

MODEL BA FOR 25 HP YAMAHA SERIES
ASSEMBLY INSTRUCTIONS
YAMAHA MODEL 25D, 2 CYLINDER, 2 STROKE, 24.1 CU. IN.

1. Place the motor on the transom of your boat so that it is mounted vertically, in the normal fashion. Shift into reverse and loosen the jam nut on the shift rod. Disconnect the shift rod. Note the position of the wire link under the nut for later assembly.
2. Remove the water pump assembly from the propeller drive, including the lower stainless steel plate and dowel pins.
3. Install the jet pump driveshaft assembly into the jet drive housing, locking it in place with the two #10-24 fl head screws and spring lock washers. Grease the threads.
4. Install the water pump assembly on top of the stainless steel plate using two dowel pins and the impeller drive key. Place the two stainless steel straps on top of the water pump. Install and tighten the four 1/4-20 x 1 1/4 hex head bolts. Grease the threads.
5. Install the 1/4 x 3 3/4 threaded shift rod guide with the wire link under the nut. Thread into the hex coupling and tighten the jam nut.
6. Install the 1/4 x 1/2 x 2 3/4 aluminum plate over the internal rib inside the exhaust housing to seal the exhaust passage from the water pump area, with the relief on the side of the plate facing the water pump. Fill the grooves with RTV silicone rubber and slide in place, leaving the lower edge to protrude below the housing face. When the adapter plate is installed, it will shove the plate up flush. See page 3.
7. Install the 3/4 inch thick adapter plate using two dowel pins and 4 M10 x 35mm hex head bolts with lock washers. Grease the threads.
8. Grease the water cooling tube inside the exhaust housing and slide the brass water tube extension in place. Next, attach the jet drive to the motor. Four 5/16-18 x 2 bolts and lock washers from below and one 3/8-16 x 1 1/4 bolt from above rear, are used. Grease the bolt threads, driveshaft spline generously, and rubber water tube inlet and guide the jet into place. Tighten the five bolts.
9. 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, torsional damper and nut retainer on the shaft, and bring the nut up snug by hand.

Place the water intake in position and secure with two bolts. Observe the clearance between the impeller blade edge and the intake liner. Then remove the intake.

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.

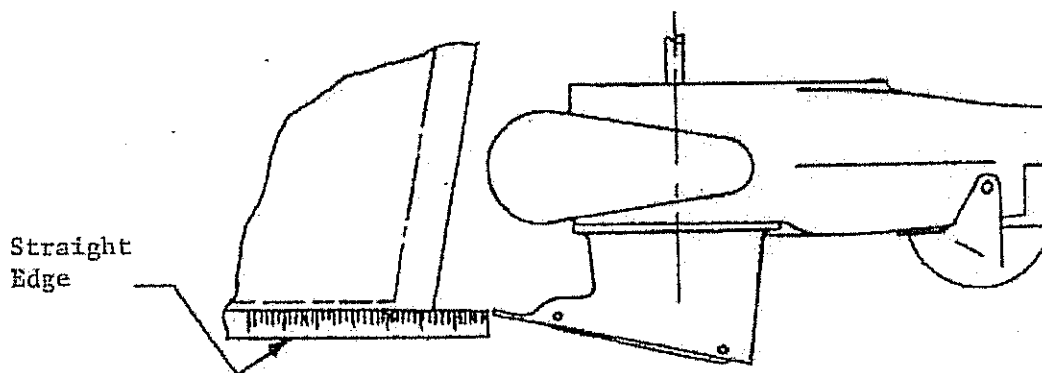
Shims should not be used above the impeller on new installations where no wear has occurred unless the blade clearance exceeds 1/32 inch. Insufficient blade clearance will do more harm than good from any performance gains it might provide.

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When the impeller clearance is satisfactory, 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.

