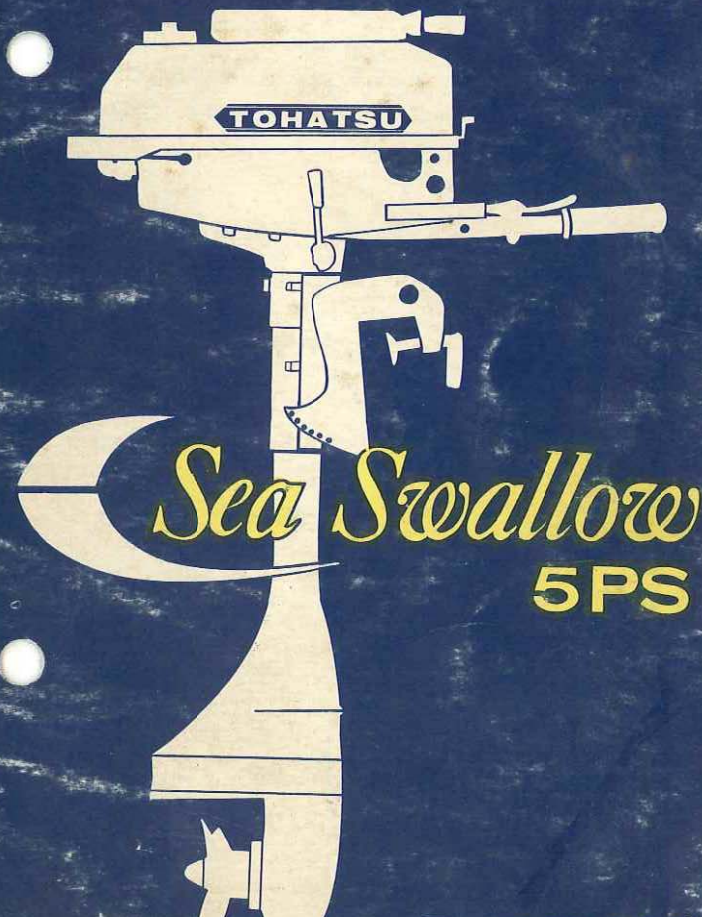


ト-ハツ 船外機

outboard motor



Owner's Manual (for reference)

## 1. Specifications

### ① Outboard motor

Name	Sea Swallow
Model	B9A
Overall Length	675mm
Overall Width	265mm
Overall Height	995mm (Transom S), 1145mm (Transom UL)
Transom Height	410mm (Transom S), 570mm (Transom UL)
Weight	20kg (Transom S)
Gear Reduction Ratio	14 : 25
Propeller (Diameter x Pitch)	3 blades 190mm x 115mm 2 blades 190mm x 166mm (option)
Speed Control	Single Lever Type
Fuel Tank Capacity	3L

Operation Method	Bar Handle
Gear Shift	Forward, Neutral, Reverse

### ② Power Unit

Model	T52E (2-stroke)
Piston Displacement	91cc
Output	5 PS (3.8KW)
Exhaust System	Under water exhaust
Lubrication	Gasoline/Oil Mixture (20:1)
Cooling System	Air and Water cooling
Starting	Automatic Recoil Starter and Rope
Ignition System	Flywheel magneto
Lighting	Option
Spark Plug	NGK B7H
Carburetor	TK R-14

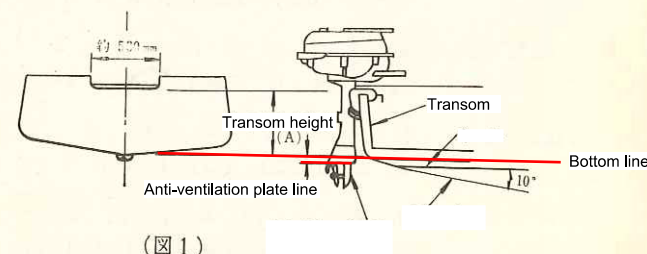
— 1 —

Speed	2~25km/h
Fuel Consumption	1.3ℓ/hr (in half throttle position)

## 2. Installation and Operation

### ① Transom matching

1. Locate the center of transom by measuring and install the outboard.
2. Adjust the dimension between the anti-ventilation plate and the bottom line to be 40-50mm.
3. Immediately tighten the stern bracket clamp screws by hand.
4. Attach a safety chain or cable to the outboard to prevent possible loss overboard.



