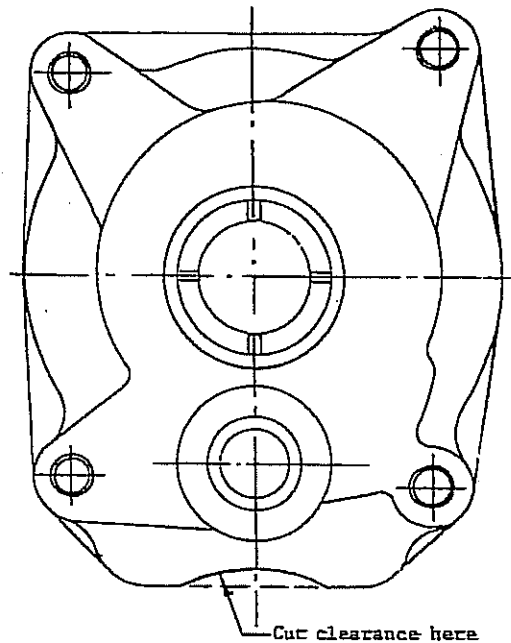


MODEL AB, ABL-03 SERIES ASSEMBLY INSTRUCTIONS
FOR JOHNSON / EVINRUDE 2 CYLINDER

41.5-44.99 CUBIC INCH STARTING 1971; 52.7 CUBIC INCH E-TEC STARTING 2003

1. Place the engine on the transom of your boat so that it is mounted vertically, in the normal fashion. Disconnect the shift rod. Remove the bolts holding the gearbox to the exhaust housing and remove the gearbox assembly.
2. Remove the water pump assembly from the propeller drive, including the lower stainless steel plate, and impeller drive key. Remove the two small centering rings surrounding the bolt holes in the gear box.
3. Install the 5/16-18 taper lock stud at the rear of the motor mid-section. Grease the threads and after tightening, grease the tapered section.
4. Before mounting the jet, the hole in the exhaust housing, through which the shift rod passed, must be plugged. Plug the rubber grommet with RTV rubber.
5. Set the large 3/4 inch thick adapter plate in place on the jet drive main housing using the two 3/16 x 1/2 dowel pins. Transfer the rubber sealing plate assembly from the base of the engine exhaust tube, into the adapter plate.
6. Set the large 3/4 inch thick water pump adapter plate in position and on top of that, the stainless steel pump base plate and the plastic water pump housing. Align these temporarily, using the 1/4-20 x 1 3/4 and two 1/4-20 x 2 3/4 bolts.
7. It is necessary to cut a notch in the rear of the water pump and steel base plate to allow it to slide past the nose of the rubber exhaust tube gasket during assembly. See the diagram on the right. File or grind this clearance.
8. Transfer the large adapter plate, with exhaust tube gasket assembly, to the engine exhaust housing. Install the two centering rings. Lock it in place with four 3/8-16 x 1 1/4 bolts with lock washers from below. Grease the threads. A light film of grease on the exhaust tube base will ease assembly.
9. Install the jet driveshaft assembly into the spiral pump housing, locking it in place with the four 1/4-20 x 3/4 bolts and lock washers. Use grease on the threads.
10. Install the water pump assembly into the main housing with the rubber impeller and 1/8 x 3/8 pin to drive the impeller. Grease the bolt threads. No washers are used under the bolt heads.
11. Next, attach the jet drive to the motor. Use the two 3/16 dowel pins, two 5/16-18 x 2 1/2 bolts (front), two 5/16-18 x 2 3/4 bolts (rear) with lock washers. Grease the threads, and driveshaft spline generously and water cooling tube lightly. Tighten the bolts to 15 ft-lbs. Grease the threads and tapered section of the wedge bolt. Install through the 5/16 cross hole at the rear of the jet drive, to capture the taper lock stud. Install the fiber lock nut and tighten to 7 ft-lbs.
12. Next, install the impeller. Grease the shaft threads, key and impeller bore. Place the plastic sleeve inside the impeller, hold the key in the nose of the impeller with your forefinger and slide onto the driveshaft. Install the eight shim washers, rubber washer and cup, and nut retainer on the shaft, and bring the nut up snug by hand.



MODEL AB, ABL-03 SERIES ASSEMBLY INSTRUCTIONS
FOR JOHNSON / EVINRUDE 2 CYLINDER

41.5-44.99 CUBIC INCH STARTING 1971; 52.7 CUBIC INCH E-TEC STARTING 2003

Then bump the nut up tight with a wrench. If the ears of the retainer do not line up with the flats on the nut, spin the nut off, turn the retainer over and tighten the nut again. In one of these two positions you will have alignment and can fold the ears up against the nut to retain it. The flat in the retainer is angled to the ears to allow this.