10. Place the intake casing in position with the lower end at the rear and tighten the six 1/4-20 x 3/4 bolts. No lock washers are used. Grease the threads.
11. If your motor uses a steering tiller handle, proceed as instructed in the "Shift Cable Assembly Instructions Sheet" attached, #1888.
12. If your motor uses remote controls, attach the shift cable and cable anchor bracket to the jet drive. Slide the bracket all the way forward and lock the bolts. With the shift handle in forward and the reverse gate in forward, and 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.
13. When converting to jet drive, your motor will have to be raised to the height shown in the diagram below, using a straight edge under the boat. Test run the boat and then raise or lower the motor 1/4 inch at a time to obtain the best results. If you raise it too much, it will suck air and cavitate, either on start up or when banking on turns. When cavitating, the engine over speeds in spurts and shakes considerably in the engine mount. This is not a normal condition and should be avoided by proper adjustment of the engine height on each individual boat. If you lower it too much, you will have excessive drag, therefore, mount the engine as high as possible without allowing cavitation.

SETTING MOTOR HEIGHT



CAUTION

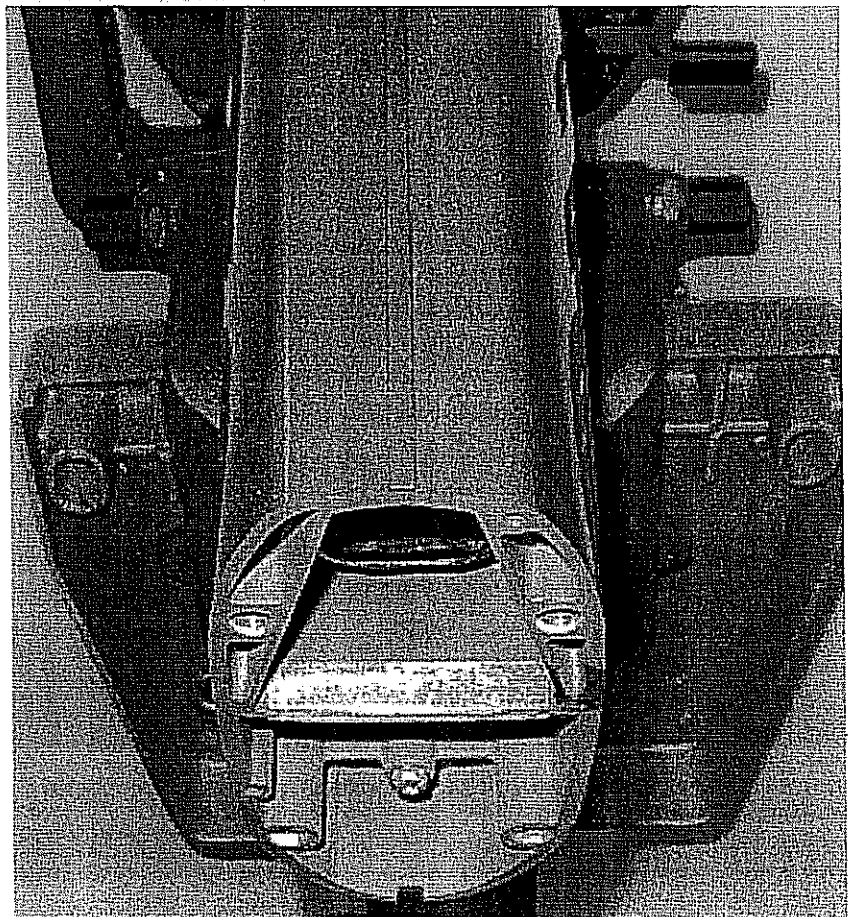
When starting the engine for the first time, watch to see that the cooling water comes out of the small hole at the rear side of the engine just below the power head. This is to check your assembly of the cooling water pump and its connections.

MAINTENANCE AND LUBRICATION

See last page.



