

MODEL AE4-30 TOHATSU / NISSAN SERIES  
ASSEMBLY INSTRUCTIONS  
25-30 HP 4 STROKE STARTING 2003

1. Place the motor on the transom of your boat. To disconnect the shift rod from the propeller drive, remove the lower cross pin from the rod coupling. Remove the five bolts holding the drive to the motor midsection and remove the propeller drive.
2. Remove the water pump assembly from the propeller drive, including the lower stainless steel plate, upper gasket, housing with impeller and the impeller drive key.
3. Install the jet pump driveshaft assembly into the jet drive housing, locking it in place with the two #10-24 fil head screws and spring lock washers. Grease on the threads.
4. Install the water pump assembly on top of the 1 3/8 inch thick aluminum adapter. It may be necessary to open up the holes in the stainless steel pump plate to clear the mounting bolts. Use gaskets over and under the pump plate and be sure to install the impeller drive key. Lock in place with four 1/4-20 x 2 3/4 bolts and flat washers. Grease the threads.
5. The large adapter plate is attached to the motor midsection to hold the jet drive. Use four M8 x 30mm bolts with lock washers and one 5/16-18 x 1 3/4 bolt with lockwasher and nyloc nut at the front. Grease the threads.
6. Slide the 1/4 x 1 1/2 long shift rod guide into the shift coupling and drive in the cross pin. Install the plastic guide tube in the jet drive housing. Next, attach the jet drive to the motor. Four 5/16-18 x 2 bolts and lockwashers 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.
7. 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.

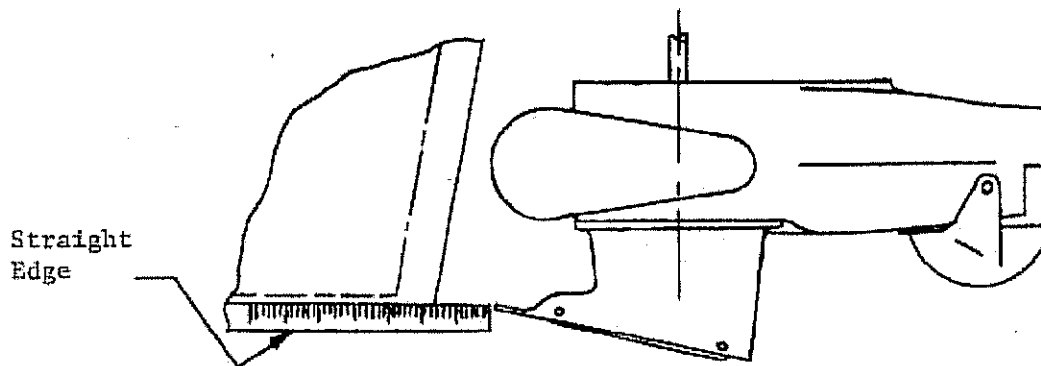
**Shims should not be used above the impeller on new installations where no wear has occurred unless the blade clearance exceeds 1/32 inch. Insufficient blade clearance will do more harm than good from any performance gains it might provide.**

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.

MODEL AE4-30 TOHATSU / NISSAN SERIES  
ASSEMBLY INSTRUCTIONS  
25-30 HP 4 STROKE STARTING 2003

8. 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.
9. If your motor uses a steering tiller handle, proceed as instructed in the "shift rod assembly instructions sheet" attached.
10. 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.
11. 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.