### ② Adjusting motor angle

The angle of the motor can be adjusted by changing the position of the angle adjusting rod in the holes provided in the stern brackets. The angle should be so adjusted that the anti-ventilation plate is parallel to the water. For the best boat and motor performance, the boat should be driven as nearly parallel to the water as possible.

### ③ Fuel mixtuer

Cleanliness is important in mixing fuel. Always use fresh gasoline and oil for your fuel mixture. Even a small particle of dirt or deposit found in old gasoline can cause the carburetor trouble and the spark plug fouling.

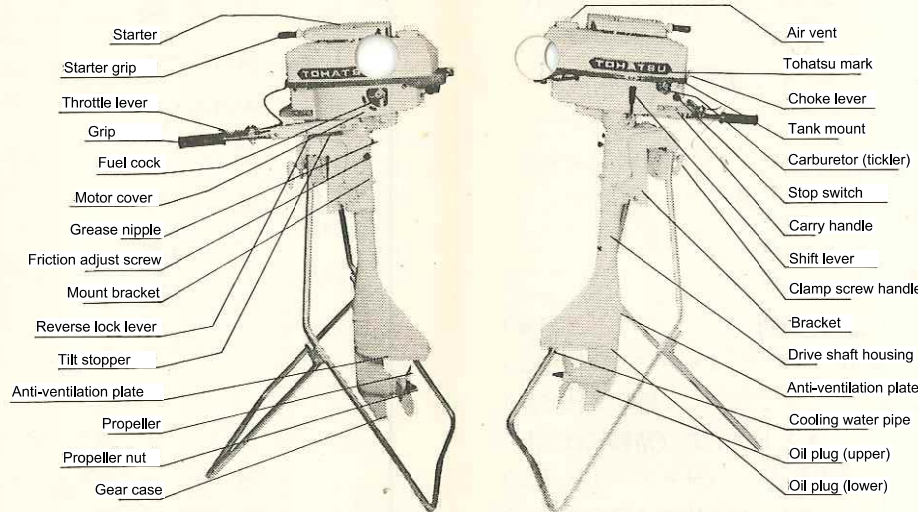
Be sure to use the following gasoline to oil mixture ratio.  
A gasoline to Tohatsu outboard motor oil ratio; 20 : 1

— 2 —

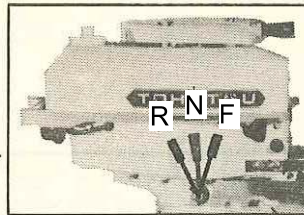


# Engine Operation

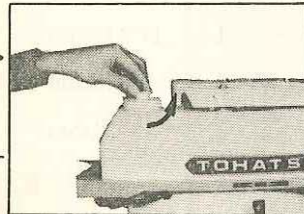
## Names of parts



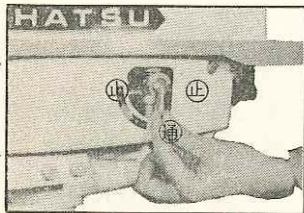
(写真1)



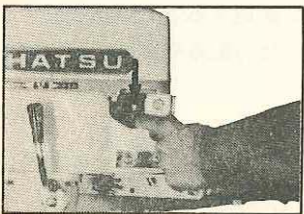
1. Place the shift lever in the NEUTRAL position.



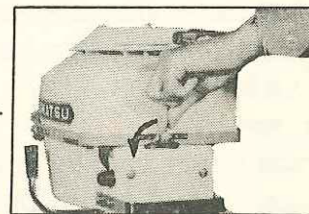
2. Turn the air vent screw to open on the fuel tank.



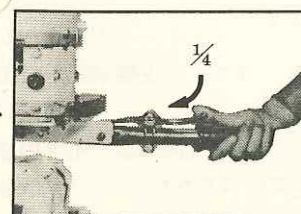
3. Open the fuel cock knob. (Turn downward.)



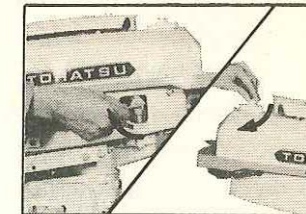
4. Push the tickler downward until fuel flows from a vinyl pipe.