Specialty Manufacturing Company
Outboard Jets
2035 Edison Ave.
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

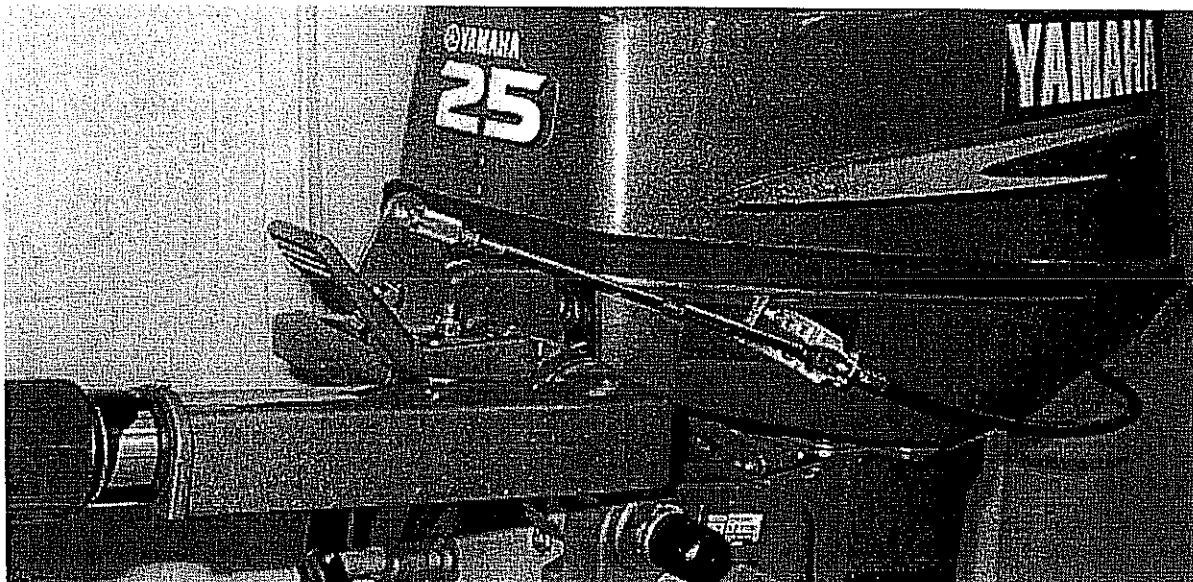
Aluminum and stainless steel have been used in the construction of your jet drive. These materials have either been treated or are inherently resistant to corrosion. It is recommended, however, that when not in use the motor be tipped up so that the jet unit is out of the water. When used in salt water 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
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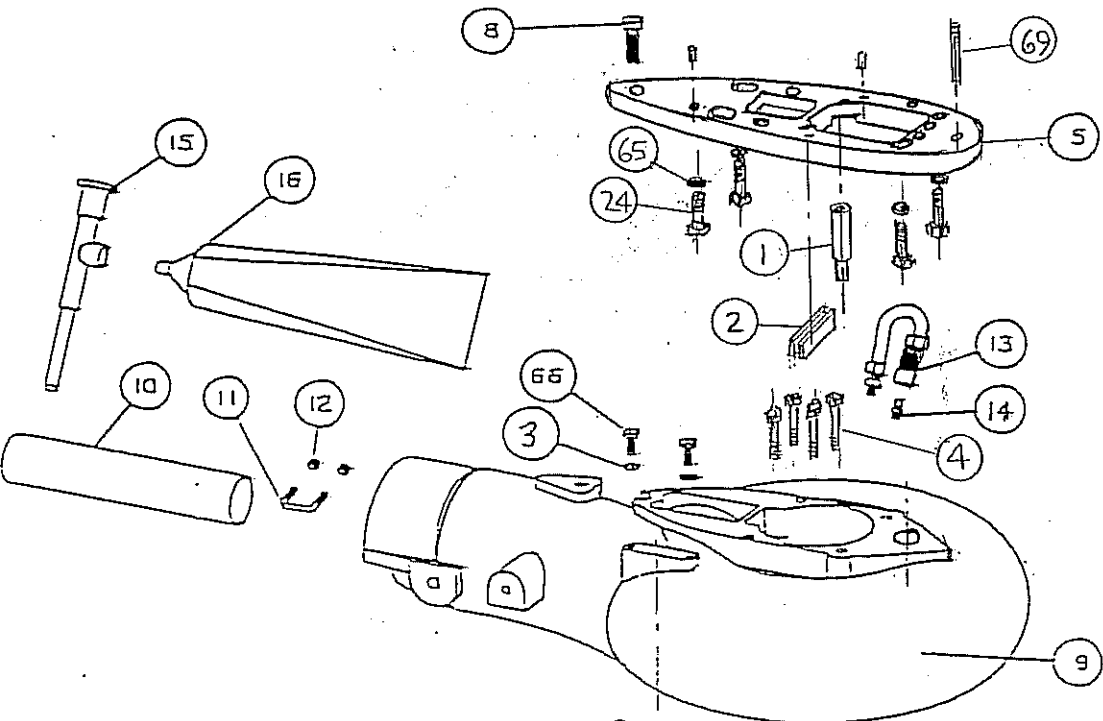
TILLER SHIFT CABLE ASSY
YAMAHA MODEL BA 25 HP
1888 SHORT



