

2022

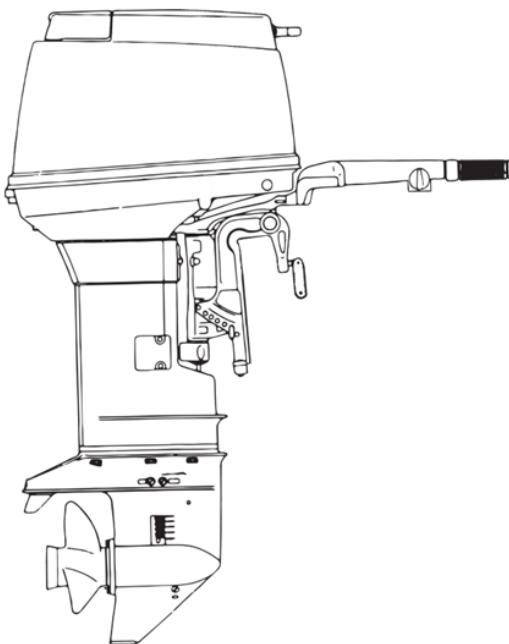
PARTS & ASSEMBLY CATALOG

**RAIDER MODEL 50 SUBMERSIBLE /
MULTI-FUEL OUTBOARD MOTOR**

PART NO.

R50-ES-001

R50-ES-002



RAIDER PARTS AND ASSEMBLY CATALOG NO. R50-ES-001/2-003.V1.4

INSTRUCTIONS FOR ORDER OF MODEL 50 ENGINE PARTS

"SHOP MANUAL"



RAIDER Outboards Inc.
1885 ARMSTRONG DRIVE
TITUSVILLE, FL 32780

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RAIDER Outboards

MULTI-FUEL SUBMERSIBLE ELECTRIC START OUTBOARD ENGINES

The Raider series of outboard motors are dedicated to the Marine Raiders established by the United States Marine Corps during WW II and are said by many to be the first United States special operations force. Handpicked from the elite, these men were given specialized training and the best equipment. They distinguished themselves during the conduct of clandestine amphibious landings, utilizing small inflatable boats, operating behind enemy lines in direct support of combat operations in the Central Pacific and Solomon Islands. Even though the Raiders were disbanded at the close of WW II the need for specially trained warfighters and the requirements for specialized equipment did not. Today's Special Operations Forces (SOF) under the United States Special Operation Command (USSOCOM) are expected to conduct similar and far more demanding missions, to that end and with those warfighters in mind the Raider (OBM) is specifically developed for SOF that routinely operate within the often unforgiving, highly demanding, dynamic maritime environment.

WHO WE ARE

- Raider Outboards, Inc. is a-US owned and operated company based in Central Florida near Kennedy Space Center, located in the Space Port Commerce Park. We design and produce multi-fuel, submersible, lightweight outboard motors, and associated parts that include a Safety Jet; transom plates; carts and transportation cages. Our markets include Department of Defense (DOD), Other Government Agencies (OGA), National and Local Law Enforcements and First Responder Services, Search & Rescue, and commercial/retail.
- The Raider patented Safety Jet can be purchased in a kit which retrofits a propeller drive to a jet pump system. The Safety Jet was designed to improve safety for swimmers and divers in both real-world and training situations. The Safety Jet is excellent for “brown” water operations where search and rescue operations routinely happen in which higher probabilities of striking submerged objects exist. For coastal or beaching operations in unfamiliar waters it provides additional protection from rocks or coral easily absorbing hits that could ruin propellers when moving to and from a beach landing site.
- Raider also provides a series of transom plates that are attached to the transom of the Combat Rubber Raiding Craft (CRRC). The transom plates have single and dual motors configurations. The transom plates provide centerline alignment and safety if the motor clamps loosen under vibration. Specialty items like extended handles, extended fuel hose connections, outboard motors carts and transportation cages are also available.

WHAT WE ARE ABOUT

Raider develops, manufactures, and provides technical support services for highly reliable outboard motors for today's warfighter. Our designs are field proven, add capacity and capability to perform the most difficult and demanding maritime missions. Features include.

- Simple and Robust.
- System Redundancy.
- Minimized Electronics.
- Air droppable.
- Bagless submersion.
- Superior dewatering.
- Leader in horsepower to weight ratio.
- 25% better fuel efficiency than any other motor in its class.
- Easy to maintain and troubleshoot.

OUR MISSION

Raider Outboards will provide and deliver the most reliable premium products, hands on training, highest quality to the customer and serve as the premier outboard motor company to the U.S. Military; while honoring those who protect, defend, and support our communities and our country.



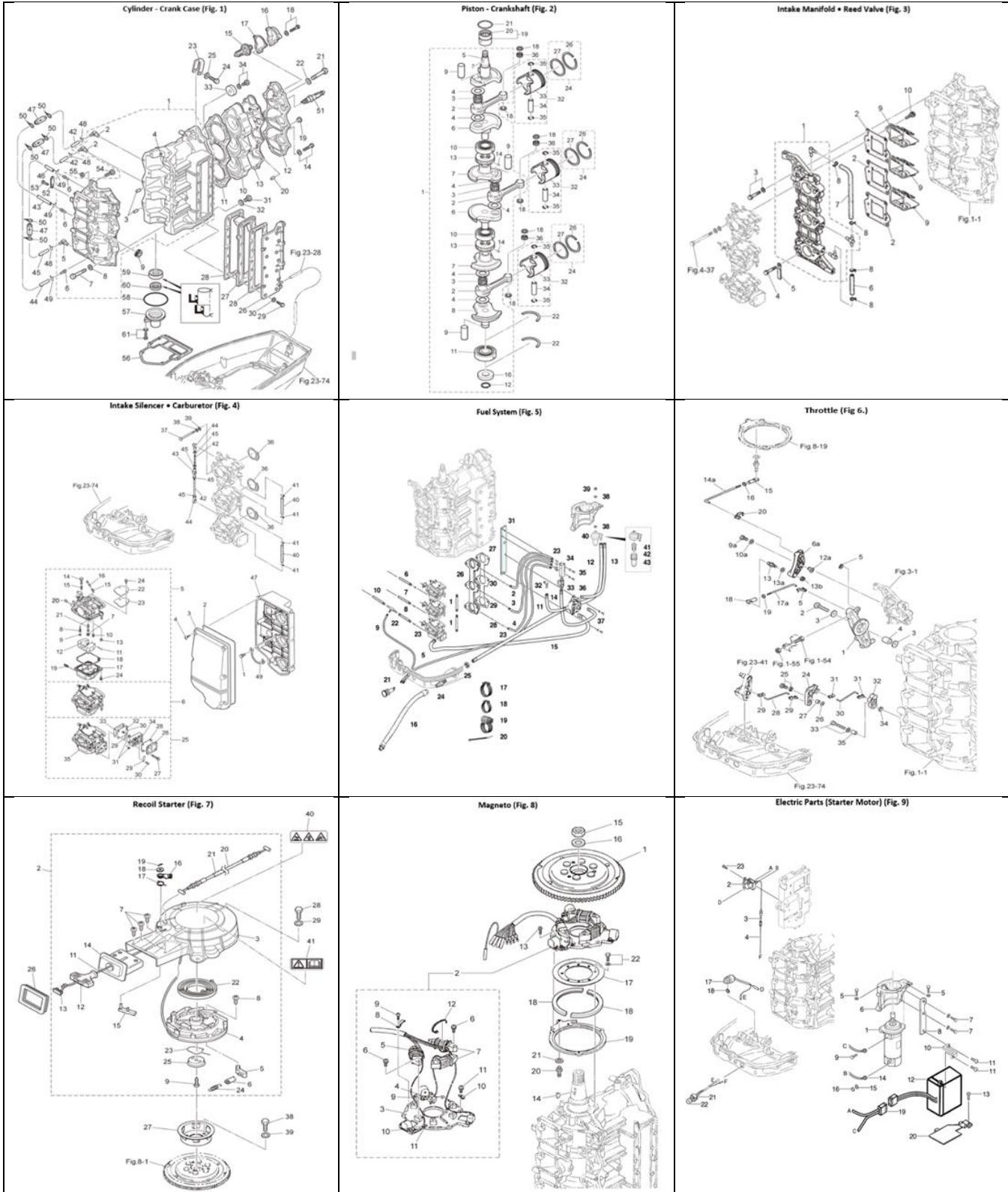
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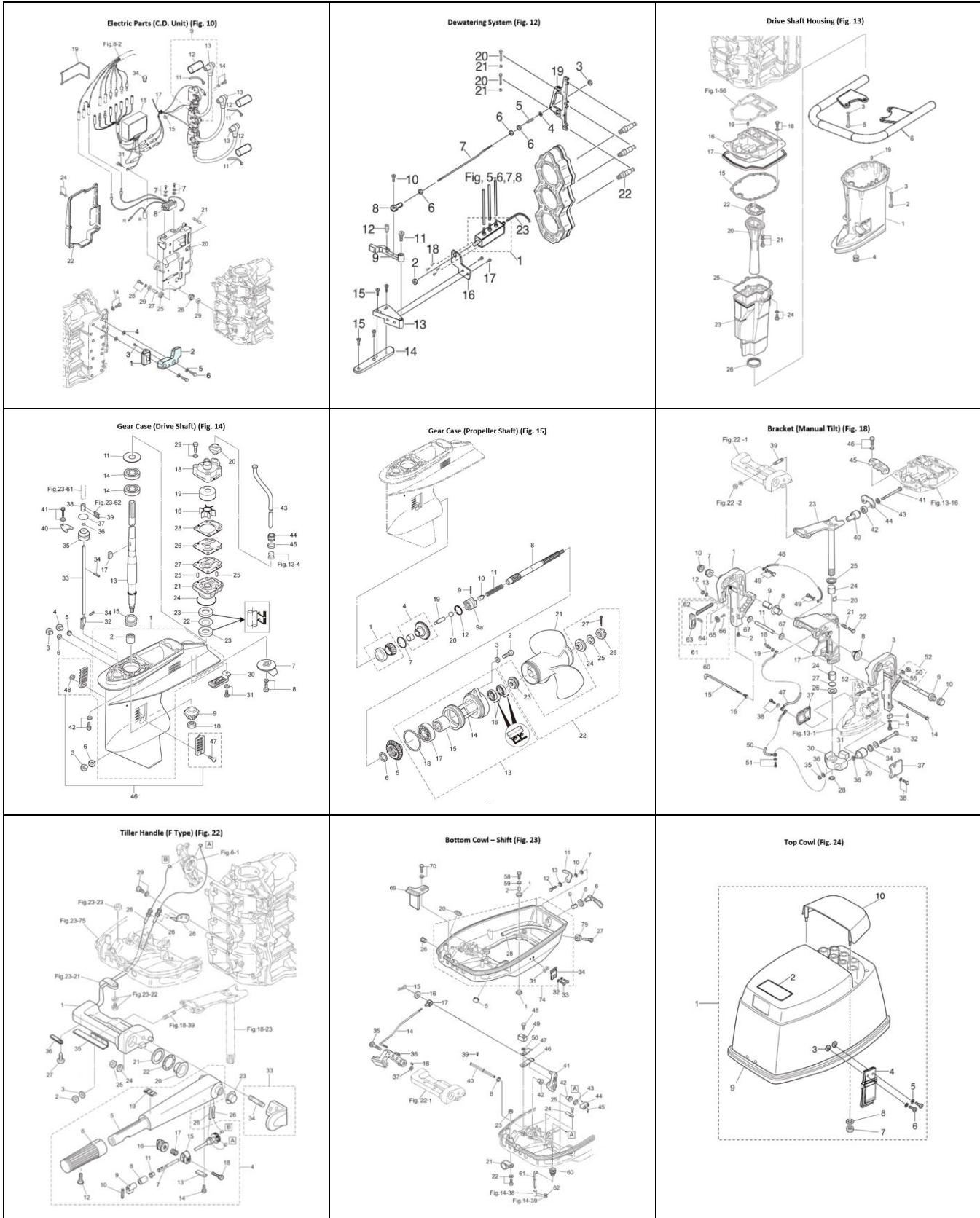
A handwritten signature in black ink that reads "Chris Woodruff". The signature is fluid and cursive, with a slightly larger "C" at the beginning.

HOW TO USE THIS PARTS CATALOG

1. This parts catalog provides information available as of the end of January 2023.
2. Please keep the parts Catalog updated each time when receiving a Service Bulletin describing an addition, deletion and or change of parts.
3. Actual shapes of parts may be different from the illustrations shown in this Parts Catalog because they are described only as a guide for searching parts.
4. Given mark in (*) to a part number shows assembly or kit part.
5. Given mark in (**) to a part number shows modifications made to part.
6. Marks in this Parts Catalog Show.

STD : Standard	OPT : Optional Parts
O/S : Over size	ASSY : Assembly
DO : Domestic Model	EX : Export Model
A : As required	EU : European



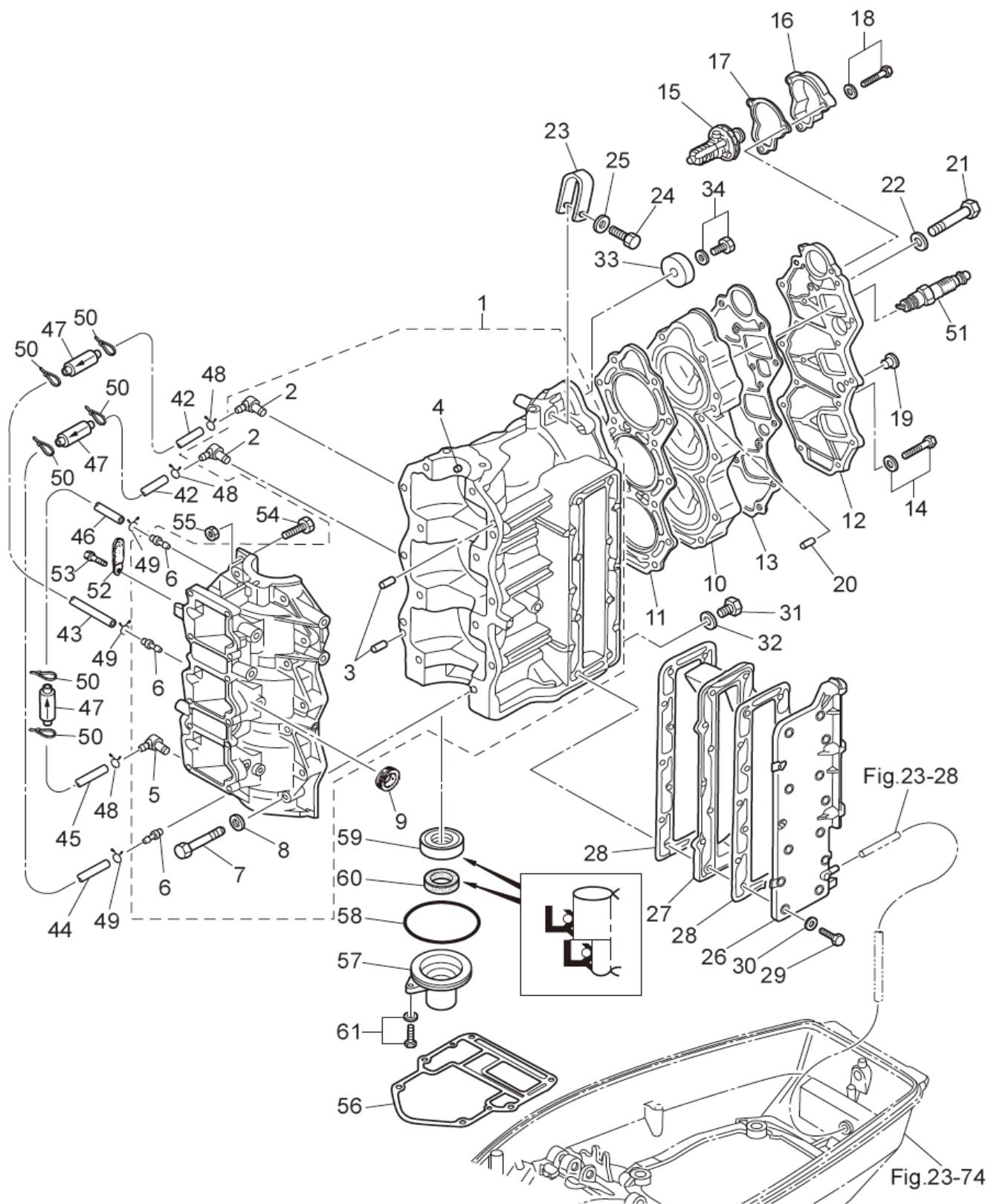


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Cylinder • Crank Case (Fig. 1)

