

SUZUKI DT50, DT60 AND DT65

(Prior to 1985)

CONDENSED SERVICE DATA

NOTE: Metric fasteners are used throughout outboard motor.

TUNE-UP

Hp/rpm:	
DT50	50/4800-5500
DT60	60/4800-5500
DT65	65/4800-5500

Bore:	
DT50 (Prior to 1984)	80 mm (3.15 in.)
DT50 (1984), DT60 & DT65	84 mm (3.31 in.)
Stroke	72 mm (2.83 in.)

Number of Cylinders	2
Displacement:	
DT50 (Prior to 1984)	723 cc (44.12 cu. in.)
DT50 (1984), DT60 & DT65	798 cc (48.69 cu. in.)

Spark Plug:	
NGK	B8HS*
Electrode Gap	0.8-0.9 mm (0.031-0.035 in.)

Ignition Type

Carburetor:	
Make	Mikuni
Model	B40-32

Fuel:Oil Ratio

*1984 DT50 models use NGK B8HS-10 spark plugs with an electrode gap of 1 mm (0.040 in.).

†1984 DT50 and 1983 and 1984 DT60 models are equipped with oil injection.

SIZES - CLEARANCES

Piston Ring End Gap

Piston Pin Diameter

Piston to Cylinder Wall Clearance:

DT50 (Prior to 1984)

DT50 (1984), DT60 & DT65

Max. Crankshaft Runout at Main Bearing Journal

Max. Connecting Rod Small End Side Shake

TIGHTENING TORQUES

Cylinder Head:	
6 mm	8-12 N·m (6-9 ft.-lbs.)
10 mm	40-60 N·m† (29-44 ft.-lbs.)
Crankcase	40-60 N·m† (29-44 ft.-lbs.)
Exhaust Cover	8-12 N·m (6-9 ft.-lbs.)
Flywheel Nut	200-210 N·m (145-152 ft.-lbs.)
Gearcase Pinion Nut	30-40 N·m (22-29 ft.-lbs.)
Propeller Shaft Nut	50-60 N·m (36-44 ft.-lbs.)

Standard Screws:

Unmarked or Marked "4"	
5 mm	2-4 N·m (2-3 ft.-lbs.)
6 mm	4-7 N·m (3-5 ft.-lbs.)
8 mm	10-16 N·m (7-12 ft.-lbs.)
10 mm	22-35 N·m (16-26 ft.-lbs.)

Stainless Steel

5 mm	2-4 N·m (2-3 ft.-lbs.)
6 mm	6-10 N·m (5-7 ft.-lbs.)
8 mm	15-20 N·m (11-15 ft.-lbs.)
10 mm	34-41 N·m (25-30 ft.-lbs.)

Marked "7" or SAE Grade 5

5 mm	3-6 N·m (2-5 ft.-lbs.)
6 mm	8-12 N·m (6-9 ft.-lbs.)
8 mm	18-28 N·m (13-20 ft.-lbs.)
10 mm	40-60 N·m (29-44 ft.-lbs.)

†Torque values should be 46-54 N·m (34-39 ft.-lbs.) on DT50 (1984) and DT60 models.

LUBRICATION

The power head is lubricated by oil mixed with the fuel. On models without oil injection, fuel:oil ratios should be 30:1 during break-in of a new or rebuilt engine and 50:1 for normal service when using a NMMA certified TC-WII two-stroke engine oil or Suzuki "CCI" 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. On models equipped with oil injection, for the first 5 hours of operation, mix fuel with oil in fuel tank at a ratio of 50:1 if Suzuki "CCI" oil or a NMMA certified TC-WII two-stroke oil is used. Mix fuel:oil at a ratio of 30:1 if any other type of two-stroke oil is used. Switch to straight fuel in fuel tank at the completion of the 5 hour break-in period. Manufacturer recommends regular or no-lead automotive gasoline having an 85-95 octane rating. Gasoline and oil should be thoroughly mixed in fuel tank when used on models without oil injection and when used during break-in period on models equipped with oil injection.