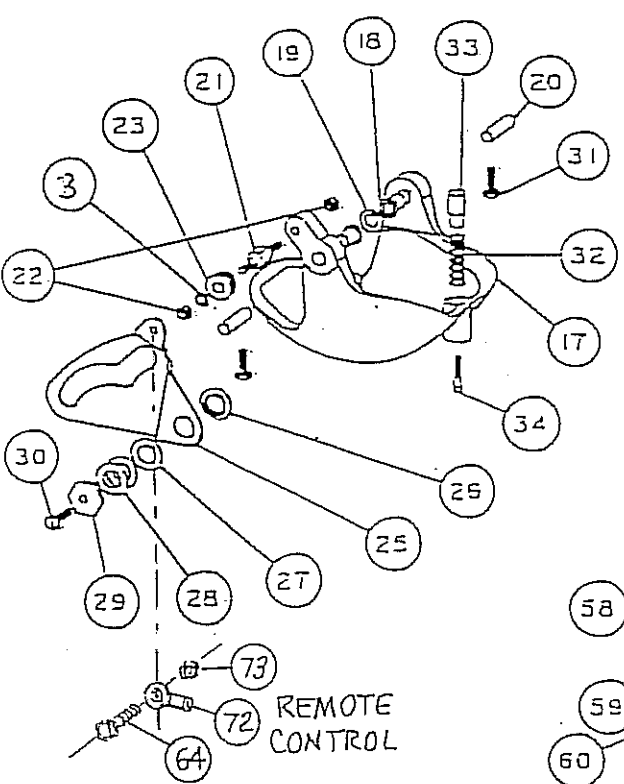
1. Cut out the paper drilling template. Align the template on the motor cowl and hold in place with masking tape. Center punch and drill two 3/16 inch holes and remove the template.
2. Attach the cable anchor bracket using two #10-32 x 3/4 phillips head screws and nyloc nuts.
3. Place the cable end ball bracket in position on the shift handle. Adjust the position so that it does not rock and will not put a strain on the shift handle when the through bolts are tightened. Hold in this position using a "C" clamp on one of the ears. Drill a 1/4 inch hole through the bracket and handle on the exposed ear.
4. Install a 1/4-20 bolt and nyloc nut. Tighten the nut, remove the clamp and drill the second hole. Install the second bolt and tighten the nut.
5. Attach the lower end of the cable to the jet drive. Thread the ball end on about 3/8 inch and center the slots in the cable support bracket over the threaded holes in the jet drive. Lock the two 1/4-20 x 5/8 bolts, using flat washers under the heads.
6. Route the cable around the back of the motor and attach the upper end to the cable anchor on the cowl and the shift handle.
7. Place the reverse gate and shift handle in forward with the cam roller at the end of the slot in the cam. Adjust the cable ends and the slotted lower cable anchor bracket to position the roller at the end of the cam slot.
8. Shift to reverse and back to forward. The cam roller should be at the end of the slot in the cam such that the gate cannot be forcibly rotated toward reverse. Pull on the gate by hand to verify this Make adjustments if necessary to satisfy this condition. Lock the jam nuts.
9. Do not be concerned about the neutral and reverse positions of the gate. Water pressure will take care of these.