When, after use in sand and gravel, the blade clearance becomes more than about 1/32" between the impeller edge and the water intake liner, one or more of the shim washers can be transferred from the bottom stack to the top of the impeller, which moves the impeller down into the tapered casing to reduce the clearance.

Shims should not be used above the impeller on new installations where no wear has occurred unless the blade clearance exceeds 1/32 inch. Insufficient blade clearance will do more harm than good from any performance gains it might provide.

13. Place the intake casing in position with the lower end at the rear and tighten the six nuts. No lock washers are used. Grease the threads.
14. Attach the shift cable and the cable anchor bracket to the jet drive. **On E-TEC motors, move the neutral switch inside the cowling to the forward position. To winterize the motor, temporarily move the switch to the neutral position.**
15. With the shift handle in forward and the reverse gate in forward, **with the cam roller at the end of the slot, adjust the cable and/or cable anchor position to this condition. Shift to reverse and back to forward. The roller should be at the end of the cam slot such that the gate cannot be forcibly rotated toward reverse. Pull on the gate by hand to verify this.** If this forward lock condition is not met, readjust the cable positions.
16. For tiller steering on motors since 1981, where the shift handle is a tee bar on the front of the motor, proceed as explained on the attached sheet: Shift Cable Assembly, 778 & 779.
17. **When converting to jet drive, your motor will have to be raised to height shown in diagram below, using a straight edge under the boat.** Test run the boat and then raise or lower the motor 5/16 inch at a time to obtain the best results.

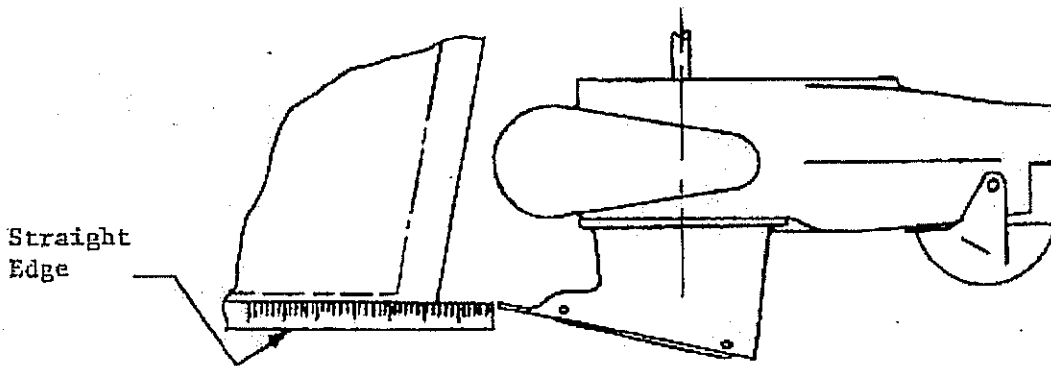
The motor has four sets of upper mounting holes. You will use one set to begin with. Mark pencil lines on the boat transom through the other sets. Then if you wish to go up or down 5/16 inch, you can drill one alternate set of holes 5/16 inch up or down from the pencil marks. By alternating between these two sets of transom holes and the four sets of motor holes, the motor can be moved in 5/16 inch increments over almost one inch. The transom height should be about 21" measured vertically from the boat bottom for short shaft motors, and 26" for long shaft motors.

If you raise it too much it will suck air and cavitate, either on start up or when banking on turns. When cavitating, the motor over speeds in spurts and shakes considerably in the motor mount. **This is not a normal condition and should be avoided by proper adjustment of motor height on each individual boat.** If you lower it too much you will have excessive drag, therefore mount the motor as high as possible without allowing cavitation.

The cooling system can be flushed by removing the hex bolt next to the grease fitting. A hose coupling, 24789A1, is available from a Mercury dealer. Turn on the water gently, and start the motor set to idle. Watch for cooling water at the tell tale. Adjust the water pressure if needed. **Be sure to replace the bolt after flushing.**

MODEL AB, ABL-03 SERIES ASSEMBLY INSTRUCTIONS
FOR JOHNSON / EVINRUDE 2 CYLINDER
41.5-44.99 CUBIC INCH STARTING 1971; 52.7 CUBIC INCH E-TEC STARTING 2003

SETTING MOTOR HEIGHT



CAUTION

When starting the engine for the first time, watch to see that the cooling water comes out of the small hole at the rear side of the engine just below the powerhead. This is to check your assembly of the cooling water pump and its connections.

