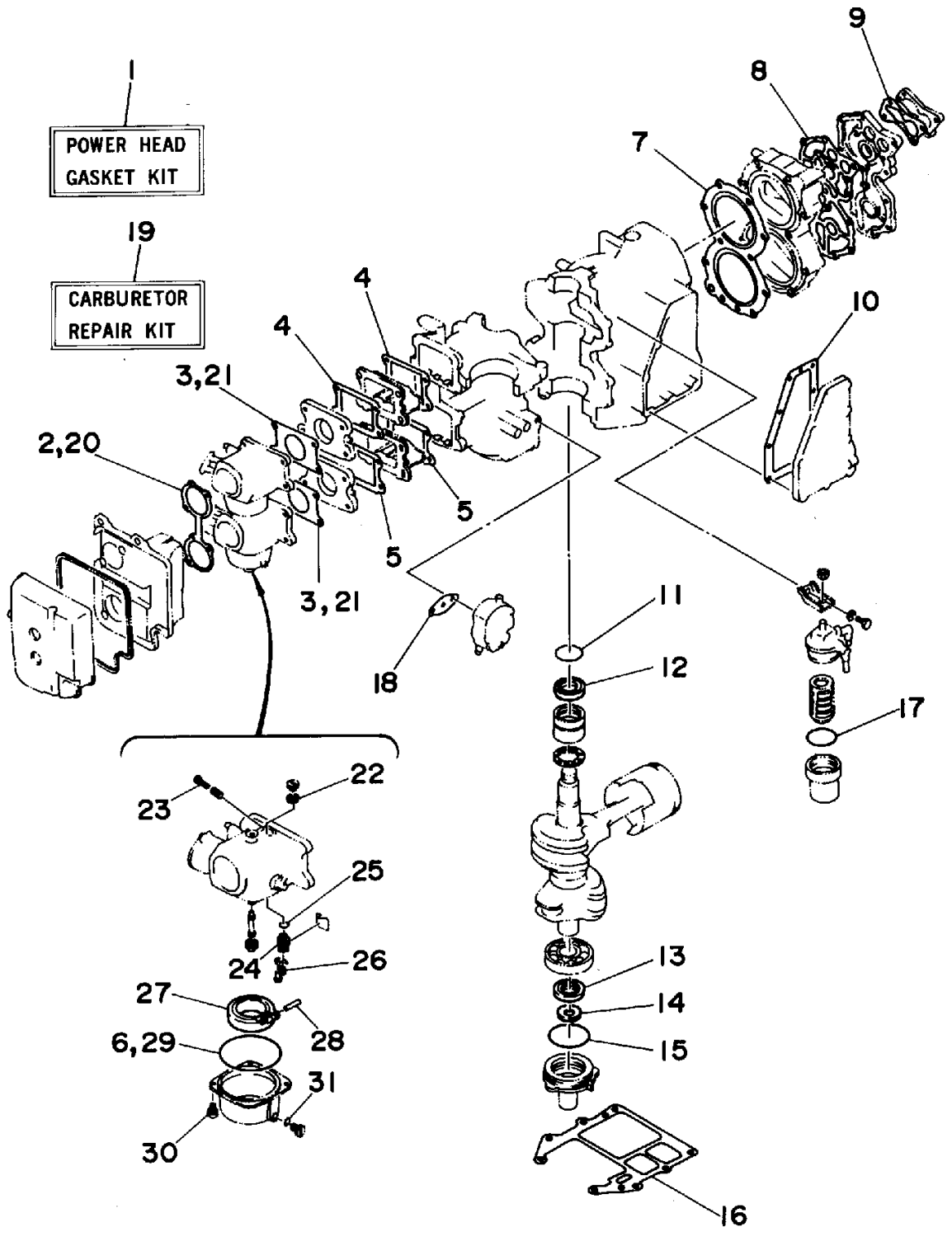


Ref. No.	Part Number	Description	Qty	Remarks
58	92901-04100-00	. WASHER, SPRING	4	
59	6H1-4387J-00-00	. WASHER, SPECIAL 2	1	
60	6H1-4385H-00-00	. SPRING, SEAL	1	
61	93505-32038-00	. BALL	2	

ALTERNATE 4 (ELECTRICAL: C55TR)



Ref. No.	Part Number	Description	Qty	Remarks
1	697-82117-00-00	WIRE, LEAD	1	
2	61A-81949-00-00	WIRE, LEAD	1	
3	97513-06212-00	BOLT, WITH WASHER	1	
4	697-81950-00-00	RELAY ASSEMBLY	1	
5	697-81945-00-00	PLATE, SWITCH FITTING	1	
6	97595-06520-00	BOLT, WITH WASHER	2	
7	6A0-82317-00-00	DAMPER, IGNITION COIL	2	
8	624-42542-00-00	PIPE	2	
9	95895-06045-00	BOLT, FLANGE	2	
10	90387-06M38-00	COLLAR	2	
11	90201-12M16-00	WASHER, PLATE	2	
12	697-82154-00-00	CASE	1	



REPAIR KIT 1

Ref. No.	Part Number	Description	Qty	Remarks
1	697-W0001-02-00	POWER HEAD GASKET KIT ..	1	
2	663-14483-A0-00	. GASKET	1	
3	663-14198-A0-00	. GASKET	2	
4	663-13621-A0-00	. GASKET, VALVE SEAT	2	
5	663-13622-A0-00	. GASKET, VALVE SEAT	2	
6	93210-64272-00	. O-RING	2	
7	697-11181-A0-00	. GASKET, CYLINDER HEAD 1	1	
8	663-11193-A0-00	. GASKET, HEAD COVER 1 ...	1	
9	663-12414-A0-00	. GASKET, COVER	1	
10	663-41114-A0-00	. GASKET, EXHAUST OUTER COVER	1	
11	93210-42159-00	. O-RING	1	
12	93102-32M07-00	. OIL SEAL	1	
13	93102-28135-00	. OIL SEAL	1	
14	93104-18049-00	. OIL SEAL	1	
15	93210-62269-00	. O-RING	1	
16	696-45113-A0-00	. GASKET, UPPER CASING ...	1	
17	93210-32738-00	. O-RING	1	
18	650-24431-A0-00	. GASKET, FUEL PUMP 1	1	
19	696-W0093-02-00	CARBURETOR REPAIR KIT ...	1	
20	663-14483-A0-00	. GASKET	1	
21	663-14198-A0-00	. GASKET	2	
22	679-14557-00-00	. WASHER	2	
23	663-14923-00-00	. SCREW, PILOT	2	
24	696-14590-00-00	. NEEDLE VALVE ASSEMBLY .	2	
25	93210-07229-00	. O-RING	2	
26	676-14186-00-00	. PIN, FLOAT	2	
27	6F0-14985-00-00	. FLOAT	2	
28	663-14548-00-00	. PIN, FLOAT ARM	2	

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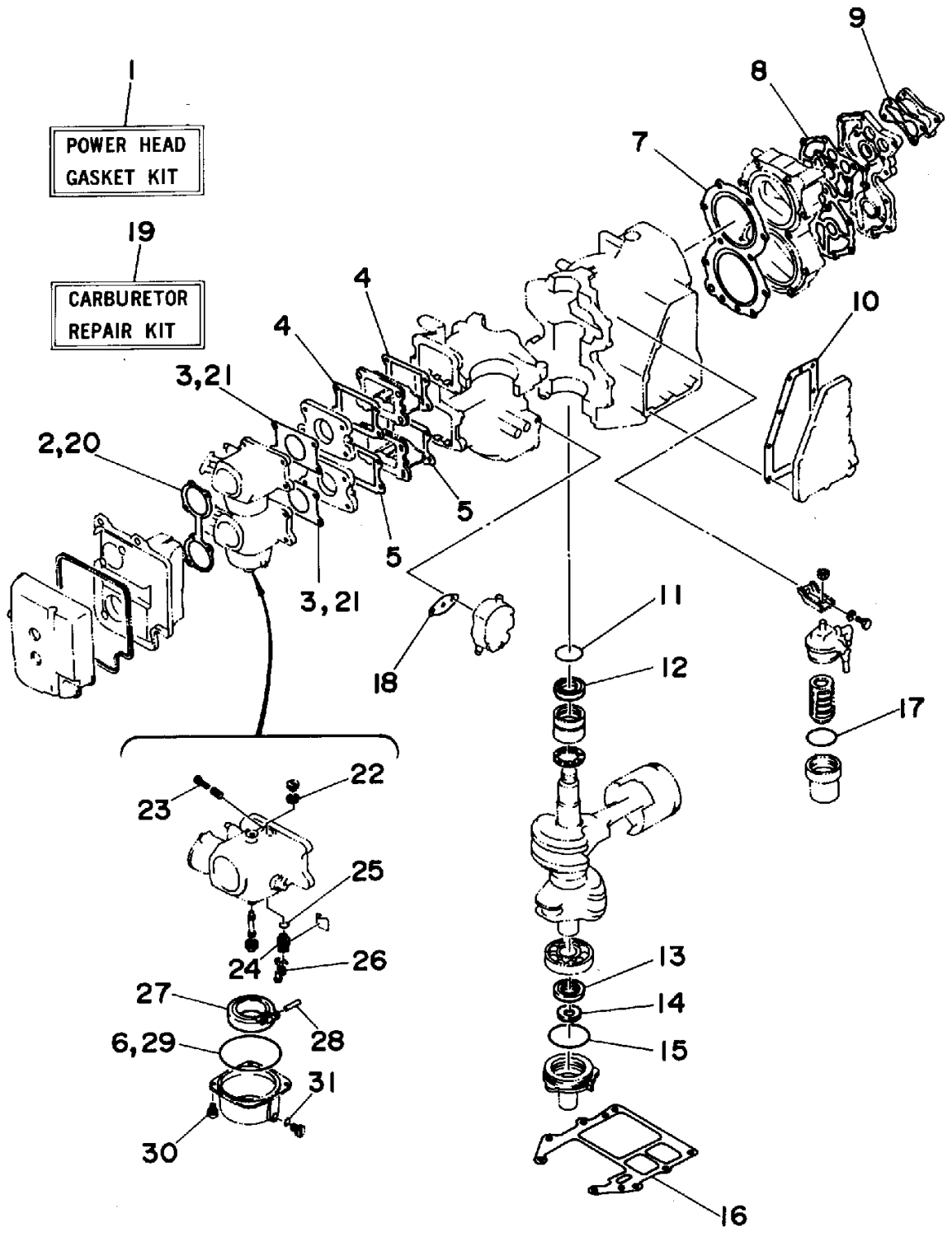
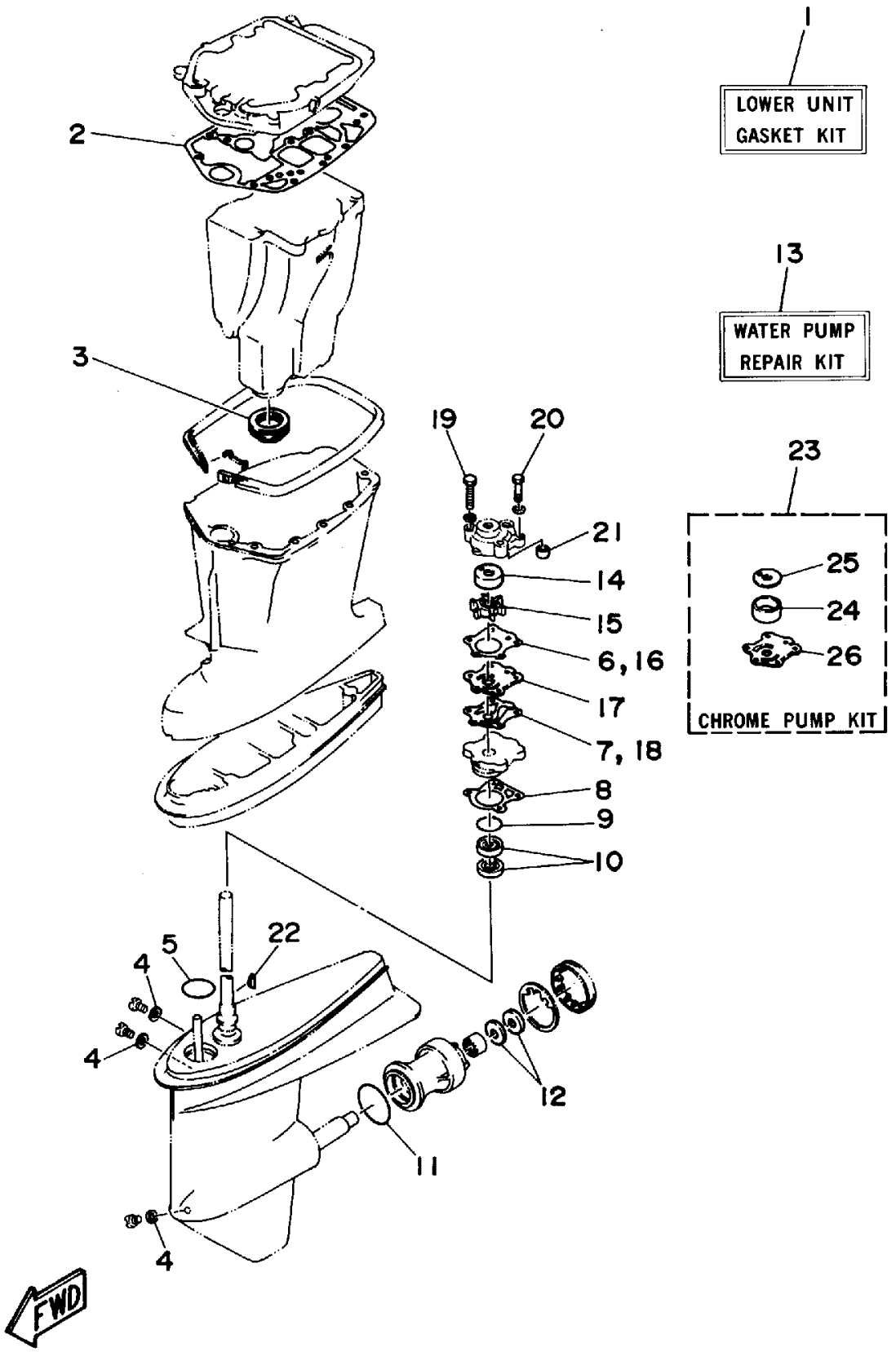


REPAIR KIT 1

Ref. No.	Part Number	Description	Qty	Remarks
29	93210-64272-00	. O-RING	2	
30	97980-04112-00	. SCREW, WITH WASHER	2	
31	93210-04230-00	. O-RING	2	



REPAIR KIT 2

Ref. No.	Part Number	Description	Qty	Remarks
1	698-W0001-21-00	LOWER UNIT GASKET KIT	1	
2	697-45114-A0-00	. GASKET, UPPER CASING	1	
3	663-45123-00-00	. GASKET, MUFFLER	1	
4	90430-08020-00	. GASKET	3	
5	93210-49046-00	. O-RING	1	
6	663-44315-A0-00	. GASKET, WATER PUMP	1	
7	663-44324-A0-00	. GASKET, CARTRIDGE	1	
8	663-44316-A0-00	. GASKET, WATER PUMP	1	
9	93210-41042-00	. O-RING	1	
10	93101-23070-00	. OIL SEAL	2	
11	93210-66M98-00	. O-RING	1	
12	93101-22067-00	. OIL SEAL	2	
13	663-W0078-01-00	WATER PUMP REPAIR KIT	1	
14	663-44322-00-00	. INSERT, CARTRIDGE	1	
15	697-44352-00-00	. IMPELLER	1	
16	663-44315-A0-00	. GASKET, WATER PUMP	1	
17	663-44323-00-00	. OUTER PLATE, CARTRIDGE	1	
18	663-44324-A0-00	. GASKET, CARTRIDGE	1	
19	97395-08055-00	. BOLT	2	
20	97395-08045-00	. BOLT	2	
21	663-44366-00-00	. DAMPER, WATER SEAL	1	
22	90280-03M03-00	. KEY, WOODRUFF	1	
23	6H4-W0078-0A-00	CHROME PUMP KIT	1	
24	670-44322-01-00	. INSERT, CARTRIDGE	1	
25	670-44321-00-00	. INNER PLATE, CARTRIDGE	1	
26	670-44323-00-00	. OUTER PLATE, CARTRIDGE	1	

CONTINUED ON NEXT FRAME ➤

DIAGNOSTIC REFERENCE LIST (Cont'd.)

