DAYLIFF

DOB
Outboard Engine

Installation & Operating Manual

INDEX

Congratulations on selecting a Dayliff DOB Outboard Engine. They are manufactured to the highest standards and if installed and operated correctly will give many years of efficient and trouble free service. Careful reading of this Installation Manual is therefore important, though should there be any queries they should be referred to the equipment supplier.

1. SPECIFICATIONS

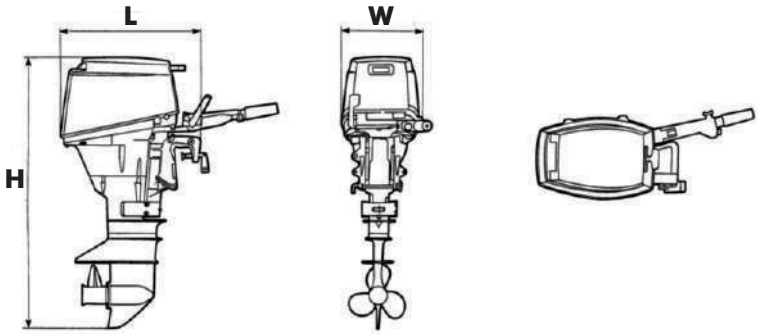
Dayliff DOB outboard engines are robust products manufactured to the highest standards at one of the world's largest outboard engine factories. Light weight and easy to transport, Dayliff engines have a reputation built on years of reliable and powerful performance. Suitable for various applications including recreational, fishing and general work boats, all models offer efficient, reliable service and excellent value. Particular features include:-

- Advanced two stroke type with CDI ignition system for efficient starting and smooth operation.
- Sturdy construction from high grade marine aluminium alloy with stainless steel water pump housing, zinc coated internal water passages and six-layer external paint finish for exceptional corrosion protection in salt water applications.
- Tiller control provided as standard with remote control optional.
- Insulated engine cover for quiet operation.
- Thermostatically controlled cooling system for even temperature operation provided with an alert switch for high operating temperatures.
- Shallow water drive provided as standard for engine protection at varying water depths.
- Supplied complete with 24 litre fuel tank, fuel line and safety shut off lanyard.

Available countrywide through the extensive network of Dayliff distributors with full sales and service support provided, Dayliff DOB outboard engines are the ideal solution for all recreational and workboat power requirements.

ENGINE SPECIFICATIONS

Engine Model		DOB15	DOB25	DOB40
Engine Type		2 Cylinder, 2 Stroke		
Maximum Output (kW/HP)@5000rpm		11/15	18.4/25	29.4/40
Recommended Max Speed (rpm)		4500-5000		4500-5500
Cylinder Capacity (cc)		246	496	703
Starting System		Recoil/Manual Start		
Shaft Type		Long Shaft		
Overall Dimensions (mm)	L	873	843	1073
	W	332	399	402
	H	1167	1273	1345
Transom Height (mm)		574	568	562
Dry Weight(kg)		38	55	81



2. SYMBOLS & WARNINGS

Take care not to spill fuel. If fuel spills, wipe it up immediately with dry rags. Dispose of rags properly.

If fuel spills onto the skin, immediately wash with soap and water. Change clothing if gasoline spills on them too.

If fuel is swallowed inhaled or gets into the eyes, immediate medical attention. Never siphon fuel by mouth.

This product emits exhaust gases which contain carbon monoxide , a colorless, odorless gas which may cause brain damage or death when inhaled. Symptoms include nausea, dizziness and drowsiness. Keep all areas well ventilated avoid blocking exhaust outlets.

Do not attempt to modify this outboard engine. Modifications to the outboard engine may reduce safety and reliability and render the outboard unsafe or illegal to use.

Never operate the engine under the influence of alcohol or drugs. Intoxification may lead to fatalities.

Have an approved safety device on board for every occupant and ensure all occupants are wearing them inside the boat

Always watch out for people in water such as swimmers, skiers or divers, whenever the engine is running. When someone is in the water near the boat, shift into neutral and stop the engine. The propeller can keep moving even when the motor is in neutral and therefore the engine must not be stopped.

Scan constantly for people, objects and other boats. Be alert for conditions that limit visibility or block vision of others.

Operate defensively at safe speeds and keep a safe distance away from people, objects and other boats.

Do not follow directly behind other boats or waterskiers.

Avoid sharp turns or other maneuvers that make it hard for other boats to avoid collision or understand where one are going.

Avoid areas with submerged objects or shallow water.

Ride within limits and avoid aggressive maneuvers to reduce the risk of loss of control, ejection and collision

Boats do not have brakes and stopping the engine or reducing throttle can reduce the ability to steer. If one is not sure that the boat can be stopped in time before hitting an obstacle, apply throttle and turn in another direction.

Avoid boating in hazardous weather.