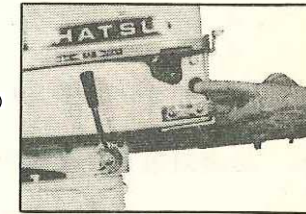
5. Set the choke lever to the "CLOSE" position or half position.



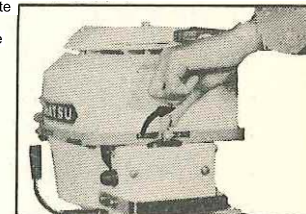
6. Turn the single lever about 1/4.



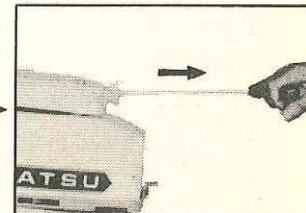
10. Close the fuel cock and air vent screw on the fuel tank cap.



9. Stopping  
Reduced speed to idle and then place shift lever at NEUTRAL. Then push the stop switch until the engine completely stops.



8. When startin the engine, turn the choke lever to the "OPEN" positon slowly.



7. Gently pull the starter rope until you feel the ratchet engage. Then give it a sharp tug.

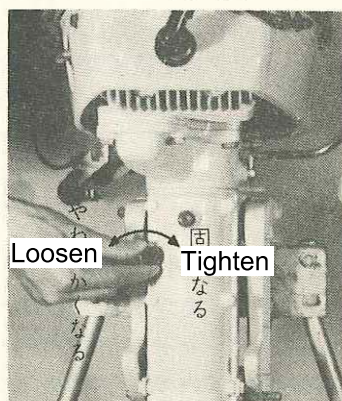
## ⑤ Operation

### ●Equipment necessary when outboarding

1. Tools and spare parts  
(Tools, extra spark plug, shear pins, split pins, emergency starting rope)
2. Fuel (Extra fuel when expecting to cruise for more than 1 hour.)

### ●Precautions to be taken when running

1. To change from FORWARD to REVERSE, first idle the engine and shift into NEUTRAL. With the engine still running slowly shift into REVERSE and gradually increase speed.
2. Always reduce speed before making sharp turns.
3. Always reduce throttle before shifting and shift with quick motion to forward, neutral or reverse position, as desired.
4. Adjustment of steering  
If the steering feels too tight or too loose, it may be adjusted by the friction adjust screw.



(写真2)

## 3. Precautions of operation

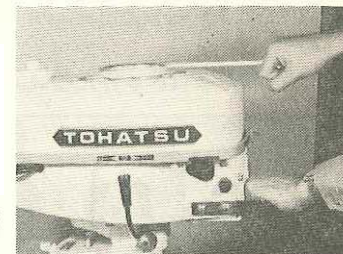
### ① Starting if Recoil Starter is Out of Order

Remove the recoil starter. Wind the spare starter rope clockwise around the starter pulley about 3 times and pull the rope to start the engine in same manner as when starting with the recoil starter.

(写真3 参照)

### ② Spark Plug

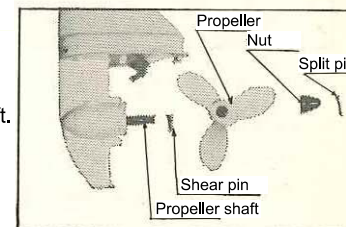
Use genuine Tohatsu spark plugs (NGK B7H).



(写真3)

### ③ Replacement the Propeller and the Shear Pin

- (a) Pull out the split pin from the propeller nut and remove propeller nut and the propeller from the shaft.
- (b) Remove the shear pin if it is damaged, and install new shear pin.
- (c) Install new propeller on the shaft.
- (d) Reassemble in the reverse order.



(写真4)

### ④ Replacement oil in gear case

#### To Drain

With the motor in an upright position, remove both the upper and lower plug screws and allow the oil to drain completely.

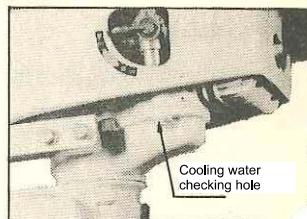
#### To Refill

With the motor in a horizontal position, fill through the lower plug screw hole until lubricant appears at the upper vent hole. Then reinstall the lower plug screw. Add oil through the upper screw hole, if necessary.



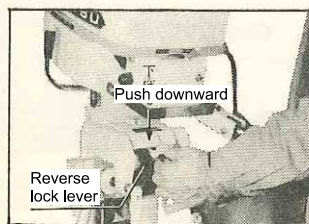
#### ⑤ Cooling water

Check to be sure that a spray of water is coming out from the cooling water checking hole when operating motor at 2,500 rpm.