Model	Year	Problem/Title	Location	Comments
90-250	94	LOWER UNIT IDENTIFICATION INFORMATION	MTG 94-P10	
P60-250	95	IMPROVED PT&T PAN SWITCH	MTG 95-P29	
50-250	94-95	MULTIFUNCTION SPEEDO CHANGES & UPDATES	MTG 95-P65	
50-250	All	PT&T PAN SWITCH REPAIR	TCX O94-011	
50-250	93	IMPROVEMENTS TO POWER TILT	MTG 94-P6	SEE ALSO MTG 95-P34
40-250	All	PWR TRIM & TILT SENDER TROUBLESHOOTING	MTG 94-P21	SEE ALSO MTG 95-P37
40-250	84-94	GENERAL PISTON REPLACEMENT INFO.	MTG 94-P11	SEE ALSO MTG 95-P42
40-250	All	PT&T TROUBLESHTING & REPAIRS	BUL O93-019	
C55-C115	All	WIRING ADAPTERS	BUL O93-009A	
90	84,85	ROTOR AND PULSER COIL CHANGES	BUL O86-004	MISFIRE IF MISMATCHED
CV85E	89,90,91	SERVICE MANUAL ERRORS	BUL O91-008	SHIMMING
C75 & C85	94	LOWER UNIT IDENTIFICATION INFORMATION	MTG 94-P10	
70,90	84-87	IMPROVED SHIFTER PARTS	BUL O93-020	SEE ALSO MTG 95-P79
70,90	84-87	NEW WATER INTAKE COVERS	BUL O86-009	HIGH SPEED OVERHEATING
70,90	84	OIL PUMP REPLACEMENT PROGRAM	BUL O85-002	SEE ALSO BULL 90-009
70,90	84-90	LOWER UNIT SHIMMING	BUL O90-017	
70,90	84-89	IMPROVED FUEL PUMP DIAPHRAGM	MTG 92-P41	TORQUE TO 65 IN-LBS
70,90	90	SERVICE MANUAL ERRORS	BUL O91-004	ELECTRICAL & SHIMMING
70,90	89	OIL PUMP SEAL HOUSING REPLACEMENT	BUL O89-003	SEE ALSO BUL 91-015
70,90	89	OIL PUMP DISTANCE COLLAR	BUL O91-015	
P60,70,90	92-94	IGNITION SYSTEM OPERATION	BUL O92-001	#2 NO FIRE
P60,70,90	91	SERVICE MANUAL ERRORS	BUL O91-009	ELECTRICAL
P60,70,90	91	TRIM CAP SEAL POPPING OUT	MTG 93-P10	P/N 6H1-4384E-20-00
P60,70,90	92	INCORRECT SPARK PLUG SPECIFICATIONS	MTG 93-P11	B8HS-10
P60,70,90	92-94	YMIS OPERATION & TROUBLESHOOTING	MTG 94-P16	
P60,70,90	92-94	PRIMESTART OPERA. & TROUBLESHOOTING	MTG 94-P38	SEE ALSO MTG 95-P57
50, 70, 90	94	WIRING ADAPTERS	BUL O93-008	FOR RIGGING
70	88	ERRATIC TACHOMETER READING	BUL O88-001	
P60,70	92	LIGHTING COIL CHANGED SPECIFICATIONS	MTG 93-P11	
CV55E	89,90,91	SERVICE MANUAL ERRORS	BUL O91-007	SHIMMING
40,50,P50	95	PRIMESTART OPER. & TROUBLESHOOTING	MTG 95-P56	
40,50,P50,	95	RIGGING COMPONENT INFORMATION	BUL O94-005	40/50 PSH TO OPN.
CV40E	90 & 91	SERVICE MANUAL ERRORS	BUL O91-006	SHIMMING
C40MSH	92	INCORRECT STARTING I.D. NUMBER	MTG 93-P12	
40EJ	91 & 92	INCORRECT MOUNTING BOLTS	MTG 93-P12	USE 12MM BOLTS
40,50	84-88	OIL SEAL HOUSING IMPROVEMENTS	MTG 92-P61	PREVENTS CHATTERING NOISE
40,50	84-89	IMPROVED FUEL PUMP DIAPHRAGM	MTG 92-P41	TORQUE TO 65 IN-LBS
40,50	84,85	RECONDITIONING PROGRAM	BUL O85-001	SEE ALSO BULL 90-009
40,50	89	OIL PUMP SEAL HOUSING REPLACEMENT	BUL O89-003	SEE ALSO BUL 91-015
40,50	89	OIL PUMP DISTANCE COLLAR	BUL O91-015	
40,50	84-90	LOWER UNIT SHIMMING	BUL O90-017	
40,50	90	SERVICE MANUAL ERRORS	BUL O91-003	SHIMMING
40,50	84-87	NEW STYLE LOWER UNIT HOUSING	BUL O87-008	REPLACEMENT PART
40,50	89-94	PRIMESTART OPER. & TROUBLESHOOTING	MTG 94-P37	SEE ALSO MTG 95-P51
30	84-90	LOWER UNIT SHIMMING	BUL O90-017	
25,30, C25/30	84-87	DISCONTINUED USE OF EXH. MANIFOLD UPP. CASE	MTG 95-P18	
25,30	84-87	NEW STYLE LOWER UNIT HOUSING	BUL O87-008	REPLACEMENT PART
25,30	84-87	CHANGE IN PROPELLER SHAFT	MTG 92-P49	MUST USE NEW PARTS
25	88-94	UNSTABLE SPEED	MTG 95-P19	
25	88,89,90	MIDRANGE ENGINE SURGING	BUL O90-006	
25	88,89,90	IMPROVED LOWER UNIT PINION BEARING	BUL O90-001	REPLACEMENT PARTS
25	91	SERVICE MANUAL ERRORS	BUL O91-002	ELECTRICAL
25	90	SERVICE MANUAL ERRORS	BUL O91-001	ELECTRICAL
9.9,F9.9,15	84-87	NEW STYLE LOWER UNIT NEEDLE BEARING	BUL O87-010	
F/T9.9, T9.9	85-94	PRIMESTART OPER. & TROUBLESHOOTING	MTG 94-P35	SEE ALSO MTG 95-P52
F9.9	84-87	NEW STYLE LOWER UNIT NEEDLE BEARING	BUL O87-010	
F9.9, FT9.9	85-86	REPL. EXHAUST GUIDE OR OIL PAN	MTG 91-P8	
F9.9, FT9.9	85-90	MODIFIED UPPER CASING	MTG 92-P42	TO PREVENT CORROSION
F9.9, FT9.9	85-93	FUEL STARVATION WHEN USED AS AUX.	MTG 92-P57	
FT9.9	85-90	IMPROVED RETENTION OF PROPELLER	MTG 92-P43	NUT AND RING SEPARATED
FT9.9,F9.9	84-89	TACHOMETER INSTALLATION	BUL O85-007	NEW RECTIFIER CHANGED
F9.9Q T9.9Q	92	MODIFIED ELECTRICAL PARTS	BUL O92-002	EARLY '92s
F9.9 & T9.9	92	ACCELERATOR PUMP BLEEDING	BUL O91-018	SEE ALSO TECH 93,P13
F9.9 & T9.9	92	HARD STARTING & STALLING WHEN COLD	MTG 93-P13	DRILL STARTER JET
			BUL O93-002	

DIAGNOSTIC REFERENCE LIST (Cont'd.)

Model	Year	Problem/Title	Location	Comments
6,8	84-90	TEARING OF SHIFT SHAFT BOOT	MTG 91-P1	
3	88	IMPROVED CARBURETOR JETTING	BUL O88-005	HESITATION
All	All	OXYGENATED FUELS	TCX O94-012	
All	All	OVERHEATING WHEN USING FLUSH ATTACHMENT	TCX O94-012	
All	All w/oil inj.	CHECKNG PRECISION BLEND OIL PUMP OUTPUT	MTG 95-P20	
All	All w/oil inj.	PRECISION BLEND SYSTEM INF.	MTG 95-P21	
All	All	REPLACEMENT IGNITION KEYS	TCX O94-011	

KEY: BUL - SEE SERVICE TECHNICAL BULLETIN. EXAMPLE: **BUL O92-012;** SEE BULLETIN O92-012 FOR EXHAUST GASKET REPLACEMENT INFORMATION.

TCX - SEE TECH EXCHANGE - TECH EXCHANGES CONTAIN TWO OR MORE SUBJECTS AND ARE NUMBERED AND FILED IN YOUR TECHNICAL LIBRARY AS TECHNICAL BULLETINS

MTG - SEE MARINE TECHNICAL GUIDE 19XX PAGE XX (Available on micro fiche). EXAMPLE: **MTG93-P12;** SEE 93 TECH., GUIDE, PAGE 12, FOR INFO ABOUT INCORRECT MOUNTING BOLTS ON THE '91 & '92 40EJ-JETDRIVE.
MARINE TECHNICAL GUIDES ARE DISTRIBUTED ***ONLY*** AT YAMAHA'S ANNUAL UPDATE SEMINARS AND ARE NO LONGER AVAILABLE IN BOOK FORM. IF YOU DID NOT ATTEND THE UPDATE SEMINAR, MICRO-FICHE MUST BE USED. SEE ORDERING INSTRUCTIONS BELOW.

NOTE: AT THE END OF EACH CALENDAR YEAR, ALL TECHNICAL BULLETINS, FLAT RATE TABLES, AND UPDATE SEMINAR MATERIALS ARE FILMED ON MICROFICHE. IF YOU DID NOT ATTEND A SEMINAR OR IF YOU NEED MICROFICHE COPIES OF OLDER TECHNICAL BULLETINS, CALL 1-800-221-5362 TO ORDER THESE MATERIALS ON MICROFICHE.

WARRANTY INFORMATION

This builletin is for information only. No special warranty applies.

ROUTE TO: ☑ SERVICE ☑ PARTS ☐ WARRANTY ☐ SALES

Technical BULLETIN

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GENERAL

OUTBOARD DIAGNOSTIC REFERENCE LIST

INTRODUCTION

This bulletin contains a reference list of Technical Bulletins and Update Seminars materials to help you in servicing Yamaha outboards. The list is arranged by engine size, for your convenience.

DIAGNOSTIC REFERENCE LIST

Model	Year	Problem/Title	Location	Comments
250	90,91	IGNITION STATOR REPLACEMENT	BUL O90-013	90KF MISFIRE PROBLEM
250	90-92	REVISED L/U SHIM SPECIFICATION	BUL O92-005	
250	90-91	IMPROVED FUEL HOSE ROUTING	MTG 92-P42	HOSE CAN BE KINKED
250	90-95	PRIMESTART OPER. & TROUBLESHOOTING	MTG 94-P40	SEE ALSO MTG 95-P59
250	90-95	LINKAGE ADJUSTMENT PROCEDURES	MTG 94-P41	SEE ALSO MTG 95-P60
225-250	94	WIRING ADAPTERS	BUL O93-007	FOR RIGGING
225X & 250	94	CRANKSHAFT BALANCER CORROSION PROTECT.	MTG 94-P6	CAUSES NOISE
225X & 250	94	CHANGE IN CHARGING VOLTAGE	MTG 94-P6	NEW VOLTAGE REGULATOR
225X	94-95	PRIMESTART OPER. & TROUBLESHOOTING	MTG 94-P40	SEE ALSO MTG 95-P59
225X	94	LINKAGE ADJUSTMENT PROCEDURES	MTG 94-P41	
225	90,91	SPARK PLUG FOULING	BUL O91-013	
225	87,88,89	SPARK PLUG FOULING	BUL O90-005	
225	87,88	EXCESSIVE OIL CONSUMPTION	BUL O87-009	
225	87-94	POWER DROP WHILE CRUISING	MTG 92-P64	COMPUTER RELATED
225	87-89	REPLACEMENT CARBURETOR USAGE	MTG 93-P9	
225	90-94	PRIMESTART OPER. & TROUBLESHOOTING	MTG 94-P39	SEE ALSO MTG 95-P58
220-250	84-95	YMIS OPERATION & TROUBLESHOOTING	MTG 94-P16	SEE ALSO MTG 95-P47
150-225	87-90	TRIM TAB RETAINING MODIFICATIONS	MTG 92-P67	P/N 6J9-45371-01-00
150-225	90	TOP COWLING BRACE - COWL. HITTING P/H	BUL O90-011	90KD1 or 90KD2
150-200	90	ENGINE MISFIRE AND/OR HIGH PITCH NOISE	MTG 92-P62	CDI FILTER & COWLING
L150,L200	87	OVERHEAT SYSTEM MALFUNCTION	BUL O86-007	TRIM PLATES TRIGGER HORN
P150	All	REPLACEMENT LOWER UNIT GEARS	BUL O93-017	NEW BACKLASH SPECS.
P150	92-94	LOWER UNIT GEAR REPLACEMENT	BUL O94-003	90LR1 OR 90LR2
115-250	94-95	FUEL MANAGEMENT GAUGE REPAIR	TCX O94-006	ERATIC FUEL FLOW /NO MPG
115-250	94	BATTERY DRAIN	BUL O94-002	OTHER MODELS W/94 SPEEDO
115-250	94	INCORR. WIRE CONNECT. & TACHO. DAMAGE	BUL O93-010	FOR RIGGING
115-250	94	INCORRECT SPEEDOMETER OPERATION	BUL O93-016	REMOVE DAMPER
115-250	92	MODIFIED TRIM SENDER	MTG 93-P7	P/N 6R3-83672-01-00
115-250	92	IMPROVED GEAR SHIFT SHAFT	MTG 93-P8	
115-250	86-92	DRILLING A CARB. CLEAN-OUT PASSAGE	MTG 95-P77	
115-250	All	ENGINE V-BLOCK IDENTIFICATION	MTG 95-P78	
115-225	94	WIRING ADAPTERS	BUL O93-006	FOR RIGGING
115-225	84-89	IMPROPER OIL PUMP SELECTION	BUL O91-017	SEE ALSO BUL 91-016
115-225	84-89	REPLACEMENT OIL PUMP CONVERSION	BUL O90-016	SEE ALSO BUL 91-017
115-225	84-87	IMPROVED SHIFTER SHAFT SUPPORT	BUL O87-005	GREASE FITTING ADDED
115-225	84-90	LOWER UNIT SHIMMING	BUL O90-017	
115-225	84-89	IMPROVED FUEL PUMP DIAPHRAGM	MTG 92-P41	TORQUE TO 65 IN-LBS
115-225	86-87	NIKKI CARBURETOR MIXTURE SCREWS	MTG 92-P60	FROM BRASS TO STEEL
115-225	90-94	FLASHING GAUGES AND RPM REDUCTION	MTG 91-P11	LOOSE MAIN FUSE/MTG 92-P66
115-225	90-94	BATTERY ISOLATOR USAGE	MTG 92-P52	
115-225	92	SERVICE MANUAL ERRORS	MTG 92-P58	
115-225	90	SERVICE MANUAL ERRORS	BUL O91-010	ELECTRICAL & SHIMMING
115-225	91-93	EXHAUST GASKET REPLACEMENT PROGRAM	BUL O92-012	90LF
115-220	84,85	ROTOR AND PULSER COIL CHANGES	BUL O86-004	MISFIRE IF MISMATCHED
115-220	84,85	OIL TANK CHECK VALVE	BUL O86-001	NO OIL TRANSFER
115-220	84	OIL PUMP REPLACEMENT PROGRAM	BUL O85-002	SEE ALSO BULL 90-009

Outboard/Stern Drive Replacement Ignition Keys (Cont'd.)

NOTE: If the customer's rig has dual-engines with a Yamaha dual-key switch panel, both keys will be the same number.

IMPORTANT TIP

- After the new key(s) have arrived, suggest to the owner that the number be written in the special space inside the front cover of the owner's manual.