Make sure atleast one other passenger is trained to operate the boat in the event of an emergency.

Be informed about boating safety. Additional publications and information can be obtained from local maritime organizations.

Do not touch or remove electrical parts when starting or during operation.

Improper mounting of the outboard engine could result in hazardous conditions such as poor handling, loss of control or fire hazards because the motor is very heavy, special equipment and training is required to mount it safely.

Do not use leaded fuel as it can seriously damage the engine.

Avoid getting water and contaminants in the fuel tank. Contaminated fuel can cause poor performance or engine damage. Use only fresh gasoline that has been stored in clean containers.

Start in gear protection

DOB are equipped with start in gear protection devices. This feature permits the engine to started only when it is neutral. Always select neutral before starting the engine.

Use only 2-stroke outboard engine oil. If unavailable,, another 2-stroke engine oil with an NMMA-certified TC-W3 rating may be used.

Fuel Requirements

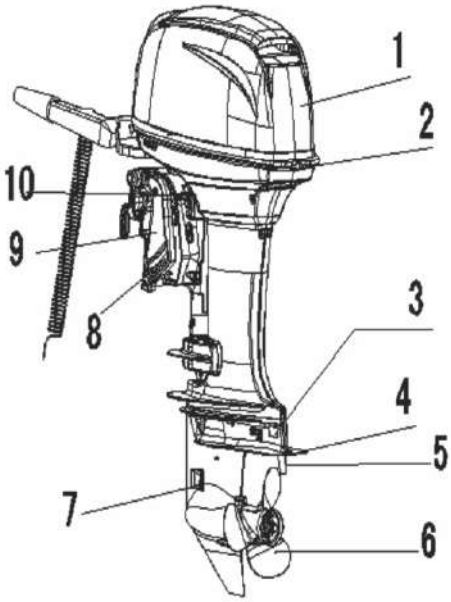
Use good quality petrol. If knocking or pinging occurs, use a different brand of premium unleaded fuel

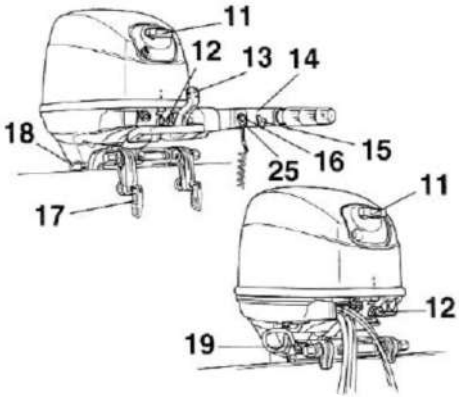
Emergency Equipment

Keep the following items onboard in case there is trouble with the outboard engine.

- A tool kit with assorted screwdrivers, pliers, wrenches (including metric sizes) and electrical tape.
- Waterproof flashlight with extra batteries.
- An extra engine shut off cord (lanyard) with clip.
- Spare parts such as an extra set of spark plugs.

Components Diagram

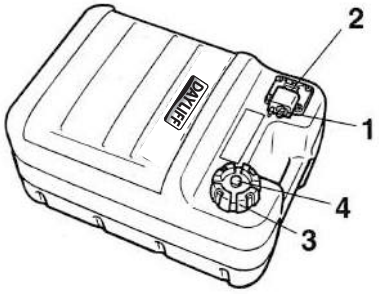




1.Top Cowling
2. Cowling Lock Lever
3. Anode
4. Anti-Cavitation Plate
5. Trim Tab (Anode)
6. Propeller
7. Cooling Water Inlet
8. Trim Rod
9. Clamp Bracket
10. Steering Friction Adjuster
11. Manual Starter Handle
12. Choke Knob
13. Gear Shift Lever
14. Tiller Handle
15. Throttle Friction Adjuster
16. Engine Stop Button/Engine shut off switch
17. Clamp Screw
18. Tilt Lock Lever
19. Tilt Support Knob

WARNING

The fuel tank supplied with the outboard engine has a dedicated fuel reservoir and must not be used as a fuel storage container. Commercial user should ensure to conform to relevant licensing or approval authority regulations.



1. Fuel tank outlet port
2. Fuel gauge
3. Fuel tank cap
4. Air vent screw

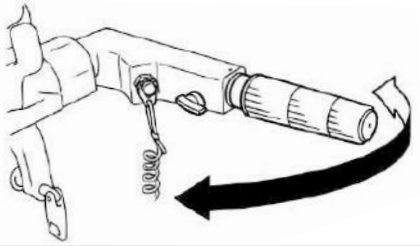
Fuel Tank Outlet Port
This joint is used to connect the fuel line.

Fuel Gauge
This gauge is located on either the fuel tank cap or on the fuel tank outlet port base. It shows the approximate amount of fuel remaining in the tank.