MAINTENANCE AND LUBRICATION

See last page.

CAUTION

It is important on high HP installations to mount the motor at the correct height and to use the power tilt properly. Power tilt is convenient for drifting and when operating at low throttle in very shallow areas. When under power however, the engine should not be tilted out in an effort to gain speed as is done with propellers.

The engine driveshaft should be vertical when planing or tilted toward the boat in order to provide a scooping angle on the water intake grill. **Tilting the motor out beyond a vertical position reduces the scoop angle and can cause impeller slippage and cavitation burns on the impeller blades.**

When running in a bay, lake or wide river in windy conditions, particularly when running with the wind, the jet can suck in air when jumping across the wave crests. This will result in over speeding and causes severe strain on the driveshaft when the engine is suddenly brought back to normal speed as the impeller once again grabs solid water.

If your boat is used frequently under these conditions, the engine height should be set lower than normal to minimize over speeding. Running at reduced throttle will help when winds are strong. You can also experiment with a plate extending from the hull bottom to the top of the leading edge of the water intake as shown in paragraph 7 of the owners manual. This tends to reduce air intake as well as to reduce spray.

A water intake fin kit, part #1185 is now available. The purpose of these fins is to ram more water into the intake and to shield the forward sides of the intake from the entrance of air. There is a noticeable reduction of engine over speeding when running with the wind on a heavy chop. To a lesser degree, the fins provide some rudder effect when operating at a low speeds. This is not a cure all for cavitation and it is still necessary to set the engine height and angle properly and to minimize obstructions or imperfections in the hull ahead of the intake.

GOOD BOATING AND HAVE FUN!

Specialty Manufacturing Company

Outboard Jets

2035 Edison Avenue

San Leandro, CA 94577

MAINTENANCE AND LUBRICATION OUTBOARD JET DRIVE

BEARING LUBRICATION

A grease gun and tube of grease is supplied with your jet drive. We recommend greasing the bearing every 10 hours. Make greasing a part of your cleanup after the days use. Pump in just enough grease to fill the lube hose. Then reconnect the lube hose coupling to the zerk grease fitting.

Every 30-40 hours, pump in extra grease so as to purge any moisture. The texture of the grease coming out gives an indication of conditions inside the bearing housing. A gradual increase in moisture content indicates seal wear. If the grease begins to turn dark, dirty gray, the bearing and seals should be inspected and replaced if necessary. Some discoloration of the grease is normal during the break in period on new sets of seals.

We have selected a water resistant grease of the proper consistency for this application. If you use a substitute grease, be sure it is water resistant and of the same consistency.

IMPELLER

Your jet drive is equipped with a key to protect the unit in the event of a rock jam. This can be reached by removing the water intake, and then the driveshaft nut, similar to a propeller drive. After replacing the key, pull the shaft nut up tight to remove any play between the impeller and shaft. Note the position of the impeller shim washers, and replace them in the same order.

REVERSE GATE MECHANISM

Occasionally check adjustment of the gate shifting linkage. In "forward" the gate should be firmly locked in position. Pull on the gate by hand to verify this. This will prevent wave action from accidentally shifting the gate into reverse as the boat is violently maneuvered

GENERAL

Check all mounting bolts, intake screws, linkage connections, etc., occasionally to be sure they are tight.

SALT WATER USE

Aluminum and stainless steel have been used in the construction of your jet drive. These materials have either been treated or are inherently resistant to corrosion. It is recommended, however, that when not in use the motor be tipped up so that the jet unit is out of the water. When used in salt water more than in fresh water, remove mounting hardware, grease, and reassemble once a year. Failure to do this may result in hardware that is difficult if not impossible to remove at a later date.

GUARANTEE

Due to inflexible government regulation, we do not have a written warranty. We have, however, a good reputation for fairness with our customers which we intend to maintain. If you think you have a warranty situation, regarding material, workmanship, call us before making repairs.