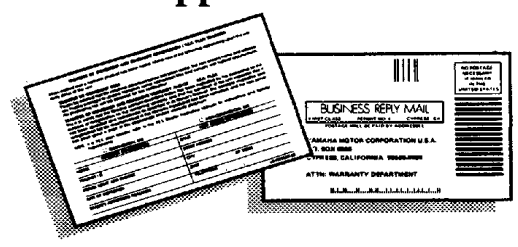
KEYS:

Key Number	Part Number
111*	90890-55957-00
112*	90890-55958-00
113*	90890-55959-00
121*	90890-55960-00
122*	90890-55961-00
123*	90890-55962-00
371	90890-55868-00
372	90890-55869-00
373	90890-55870-00
374	90890-55871-00
375	90890-55872-00
376	90890-55873-00
377	90890-55874-00
378	90890-55875-00
379	90890-55876-00
380	90890-55877-00
381	90890-55878-00
382	90890-55879-00
383	90890-55880-00
384	90890-55881-00
385	90890-55882-00
386	90890-55883-00
387	90890-55884-00
388	90890-55885-00
389	90890-55886-00
390	90890-55887-00
451*	90890-55820-00
452*	90890-55821-00
453*	90890-55822-00
454*	90890-55823-00
455*	90890-55824-00
456*	90890-55825-00
457*	90890-55826-00
458*	90890-55827-00
459*	90890-55828-00
460*	90890-55829-00
461*	90890-55830-00
462*	90890-55831-00
463*	90890-55832-00
464*	90890-55833-00
465*	90890-55834-00
466*	90890-55835-00
467*	90890-55836-00
468*	90890-55837-00
469*	90890-55838-00
470*	90890-55839-00
Key Cap	676-82577-00-00

*Keys used for Outboards only

Warranty Transfer Fee Dropped

Yamaha's factory warranty has always been a strong selling point. Now we've found a way to make that coverage even more valuable. **Beginning last May 1, 1994, Yamaha eliminated the fees for transfer of warranty coverage to the new owner! You will no longer be charged the $10 for an in-warranty transfer.**



If you have technical tips you think other dealers could use, let us know. You'll receive credit in the Tech Exchange for ideas we use, and we'll send you an exclusive Yamaha Tech Exchange hat as our thanks.
Send your tips to: Yamaha Motor Corporation, U.S.A., Attn: Tech Exchange, P.O. Box 6555, Cypress, CA 90630

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OUTBOARD | 11/28/94 | O94-012

SUBJECTS: 1. Oxygenated Fuels
2. Overheating When Using Flush Attachment

Oxygenated Fuels

Beginning in 1992, all gasoline sold during the winter months (usually October through February) in 39 designated metropolitan areas (and **all** of California) must be oxygenated as mandated by the 1990 Amendments to the Federal Clean Air Act. The purpose of the oxygenated fuel is to reduce the amount of carbon monoxide in the air. Internal combustion engines tend to emit more carbon monoxide at low operating temperatures such as when first started and during longer warm-up times in the colder, winter months.

The information provided in this Tech Exchange clarifies some concerns that customers and dealers may have about the use of oxygenated fuels in Yamaha outboards.

What is "Oxygenated Gasoline"?

Oxygenated gasoline is a blend of gasoline and one or more combustible liquids containing oxygen. Presently, two different classes of oxygenates are being added to gasoline: alcohol (both ethanol and methanol) and ethers (methyl tertiary-butyl-ether; MTBE). The oxygen content of the gasoline must be 2.7%.

Can oxygenated fuels be used in Yamaha Outboards?

Yes, oxygenated fuel can be used in Yamaha outboards. This Tech Exchange addresses concerns regarding its use.

Service, Storage, & Usage Information
PRACTICE GOOD FUEL MANAGEMENT . . .

Don't worry about instructing customers about testing or identifying oxygenated fuel. If they are in one of the mandated areas, oxygenated fuel is all they can purchase. Instead, educate your customers about oxygenated gasoline using the following tips:

- Match gasoline purchases to consumption. Don't buy more than will be used in one month.
- Store gasoline in a tightly-closed, approved container in a cool, dry place.
- Store boats with built-in fuel tanks FULL with fresh fuel and treat the fuel with a stabilizer such as Yamaha Fuel Conditioner & Stabilizer

NOTE: Yamaha Ring Free Fuel Additive can be used with all oxygenated gasoline and is recommended for use in all Yamaha outboard engines. For more information about Ring Free, refer to Technical Bulletin O91-014.

Carburetor Jetting
Oxygenated fuels have a very slight leaning affect on the fuel mixture. This will not cause any problems with the performance of Yamaha outboards. At times the leaner mixture may cause the idle to be slightly rougher than normal. If this occurs, richen the pilot screws 1/4 turn.

Water Absorbing Additives
If the oxygenated gasoline being used contains an alcohol blend, **do not use** additional alcohol based water absorbing additives. If there is water in the fuel tank prior to refueling, **do not use** oxygenated gasoline until all water has been removed from the tank.

⚠WARNING
Gasoline and oxygenated gasoline are extremely flammable and can be explosive under certain conditions. Follow the recommendations in the owner's and service manuals for handling and storing gasoline.

Phase Separation

Although small amounts of water in the fuel will normally not affect or interfere with engine operation, problems can develop if too much water is present in alcohol oxygenated gasoline. If there is enough water in the oxygenated fuel, the alcohol and gasoline will separate into two liquid phases: a top phase or layer which is almost entirely gasoline, (and oil, in the case of 2-stroke premix fuel) and a bottom phase of water and alcohol. Phase separation makes the engine difficult or often impossible to start. Replace the separated fuel with fresh gasoline.

Parts Information

Part Number	Description	Remarks	Dealer Cost
LUB-RNGFR-EE-12	Ring Free Fuel Additive	Case/12	
LUB-FUELC-12-00	Fuel Conditioner & Stabilizer	Case/12	

Overheating When Using Flush Attachment

Yamaha Marine Field Service has received some reports about overheating when using a flush attachment, especially aftermarket flush attachments. NEVER TROUBLESHOOT AN OVERHEATING PROBLEM ON A YAMAHA OUTBOARD WHILE USING A FLUSH ATTACHMENT!

When using a flush attachment, the water entry into the engine's cooling system is directly related to the supply of water pressure, size of the hose used, and the design of the attachment. All these areas are of no concern when the motor is being operated in the water. The Yamaha water intake screens on the lower unit are designed to direct water into the intake as the lower unit travels through the water. A flush attachment commonly directs water at the side of the intake. This produces excessive turbulence around the intake screen reducing the amount of water entering the intake. If you must operate an engine on a flush attachment with inferior water flow, the intake screens can be temporarily removed to increase water flow. **Do not** forget to reinstall the intake screens after removing the flush attachment.

For best results, use the flush attachment available from Yamaha Parts and Accessories, Part No. ABB-MOTOR-FL-SH.

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Engine Oil Tank Overflowing - V4 & V6 Models

We have received reports of overflowing engine oil tanks with no evidence of any defective parts. Two causes for this overflowing have been identified. If you encounter this overflowing problem, check the following to prevent needless parts replacement:

- Low battery voltage
- Improper alignment of the filter screen on the engine oil sender

VERY LOW BATTERY VOLTAGE WITH MAIN SWITCH ON:

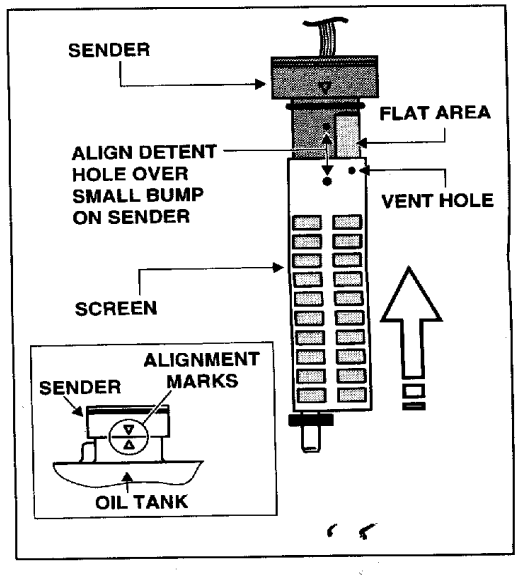
This problem is usually caused when a customer leaves the main (key) switch on when the boat is in storage. After time, the battery will discharge to the point where the voltage drops and the electronic circuitry on the engine cannot operate properly. When this happens, the transfer pump will start transferring oil to the engine oil tank, overflowing it. Operation returns to normal after the battery is charged.

IMPROPER LOCATION OF THE FILTER SCREEN ON THE ENGINE OIL LEVEL SENDER:

All engines built since 1987 have a tubular plastic screen installed around the oil level sender. This screen has a vent hole near the top of the tube. This hole lines up at the center of the flat area on the sender. This hole is to let air escape so oil can pass through the screen. The fitting at the bottom of the tube is offset and should line up with the oil tank outlet. Sometimes when someone is inspecting an engine (especially engines on display), they will twist or turn the top of the oil sender. The offset outlet of the screen will keep the filter screen from twisting, but the sender itself will twist easily, causing the filter screen tube to distort and bind the up and down action of the sensor float. Or, the screen will twist so the vent hole is blocked. Either of these conditions will cause the sensor to operate improperly overflowing the engine oil tank. Even twisting the sender back to the correct position may not correct the problem because the screen inside the oil tank may be in the wrong position.

Refer to the illustrations and make sure the filter screen is properly positioned before replacing any parts. Remember the following when installing and aligning the screen:

- The vent hole goes at the center of the flat area on the sender.
- The offset outlet fitting aligns with the oil tank outlet.
- There is an alignment detent hole on the screen that fits over a small bump on the sender just to the side of the flat area. This alignment bump is even with the arrow marking on the side of the sender cap.
- Make sure the above mentioned arrow marking on the sender cap aligns with the arrow marking on the oil tank.
- Make sure to check the screen for plugging and clean it if necessary.



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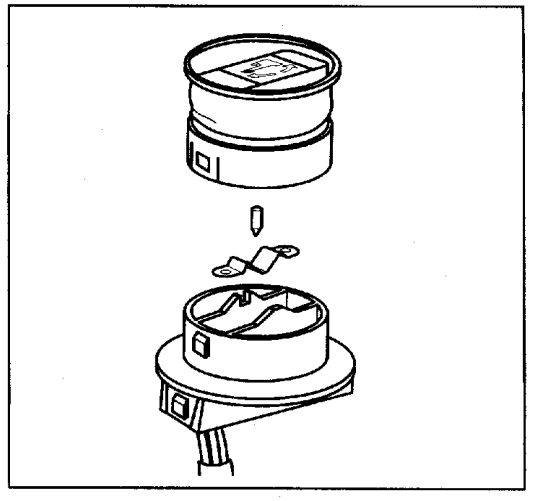
Rebuilding the Pan-mounted PT&T Switch (Cont'd.)

6. Reassemble the switch. Make sure the switch parts are positioned as shown in the drawing. Be sure the motor drawing on the switch rocker is correctly positioned as described earlier.

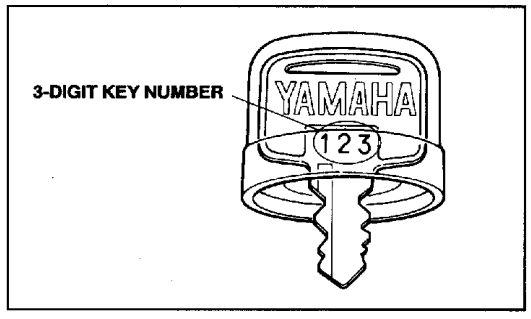
7. Test switch continuity with an ohmmeter. Reinstall the switch onto the motor pan, then test the operation of the power trim & tilt, verifying that the "UP" and "DOWN" works correctly.



Outboard/Stern Drive Replacement Ignition Keys

SPARE KEYS

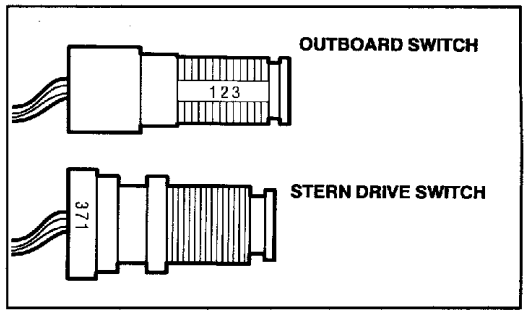
- Spare keys are available for Yamaha Outboards and Stern Drives. If you need to order a spare keys for a customer, locate the 3-digit number on the key just below the embossed word YAMAHA. If the existing key has a black rubber cover, lift the cover slightly to expose the number.



- Match the 3-digit number to the same number on the following list and order the corresponding part number. The new key will arrive pre-cut and ready to use.

LOST KEYS

- If all keys to a Yamaha outboard or stern drive are lost and the key numbers were not recorded, you can still order the proper precut key. The key number is stamped on the threaded neck of the key switch on outboards. On stern drives, the number is heat stamped on one of the bottom square flanges. On some outboard switches there may be other numbers (3 or 4 digit stamped on the other side). Copy the 3-digit versions and cross reference to the list. Only one set of 3-digit numbers will correspond to the key list. Order the proper key from the list.



OUTBOARD | 2/6/95 | O95-001A

SUBJECTS: 1. Power Trim & Tilt Valve Components Locations
2. Engine Oil Tank Overflowing - V4 & V6 Models

Effective 2/20/95, this Tech Exchange replaces O95-001; please remove and destroy O95-001.
➤Denotes a change in the original Tech Exchange.

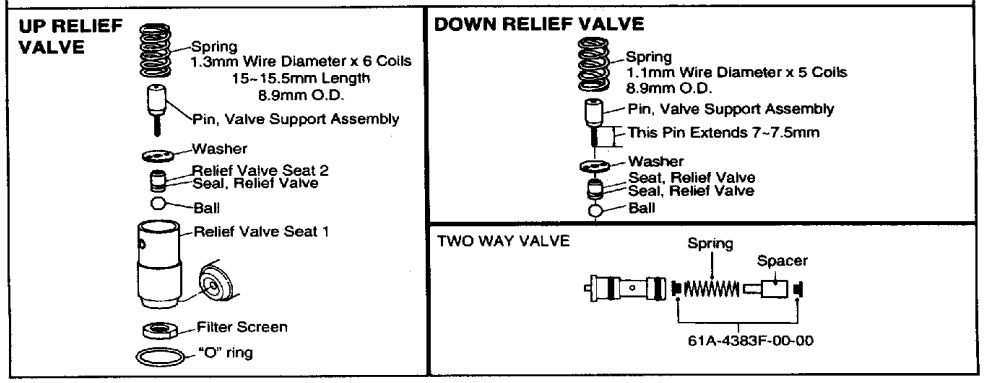
Power Trim & Tilt Valve Components Locations

The parts microfiche and service manuals do not accurately show the latest valve components orientation for correct assembly. This has caused some confusion with mechanics. The following illustrations show proper assembly sequence for:

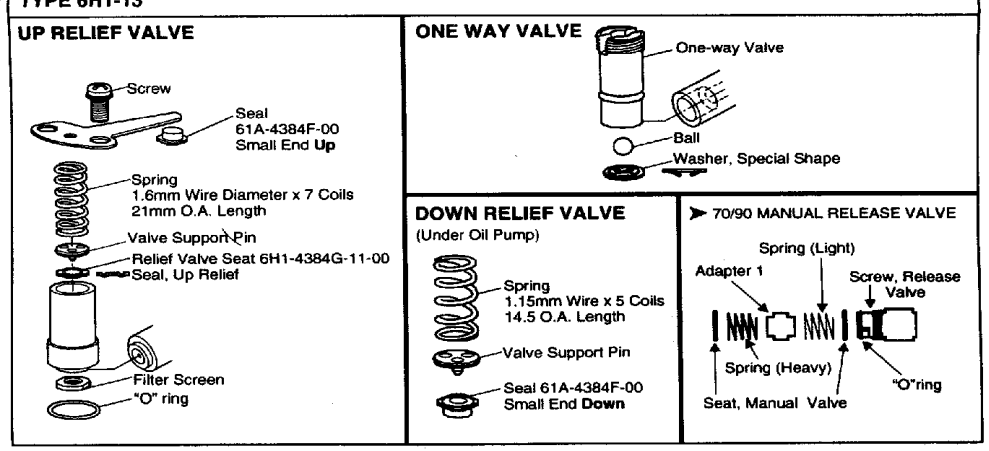
- Up and Down Relief Valves (Types 6H1-13 & 61A)
- One-way Valve (Type 6H1-13)
- Two-way Valve (Type 61A)

Place copies of these illustrations in your service manuals for future reference.

TYPE 61A

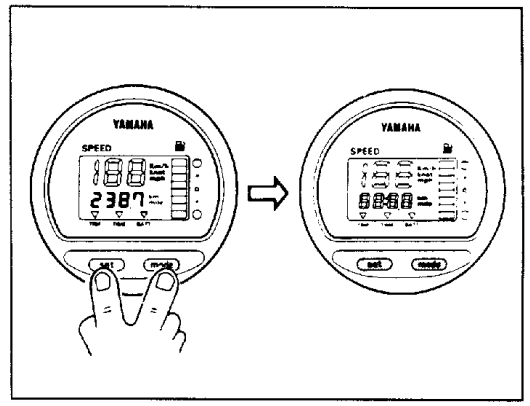


➤ **TYPE 6H1-13**



Resetting Trip Meter Distance

Some customers who have had experience with older Yamahas have been confused when attempting to reset the trip distance meter on a 1994 or 1995 Yamaha mulitfiunction speedometer. The trip distance meter used from 1987 to 1993 could be reset with the use of **only one button.** The 1994 and later multifunction speedometer has a trip distance meter which requires that **both the "SET" and "MODE" buttons** be pressed at the same time to reset the trip distance.



Marine Exhaust Emission Regulation Update

This past fall the Environment Protection Agency (EPA) proposed regulations for emission control for marine engines, including outboards, personal watercraft, and stern drives. Yamaha and other members of the marine industry have worked with the EPA to redefine the proposal in a way that increases its technical feasibility and cost effectiveness. While further cooperation between the EPA and the marine industry will be needed, enough of the potential basics of regulations is known to provide a general outline of its material aspects.

