SUZUKI

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SUZUKI DT2

To determine model and year of manufacture of Suzuki outboard motors, refer to numbers located on motor clamp bracket. The first six characters indicate the model and second six characters are motor serial number. The first character of serial number indicates year of manufacture. The years 1977, 1978 and 1979 are identified by the letters "C," "D" and "F" respectively. Starting with 1980, the first number in serial number corresponds with model year. For example, if first number in serial number is 1, model year is 1981.

CONDENSED SERVICE DATA

NOTE: Metric fasteners are used throughout outboard motor.

TUNE-UP

Hp/rpm	2/4500
Bore	41.0 mm (1.614 in.)
Stroke	37.8 mm (1.488 in.)
Displacement	50 cc (3.05 cu. in.)
Spark Plug:	
NGK	BR5HS
Electrode gap	0.5-0.6 mm (0.020-0.023 in.)
Magneto:	
Breaker point gap	0.3-0.4 mm (0.012-0.016 in.)
Carburetor:	
Make	Mikuni
Model	VM-11-10
Fuel:Oil Ratio	See Text

SIZES—CLEARANCES

Piston Ring End Gap	0.10-0.25 mm (0.004-0.010 in.)
Piston to Cylinder Clearance	0.053-0.060 mm (0.0021-0.0024 in.)
Piston Pin Diameter	11.996-12.000 mm (0.4723-0.4724 in.)

SIZES—CLEARANCES CONT.

Crankshaft Runout at Main Bearing Journal (Max.)	0.03 mm (0.0012 in.)
Connecting Rod Small End Side Shake (Max.)	3.0 mm (0.118 in.)

TIGHTENING TORQUES

Cylinder Head	8-12 N·m (6-9 ft.-lbs.)
Crankcase	8-12 N·m (6-9 ft.-lbs.)
Reed Plate	0.5-0.75 N·m (4.5-6.6 in.-lbs.)
Flywheel Nut	40-50 N·m (30-37 ft.-lbs.)
Standard Screws:	
5 mm	2-4 N·m (18-36 in.-lbs.)
6 mm	4-7 N·m (36-62 in.-lbs.)
8 mm	10-16 N·m (89-141 in.-lbs.)
10 mm	22-35 N·m (195-310 in.-lbs.)

LUBRICATION

The power head is lubricated by oil mixed with the fuel. Fuel:oil ratio should be 30:1 during break-in of a new or rebuilt engine. Fuel:oil ratio for normal service is 50:1 on models prior to 1987 and 100:1 on 1987 and later models. Recommended oil is Suzuki Outboard Motor Oil or a good quality NMMA certified TC-W oil. When using any other type of two-stroke engine oil, fuel:oil ratios should be 20:1 during break-in and 30:1 for normal service. Manufacturer recommends regular or unleaded automotive gasoline having an 85-95 octane rating. Gasoline and oil should be thoroughly mixed.

The lower unit gears and bearings are lubricated with SAE 90 hypoid outboard gear oil. Lower unit capacity on models prior to 1987 is approximately 40 mL (1.3 oz.). Oil capacity on later models is approximately 70 mL (2.4 oz.) on short drive shaft models and 120 mL (4.1 oz.) on long drive shaft models. On early models (prior to 1987), lay motor on side to fill with oil. Later models are equipped with a vent/oil level check plug on side of gearcase. Reinstall plug securely using a new gasket if necessary to ensure a water tight seal.

FUEL SYSTEM

CARBURETOR. A Mikuni sliding valve float type carburetor is used. Refer to Fig. SZ1-1 for exploded view. Idle speed should be adjusted after motor has reached normal operating temperature. Move speed control to slow speed stop and adjust idle speed screw (14) to obtain idle speed of 800-900 rpm. Note that on 1987 and later models, carburetor is equipped with a pilot air screw (Fig. SZ1-2) for low speed mixture adjustment. Carburetor with pilot air screw can be identified by the presence of a float bowl drain plug. Initial setting of pilot air screw is two turns out from a lightly seated position. Final adjustment should be made with engine at operating temperature and running in forward gear. Adjust pilot air screw so engine idles smoothly and accelerates without hesitation.