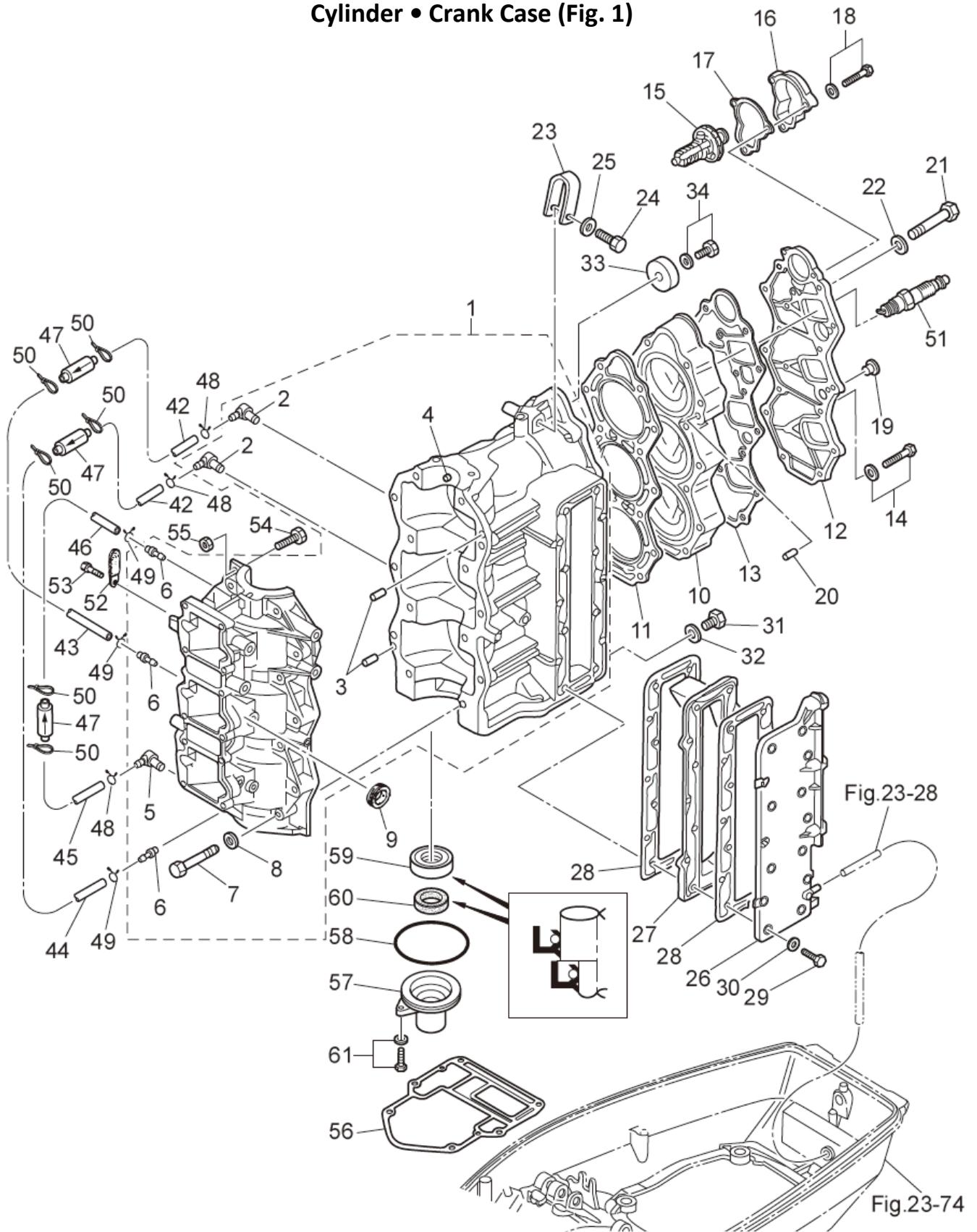


Ref No.	Part No.	Description	QTY	Remarks
1-1	R500101	Cyl Block & Crankcase Assy**	1	Modified
1-2	R500102	* Nipple 5-4-5	2	
1-3	R500103	* Dowel Pin 6-12	2	
1-4	R500104	* Dowel Pin	1	
1-5	R500105	* Nipple 5-4-5	1	
1-6	R500106	* Nipple 5.5-5	3	
1-7	R500107	* Cylinder Head Bolt	14	
1-8	R500108	* Washer	14	
1-9	R500109	Grommet 25-5	1	
1-10	R500110	Cylinder Head	1	
1-11	R500111	Cylinder Head Gasket	1	
1-12	R500112	Cylinder Head Cover	1	
1-13	R500113	Cylinder Head Cover Gasket	1	Water Jacket, Gasket
1-14	R500114	Cylinder Head Cover, Bolt & Washer	4	
1-15	R500115	Thermostat	1	
1-16	R500116	Thermostat Cap	1	
1-17	R500117	Thermostat Cap Gasket	1	
1-18	R500118	Bolt	3	
1-19	R500119	Plug	1	
1-20	R500120	Dowel Pin 6-12	2	
1-21	R500121	Cylinder Head Bolt	14	
1-22	R500122	Washer, Cylinder Head Bolt	14	
1-23	R500123	Hanger	1	
1-24	R500124	Cylinder Head Bolt (Hanger)	1	
1-25	R500125	Washer	1	
1-26	R500126	Exhaust Cover (Outer)	1	
1-27	R500127	Exhaust Cover (Inner)	1	
1-28	R500128	Exhaust Cover Gasket	2	
1-29	R500129	Exhaust Cover Bolt	14	
1-30	R500130	Washer, Exhaust Cover	14	
1-31	R500131	Bolt	1	
1-32	R500132	Gasket 8.1-15-1	1	
1-33	R500133	Anode	1	
1-34	R500134	Bolt	1	
1-42	R500142	Hose	2	
1-43	R500143	Hose	1	
1-44	R500144	Hose	1	
1-45	R500145	Hose	1	
1-46	R500146	Hose	1	
1-47	R500147	Check Valve	3	
1-48	R500148	Clip	3	
1-49	R500149	Clip	3	
1-50	R500150	Band 104	6	
1-51	R500151	Spark Plug	3	

*Assembly

**Modified

Cylinder • Crank Case (Fig. 1)

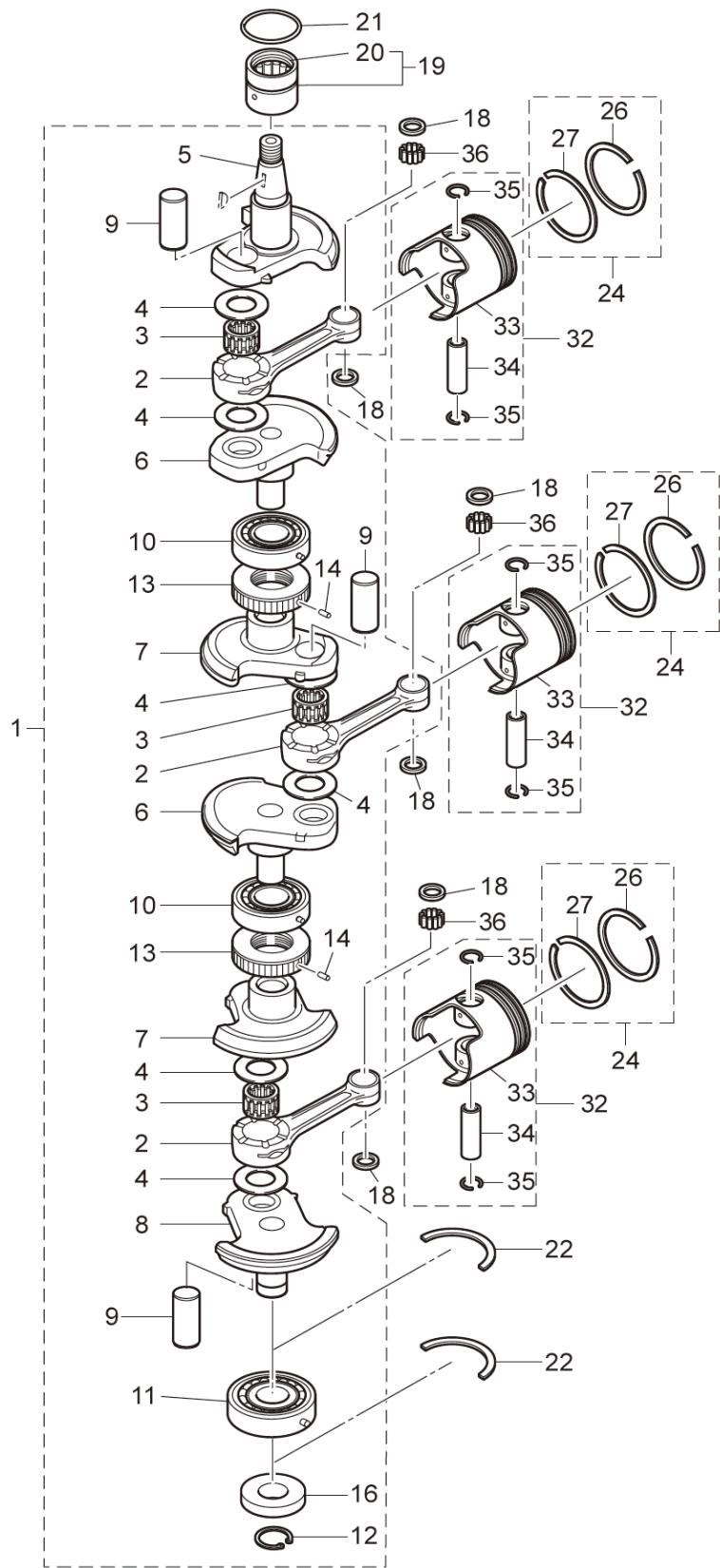


Ref No.	Part No.	Description	QTY	Remarks
1-52	R500152	Clamp 6.5-47.5p	1	
1-53	R500153	Bolt & Washer	1	
1-54	R500154	Bolt	1	
1-55	R500155	Nut	1	
1-56	R500156	Engine Basement Gasket	1	
1-57	R500157	Crankcase Head	1	
1-58	R500158	O-Ring 1.7-59	1	
1-59	R500159	Oil Seal 25-40-8	1	
1-60	R500160	Oil Seal 16-28-7	1	
1-61	R500161	Bolt & Washer	2	

*Assembly

**Modified

Piston • Crankshaft (Fig. 2)

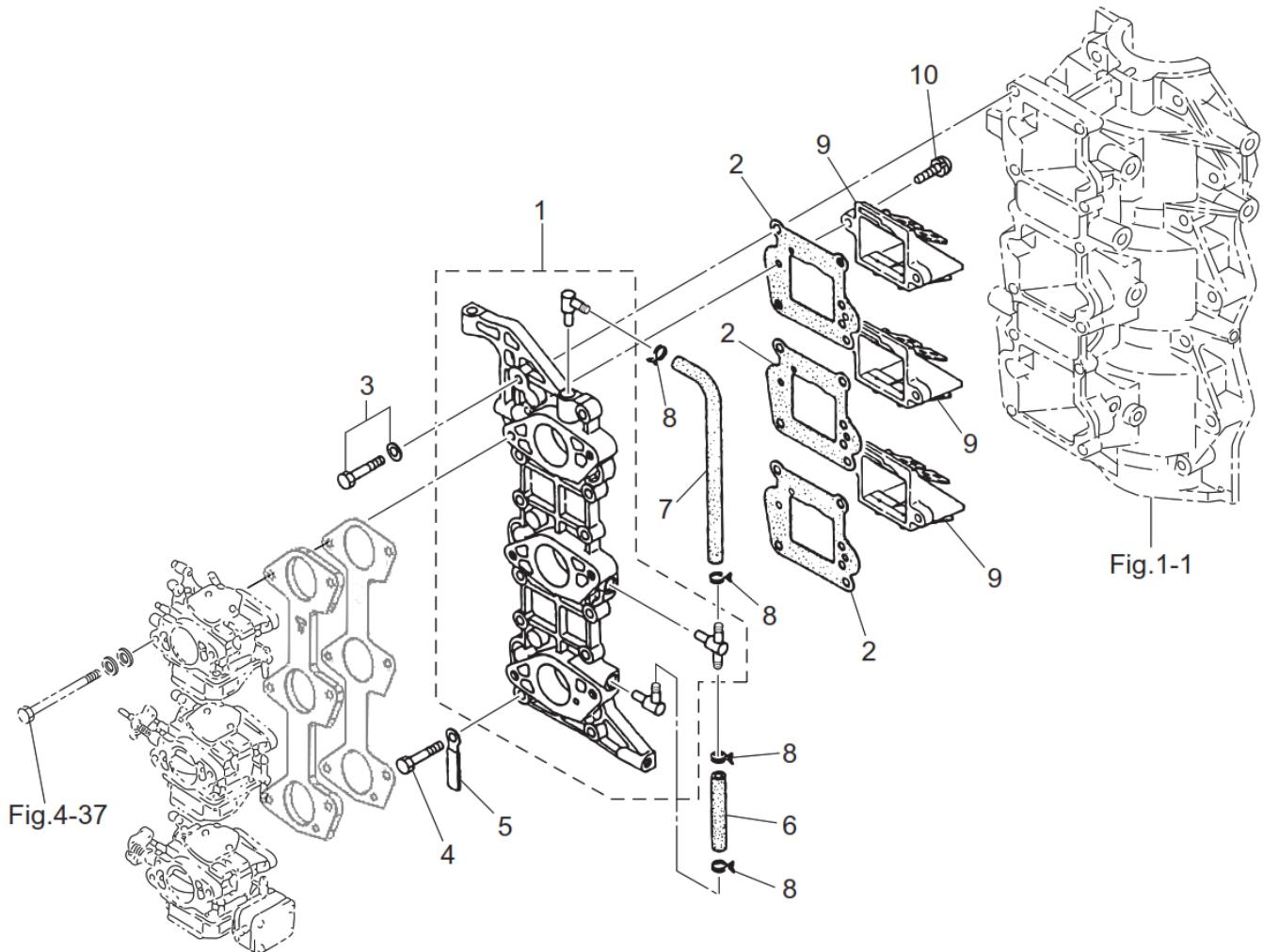


Ref No.	Part No.	Description	QTY	Remarks
2-1	R500201	Crankshaft Assy	1	
2-2	R500202	* Connecting Rod	3	
2-3	R500203	* Roller Bearing 25-32-20	3	Big End
2-4	R500204	* Big End Bearing Washer	6	
2-5	R500205	* Crankshaft A	1	
2-6	R500206	* Crankshaft B	2	
2-7	R500207	* Crankshaft C	2	
2-8	R500208	* Crankshaft D	1	
2-9	R500209	* Crank Pin	3	
2-10	R500210	* Main Bearing 6305r	2	
2-11	R500211	* Main Bearing 6305	1	Lower
2-12	R500212	* C-Ring D=25	1	
2-13	R500213	* Labyrinth Packing	2	
2-14	R500214	* Spring Pin 3-8	2	
2-16	R500216	* Spacer 25.2-34-1.6	1	
2-18	R500218	Small End Bearing Washer 17.6-22.4-4.45	6	
2-19	R500219	Main Bearing, Upper	1	Upper
2-20	R500220	*Oil Seal 32-42-6	1	
2-21	R500221	O-Ring 2.4-39.7	1	
2-22	R500222	Thrust Plate	2	
2-24	R500224	Piston Ring Set	3	STD
2-26	R500226	* Piston Ring	1	STD 1st Keystone Ring
2-27	R500227	* Piston Ring	1	STD 2nd
2-32	R500232	Piston Repair Kit WCB	3	STD
2-33	R500233	* Piston	1	STD
2-34	R500234	* Piston Pin	1	
2-35	R500235	* Piston Pin Clip	2	
2-36	R500236	Needle Roller Set	3	Roller X25

*Assembly

**Modified

Intake Manifold • Reed Valve (Fig. 3)

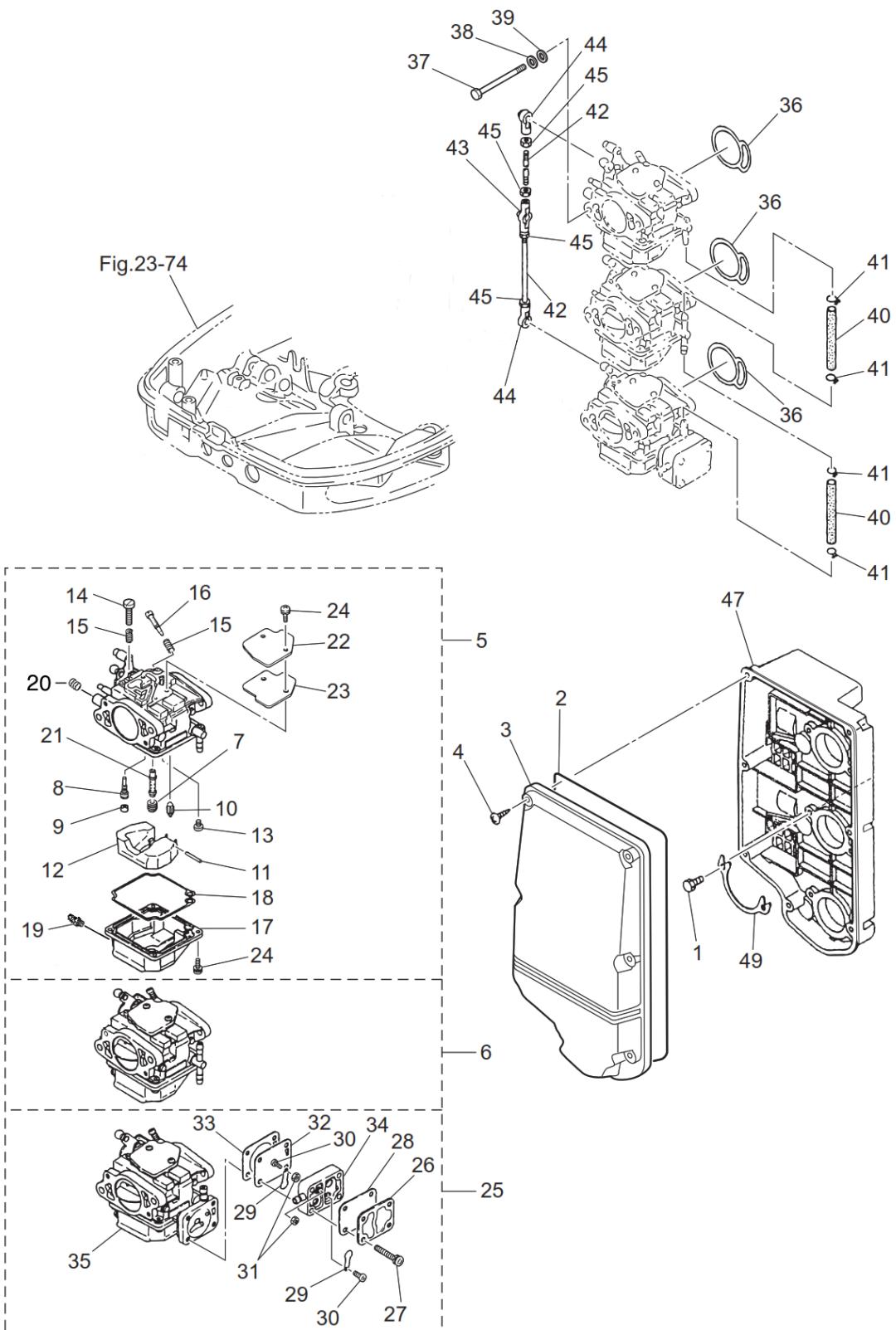


Ref No.	Part No.	Description	QTY	Remarks
3-1	R500301	Intake Manifold Assy	1	Gray
3-2	R500302	Intake Manifold Gasket	3	
3-3	R500303	Bolt	11	
3-4	R500304	Bolt	1	
3-5	R500305	Clamp 6.5-47.5p	1	
3-6	R500306	Hose	1	98AB-501000
3-7	R500307	Hose	1	98AB-501000
3-8	R500308	Clip Φ10	4	
3-9	R500309	Reed Valve Assy	3	R50-ES-002 (65HP)
3-9A	R500309A	Reed Valve Assy	3	R50-ES-001 (50HP)
3-10	R500310	Screw	6	