# 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.

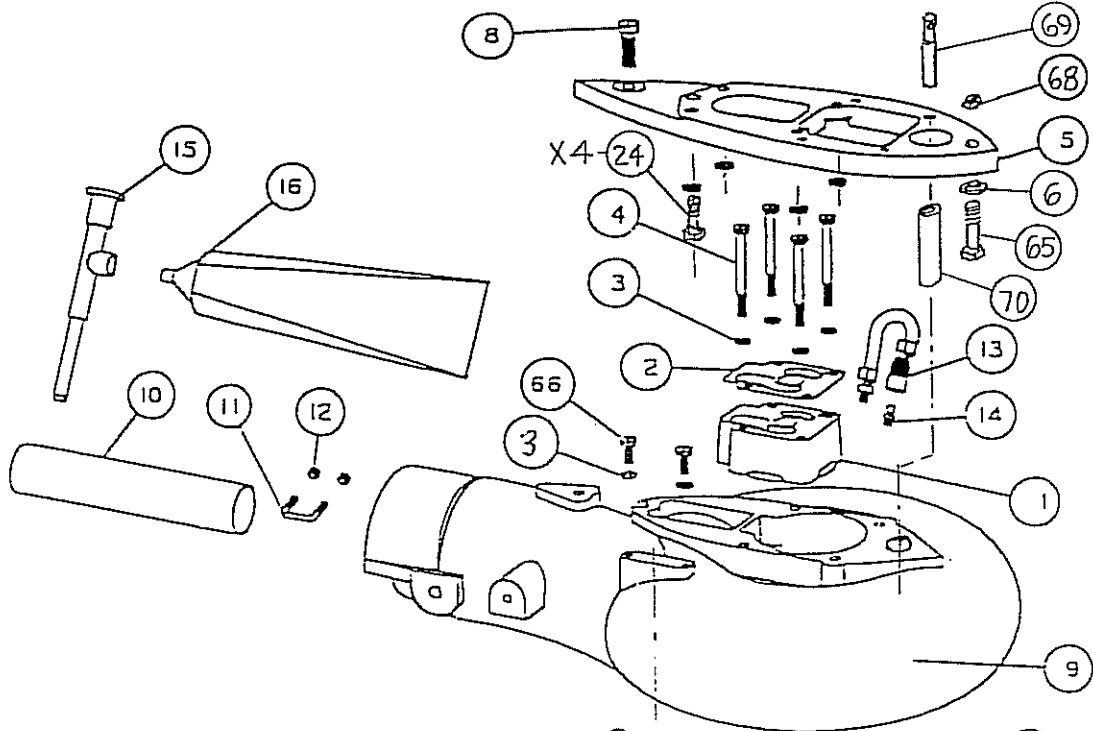
## SALT WATER USE

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.

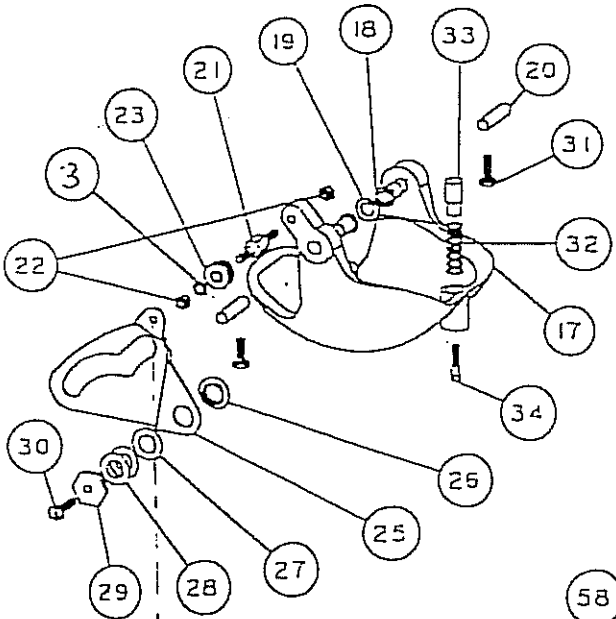
## GUARANTEE

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.

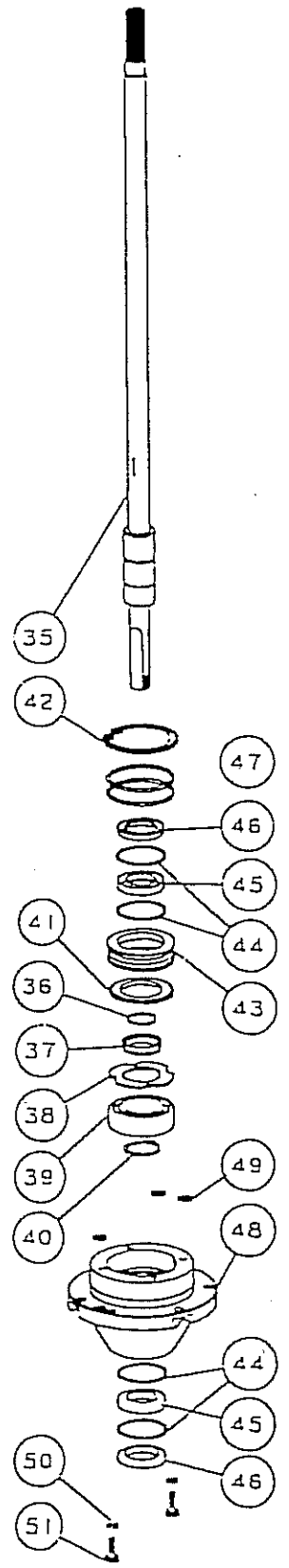
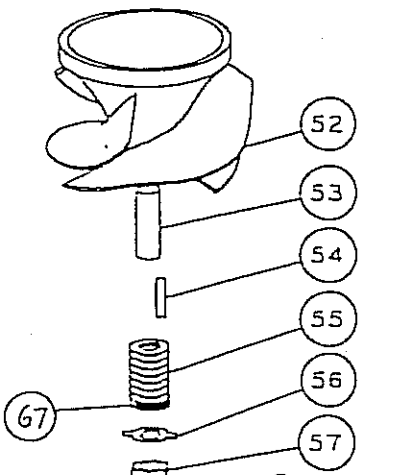
Specialty Manufacturing Company  
Outboard Jets  
2035 Edison Avenue  
San Leandro, CA 94577