Main fuel metering is controlled by main jet (20—Fig. SZ1-1). Standard main jet size is #95 for models through 1986 and #90 for 1987 and later models. Normal position for clip (9) on jet needle (10) is third notch from top of needle. If midrange mixture is too lean or too rich, minor fuel mixture adjustment can be accomplished by repositioning clip on jet needle. Moving clip down on needle richens fuel mixture while moving clip up on needle leans fuel mixture. Fuel filter (17) should be cleaned after every 50 hours of operation.

To check float level, remove float bowl and invert carburetor. With float installed on float arm (23), float surface nearest main jet should be 19-21 mm (0.748-0.826 in.) away from carburetor gasket surface. Make certain float is level with gasket surface when measuring. Adjust float level by bending float arm tang.

When installing carburetor, renew "O" ring (13) as required.

IGNITION SYSTEM

Breaker point gap should be set to 0.3-0.4 mm (0.012-0.016 in.) at maximum opening. Adjustment may be accomplished through holes in flywheel. Flywheel must be removed to renew breaker points. Tighten flywheel nut to 40-50 N·m (30-37 ft.-lbs.).

After adjusting breaker points, check ignition timing using a dial indicator and an ohmmeter or continuity tester. Remove the spark plug and insert the dial indicator. Set piston position at TDC, then zero the dial indicator. Disconnect the black lead to stop button and connect the ohmmeter or continuity tester between lead from magneto and ground. Rotate the flywheel clockwise until meter or continuity tester indicates that points have just opened. Dial indicator should read 0.804 mm (0.032 in.). If ignition timing adjustment is required, remove the flywheel and loosen magneto base plate (7—Fig. SZ1-3) retaining screws. Rotating base plate clockwise retards ignition timing while rotating counterclockwise advances ignition timing.

COOLING SYSTEM

WATER PUMP. A rubber impeller type water pump is used to cool the

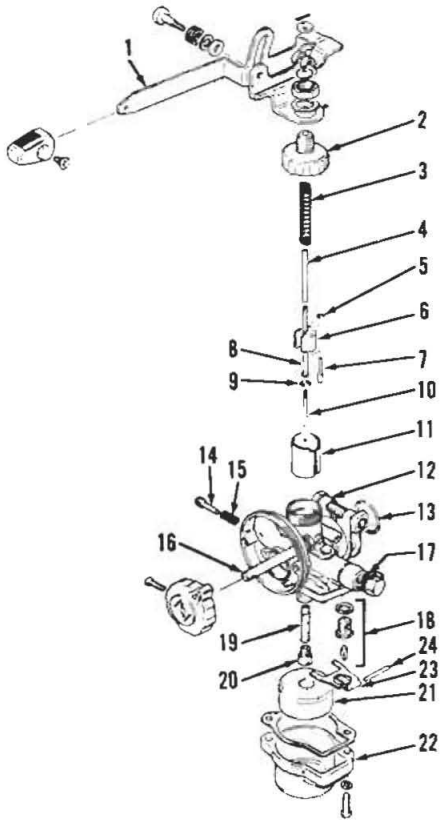

Fig. SZ1-1—Exploded view of carburetor used on models prior to 1987. On 1987 and later models, carburetor is equipped with a pilot air screw (Fig. SZ1-2) for low speed mixture adjustment.

1. Speed control assy.
2. Cap nut
3. Spring
4. Tube
5. Clip
6. Spring seat
7. Seat pin
8. Throttle rod
9. Clip
10. Jet needle
11. Throttle valve
12. Body
13. "O" ring
14. Idle speed screw
15. Spring
16. Choke assy.
17. Fuel filter
18. Fuel inlet valve
19. Main nozzle
20. Main jet
21. Float
22. Float bowl
23. Float arm
24. Pivot pin

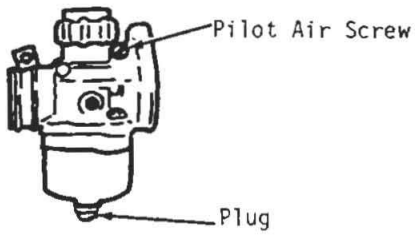

Fig. SZ1-2—Initial setting of pilot air screw on models so equipped is two turns out from a lightly seated position.

