

M A N U A L
M A I N T E N A N C E
O U T B O A R D M O T O R
T O M O S 4

We welcome you as a new member of the large family of customers who, for many years, have used our outboard motors; we hope that you will enjoy many pleasant boat trips with your new TOMOS 4.

This manual is compiled to give the requisite information on the handling and maintenance of the motor. Please read through the instructions carefully and follow when mounting the TOMOS 4 on the boat.

The manual also includes instructions for making less complicated repairs. Unless you are fully familiar with the functioning of the motor you should not attempt any repairs not described in the manual. Our very extensive network of service shops is at your disposal and you will certainly profit by utilizing them when in doubt.

At the close of the boating season we suggest that you hand in your TOMOS 4 to one of our service shops for winter storage.

The experience and technical knowledge of our specially trained service personnel and mechanics is a guarantee that your TOMOS 4 will be inspected and stored in the best manner.

And when you then launch your boat again you will be assured that your TOMOS 4 is in top condition.

Sincerely yours

TOVARNA MOTORNIH VOZIL

T O M O S K O P E R

Outboard division

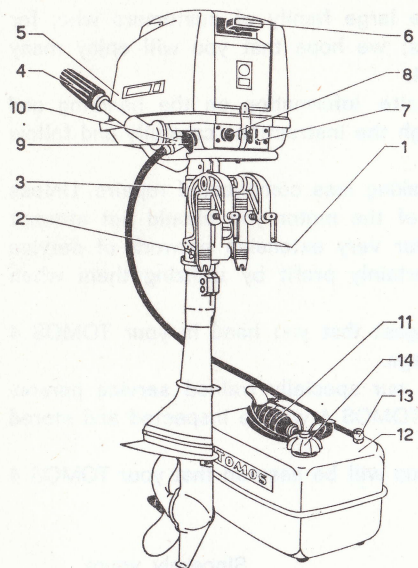


Fig. 1

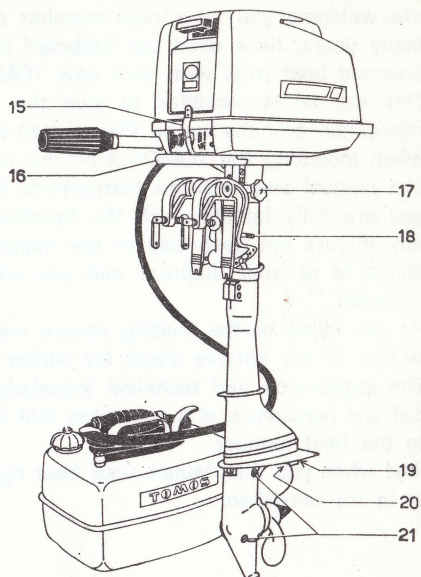


Fig. 2

CONTROL AND OTHER EQUIPMENT

- | | |
|---|---|
| <ul style="list-style-type: none"> 1. Clamp screws for fixing the motor to the boat 2. Motor tilt angle adjusting screw 3. Motor anchoring eyelet 4. Steering handle 5. Inscription TOMOS 6. Starter handle 7. Choke-cold starting 8. Short-circuiting button 9. Lighting connection | <ul style="list-style-type: none"> 10. Fuel connector joint 11. Hand pump 12. Fuel tank 13. Suction pipe connector 14. Filler cap with air vent 15. Engine cover release 16. Carrying handle 17. Steering resistance screw 18. Shackle handle 19. Exhaust outlet 20. Cooling water inlet 21. Oil filler and drain plugs |
|---|---|

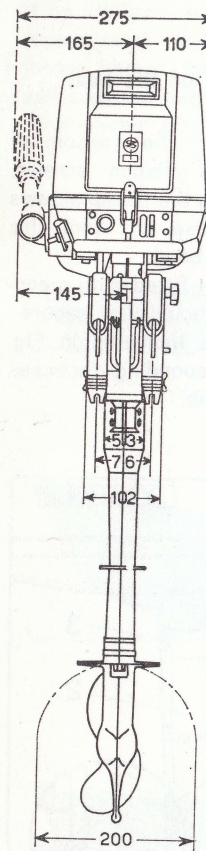


Fig. 3

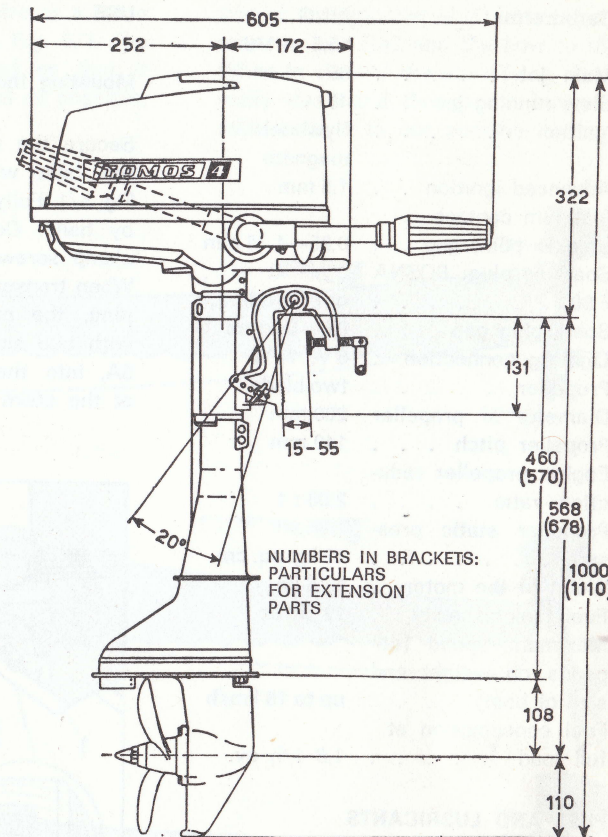


Fig. 4

TECHNICAL DATA

ENGINE: Single cylinder, two-stroke, fan cooled with exhaust outlet below the anti-cavitation plate.