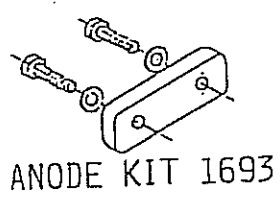
REMOTE CONTROL 71



REMOTE CONTROL 72, 73, 64



MODEL AE4-30



ANODE KIT 1693

**MODEL AE4-30 TOHATSU / NISSAN**

4 STROKE 3 CYL 25-30HP

REF	QTY	PART NO.	DESCRIPTION	REF	QTY	PART NO.	DESCRIPTION
1	1	1138	PUMP ADAPTER AE	50	2	637	WASHER SPRING LOCK #10
2	1	1139	GASKET WATER PUMP AE	51	2	561	FIL HD SLOTTED 10-24 X 5/8
3	7	635	1/4 WASHER AN960C416	52	1	414	IMPELLER 6-79 W/36.1 SLEEVE 25-30HP
4	4	581	BOLT HEX HD 1/4-20 X 2 3/4	53	1	36.1	SHAFT SLEEVE PLASTIC MEDIUM
5	1	1782	ADAPTER PLATE AE	54	1	1705	IMPELLER TEE KEY - 1/2 ROUND
6	9	640	WASHER SPRING LOCK 5/16	55	8	21	SHIM WASHER MEDIUM
7	4	595	BOLT HEX HD 5/16-18 X 2	56	1	805	NUTKEEPER MED/PKG 2 PER BAG
8	1	606	BOLT HEX HD 3/8-16 X 1 1/4	57	1	22.1	SHAFT NUT 5/8-18 BRASS
		11470	VOLUTE WITH GATE AE	1	224.2		INTAKE ASSY 6 WITH GRILL & LINER
9	1	1148	VOLUTE WITH EXHAUST TUBE AE	58	1	855	LINER 6 W/HARDWARE
10	1	221	EXHAUST TUBE SMALL 1 1/2	59	2	638	WASHER SPRING LOCK 1/4
11	1	847	CLIP EXHAUST TUBE 3/4	60	2	572	BOLT HEX HD 1/4-20 X 5/8
12	2	621	NYLOC 10-32	61	1	853	INTAKE PAINTED ONLY
13	1	975	LUBE HOSE ASSY	62	2	216	GRILL ROD SMALL
14	1	539	ZIRC FITTING 1/4-28	63	8	215	GRILL BAR SMALL
15	1	550	GREASE GUN	64	7	573	BOLT HEX HD 1/4-20 X 3/4
16	1	552	GREASE 10 OZ TUBE 630-AA	65	1	597.1	BOLT HEX HD 5/16-18 X 1 3/4
17	1	1355	REVERSE GATE SMALL	66	2	572	BOLT HEX HD 1/4-20 X 5/8
18	2	535	NYLINER 3/8 ID X 11/16	67	1	1718	TORSIONAL DAMPER 5/8
19	1	1177	SPRING GATE PIVOT 3/8	68	1	625	NYLOC 5/16-18
20	2	821	PIN GATE PIVOT 3/8 SMALL	69	1	1780	SHIFT GUIDE ROD
21	1	1043	SHAFT ROLLER	70	1	1781	SHIFT GUIDE BUSHING
22	2	624	NYLOC 1/4-28	71	1	171	BRACKET ASSY MORSE W/CLAMP & HARDWARE
23	1	1042	ROLLER ASSY	72	1	553.2	BALL END 1/4X10-32 CABLE
24	4	591	BOLT HEX HD M8-1.25 X 30MM	73	1	623	NYLOC 1/4-20
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 SLOTTED 10-32 X 1/4 PATCH				
35	1	1776	SHAFT ONLY, AE4-30, 14T, 22-7/16 LG.				
	1	1777	SHAFT ASSY COMPLETE, AE4-30, 14T				
35	1	1797	SHAFT ONLY, AE4L-30, 14T, 27-7/16 LG.				
	1	1798	SHAFT ASSY COMPLETE, AE4L-30, 14T				
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 5100-98				
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	1166	BEARING CARRIER W/SEALS & O RINGS AE				
49	3	521	O RING 568-011 1/16X5/16X7/16				

