

MODEL W SUZUKI SERIES
ASSEMBLY INSTRUCTIONS
115-140 HP, 1981 TO PRESENT

1. Temporarily clamp the engine on the transom of your boat or an engine stand so that the gearbox can be removed.
2. Disconnect the gearbox shift rod at the lower end by removing the cross pin. Remove the bolts holding the gearbox and remove the gearbox.
3. After removing the gearbox, the rear threaded hole in the exhaust housing (which held the trim tab) is drilled through to the top with a 25/64 inch stepped drill. Back spotface the hole to a full diameter flat seat. A 3/8-16 x 3-1/4 bolt with a 5/8 diameter x 1/2 long collar goes here.
4. Remove the tapered rubber ring from the lower end of the cooling water tube and place it on the brass water tube extension provided in the kit. File the sharp edges off the water tube and slide the extension in place.

A sponge rubber plug is provided to keep the loose end of the gearshift rod from rattling. Place it around the base of the gearshift rod and push it up inside the housing bore.

5. Mount the adapter plate to the exhaust housing using 8 metric bolts and 3/8 lockwashers. Grease the threads. Two centering rings align the plate with the exhaust housing.

A 1/4-20 x 2-1/4 hex head bolt and flat washer holds the plastic fairing to the adapter plate at the forward base of the exhaust housing.

6. Install the jet driveshaft assembly into the spiral pump housing locking it in place with the four 5/16-18 x 1 bolts and lockwashers. Use grease on the threads.
7. Remove the water pump assembly from the propeller drive and install it in the jet drive. Be sure to include the lower stainless steel pump plate. Be sure also, to install the water pump impeller drive key removed from the propeller drive. Use the four 5/16-18 x 2-1/4 hex head bolts from the kit and the flat washers and lockwashers from the propeller drive. Grease the threads.
8. Next, attach the jet drive to the motor. Two 3/16 x 1/2 dowel pins center the jet drive on the adapter plate. Four 3/8-16 bolts and lockwashers from below and one 3/8-16 x 3-1/4 bolt with spacer collar from above rear, 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, and rubber water tube pilot and guide the jet into place. Tighten the 5 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 8 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 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 liner, one or more of the stainless 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.

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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.

10. Place the intake casing in position with the lower end at the rear and tighten the six nuts. No lockwashers are used. Grease the threads.
11. Attach the shift cable and cable anchor bracket to the jet drive.

Using a light finger pressure, move the gate toward reverse until the cam roller is nested in the neutral notch of the cam.

Adjust the shift cable end and the cable anchor bracket on the jet drive such that the roller is in the neutral notch when the shift handle is in neutral. Tighten hardware.

Shift to forward. The roller should be well onto the flat section of 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 condition is not met, readjust the cable positions, giving less importance to the roller position in neutral.

12. If the neutral position is too far out of adjustment, the tendency of the gate to move toward reverse, under water pressure, will put tension on the cable in neutral. In some remote control boxes, this makes it difficult to re-engage the shift mode with the motor running in the high speed idle, cold start setting. It is then necessary to stop the motor, operate the shift handle to engage the shifting pin and then restart the motor.

Proper cable adjustment will prevent this problem but it is most important that the forward locking condition be met if a compromise is to be made.

13. When converting to jet drive, your motor will have to be raised to height shown in 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 time to obtain the best results.

The motor has three 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", you can drill one alternate set of holes 5/16" up or down from the pencil marks. By alternating between these two sets of transom holes and the three sets of motor holes, the motor can be moved in 5/16" increments over almost one inch. The transom height should be about 26" measured 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 overspeeds 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.

GOOD BOATING AND HAVE FUN!

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CAUTION

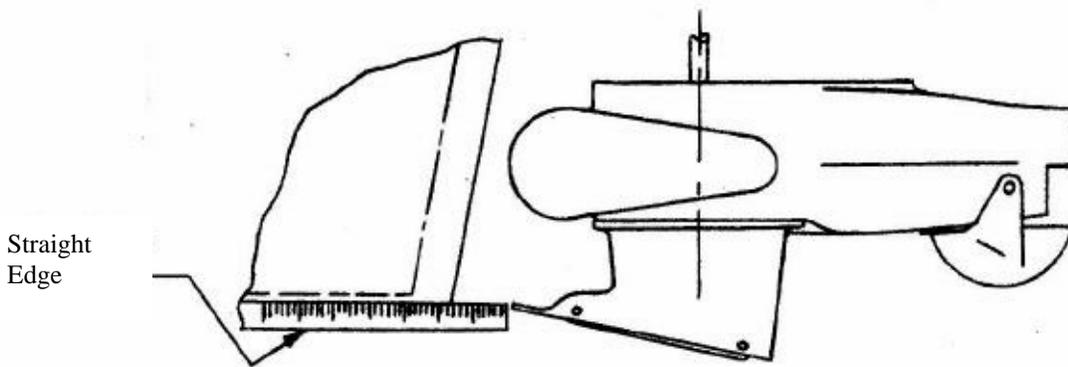
When starting the engine for the first time, watch to see that the cooling water comes out of the small hole at the rear side of the engine just below the power head. This is to check your assembly of the cooling water pump and its connections.