Recoil starter.

Water cooled exhaust.

Lubrication of engine by petrol and oil mixture.

Stroke volume . . . 59,6 ccm

Diameter of cylinder . 42 mm

Stroke 43 mm

Compression ratio . . 7,5 : 1

Maximum power . . . 4,5 b. h. p.

Permissible r. p. m. at full load 4600—5800

Carburettor	BING
	15,5 — 149
Main jet	65
Slow running jet	40
Ignition	flywheel magneto
Advanced ignition	1,5 mm
Platinum contact breaker point gap	0,35—4,45 mm
Sparkling plug: BOSNA	
F 80	or equivalent.
Spark plug gap	0,5—0,6 mm
Lighting connection	6 V, 17 W
Propeller	two-blade
Diameter of propeller	200 mm
Propeller pitch	140 mm
Engine propeller redu- ction ratio	2,08 : 1
Propeller static pres- sure	42 kg. sq. cm.
Weight of the motor	15,5 kg
Fuel tank capacity	12 litres
Maximum speed (de- pends on weight and size of boat)	up to 18 km/h
Fuel consumption at full load	1,6 l/h av.

FUEL AND LUBRICANTS

Fuel: mixture of motor oil and petrol at least 86 octane at a 25 : 1 ratio (4 %).

Use special two stroke engine oil or oil SAE 50.

Fuel mixture table

Petrol in litres	Oil in litres
5	0,2
10	0,4
15	0,6

Lubricant for reduction housing: motor oil SAE 20 (0,10 litre) up to the top screw when the motor is in vertical position.

USE

Mounting the motor on the boat

Secure the motor to the transom of the boat with two clamp screws, Fig. 5/1. Fully tighten the clamp screws by hand. Do not use any tool, for clamp screws may bend.

When transom is not fitted with a capping, the motor should be secured with two screws as indicated in Fig. 5A, into the corresponding recesses at the stern brackets.

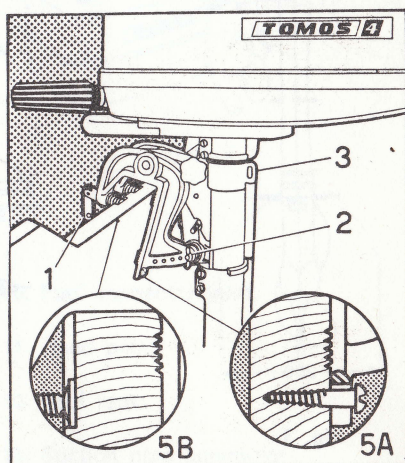


Fig. 5

If the transom is too thin and the clamp screws do not grip firmly, an aluminium plate or an extra piece of wood (49 × 90 mm, 5 mm thick) may be screwed to the transom. If the transom is thicker than 58 mm, it is necessary to reduce its thickness. The reduced parts of the transom should be precisely cut out as large as the interspace between the two brackets, Fig. 5/B. To obviate the risk of losing the motor overboard, secure

it by attaching a steel wire or a nylon rope through the eyelet, Fig. 5/3. The motor should be aligned so that it will hang as near vertical as possible, when under way, Fig. 6.

tion of the propeller shaft, causing the stern to be lifted and the bow to dip. When in view of the stern lying abnormally deep and though the motor is adjustable, it is not possible to hang

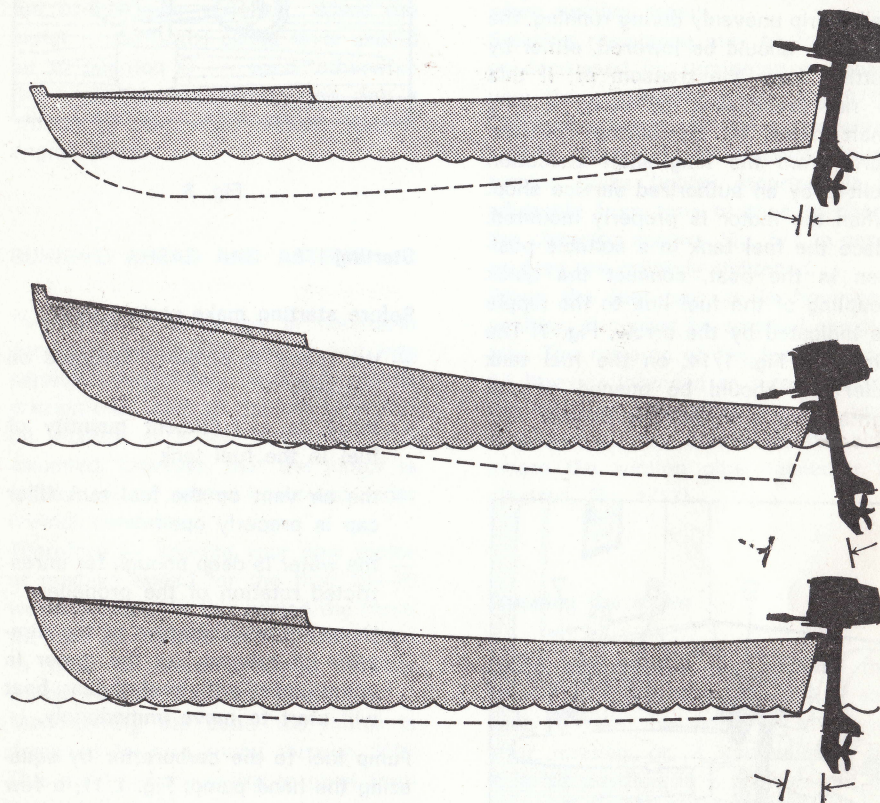


Fig. 6

If the stern lies abnormally deep, while the bow is raised too high, a more favourable trim can be achieved by reducing the angle of inclination. To do this, unscrew wing nut and move the bearing tube, Fig. 5/2, closer to the transom, which is done by moving the thrust pin to a suitable hole. This will bring about a change in the posi-

tion of the propeller shaft, causing the stern to be lifted and the bow to dip. When in view of the stern lying abnormally deep and though the motor is adjustable, it is not possible to hang

running, the propeller should lie so deep, that it cannot draw air and cause the motor to race. With the boat unloaded, the distance between the water line and the anticavitation plate should be at least 100 mm.

