

Model AN Series  
Assembly Instructions

Honda 75-90HP, 4 cylinder 97 cu.in. 1996 to present

1. Place the engine on the transom of your boat so that it is mounted vertically, in the normal fashion. Remove the five 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.
  3. The holes in the stainless steel water pump plates, both upper and lower, through which the driveshaft passes, are too small and will cause grooving in the driveshaft. Using a die grinder or fine tooth half round file, open these holes up to one inch. Break sharp edges.
- CAUTION**
4. Install the jet driveshaft assembly into the spiral pump housing; locking it in place with the four 5/16 X 1 bolts WITH LOCK WASHERS. Use grease on the threads. Tighten to 15 ft-lb.
  5. Install the water pump assembly on top of the 5/8 inch thick aluminum adapter and stainless steel plate. Be sure also, to install the water pump impeller drive key removed from the propeller drive. No gasket is needed beneath the lower stainless steel plate. Use the four metric bolts and centering washers from the propeller gearbox. Grease the threads.
  6. Install the M10 taper lock stud at the rear of the motor mid-section. Grease the threads and after tightening, grease the tapered section.
  7. Next, attach the jet drive to the motor. Install the plastic shift rod guide in the 3/8 hole at the front of the jet drive housing. Two 3/8 X 7/8 dowel pins center the jet drive to the motor. Four M10 bolts and lockwashers are used. Select the lower bolt lengths to suit the different counter bore depths so that all bolts enter the exhaust housing the same depth. Grease the bolt threads, driveshaft spline generously, rubber water tube socket, and guide the jet into place. Tighten the four bolts to 22 Ft-lb.
  8. 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-lb.
  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 and nut retainer on the shaft, up against the impeller, and bring the nut up snug by hand. Be careful that the retainer does not fall into the thread groove and jam the nut.

Then bump the nut up snug 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 inch between the impeller edge and the water intake

Model AN Series

casing wall, 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.

Place the intake casing in position with the lower end at the rear and tighten the six 5/16 nyloc nuts. No lockwashers are used. Grease the threads.

10. Two cables are attached to the cable anchor bracket and roller cam, to provide neutral start protection.

CAUTION If remote controls are used, the shift cable from the remote control box is attached to the outside linkage at the reverse gate cam. If a tiller steering handle is used, a 5 foot cable from the tiller shift handle is attached to the outside linkage at the reverse gate cam, in place of the short cable that entered the motor cowling.

The inside linkage at the reverse gate cam carries a 5 foot cable from the cam, into the motor cowling to operate the neutral start safety switch and is driven by the movement of the reverse gate. The neutral start switch prevents starting the motor in forward or reverse.

11. 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 end 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.

Shift to neutral and adjust the cable end in the motor housing so that the neutral start switch is activated.

12. When converting to jet drive, your motor will have to be raised to the height shown in the diagram on page 3, 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 26 inches measure vertically from the boat bottom.

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

## Model AN Series

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.

When starting the engine for the first time, watch to see that  
CAUTION 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.

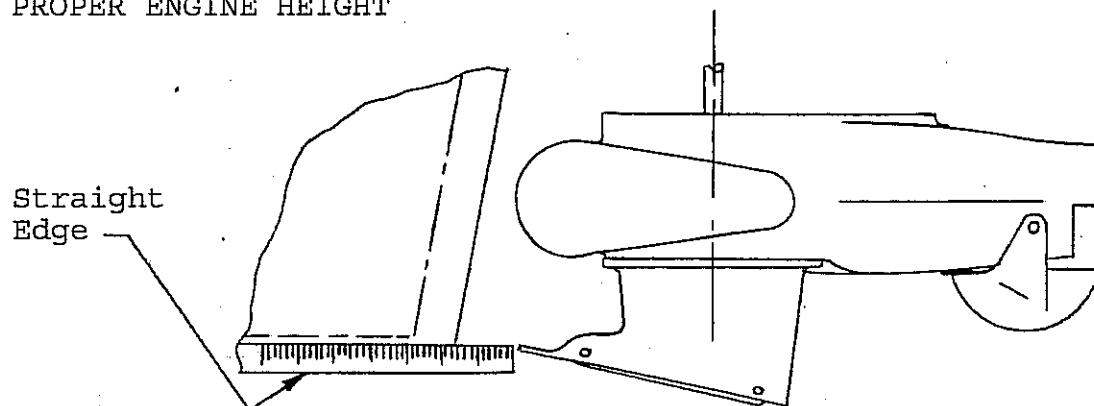
The cooling system can be flushed by removing the slotted screw next to the grease fitting. A hose coupling No. 24789A1 is available from a Mercury dealer. Turn on the water gently, start the motor, set to idle and watch for cooling water at the tell tale. Adjust water pressure if needed. Replace the screw after flushing.