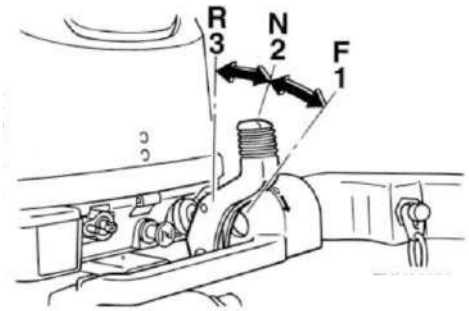
Fuel Tank Cap
This cap seals the fuel tank. When removed the tank can be filled with fuel. To remove the cap, turn in counterclockwise.

Air Vent Screw
This screw is on the fuel tank cap. To loosen the screw, turn counterclockwise.

Tiller Handle
To change direction, move the tiller handle to the left or right as necessary.



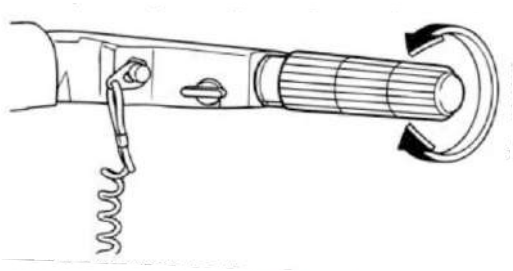
Gear Shift Lever
Move the gear shift lever forward to engage the forward gear to rearward to engage the reverse gear.



1. Forward “F”
2. Neutral “N”
3. Reverse “R”

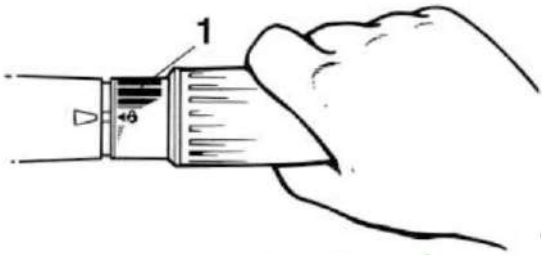
Throttle Grip

The throttle grip is on the tiller handle. Turn the grip counterclockwise to increase speed and clockwise to decrease speed.



Throttle Indicator

The fuel consumption curve on the throttle indicator shows the relative amount of fuel consumed for each throttle position. Choose the setting that offers the best performance and fuel economy for the desired operation.



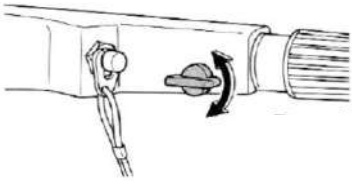
Throttle Friction Adjuster

A friction device provides adjustable resistance to movement of the throttle grip according to operator preference.

To increase resistance, turn the adjuster clockwise. To decrease resistance, turn the adjuster counterclockwise.

WARNING

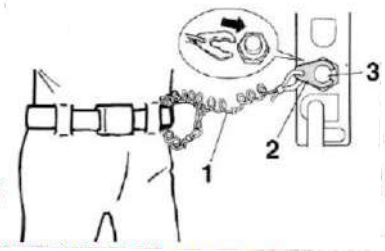
Do not over tighten the friction adjuster. If there is too much resistance, it could be difficult to move the remote control lever or throttle grip which could result in an accident.

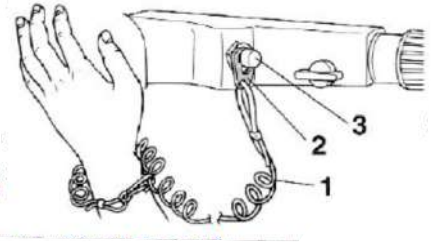


When constant speed is desired tighten the adjuster to maintain the desired throttle setting.

Engine Shut-Off Cord (Lanyards) and Clip

The clip must be attached to the engine shut-off switch for the engine to run. The cord should be attached to a secure place on the operator's clothing or arm or leg. Should the operator fall overboard or leave the helm, the cord will pull out the clip, stop ignition to the engine. This will prevent the boat from running away under power.





1. Cord
2. Clip
3. Engine shut-off switch

WARNING

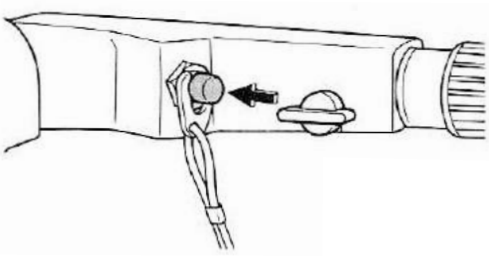
Attach the engine shut-off cord to a secure place on operators clothing arm or leg while operating. Do not attach the cord to clothing that could tear loose. Do not route the cord where it could become entangled preventing it from functioning.