If the motor should race or the propeller grip unevenly during running, the propeller should be lowered, either by cutting down the transom or, if this is not practicable, by using a long shaft motor or, by having separate parts from the long shaft execution built-in by an authorized service shop. When the motor is properly mounted, place the fuel tank in a suitable position in the boat, connect the quick coupling of the fuel line to the nipple as indicated by the arrow, Fig. 7. The air vent, Fig. 1/14, on the fuel tank filler cap should be opened several turns when the motor is in use.

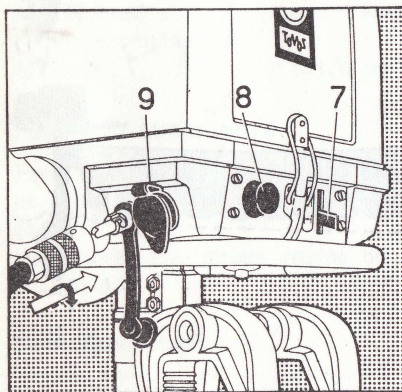


Fig. 7

The motor may be locked to the boat by a padlock. Turn the screw clamps so that the holes in the levers are facing one another in line. Pass the padlock hasp through the holes, as in Fig. 8.

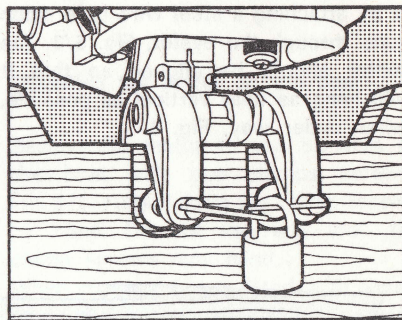


Fig. 8

Starting

Before starting make certain that:

- the motor is properly mounted on the boat
- there is a sufficient quantity of fuel in the fuel tank
- the air vent on the fuel tank filler cap is properly open
- the water is deep enough for unrestricted rotation of the propeller
- there are no obstacles in the direction of running. As the motor is not equipped with neutral gear, boat will start to move immediately.

Pump fuel to the carburettor by squeezing the hand pump, Fig. 1/11, a few times until resistance is felt. The float chamber of the carburettor now contains the right amount of fuel. When the engine is cold, push the choke lever, Fig. 7/7 downwards, which reduces the quantity of air in the carburettor and eases starting. When warm engine is started, the choke lever remains in position O — open. Turn the twist grip in a clockwise direction, Fig. 1/4, for a third of a turn, pull the starter handle slowly, Fig. 1/6, with right hand, until the mechanism enga-

ges with the flywheel. When pulling the starter, take care the motor does not tilt. Never let go of the starter handle when the cord is pulled out. Let the cord return and be rewound slowly, for it may damage the starter device. As the motor warms up move the choke lever upwards. When the motor is warm, the choke lever should be in position O — open, otherwise the engine is supplied by too rich a mixture of fuel, which causes loss of engine power.

RUNNING AHEAD AND ASTERN

The motor is delivered in non-run-in condition and should not be put into service immediately without special precautions, such as the use of richer oil mixture or speed limitation. It is assumed, however, that the motor is to be used on normal boats and under normal conditions.

Therefore — operate your new motor at medium speed for the first 15—20 working hours. In this period the throttle can be opened in full from time to time or even for some minutes which enables a quicker running-in. Manoeuvring the boat: the motor is designed to turn round through 360°. This ability of the motor to pivot through a full circle makes your boat very easy to manoeuvre. When the motor is turned through 60° to 90° in relation to the steering angle, as well as in motion astern, it is recommended to close the throttle a little. Changing from normal running to moving astern: The control handle must be turned from horizontal — over vertical — into opposite direction again towards the boat. Grip the rear handle with free hand and finish the turning. After which the throttle may be opened.

While driving forward a submerged obstruction may be hit by the propeller front edge, which causes the motor to tilt into the boat. A safety device does not exist for reverse direction, therefore particular attention must be paid in observing the depth of water when running astern.

Steering resistance may be increased or decreased by tightening or loosening the adjustment screw, Fig. 9/17. Clockwise turning of the screw gives heavier steering and anti-clockwise turning gives lighter steering. It is advisable from time to time to check the clamping screws, Fig. 5/1 to ensure they are properly tightened.

When the fuel tank is in horizontal position, it cannot be emptied completely. The remains of the fuel (approx. 0,5 litre), is intended as a reserve and can be used only when the fuel tank is placed on the corner (at the side where the suction pipe connector is situated, Fig. 1/13).

Stopping the motor

Close the throttle and depress the short circuiting button, Fig. 7/8. If you wish to take the motor off the boat after running, or, if you wish to fix it in tilt position, it is advisable to disconnect the fuel line, Fig. 1/10, from the engine and wait until all fuel in carburettor is used up, which prevents flooding of the carburettor when the motor is carried or laid down.

The motor is tiltable. When running ahead into severe shallows, the motor automatically tilts upwards and thus serious damage is generally avoided. Tilting is also useful when beaching. The motor is fitted with a tilt rest, Fig. 9, which is intended for holding the motor in a fixed position. When

the motor is tilted sufficiently high the shackle A comes into position marked by B. This position of the motor facilitates the cleaning of the motor or manoeuvring by means of oars in shallow water.