*Assembly

**Modified

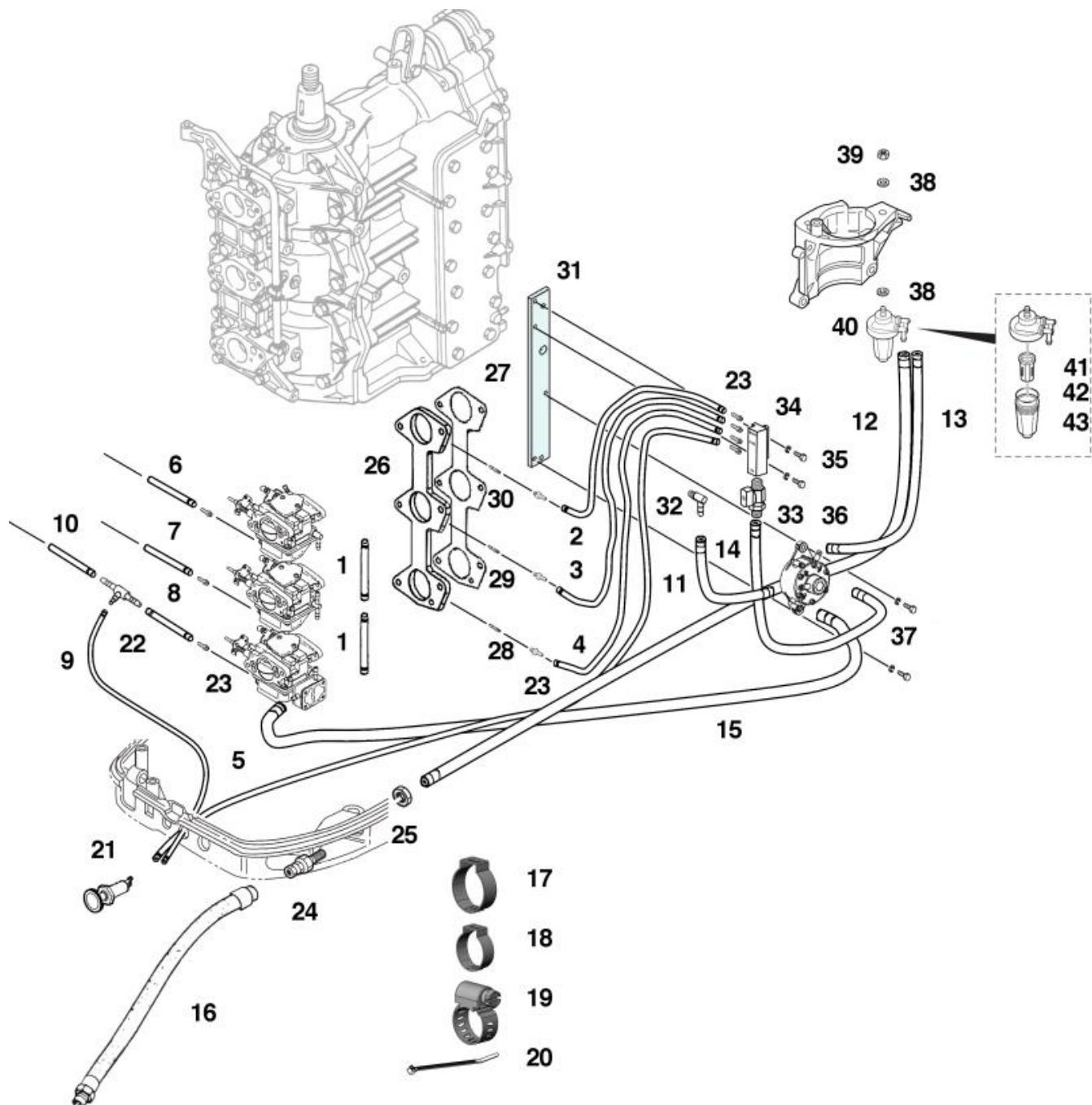
Intake Silencer • Carburetor (Fig. 4)



Ref No.	Part No.	Description	QTY	Remarks
4-1	R500401	Bolt 5-16, Lock Plate	6	
4-2	R500402	Gasket, Intake Silencer**	1	Seal Rubber
4-3	R500403	Intake Silencer Cover**	1	
4-4	R500404	Tapping Screw 5-30	7	
4-5	R500405	Carburetor Assy (U)**	1	Upper
4-6	R500406	Carburetor Assy (M) **	1	Middle
4-7	R500407	Main Jet (#138)	1	x 3 Upper, Middle, Lower
4-8	R500408	* Slow Jet (#80)	1	x 3 Upper, Middle, Lower
4-9	R500409	* Plug	1	x 3 Upper, Middle, Lower
4-10	R500410	* Float Valve	1	x 3 Upper, Middle, Lower
4-11	R500411	* Float Arm Pin	1	x 3 Upper, Middle, Lower
4-12	R500412	* Float	1	x 3 Upper, Middle, Lower
4-13	R500413	* Screw	1	x 3 Upper, Middle, Lower
4-14	R500414	* Stop Screw (Pilot)	1	x 1 Upper
4-15	R500415	* Spring	2	Upper x 2 Center x 1, Lower x 1
4-16	R500416	* Adjust Screw	1	x 3 Upper, Center, Lower
4-17	R500417	* Float Chamber	1	x 2 Upper, Center
4-18	R500418	* Float Chamber Gasket	1	O-Ring x 3 Upper, Center, Lower
4-19	R500419	* Float Chamber, Hose Fitting	1	x 3 Upper, Center, Lower
4-20	R500420	* Choke Hole Seal	1	x 2 Upper, Center
4-21	R500421	* Main Nozzle	1	x 3 Upper, Center, Lower
4-22	R500422	* Carburetor Cover Plate	1	x 3 Upper, Center, Lower
4-23	R500423	* Carburetor Cover Plate Gasket	1	x 3 Upper, Center, Lower
4-24	R500424	* Screw	6	x 3 C/Cover, Float Chamber
4-25	R500425	Carburetor Assy (L) **	1	Lower
4-26	R500426	* Pump Cover	1	x 1 Lower
4-27	R500427	* Pre-Coated Screw	4	x 1 Lower
4-28	R500428	* Pump Cover Gasket	1	x 1 Lower
4-29	R500429	* Check Valve	2	x 1 Lower
4-30	R500430	* Screw	2	x 1 Lower
4-31	R500431	* Nut	2	x 1 Lower
4-32	R500432	* Pump Diaphragm	1	x 1 Lower
4-33	R500433	* Pump Body Gasket	1	x 1 Lower
4-34	R500434	* Pump Body	1	x 1 Lower
4-35	R500435	* Lower Float Chamber**	1	x 1 Lower
4-36	R500436	Carburetor Gasket	3	
4-37	R500437	Bolt, M6x90 (1mm Thread)	6	Partially Threaded
4-38	R500438	Spring Washer	6	
4-39	R500439	Washer	6	
4-40	R500440	Carburetor Tower Hose	2	98AB-501000
4-41	R500441	Retention Band, Fuel Line	4	
4-42	R500442	Rod 5-68, Synch Rod	2	
4-43	R500443	Ball Joint Connector (Cap B)	1	Synch Rod
4-44	R500444	Ball Joint Connector (Cap C)	2	Synch Rod
4-45	R500445	Nut, Synch Rod	4	
4-47	R500447	Intake Silencer**	1	
4-49	R500449	Intake Silencer Lock Plate	3	

*Assembly/ **Modified

Fuel System (Fig. 5)

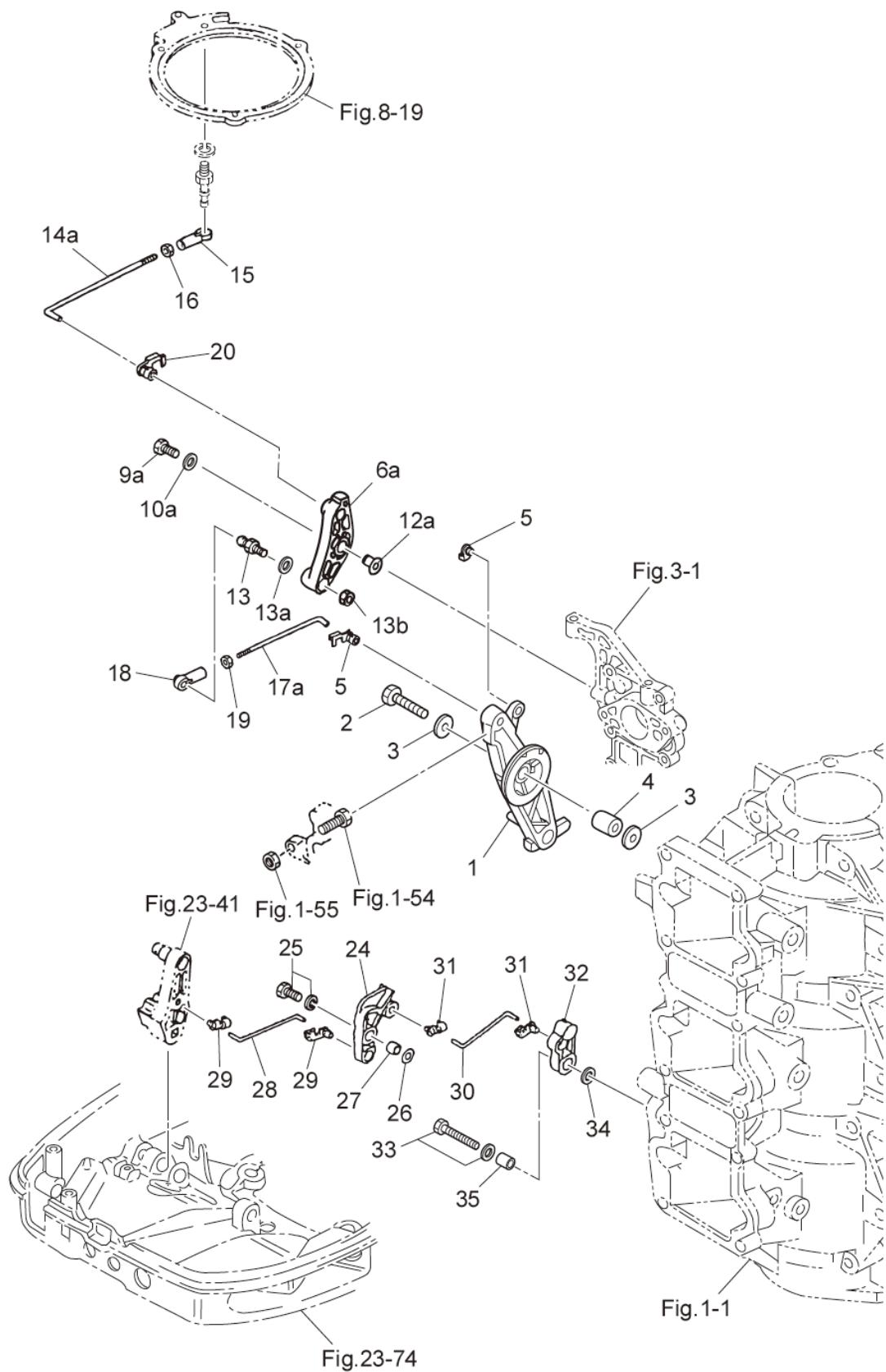


Ref No.	Part No.	Description	QTY	Remarks
5-1	R500501	ID 5.0mm, OD 11.0mm	2	carb stack
5-2	R500502	UC2HFB(P1) 4.5" 1/8	1	upper carb-heavy fuel block
5-3	R500503	MC2HFB(P2)8" 1/8	1	middle carb-heavy fuel block
5-4	R500504	LC2HFB(P3)11" 1/8	1	lower carb-heavy fuel block
5-5	R500505	PV2HFB(P4)14" 1/8	1	primer-heavy fuel block
5-6	R500506	UC2DV16" 1/8	1	upper carb-dw valve, drain Line
5-7	R500507	MC2DV15" 1/8	1	middle carb-dw valve, drain line
5-8	R500508	LC2BTF1.25" 1/8	1	lower carb-t fitting
5-9	R500509	BTF2P5" 1/8 9	1	t fitting-primer
5-10	R500510	BTF2DV14" 1/8	1	t fitting-dv,drain line
5-11	R500511	VB8" 1/4	1	mikuni pump-vacuum block
5-12	R500512	LMC2FF15.25" 1/4	1	lower motor cowling-fuel filter in
5-13	R500513	FF2MFP9.5" 1/4	1	fuel filter out-mikuni fuel pump in
5-14	R500514	MCF2HFB8" 1/4	1	mikuni fuel pump out-heavy fuel block
5-15	R500515	MFP2LC8" 1/4	1	mikuni fuel pump-lower carb fuel pump
5-16	R500516	Fuel Dongle	1	connection to lower motor cowling
5-17	R500517	185r/9e Oetiker	1	dongle hose clamp
5-18	R500518	133r Oetiker	1	1/4" fuel line clamp
5-19	R500519	5/16"Ss Band, Worm Gear	1	lower carb 1/4" fuel line clamp
5-20	R500520	Retention Band, Fuel Line	20	1/8" fuel line clamp
5-21	R500521	Fuel Primer Plunger Pump	1	
5-22	R500522	T-Hose Fitting 1/4"	1	
5-23	R500523	Hose Fitting	10	Carburetor, Heavy Fuel Plate and Block
5-24	R500524	Fuel Dongle, Adapter	1	
5-25	R500525	Fuel Dongle, Adapter, Nut	1	
5-26	R500526	Heavy Fuel Plate	1	
5-27	R500527	Heavy Fuel Plate, Gasket	1	
5-28	R500528	HFP, LC JET	1	
5-29	R500529	HFP, MC JET	1	
5-30	R500530	HFP, UC JET	1	
5-31	R500531	Mikuni Fuel Pump Rail	1	
5-32	R500532	Brass Elbow	1	
5-33	R500533	Heavy Fuel Valve	1	
5-34	R500534	Heavy Fuel Block	1	
5-35	R500535	HFP Bolt/Washer	2	
5-36	R500536	Mikuni Fuel Pump	1	
5-37	R500537	MFP Bolt/Washer	2	
5-38	R500538	FF, Washer	2	
5-39	R500539	FF, Nut	1	
5-40	R500540	Fuel Filter Assy	1	
5-41	R500541	*Filter Element W/O-Ring	1	
5-42	R500542	*O-Ring, Cup	1	
5-43	R500543	*Cup (Fuel Bowl)	1	

*Assembly

**Modified

Throttle (Fig 6.)

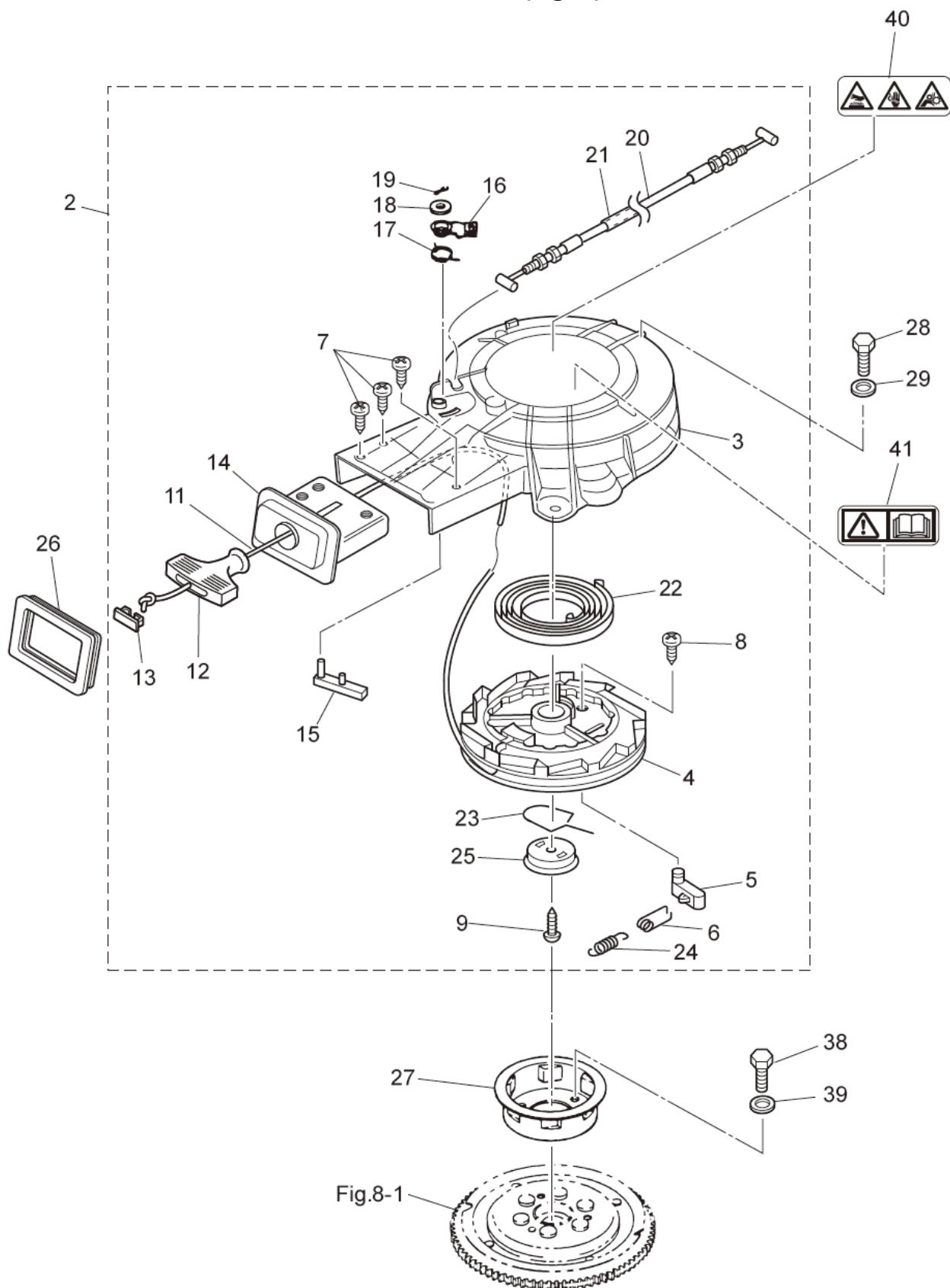


Ref No.	Part No.	Description	QTY	Remarks
6-1	R500601	Advancer Arm	1	
6-2	R500602	Bolt	1	
6-3	R500603	Washer 6.5-21-1	2	
6-4	R500604	Collar 6.2-12-17	1	
6-5	R500605	Rod Snap 5-3	2	
6-6a	R500606A	Throttle Cam	1	
6-9	R500609	Bolt	1	
6-10a	R500610	Washer 6.5-21-1	1	
6-12a	R500612	Collar 9.1-16-10.8	1	
6-13	R500613	Ball Joint, B	1	
6-13a	R500613A	Washer	1	
6-13b	R500613B	Nut	1	
6-14a	R500614	Rod	1	Throttle Cam-Setting Ring
6-15	R500615	Ball Joint Connector, Cap C	1	
6-16	R500616	Nut	1	
6-17a	R500617	Rod 5-90, L Link	1	Advancer Arm-Throttle Cam
6-18	R500618	Ball Joint Connector, Cap C	1	
6-19	R500619	Nut	1	
6-20	R500620	Rod Snap 5-3	1	
6-24	R500624	Throttle Limiter Arm	1	
6-25	R500625	Bolt & Washer	1	
6-26	R500626	Washer	1	
6-27	R500627	Collar 6.2-9-9.3	1	
6-28	R500628	Throttle Limiter Rod 3.5-56	1	
6-29	R500629	Rod Snap 3.5-4	2	
6-30	R500630	Link 40/50	1	
6-31	R500631	Rod Snap 3.5-4	1	
6-32	R500632	Starter Lock Arm	1	
6-33	R500632	Bolt	1	
6-34	R500634	Washer	1	
6-35	R500635	Collar 6.2-9-9.3	1	