IMPLEMENTATION DATE:

Beginning with the 1998 model year, manufacturers will have nine years to phase in complying models. Full fleet compliance will be required in 2006.

EMISSION CONTROLS:

The regulation will eventually require a 75% hydrocarbon reduction from today's typical two-stroke engines. NO_x and CO emissions will also have controls limits.

TECHNICAL ISSUES:

At this time there appear to be three basic technology types which are candidates to achieve regulation compliance:

- Four-Stroke
- Two- Stroke Direct-Injection
- Catalyzed Two-Stroke

It cannot now be assumed that only one of these technologies will be adopted. It is foreseeable that some models and applications will benefit from one technology while the performance needs of other models will require another technology.

Yamaha customers expect marine performance products which are both cost-effective and technically superior. We can expect that Yamaha, with its abilities in leading-edge technology and its long history of emission-control experience with a host of other products, will continue to be the leader in successfully meeting the challenge.

DEALER YAMAHA

OUTBOARD | 2/27/95 | O95-005

SUBJECTS: 1. Reformulated Gasoline
2. Areas Exceeding Federal Ozone Standards

Reformulated Gasoline

Beginning January 1, 1995, extreme and severe non-ozone attainment cities are required to sell only reformulated gasoline (RFG) year round, not seasonally like Oxygenated fuels. Topic number 2 in this Tech Exchange contains a list of affected cities. Other serious, moderate, and marginal attainment areas will phase in this gasoline to fulfill their individual agendas for pollution abatement.

What is RFG?

As the name indicates, it is the next generation of fuels reformulated to reduce pollutants and protect the environment. The main focus of RFG is to reduce pollutants that affect the ozone, however, it will contain the same Oxygenates used in fuels that are currently being used (seasonally) in various mandated areas to lower CO emissions. Oxygenated fuels are primarily used between the months of October and February in these selected areas. The following table illustrates the major ingredients of RFG that will be reformulated and the environmental benefits of reformulation.

FOCUS OF FUEL REFORMULATING

Potential Reformulation
Reduce Sulfur
Reduce Benzene
Reduce Aromatics & Olefins
Reduce fuel volatility
Increase oxygen contents
Alter distillation characteristics
Deposit control additives

Environmental Benefits
Reduces acid rain, improves vehicle catalyst efficiency
Reduces incidence of cancer, reduces toxicity of emissions
Reduces photochemical reactivity/smog formation
Reduces evaporative emissions/smog formation
Reduces tailpipe/exhaust CO emissions, replaces toxic components
Control of evaporative & exhaust emissions
Reduce engine deposits, thus reducing exhaust emissions

Can Yamaha Products Operate On Reformulated Gasoline?

Extensive testing has been done on the affects of RFG on lubricity and material compatibility, **particularly with 2-stroke engines.** Results show no adverse affects or catastrophic failures when using RFG. Tests also indicate that no increase in service intervals beyond the existing Yamaha recommendations were necessary.

RUNNING CHARACTERISTICS WITH RFG

Because RFG contains oxygenates, the fuel mixture can lean-out slightly causing a rougher than normal idle. This can usually be corrected by small adjustments to the idle mixture screws. **Be sure to refer to your Yamaha technical specifications for correct fuel mixture settings!**

GUIDELINES FOR RFG USAGE

- Become familiar with the areas where RFG is sold. Normally the gas station will post a sign about the type of fuel they sell.
- Storage life of RFG is shorter than the fuel sold in the past. Treat stored fuel with Yamaha Fuel Stabilizer and Conditioner. Be sure to store gasoline in an approved container and place in a cool, dry place.
- In the case of large fuel tanks (such as in a boat or a large touring motorcycle), be sure to keep the tank completely full to prevent water accumulation. The expanding and contracting of the fuel causes air to enter the fuel tank. Water in the air will condense in the tank if the tank is not kept full.
- Be sure to use fresh fuel when doing a tune-up on any unit that has been in storage for a long time.

If you have technical tips you think other dealers could use, let us know. You'll receive credit in the Tech Exchange for ideas we use, and we'll send you an exclusive Yamaha Tech Exchange hat as our thanks.
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Reformulated Gasoline (Cont'd.)

SUMMARY

More information will become available during the next year as RFG penetrates the market. If you want more information on gasoline, send for the technical manual, *Changes in Gasoline II* at:

Changes in Gasoline II
Technicians Manual
Downstream Alternatives, Inc.
PO Box 190
Bremen, IN 46506-0190

The cost of this manual is $2.00 each.

Areas Exceeding Federal Ozone Standards

The following charts show the areas of the country that exceed the Federal Ozone Standards. The nine cities in the **Extreme and Severe** areas are required to start selling RFG during 1995. This program is optional in the other listed areas.

RFG FUEL AREAS EXCEEDING FEDERAL OZONE STANDARDS

*Extreme Areas**	*Moderate Areas*	*Marginal Areas*	
Los Angeles*	Atlantic City, NJ	Albany, NY	South Bend, IN
	Bowling Green, KY	Allentown, PA-NJ	Stockton, CA
*Severe Areas**	Charleston, WV	Altoona, PA	Sussex County, DE
Baltimore, MD	Charlotte, NC-SC	Birmingham, AL	Tampa, FL
Chicago, IL-IN-WI	Cincinnatti, OH-KY-IN	Buffalo, NY	Waldo County, ME
Houston, TX	Cleveland, OH	Canton, OH	York, PA
Milwaukee, WI	Dallas, TX	Columbus, OH	Youngstown, OH-Sharon, PA
Muskegon, MI	Dayton-Springfield, OH	Erie, PA	
New York, NY-NJ-CT	Detroit, MI	Essex County, NY	
Philadelphia, PA-NJ-DE-MD	Grand Rapids, MI	Evansville, IN-KY	
San Diego, CA	Greensboro, NC	Fayetteville, NC	
	Jefferson County, NY	Greenbrier County, WV	
*Serious Areas**	Kewaunee County, WI	Greenville-Spartanburg, SC	
Atlanta, GA	Knox County, ME	Hancock County, ME	
Bakersfield, CA	Louisville, KY-IN	Harrisburg, PA	
Baton Rouge, LA	Memphis, TN-AR-MS	Indianapolis, IN	
Beaumont, TX	Miami, FL	Johnson City-Kingsport-Bristol, TN	
Boston, MA-NH	Modesto, CA	Johnstown, PA	
El Paso, TX	Nashville, TN	Kansas City, MO-KS	
Fresno, CA	Pittsburgh, PA	Knoxville, TN	
Hartford, CT	Portland, ME	Lake Charles, LA	
Huntington, WV-KY-OH	Raleigh-Durham, NC	Lancaster, PA	
Parkersburg, WV-OH	Reading, PA	Lewiston, ME	
Portsmouth, NH-ME	Richmond, VA	Lexington, KY	
Providence, RI	Salt Lake City, UT	Lincoln County, ME	
Sacramento, CA	San Francisco-Oakland-San Jose, CA	Manchester, NH	
Sheboygan, WI	Santa Barbara, CA	Montgomery, AL	
Springfield, MA	Smyth County, VA	Norfolk, VA	
Washington, DC-MD-VA	St. Louis, MO-IL	Owensboro, KY	
	Toledo, OH	Paducah, KY	
	Visalia, CA	Poughkeepsie, NY	
	Worcester, MA	Scranton, PA	

*Nine cities with highest ozone levels designated extreme or severe will be required to implement reformulated gasoline programs in 1995. Other ozone non-attainment areas may elect to "opt-in" to this program.

Oxygenated Fuel Sold Seasonally in These Areas Exceeding Federal Carbon Monoxide Standards

Albuquerque, NM	Fairbanks, AK	Memphis, TN	Reno, NV
Anchorage, AK	Ft Collins, CO	Minneapolis, MN	Sacramento, CA
Baltimore, MD	Fresno, CA	Missoula, MT	San Diego, CA
Boston, MA	Grants Pass, OR	Modesto, CA	San Francisco, CA
Chico, CA	Greensboro, NC	New York/Northern NJ	Seattle, WA
Cleveland, OH	Hartford, CT	Philadelphia, PA	Spokane, WA
Colorado Springs, CO	Klamath County, OR	Phoenix, AZ	Stockton, CA
Denver/Boulder, CO	Las Vegas, NV	Portland, OR	Syracuse, NY
Duluth, MN	Los Angeles, CA	Provo/Orem, UT	Washington, DC
El Paso, TX	Medford, OR	Raleigh, NC	

SUBJECTS:
1. Rebuilding the Pan-mounted PT & T Switch
2. Outboard/Stern Drive Replacement Ignition Keys
3. Warranty Transfer Fees Dropped

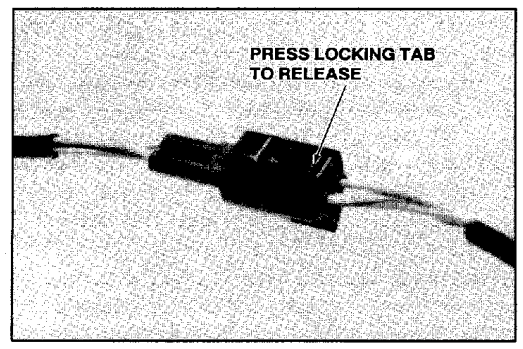
Rebuilding the Pan-mounted PT&T Switch

The pan-mounted power trim & tilt switch can fail with age. If this happens to one of your customer's units, it can cause a major inconvenience if the new switch is not in stock in your parts department. Usually, the switch can be made operational by a simple 5 minute repair. In most cases, you need only to disassemble the switch, clean the terminals, and reassemble the switch to make the switch functional again.

REPAIR PROCEDURES

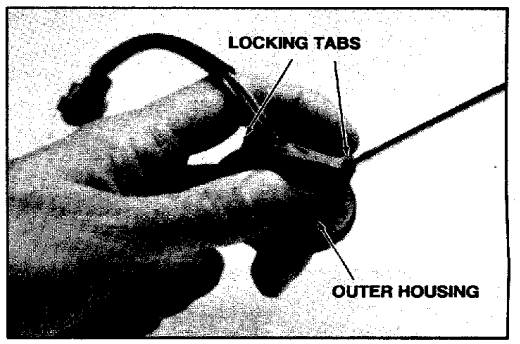
1. Remove the switch from the engine.

NOTE: Most of Yamaha's engine electrical connectors are the locking type. The lock can be easily released by pressing on the connector as shown in the illustration.



2. Note the location of the wires on the back of the switch in relation to the propeller end of the motor drawing on the switch. This location determines that the "UP" and "DOWN" function of the PT&T operates properly.

3. Holding the switch as shown, release the two outer housing lock tabs with a flat blade screwdriver.



4. Carefully roll the rubber covering away from the switch body to expose the inner housing. Again, with a flat blade screw driver, release the two inner housing locks. Be careful to note the location of the various internal parts and make sure you do not lose any of the parts.

5. Clean the four contact surfaces with emery cloth or #600 wet & dry sand paper. Clean with contact cleaner before reassembly.

SUBJECTS:
1. Engine Noise or Interference in Radios or Other Electronic Equipment
2. Resetting Trip Meter Distance
3. Marine Exhaust Emission Regulation Update

Engine Noise or Interference in Radios or Other Electronic Equipment

Use the following information to identify the source of and eliminate noise or interference in radios or other electronic equipment.

IDENTIFY THE SOURCE:

Customer complaints of noise or interference can usually be traced to the ignition (most common) or the charging system. Check for these symptoms:

Ignition Noise - Snapping noise from the radio speaker that varies directly with engine speed. On other equipment, like chart recorders, there will be sharp lines or other distinct interference.

Charging System Noise - A hum, whine, or whistle will emit from the speaker. The pitch of this sound will increase with engine speed.

If you cannot positively identify the source, disconnect the stator or lighting coil from the rectifier on the engine, then run the engine. If the noise or interference disappears, the problem is in the charging system. If not, the ignition is at fault.

ELIMINATING THE PROBLEM:

Ignition Noise
Ignition noise is caused by the transmission through the air of radio frequency electromagnetic energy. Ignition noise can usually be eliminated by using resistor spark plugs and resistor spark plug caps. (Resistor spark plug caps are more effective than resistor spark plugs, however, changing both is recommended.)

Spark Plugs - NGK spark plugs are identified by an "R" in the plug type number.
Example = an engine with a standard B8HS-10 would use a **BR8HS-10** resistor plug.

Some Yamaha outboards already have resistor plugs as standard equipment ('94 & '95 V4s & V6s - except the C115). The computer controlled models have both resistor plugs and caps.

Resistor Spark Plug Caps - Resistor spark plug caps should have a resistance reading of about 5KΩ. Replace the cap if it reads shorted or open. The part number for the resistor spark plug cap is: **6E3-82370-20-00.**

NOTE: In severe cases, you may reduce ignition noise by increasing the distance between the engine electrical wiring and the electronic equipment and wiring. For example, locate the engine wiring on one side of the boat and the electronic systems and accessories wiring on the opposite side.

Charging System Noise
All charging systems produce some electronic noise, and it is present in all boat wiring. All electronic manufacturers include noise filters in their equipment to reduce interference. Naturally, the better the equipment, the better the filter. Some low quality equipment (or high quality equipment with defective filters) may not adequately filter out charging system noise. Also, an outboard motor produces a different type of charging system noise than stern drive does. If the equipment manufacturer does not allow for outboard charging system noise, the noise may not filter out. Contact the equipment manufacturer for advice if you have problems.

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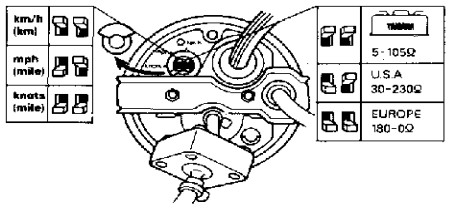
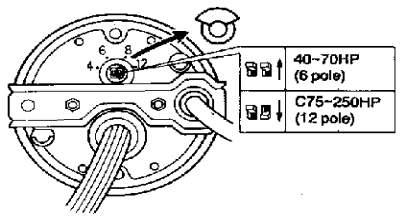
Service Information (Cont'd.)

CALIBRATION

Speedometer Calibration



Tachometer Calibration



Fuel Management Meter Calibration

Remove the cap (1) to access the switches. The fuel measurement switch (2) can be set to either gallons per hour (gph) or liters per hour (l/h).

NOTE: The fuel consumption meter and fuel economy meter will always indicate the same unit of measurement.

The selector switch (3) controls fuel flow calibration. If the amount of fuel used differs from what is indicated on the meter, calibrate it to the correct amount by:

1. Fill the tank before operating the boat.
2. When finished, fill the tank again to the same level as before.
3. Check the difference in the fuel used, and what is indicated.
4. If there is a difference, calibrate with the switch by the proper amount.

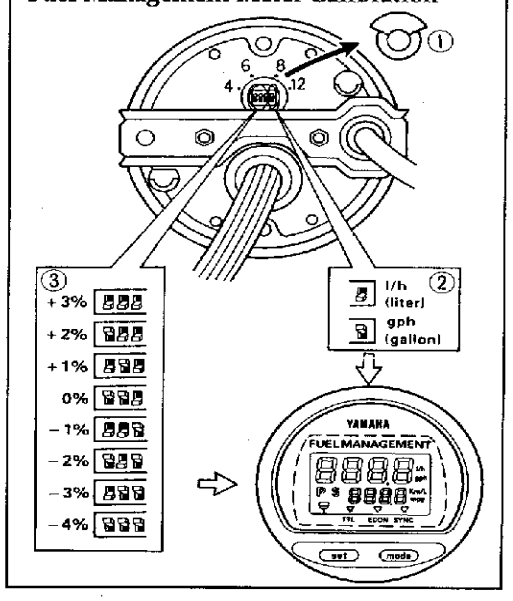
Example:

Actual Amount of fuel used:	50 gallons
Fuel Management Gauge Indicates	51 gallons
Difference =	+1 gallon

1.00 gallon ÷ 50 gallons = .02 (2%)

Therefore, 1 gallon is 2% of the actual 50 gallons used. To calibrate the gauge, set the switches for -2% (because the gauge was showing more fuel than was actually used). If the gauge was showing less fuel than was used, the switches would then be set for a + percentage.

Fuel Management Meter Calibration



Rigging Kit Contents (Cont'd.)