When preparing to tilt the motor to the position C, it is necessary to take the fuel line off the engine. Then turn the motor round through 90°. Now the throttle twist grip is turned upwards and the tilt rest A comes into position C. By means of steering resistance screw, Fig. 9/17, you can prevent the motor turning.

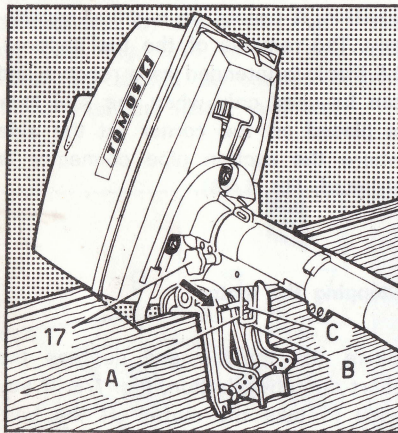


Fig. 9

To return the motor to its working position, tilt the motor slightly higher, and push the protruding tongue of the tilt rest as indicated by the arrow, Fig. 9, at the same time holding the motor with left hand. By unscrewing the steering resistance screw, Fig. 9/17, you can turn the motor through 90°. Reconnect the fuel line to the motor.

Carrying and laying-up the motor

NOTE — IMPORTANT!

When lifting the motor off the boat, and before its laying-up, hold it upright until all the water has run out of the lower unit. If this is not done, water could find its way into cylinder which can damage its interior.

The best way to lay-up the motor is to mount it on the wooden stand which is supplied as part of the packing. If laid-up in this way, it is impossible to oil up the sparking plug which may render starting more difficult.

Lighting the boat

On the front side of the power head cover the lighting connection 6 V, 17 W, Fig. 7/9, is to be found which proves very useful when running at night. In the tool accessories bag there is a plastic lighting plug which can be wired to a bulb to provide a cabin light. With a suitable rectifier the current can be used to trickle charge a 6 volt battery.

MAINTENANCE

General remarks

Regular and careful maintenance is essential to obtain troublefree operation of the TOMOS 4. All maintenance work described under the following chapters could be done by the owner himself by means of the standard tools. Unless you are an expert yourself you will not be able to detect certain defects at once. But the trained mechanic will save you unnecessary expense so take your outboard to our official agents.

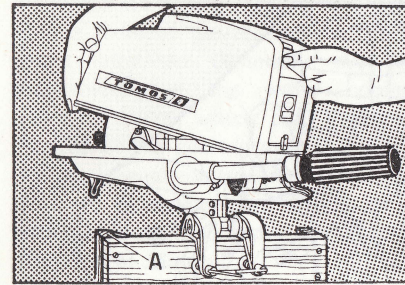


Fig. 10

Cleaning and lubrication, dry test (testing out of water) and all other work on maintenance can best be done if the motor is mounted on the wooden support supplied. It is advisable to saw off the two vertical parts of wood just above the transverse board which is intended for fixing the motor to the support. This operation facilitates work od maintenance of the motor, Fig. 10.

Cleaning the motor

Clean all outer parts with a soft rag or a sponge and water. Though the engine itself is sufficiently protected, it is advisable to remove the motor cover from time to time and clean the upper surface of the engine first by means of a wet and then by means of a dry rag, especially after use in salt water. For cleaning the enamelled surfaces, normal car polish should be used. If you want to remove the engine cover, unbuckle the engine cover release and push the engine cover slightly upwards. The starter rubber handle will then slip through the opening in the engine cover. The engine cover is in this way removed from the motor. When you want to assemble the engi-

ne cover with the motor upper part, it should be assembled in reverse order of removal. Firstly place the engine cover into the groove on the front part of the engine below the starter handle which should be placed in the opening in the cover, Fig. 10. The rear part of the engine cover should then be pushed downwards.

Lubrication

We strongly advise to lubricate the various parts of the TOMOS 4 with the motor oil SAE 20 and medium grease. Beside the regular changing of the oil in the propeller housing and lubrication of the starter device, it is necessary to lubricate from time to time the clamping screws, as well as the throttle twist grip and throttle control cable. Threads of clamping screws should be lubricated from time to time with oil or with a thin coat of grease. If it is obvious that the motor cannot be pivoted easily, it is necessary to lubricate pivot support. Pour some drops of oil into the recess, shown by arrow, Fig. 11, even when the steering resistance screw is unscrewed to the end.

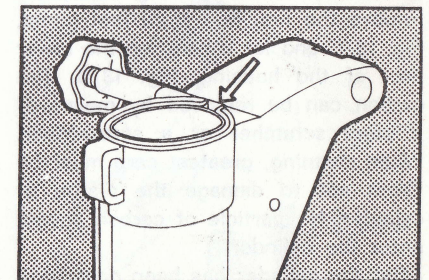


Fig. 11

The new throttle twist grip made of plastics does not require any special maintenance. In case of »squeaking« the spiral groove and guide bushing should be greased with silicon grease (dismantling the throttle twist grip described under chapter **Fuel System**).

ENGINE

Combustion of petrol and oil in two-stroke engines causes a deposit of carbon in the interior of the cylinder head, in the exhaust bend as well as in the exhaust tube. The formation of the carbon depends on the quality of oil used (therefore use **the special oils for two-stroke engines**).

When the carbon in the combustion chamber is too thick it is likely to cause pre-ignition, and also to cause bridging of the spark plug gap. This will lead to bad starting and erratic running which indicates that the motor requires decarbonising.

To clean the cylinder head and the top of the piston remove the blower hood from the cylinder head, Fig. 12. In case it is necessary to clean the exhaust bend, Fig. 13/A, the intake silencer, Fig. 16/A, and engine cover carrier inset piece, Fig. 18/B, should be removed. Before this operation, unscrew three screws, Fig. 18/D, and remove the fuel line from fuel pump, Fig. 18/C and let it hang on the lower part of the housing, Fig. 13/B. The carbon can be removed by means of a steel scratcher or a screwdriver. When cleaning, greatest care must be taken not to damage the piston or cylinder. No particle of carbon should enter the cylinder!