### MAINTENANCE AND LUBRICATION

See separate sheet.

GOOD BOATING AND HAVE FUN!

### PROPER ENGINE HEIGHT



Specialty Manufacturing Company  
OUTBOARD JETS  
2035 Edison Avenue  
San Leandro CA 94577-1103

# 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.

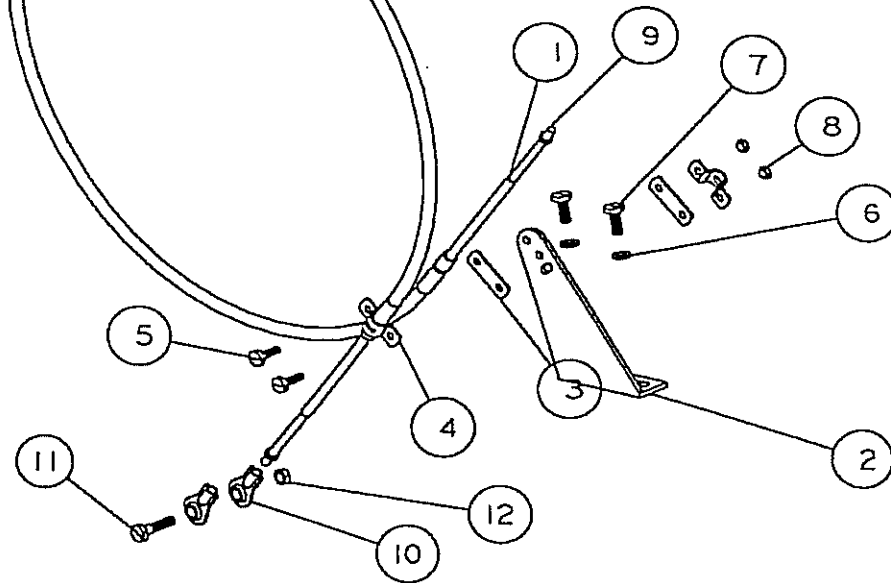
## GUARANTEE

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.