CAUTION

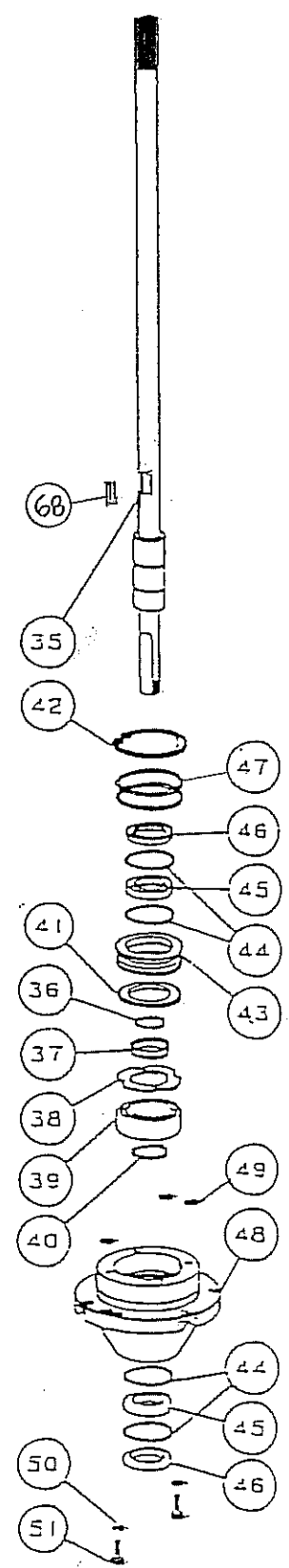
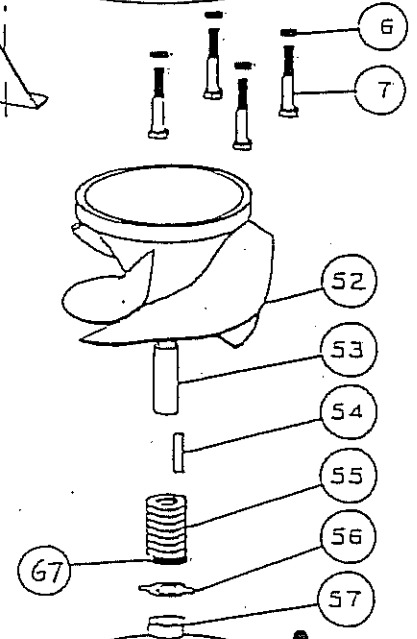
**YOU MUST RETURN THE THROTTLE
TO IDLE BEFORE SHIFTING.**