WARNING

Avoid accidentally pulling the cord during normal operation. Loss of engine power means loss of most steering control. Also without engine power, the boat could slow rapidly. This could cause people and objects in the boat to be thrown forward.

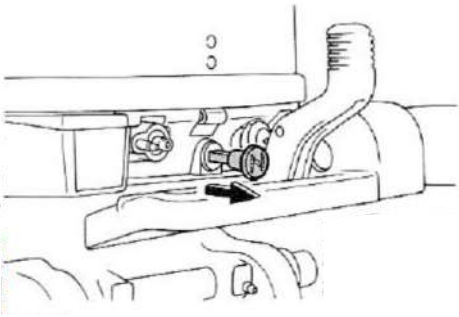
Engine Stop Button

The engine stop button stops the engine when the button is pushed.



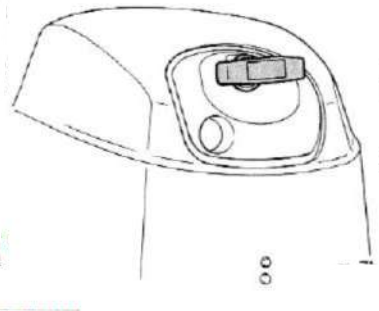
Choke Knob for Pull Tyre

To supply the engine with the rich fuel mixture required to start, pull out this knob.



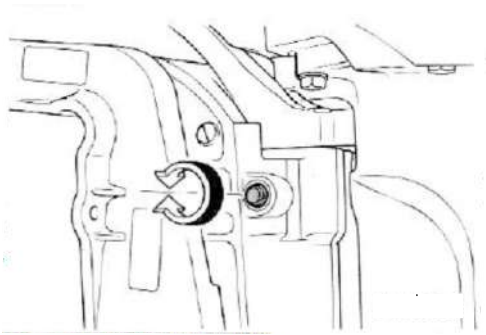
Manual Starter Handle

The manual starter handle is used to crank and start the engine.



Steering Friction Adjuster

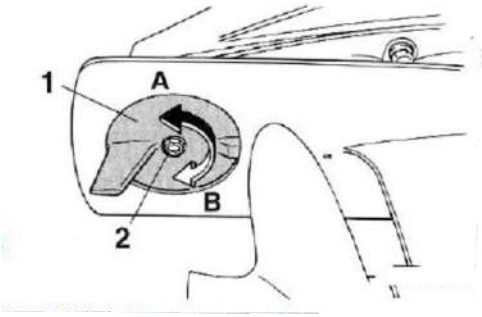
A friction device provides adjustable resistance to the steering mechanism and can be set according to operator preference. An adjusting screw or bolt is located on the swivel bracket.



To increase resistance, turn the adjuster clockwise. To decrease resistance, turn the adjuster counterclockwise.

Do not over tighten the friction adjuster. If there is too much resistance, it could be difficult to steer, which could result in an accident.

The trim tab also serves as an anode to protect the engine from electrochemical corrosion. Never paint the trim tab as it will become ineffective as an anode.

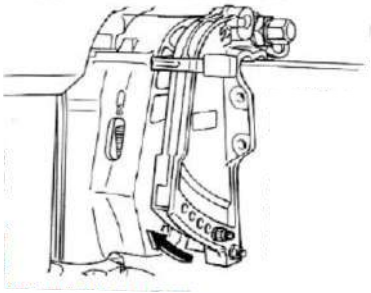


1. Trim Tab
2. Bolt

Bolt tightening torque:
18.0 Nm (1.8kgf-m, 13ft-lb)

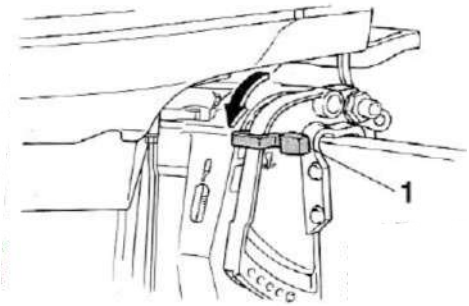
Trim Rod (Tilt Pin)

The position of the trim rod determines the minimum trim angle of the outboard engine in relation to the transom.



Tilt Lock Mechanism

The tilt lock mechanism is used to prevent the outboard motor from lifting out of the water when in reverse gear.

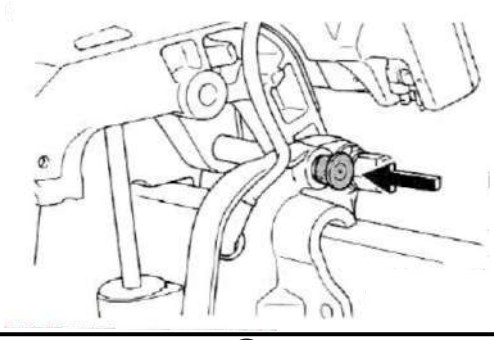


1. Tilt Lock Lever

To lock it, set the tilt lock lever in the lock position. To release, push the tilt lock lever in the release position.