Specialty Manufacturing Company
Outboard Jets
2035 Edison Avenue
San Leandro, CA 94577

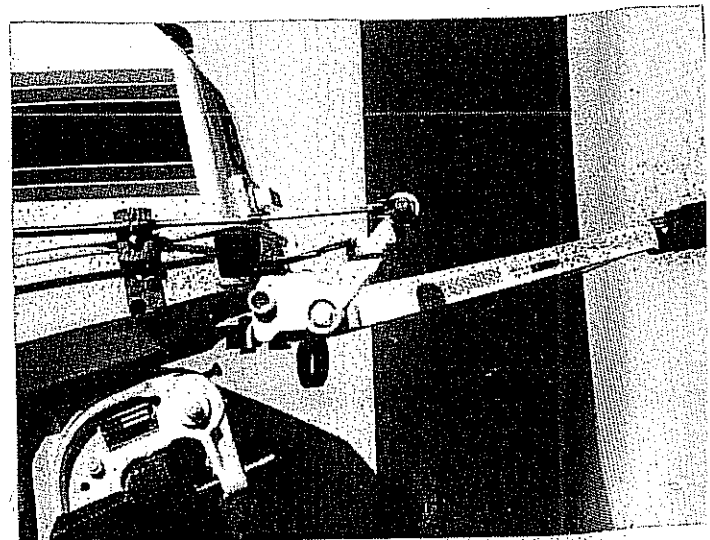
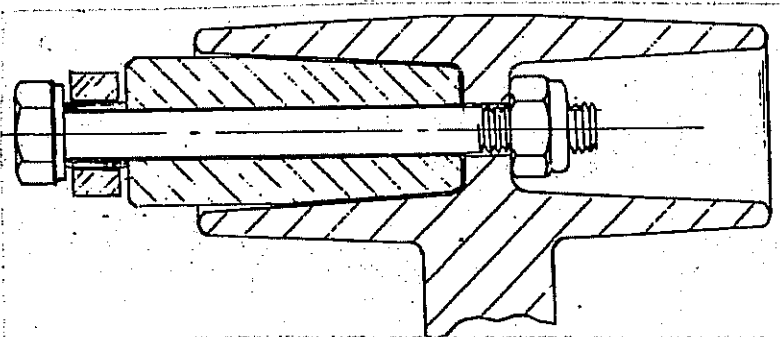
MODELS AFC, ABC, L60C, L60CL-89 TILLER STEERING MOTORS