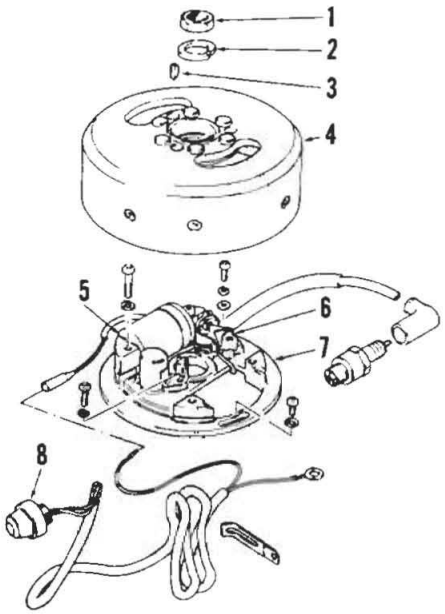

Fig. SZ1-3—Exploded view of magneto.

1. Nut
2. Lockwasher
3. Key
4. Flywheel
5. Ignition coil
6. Ignition breaker points
7. Base plate
8. Stop switch

power head and lower unit. Pump is located in the gearcase and driven by the propeller shaft.

Water inlet should be inspected for plugging or partial restriction if cooling system malfunction is noted. Refer to Fig. SZ1-9 for exploded view of water pump. To remove the impeller, remove propeller, propeller thrust pin and gearcase end cap (1), then withdraw the impeller (2). Inspect impeller for cracks or excessive wear or scoring. Power head should be separated from drive shaft housing and water passages thoroughly cleaned if large accumulations of foreign material are evident. Turn propeller shaft in a clockwise direction when inserting impeller in pump cavity.

POWER HEAD

REMOVE AND REINSTALL. To remove power head, remove power head cover, fuel tank, control panel assembly and carburetor. Remove recoil starter assembly, flywheel and magneto base plate assembly. Unscrew the six cap screws securing power head to drive shaft housing and separate power head from drive shaft housing.

Before reinstalling power head, inspect water inlet and outlet passages in drive shaft housing and remove any foreign material. Apply a coat of silicone sealer to mating surfaces of power head and drive shaft housing and install a new gasket. Assemble power head on drive shaft housing and tighten retaining cap screws to 6-10 N·m (53-88 in.-lbs.). Complete installation by reversing removal procedure.

DISASSEMBLY. Disassembly and inspection may be accomplished in the following manner: Remove cylinder head and clean carbon from combustion chamber and any foreign material accumulated in water passages. Detach crankcase half (1—Fig. SZ1-4) from cylinder block after removing six crankcase cap screws. Crankshaft and piston assembly may now be removed from cylinder block.

REASSEMBLY. Refer to specific service sections when assembling crankshaft, connecting rod, piston and reed valves. Make sure all joint and gasket surfaces are clean and free of nicks and burrs. Make sure all carbon, salt, dirt and sand are cleaned from the combustion chamber, exhaust port and water passages.

On early models place thrust rings (11—Fig. SZ1-5) in cylinder block (2—Fig. SZ1-4), then install crankshaft assembly. On later models, thrust rings are full-circle design and must be assembled on crankshaft prior to installing crankshaft. Press crankshaft seals flush against thrust rings. Install "O" ring (8) in cylinder block, then apply a suitable water resistant-grease to "O" ring and splined area of crankshaft. Apply a suitable sealer to cylinder block and crankcase half mating surfaces and position crankcase half on cylinder block. Using a crossing pattern, tighten six crankcase screws to 8-12 N·m (6-9 ft.-lbs.).

Do not use sealer when installing cylinder head gasket. Align water passage holes in cylinder block with holes in head gasket and install cylinder head. Tighten cylinder head bolts in a crossing pattern to 8-12 N·m (6-9 ft.-lbs.).

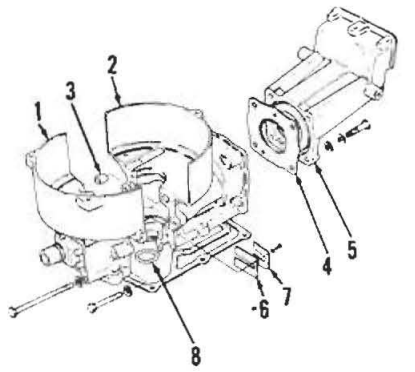

Fig. SZ1-4—Exploded view of crankcase and cylinder assembly.