*Assembly

**Modified

Recoil Starter (Fig. 7)

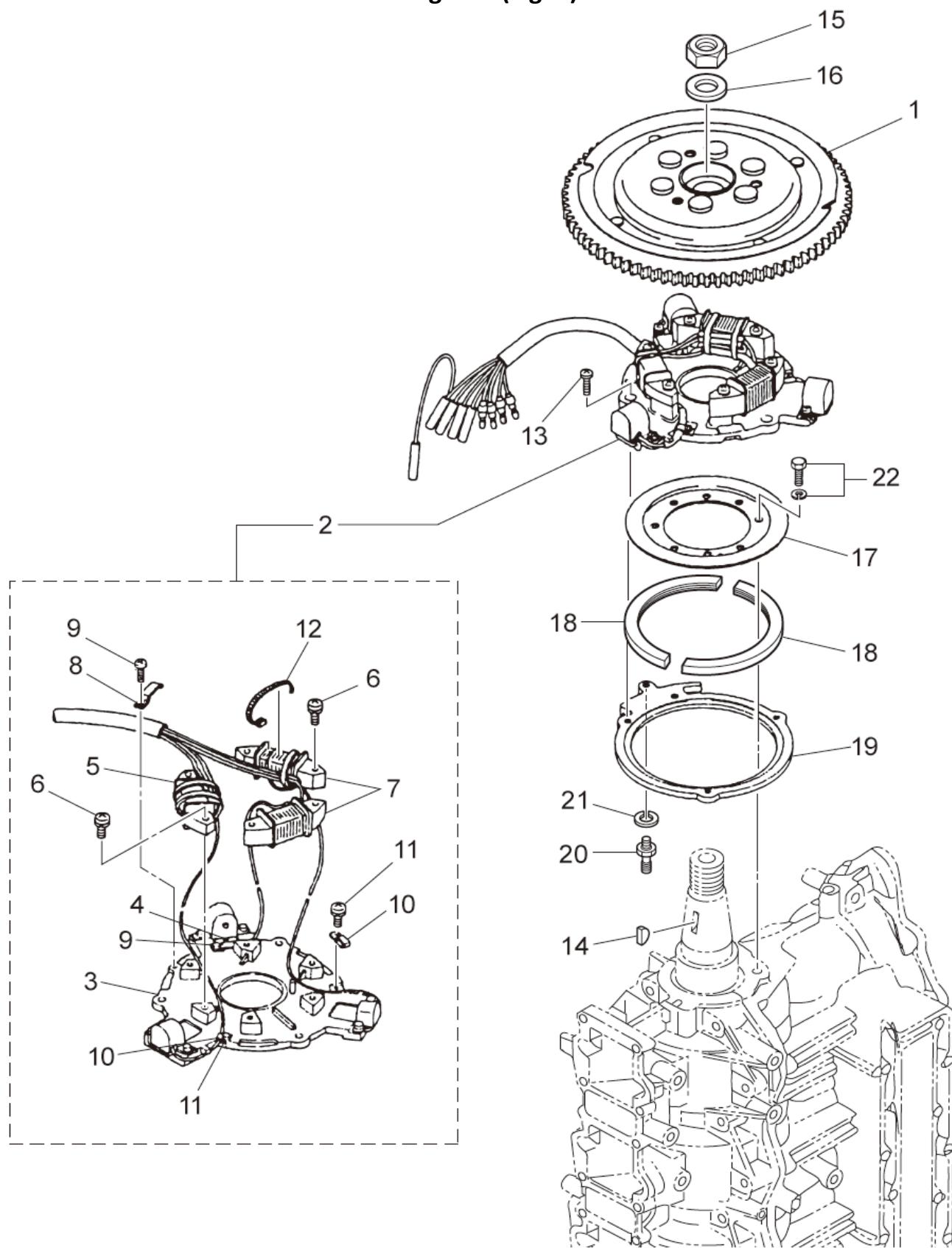


Ref No.	Part No.	Description	QTY	Remarks
7-2	R500702	Recoil Starter Assy	1	
7-3	R500703	* Starter Case	1	
7-4	R500704	* Reel Assy	1	
7-5	R500705	* Ratchet	1	
7-6	R500706	* Return Spring	1	
7-7	R500707	* Tapping Screw	3	
7-8	R500708	* Tapping Screw 6-25	1	
7-9	R500709	* Tapping Screw	1	
7-11	R500711	* Starter Rope	1	
7-12	R500712	* Starter Handle	1	
7-13	R500713	* Rope Anchor	1	
7-14	R500714	* Rope Guide	1	
7-15	R500715	* Starter Lock Pin	1	
7-16	R500716	* Starter Lock Cam	1	
7-17	R500717	* Starter Lock Spring	1	
7-18	R500718	* Washer	1	
7-19	R500719	* Split Pin	1	
7-20	R500720	* Starter Lock Wire	1	
7-21	R500721	* Pipe	1	
7-22	R500722	* Starter Spring	1	
7-23	R500723	* Friction Spring	1	
7-24	R500724	* Return Spring	1	
7-25	R500725	* Friction Plate	1	
7-26	R500726	Starter Seal	1	
7-27	R500727	Starter Pulley	1	
7-28	R500728	Pre-Coated Bolt 6-20	3	
7-29	R500729	Washer 6-16-1.5	3	
7-38	R500738	Bolt	3	
7-39	R500739	Washer	3	
7-40	R500740	Caution Decal	1	
7-41	R500741	Caution Decal	1	

*Assembly

**Modified

Magneto (Fig. 8)

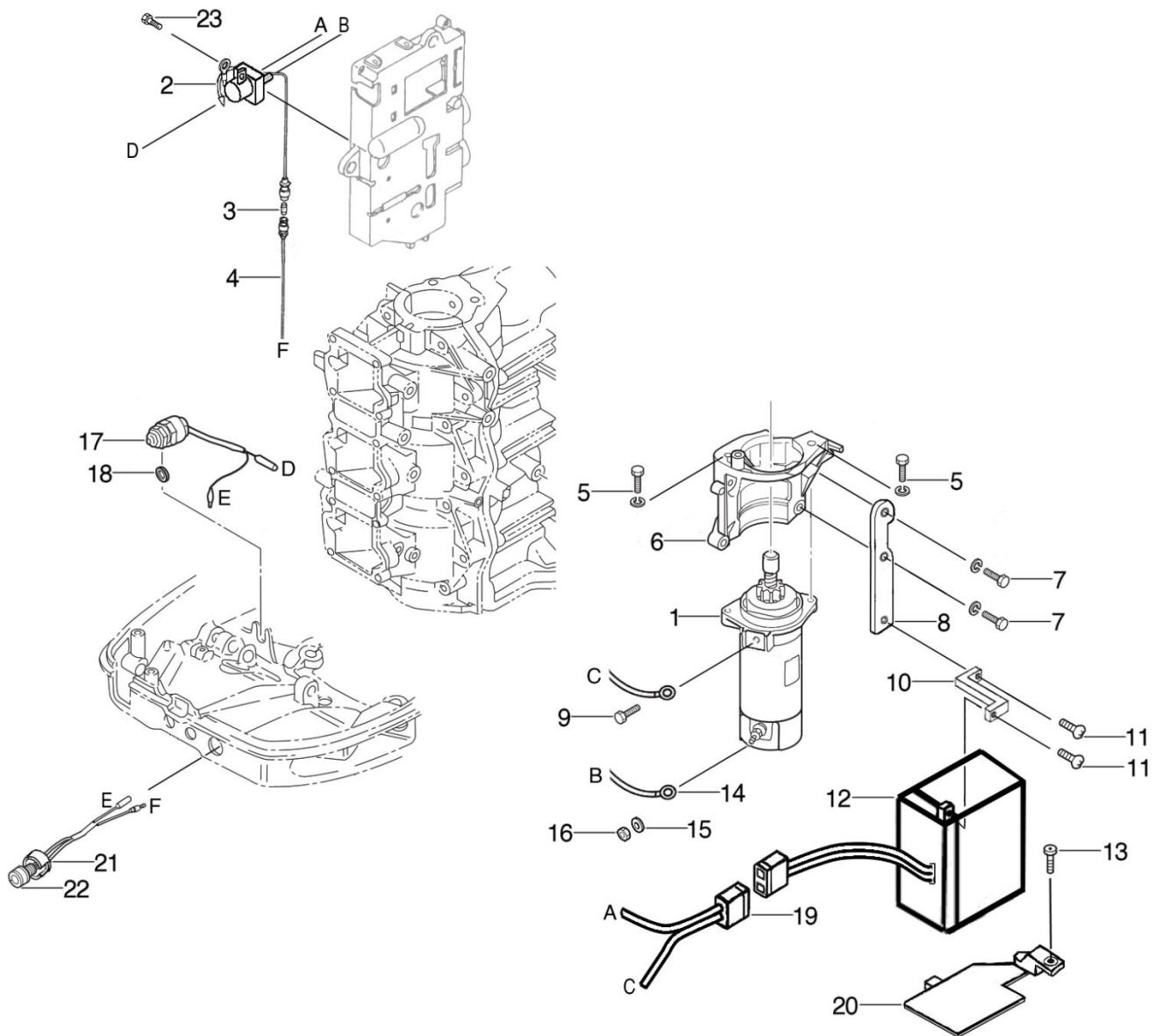


Ref No.	Part No.	Description	QTY	Remarks
8-1	R500801	Flywheel W/Ring Gear	1	
8-2	R500802	Coil Plate Assy W/Alternator	1	
8-3	R500803	* Pulser Coil & Plate Assy	1	
8-4	R500804	* Pulser Holder	1	
8-5	R500805	* Exciter Coil	1	
8-6	R500806	* Screw	6	
8-7	R500807	* Alternator Assy	1	
8-8	R500808	* Holder Magnet	1	
8-9	R500809	* Screw	2	Holder
8-10	R500810	* Clamp	2	
8-11	R500811	* Screw	2	Clamp
8-12	R500812	* Band	3	
8-13	R500813	Screw, Coil Plate	3	
8-14	R500814	Key 19-7-5, Flywheel	1	Magneto
8-15	R500815	Nut 18-P1.5, Flywheel	1	
8-16	R500816	Washer 19-34-3, Flywheel	1	
8-17	R500817	Guide Plate	1	
8-18	R500818	Guide Plate Cover	2	
8-19	R500819	Setting Ring	1	
8-20	R500820	Ball Joint	1	
8-21	R500821	Spring Washer, Setting Ring Bolt	1	
8-22	R500822	Bolt, Setting Ring	3	

*Assembly

**Modified

Electric Parts (Starter Motor) (Fig. 9)

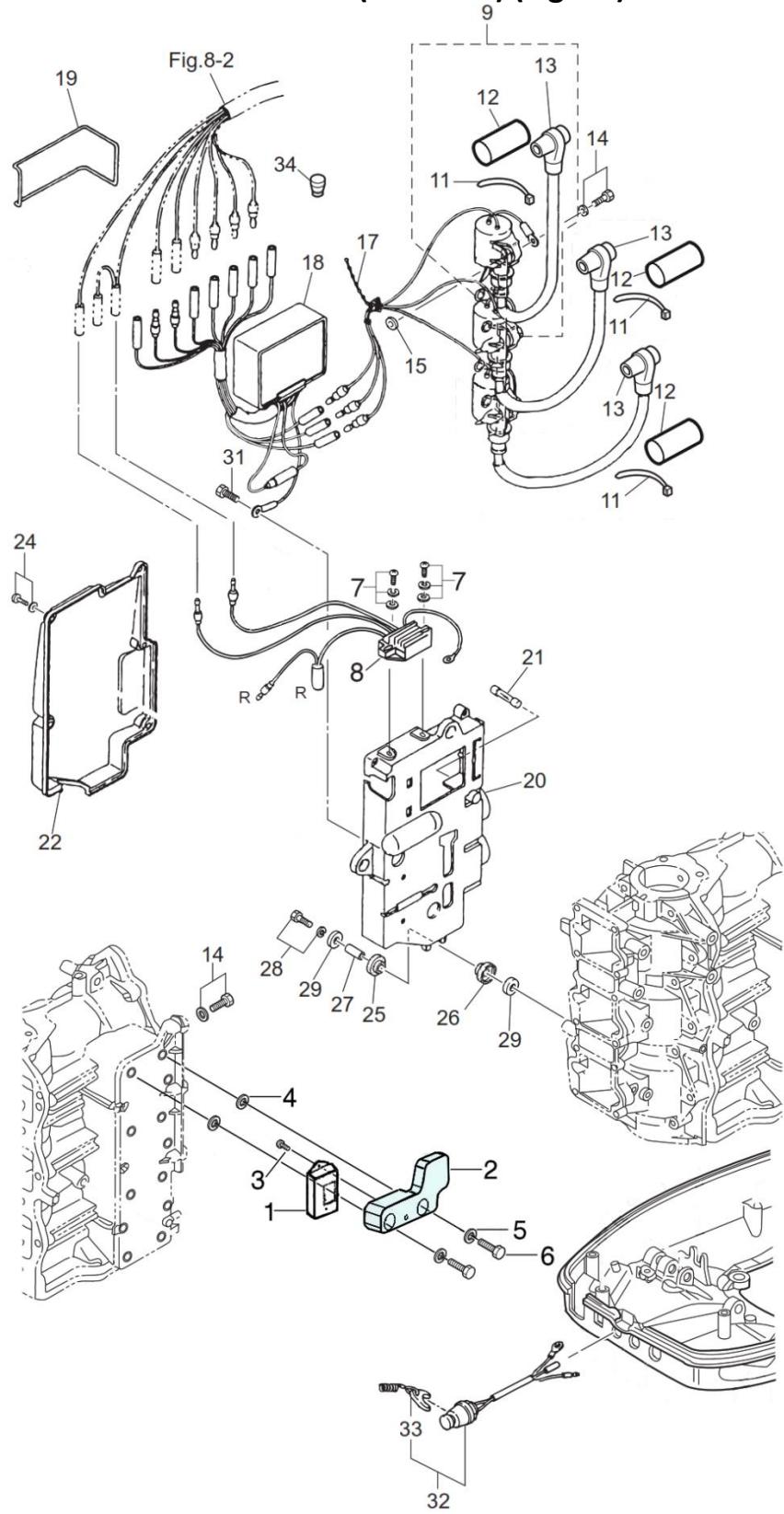


Ref No.	Part No.	Description	QTY	Remarks
9-1	R500901	Starter Motor Assy	1	
9-2	R500902	Starter Solenoid	1	
9-3	R500903	Fuse 20 AMP	1	
9-4	R500904	Fuse Holder Wire	1	
9-5	R500905	Bolt & Washer	2	starter motor bracket
9-6	R500906	Bracket, Starter Motor	1	
9-7	R500907	Bolt & Washer	2	battery holder bracket
9-8	R500908	Battery Holder Bracket	1	
9-9	R500909	Bolt (Starter Motor)	1	starter motor terminal
9-10	R500910	Start Battery (Z) Bracket	1	
9-11	R500911	Screw, (Z) Bracket	2	start battery (z) bracket
9-12	R500912	Start Battery ASSY	1	
9-13	R500913	Screw	1	start battery tray
9-14	R500914	Jumper Wire	1	solenoid to starter motor
9-15	R500915	Spring Washer	1	starter motor terminal
9-16	R500916	Nut	1	starter motor terminal
9-17	R500917	Neutral Switch	1	
9-18	R500918	Washer, Neutral Switch	1	
9-19	R500919	Load Harness, Start Battery	1	
9-20	R500920	Tray, Start Battery	1	
9-21	R500921	Electric Start Button Cover	1	
9-22	R500922	Electric Start Button	1	
9-23	R500923	Bolt & Washer	1	starter solenoid