Shift Cable Assembly - Cam Gate

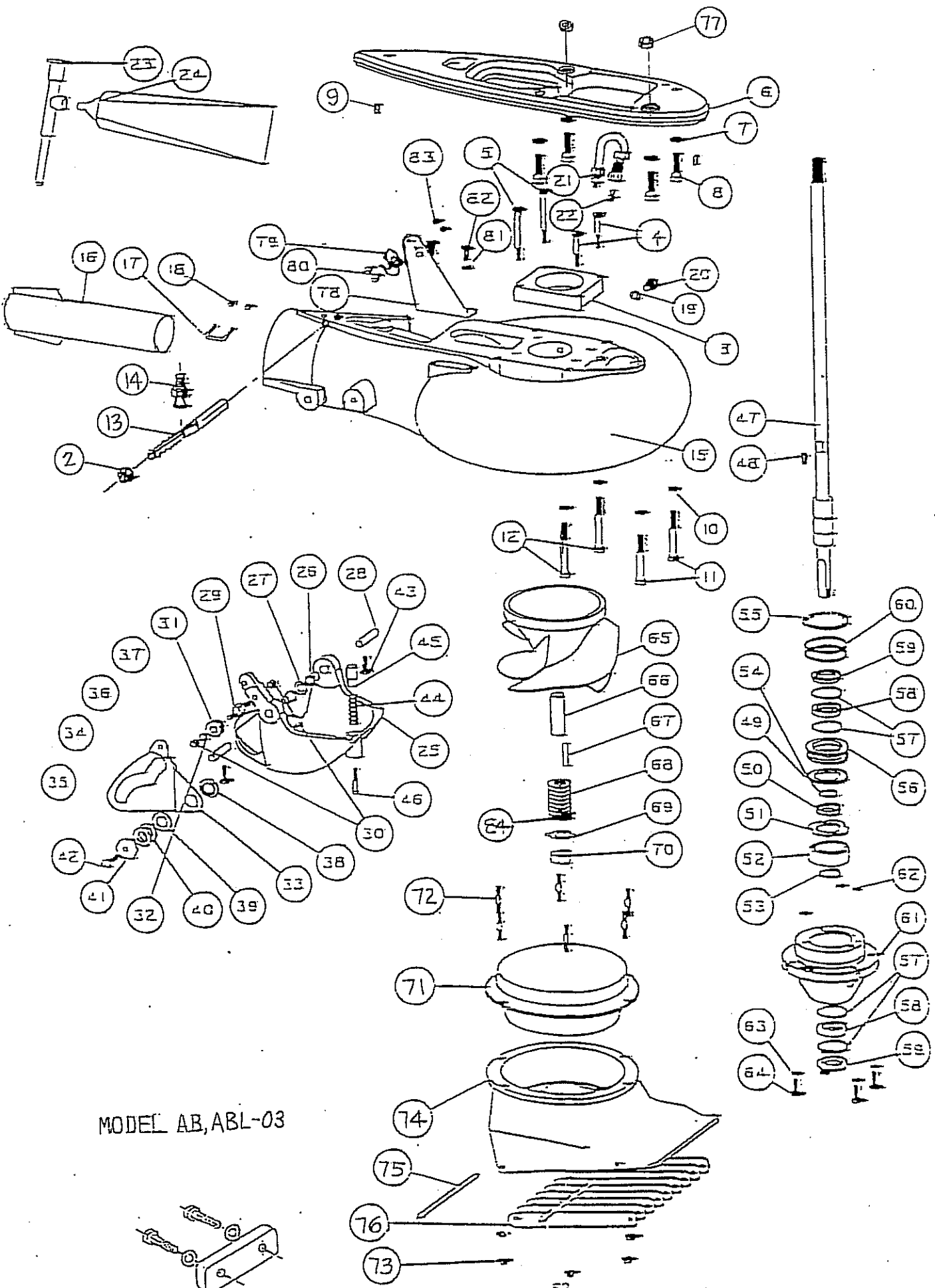
Kit No. 778 for Short Shaft Motors

Kit No. 779 for Long Shaft Motors

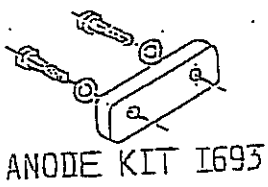
1. Place the tapered end of the aluminum plug into the outer bore of the shift handle grip. Insert a 1/4 inch drill into the plug hole, and drill through the center web of the handle grip. Do not attach the cable end yet. See diagram below.
2. Attach the triangle shaped lower cable support to the jet drive, using two 1/4-20 x 5/8 bolts and plain washers. Slide the support as far forward as it will go and lock the bolts.
3. Attach the lower cable end, using the thin wall bushing, plain washer and locknut. The nut and washer go on the outside and lock firmly against the bushing. The red cable end should be threaded onto the cable as far as it will go.
4. The upper red cable end should be threaded on the cable at a mid position to allow about 3/16 inch adjustment in either direction on the thread.
5. Place the motor shift handle in neutral position and lock the cable end to the handle as shown in step 1.
6. Using a light finger pressure on the gate, move the gate toward reverse until the cam roller is nested in the neutral notch of the cam. Hold in this position while performing step 7. Be sure shift handle is in neutral position.
7. Hold the 1/8 inch thick upper cable bracket against the lower motor cover rim, as shown below. Drill two 1/4 inch mounting holes through the cover. Secure the bracket with two 1/4-20 x 5/8 bolts with lockwashers and plain nuts inside.
8. Shift from neutral to forward. The roller should be at the end of the cam slot such that the gate cannot be forcibly rotated toward reverse. Pull on the gate by hand to verify this. Readjust red cable end if necessary to favor gate being locked in forward position. Neutral position is less important.