1. Crankcase half
2. Cylinder block
3. Dowel
4. Head gasket
5. Cylinder head
6. Reed petal
7. Reed stop
8. "O" ring

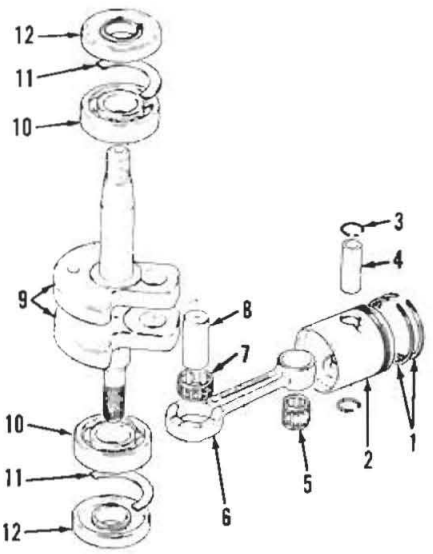

Fig. SZ1-5—Exploded view of crankshaft, piston and related components. On 1988 and later models, thrust rings (11) are full-circle design.

1. Piston rins
2. Piston
3. Retainer ring
4. Piston pin
5. Bearing
6. Connecting rod
7. Bearing
8. Crankpin
9. Crankshaft
10. Ball bearings
11. Thrust rings
12. Crankshaft seals

PISTON, PIN, RINGS AND CYLINDER. The piston is fitted with two piston rings. Piston ring end gap should be 0.10-0.25 mm (0.004-0.010 in.) with a maximum allowable ring end gap of 0.60 mm (0.024 in.). Piston rings are retained in position by locating pins. Piston-to-cylinder clearance should be 0.053-0.060 mm (0.0021-0.0024 in.). Pistons and rings are available in standard size as well as 0.25 mm (0.010) and 0.50 mm (0.020 in.) oversize. Cylinder should be bored to an oversize if cylinder is out of round or taper exceeds 0.10 mm (0.004 in.). Install piston on connecting rod so arrow on piston crown will point toward exhaust port.

CONNECTING ROD, BEARINGS AND CRANKSHAFT. Connecting rod, bearings and crankshaft are a press together unit. Crankshaft should be disassembled ONLY by experienced service personnel using appropriate service equipment.

Caged roller bearings are used at both large and small ends of the connecting rod. Determine rod bearing wear from side-to-side as shown in Fig. SZ1-6. Normal side-to-side movement is 3.0 mm (0.118 in.) or less. Maximum limit of crankshaft runout is 0.03 mm (0.0012 in.) measured at bearing surfaces with crankshaft ends supported.

Apply a suitable high temperature grease to lip area of crankshaft seals and install seals on crankshaft with open side toward bearings.

REED VALVE. The reed valve is located on the inside of crankcase (1—Fig. SZ1-4). Power head must be removed and crankcase separated from cylinder block as outlined in the POWER HEAD section to service reed valve assembly.

Renew reed (6) if petals are broken, cracked, warped or rusted. Tip of reed petal must not stand open in excess of 0.2 mm (0.008 in.) from contact surface. Reed stop opening should be 4.0 mm (0.160 in.). Reed petal should be in-

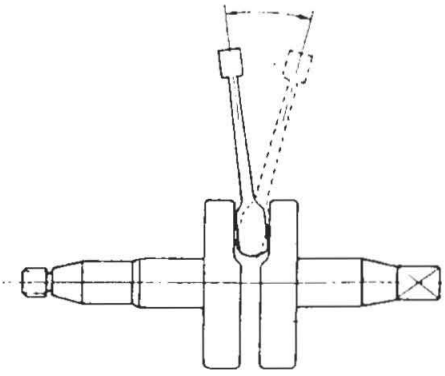

Fig. SZ1-6—Move connecting rod small end side-to-side as shown to determine rod, bearing and crankpin wear. Refer to text.