250HP COUNTER ROTATION RIGGING KIT (250HP) (6YR-W0035-61-00)

No.	Part Number	Qty.	Part Name	Length	Connection & Function
1	6Y2-24307-40-00	1	Fuel Pipe Comp.		
2	6Y5-83553-00-00	1	Wire, Lead	8.2 Ft. (2.5m)	Tachometer to switch panel
*3	6Y5-83500-T0-00	1	Meter Ass'y		Digital Tachometer/ Oil Level Gauge/Trim Gauge
4	704-48207-22-00	1	Remote Control Ass'y		
*5	61A-21708-02-00	1	Sub-Oil Tank Ass'y	Wire 26.2 Ft. (8m) Hose 19.7 Ft. (6.5m)	For Installation of Sub-Oil Tank Ass'y
6	90465-11M10-00	1	Clamp (L:3.9", W:.10") (L:95mm, W:4.5mm)		
7	6E5-21734-01-33	1	Holder, Sub-Oil Tank		
8	6E5-21798-01-33	1	Bracket, Damper		
9	6E5-21746-00-00	2	Damper		
10	97380-06100-00	1	Bolt		
11	92990-06600-00	2	Washer, Plate		
12	95380-06600-00	1	Nut		
13	Not avail. separately	1	Sticker, Caution		
14	61B-82570-00-00	1	Switch Panel Ass'y		For Installation of 6K1-Switch Panel Ass'y
15	90149-05M05-00	4	Screw		
16	95380-05600-00	4	Nut		
17	92990-05100-00	4	Washer, Spring		
18	92990-05600-00	4	Washer, Plain		
19	61B-8258A-00-00	1	Extension Wire Harness	31.2 Ft. (9.5m)	Switch panel to wire harness from port side engine
20	61A-8258A-00-00	1	Extension Wire Harness	26.2 Ft. (8m)	
21	90465-13M36-00	10	Clamp (L:160mm, W:5mm)		For Wires
22	Not avail. separately	1	Rigging Instruction		
23	90460-10M12-00	1	Clamp Hose		For fuel pipe comp.
24	90465-13M11-00	1	Clamp		
25	6R3-82553-90-00	1	Wire, Lead	31.2 Ft. (9.5m)	Trim Sender (engine) to trim gauge (Tachometer)
26	6R3-82521-90-00	1	Wire, Lead	31.2 Ft. (9.5m)	Tachometer (oil level) to wire harness from engine

* New

WARRANTY INFORMATION

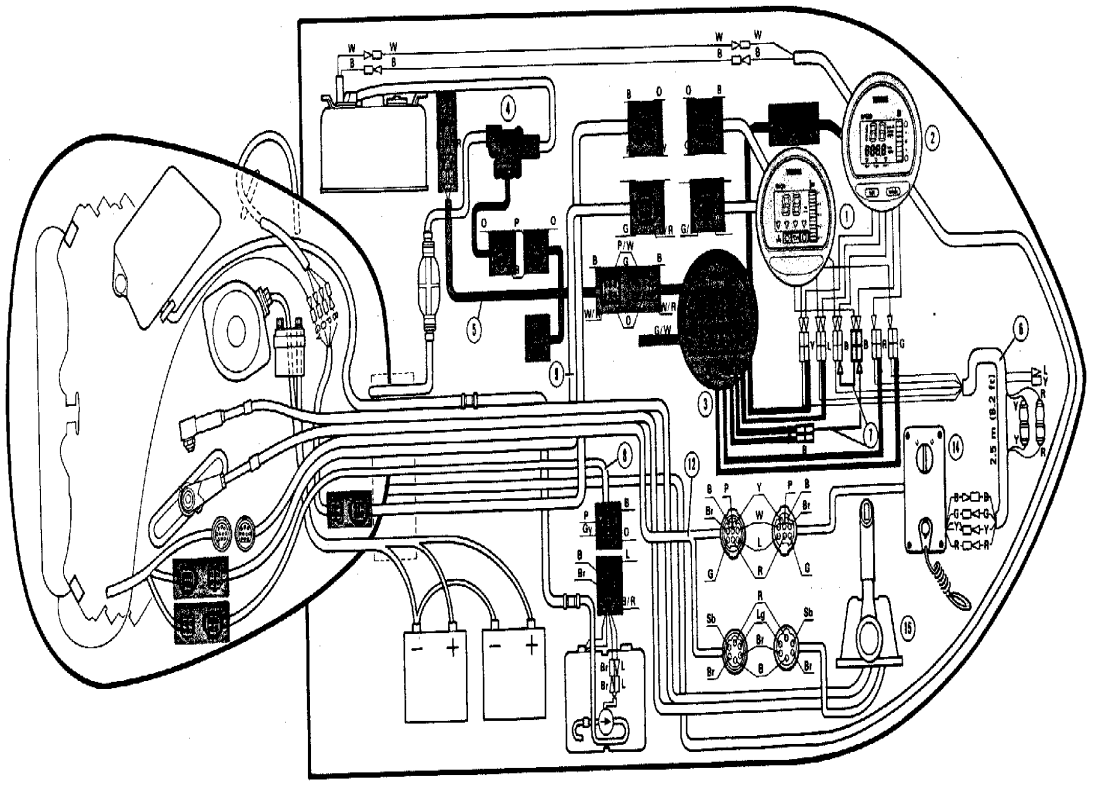
This bulletin is for information only. No warranty applies.

FILE	DATE	BUL

115 ~ 250HP

No.	Parts Name
1	Digital Tachometer
2	Digital Speedometer
3	Fuel Management Meter (not standard on all models)
4	Fuel Flow Sensor
5	Wiring Harness (fuel meter)
6	Wiring Harness (w/red wire)
7	Wiring Harness (meter)
8	Wiring Harness (oil tank/trim meter)
9	Wiring Harness (oil lamp)
12	Wiring Harness (switch)
14	Switch Panel
15	Remote Control Box (single engine)

B : Black
R : Red
G : Green
O : Orange
Gy : Gray
L : Blue
P : Pink
Y : Yellow
Br : Brown



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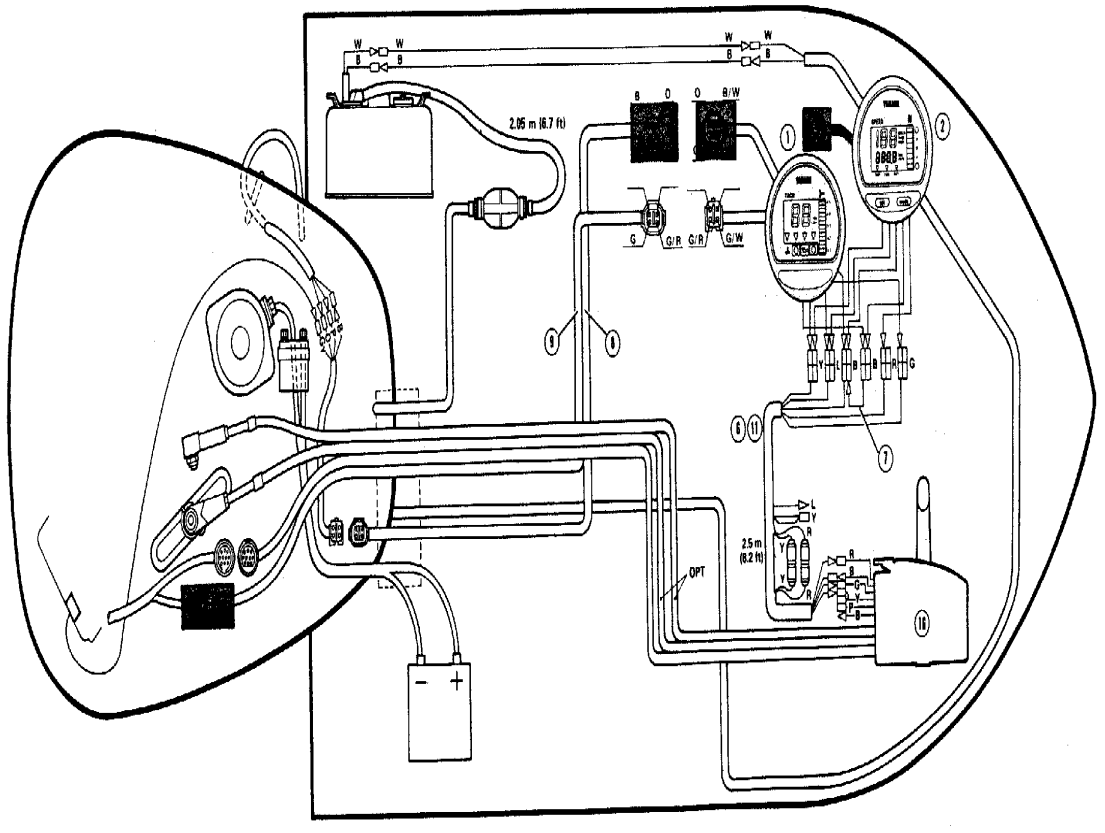
70 ~ 90HP

No.	Parts Name
1	Digital Tachometer
2	Digital Speedometer
6	Wiring Harness (w/red wire)
7	Wiring Harness (meter)
8	Wiring Harness (trim meter)
9	Wiring Harness (oil lamp)
11	Wiring Harness
16	Remote Control Box

B : Black
R : Red
G : Green
O : Orange
Gy : Gray
L : Blue
P : Pink
Y : Yellow
Br : Brown



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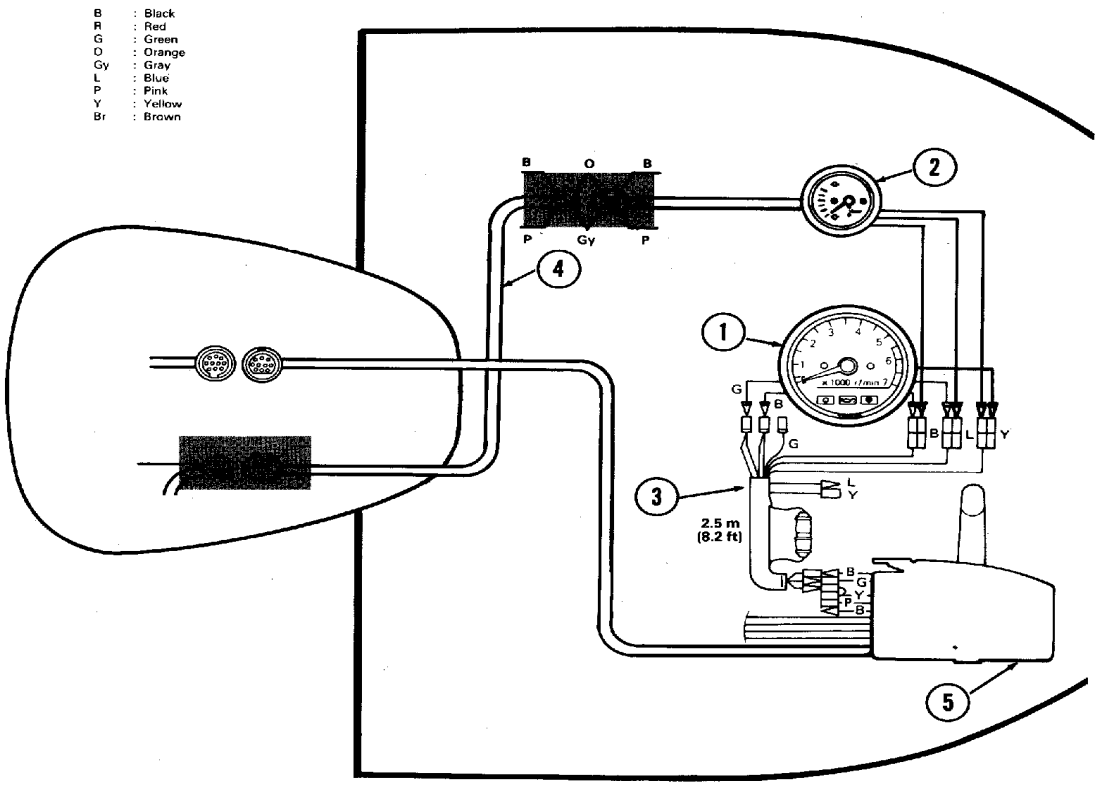
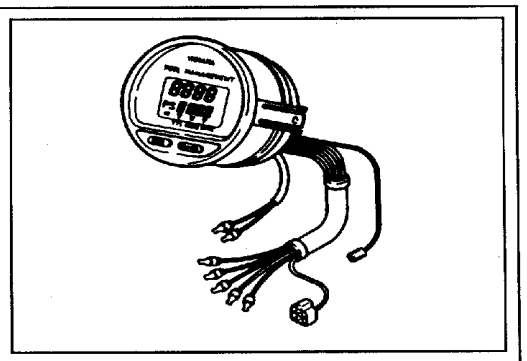
C55T/C75/85/115

No.	Parts Name
1	Tachometer
2	Trim Meter
3	Wiring Harness (meter to control box)
4	Wiring Harness (trim meter)
5	703 Remote Control Box



Gauge Information (Cont'd.)

Digital Fuel Management Gauge - Standard Equipment on some models



This new instrument provides fuel consumption information. When installed on twin engine boats, it indicates engine synchronization information. When installed in conjunction with an accessory fuel-water separator, the gauge will warn the operator of the presence of water in the fuel. The gauge is designed to be flush mounted.

Notes on Fuel Consumption:

1. Fuel consumption will vary greatly with boat design, weight, propeller used, engine trim angle, sea conditions (including wind), and throttle position. Fuel consumption will also vary slightly with the type of water (salt, fresh, and contaminate levels), air temperature and humidity, cleanliness of the boat bottom, engine mounting height, skill of the operator, and individual gasoline formulation (winter or summer fuel and amount of additives).
2. The Yamaha digital speedometer and fuel management meter calculates speed, miles traveled, and fuel economy by water movement at the stern of the boat. This distance can vary greatly from the actual distance traveled because of water currents, sea swells, and the condition of the water speed sensor (partially plugged or damaged).
3. Individual engines may vary slightly in their fuel consumption because of manufacturing variations. These variations can be even greater if the engines are of different year models. In addition, variations in propellers, even of the same basic dimensions of the same design, can cause a variation in fuel consumption.

SERVICE INFORMATION

Refer to the illustrations for instructions for calibrating the miniature toggle switches for tachometer pole positions setting, the speed and fuel sender selection on the digital speedometer, and the calibration for fuel flow and fuel measurement on the fuel management meter.

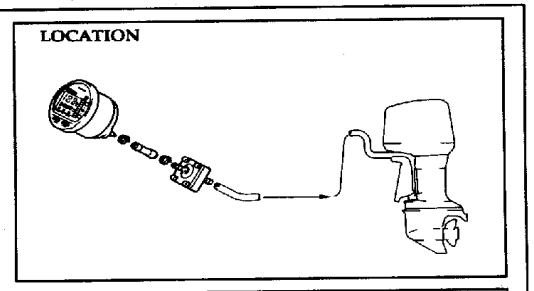
RIGGING

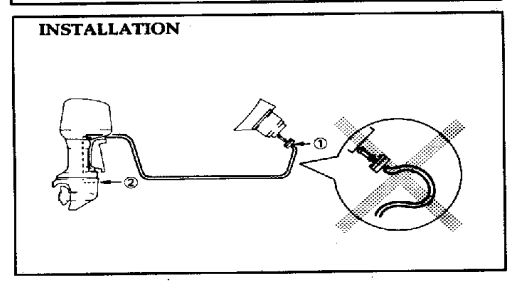
Speedometer Installation

1. Arrange the tube in the boat from speedometer to the outboard.

NOTE: The pickup tube should be arranged without being higher than the meter. The pressure remaining in the tube may prevent the meter indication from returning to zero when the boat has stopped.

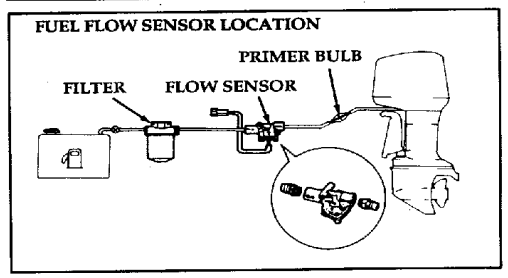
2. Make sure the hose runs as level and straight as possible. Do not loop the hose.
3. Avoid overtightening the tie straps securing the tube.
4. To improve response, fill the pickup tube with water before connecting.



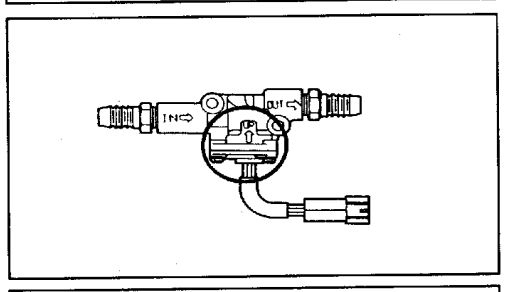


Fuel Management Gauge Installation

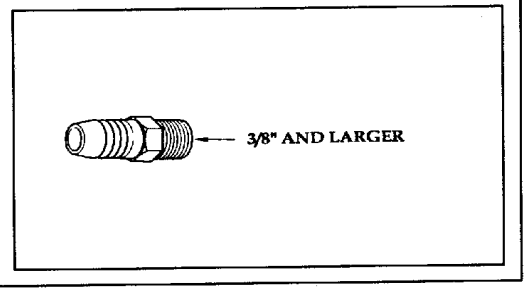
1. The fuel flow sensor should be placed after the filter and before the primer bulb (if equipped) or engine.