The lower unit gears and bearings are lubricated by oil contained in the gearcase. SAE 90 hypoid outboard gear oil

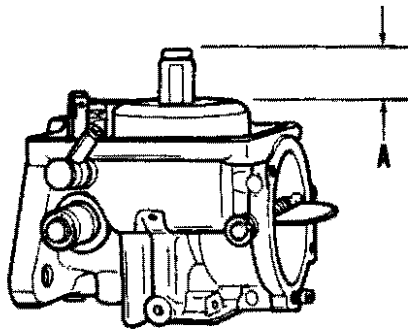


Fig. SZ14-2—Refer to text for float level (A) specifications.

should be used. Gearcase capacity is approximately 650 mL (22 oz.) of gear oil and should be drained and refilled after the first 10 hours of use and then after every 50 hours of use. Reinstall vent and fill plugs securely, using a new gasket if needed, to ensure a watertight seal.

FUEL SYSTEM

CARBURETOR. Mikuni type B40-32 carburetors are used on all models. Refer to Fig. SZ14-1 for exploded view. Initial setting of pilot air screw (7) from a lightly seated position should be $1\frac{1}{4}$ to $2\frac{1}{4}$ turns on DT50 models prior to 1984 and DT65 models and $1\frac{1}{8}$ to $2\frac{1}{8}$ turns on 1984 DT50 models and DT60 models. Final carburetor adjustment should be made with engine at normal operating temperature and running in forward gear. Rotate timing adjustment screw (B—Fig. SZ14-11) in small increments until engine idles at approximately 650-700 rpm. Adjust pilot air screw so engine idles smoothly and will accelerate cleanly without hesitation. If necessary, readjust timing adjustment screw to obtain 650-700 rpm idle speed.

Main fuel metering is controlled by main jet (10). Standard main jet size for normal operation is number 165 on DT50 models prior to 1984, number 155 on 1984 DT50 models, number 160 on DT60 models and number 167.5 on DT65 models.

To check float level, remove float bowl and invert carburetor. Distance (A—Fig. SZ14-2) between main jet and bottom of float should be 16.5-18.5 mm (0.65-0.75 in.) on DT50 models prior to 1984 and DT65 models, 16.5-18 mm (0.65-0.71 in.) on 1984 DT50 models and 16-18 mm (0.63-0.71 in.) on DT60 models. Adjust float level by bending float tang.

To synchronize throttle plate opening of top carburetor with bottom carburetor, use Suzuki carburetor balancer 09913-13121 or equivalent and make adjustment at throttle shaft connector (5—Fig. SZ14-1).

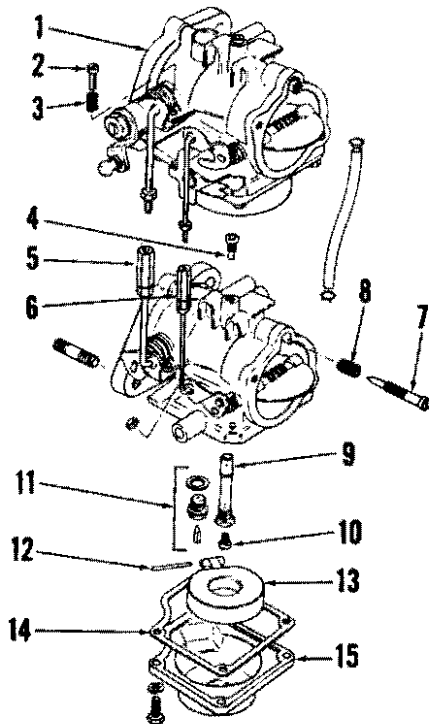


Fig. SZ14-1—Exploded view of Mikuni carburetors typical of all models.

- | | |
|-----------------------------|-----------------|
| 1. Body | 8. Spring |
| 2. Throttle stop screw | 9. Main nozzle |
| 3. Spring | 10. Main jet |
| 4. Pilot jet | 11. Inlet valve |
| 5. Throttle shaft connector | 12. Float pin |
| 6. Choke shaft connector | 13. Float |
| 7. Pilot air screw | 14. Gasket |
| | 15. Float bowl |

SPEED CONTROL LINKAGE. The carburetor throttle valves must be correctly synchronized to open as the ignition is advanced to obtain optimum performance. To adjust the speed control linkage, it is necessary to first check (and adjust if required) the ignition maximum advance as outlined in the IGNITION TIMING section. Disconnect carburetor link (C—Fig. SZ14-11) and rotate speed control lever (L) toward maximum speed position until it contacts maximum speed stop. Set carburetor throttle plates completely open then vary the length of carburetor link (C) until ball joint connector will just attach. Move speed control lever to full retard position. Clearance (A) at carburetor throttle shaft actuating levers should be 0.5-1.0 mm (0.020-0.040 in.).