(写真 5)

#### ⑥ Shallow water operation and tilting



1. Always proceed at slow speed in shallow water to prevent damage to the motor if you hit an under water obstacle. Do not run in reverse.
2. To move your boat in the shallow water, tilt the motor up out of the water. This will prevent the motor from hitting an underwater obstacle or rock at the low tide.
3. TO TILT MOTOR  
Be sure to tighten the air vent on the fuel tank and close the fuel cock.
  - a) To tilt the motor up, push down the reverse lock release and pull the motor toward you and out of the water until the tilt stopper locks automatically.
  - b) To return the motor to normal vertical position, tilt the motor up slightly and press the tilt stopper rightward. the motor will be released and lowered.

#### ⑦ Carburetor and Magneto

The carburetor and the magneto are preset at the factory. They do not have to be readjusted. If they are out of adjustment, have your authorized Tohatsu service facility check them.

#### ⑧ Submerged motor

A motor which has been submerged must be completely disassembled for cleaning and inspection. Have the motor serviced by your Tohatsu service facility after following steps.

- a. Recover the motor from the water immediately.
- b. Wash entire motor with fresh water to remove salt or silt.
- c. Remove the spark plug.
- d. With spark plug hole facing down, expell as much water as possible by pulling the manual starter several times.
- e. Pour a small amount of oil through the spark plug hole into the cylinder and pull the manual starter grip several times to distribute the oil. then lubricate as many internal parts as possible.
- f. Take the motor to your Tohatsu service facility immediately.

### 4. Periodical inspection

#### ① First 10 hours inspection

1. Check gear oil level
2. Check tightness of all nuts and bolts.
3. Clean fuel cock.
4. Apply grease to starter rope.
5. Adjust spark plug gap (0.6~0.7mm). Remove carbon deposits.

#### ② Daily inspection

1. Clean each part.
2. Clean fuel cock.
3. Check spark plug. Remove carbon deposits.
4. Check cooling water pipe.
5. Check single lever.

#### ③ Every 25~50 hours inspection

1. Clean fuel tank.
2. Clean fuel line.
3. Clean carburetor.
4. Check lubrication. Apply grease to moving parts.
5. Check spark plug gap. Remove carbon deposits.
6. Check gear case. Replace gear oil.
7. Check tightness of all nuts and bolts.

### 5. Prolonged storage

Before storing your motor for prolongd periods, have your Tohatsu dealer service it.

1. Flush out the cooling system with fresh water. Wipe the exposed surface of the motor down with a oily cloth.
2. Drain and clean fuel lines, carburetor and fuel tank. Pour richer fuel mixture in the tank to prevent rust or corrosion

3. Remove all carbon deposits in the combustion chamber and the exhaust line. Lubricate cylinder, piston, crankshaft and give the starter rope several pulls to distribute the oil
4. Apply a coat of grease on the propeller shaft.
5. Drain and refill the gear case.
6. Lubricate all moving parts, including bolts and screws.
7. Put a protection cover on the motor, and store in an upright position in a dry and well ventilated area.

## 6. Trouble shooting

### ① Possible cause of engine trouble

- |   |                         |
|---|-------------------------|
| 1. Fuel line clogged                            | ----- Clean fuel system |
| 2. Fuel cock and carburetor clogged             | ----- Disassemble       |
| 3. Water incorporation into fuel                | ----- Clean fuel tank   |
| 4. Spark plug fouled or defective               | ----- Clean or replace  |
| 5. Contact breaker out of adjustment or damaged | ----- Ask to shop       |
| 6. Capacitor defective                          | ----- Ask to shop       |
| 7. Lead wire misconnecting                      | ----- Connect lead wire |
| 8. Lead valve break                             | ----- Ask to shop       |

### ② Trouble during operation

- |   |                          |
|---|--------------------------|
| 1. Cavitation   | ----- Reinstall outboard |
| 2. Tilt angle not correctly adjusted                    | ----- Adjust motor angle |
| 3. Shear pin broken (Engine speed is high)              | ----- Replace            |
| 4. Cooling water is lacking                             | ----- Check water line   |
| 5. Propeller catch foreign object (Engine speed is low) | ----- Remove             |