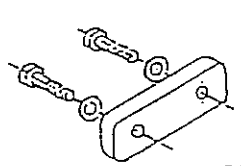
REMOTE CONTROL 71



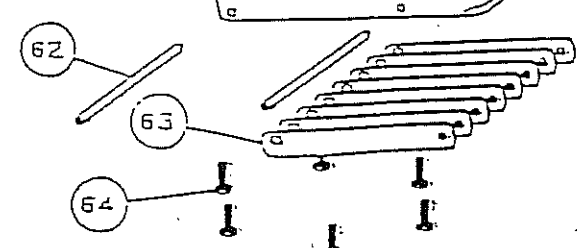
REMOTE CONTROL 72



MODEL BA



ANODE KIT 1693



MODEL BA YAMAHA 25D

2 STROKE 2 CYL 25 HP

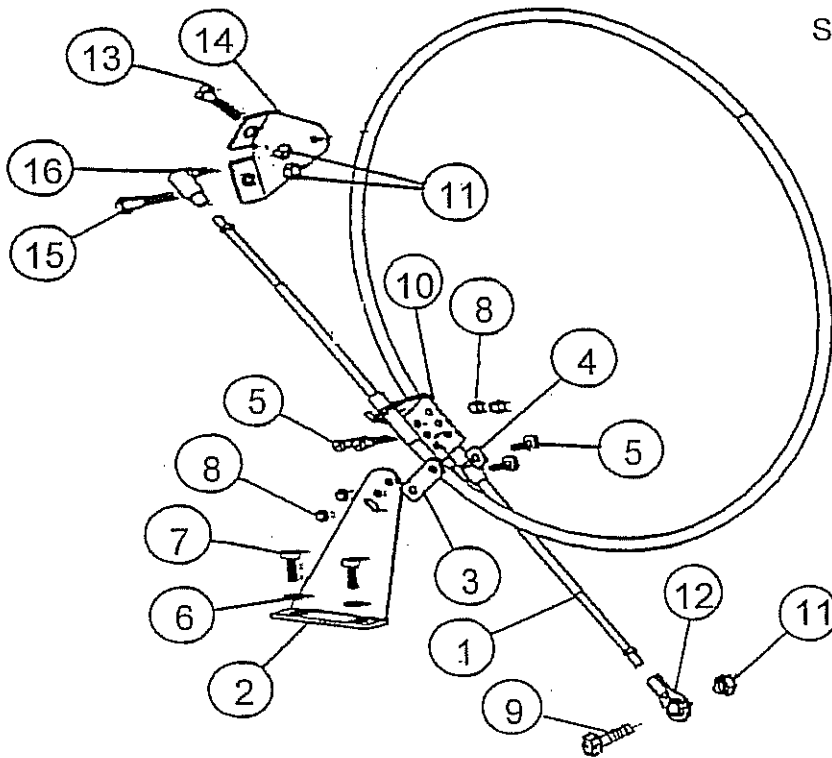
REF	QTY	PART NO.	DESCRIPTION	REF	QTY	PART NO.	DESCRIPTION
1	1	1877	WATER TUBE EXT BA W/ O-RING	52	1	414	IMPELLER 6-79 W/36.1 SLEEVE 25-30HP
2	1	1878	EXHAUST PLATE BA	53	1	36.1	SHAFT SLEEVE PLASTIC MEDIUM
3	3	635	1/4 WASHER AN960C416	54	1	1705	IMPELLER TEE KEY - 1/2 ROUND
4	4	585	BOLT HEX HD 1/4-20 X 1 1/4	55	8	21	SHIM WASHER MEDIUM
5	1	1875	ADAPTER PLATE BA	56	1	805	NUTKEEPER MED/PKG 2 PER BAG
6	4	640	WASHER SPRING LOCK 5/16	57	1	22.1	SHAFT NUT 5/8-18 BRASS
7	4	595	BOLT HEX HD 5/16-18 X 2	1	224.2		INTAKE ASSY 6 WITH GRILL & LINER
8	1	606	BOLT HEX HD 3/8-16 X 1 1/4	58	1	855	LINER 6 W/HARDWARE
		1882	RECOUP GATE BA YAMAHA	59	2	638	WASHER SPRING LOCK 1/4
9	1	1881	RECOUP TUBE BA YAMAHA	60	2	572	BOLT HEX HD 1/4-20 X 5/8
10	1	221	EXHAUST TUBE SMALL 1 1/2	61	1	853	INTAKE PAINTED ONLY
11	1	847	CLIP EXHAUST TUBE 3/4	62	2	216	GRILL ROD SMALL
12	2	621	NYLOC 10-32	63	8	215	GRILL BAR SMALL
13	1	975	LUBE HOSE ASSY	64	7	573	BOLT HEX HD 1/4-20 X 3/4
14	1	539	ZIRC FITTING 1/4-28	65	4	636	WASHER SPRING LOCK M10
15	1	550	GREASE GUN	66	2	572	BOLT HEX HD 1/4-20 X 5/8
16	1	552	GREASE 10 OZ TUBE 630-AA	67	1	1718	TORSIONAL DAMPER 5/8
17	1	1355	REVERSE GATE SMALL	68	1	1275	KEY, TEE WATER PUMP
18	2	535	NYLINER 3/8 ID X 11/16	69	1	1876	SHIFT GUIDE ROD
19	1	1177	SPRING GATE PIVOT 3/8	71	1	171	BRACKET ASSY MORSE W/CLAMP & HARDWARE
20	2	821	PIN GATE PIVOT 3/8 SMALL	72	1	553.2	BALL END 1/4X10-32 CABLE
21	1	1043	SHAFT ROLLER	73	1	623	NYLOC 1/4-20
22	2	624	NYLOC 1/4-28				
23	1	1042	ROLLER ASSY				