*Assembly

**Modified

Electric Parts (C.D. Unit) (Fig. 10)

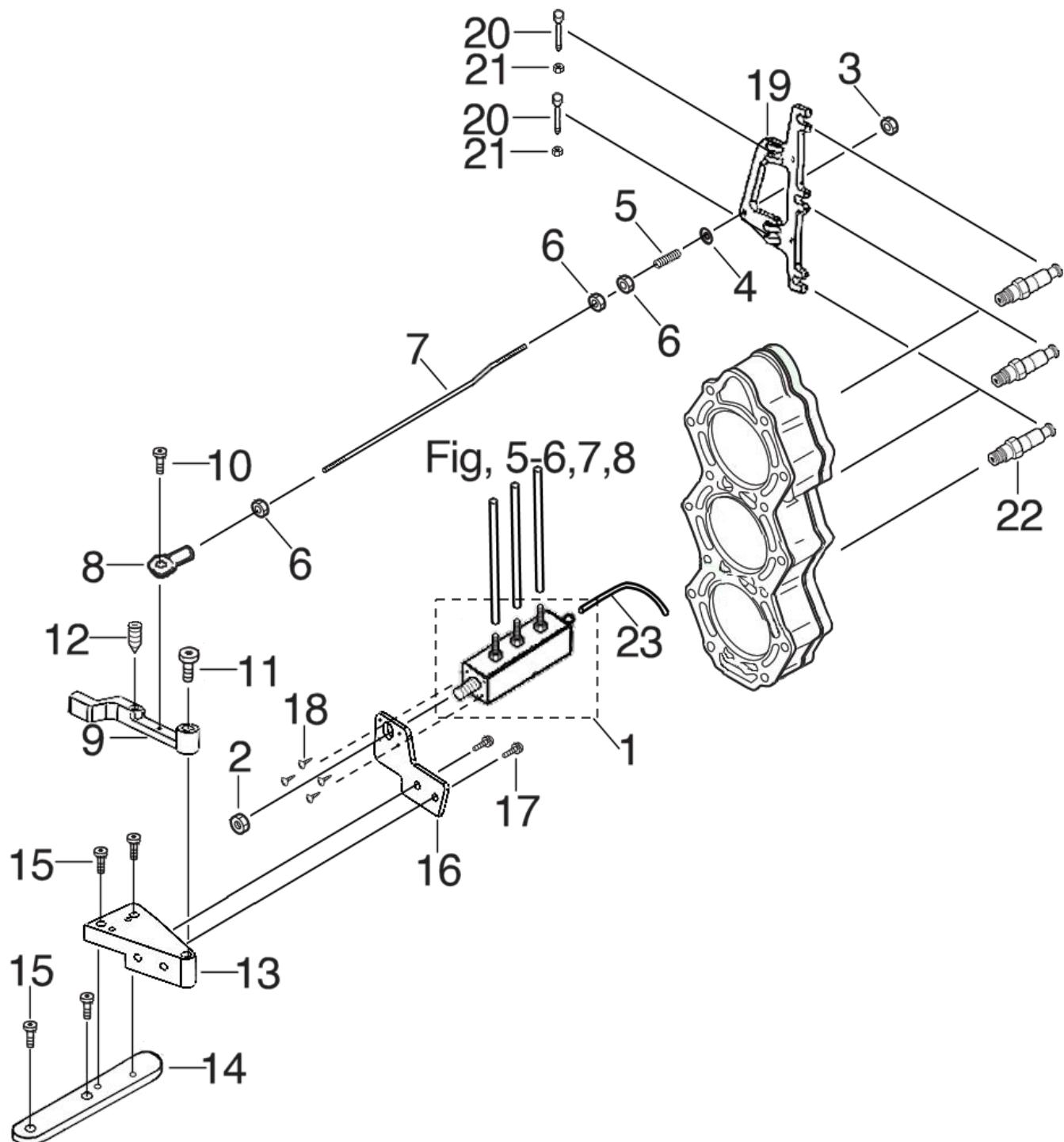


Ref No.	Part No.	Description	QTY	Remarks
10-1	R501001	Tach/Hour Meter	1	
10-2	R501002	Coil Guard, Bracket	1	tach/hour meter mount
10-3	R501003	Screw	1	tach
10-4	R501004	Washer, Coil Guard Inner	2	
10-5	R501005	Lock Washer, Coil Guard Outer	2	
10-6	R501006	Bolt, Coil Guard	2	
10-7	R501007	Screw, Rectifier	2	
10-8	R501008	Rectifier Complete	1	
10-9	R501009	Ignition Coil ASSY**	3	
10-11	R501011	*Retention Band, Coil Wire	1	
10-12	R501012	*2" Spark Plug Cap (Boot) Extension	1	
10-13	R501013	*Plug Cap (Boot)	1	
10-14	R501014	Bolt & Washer, Ignition Coil	3	
10-15	R501015	Gasket 6.2-11-1	3	
10-17	R501017	Retention Band	1	
10-18	R501018	CD Ignition Unit C.D.I.	1	
10-19	R501019	O-Ring 3.1-94.4	1	C.D.I. retention
10-20	R501020	Electrical Box **	1	bracket
10-21	R501021	Spare Fuse 20 AMP	1	
10-22	R501022	Cover, Electrical Box**	1	Modified by Raider
10-24	R501024	Screw, Cover, Electrical Box	5	
10-25	R501025	Mount 8.5-14-2.5	3	electrical box mount
10-26	R501026	Rubber Mount 8.5-14-2.5	3	electrical box mount
10-27	R501027	Spacer 6.2-9-15.7	3	electrical box mount
10-28	R501028	Bolt & Washer	3	electrical box mount
10-29	R501029	Washer 6.5-21-1	6	electrical box mount
10-31	R501031	Bolt	2	
10-32	R501032	Stop Switch ASSY	1	
10-33	R501033	* Stop Switch Lanyard Assy	1	
10-34	R501034	Cable Terminal Plug	5	

*Assembly

**Modified

Dewatering System (Fig. 12)

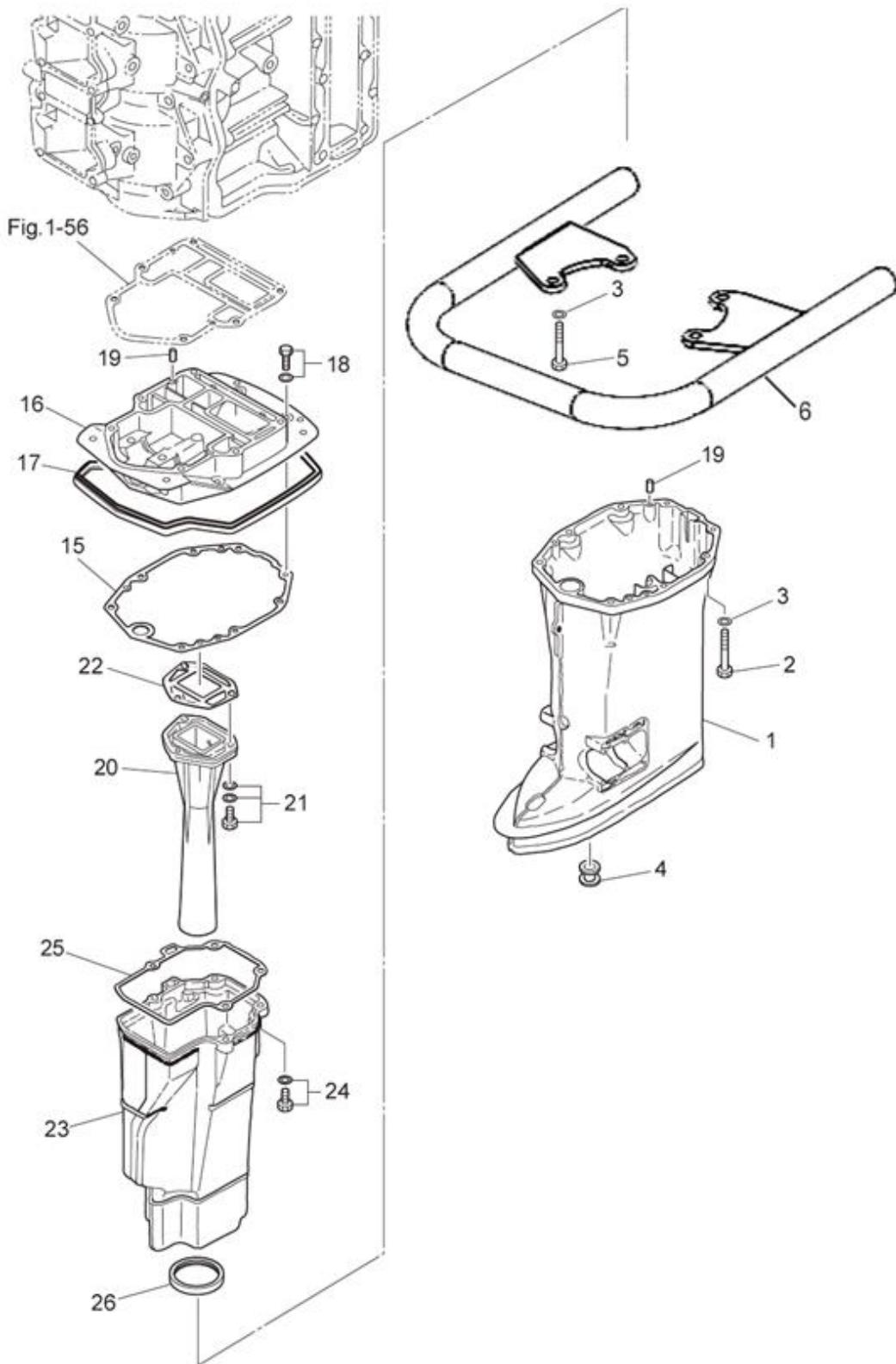


Ref No.	Part No.	Description	QTY	Remarks
12-1	R501201	Dewatering Valve ASSY (DV)	1	
12-2	R501202	*(DV) Nylon-Insert Locknut	1	18-8 SS Extra-Wide 1/4"-20 Thread Size
12-3a	R501203A	Dewatering Rod ASSY (DR)	1	
12-3	R501203	*(DR) Nylon-Insert Locknut	1	316 SS M5 x 0.8 mm Thread
12-4	R501204	*(DR) Washer	1	316 SS, 0.203" ID, 0.438" OD
12-5	R501205	*(DR) Compression Spring	1	302 SS 0.5" Long, 0.25" OD, 0.198" ID
12-6	R501206	*(DR) Hex Nut	3	316 SS M5 x 0.8 mm Thread
12-7	R501207	*(DR) Rod	1	316 SS, 3/16" OD
12-8	R501208	*(DR) Ball Joint	1	M5 x 0.8mm Internal Thread
12-9	R501209	Dewatering Lever (DL)	1	
12-10	R501210	(DL) Shoulder Bolt 1/4"	1	3/8" Dia, 3/4" Length, 5/16"-18 Thread
12-11	R501211	(DL) Shoulder Bolt	1	3/16" Dia, 5/16" Length, 8-32 Thread
12-12	R501212	(DL) Spring Ball Nose Plunger	1	18-8 SS, 5/16"-18 Thread, 6-17 lb.
12-13	R501213	Dewatering Lever Bracket (DLB)	1	
12-14	R501214	Dewatering Adapter Plate (DAP)	1	
12-15	R501215	(DAP/DLB) Socket Head Screw	4	18-8 SS, 6-32 Thread, 1/2" Long
12-16	R501216	Dewatering Valve Bracket (DVB)	1	
12-17	R501217	(DVB) Socket Head Screw	2	18-8 SS, 1/4"-20 Thread, 1/2" Long
12-18	R501218	(DVB) Hex Flat Screw, 90° Cntrsnk	4	M6 x 1.00mm Thread, 18mm Long
12-19	R501219	Dewatering Fingers (DF)	1	
12-20	R501220	(DF) Nylon-Insert Locknut	2	316 SS, 4-40 Thread
12-21	R501221	(DF) Shoulder Bolt	2	316 SS, 1/8" Dia, 3/4" Length, 4-40 Thread
12-22	R501222	Decompression Valve	3	
12-23	R501223	Hose, Drain Line (yellow)	1	1/4" ID - 3/8" OD 10"

*Assembly

**Modified

Drive Shaft Housing (Fig. 13)

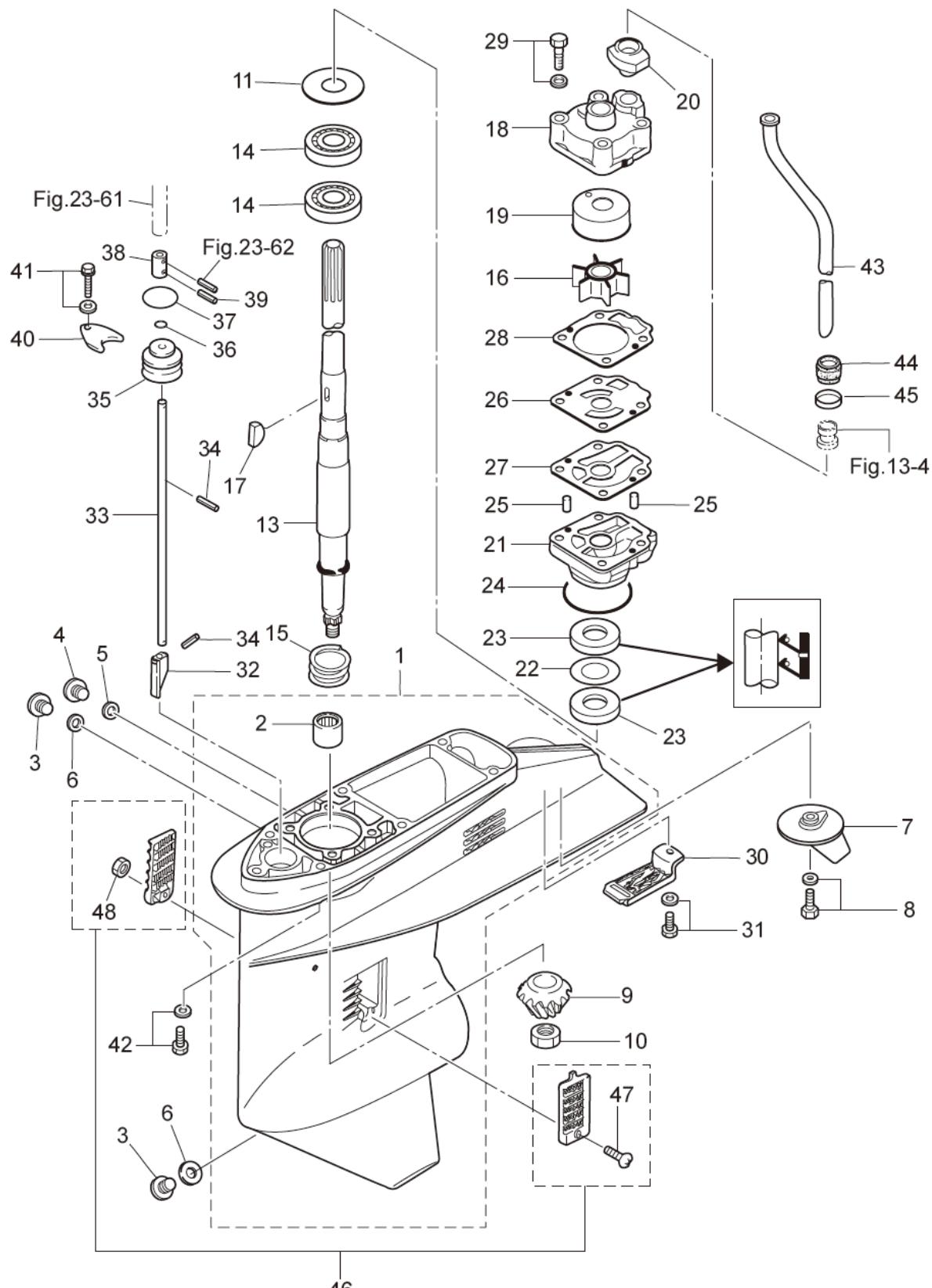


Ref No.	Part No.	Description	QTY	Remarks
13-1	R501301	Drive Shaft Housing (L)	1	for Transom "L" & "LL" & "LL"
13-1	R501301A	Drive Shaft Housing (S)	1	for Transom "S"
13-2	R501302	Bolt, Powerhead	2	
13-3	R501303	Washer	6	
13-4	R501304	Water Pipe Auxiliary Mount	1	Water Pipe Locking Rubber
13-5	R501305	Bolt, Powerhead M8X90	4	for Grab Rail
13-6	R501306	Rear Carry Grab Rail	1	
13-15	R501315	Drive Shaft Housing Gasket	1	
13-16	R501316	Engine Basement	1	
13-17	R501317	Engine Basement Seal L=805	1	
13-18	R501318	Bolt	4	
13-19	R501319	Dowel Pin 6-12	4	
13-20	R501320	Exhaust Pipe	1	R50-ES-002 (65HP)
13-20A	R501320A	Exhaust Pipe	1	R50-ES-001 (50HP)
13-21	R501321	Bolt 8-30	3	
13-22	R501322	Exhaust Pipe Gasket	1	
13-23	R501323	Exhaust Housing	1	
13-24	R501324	Bolt 8-30	4	
13-25	R501325	Exhaust Housing Gasket	1	
13-26	R501326	Grommet	1	