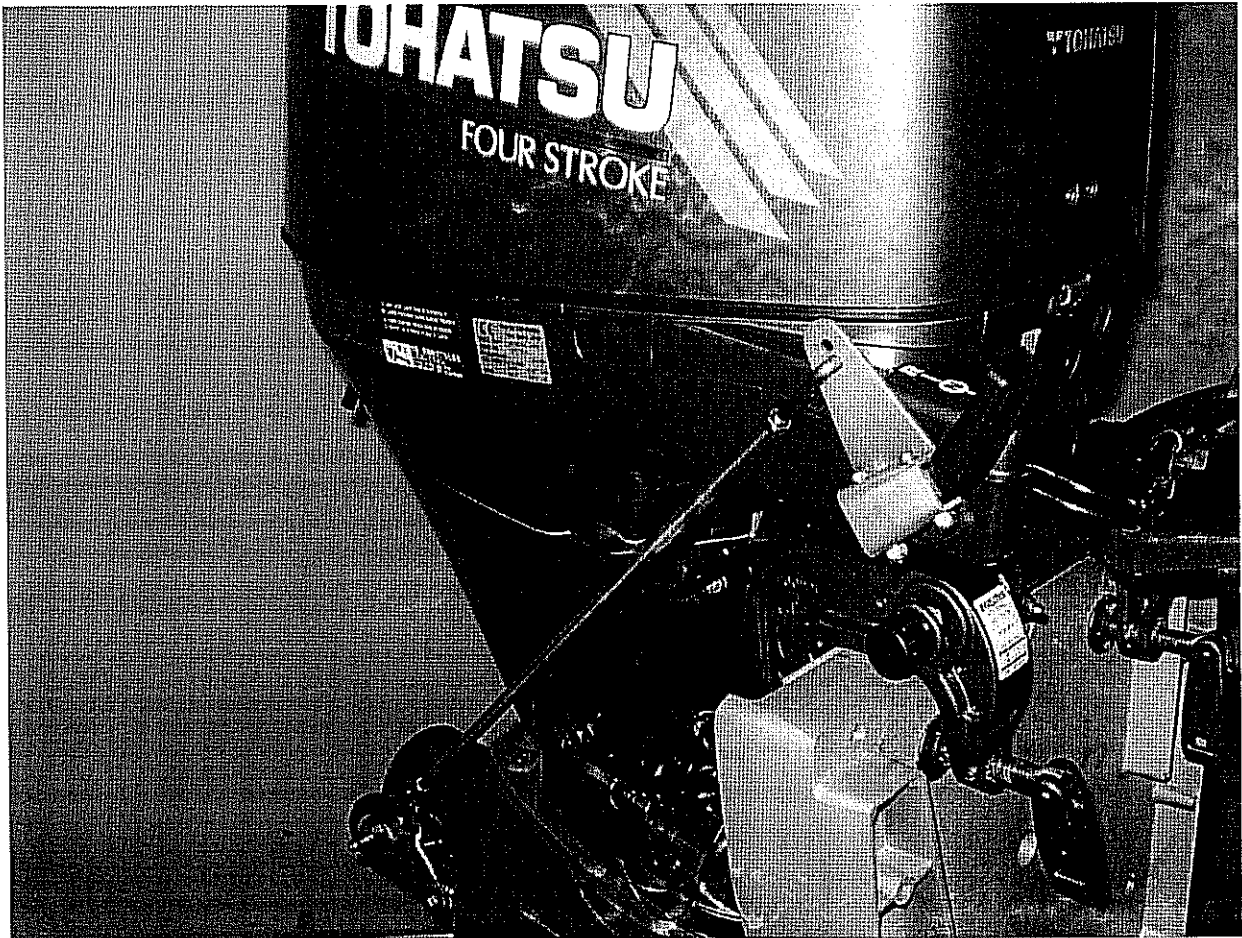
SIZE	TORQUE
1/4-20 (M6)	8-9 FT-LBS
5/16-18 (M8)	12 FT-LBS
3/8-16 (M10)	22 FT-LBS