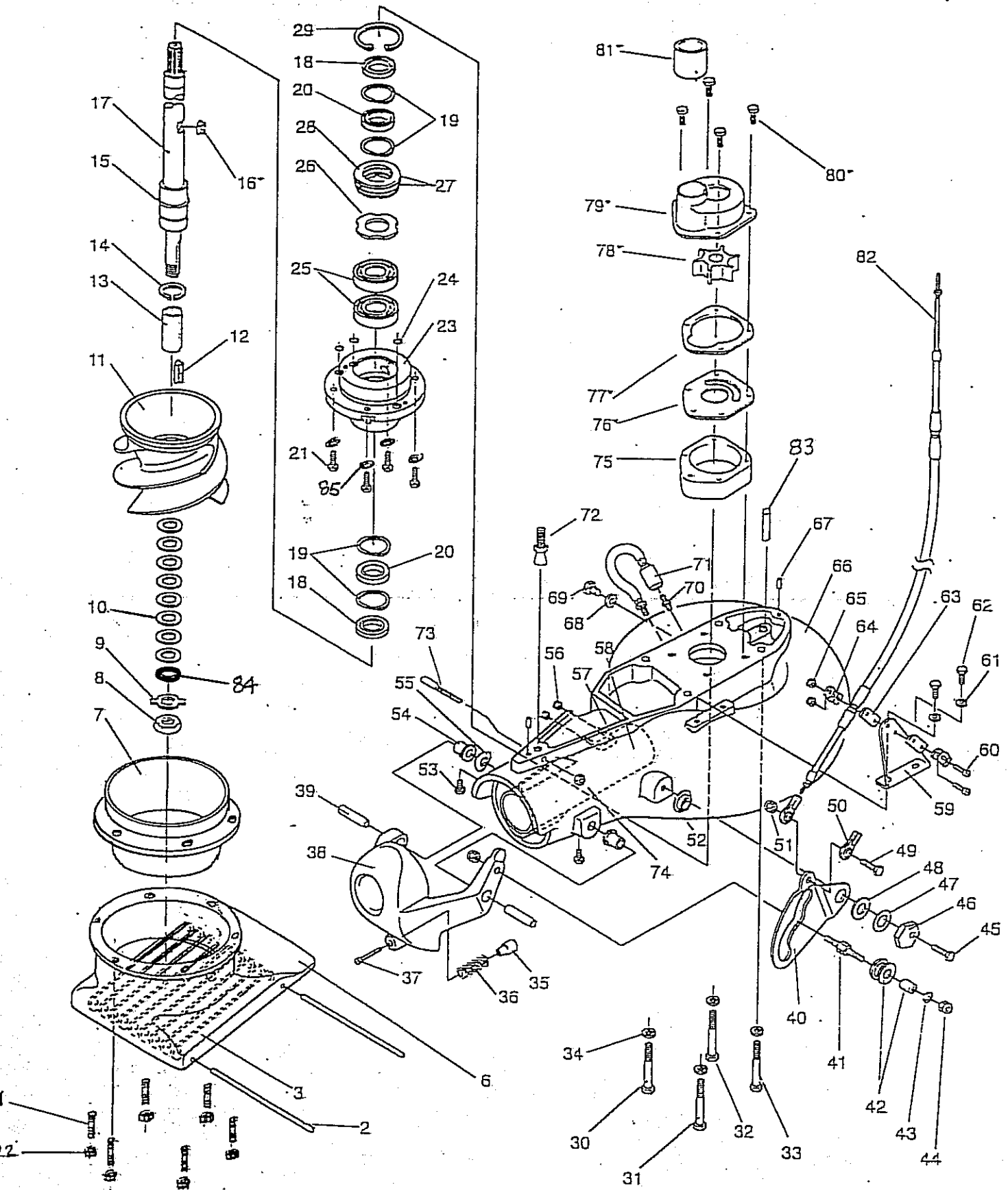
Specialty Manufacturing Company  
Outboard Jets  
2035 Edison Avenue  
San Leandro, CA 94577

LARGE SERIES

NEUTRAL CABLE ASSEMBLY  
MODEL AIR, AN, AP, U4-4 SUZUKI  
1318



REF	QTY	PART NO.	DESCRIPTION
1	1	547.2	CABLE 5 FT MOR 33C SUPREME
2	1	156	BRACKET CABLE SUPT OMC, MORSE
3	2	542	SHIM MORSE A035777
4	2	543	CLAMP CHRYS 154317
5	2	561.1	FIL HD SLOTTED 10-24 X 3/4
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	621.1	NUT HEX 10-32
10	2	553.2	BALL END 1/4X10-32 CABLE
11	1	585	BOLT HEX HD 1/4-20 X 1 1/4
12	1	623	NYLOC 1/4-20