REED VALVES. The inlet reed valves (Fig. SZ14-3) are located on a reed plate between inlet manifold and crankcase. The reed petals should seat very lightly against the reed plate throughout their entire length with the least possible tension. Tip of reed petal must not stand open more than 0.2 mm (0.008 in.) from contact surface. Reed stop opening should be 7.6-8.0 mm (0.30-0.31 in.) on DT50 models and 7.55-7.95 mm (0.30-0.31 in.) on DT60 and DT65 models.

Renew reeds if petals are broken, cracked, warped, rusted or bent. Never attempt to bend a reed petal or to straighten a damaged reed. Never install a bent or damaged reed. Seating surface of reed plate should be smooth

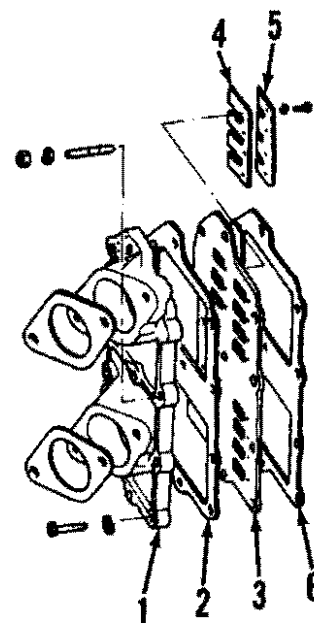


Fig. SZ14-3—Exploded view of intake manifold and reed valve assembly.

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|---------------|----------------|
| 1. Manifold | 4. Reed petals |
| 2. Gasket | 5. Reed stop |
| 3. Reed plate | 6. Gasket |

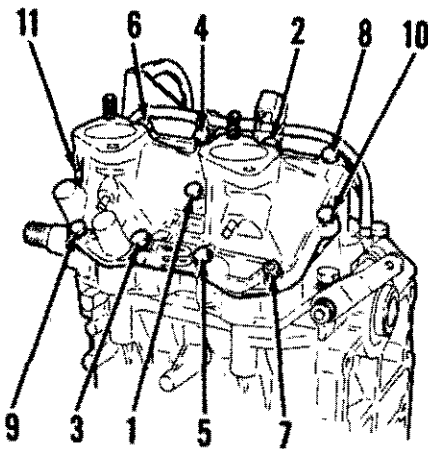


Fig. SZ14-4—Inlet manifold cap screws should be tightened in the sequence shown above.

and flat. When installing reeds or reed stop, make sure that petals are centered over the inlet holes in reed plate, and that the reed stops are centered over reed petals. Apply a suitable high temperature grease to inlet manifold cap screw threads, then using sequence shown in Fig. SZ14-4 tighten cap screws.

FUEL PUMP. A diaphragm type fuel pump is mounted on the side of power head cylinder block and is actuated by pressure and vacuum pulsations from the engine crankcases. Refer to Fig. SZ14-5 for exploded view of fuel pump assembly.

When servicing pump, scribe reference marks across pump body to aid in reassembly. Defective or questionable parts should be renewed. Diaphragm should be renewed if air leaks or cracks are found, or if deterioration is evident.

FUEL FILTER. A fuel filter (9 through 13—Fig. SZ14-5) is mounted on the side of power head cylinder block on all models. Filter should be disassembled and cleaned after every 50 hours of use. Renew "O" ring (11) if required.

OIL INJECTION

Models So Equipped

BLEEDING PUMP. To bleed trapped air from oil supply line or pump, first make sure outboard motor is in an upright position and oil tank is full. Open oil pump air bleed screw (A—Fig. SZ14-6) three or four turns to allow oil to seep out around screw threads. After five seconds or when no air bubbles are noticed, close air bleed screw (A).