24	4	592	BOLT HEX HD M10-1.25 X 35MM				
25	1	1035	SHIFT CAM MEDIUM				
26	1	1037	BUSHING CAM				
27	1	1038	WASHER CAM				
28	2	1039	SHIM-CAM				
29	1	1036	CAM ECCENTRIC DRILLED				
30	1	574.1	BOLT HEX HD 1/4-20 X 1 PATCH				
31	2	574	BOLT HEX HD 1/4-20 X 3/4 PATCH				
32	1	1170	SPRING GATE BUMPER				
33	1	1169	GATE BUMPER				
34	1	559.2	FIL HD SLOT 10-32X 1 1/4 PATCH				
35	1	1886	SHAFT ONLY, BA, 12T, 23-1/8 LG.				
		1887	SHAFT ASSY COMPLETE, BA, 12T				
36	1	41	SHAFT BEARING THRUST RING				
37	1	477	COLLAR BACKFIT 7205				
38	1	832	THRUST WASHER				
39	1	504	BEARING 7205B-UA				
40	1	511	TRUARC 5100-9B				
41	1	833	SPACER				
42	1	512	TRUARC N5002-212ZD				
43	1	433	UPPER SEAL CARRIER W/SEALS & O RINGS				
44	4	517	SPIROLOX RR-150S				
45	2	506	SEAL INNER				
46	2	507	SEAL OUTER 6324-S				
47	2	526	O RING 568-135 3/32X1 15/16X2 1/8				
48	1	1884	BEARING CARRIER W/SEALS & O RINGS BA				
49	3	521	O RING 568-011 1/16X5/16X7/16				
50	2	637	WASHER SPRING LOCK #10				
51	2	561	FIL HD SLOTTED 10-24 X 5/8				

SIZE	TORQUE
1/4-20 (M6)	8-9 FT-LBS
5/16-18 (M8)	12 FT-LBS
3/8-16 (M10)	22 FT-LBS

SHIFT CABLE ASSY - TILLER 1888

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

SHIFT CABLE ASSEMBLY
YAMAHA MODEL BA
TILLER STEERING
1888 SHORT



REF	QTY	PART NO.	DESCRIPTION
1	1	547.1	CABLE 4 1/2 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	4	558.4	PAN HD PHILLIPS 10-32 X 3/4
6	2	635	1/4 WASHER AN960C416
7	2	572	BOLT HEX HD 1/4-20 X 5/8
8	4	621	NYLOC 10-32
9	1	573	BOLT HEX HD 1/4-20 X 3/4
10	1	543.1	CABLE ANCHOR MORSE 36174
11	3	623	NYLOC 1/4-20
12	1	553.2	BALL END 1/4X10-32 CABLE
13	1	575	BOLT HEX HD 1/4-20 X 7/8
14	1	1252	SHIFT LEVER Z30
15	1	585	BOLT HEX HD 1/4-20 X 1 1/4
16	1	544.1	BALL JOINT MORSE 031799-001