Tilt Support Knob

To keep the outboard motor in the tilted up position, push the tilt support knob under the swivel bracket.

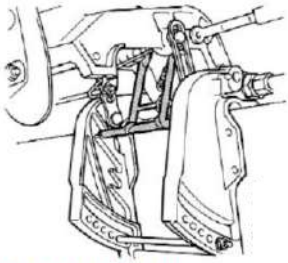


NOTE

Do not use the tilt support lever or knob when trailering the boat. The outboard engine could shake loose from the tilt support and fall. If the engine cannot be trailered in the normal running position, use an additional support device to secure it in the tilt

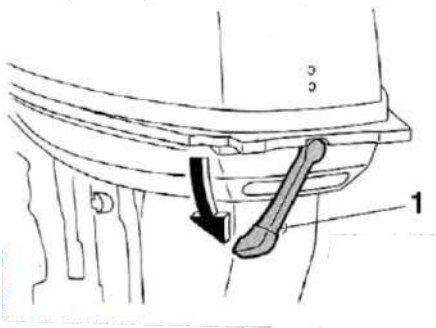
Tilt Support Bar

The tilt support bar keeps the outboard motor in the tilted up position.



Cowling Lock Lever (Turn Type)

To remove the engine top cowling, turn the cowling lock lever and lift off the cowling. When installing the cowling, check to be sure it fits properly in the rubber seal. Then lock the cowling again by returning the cowling lock lever to the lock position.



1. Cowling Lock Lever

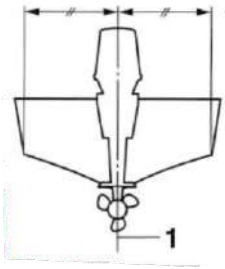
3. INSTALLATION

Overpowering a boat could cause severe instabilility. Do not install an outboard engine with more horsepower than the maximum rating on the capacity plate of the boat. If the boat does not have a capacity place, consult the boat manufacturer.

Improper mounting of the outboard engine could result in hazardous conditions such as poor handling, loss of control or fire hazards.

Mounting the Outboard Engine

The outboard engine should be mounted so that the boat is well balanced. Otherwise the boat could be hard to steer. For single engine boats, mount the outboard engine on the centerline (keel line) of the boat.

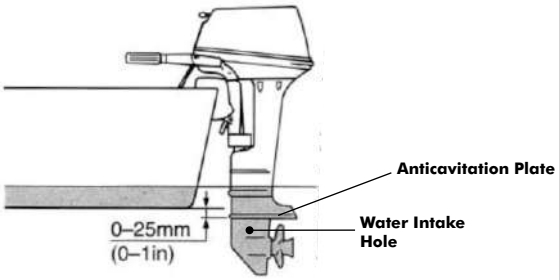


1. Center Line (Keel line)

Mounting the Outboard Engine

To run the boat at optimum efficiency, the water resistance (drag) of the boat and outboard engine must be made as little possible. The mounting height of the outboard engine greatly affects the water resistance. If the mounting height is too high, cavitation tends to occur, thus reducing the propulsion and if the propeller tips cut the air, the engine speed will rise abnormally and cause the engine to overheat. If the mounting height is too low, the water resistance will increase and thereby reduce engine efficiency. Mount the outboard engine so that the anticavitation plate is between the bottom of the boat at level 25mm.

Anticavitation plate



NOTE

Make sure that the idle hole is high enough to prevent water from entering the engine even if the boat is stationary with the maximum load.

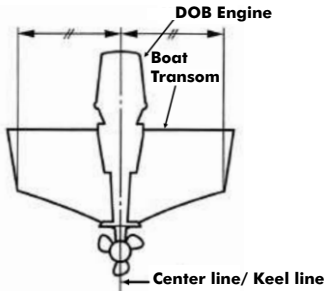
NOTE

Incorrect engine height or obstructions to the smooth flow of water (such as the design or condition of the boat or accessories such as transom ladders or depth finder transducers) can create airborne water spray while the boat is cruising. If the outboard engine is operated continuously in the presence of airborne water spray enough water could enter the engine through the air intake opening in the top cowing to cause severe engine damage. Remove the cause of the airborne water spray.

- The optimum mounting height of the outboard engine is affected by the boat and engine combination and the desired use. Test runs at different heights can help determine the optimum mounting height. Consult your Dayliff retailer for further information on determining the proper mounting height.