2. The sensor should be placed with its "UP" mark facing upward.



3. The fuel joint should be 3/8 inch or larger.
4. Secure all fuel hose ends with a good quality stainless hose clamp (not supplied).



Wiring

1. The green and green/white wires on the fuel management gauge are for engine synchronization and are connected to the tachometer(s). On single engine installations, the green/white wire will not be used.

Rigging Charts

Refer to the wiring/rigging diagrams printed on the fold out pages at the end of this bulletin for complete rigging information.

Rigging Notes:

1. Make sure to install the fuel flow sensor between the engine and fuel filter. Refer to the Fuel Management Gauge installation chart.
2. On twin engine installations, make sure the Multifunction Speedometer and Fuel Management Gauge are connected to the same power source.
3. If a fuel primer is used, it should be installed between the fuel sensor and the engine. All connections should be tight and all lines free of air. Any air leakage in the fuel tank pickup or sensor lines and connections will cause incorrect readings.
4. Measure the vacuum in the fuel line at full throttle at the inlet to the fuel filter on the engine. It should not exceed 6.3 inches of Hg.
5. The engine connectors for the trim sender harness and the remote oil tank are the same type and the connecting wire colors are the same. To identify these connectors, the remote oil tank connector has blue tape around the wire.

PARTS INFORMATION

The new wiring harnesses and leads used on the 1994 models have new style watertight locking connectors. In addition to the new locking connectors, the number of different extension harnesses have been reduced. Below are lists of all applicable 1994 rigging kits and standard wiring harnesses.

EXTENSION HARNESSES

Part Number	Description	Length	No. of Wires
6R3-82521-50-00	Oil Lamp Lead	16.4 ft. (5M)	2
6R3-82521-70-00	Oil Lamp Lead	23 ft. (7M)	2
6R3-82521-80-00	Oil Lamp Lead	26.25 ft. (8M)	2
6R3-82521-90-00	Oil Lamp Lead	31.2 ft. (9.5M)	2
6R3-82553-30-00	Oil, Trim, & Ext.	9.8 ft. (3M)	4
6R3-82553-50-00	Oil, Trim, & Ext.	16.4 ft. (5M)	4
6R3-82553-70-00	Oil, Trim, & Ext.	23 ft. (7M)	4
6R3-82553-80-00	Oil, Trim, & Ext.	26.25 ft. (8M)	4
6R3-82553-90-00	Oil, Trim, & Ext.	31.2 ft. (9.5M)	4
6X1-82531-00-00	Fuel Flow Sensor Ext.	9.8 ft. (3M)	3

1994 RIGGING KITS

Part Number	Model Application
6YR-W0035-11-00	70 & 90HP
6YR-W0035-21-00	V4 & V6 L Transom
6YR-W0035-31-00	V4 & V6 X Transom
6YR-W0035-41-00	225TX & 250HP
6YR-W0035-51-00	L130, L150, & L200
6YR-W0035-61-00	L225TX & L250

RIGGING KIT CONTENTS

The following are parts lists for the new 1994 model rigging kits. Parts are available from Yamaha Parts and Accessories Division.

70/90 HP RIGGING KIT (6YR-W0035-11-00)

No.	Part Number	Qty.	Part Name	Length	Connection & Function
1	6Y1-24306-51-00	1	Fuel Pipe Comp.	9.8 Ft. (3m)	
*2	6Y5-83500-T0-00	1	Meter Ass'y		Digital Tachometer/Oil Level Gauge/ Trim Gauge/Alarm (Overheat)
3	6Y5-83553-00-00	1	Wire, Lead	8.2 Ft. (2.5m)	Tachometer to Remote Control Box
*4	6R3-82553-70-00	1	Wire, Lead Extension	23 Ft. (7m)	Trim sender (in engine) to trim gauge (in tachometer)
*5	6R3-82521-70-00	1	Wire, Lead	23 Ft. (7m)	Lead wire from oil level gauge (in tachometer) to oil level sensor (in engine)

* New

V4/V6 RIGGING KIT (6YR-W0035-21-00) (L-Transom)

No.	Part Number	Qty.	Part Name	Length	Connection & Function
1	6Y2-24307-40-00	1	Fuel Pipe Comp.		
2	6Y5-83553-M0-00	1	Wire, Lead	8.2 Ft. (2.5m)	Tachometer to remote control box
*3	6Y5-83500-T0-00	1	Meter Ass'y		Digital Tachometer/Oil Level Gauge/ Trim Gauge/Alarm (Overheat)
*4	6Y5-83500-S0-00	1	Meter Ass'y		Digital Speed/Trip/Hour Meter/ Fuel Meter/Volt
5	6Y5-83557-20-00	1	Tube	16.4 Ft. (5m)	Speedometer to speedometer sensor (in engine)
6	90465-11M10-00	3	Clamp (L:3.9", W:.10") (L:100mm, W:2.5mm)		For speedometer tube
*7	6E5-21708-06-00	1	Sub-Oil Tank Ass'y	Wire 9.8 Ft. (3m) Hose 8.2 Ft. (2.5m)	
8	Not avail. separately	1	Sticker, Caution		For Installation of Sub-Oil Tank Ass'y
9	6E5-21734-01-33	1	Holder, Sub-Oil Tank		
10	6E5-21798-01-33	1	Bracket, Damper		
11	6E5-21746-00-00	2	Damper		
12	97380-06100-00	1	Bolt		
13	92990-06600-00	2	Washer, Plate		
14	95380-06600-00	1	Nut		
*15	6R3-82521-50-00	1	Wire, Lead	16.4 Ft. (5m)	Tachometer (Oil Level) to wire harness from engine
*16	6R3-82553-50-00	1	Wire, Lead	16.4 Ft. (5m)	Trim Sender (in engine) to trim gauge (in tachometer)
17	90465-13M36-00	10	Clamp (L:6.3", W:20") (L:160mm, W:5mm)		For Wires
18	Not avail. separately	1	Rigging Instruction		
19	90460-10M12-00	1	Clamp Hose		For Fuel Pipe
20	6Y5-82117-00-00	1	Wire, Lead		Tachometer to Speedometer
21	Not avail. separately	1	Tag, Caution		For Precision Blend System

* New

Rigging Kit Contents (Cont'd.)

V4/V6 RIGGING KIT (EXCEPT 250HP) (6YR-W0035-31-00) (X-Transom)

No.	Part Number	Qty.	Part Name	Length	Connection & Function
1	6Y2-24307-40-00	1	Fuel Pipe Comp.		
2	6Y5-83553-M0-00	1	Wire, Lead	8.2 Ft. (2.5m)	Tachometer to remote control box
*3	6Y5-83500-T0-00	1	Meter Ass'y		Digital Tachometer/Oil Level Gauge/ Trim Gauge
*4	6Y5-83500-S0-00	1	Meter Ass'y		Digital Speed/Trip/Hour Meter/ Fuel Meter/Alarm (Temp., Volt, Fuel)
5	6Y5-83557-10-00	1	Tube	26.2 Ft. (8m)	Speedometer to speedometer sensor (in engine)
6	90465-11M10-00	3	Clamp (L:3.9", W:.10") (L:100mm, W:2.5mm)		For speedometer tube
*7	6N7-21708-02-00	1	Sub-Oil Tank Ass'y	Wire 13.1 Ft. (4m) Hose 8.2 Ft. (2.5m)	
8	Not avail. separately	1	Sticker, Caution		For Installation of Sub-Oil Tank Ass'y
9	6E5-21734-01-33	1	Holder, Sub-Oil Tank		
10	6E5-21798-01-33	1	Bracket, Damper		
11	6E5-21746-00-00	2	Damper		
12	97380-06100-00	1	Bolt		
13	92990-06600-00	2	Washer, Plate		
14	95380-06600-00	1	Nut		
*15	6R3-82521-80-00	1	Wire, Lead	26.1 Ft. (8m)	Tachometer (Oil Level) to wire harness from engine
*16	6R3-82553-80-00	1	Wire, Lead	26.2 Ft. (8m)	Trim Sender (in engine) to trim gauge (in tachometer)
17	90465-13M36-00	10	Clamp (L:6.3", W:20") (L:160mm, W:5mm)		For Wires
18	Not avail. separately	1	Rigging Instruction		
19	90460-10M12-00	1	Clamp Hose		For Fuel Pipe
20	6Y5-82117-00-00	1	Wire, Lead		Tachometer to Speedometer
21	Not avail. separately	1	Tag, Caution		For Precision Blend System

* New

A3

Rigging Kit Contents (Cont'd.)

250HP RIGGING KIT (6YR-W0035-41-00)

No.	Part Number	Qty.	Part Name	Length	Connection & Function
1	6Y2-24307-40-00	1	Fuel Pipe Comp.		
2	6Y5-83553-M0-00	1	Wire, Lead	8.2 Ft. (2.5m)	Tachometer to remote control box
*3	6Y5-83500-T0-00	1	Meter Ass'y		Digital Tachometer/Oil Level Gauge/ Trim Gauge
*4	6Y5-83500-S0-00	1	Meter Ass'y		Digital Speed/Trip/Hour Meter/ Fuel Meter/Alarm (Temp., Volt, Fuel)
5	6Y5-83557-10-00	1	Tube	26.2 Ft. (8m)	Speedometer to speedometer sensor (in engine)
6	90465-11M10-00	3	Clamp (L:100mm, W:2.5mm)		For speedometer tube
*7	61A-21708-02-00	1	Sub-Oil Tank Ass'y	Wire 26.2 Ft. (8m) Hose 19.7 Ft. (6.5m)	
8	Not avail. separately	1	Sticker, Caution		For Installation of Sub-Oil Tank Ass'y
9	6E5-21734-01-33	1	Holder, Sub-Oil Tank		
10	6E5-21798-01-33	1	Bracket, Damper		
11	6E5-21746-00-00	2	Damper		
12	97380-06100-00	1	Bolt		
13	92990-06600-00	2	Washer, Plate		
14	95380-06600-00	1	Nut		
15	90465-13M36-00	10	Clamp (L:6.3", W:.20")		For Wires
16	Not avail. separately	1	Rigging Instruction		
17	90460-10M12-00	1	Clamp Hose		For Fuel Pipe Comp.
*18	6R3-82553-80-00	1	Wire, Lead	26.2 Ft. (8m)	Trim Sender (in engine) to trim gauge (in tachometer)
*19	6R3-82521-80-00	1	Wire, Lead	26.2 Ft. (8m)	Tachometer (oil level) to wire harness from engine
20	90465-13M11-00	1	Clamp		

* New

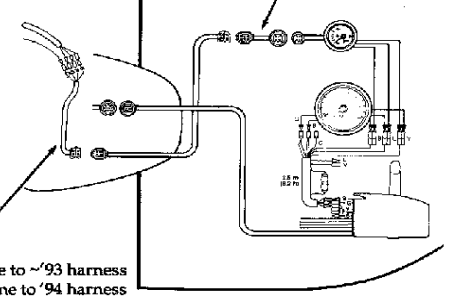
Rigging Information (Cont'd.)

C-Model Wiring

The C55T, C75, C85, and C115 require only a trim meter or trim sensor adapter when using an engine (trim sensor), trim meter, and /or harness that does not match. Use the 6N7-82541-00-00 adapter lead when installing a 1994 engine to a 1993 harness. The 6N7-82541-10-00 adapter lead is used to connect a 1993 or earlier C85 or C115 to a 1994 harness.

Use the 6E5-82541-00-00 adapter to connect a '94 harness to a '93 trim meter. Use the 6E5-82541-10-00 adapter to connect a '93 trim meter to the '94 harness.

ADAPTERS FOR C55T, C75, C85, & C115



PARTS INFORMATION

Parts Number	Description	Remarks	Dealer Cost
6E5-ADPKT-GA-GE	Gauge Adapter Kit	2 req'd for Dual Sta.	$15.80
6E5-82541-00-00	Meter Adapter Lead	'94 to '93 C Model	7.90
6E5-82541-10-00	Meter Adapter Lead	'93 to '94 C Model	7.90
6N7-82541-00-00	Trim Sensor Adapter	'94 to '93 C Model	8.45
6N7-82541-10-00	Trim Sensor Adapter	'93 to '94 C Model	8.45

WARRANTY INFORMATION

This bulletin is for information only. No special warranty applies.

MARINE PRODUCTS — OUTBOARD	DATE 7/26/93	BUL O93-011

GENERAL
1994 MODEL STANDARD EQUIPMENT

INTRODUCTION

There have been some changes to the standard equipment included with various 1994 model Yamaha Outboards. Please make sure to inform all personnel in your dealership who may be affected by these changes.

AFFECTED UNITS

All 1994 Yamaha Outboards

STANDARD EQUIPMENT CHANGES

Equipment:

	'93 & Earlier	'94 & Later
• Spare Spark Plugs	Standard	No longer standard equipment*
• Owner's Tool Kit	Standard	No longer standard equipment*
• Fuel Tank (P60 & larger)	Standard	No longer standard equipment*
• User's Choice Propeller (40HP and larger)	Standard	No longer standard equipment*

**Purchase separately from YPAD*

Shipping Location:

• C Models with 703 Remote Control	703 Control Shipped Separately
• Left Hand Rotation Models	Fuel Management System Shipped Separately

REMOTE CONTROLS, FUEL MANAGEMENT SYSTEM, AND PRE-RIGGING KIT RETURN PROGRAM:

Details of this program are included in the 1994 Marketing Guide. A copy follows.

WARRANTY INFORMATION

This bulletin is form information only. No warranty applies.

ROUTE TO: ☑ SERVICE ☑ PARTS ☐ WARRANTY ☑ SALES PAGE 1 OF 1

REMOTE CONTROLS, FUEL MANAGEMENT SYSTEM AND PRE-RIGGING KIT RETURN PROGRAM

1. **REMOTE CONTROL BOXES**
Yamaha remote control boxes sold as standard equipment with 25HP and larger outboard motors are eligible for return credit as per the schedule listed below:

Control Type	Return Credit
Side Mount 703	$150.00
Flush Mount 6X0	150.00
Single Binnacle 704	150.00

2. **FUEL MANAGEMENT SYSTEM**
The Fuel Management System sold as standard equipment with all counter rotation models (L130TXRS, L150TXRS, L200TXRS, L225TXRS, L250TXRS, and L250TURS) may be returned for $285.00 credit.

3. **RIGGING KITS**
Yamaha pre-rigging kits sold with 70HP and larger outboards may be returned as per the schedule listed below:

Pre-Rigging Kits	Return Credit
70HP & 90HP	$100.00
115HP ~ 250HP	275.00
Left Hand Rotation 130, 150, 200, 225, 250HP	585.00

RETURN PROCEDURE

All kits must be in the original packaging, unopened and sealed in order to qualify for return credit. Use a DISCREPANCY CLAIM form and include the following information:

1. Enter 6 digit ACCOUNT (DLR.) NUMBER.
2. Enter your ACCOUNT (DLR.) NAME
3. Enter the PART NUMBER for kits and/or controls your want to return.
4. Enter appropriate QUANTITIES in the OVERAGE column.
5. Enter PRE-RIGGING in the COMMENTS section to process your return properly.
6. Enter DATE and SIGN the claim.
7. RETURN merchandise and the WHITE copy to:

YAMAHA PARTS AND ACCESSORIES DIVISION
190 Selig Drive S.W.
Atlanta, GA 30336
ATTN: Discrepancy Desk

1994 MODELS

PRIMARY I.D. NUMBERS AND PROPELLER, CONTROLS, FUEL TANK & RIGGING ITEMS SHIPPING LOCATION

Effective 9/13/93, this Technical Bulletin replaces O93-012; please remove and destroy O93-012. ➤Denotes a change in the original Technical Bulletin.

For identification purposes, the factory has released the following list of primary I.D. numbers. Production of 1994 models started with the numbers listed below. Shipping locations for propellers and other rigging hardware are listed to the right of each model's primary I.D. number. For an explanation of the 1994 model identification codes, please refer to the chart at the end of this bulletin.