After the cylinder has been decarbonised, the cylinder head should be refitted by crosswise tightening the nuts.

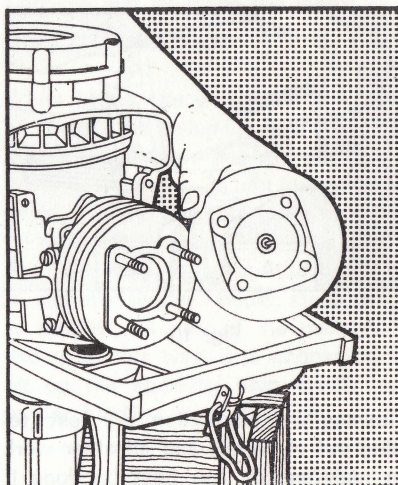


Fig. 12

The greatest care should be taken that exhaust bend cooling tube, Fig. 13/D, locates properly in the rubber inset piece, Fig. 13/E.

After use in dirty waters, it is advisable from time to time to check the functioning of the cooling system. Sometimes during operation the vertical tube becomes overheated (especially

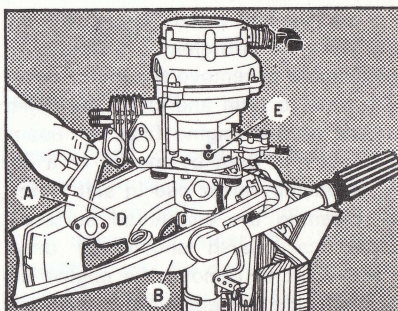


Fig. 13

the upper part where exhaust gases enter); so hot that it is impossible to touch it. This means that dirt and

foreign matter are blocking the path of the exhaust gases and the water cannot circulate. Generally, the dirt accumulates at the water cooling inlet, Fig. 2/20, which can easily be cleaned. If the cooling system is clogged by foreign matter, they should be removed by means of a strong jet of water as described under the chapter »Storage of Motor«.

Ignition System

For checking and adjusting the ignition system, it is necessary to remove first the complete starting device, Fig. 20, and then the fan wheel, Fig. 20/E. To remove the starter device, it is necessary to partially unscrew the two screws which hold the blower hood. Through the opening of the magneto flywheel, Fig. 14, it is possible to adjust the contact breaker points, which should be from 0,35 to 0,45 mm. Timing advance should be adjusted by rotating the magneto until the contact breakers are in the position at 1,5 mm before T.D.C. To adjust the timing advance it is necessary to use special tools, this should therefore be done by our official agents.

The correct sparking plug electrode gap is 0,5 — 0,6 mm, Fig. 15. Adjust it by means of the adjusting gauge supplied in the tool bag. The right choice of sparking plug is of fundamental importance for undisturbed running of the motor. The motor is delivered with the sparking plug BOSNA F 80 which thermal value corresponds to a normal loaded motor (running at full throttle). If you intend using your motor for fishing, it will work on minimal throttle opening.

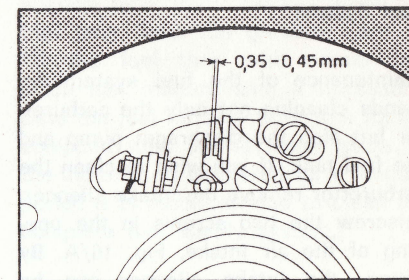


Fig. 14

Therefore a sparking plug with lesser thermal value i. e. BOSNA F 50 should be used.

Here are the recommended types of sparking plug

Average load	Recommended sparking plugs			
	BOSNA KLG	BOSCH	CHAMPION	
Full throttle	7 80	F 80	W 240 TI	L-5
1/2 throttle opened	F 75	F 75 H	W 225 TI	L-81
Minimal throttle	F 70	F 70 H	W 190 MLS	L-7
			W 175 TI	
	F 50	F 50 H	W 145 TI	L-10

It is strongly recommended to use the right brand of lubricant; therefore use the special oil for two-stroke engines. We suggest you always take along a spare spark plug in perfect condition.

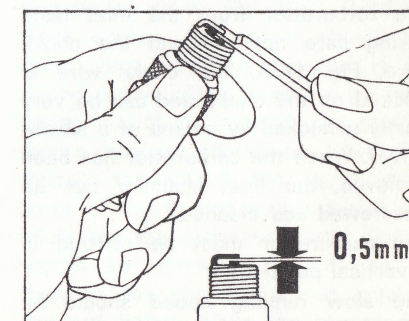


Fig. 15

Fuel System

Maintenance of the fuel system demands cleaning not only the carburettor but also the diaphragm pump and the fuel tank. If you wish to clean the carburettor remove the intake silencer. Unscrew the two screws in the opening of the air intake, Fig. 16/A. By lifting, the intake silencer can be removed completely. When you want to remount it, place the orifice of the intake silencer into the rubber union sleeve on the carburettor, Fig. 16/B. Then push the intake silencer into place and fix it by means of two screws.

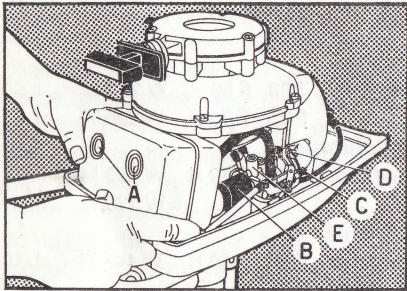


Fig. 16

If you want to remove the carburettor, slacken the screw, Fig. 16/D. Remove the carburettor from the inlet bend taking care not to bend the choke wire, Fig. 17/A. The choke wire is hooked on the choke and can be very easily unhooked by means of a screwdriver. When the carburettor has been removed, the float chamber can be unscrewed and cleaned.