OUTBOARD JETS
2035 Edison Avenue
San Leandro, CA 94577



MODEL AB, ABL-03



MODEL AB, ABL-03 ETEC JOHNSON / EVINRUDE

REF	QTY	PART NO.	DESCRIPTION	REF	QTY	PART NO.	DESCRIPTION
2	1	625	NYLOC 5/16-18	49	1	41	SHAFT BEARING THRUST RING
3	1	984	PUMP ADAPTER AB,AF	50	1	477	COLLAR BACKFIT 7205
4	2	578	BOLT HEX HD 1/4-20 X 1 3/4	51	1	832	THRUST WASHER
5	2	581	BOLT HEX HD 1/4-20 X 2 3/4	52	1	504	BEARING 7205B-UA
6	1	982	ADAPTER PLATE AB	53	1	511	TRUARC 5100-98
7	4	636	WASHER SPRING LOCK M10	54	1	833	SPACER
8	4	606	BOLT HEX HD 3/8-16 X 1 1/4	55	1	512	TRUARC N6002-212ZD
9	2	631	DOWEL PIN 3/16 X 1/2	56	1	433	UPPER SEAL CARRIER W/SEALS & O RINGS
10	4	640	WASHER SPRING LOCK 5/16	57	4	517	SPIROLOX RR-160S
11	2	603	BOLT HEX HD 5/16-18 X 2 1/2	58	2	506	SEAL INNER
12	2	599	BOLT HEX HD 5/16-18 X 2 3/4	59	2	507	SEAL OUTER 6324-S
13	1	1752	WEDGE BOLT	60	2	526	O RING 568-135
14	1	1841	WEDGE STUD ABL-03	61	1	994	BEARING CARRIER W/SEALS & O RINGS AB
		98000	RECOUP GATE AB OMC	62	3	521	O RING 568-011 1/16X5/16X7/16
15	1	980	RECOUP TUBE AB	63	4	638	WASHER SPRING LOCK 1/4
16	1	80	EXHAUST TUBE ASSY MEDIUM 2	64	4	574	BOLT HEX HD 1/4-20 X 3/4 PATCH
17	1	846	CLIP EXHAUST TUBE 1	65	1	8.23	IMPELLER 6 1/8, ALUM/ ZINC, W/36.1 SLEEVE
18	2	621	NYLOC 10-32	65	1	1737	IMPELLER 6 1/8, STAINLESS STEEL, W/36.1 SLEEVE
19	1	1023	WASHER FIBER 3/8	66	1	36.1	SHAFT SLEEVE PLASTIC MED.
20	1	1022	BOLT HEX HD 3/8-16 X 1/2	67	1	782	IMPELLER TEE KEY - SQUARE
21	1	975	LUBE HOSE ASSY	67	1	1705	IMPELLER TEE KEY - 1/2 ROUND
22	1	539	ZIRC FITTING 1/4-28	68	8	21	SHIM WASHER MEDIUM
23	1	550	GREASE GUN	69	1	805	NUT KEEPER MED/PKG 2 PER BAG
24	1	552	GREASE TUBE NO 630-AA	70	1	22.1	SHAFT NUT 5/8-18 BRASS
25	1	1175	REVERSE GATE, MEDIUM			1447	INTAKE ASSY 6 1/8 FLANGED W/ GRILL & LINER
26	2	535	NYLINER 3/8 ID X 11/16	71	1	1621	LINER 6 1/8 FLANGED
27	1	1177	SPRING GATE PIVOT 3/8	72	6	1300	STUD - INTAKE MEDIUM
28	2	822	PIN GATE PIVOT 3/8 MEDIUM	73	6	623	NYLOC 1/4-20
29	1	1043	SHAFT ROLLER	74	1	1326	INTAKE PAINTED ONLY MED FLANGED
30	3	624	NYLOC 1/4-28	75	2	14	GRILL ROD
31	1	1042	ROLLER ASSY	76	9	16	GRILL BAR MEDIUM
32	2	635	1/4 WASHER AN960C416	77	2	1858	PIN, DOWEL ETEC
33	1	1035	SHIFT CAM MEDIUM			170	BRACKET ASSY OMC W/CLIP & HARDWARE
34	1	62	NUT HEX JAM 1/4-28	78	1	156	BRACKET CABLE SUPPORT
35	1	1199	PIVOT - CABLE END	79	1	546	CLIP OMC 305736
36	1	638	WASHER SPRING LOCK 1/4	80	2	562	PAN HD SLOTTED 10-32 X 1/2
37	1	622	NUT HEX 1/4-28	81	2	635	1/4 WASHER AN960C416
38	1	1037	BUSHING CAM	82	2	572	BOLT HEX HD 1/4-20 X 5/8
39	1	1038	WASHER CAM	83	2	621	NYLOC 10-32
40	2	1039	SHIM - CAM	84	1	1718	TORSIONAL DAMPER 5/8
41	1	1036	CAM ECCENTRIC DRILLED				
42	1	574.1	BOLT HEX HD 1/4-20 X 1 PATCH				
43	2	574	BOLT HEX HD 1/4-20 X 3/4 PATCH				
44	1	1170	SPRING GATE BUMPER				
45	1	1169	GATE BUMPER				
46	1	559.2	FIL HD SLOTTED 10-32 X 1 1/4 PATCH				
	1	988	SHAFT ASSY COMPLETE, ABS, 14T				
47	1	987	SHAFT ONLY, ABS, 14T 24 1/4 LG				
	1	992	SHAFT ASSY COMPLETE, ABL, 14T				
47	1	991	SHAFT ONLY, ABL, 14T 29 1/4 LG				
	1	1827	SHAFT ASSY COMPLETE, ABL-03, 17T ETEC				
47	1	1826	SHAFT ONLY, ABL-03, 17T 29 9/16 LG ETEC				
48	1	410	KEY ROLL WATER PUMP HQ				