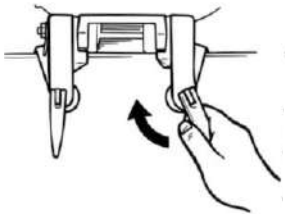
Clamping the Outboard Engine

- Place the outboard engine on the transom so that it is positioned as close to the center as possible. Tighten the transom clamp screws evenly and securely. Occasionally check the clamp screws for tightness during operation of the outboard motor because they could become loose due to engine vibration.

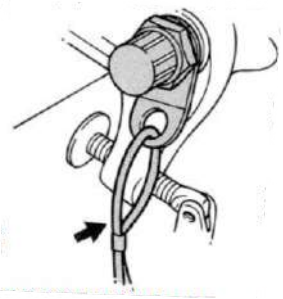


WARNING

Loose clamp screws could allow the outboard engine to fall off or move on the transom. This could cause loss of control and serious injury. Make sure the clamp screws are tightened securely. Occasionally check the screws for tightness during operation.



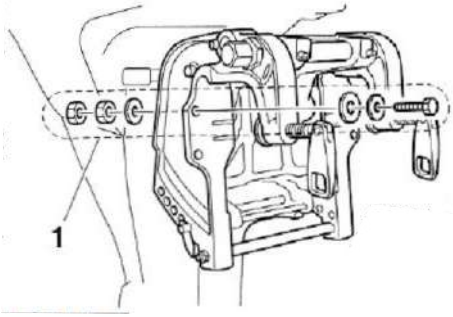
- If the restraint cable attachment is equipped on the engine, a restraint cable or chain should be used. Attach one end to the restraint cable attachment and the other to a secure mounting point on the boat. Otherwise the engine could be completely lost if it accidentally falls off the transom.



- Secure the clamp bracket to the transom using the bolts provided with the outboard (if packed). For details, consult your Dayliff outboard engine retailer/ D&S outlet.

WARNING

Avoid using bolts, nuts or washers other than those contained in the engine packaging. If used, they must be of atleast the same quality of material and strength and must be tightened securely. After tightening, test run the engine and check their tightness.



1. Bolt

4. OPERATION

First - Time Operation
Break In

New engine requires a period of break in to allow mating surfaces of moving parts to wear in evenly. Correct break in will help ensure proper performance and longer engine life.

NOTE

Failure to follow the break in procedure could result in reduced engine life or even severe engine damage.

- Use fuel and engine oil mixing ratio of (25:1), refer to section on fuel/oil mixing

	25:1			
	1L	12L	14L	24L
	0.04L	0.48L	0.56L	0.96L

Fuel

Engine Oil

NOTE

Be sure to mix fuel and oil completely, otherwise the engine may be damaged.

Procedure for Pre-mixed Models

Run the engine under load (in gear with propeller installed) for 10 hours as follows;

1. First 10 minutes: Run the engine at the lowest possible speed. A fast idle in neutral is best
2. Next 50 minutes: Do not exceed half throttle (approximately 3000 r/min). Vary engine speed occasionally. If you have an easy running boat, accelerate at full throttle onto plane then immediately reduce the throttle to 3000r/min or less
3. Next two hours: Accelerate at full throttle onto plane then reduce engine speed to three quarter throttle (approximately 4000 r/min). Vary engine speed occasionally. Run at full throttle for one minute, then allow about 10minutes of operation at three quarter throttle or less to let the engine cool.
4. Remaining seven hours: Run the engine at any speed. However, avoid operating at full throttle for more than 5 minutes at a time.
5. After the first 10 hours: Operate the engine normally. Uses the standard premix ratio of gasoline and oil.

NOTE

Different boats handle differently. Operate cautiously while learning how the boat handles under different conditions and with different trim angles.

Checks before Starting Engine

WARNING

If any item in "Check before starting engine" is not working properly, have it inspected and repaired before operating the outboard motor. Otherwise, an accident could occur.

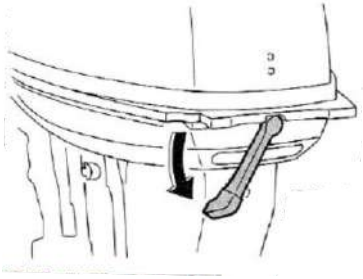
NOTE

Do not start the engine out of water. Overheating and serious engine damage can occur.

Fuel Level

Be sure there is plenty of fuel for the trip. A good rule is to use 1/3 of your fuel to get to the destination, 1/3 to return and to keep 1/3 as emergency reserve with the boat level on a trailer or in the water.

For the following checks, remove the top cowling from the bottom cowling. To remove the top cowling, release the cowling lock lever and lift off the top cowling.



Fuel System

Fuel and its vapors are highly flammable and explosive. Keep away from sparks, cigarettes, flames or other sources of ignition.

Leaking fuel can result in fire or explosion.