The carburettor must be refitted in a vertical position.

The slow running speed should be adjusted by loosening the screw, Fig. 16/E, for 3/4 or of a turn.

Then, by tightening or loosening the screw, Fig. 16/C, adjust to the most convenient number of revolutions for slow running speed. (1500 — 1600 rev/min).

The adjustment is correct when the motor runs as slow as possible without stopping. It must then also immediately respond to a fast opening of the throttle.

When necessary, the throttle twist grip should be dismantled as follows:

- Release the throttle control cable from the carburettor.
- Remove the metal ring at the end of the rubber grip.

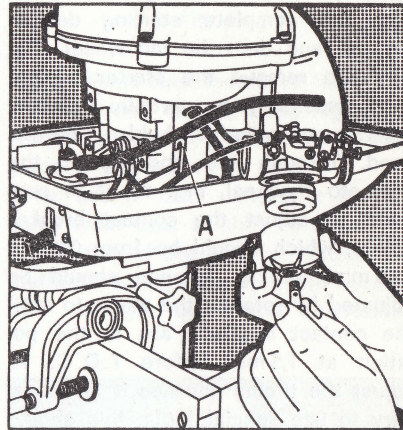


Fig. 17

- Turn the rubber grip in the direction of the arrow on the metal ring and pull the rubber grip off the tiller handle, by help of a screwdriver.
- Remove the rubber plates from plastic bushing. Turn the plastic bushing in line with the opening in the tube. By help of a screwdriver press the plastics inset piece tongue just enough to remove the

remaining plastics parts off the twist grip.

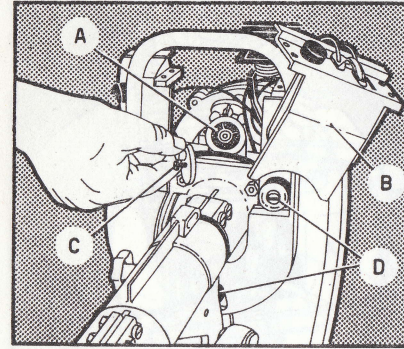


Fig. 18

A fine mesh gauze filter is fitted to the motor fuel diaphragm pump, Fig. 18/A, in order to prevent the entry of foreign matter into the carburettor. The pump should be detached from the motor for cleaning after removing the engine carrier inset piece, Fig. 18/B (unscrew four screws and remove without detaching the cables). Remove the screw, Fig. 18/C, remove the cover of the diaphragm pump, whereby the mesh gauze filter is now completely accessible. Clean the filter in petrol and blow it dry.

When reassembling be very careful not to damage the sealing edge of the filter by faulty positioning. Also, do not tighten up the screws, which hold the cover, more than is necessary to give satisfactory sealing. A second filter is fitted to the lower part of the suction pipe connector in the fuel tank, Fig. 1/13. This filter will be accessible for cleaning if the suction pipe connector together with the

suction tube is unscrewed from the fuel tank. Take the greatest care to fill the fuel tank with proper and clean fuel mixture and, if necessary, pass the fuel mixture through a funnel equipped with a fine mesh gauze. If the motor is to be stored for a lengthy period it is recommended to clean the complete fuel supply system.

Starting device

To prevent corrosion of the starter device it is necessary to lubricate, from time to time, the parts made of steel:

recoil spring, Fig. 19/A — grease

starting device support — oil

starter device rollers, Fig. 20/B — oil

bearing cage, Fig. 20/C — oil

spring below the bearing cage and blower steel ring, Fig. 20/D — oil

It is advisable to use the lubricants: SAE 20 or medium grease. When lubricating the recoil spring and support it is necessary to remove the starting device cover, Fig. 19/C, fixed by three screws. The cover should be lifted very carefully, for the recoil spring, when treated carelessly, may spring out of its support. The starter device support should be lubricated through the hole B, Fig. 19. If other parts of the starter device are to be lubricated, the complete starter device should be removed, (the device is fixed to the engine by four screws and two bolts). When the starter device is being removed from the engine

upper part, the recoil spring should be covered with the starter device cover.

It is advisable to lubricate the recoil spring and starter device support every two months during seasonal use. When the season is over, we recommend you protect the complete starting device against rust.

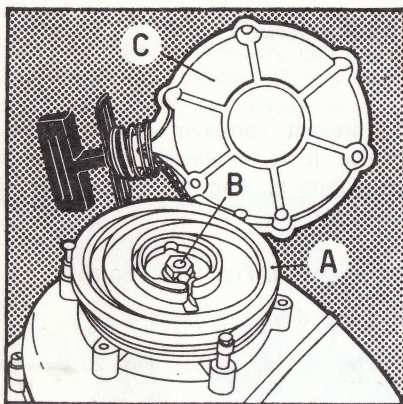


Fig. 19

The starter is designed to last for the life of the motor, but after several year's use the nylon rope may begin to show signs of wear and should be replaced. If it is obvious that the nylon rope is worn out, it should be replaced by a new one, if this is not done the rope may break at a less opportune moment. Although it is not difficult to do this, the job should be done by someone who is familiar with the mechanism and we suggest you take the starter unit to your TOMOS dealer for this job. When reassembling the starter device, we strongly recommend the rollers

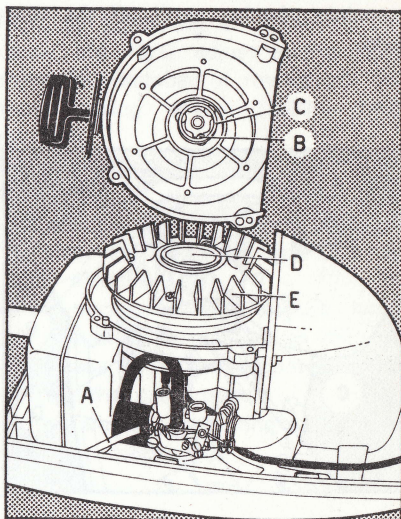


Fig. 20

of the starter device to be placed in position as shown in Fig. 20/B.