MODEL AN

ANODE KIT 1693

**MODEL AN90 - HONDA 75-90 HP  
MODEL AN130 - HONDA 115-130 HP**

REF	QTY	PART NO.	DESCRIPTION	REF	QTY	PART NO.	DESCRIPTION
1	6	1319	STUD	49	1	576	BOLT HEX HD 1/4-20 X 1
2	2	14	GRILL ROD	50	2	553.2	BALL END 1/4X10-32 CABLE
3	9	117	GRILL BAR	51	1	623	FIBER LOCK NUT 1/4-20
4	2	638	SPRING LOCK WASHER 1/4	52	1	1037	BUSHING CAM
5	2	575	BOLT HEX HD 1/4-20 X 7/8	53	2	574	BOLT HEX HD 1/4-20 X 3/4 PATCH
6	1	1332.05	INTAKE CASING	54	2	536	NYLINER 1/2 ID X 13/16
		1333.05	INTAKE ASSY WITH GRILL & LINER	55	1	1178	SPRING GATE PIVOT 1/2
7	1	1431	LINER 7 3/8 FLANGED	56	2	621	NYLOC 10-32
8	1	122.1	SHAFT NUT 3/4-16 BRASS	57	1	847	CLIP EXHAUST TUBE
9	1	781	NUTKEEPER 3/4	58	1	128	EXHAUST TUBE ASSY LARGE 2 1/2
10	8	121	SHIM WASHER	59	1	156	CABLE SUPPORT BRACKET
11	1	1756	IMPELLER 7 3/8 STAINLESS 75-115 HP	60	2	561.1	SCREW 10-24 X 3/4
11	1	1919	IMPELLER 7 3/8 D STAINLESS 130 HP	61	2	635	1/4 WASHER AN960C416
12	1	434	IMPELLER TEE KEY - SQUARE	62	2	572	BOLT HEX HD 1/4-20 X 5/8
12	1	1705	IMPELLER TEE KEY - 1/2 ROUND	63	2	542	SHIM MORSE AQ35777
13	1	136	IMPELLER SHAFT SLEEVE	64	2	543	CLAMP CHRYS 154317
14	1	511	RETAINING RING	65	2	619	NYLOC 10-24
15	1	41	DRIVESHAFT BEARING THRUST RING	65	1	1489.05	VOLUTE WITH EXHAUST TUBE AN
16*	1		WATER PUMP IMPELLER KEY	67	2	630	DOWEL PIN 3/8 X 7/8
17	1	1450	SHAFT ONLY, AN, 19T 30 5/32 LG	68	1	1023	WASHER FIBER 3/8
		1451.1	SHAFT ASSY COMPLETE, AN 19T - 5/16	69	1	1022	BOLT HEX HD 3/8-16 X 1/2
18	2	507	SEAL OUTER 6324-S	70	1	539	ZIRC FITTING 1/4-28
19	4	517	SPIROLOX RR-150S	71	1	975	LUBE HOSE ASSY
20	2	506	SEAL INNER	72	1	1485	TAPER LOCK STUD 10 MM
21	4	602.1	BOLT HEX HD 5/16-18 X 1 PATCH	73	1	1486	WEDGE BOLT 5/16
22	6	625	NYLOC 5/16-18	74	1	625	NYLOC 5/16-18
23	1	393.5	BEARING CARRIER W/SEALS & O RINGS 5/16	75	1	1009	PUMP ADAPTER AC, AN
24	3	521	O RING 568-011 1/16X5/16X7/16	76*	1		WATER PUMP COVER
25	2	502	BEARING 7305B-UA	77*	1		WATER PUMP GASKET
26	1	404	BACKUP WASHER	78*	1		IMPELLER
27	2	527	O RING 568-141 3/32X2 5/16X2 1/2	79*	1		IMPELLER HOUSING
28	1	432	UPPER SEAL CARRIER W/SEALS & O RINGS	80*	4		BOLT/WASHER ASSY
29	1	513	TRUARC N5002-250ZD	81*	1		SEAL
30	1	592.3	BOLT HEX HD, 10 X 70 MM	82	1	547.2	NEUTRAL CABLE 5 FT
31	1	592.4	BOLT HEX HD, 10 X 90 MM	83	1	1661	SHIFT ROD GUIDE
32	1	592.2	BOLT HEX HD, 10 X 60 MM	*		1549	WATER PUMP KIT 115-130 HP
33	1	592.2	BOLT HEX HD, 10 X 60 MM	84	1	1719	TORSIONAL DAMPER 3/4
34	4	636	WASHER SPRING LOCK M10	85	4	640	WASHER SPRING LOCK 5/16
35	1	1497	GATE BUMPER				
36	1	1170	BUMPER SPRING				
37	1	559.2	FIL HD SLOTTED 10-32 X 1 1/4 PATCH				* WATER PUMP REQUIRED - PROVIDED WITH "JET READY" 90 HP MOTOR
38	1	1172.05	REVERSE GATE LARGE				
39	2	823	PIN GATE PIVOT 1/2 LARGE				
40	1	1034	SHIFT CAM LARGE				
41	1	1043	SHAFT ROLLER				
42	1	1042	ROLLER ASSY				
43	1	635	1/4 WASHER AN960C416				
44	2	624	NYLOC 1/4-28				
45	1	574.1	BOLT HEX HD 1/4-20 X 1 PATCH				
46	1	1036	CAM ECCENTRIC DRILLED				
47	1	1039	SHIM - CAM				
48	1	1038	WASHER CAM				

NEUTRAL SWITCH CABLE ASSY 1318 SEE  
PAGE 25 - NOT NEEDED WITH TILLER STEERING

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

BEARING, SEAL, SNAP & "O" RING KIT  
2 BRG 462.2

TILLER STEERING SHIFT CABLE ASSYS  
ASSY 31 THROUGH 2003 SEE PAGE 25.1  
ASSY 1829 STARTING 2004, LONG HANDLE  
SEE PAGE 25.2