TILLER STEERING

SIZE	TORQUE
1/4-20 (M6)	8-9 FT-LBS
5/16-18 (M8)	15 FT-LBS
3/8-16 (M10)	22 FT-LBS

SHIFT CABLE ASSY 778,779 SEE PG. 29

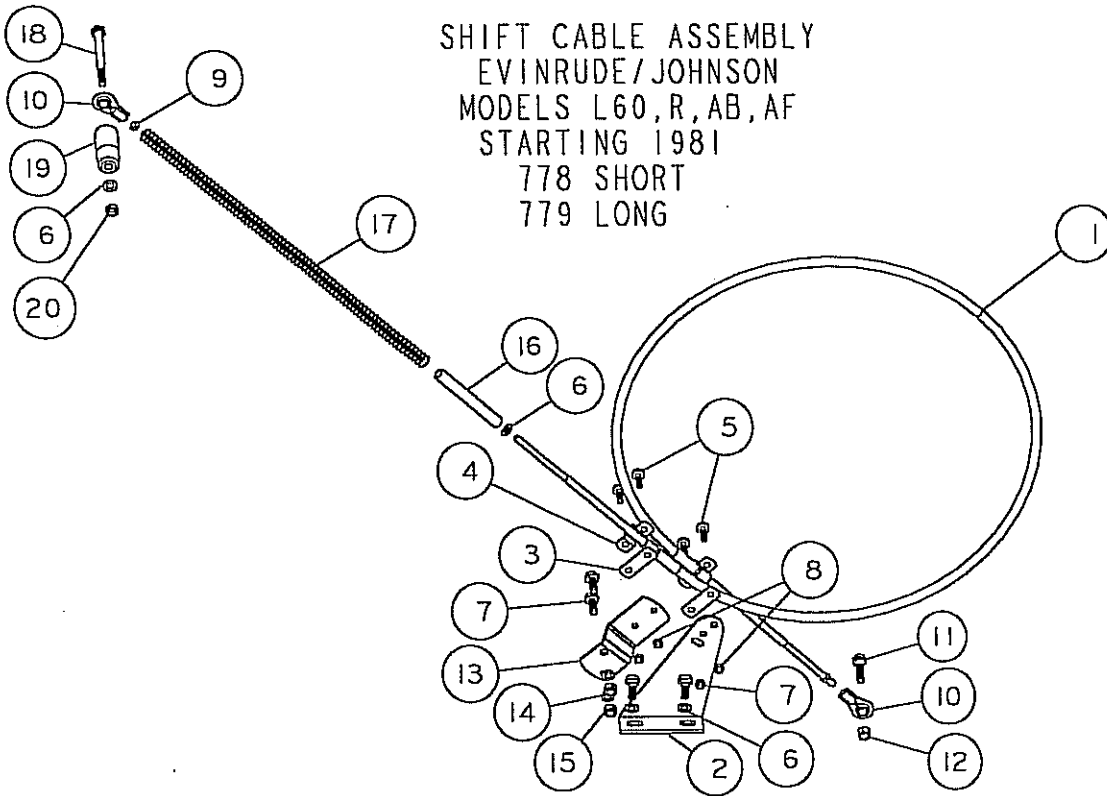
2006 SHIFT CABLE ASSY 1870, 1871, SEE PG. 34.7, (50 & 60 HP ONLY)