Propeller housing

If the propeller hits a submerged obstacle, the shear pin will break. It is then necessary to immediately stop the motor lest the propeller hub wears out too much, especially if it is not lubricated with water-resistant grease. To replace the broken shear pin with a new one, unwind the propeller plastic nut (ATTENTION — LEFT HAND THREAD!) and remove the propeller. Then fit the new shear pin, lubricate the shaft and remount the propeller (spare shear pins are to be found in the Accessories and tool bag).

The quantity of oil in the propeller housing should be examined as often as possible to ensure that water has not penetrated the housing. This check

should be done with the motor in the vertical position.

Unscrew the drain screw, Fig. 22, by means of a screwdriver (it is not necessary to remove it completely). If the oil starts to flow past the drain screw, it means that there is no water

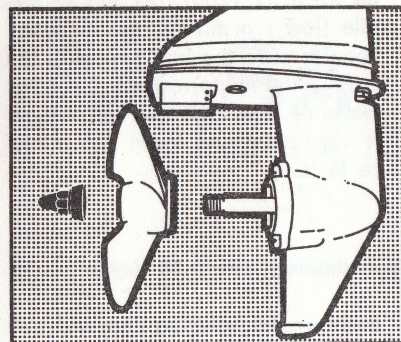


Fig. 21

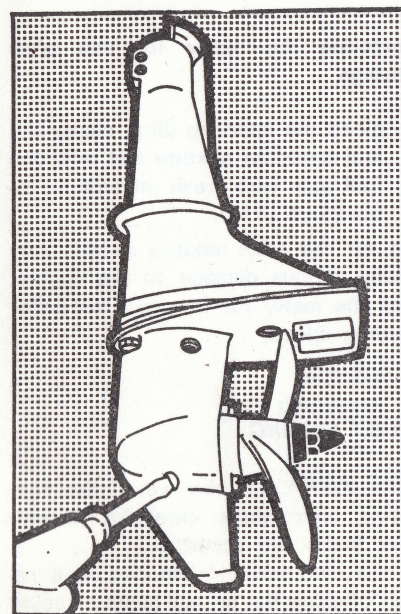


Fig. 22

deposit in the propeller housing. If only a few drops of water flow past the drain screw and immediately after them the oil itself, it means that the seal ring is still in good condition but it should be checked more often. If plenty of water and emulsion (oil and water together) flows past the drain screw the propeller housing should be emptied completely. Ascertain the defect and let the repair be done by a service workshop. At least every two months during the season and at the end of the season the oil in the propeller housing should be replaced. Before refilling, the interior of the propeller housing should be washed out with special oil and not with petrol. When refilling the propeller housing with fresh oil (approx 100 ccm), it is advisable to tilt the motor, together with the wooden support, so that the oil (SAE 20) can be poured in easily.

WHICH PROPELLER TO CHOOSE?

TOMOS 4 is designed to operate efficiently at or close to a certain rpm. Each new TOMOS 4 is equipped with a standard propeller (white colour) designed to give good performance on the average type of craft with which the motor will be used. As a rule it is seldom necessary to change the propeller on motors up to 10 h.p., since the boats on which such motors are used are sufficiently similar in design and weight to permit the propeller to operate efficiently.

- If the boat or its load is correct use standard propeller, **white colour**, pitch 140 mm. The motor will then operate within the desired speed range from 10 to 15 km/h.
- If the boat or its load is heavier than average, use lower pitch pro-

propeller 120 mm, **blue colour**, and the motor will operate within its normal speed range 10 km/h.

- If the boat is lighter than average (rubber boats), use a higher pitch propeller 160 mm, **red colour**. The motor will operate over the speed range of 15 km/h.

An important fact to remember is that the speed of the boat is determined by the design of the hull and the h.p. of the engine used. The main purpose in changing a propeller is to permit the motor to operate at the maximum efficient speed for which it was designed.

Storage of the motor

To protect all moving parts of the motor against rust, if the motor is to be stored for a long period, clean all outer parts and surfaces especially if the motor had been used in salt water. Use a soft rag, or sponge and water. Remains of salt water within the motor should be removed by means of running water. Inner walls of motor leg should be washed out. For this purpose put the motor, with its lower unit into a fresh water tank and run motor for 5—10 minutes under full throttle. You can also flush out the motor leg by means of water circulation. Water is directed into the motor leg by means of a hose connected to a tap and fixed to the water inlet situated under the anticavitation wing, Fig. 2/20. It is most important that during the flushing out by means of a hose the motor stands in a vertical position, so that the water can find its way out through the exhaust outlet. After flushing the interior let the engine run out of water for 3—4 minutes at quarter throttle to dry.

- Replace oil in propeller housing
- Lubricate starter device
- Lubricate throttle control cable
- Clean the entire fuel system. Clean and empty the carburettor. Refill the empty fuel tank with 1 litre of mixture (gasoline + anti-corrosion oil in 10:1 ratio). Let the engine idle (low r.p.m.) for two minutes. Then remove the fuel tank with the rest of the mixture, rinse the inner walls of the fuel tank by shaking it vigorously and leave the mixture in it.

Approximately every 30 days:

- unscrew the sparking plug and pull the starter a few times
- rinse the inner walls of the fuel tank by vigorous shaking

Preparing the motor for use after storage

- clean the sparking plug, empty the anti-corrosion mixture and refill the fuel tank with fresh mixture — ratio 25:1 (4%).

Do not use stale mixture as this may cause serious damage to the engine. Run the motor for five minutes under varying speed.