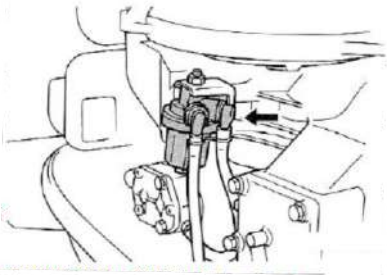
- ***Check for fuel leakage regularly***
- ***If any fuel leakage is found, the fuel system must be repaired by a qualified mechanic.***

Check for Fuel Leaks

- Check for fuel leaks or gasoline fumes in the boat
- Check for fuel leakage from the fuel system
- Check the fuel tank and fuel lines for cracks, swellings or other damages

Checking the Fuel Filter

Check that the fuel filter is clean and free of water. If any water is found in the fuel or if a significant amount of debris is found, the fuel tank should be checked and cleaned.



Controls

Tiller handle models:

- Move the tiller handle fully to the left and right to make sure operation is smooth.
- Turn the throttle grip from the fully closed to the fully open position. Make sure that it turns smoothly and that it completely returns to the fully closed position.
- Look for loose or damaged connections of the throttle and shift cables

Engine Shut off Cord (Lanyard)

Inspect the engine shut off cord and clip for damage such as cuts, breaks and wear.

Oil

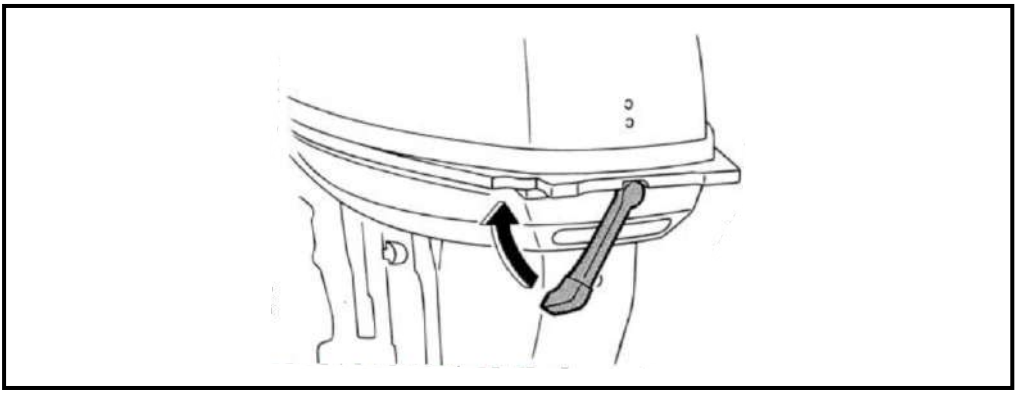
- Check to be sure you have plenty of oil for your trip

Engine

- Check the engine and engine mounting.
- Look for loose or damaged fasteners
- Check the propeller for damage

Install Top Cowling

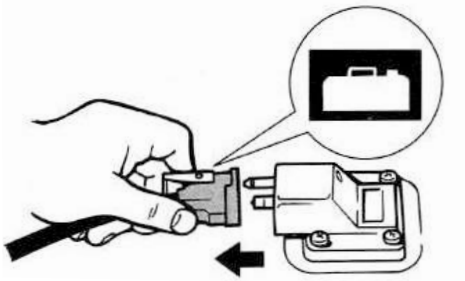
1. Be sure that the cowling lock lever is released.
2. Be sure that the rubber seal is seated all the way around the top cowling.
3. Place the top cowling on the bottom cowling.
4. Check to be sure the rubber seal is seated correctly between the top cowling and the bottom cowling.



After installing, check the fitting of the top cowling by pushing it with both hands. If the top cowling is loose, have it repaired by your Dayliff retailer

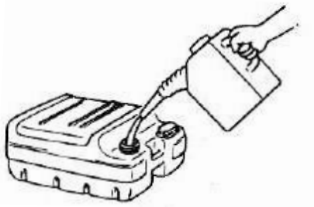
Filling Fuel for portable tank

- Be sure the engine is stopped.
- Disconnect the fuel line from the fuel tank and tighten the air vent screw on the fuel tank cap.



- Remove the portable tank from the boat.
- Be sure you are in a well ventilated outdoor area either securely moored or trailered.
- Do not smoke and keep away from sparks, flames, static electric discharge or other sources of ignition.
- If you use a portable container to store and dispense fuel, use only an approved fuel Container.
- Touch the fuel nozzle to the filler opening or tunnel to help prevent electrostatic sparks.
- Fill the fuel tank but do not overfill.

Do not overfill. Otherwise fuel can expand and overflow if the temperature increases.



Fuel Tank Capacity: 24L

Fuel and Oil Mixing

- Avoid using any oil other than 2 stroke outboard engine oil.
- Use a thoroughly blended fuel-oil mixture.
- If the mixture is not thoroughly mixed or if the mixing ratio is incorrect, the following problems could occur.
- Low oil ratio: Lack of oil could cause major engine trouble such as piston seizure.
- High oil ratio: Too much oil could cause fouled spark plugs, smoky exhaust and heavy carbon deposits.