**SHIFT ROD ASSY 1793, 1795, SEE PAGE 17.1**

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

MODEL AE4-30 CAM GATE  
SHIFT ROD ASSEMBLY INSTRUCTIONS  
SHORT SHAFT #1793  
LONG SHAFT # 1795

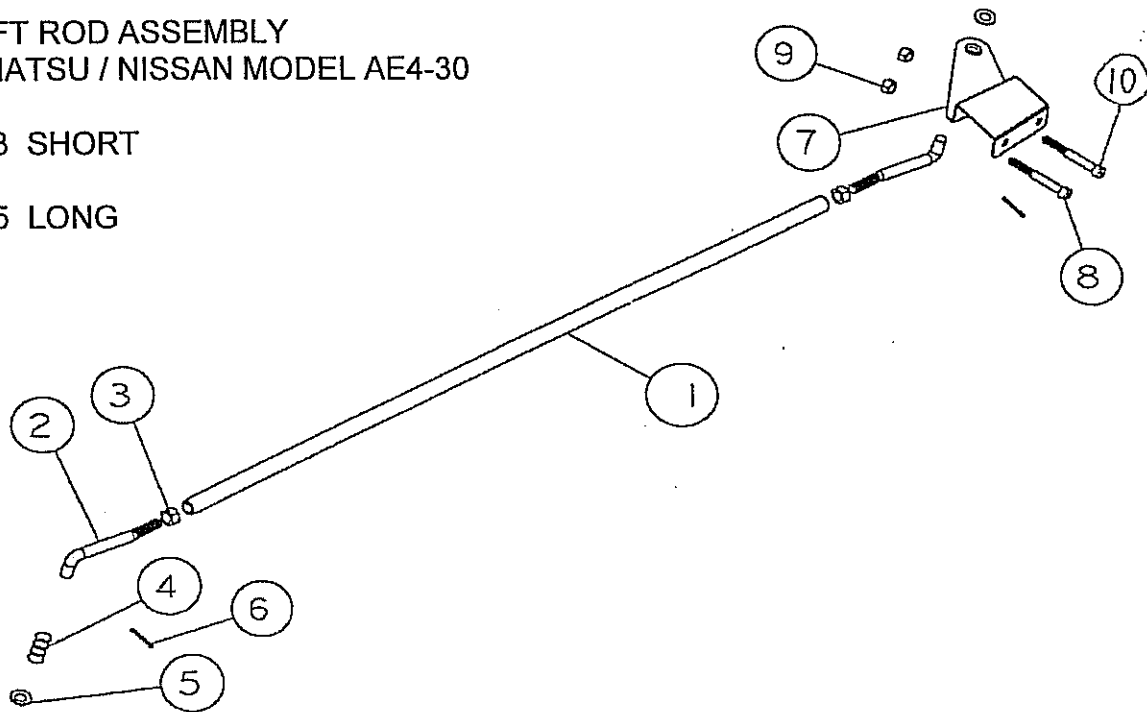
1. Install the pressed steel shift bracket on the shift handle, positioned as shown below. Drill through with a 3/16 drill. Install screws and nuts.
2. Place the reverse gate in forward with the cam roller at the end of the slot in the cam.
3. Place the shift handle in forward, solidly locked in the forward detent.
4. Adjust the length of the shift rod to reach this position. Note that the rod ends enter the holes from the outside. Install the rod temporarily and shift to reverse and then back to forward. The 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. If this forward lock position is not met, readjust the rod length, giving less importance to neutral. Lock the rod end nuts and cotter pins.
5. Return to paragraph 11, page 2.



SHIFT ROD ASSEMBLY  
TOHATSU / NISSAN MODEL AE4-30

1793 SHORT

1795 LONG



REF	QTY	PART NO.	DESCRIPTION
1	1	1779	SHIFT ROD AE4-30 SHORT 21 1/4 LG
1	1	1794	SHIFT ROD AE4-30 LONG 25 LG
2	2	24	ROD END FORMED
3	2	622	NUT HEX 1/4-28
4	2	1164	SPRING-ROD END
5	2	635	1/4 WASHER AN960C416
6	2	645	COTTER PIN 1/16 X 1/2
7	1	1778	SHIFT LEVER AE4-30
8	1	558.1	FIL HD SLOTTED 10-32 X 1 1/2
9	2	621	NYLOC 10-32
10	1	558	FIL HD SLOTTED 10-32 X 1 1/4

7.JUL.03