FAULT FINDING

Even though you observe all the operating instructions carefully, sometimes faults will occur.

If the carburettor is flooded as a result of using the primer pump or using the choke whilst the engine is warm, proceed as follows:

AILSA CRAIG 4

AILSA CRAIG LTD.
SALFORDS, REDHILL, SURREY

Telephone: Horley 2321 (6 lines)

Cables: Ailsotor, Redhill, Surrey

propeller 120 mm, **blue colour**, and the motor will operate within its normal speed range 10 km/h.

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Do not use stale mixture as this may cause serious damage to the engine. Run the motor for five minutes under varying speed.

FAULT FINDING

Even though you observe all the operating instructions carefully, sometimes faults will occur.

If the carburettor is flooded as a result of using the primer pump or using the choke whilst the engine is warm, proceed as follows:

Completely open the throttle twist grip and pull the starter rope a few times.

If after this the engine does not start, clean the spark plug or adjust the sparking plug electrode gap, which should be 0,5 to 0,6 mm.

If it is obvious that the fuel does not enter the carburettor, it is necessary to clean the entire fuel system. Troubles with starting the motor may also be caused by small quantities of water in the carburettor float chamber (clean the carburettor), or else by moist or salt deposits accumulated on the ignition cable and ignition cable plug (wipe dry with a rag).

If your motor has a poor performance check the following points:

1. Choke closed or half closed.
2. Carburettor loose on inlet pipe.
3. Intake silencer damaged or obstructed.
4. Rubber washer in fuel connector damaged or worn.

PLEASE FOLLOW THESE INSTRUCTIONS AND KEEP YOUR TOMOS 4 NEAT AND CLEAN: IT WILL ALWAYS BE READY FOR EASY STARTING AND EFFICIENT OPERATION.

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AILSA CRAIG 4

**AILSA CRAIG LTD.
SALFORDS, REDHILL, SURREY**

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Technical data:

Fig. 3

275 mm (10.73 in.); 165 mm (6.50 in.);
110 mm (4.33 in.)
145 mm (5.70 in.)
76 mm (2.99 in.); 102 mm (4.02 in.);
200 mm (7.87 in.);

Fig. 4

605 mm (23.43 in.); 252 mm (9.84 in.);
172 mm (6.77 in.); 15.55 mm (0.61-2.28 in.);
322 mm (12.60 in.); 131 mm (5.20 in.);
460 mm (19.09 in.); (570 mm) (23.03 in.);
568 mm (23.43 in.); (678) mm (27.36 in.);
1000 mm (39.96 in.); (1110 mm) (43.90 in.);
108 mm (4.25 in.); (110 mm) (4.33 in.)

Stroke volume: 59,6 ccm (3.64 cu. in.)

Diameter of cylinder: 42 mm (1.65 in.)

Stroke: 43 mm (1.69 in.)

Advanced ignition: 1.5 mm (.06 in.)

Platinum contact breaker point distance: 0.35-

0.45 mm (.0135 in. - .0177 in.)

Diameter of propeller: 200 mm (7.87 in.)

Stroke: 120 mm (4.72 in.)

Propeller static pressure: 43 kp (94.80 lbs.)

Weight of the motor: 15,5 kg (33.07 lbs.)

Fuel tank, separated - 12 litres (2.63 imp. gal.)

Maximal speed (depends on weight and size
of boat): up to 18 km/h (9,5 m.p.h.)

Fuel consumption at full load: 1,6 l/h av. (2.64
pts.)

Fuel mixture table:

Petrol	Oil
5 litres (1 imp. gal.)	0,2 litres (0.35 pt.)
10 litres (2 imp. gal.)	0,5 litres (0.70 pt.)
15 litres (3 imp. gal.)	0,6 litres (1.05 pts.)

Lubricant for reductor in propeller housing:

Motor oil SAE 20: 0,10 litre (0.26 pt.)

Mounting the motor to the boat:

If the transom is too thin and the screws do not grip firmly, an aluminium plate or an extra piece of wood (49×90 mm (1.93 in. × 3.86 in.) 5 mm (0.20 in.) thick) may be screwed to the transom. In case the transom is thicker than 58 mm (2.28 in.), it is necessary to reduce its thickness. Page 8 - With the boat unloaded, the distance between the water line and the anti-cavitation plate should be at least 100 mm (3.93 in.).

Manoevring the boat:

The remains of the fuel (appr. 0,5 litre (1.23 pts.) . . .

Ignition system:

. . . it is possible to adjust the contact breaker points, which should be from 0,35 to 0,45 mm (.0135 to .0177 in.). Page 13 - . . . and with the piston in about 1,5 mm (0.6 in.) under the T.D.C. . . . The right sparking plug electrode gap should be 0,5 - 0,6 mm (.019 in. - .023 in.).

Propeller housing:

Page 18 - Use 100 c.c. (9.15 cu in.) of motor oil SAE 20.

Storage of motor:

Page 18 - Then pour 30 c.c. (1.83 cu. in.) of anticorrosion oil Fill the fuel tank with 1/2 — 1 litre (0.87 — 1.76 pts.) of anti-corrosion oil . . .

When the obstructions appear and their removal:

Page 19 — . . . or regulate the sparking plug electrode gap, which should be 0,5 to 0,6 mm (.019 in. to .023 in.).

1/2 gal

SALFORDS · REDHILL · SURREY

RECOMMENDED LUBRICANTS For the AILSA CRAIG 4

Engine: Duckhams Outboard Two-Stroke Oil Ratio-25:1

Gearhousing: Duckhams Outboard Gear Oil (Hypoid 90) or Q20-50

Grease Points: Duckhams Keenol Grease

Lay-up: Adfilm 730

Ignition Waterproofing: Duckhams Dry-Spark

Additives of the friction reducing or viscosity improving type must not be used