*Assembly

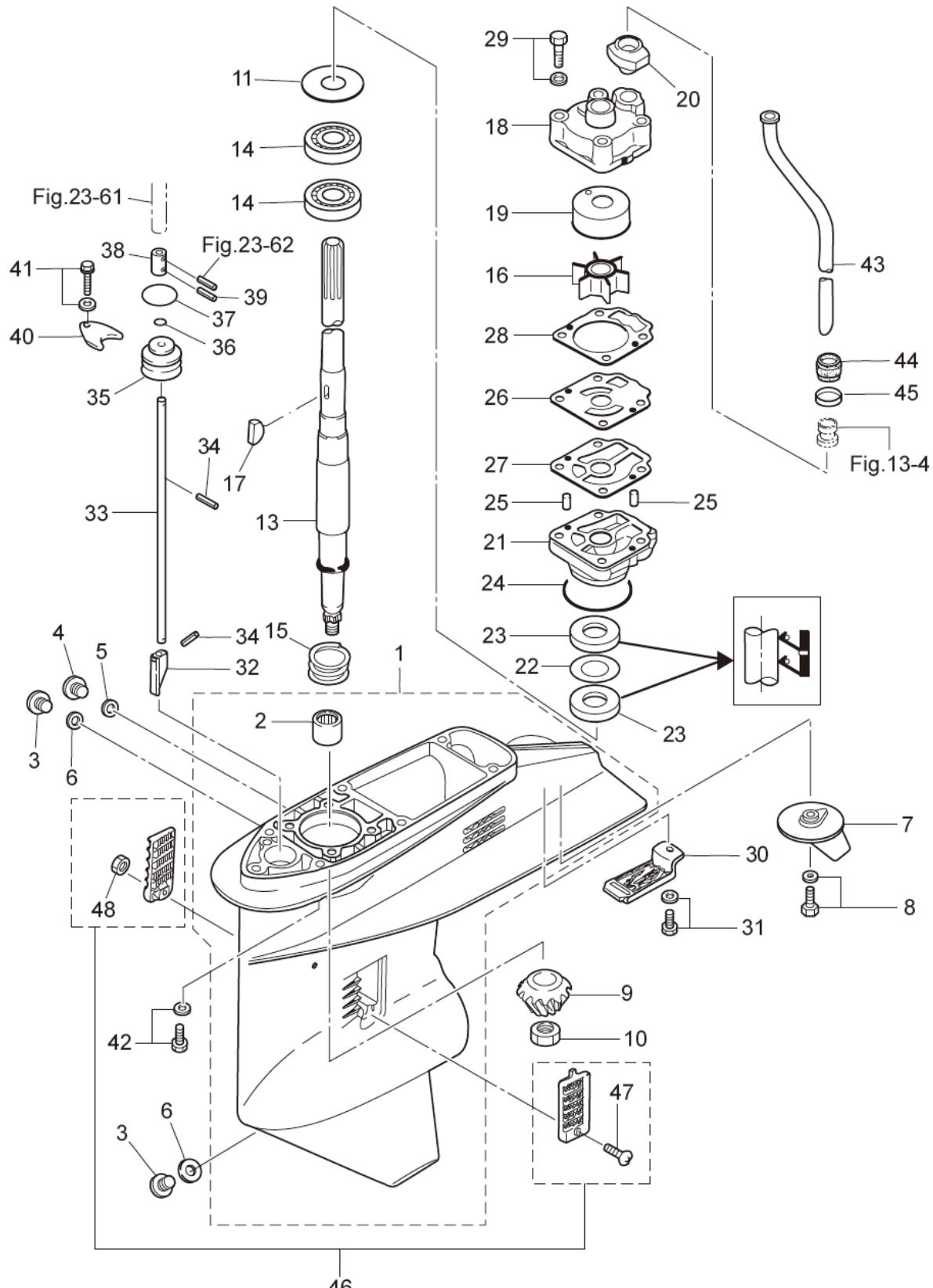
**Modified

Gear Case (Drive Shaft) (Fig. 14)



Ref No.	Part No.	Description	QTY	Remarks
14-1	R501401	Gear Case Assy	1	Sub Water Pipe
14-2	R501402	Roller Bearing 22-30-20	1	
14-3	R501403	Plug, Oil Fill/Drain 8-8	2	
14-4	R501404	Plug, Water M10p1.25	1	
14-5	R501405	Gasket, Water Plug 10.1-15-1	1	
14-6	R501406	Gasket, Oil Fil/Drain	2	
14-7	R501407	Trim Tab	1	
14-8	R501408	Bolt&Washer, Trim Tab	1	
14-9	R501409	Bevel Gear B, Drive Shaft	1	
14-10	R501410	Nut, Bevel Gear	1	
14-11	R501411	Shim Kit	A	
14-13	R501412	Drive Shaft (S)	1	for Transom "S"
14-13	R501413	Drive Shaft (L)	1	for Transom "L"
14-14	R501414	Ball Bearing 6304	2	
14-15	R501415	Drive Shaft Spring	1	
14-16	R501416	Water Pump Impeller	1	
14-17	R501417	Key 20-4.6-2	1	Pump Impeller
14-18	R501418	Pump Case (Upper)	1	
14-19	R501419	Pump Case Liner	1	
14-20	R501420	Water Pipe Seal (Lower)	1	
14-21	R501421	Pump Case Assy (Lower)	1	
14-22	R501422	Shim 32.9-26-0.5	1	
14-23	R501423	Oil Seal 17-33-6	2	
14-24	R501424	O-Ring 3.2-47	1	
14-25	R501425	Dowel Pin 4-10	1	
14-26	R501426	Water Pump Guide Plate	1	
14-27	R501427	Gasket, Guide Plate	1	
14-28	R501428	Gasket, Pump Case	1	
14-29	R501429	Bolt&Washer, Water Pump	4	
14-30	R501430	Sub-Water Inlet Strainer	1	
14-31	R501431	Bolt&Washer	1	SUB-WATER INLET STRAINER
14-32	R501432	Clutch Cam	1	
14-33	R501433A	Cam Rod (S)	1	for Transom "S"
14-33	R501433	Cam Rod (L)	1	for Transom "L"
14-34	R501434	Spring Pin 3-12	2	
14-35	R501435	Cam Rod Bushing	1	
14-36	R501436	O-Ring 2.4-5.8	1	
14-37	R501437	O-Ring 3.5-21.7	1	
14-38	R501438	Shift Rod Joint	1	
14-39	R501439	Spring Pin 3-12	1	
14-40	R501440	Stopper	1	
14-41	R501441	Bolt&Washer	1	
14-42	R501442	Bolt&Washer	6	
14-43	R501443A	Water Pipe (S)	1	for Transom "S"
14-43	R501443	Water Pipe (L)	1	
14-44	R501444	Water Pipe Seal (Upper)	1	
14-45	R501445	Collar 18-20-4.5	1	
14-46	R501446	Water Strainer Set	1	

Gear Case (Drive Shaft) (Fig. 14)

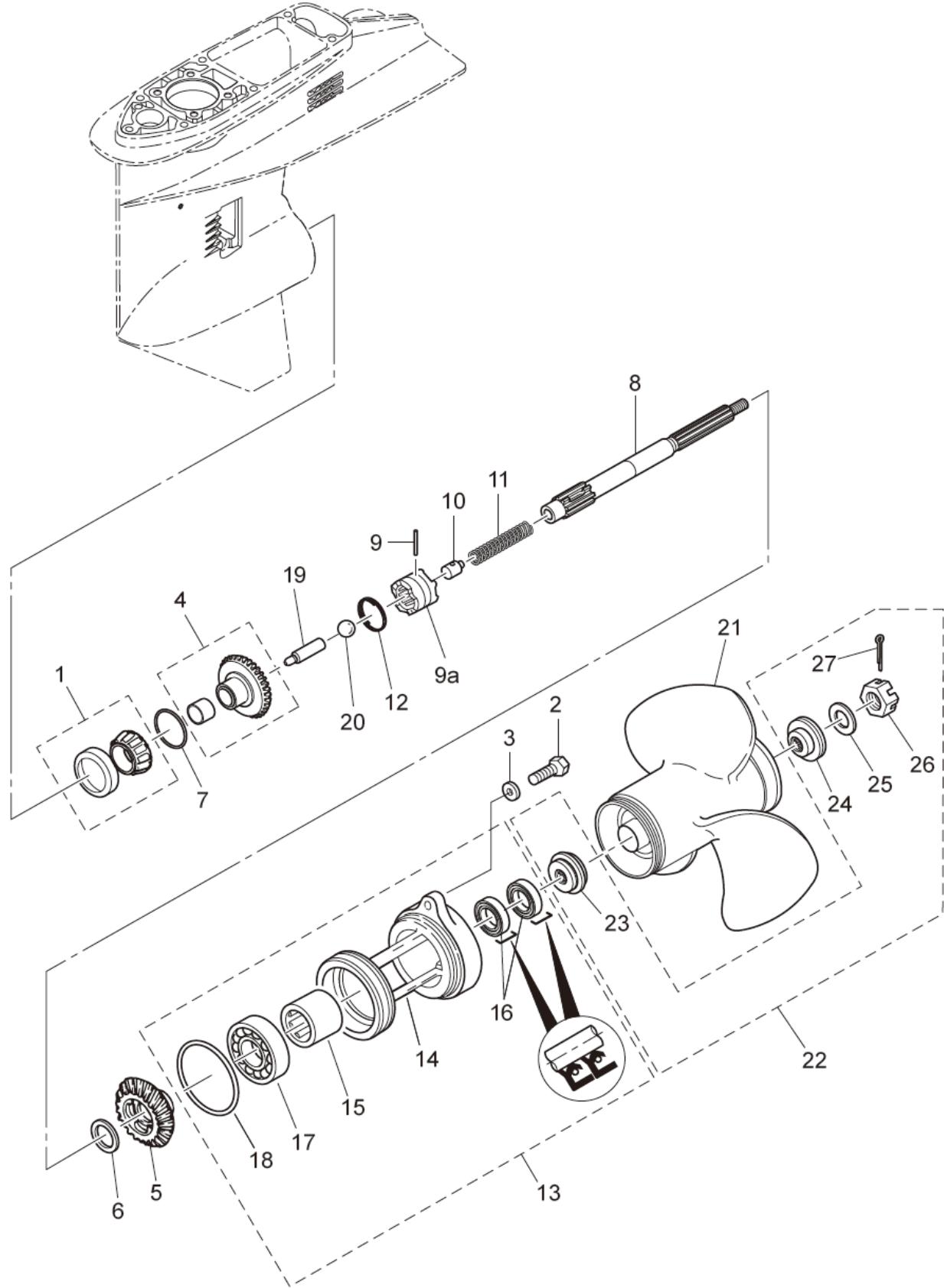


Ref No.	Part No.	Description	QTY	Remarks
14-47	R501447	* Screw	1	Screw Nylon Nut
14-48	R501448	* Nylon Nut 4-P0.7	1	

*Assembly

**Modified

Gear Case (Propeller Shaft) (Fig. 15)

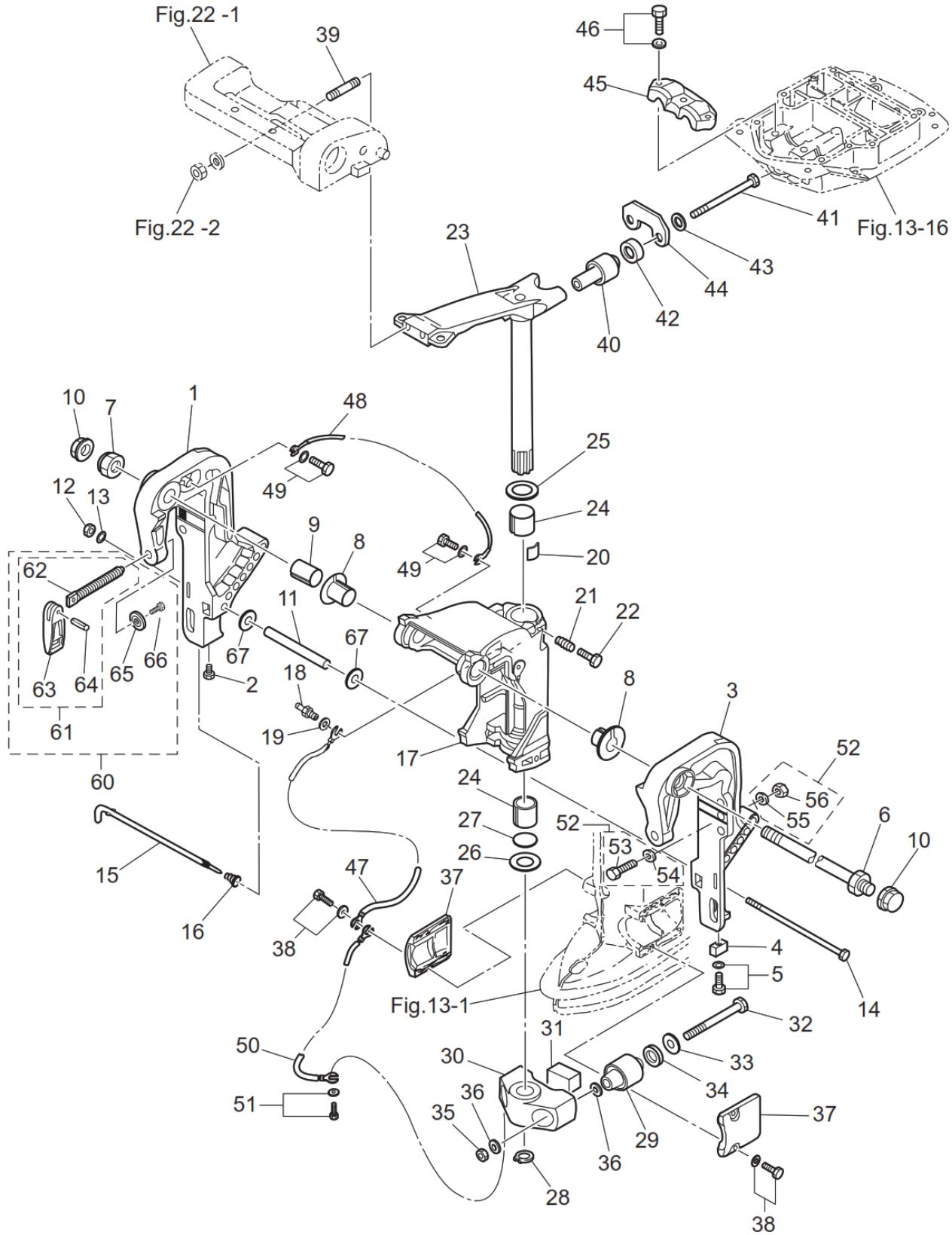


Ref No.	Part No.	Description	QTY	Remarks
15-1	R501501	Tapered Roller Bearing 32007	1	
15-2	R501502	Pre-Coated Bolt 6-25 6-25	2	
15-3	R501503	Washer	2	
15-4	R501504	Bevel Gear Assy (A)	1	
15-5	R501505	Bevel Gear C	1	
15-6	R501506	Washer 22.1-28-3	1	
15-7	R501507	Shim Kit	1	
15-8	R501508	Propeller Shaft	1	
15-9	R501509	Clutch Pin	1	
15-9a	R501509A	Clutch	1	
15-10	R501510	Spring Retainer	1	
15-11	R501511	Spring	1	
15-12	R501512	Snap	1	
15-13	R501513	Propeller Shaft Housing Assy	1	
15-14	R501514	* Propeller Shaft Housing	1	
15-15	R501515	* Roller Bearing 22-30-30	1	
15-16	R501516	* Oil Seal 22-37-8	2	
15-17	R501517	* Ball Bearing 6007	1	
15-18	R501518	* O-Ring 3.5-69.4	1	
15-19	R501519	Push Rod	1	
15-20	R501520	Ball 3/8	1	
15-21	R501521-11	Propeller Assy (11) Load/Working Prop	1	
15-21	R501521-13	Propeller Assy (13) Speed Prop	1	
15-22	R501522	Propeller Hardware Kit	1	
15-23	R501523	* Thrust Holder	1	
15-24	R501524	* Stopper	1	
15-25	R501525	* Washer 17-40-3	1	
15-26	R501526	* Propeller Nut M16p1.5	1	
15-27	R501527	* Split Pin 3-25	1	

*Assembly

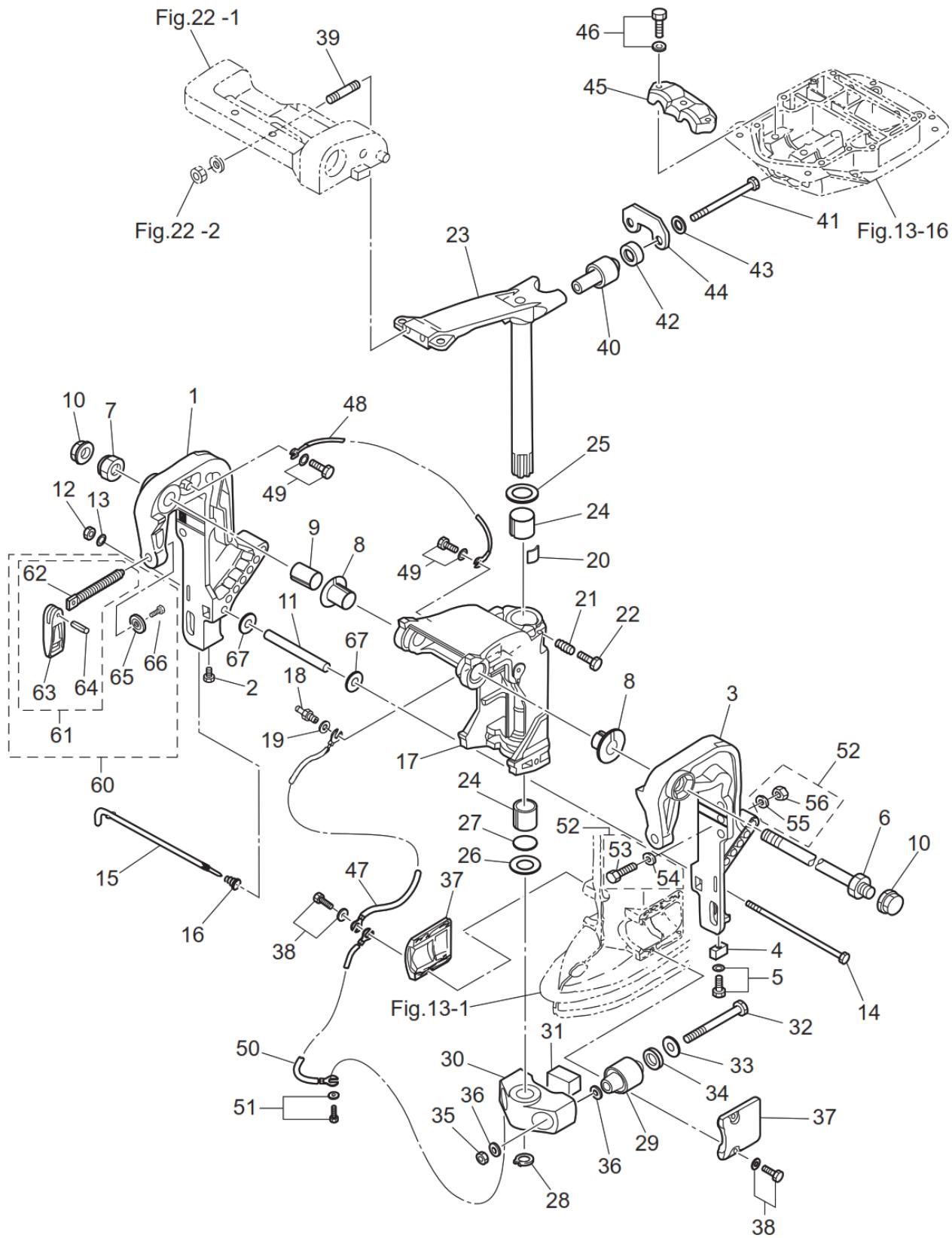
**Modified

Bracket (Manual Tilt) (Fig. 18)