SHIFT CABLE ASSY 2017 (40 HP TILLER) SEE PG. 34.6

SHIFT ROD ASSY 296.43 SEE PG. 20, LRG SERIES

BEARING, SEAL, SNAP & "O" RING KIT 803.1

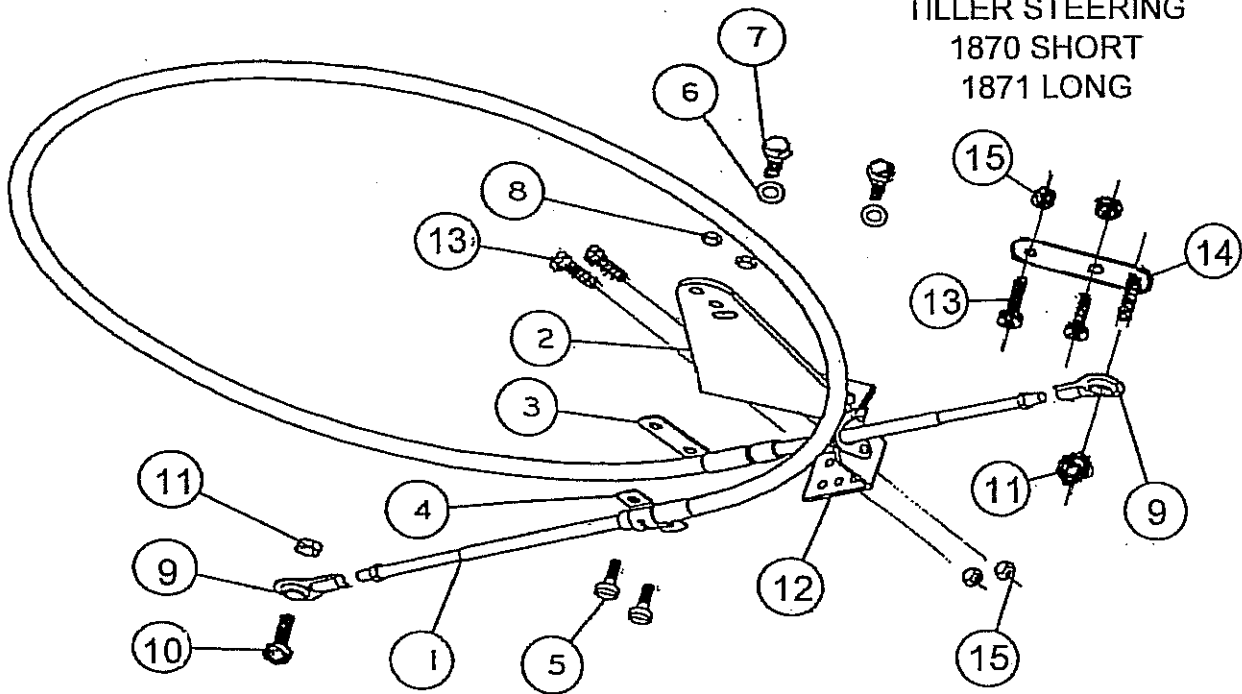
SHIFT CABLE ASSEMBLY
 EVINRUDE/JOHNSON
 MODELS L60, R, AB, AF
 STARTING 1981
 778 SHORT
 779 LONG



REF	QTY	PART NO	DESCRIPTION
1	1	549	CABLE 3 1/2 FT MOR 33C SUPREME SHORT
1	1	547	CABLE 4 FT MOR 33C SUPREME LONG
2	1	156	BRACKET CABLE SUPPORT
3	2	542	SHIM MORSE A035777
4	2	543	CLAMP CHRYS 154317
5	4	561	FIL HD SLOTTED 10-24 X 5/8
6	4	635	1/4 WASHER AN960C416
7	4	572	BOLT HEX HD 1/4-20 X 5/8
8	4	619	NYLOC 10-24
9	2	621.1	HEX NUT 10-32 JAM
10	2	553.2	BALL END 1/4X10-32 CABLE
11	1	583	BOLT HEX HD 1/4-28 X 1
12	1	624	NYLOC 1/4-28
13	1	775	BRACKET CABLE L50C
14	2	638	WASHER SPRING LOCK 1/4
15	2	628	NUT HEX 1/4-20
16	1	1285	GUIDE-T BAR HANDLE
17	1	1284	SPRING, T BAR HANDLE
18	1	581	BOLT HEX HD 1/4-20 X 2 3/4
19	1	776	PLUG HANDLE L50C
20	1	623	NYLOC 1/4-20

6.AUG.97

SHIFT CABLE ASSEMBLY
 BRP STARTING 2006
 TILLER STEERING
 1870 SHORT
 1871 LONG



REF	QTY	PART NO.	DESCRIPTION
1	1	547	CABLE 4 FT MOR 33C SUPREME
1	1	547.2	CABLE 5 FT MOR 33C SUPREME
2	1	156	BRACKET CABLE SUPT OMC, MORSE
3	1	542	SHIM MORSE A035777
4	1	543	CLAMP CHRYS 154317
5	2	561	FIL HD SLOTTED 10-24 X 5/8
6	2	635	1/4 WASHER AN960C416
7	2	572	BOLT HEX HD 1/4-20 X 5/8
8	2	619	NYLOC 10-24
9	2	553.2	BALL END 1/4X10-32 CABLE
10	1	573	BOLT HEX HD 1/4-20 X 3/4
11	2	623	NYLOC 1/4-20
12	1	1869	CABLE ANCHOR MORSE FORMED
13	4	558.4	PAN HD PHILLIPS 10-32 X 3/4
14	1	1868	STUD PLATE BRP TILLER
15	4	621	NYLOC 10-32