The cooling system can be flushed by removing the slotted screw next to the grease fitting. A hole 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.**

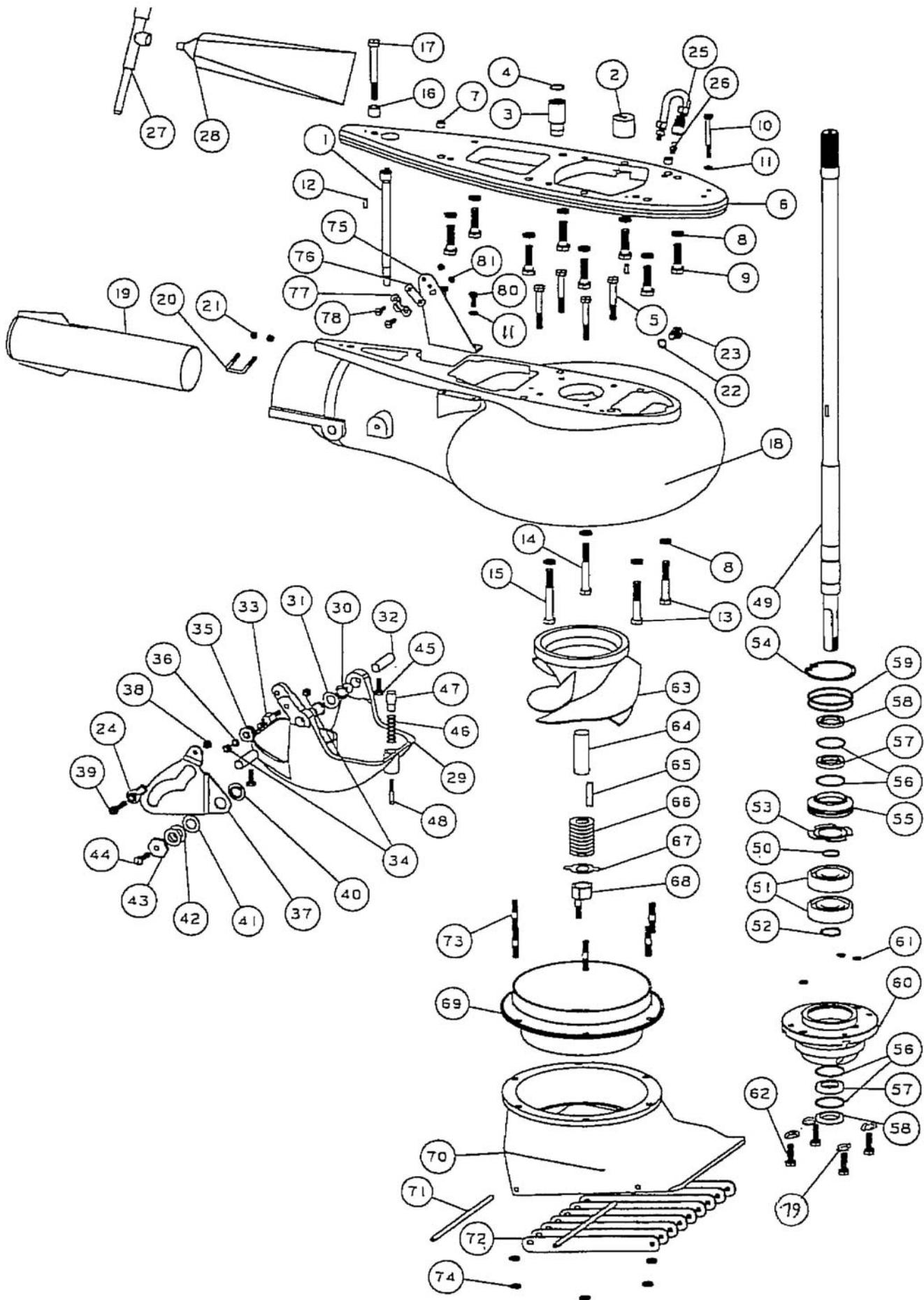
MAINTENANCE AND LUBRICATION

See last page.