Model	Starting I.D.	RIGGING ITEMS SHIPPING LOCATION			
		Propeller	Control	Fuel Tank	Rigging Items
2MSHS	6A1-167284	CRATE	N/A	N/A	N/A
3MSHS	6L5S-041425	CRATE	N/A	N/A	N/A
3MLHS	6L5L-308210	CRATE	N/A	N/A	N/A
4MSHS	6E0S-144244	CRATE	N/A	N/A	N/A
4MLHS	6E0L-347379	CRATE	N/A	N/A	N/A
6MSHS	6H6S-027446	CRATE	N/A	CRATE	N/A
6MLHS	6H6L-317003	CRATE	N/A	CRATE	N/A
8MSHS	6G1S-051849	CRATE	N/A	CRATE	N/A
8MLHS	6G1L-337151	CRATE	N/A	CRATE	N/A
9.9MSHS	682CS-093478	CRATE	N/A	CRATE	N/A
9.9MLHS	682CL-402462	CRATE	N/A	CRATE	N/A
9.9ESHS	682CS-253003	CRATE	N/A	CRATE	N/A
9.9ELHS	682CL-558354	CRATE	N/A	CRATE	N/A
F9.9MSHS	6G9S-008648	CRATE	N/A	CRATE	N/A
F9.9MLHS	6G9L-305977	CRATE	N/A	CRATE	N/A
T9.9ELHS	6G8L-469312	CRATE	N/A	CRATE	CRATE
T9.9MXHS	6G8UL-702756	CRATE	N/A	CRATE	CRATE
T9.9EXHS	6G8UL-786352	CRATE	N/A	CRATE	CRATE
T9.9ELRS	6G8L-408272	CRATE	CRATE	CRATE	CRATE
15MSHS	684CS-115096	CRATE	N/A	CRATE	N/A
15MLHS	684CL-367222	CRATE	N/A	CRATE	N/A
15ESHS	684CS-254267	CRATE	N/A	CRATE	N/A
15ELHS	684CL-555988	CRATE	N/A	CRATE	N/A
25MSHS	6L2S-109488	CRATE	N/A	CRATE	N/A
25MLHS	6L2L-404149	CRATE	N/A	CRATE	N/A
25ESHS	6L2S-252518	CRATE	N/A	CRATE	N/A
25ELHS	6L2L-551911	CRATE	N/A	CRATE	N/A
25ELRS	6L2L-480424	CRATE	CRATE	CRATE	CRATE
C25MSHS	695S-039258	CRATE	N/A	CRATE	CRATE
C25MLHS	695L-331862	CRATE	N/A	CRATE	CRATE
C25ELHS	695L-402796	CRATE	N/A	CRATE	CRATE
C25ELRS	695L-559357	CRATE	SEPARATE	CRATE	CRATE
30MSHS	6J8S-107461	CRATE	N/A	CRATE	CRATE
30MLHS	6J8L-405982	CRATE	N/A	CRATE	CRATE
30ESRS	6J8S-155121	CRATE	CRATE	CRATE	CRATE
30ELRS	6J8L-460156	CRATE	CRATE	CRATE	CRATE
C30ELRS	61TL-400786	CRATE	SEPARATE	CRATE	CRATE
40MSHS	6H4S-187925	ORDER YPAD	N/A	CRATE	CRATE
40MLHS	6H4L-485345	ORDER YPAD	N/A	CRATE	CRATE
40ESRS	6H4S-105431	ORDER YPAD	CRATE	CRATE	CRATE
40ELRS	6H4L-426105	ORDER YPAD	CRATE	CRATE	CRATE
40PLRS	6H4L-563570	ORDER YPAD	CRATE	CRATE	CRATE
40MJHS	6H4S-187189	N/A*	N/A	CRATE	CRATE*
40EJRS	6H4S-105431	N/A*	CRATE	CRATE	CRATE*
40TLRS	6H4L-533476	ORDER YPAD	CRATE	CRATE	CRATE
C40ELRS	6E9L-554680	ORDER YPAD	SEPARATE	CRATE	CRATE
C40MSHS	6E9S-011333	ORDER YPAD	N/A	CRATE	CRATE
C40PLRS	6E9L-332401	ORDER YPAD	SEPARATE	CRATE	CRATE
50ELRS	6H5L-388441	ORDER YPAD.	CRATE	CRATE	CRATE
50TLHS	6H5L-580834	ORDER YPAD	N/A	CRATE	CRATE
50EJRS	6H5S-082782	N/A*	CRATE	CRATE	CRATE*
P50TLRS	6H5L-516672	ORDER YPAD	CRATE	CRATE	CRATE
C55ELRS	663L-328009	ORDER YPAD	SEPARATE	CRATE	CRATE
C55TLRS	663L-720700	ORDER YPAD	SEPARATE	CRATE	CRATE
P60TLHS	6H2L-550832	ORDER YPAD	N/A	N/A	CRATE
➤ 70TLRS	6H3L-483630	ORDER YPAD	SEPARATE	N/A	KIT
C75TLRS	692L-406206	ORDER YPAD	SEPARATE	N/A	CRATE
C85TLRS	688L-423261	ORDER YPAD	SEPARATE	N/A	CRATE
90TLRS	6H1L-486350	ORDER YPAD	SEPARATE	N/A	KIT
➤ 90TJRS	6H1L-486366	N/A*	SEPARATE	N/A	CRATE*
115TLRS	6E5L-396252	ORDER YPAD	SEPARATE	N/A	KIT
115TXRS	6E5UL-724848	ORDER YPAD	SEPARATE	N/A	KIT
➤ 115TJRS	6E5L-396259	N/A*	SEPARATE	N/A	CRATE*
P115TLRS	6E5L-060596	ORDER YPAD	SEPARATE	N/A	KIT
C115TLRS	6E5L-324383	ORDER YPAD	SEPARATE	N/A	CRATE
C115TXRS	6E5UL-521227	ORDER YPAD	SEPARATE	N/A	CRATE
130TLRS	6L1L-306769	ORDER YPAD	SEPARATE	N/A	KIT
130TXRS	6L1UL-702966	ORDER YPAD	SEPARATE	N/A	KIT
L130TXRS	6L6UL-701208	ORDER YPAD	KIT	N/A	KIT
150TLRS	6G4L-408018	ORDER YPAD	SEPARATE	N/A	KIT
150TXRS	6G4UL-759530	ORDER YPAD	SEPARATE	N/A	KIT
L150TXRS	6K0UL-703102	ORDER YPAD	KIT	N/A	KIT
P150TLRS	6J9L-355141	ORDER YPAD	SEPARATE	N/A	KIT
175TLRS	6G5L-403801	ORDER YPAD	SEPARATE	N/A	KIT
175TXRS	6G5UL-755786	ORDER YPAD	SEPARATE	N/A	KIT
P175TLRS	62HL-300101	ORDER YPAD	SEPARATE	N/A	KIT
200TLRS	6G6L-405956	ORDER YPAD	SEPARATE	N/A	KIT
➤ 200TXRS	6G6UL-765400	ORDER YPAD	SEPARATE	N/A	KIT
➤ 200TJRS	6G6L-405951	N/A*	SEPARATE	N/A	CRATE*
➤ L200TXRS	6K1UL-705378	ORDER YPAD	KIT	N/A	KIT
➤ P200TLRS	61HL-302001	ORDER YPAD	SEPARATE	N/A	KIT
➤ 225TLRS	6K7L-351657	ORDER YPAD	SEPARATE	N/A	KIT
225TXRS	62JUL-700101	ORDER YPAD	SEPARATE	N/A	KIT
L225TXRS	62KUL-700101	ORDER YPAD	KIT	N/A	KIT
250TXRS	61AUL-703752	ORDER YPAD	SEPARATE	N/A	KIT
250TURS	61ASU-800334	ORDER YPAD	SEPARATE	N/A	KIT
L250TXRS	61BUL-701628	ORDER YPAD	KIT	N/A	KIT
L250TURS	61BSU-800173	ORDER YPAD	KIT	N/A	KIT

*Jetdrive Models have the jet pump shipped separately.

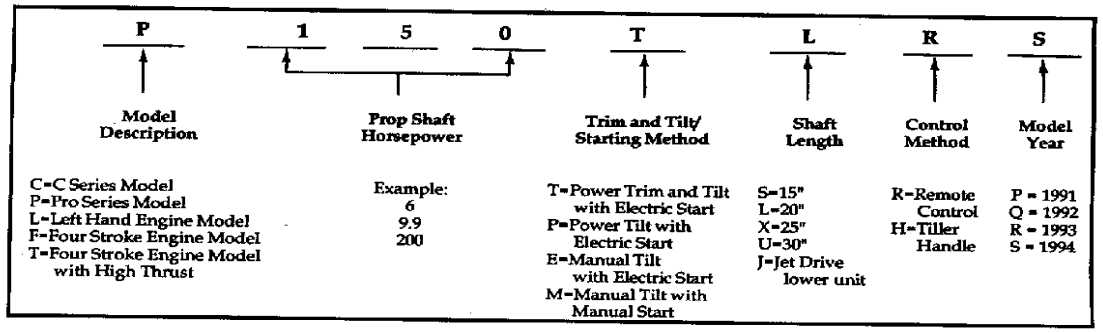
NOTE: All left hand rotation models have the Fuel Management System shipped in a separate box.

KEY:

N/A	Model does not include this item as standard equipment
CRATE	These items are included in the crate with the unit.
SEPARATE	These items are user's choice and shipped in a separate box.
KIT	This model uses a rigging kit shipped in a separate box.
ORDER YPAD	Item is not standard equipment. Order from YPAD.

NOTE: All models that use a rigging kit still have some basic rigging items, such as mounting bolts and steering arm, included in the unit crate.

OUTBOARD MODEL CODE LETTERS



GENERAL

1994 OUTBOARD MOTOR SERVICE SPECIFICATIONS

The following table shows vital engine specifications for all 1994 Yamaha outboard motors.

HP	ENGINE					SPARK PLUG		K & O DYNO.		IGNITION TIMING			CARB. PILOT SCREW TURNS OUT	IDLE SPEED RPM NEUTRAL (in gear)	GEAR OIL QTY.
	NO. OF CYL.	DISPLACEMENT (cu. in.)	BORE AND STROKE (in.)	RPM RANGE	GEAR RATIO	NGK (CHAMPION)	GAP (IN.)	RATED RPM	NEW ENG. PSI	FULL ADVANCE	IDLING	PICK-UP TIMING			
2	1	43cc (2.62)	1.54 x 1.42	4000 to 5000	13:27 (2.08)	B5HS (L90)	.024	—	—	18° ±1°	18° ±1°	—	—	N/A	45cc (1.5 oz)
3	1	70cc (4.3)	1.81 x 1.65	4500 to 5500	13:27 (2.08)	B6HS-10 (L86C)	.039	—	—	21° ±3°	6° ±2°	—	1-1/4	1,200 (1,050)	75cc (2.53 oz)
4	1	83cc (5.07)	1.97 x 1.65	4500 to 5500	13:27 (2.08)	B7HS (L82C)	.024	—	—	28° ±3°	5° ±3°	—	1-3/4	1,150 (1,000)	100cc (3.4 oz)
6	2	165cc (10.1)	1.97 x 1.65	4000 to 5000	13:27 (2.08)	B7HS-10 (L82C)	.039	—	—	35° ±1°	4° ±1°	—	1-1/8	900 (800)	160cc (5.4 oz)
8	2	165cc (10.1)	1.97 x 1.65	4500 to 5500	13:27 (2.08)	B7HS-10 (L82C)	.039	—	—	35° ±1°	4° ±1°	—	1-1/8	900 (800)	160cc (5.4 oz)
9.9	2	246cc (15.0)	2.21 x 1.97	4500 to 5500	13:27 (2.08)	B7HS-10 (L82C)	.039	—	—	30° ±1°	5° ±1°	10° ±1°	1-1/4	900 (750)	185cc (6.03 oz)
15	2	246cc (15.0)	2.21 x 1.97	4500 to 5500	13:27 (2.08)	B7HS-10 (L82C)	.039	—	—	30° ±1°	5° ±1°	10° ±1°	1-1/4	900 (750)	185cc (6.03 oz)
25	2	395cc (24.1)	2.64 x 2.20	5000 to 6000	13:27 (2.08)	B7HS-10 (L82C)	.039	—	—	25° ±1°	-5° ±1°	0° ±1°	2	750 (600)	370cc (12.5 oz)
C25	2	430cc (26.24)	2.64 x (1.84)	4500 to 5500	13:24 (1.84)	B7HS (L82C)	.024	N/A	—	24° ±1°	2° ±1°	—	1-1/2	1,200 (850)	180cc (6.08 oz)
30	3	496cc (30.27)	2.34 x 2.34	4500 to 5500	13:24 (1.84)	B7HS-10 (L82C)	.039	—	—	25° ±0.5°	-5° ±0.5°	-2° ±0.5°	#1: 3/4 #2: 1-3/4 #3: 1	750 (650)	200cc (6.8 oz)
C30	2	496cc (30.27)	2.83 x 2.40	4500 to 5500	13:27 (2.08)	B8HS-10 (L78C)	.039	N/A	—	25° ±2°	2° ±2°	—	1-1/4	1150 (950)	320cc (10.81 oz)
40	3	698cc (42.6)	2.64 x 2.60	4500 to 5500	13:24 (1.84)	B7HS-10 (L82C)	.039	5000 — 5500	NA — 800	25° +3° -1°	-5° ±1°	-5° ±1°	1-1/8	800 (600)	415cc (14.6 oz)
C40	2	592cc (36.1)	2.95 x 2.64	4500 to 5500	13:26 (2.0)	B8HS (L78C)	.024	N/A	—	22° ±1°	2° ±1°	5° ±1°	1-3/4	1,150 (950)	315cc (10.64 oz)
50 & P50	3	698cc (42.6)	2.64 x 2.60	4500 to 5500	13:24 (1.84)	B8HS-10 (L78C)	.039	5000 — 5500	950 — 875	25° +3° -1°	-5° ±1°	-1° ±1°	1-5/8	800 (600)	415 cc (14.6 oz)
C55	2	760cc (46.4)	3.23 x 2.83	4500 to 5500	13:24 (1.84)	B8HS-10 (L78C)	.039	—	—	26° ±1°	-5° ±1°	-5° ±1°	2	1,100 (800)	500cc (16.89 oz)
P60	3	849cc (51.8)	2.83 x 2.74	4500 to 5500	12:28 (2.30)	B8HS-10 (L78C)	.039	—	—	22° ±1°	-7° ±1°	-7° ±1° -0°	1-1/2	800 (600)	610cc (20.6 oz)
70	3	849cc (51.8)	2.83 x 2.74	5000 to 6000	12:28 (2.33)	B8HS-10 (L78C)	.039	5000 — 5500	1700 — 1600	20° ±1°	-7° ±1°	-7° -0°	1-1/4	800 (600)	610cc (20.6 oz)