Ref No.	Part No.	Description	QTY	Remarks
18-1	R501801	Clamp Bracket (R)	1	Starboard Side
18-2	R501802	Bolt	1	
18-3	R501803	Clamp Bracket (L)	1	Port Side
18-4	R501804	Anode	1	
18-5	R501805	Bolt	1	
18-6	R501806	Swivel Bracket Shaft Assy	1	Bracket Bolt
18-7	R501807	Nylon Nut 7/8-14	1	
18-8	R501808	Bushing	2	
18-9	R501809	Bushing 22-25-35.5	1	
18-10	R501810	Cap Nut	2	
18-11	R501811	Distance Piece 9.4-13.8-116	1	
18-12	R501812	Nut	1	
18-13	R501813	Washer	1	
18-14	R501814	Bolt 8-170	1	
18-15	R501815	Thrust Rod	1	
18-16	R501816	Thrust Rod Spring	1	
18-17	R501817	Swivel Bracket	1	
18-18	R501818	Grease Fitting	1	
18-19	R501819	Washer	1	
18-20	R501820	Friction Piece	1	
18-21	R501821	Friction Spring	1	
18-22	R501822	Bolt	1	
18-23	R501823	Steering Shaft Assy	1	
18-24	R501824	Bushing 26-32	2	
18-25	R501825	Thrust Plate (Upper) 27-50-1	1	
18-26	R501826	Thrust Plate (Lower) 26.5-46-1	1	
18-27	R501827	O-Ring 3.5-25.7	1	
18-28	R501828	C-RING D=25	1	
18-29	R501829	Rubber Mount (Lower)	2	
18-30	R501830	Mount Bracket	1	
18-31	R501831	Damper (Lower)	1	
18-32	R501832	Bolt 12-114.5	2	
18-33	R501833	Washer 13-34-3	2	
18-34	R501834	Damper 21-36-5	2	
18-35	R501835	Nylon Nut 12-P1.75	2	
18-36	R501836	Washer	4	
18-37	R501837	Mount Holding Plate (Lower)	2	
18-38	R501838	Bolt	4	
18-39	R501839	Stud 10-50 P1.25	2	
18-40	R501840	Rubber Mount (Upper)	2	
18-41	R501841	Bolt 3/8-100	2	
18-42	R501842	Damper (Upper)	2	
18-43	R501843	Washer 10-29-3	2	
18-44	R501844	Lock Plate	1	
18-45	R501845	Mount Holding Plate (Upper)	1	
18-46	R501846	Bolt	3	
18-47	R501847	Ground L=210	1	Swivel Bracket Drive Shaft Housing
18-48	R501848	Ground L=130	1	Clamp Bracket Swivel Bracket

Bracket (Manual Tilt) (Fig. 18)

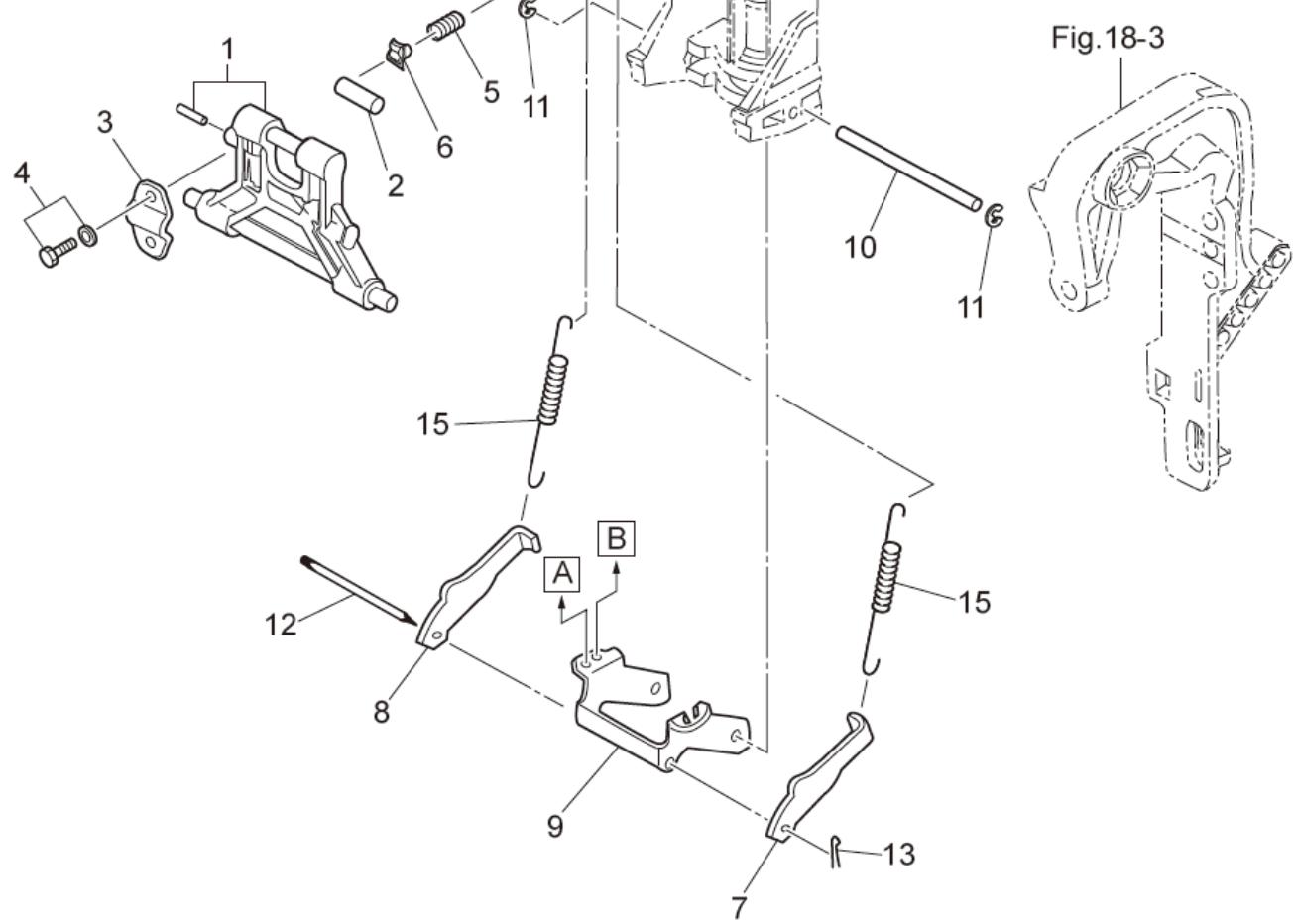
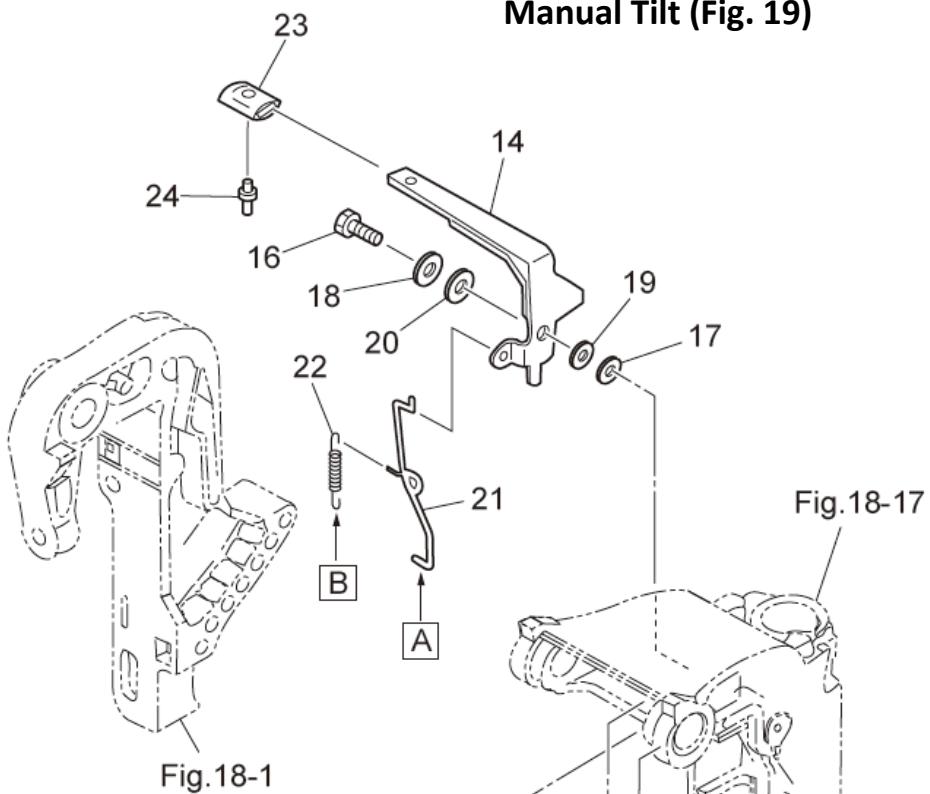


Ref No.	Part No.	Description	QTY	Remarks
18-49	R501849	Bolt	2	
18-50	R501850	Ground L=110	1	Mount Bracket -Drive Shaft Housing
18-51	R501851	Bolt	1	
18-52	R501852	Rigging Bolt Set	1	
18-53	R501853	* Bolt 12-105 P1.25	4	
18-54	R501854	* Washer 13-34-3	4	
18-55	R501855	* Washer	4	
18-56	R501856	* Nut 12-P1.25	4	
18-60	R501860	Clamp Screw Kit (CSK)	2	
18-61	R501861	Clamp Screw Assy	1	(CSK)
18-62	R501862	*Clamp Screw	1	(CSK)
18-63	R501863	*Clamp Screw Handle	1	(CSK)
18-64	R501864	*Shoulder Bolt, Handle	1	(CSK)
18-65	R501865	Clamp Screw Pad	1	(CSK)
18-66	R501866	Shoulder Bolt, Clamp Screw Pad	1	(CSK)
18-67	R501867	Washer	2	

*Assembly

**Modified

Manual Tilt (Fig. 19)

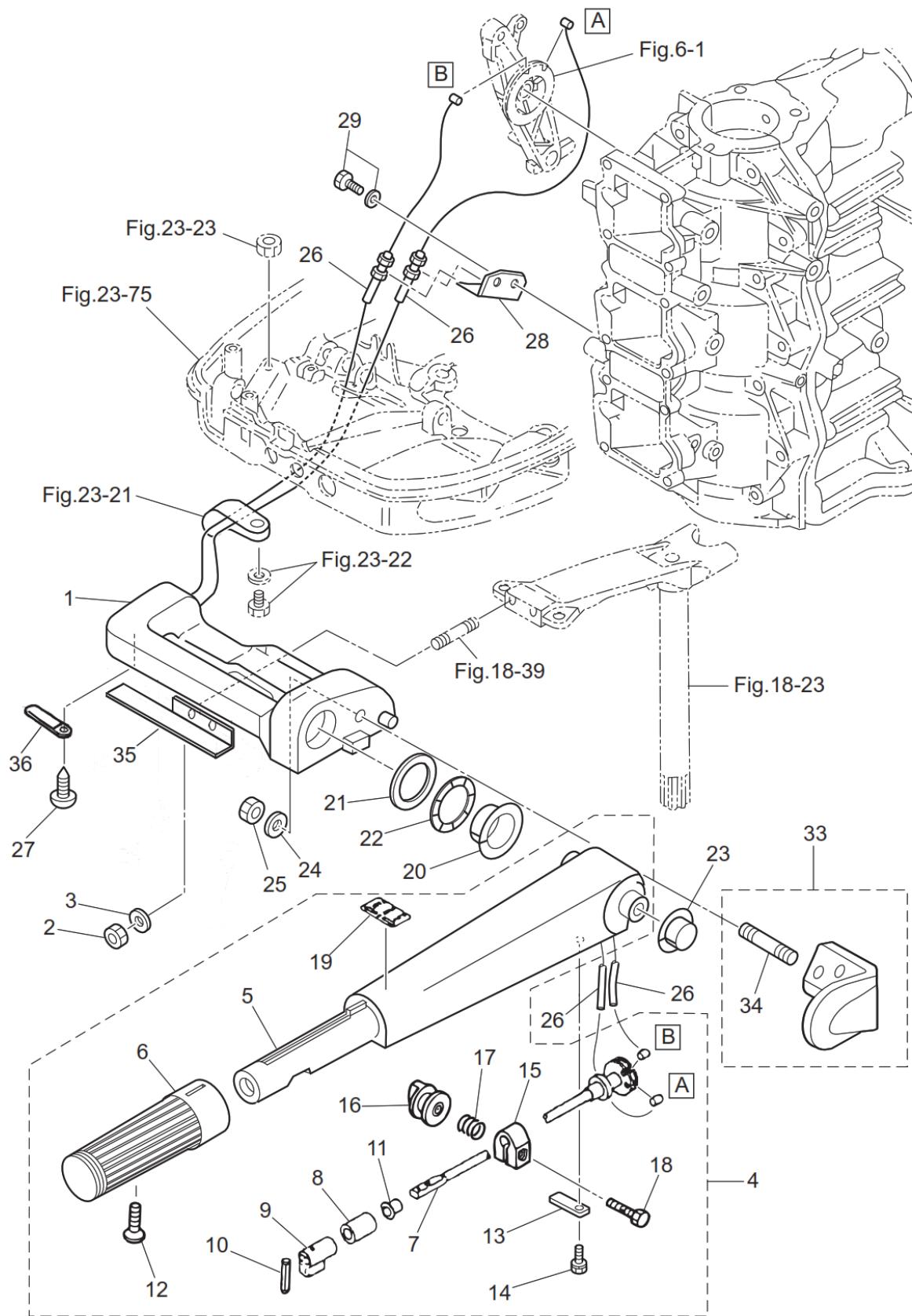


Ref No.	Part No.	Description	QTY	Remarks
19-1	R501901	Tilt Stopper ASSY	1	
19-2	R501902	Bushing 10.2-12-29.5	1	
19-3	R501903	Setting Plate	1	
19-4	R501904	Bolt	2	
19-5	R501905	Friction Spring	1	
19-6	R501906	Setting Piece	1	
19-7	R501907	Reverse Lock (L)	1	
19-8	R501908	Reverse Lock (R)	1	
19-9	R501909	Reverse Lock Arm	1	
19-10	R501910	Reverse Lock Shaft	1	
19-11	R501911	E-RING D=6	2	
19-12	R501912	Reverse Lock Rod	1	
19-13	R501913	Split Pin 2-12	1	
19-14	R501914	Tilt Stopper Lever	1	
19-15	R501915	Reverse Lock Spring (L)	2	for Transom "L"
19-15	R501925	Reverse Lock Spring (S)	2	for Transom "S"
19-16	R501916	Shoulder Bolt 6-8	1	
19-17	R501917	Washer 6-16-1.5	1	
19-18	R501918	Washer	1	
19-19	R501919	Bushing 8.1-20	1	
19-20	R501920	Washer 8.5-18-1.6	1	
19-21	R501921	Link B	1	
19-22	R501922	Spring B	1	
19-23	R501923	Reverse Lock Lever Grip	1	
19-24	R501924	Stopper	1	

*Assembly

**Modified

Tiller Handle (F Type) (Fig. 22)