PROPER ENGINE HEIGHT



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



MODEL W SUZUKI
115, 140 HP, STARTING 1981

REF	QTY	PART NO.	DESCRIPTION	REF	QTY	PART NO.	DESCRIPTION
1	1	403.23	SPOTFACER & DRILL KIT 5/8	53	1	511	TRUARC 5100-98SPP
2	1	40	SPONGE COLLAR	54	1	404	BACKUP WASHER LARGE PLATED
3	1	811	WATER TUBE EXT W WITH O-RING	55	1	513	TRUARC N5002-250ZDL
4	1	520	O RING 568-016 1/16X5/8X3/4	56	1	432	SEAL RING ASSY LARGE
5	4	598	BOLT HEX HD 5/16-18 X 2 1/4	57	4	517	SPIROLOX RR-150S
6	1	816	ADAPTER PLATE W	58	2	506	SEAL INNER 0857
7	2	448	SLEEVE CENTERING SMALL SUZ	59	2	507	SEAL OUTER 1317 REV B
8	12	636	WASHER SPRING LOCK M10	60	2	527	O RING 568-141
9	8	592	BOLT HEX HD M10-1.25 X 35MM	61	1	393.5	BRG CARR SEALS DOUBLE - 5/16
10	1	586	BOLT HEX HD 1/4-20 X 2 1/4	62	3	521	O RING 568-011 1/16X5/16X7/16
11	3	635	1/4 WASHER AN960C416	63	4	602.1	BOLT HEX HD 5/16-18 X 1 PATCH
12	2	631	DOWEL PIN 3/16 X 1/2	64	1	948	IMPELLER 7 3/8D 136, 1706(2)
13	2	608	BOLT HEX HD 3/8-16 X 2 1/4	65	1	136	SHAFT SLEEVE PLASTIC LARGE
14	1	609	BOLT HEX HD 3/8-16 X 2 3/4	66	1	434	SHAFT SLEEVE PLASTIC LARGE
15	1	610	BOLT HEX HD 3/8-16 X 3	67	9	121	SHIM WASHER LARGE
16	1	181	SPACER, REAR MOUNTING BOLT	68	1	781	NUT KEEPER FOLDED LARGE
17	1	611	BOLT HEX HD 3/8-16 X 3 1/4	69	1	122.1	SHAFT NUT 3/4-16 BRASS
		83900	RECOUP GATE W CAM			1333	INTAKE ASSY 7 3/8 FLANGED
18	1	839	RECOUP TUBE W	70	1	1431	LINER 7 3/8 FLANGED
19	1	128	EXHAUST TUBE ASSY LARGE 2 1/2	71	1	1332	INTAKE PAINTED 7 3/8 FLANGED
20	1	845	CLIP EXHAUST TUBE 1 3/8	72	2	14	GRILL ROD
21	2	621	NYLOC 10-32	73	9	117	GRILL BAR LARGE
22	1	1023	WASHER FIBER 3/8	74	6	1319	STUD - INTAKE LARGE
23	1	1022	BOLT HEX HD 3/8-16 X 1/2	75	6	625	NYLOC 5/16-18
24	1	553.2	BALL END 1/4X10-32 CABLE			171	BRACKET ASSY MORSE
25	1	975	LUBE HOSE ASSY	76	1	156	BRACKET CABLE SUPT OMC, MORSE
26	1	539	1/4-28 THREAD HYDRAULIC ZIRC	77	1	542	SHIM MORSE A035777
27	1	550	GREASE GUN 30195	78	1	543	CLAMP CHRYS 154317
28	1	552	GREASE 10 OZ TUBE NO.630-AA	79	1	561	FIL HD SLOTTED 10-24 X 5/8
29	1	1172	GATE PAINTED LARGE 1/2 CAM	80	4	640	WASHER SPRING LOCK 5/16
30	2	536	NYLINER 4217A 1/2ID X .82	81	2	572	BOLT HEX HD 1/4-20 X 5/8
31	1	1178	SPRING GATE PIVOT 1/2	82	2	619	NYLOC 10-24
32	2	823	PIN GATE PIVOT 1/2 LARGE				
33	1	1043	SHAFT ROLLER				
34	2	624	NYLOC 1/4-28				
35	1	1042	ROLLER ASSY				
36	1	635	1/4 WASHER AN960C416				
37	1	1034	SHIFT CAM LARGE				
38	1	623	NYLOC 1/4-20				
39	1	573	BOLT HEX HD 1/4-20 X 3/4				
40	1	1037	BUSHING CAM				
41	1	1038	WASHER CAM				
42	2	1039	SHIM - CAM				
43	1	1036	CAM ECCENTRIC DRILLED				
44	1	574.1	BOLT HEX HD 1/4-20 X 1 PATCH				
45	2	574	BOLT HEX HD 1/4-20 X 3/4 PATCH				
46	1	1170	SPRING GATE BUMPER				
47	1	1497	GATE BUMPER - LONG				
48	1	559.2	FIL HD SLOT 10-32X 1 1/4 PATCH				
		956.1	DSHAFT ASSY WD - 5/16				
49	1	955	DRIVESHAFT & SLV WD				
		1003.1	DSHAFT ASSY W6D - 5/16				
50	1	1002	DRIVESHAFT & SLV W6D				
		429	BRG & SEAL KIT 2 7305				
51	1	41	SHAFT BEARING THRUST RING				
52	2	502	BEARING 7305B-UA				

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 1385, 1491, SEE PAGE 17
BEARING, SEAL, SNAP & "O" RING KIT 803.1

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