1994 Outboard Motor Service Specifications (Cont'd.)

HP	ENGINE NO. OF CYL.	ENGINE DISPLACEMENT (cu. in.)	ENGINE BORE AND STROKE (in.)	ENGINE RPM RANGE	ENGINE GEAR RATIO	SPARK PLUG NGK (CHAMPION)	SPARK PLUG GAP (IN.)	K & O DYNO. RATED RPM	K & O DYNO. NEW ENG. PSI	IGNITION TIMING FULL ADVANCE	IGNITION TIMING IDLING	IGNITION TIMING PICK-UP TIMING	CARB. PILOT SCREW TURNS OUT	IDLE SPEED RPM NEUTRAL (in gear)	GEAR OIL QTY.
C75	3	1140cc (69.6)	3.23 x 2.83	4500 to 5500	13:26 (2.0)	B8HS-10 (L78C)	.039	—	—	22° ±1°	2° ±1°	2°	1-1/4	800 (600)	610cc (20.6 oz)
C85	3	1140cc (69.6)	3.23 x 2.83	4500 to 5500	13:26 (2.0)	B8HS-10 (L78C)	.039	—	—	24° ±1°	2° ±1°	2°	1-1/8	800 (600)	610cc (20.6 oz)
90	3	1140cc (69.6)	3.23 x 2.83	4500 to 5500	13:26 (2.0)	B8HS-10 (L78C)	0.39	5000 — 5500	1875 — 1650	22° ±1°	-8° ±1°	-8° ±1°	1-1/4	800 (600)	610cc (20.6 oz)
115 & P115	V-4	1730cc (105.6)	3.54 x 2.68	4500 to 5500	13:26 (2.0)	BR8HS-10 (QL78C)	0.39	5000 — 5500	2500 — 2125	25° ±1°	-5° ±1°	-4° ±1°	5/8	750 (650)	760cc (25.7 oz)
C115	V-4	1730cc (105.6)	3.54 x 2.68	4500 to 5500	13:26 (2.0)	B8HS-10 (L78C)	.039	—	—	25° ±1°	-5° ±1°	-4° ±1°	5/8	750 (650)	760cc (25.7 oz)
130 & L130	V-4	1730cc (105.6)	3.54 x 2.68	5000 to 6000	13:26 (2.00)	BR9HS-10 (QL77JC4)	0.39	5000 — 5500	2850 — 2700	22° ±1°	-5° ±1°	-4° ±1°	7/8	750 (650)	760cc (25.7 oz) 715cc (24.2 oz)
150 & L150	V-6	2596cc (158.4)	3.54 x 2.68	4500 to 5500	14:26 (1.86)	BR8HS-10 (QL78C)	.039	5000 — 5500	2900 — 2500	24° ±1°	-7° ±1°	-6° ±1°	1	700 (575)	980cc (33.1 oz) 870cc (29.4 oz)
P150	V-6	2596cc (158.4)	3.54 x 2.68	4500 to 5500	14:28 (2.0)	BR8HS-10 (QL78C)	.039	5000 — 5500	3350 — 3250	18° ±1°	-7° ±1°	-6° ±1°	1-3/8	750 (575)	980cc (33.1 oz)
175	V-6	2596cc (158.4)	3.54 x 2.68	4500 to 5500	14:26 (1.86)	BR8HS-10 (QL78C)	.039	5000 — 5500	3275 — 2950	22° ±1°	-7° ±1°	-6° ±1°	1-3/8	750 (575)	980cc (33.1 oz)
P175	V-6	2596cc (158.4)	3.54 x 2.68	4500 to 5500	14:26 (1.86)	BR8HS-10 (QL78C)	.039	5000 — 5500	3275 — 2950	20° ±1°	-7° ±1°	-6° ±1°	1-1/4	750 (575)	980cc (33.1 oz)
200 & L200	V-6	2596cc (158.4)	3.54 x 2.68	4500 to 5500	14:26 (1.86)	BR8HS-10 (QL78C)	.039	5000 — 5500	3650 — 3425	22° ±1°	-7° ±1°	-6° ±1°	Stbd: 3/4 Pt: 1-1/4	750 (575)	980cc (33.1 oz) 870cc (29.4 oz)
P200	V-6	2596cc (158.4)	3.54 x 2.68	5000 to 6000	14:26 (1.86)	BR9HS-10 (QL77JC4)	.039	—	—	20° ±1°	-7° ±1°	-6° ±1°	1-3/8	750 (575)	980cc (33.1 oz)
225L	V-6	2596cc (158.4)	3.54 x 2.68	5000 to 6000	15:27 (1.80)	BR9HS-10 (QL77JC4)	.039	—	—	22° +3° -2°	-6° +3° -2°	N/A	1-1/8	750 (600)	980cc (33.1 oz)
225X & L225X	V-6	3130cc (191)	3.54 x 3.23	4500 to 5500	16:29 (1.81)	BR8HS-10 (QL78C)	.039	— —	— —	20° ±2°	-10° ±2°	N/A	5/8	700 (625)	1150cc (38.9 oz) 1000cc (33.8 oz)
250 & L250	V-6	3130cc (191)	3.54 x 3.23	4500 to 5500	16:29 (1.81)	BR8HS-10 (QL78C)	.039	— —	— —	18° ±2°	-6° ±2°	N/A	5/8	700 (625)	1150cc (38.9 oz) 1000cc (33.8 oz)

4-STROKE MOTORS

HP	ENGINE NO. OF CYL.	ENGINE DISPLACEMENT (cu. in.)	ENGINE BORE AND STROKE (in.)	ENGINE RPM RANGE	ENGINE GEAR RATIO	SPARK PLUG NGK (CHAMPION)	SPARK PLUG GAP (IN.)	IGNITION TIMING FULL ADVANCE	IGNITION TIMING IDLING	VALVE CLEARANCE (COLD) IN/EX.	CARB. PILOT SCREW TURNS OUT	IDLE SPEED RPM NEUTRAL (in gear)	ENGINE OIL QTY.	GEAR OIL QTY.
F9.9 & T9.9	2	232cc (14.2)	2.32 x 1.67	4500~5500 4000~5000	13:27 (2.08) 13:38 (2.92)	CR6HS (Z10 or Z12)	.024	35° ±3°	5° ±3°	0.15~0.20mm 0.20~0.25mm	3 — 3	950 (850) 1,150 (1,000)	1 Lit (1.1 qt)	185cc (6.2 oz) 320cc (10.8 oz)

ROUTE TO: ✓ SERVICE ✓ PARTS WARRANTY SALES

1994 MODELS
OUTBOARD SERVICE LITERATURE

This bulletin contains a comprehensive listing of service literature available for 1994 models. Certain models will not have new literature if the prior year's information is still current. Those literature part numbers will still be listed, but "Same as . . . " will occur in the Remarks column. Other information on publications interchangeability may also be found in the Remarks column. This bulletin also lists other publications related to your dealership operations. All publications can be ordered from Yamaha Parts and Accessories.

Model	Publication	Part Number	Remarks
2S	Owner's Manual Service Manual	LIT-18626-01-86 LIT-18616-00-01	Same as 2N~R
3S	Owner's Manual Service Manual	LIT-18626-01-86 LIT-18616-00-98	
4S	Owner's Manual Service Manual	LIT-18626-01-86 LIT-18616-00-94	
6S, 8S	Owner's Manual Service Manual	LIT-18626-01-87 LIT-18616-00-86	Same as 6/8R
9.9S, 15S	Owner's Manual Service Manual	LIT-18626-01-89 LIT-18616-00-99	
F9.9S, T9.9S	Owner's Manual Service Manual	LIT-18626-01-88 LIT-18616-01-00	
25S	Owner's Manual Service Manual	LIT-18626-01-90 LIT-18616-01-01	
C25S	Owner's Manual Service Manual	LIT-18626-01-97 LIT-18616-00-55	Same as C25D, P, Q, R
30S	Owner's Manual Service Manual	LIT-18626-01-91 LIT-18616-01-02	
C30S	Owner's Manual Service Manual	LIT-18626-01-97 LIT-18616-00-95	Same as C30R
C40S	Owner's Manual Service Manual	LIT-18626-01-97 LIT-18616-00-45	Same as C40D, P, Q, R
40S, 50S, P50S	Owner's Manual Service Manual	LIT-18626-01-92 LIT-18616-01-03	
C55S	Owner's Manual Service Manual	LIT-18626-01-98 LIT-18616-00-43	Same as C55D, P, Q, R
P60S, 70S, 90S	Owner's Manual Service Manual	LIT-18626-01-93 LIT-18616-01-04	
C75, C85S	Owner's Manual Service Manual Service Manual	LIT-18626-01-98 LIT-18616-00-44 LIT-18616-00-84	Same as C85Q, R For PTT
C115S	Owner's Manual Service Manual	LIT-18626-01-98 LIT-18616-00-56	Same as C115P, Q, R
115S, P115S, 130S, 150S, P150S, 175S, P175S, 200S, P200S	Owner's Manual Service Manual	LIT-18626-01-94 LIT-18616-01-05	

Model	Publication	Part Number	Remarks
L130S, L150S L200S	Owner's Manual Service Manual	LIT-18626-01-95 LIT-18616-01-05	
225(TL)S	Owner's Manual Service Manual	LIT-18626-01-96 LIT-18616-01-05	
225(TX)S, L225S 250S, L250S	Owner's Manual Service Manual	LIT-18626-02-07 LIT-18616-01-06	

Other Outboard Publications		
Jet Drive Service Manual	LIT-18619-00-92	For all Jet Drive Models*
Dual Station System Owner's Manual	LIT-18626-01-59	
Warranty Statement - Outboard	LIT-18790-00-89	
Warranty Statement - Jet Drive	LIT-18790-01-86	
Rigging Data (1994)	LIT-18865-00-94	
1994 Service Data Poster	LIT-18531-00-11	
1994 Product Information Guide	LIT-18468-00-94	
Marine Warranty Handbook	LIT-18760-10-90	
DOES PLUS User's Manual	LIT-18760-50-83	
Parts Policies & Procedures Manual	LIT-10080-05-00	
Service Appointment Pad	LIT-11561-00-80	
Heavy-Duty Service Binder	LIT-18501-00-87	

*This manual is included with all Jet Drive models along with the standard Owner's Manual for the particular propeller drive model the Jet Drive model is based on.

Rigging Kit Contents (Cont'd.)

COUNTER ROTATION V4/V6 RIGGING KIT (EXCEPT 250HP) (6YR-W0035-51-00)

No.	Part Number	Qty.	Part Name	Length	Connection & Function
1	6Y2-24307-40-00	1	Fuel Pipe Comp.		
2	6Y5-83553-00-00	1	Wire, Lead	8.2 Ft. (2.5m)	Tachometer to switch panel
*3	6Y5-83500-T0-00	1	Meter Ass'y		Digital Tachometer/ Oil Level Gauge/Trim Gauge
4	704-48207-21-00	1	Remote Control Ass'y		
*5	61A-21708-02-00	1	Sub-Oil Tank Ass'y	Wire 26.2 Ft. (8m) Hose 19.7 Ft. (6.5m)	For Installation of Sub-Oil Tank Ass'y
6	90465-11M10-00	1	Clamp (L:3.9", W:.10") (L:95mm, W:4.5mm)		
7	6E5-21734-01-33	1	Holder, Sub-Oil Tank		
8	6E5-21798-01-33	1	Bracket, Damper		
9	6E5-21746-00-00	2	Damper		
10	97380-06100-00	1	Bolt		
11	92990-06600-00	2	Washer, Plate		
12	95380-06600-00	1	Nut		
13	Not avail. separately	1	Sticker, Caution		
14	90445-11M26-00	1	Hose	19.7 Ft. (6.5m)	Sub-Oil Tank to main oil tank (in engine) of starboard engine
*15	6R3-82521-90-00	1	Wire, Lead	31.2 Ft. (9.5m)	Oil level gauge wire harness from port side engine
*16	6R3-82553-90-00	1	Wire, Lead	31.2 Ft. (9.5m)	Trim gauge wire harness from port side engine
*17	6R3-82553-30-00	1	Wire, Lead	9.8 Ft. (3m)	Sub-Oil Tank to wire harness from starboard engine
18	6K1-82570-02-00	1	Switch Panel Ass'y		
19	90149-05M05-00	4	Screw		For Installation of Switch Panel Ass'y
20	95380-05600-00	4	Nut		
21	92990-05100-00	4	Washer, Spring		
22	92990-05600-00	4	Washer, Plate		
23	61A-8258A-00-00	1	Extension Wire Harness	26.2 Ft. (8m)	Switch panel to wire harness from starboard engine
24	61B-8258A-00-00	1	Extension Wire Harness	31.2 Ft. (9.5m)	Switch panel to wire harness from port side engine
25	90465-13M36-00	10	Clamp (L:6.3", W:.20") (L:160mm, W:5mm)		For Wires
26	Not avail. separately	1	Rigging Instruction		
27	90460-10M12-00	1	Clamp Hose		For fuel pipe comp.

* New

1994 GENERAL

Instrument Wiring, Dual-Station, and C-Model Wiring & Adapters

INTRODUCTION

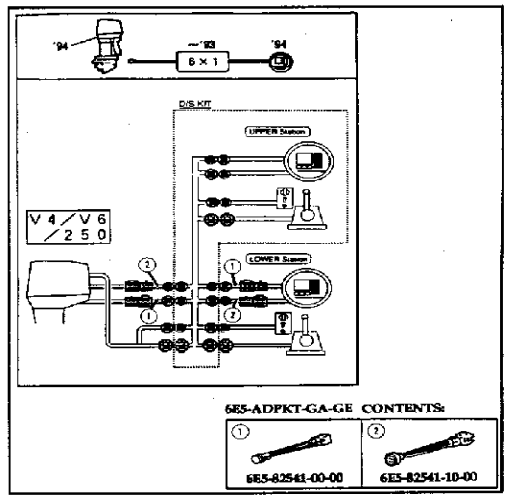
As explained in Technical Bulletin O93-005, some 1994 model Yamaha outboards have new style instruments and new watertight locking electrical connectors. This bulletin contains important information about instrument wiring, dual-station rigging, and C-model instrument wiring on these 1994 Yamaha outboards. Yamaha has developed special wiring adapters and adapter kits to make installations easier.

RIGGING INFORMATION

Dual-Station Rigging and Wiring

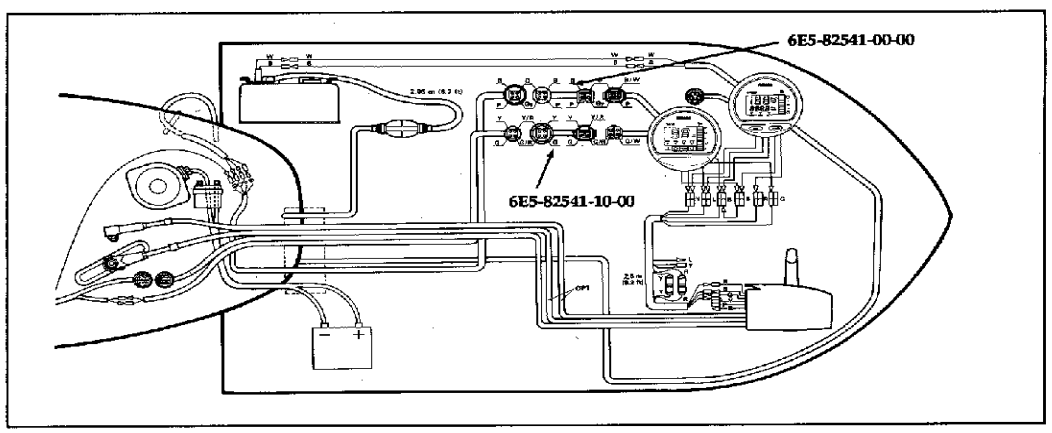
Two 6E5-ADPKT-GA-GE adapter kits are required to connect a '94 engine to a '93 6X1 Dual-Station Kit or vice versa. Each adapter kit contains one 6E5-82541-00-00 adapter wire and one 6E5-82541-10-00 adapter wire. Refer to the illustration for connector configuration.

NOTE: These are the same adapters used for instrument connections described in the next section.



Instrument Wiring

To connect a '93 Yamaha outboard to the new '94 style instruments or to connect a '94 Yamaha engine to '93 instruments, use one 6E5-ADPKT-GA-GE adapter kit. See the illustration for wiring instructions.



1994 50HP ~ 250HP

NEW GAUGES, CALIBRATION, & RIGGING KITS

INTRODUCTION

For 1994, new digital multifunction gauges are supplied for all 3 cylinder (50hp and larger), V4, & V6 Yamaha (except C Series) outboards. These new gauges use new style connector plugs and harnesses. The early production units did not have complete wiring, calibration, or rigging kit information included in the crate with the units. This bulletin explains the features of the new style gauges, clarifies calibration procedures, and includes rigging kit parts lists.

Although the 1994 C55T, C75, C85, and C115 are not supplied with the multifunction gauges; the trim meter connectors are the same new style watertight locking connectors found on the other models discussed in this bulletin.

NOTE: For detailed information about the various wiring harnesses related to the new style gauges refer to Technical Bulletins: O93-006 - V4 & V6; O93-007 - 225TX & 250HP; O93-008 - 50~90HP 3 Cyl.; O93-009 - Instrument Wiring, Dual Station & C Models.

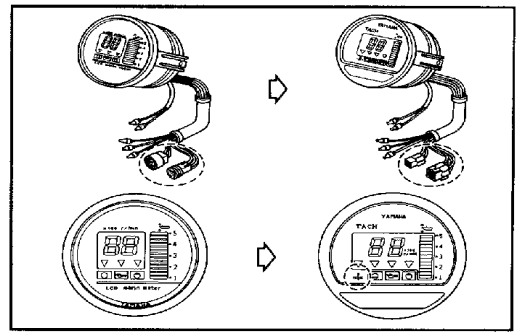
AFFECTED UNITS

1994 50HP ~ 250HP All

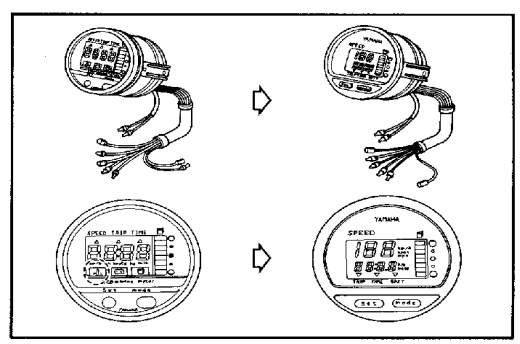
GAUGE INFORMATION

Digital Tachometer - Standard equipment on: 50TLH, P60, 70 ~ 250HP (except C Series)

The new digital tachometer used for 1994 has a new face design. The overheat warning is now included on the digital tachometer. The 6 or 12 pole selection is controlled by miniature toggle switches. The tachometer assembly has new watertight wire connectors.



Digital Speedometer - Standard Equipment on: 115 ~ 250HP (Right Hand engine only); Optional for 30E, 40HP, 50E, P50 & 60, 70 & 90HP, C75, C85, & C115

The new 1994 digital speedometer has a new face design incorporating the low fuel warning into the fuel gauge. The lowest segment of the digital bar fuel gauge flashes when the fuel is low. The new style gauge has improved low speed indication response with the addition of a diaphragm damper.

The overheat warning is moved to the digital tachometer. The speed indicator and fuel calibration are now selected with miniature toggle switches. Refer to the illustration.