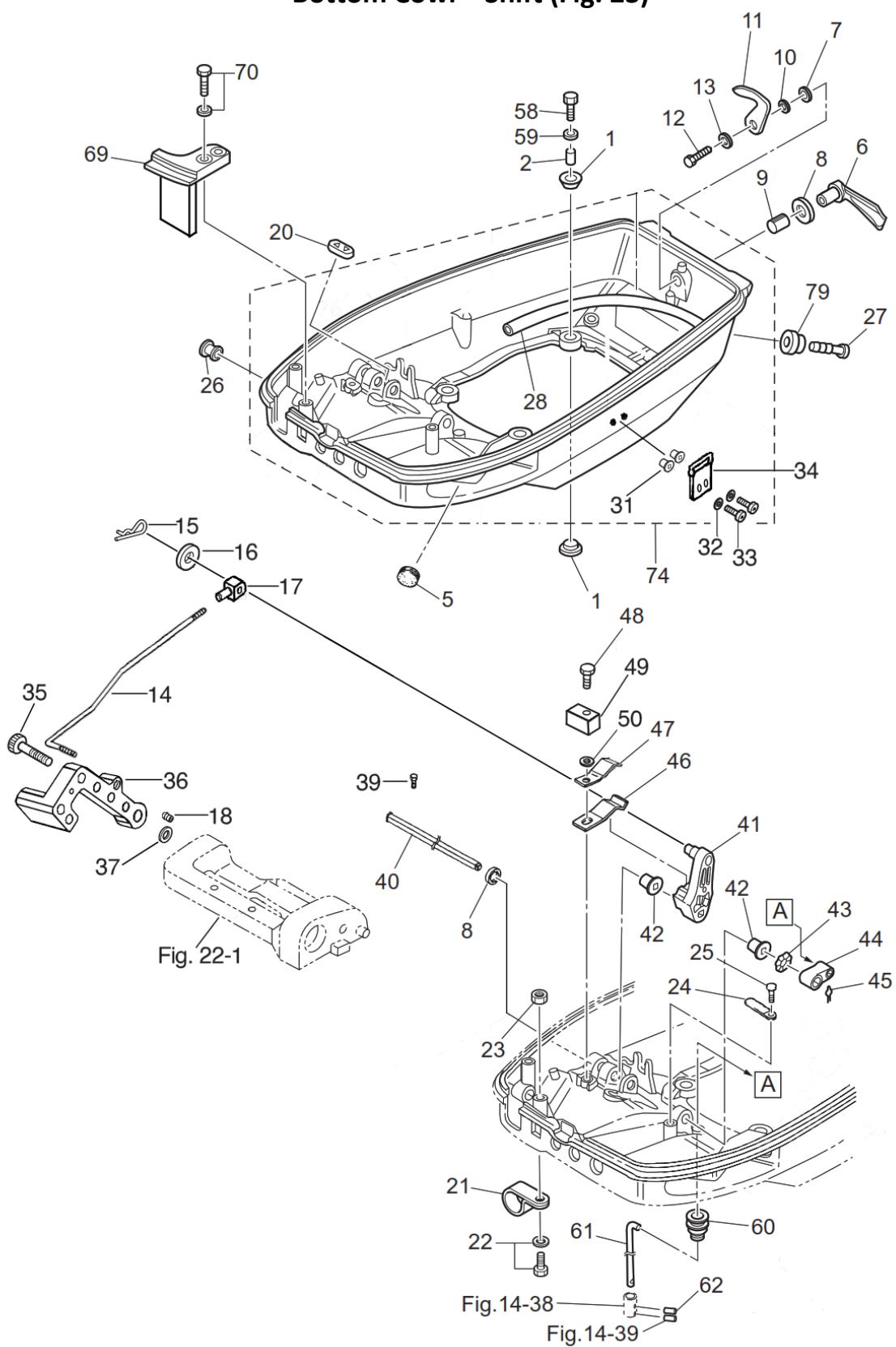


Ref No.	Part No.	Description	QTY	Remarks
22-1	R502201	Front Grab Handle	1	
22-2	R502202	Nylon Nut 10-P1.25	2	
22-3	R502203	Washer	2	
22-4	R502204	Tiller Handle ASSY	1	
22-5	R502205	* Tiller Handle	1	
22-6	R502206	* Grip	1	
22-7	R502207	* Throttle Shaft	1	
22-8	R502208	* Throttle Shaft Damper A	1	
22-9	R502209	* Spacer A	1	
22-10	R502210	* Spring Pin 3-10	1	
22-11	R502211	* Bushing 8.4-10-11	1	
22-12	R502212	* Screw	1	
22-13	R502213	* Throttle Shaft Support	1	
22-14	R502214	* Bolt&Washer	1	
22-15	R502215	* Friction Piece	1	
22-16	R502216	* Adjusting Nut	1	
22-17	R502217	* Spring	1	
22-18	R502218	* Bolt	1	
22-19	R502219	* Throttle Decal	1	
22-20	R502220	Bushing A	1	
22-21	R502221	Washer 30-45-1	1	
22-22	R502222	Wave Washer 30-45-1.2	1	
22-23	R502223	Bushing B	1	
22-24	R502224	Washer	1	
22-25	R502225	Nut 10-P1.5	1	
22-26	R502226	Throttle Wire	2	
22-27	R502227	Clip, Throttle Wire	1	
22-28	R502228	Throttle Wire Bracket	1	
22-29	R502229	Bolt	2	
22-33	R502233	Tiller Handle Holder Assy	1	
22-34	R502234	Stud	1	
22-35	R502235	Shift Stop, External	1	
22-36	R502236	Clamp	1	

*Assembly

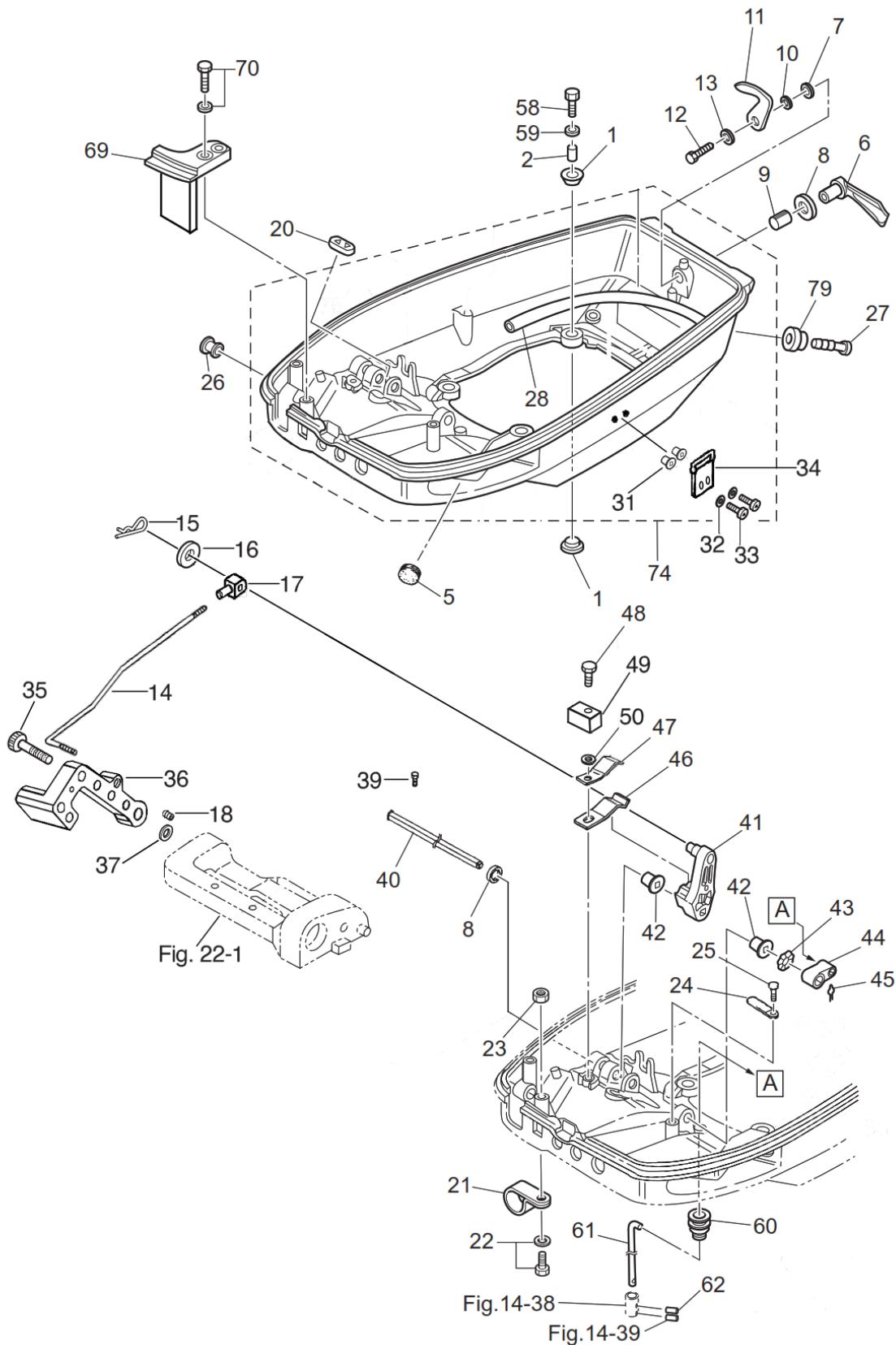
**Modified

Bottom Cowl – Shift (Fig. 23)



Ref No.	Part No.	Description	QTY	Remarks
23-1	R502301	Mount 8.5-14-2.5	8	
23-2	R502302	Spacer 6.2-9-15.7	4	
23-5	R502305	Grommet 17-2.7	2	
23-6	R502306	Hook Lever	1	
23-7	R502307	Washer 14-22-1	1	
23-8	R502308	Seal Ring 13.8-22-3.7	2	Hook Lever, Shift Lever
23-9	R502309	Hook Lever Bushing	1	
23-10	R502310	Wave Washer D=14	1	
23-11	R502311	Cover Hook	1	
23-12	R502312	Bolt	1	
23-13	R502313	Washer 6-16-1.5	1	
23-14	R502314	Rod, Shift Handle	1	
23-15	R502315	R-Pin, Rod, Shift Handle	1	
23-16	R502316	Nylon Washer, Rod, Shift Handle	1	
23-17	R502317	Hyme Joint, Rod, Shift Handle	1	
23-18	R502318	Socket Nut, Rod, Shift Handle	1	10-24 Thread
23-20	R502320	Grommet 30-12-2.5	1	
23-21	R502321	Clamp 6.5-14I	1	for MF Type
23-22	R502322	Bolt	1	for MF Type
23-23	R502323	Nut	1	for MF Type
23-26	R502326	Grommet 16-17.5	1	
23-27	R502327	Nipple 6-8-11	1	
23-28	R502328	Hose (5mm) (3/16')	1	Exhaust Cover-Nipple 98AB-501000
23-31	R502331	1/4"-20 Ss Rivet Nut	4	
23-32	R502332	Retainer 1/4"-20	4	
23-33	R502333	Screw, Pan Head Phillips	4	SS Black-Oxide
23-34	R502334	Cowling Strap (Upr/Lwr)	2	
23-35	R502335	Shoulder Bolt, Shift Handle	1	
23-36	R502336	Shift Handle (Lever)	1	1/2" Dia, 3/4" Length, 3/8"-16 Thread
23-37	R502337	Shim, .491OD-.356ID	1	
23-39	R502339	Socket Head Screw	1	M4 x 0.7 mm Thread, 6 mm Long
23-40	R502340	Shift Lever	1	
23-41	R502341	Shift Arm	1	
23-42	R502342	Bushing	2	
23-43	R502343	Wave Washer D=12	1	
23-44	R502344	Shift Rod Lever	1	
23-45	R502345	Snap Retainer	1	
23-46	R502346	Shift Detent Spring	1	
23-47	R502347	Plate Shift Lever	1	
23-48	R502348	Screw, Hex Drive Flat Head	1	SS
23-49	R502349	Shift Stopper, Internal	1	
23-50	R502350	Washer	1	SS
23-58	R502358	Bolt	4	
23-59	R502359	Washer 6.5-21-1	4	
23-60	R502360	Grommet 17-3	1	
23-61	R502361	Shift Rod	1	
23-62	R502362	Spring Pin 3-12	1	
23-69	R502369	Shift Rod Cover Plate	1	

Bottom Cowl – Shift (Fig. 23)

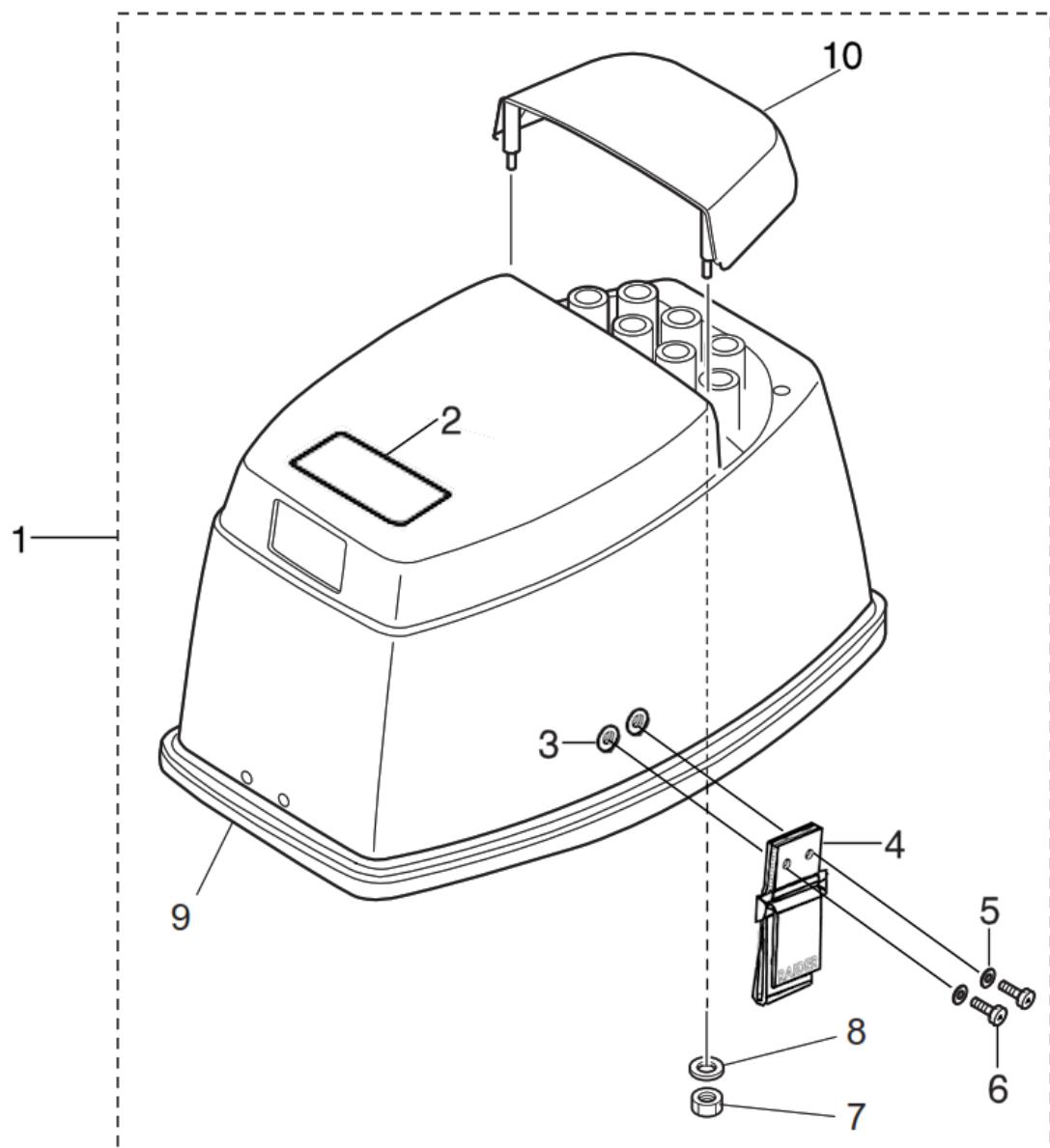


Ref No.	Part No.	Description	QTY	Remarks
23-70	R502370	Bolt&Washer	1	
23-74	R502374	Bottom Cowl W/Grommet	1	
23-75	R502375	* Bottom Cowl	1	
23-79	R502379	Grommet	1	

*Assembly

**Modified

Top Cowl (Fig. 24)



Ref No.	Part No.	Description	QTY	Remarks
24-1	R502401	Top Cowl Assy	1	
24-2	R502402	*Dewatering Decal	1	
24-3	R502403	*1/4"-20 Ss Rivet Nut	4	
24-4	R502404	*Cowling Strap (Upr/Lwr)	2	
24-5	R502405	*Retainer 1/4"-20	4	
24-6	R502406	*Screw, Pan Head Phillips	4	SS Black-Oxide
24-7	R502407	* Nylon Nut 6-P1.0	4	
24-8	R502408	* Washer 6-16-1.5	4	
24-9	R502409	* Top Cowl Seal	1	
24-10	R502410	* Tilt Handle	1	

*Assembly

**Modified

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Assembly - Kit Parts

Ref No.	Part No.	Description	QTY	Remarks
25-1	R508801	Carburetor Repair Kit		
	R500436	*Carburetor Gasket	3	
	R500409	*Plug	3	
	R500410	*Float Valve	3	
	R500411	*Float Arm Pin	3	
	R500412	*Float	3	
	R500418	*Float Chamber Gasket	3	
	R500422	*Carburetor Cover Plate	3	
	R500423	*Carburetor Cover Plate Gasket	3	
	R500424	*Screw	18	
	R500417	*Float Chamber Assembly (U/M)	2	
	R500428	*Fuel Pump Cover Gasket	1	
	R500432	*Fuel Pump Diaphragm	1	
	R500434	*Fuel Pump Body	1	
	R500433	*Fuel Pump Body Gasket	1	
25-2	R508802	Water Pump Repair Kit		
	R501416	*Water Pump Impeller	1	
	R501417	*Key 20-4.6-2	1	
	R501419	*Pump Case Liner	1	
	R501428	*Pump Case Gasket	1	
	R501426	*Water Pump Guide Plate	1	
	R501427	*Guide Plate Gasket	1	
	R501429	*Bolt&Washer, Water Pump	4	
	R501425	*Dowel Pin 4-10	2	
	R501434	*Spring Pin 3-12	1	
	R501420	*Rubber Seal (Water Pipe)	1	
	R501418	*Pump Case (UPPER)	1	
	R501421	*Pump Case (LOWER)	1	
	R501424	*Water Pump, O-Ring 3.2-47	1	
25-3	R501597	Lower Unit ASSY	1	
25-4	R660300	10ft Fuel Line ASSY	1	With Primer Bulb

Ref No.	Part No.	Description	QTY	Remarks
25-5	R660200	Emergency Field Kit		
	R500151	Sparkplugs	3	
	R660202	M10 Deep Socket 3/8 Dr	1	
	R660203	M16 Deep Socket 3/8 Dr	1	
	R660204	M13 Deep Socket 3/8 Dr Modified	1	
	R660205	6 Way Screwdriver	1	
	R660206	Crescent Wrench	1	
	R660207	Pliers	1	
	R660208	3/8 Hex Drill Socket	1	
	R660209	3/8 Ratchet	1	
	R660210	Pelican Case 1150	1	
	R660211	#5.5 Starter Cord (7ft)	1	
	R660212	2 Oz Marine Grease	1	
25-6	R500595	Fuel Line Replacement Kit	1	
25-6	R500189	Short Block Replacement KIT	1	M5065HO (R50-ES-002)
	R500189A	Short Block Replacement KIT	1	M50 (R50-ES-001)