CHECKING OIL PUMP OUTLET. Start engine and allow to warm-up for

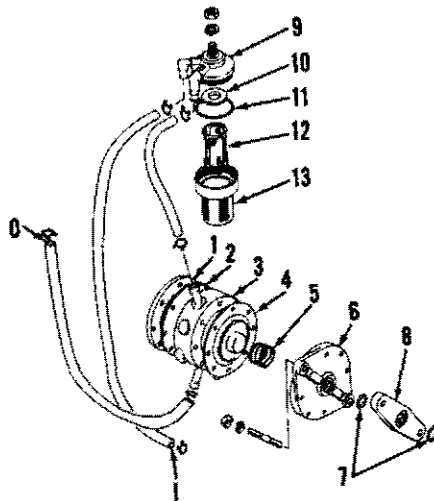


Fig. SZ14-5—Exploded view of diaphragm type fuel pump and fuel filter assemblies.

- | | |
|--------------------|---------------------|
| 1. Cover | 9. Fuel filter body |
| 2. Diaphragm | 10. Packing |
| 3. Body | 11. "O" ring |
| 4. Diaphragm | 12. Filter |
| 5. Spring | 13. Bowl |
| 6. Body | 1. Inlet |
| 7. "O" rings | 0. Outlet |
| 8. Insulator block | |

approximately five minutes, then stop engine. Disconnect oil pump control cable (C—Fig. SZ14-7) at carburetor throttle lever. Detach oil supply line at oil tank outlet. Connect oil gage 09900-21602 to oil supply line. Fill oil gage with a recommended two-stroke oil unit even with an upper reference mark. With oil pump control cable (C) in released position, start engine and maintain engine speed at 1500 rpm. Allow engine to run for five minutes. After five minutes, stop the engine and observe oil gage. Recommended oil consumption is 2.7-3.5 mL (0.09-0.12 oz.) in five minutes at 1500 rpm.

To check oil pump at maximum output position, repeat previous procedure except use a suitable tool and hold oil pump control cable (C) in fully extended position. Recommended oil consumption is 4.6-5.6 mL (0.16-0.19 oz.) in five minutes at 1500 rpm.

If the obtained oil consumption measurements are not within the recommended limits, then oil pump must be renewed.

IGNITION

All models are equipped with either an independent or simultaneous pointless electronic ignition system. Simultaneous ignition system models are identified by the use of one ignition coil while two ignition coils are used on models with an independent ignition system. Simultaneous ignition models may have mechanical or electronic advance. Stator plate is movable on simultaneous ignition models with mechanical advance

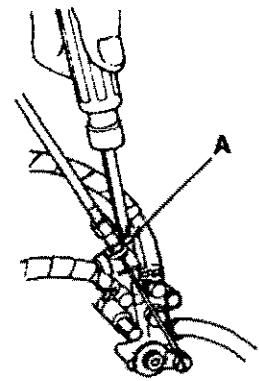


Fig. SZ14-6—Use oil pump air bleed screw (A) to bleed trapped air from oil supply line or pump.

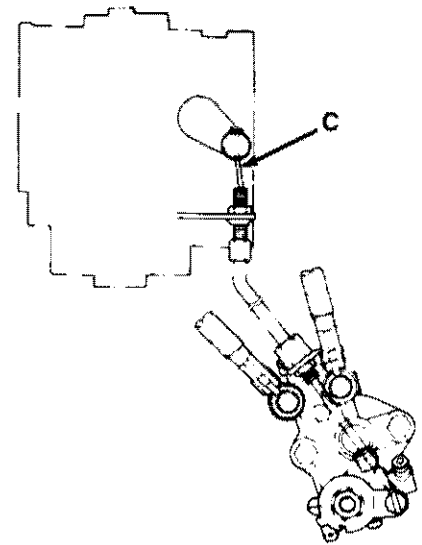


Fig. SZ14-7—Disconnect oil pump control cable (C) at carburetor throttle lever and refer to text for checking oil pump output.

while the stator plate is fixed on models with electronic advance. Refer to Fig. SZ14-8 for a typical wiring diagram of models with independent ignition. Models with simultaneous ignition systems are similar.

IGNITION TIMING. On independent ignition models, ignition timing should be 4° ATDC at 1000 rpm and 21° BTDC on DT60 models and 25° BTDC on all other models at 5000 rpm. On simultaneous ignition models with mechanical advance, ignition timing should be 3° ATDC at 1000 rpm and 25° BTDC at 5000 rpm. On simultaneous ignition models with electronic advance (fixed stator plate), ignition timing should be 8° BTDC at 1000 rpm and 25° BTDC at 5000 rpm.

Initial setting of ignition timing on all models with mechanical advance may be accomplished as follows: Set throttle at full advance position, then align mark