Mixing fuel and Oil

- Pour oil into the portable fuel tank and then add fuel.
- Replace the fuel tank cap and close tightly.
- Shake the fuel tank to mix the fuel thoroughly.
- Make sure that the oil and gasoline are mixed.

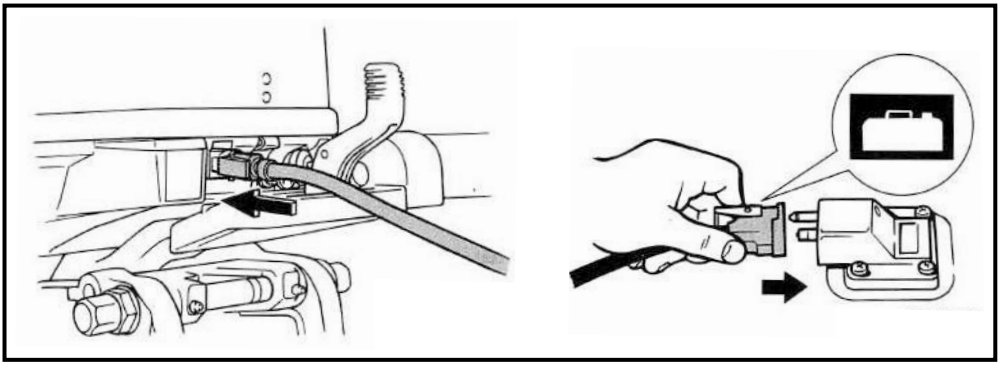
Operating Engine

Before starting the engine make sure that the boat is tightly moored and that it can be steered clear of any obstructions. Be sure there are no swimmers in the water nearby.

Venting Fuel (portable tank)

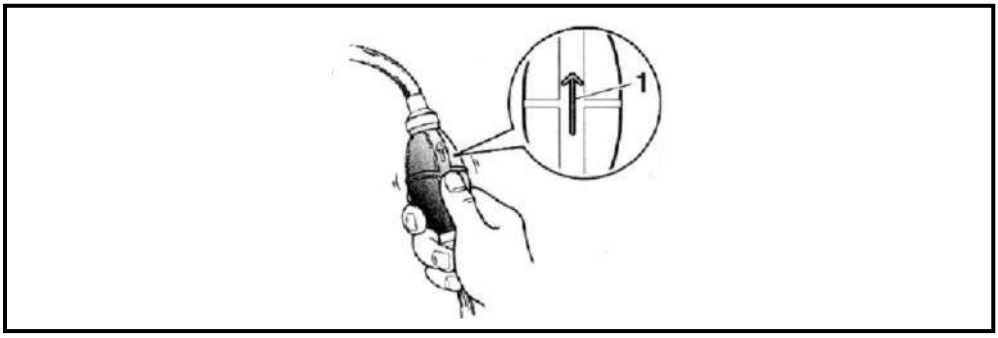
- If there is an air vent screw on the fuel tank cap, loosen it 2 or 3 turns.

- If there is a fuel joint on the engine align the fuel joint on the fuel line with the fuel joint on the engine and firmly connect the fuel line to the joint while pinching the joint. Then firmly connect the other end of the fuel line to the joint on the fuel tank.

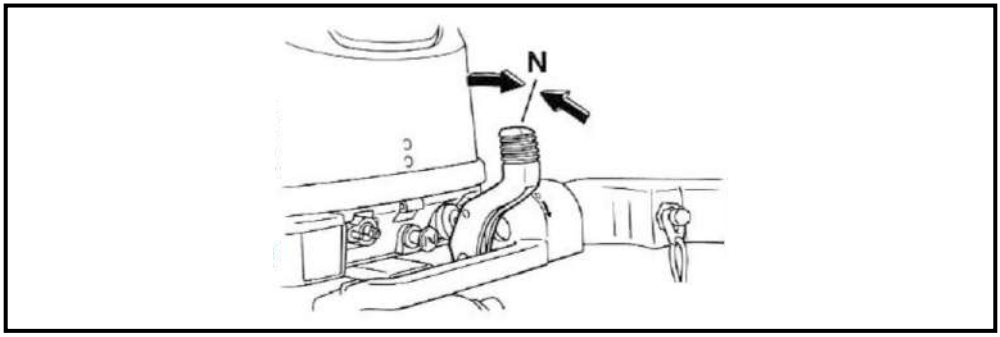


Wipe up any spilled gasoline immediately with dry rags. Dispose rags properly according to local laws or regulations.

- Squeeze the primer pump with arrow pointing up until it becomes firm. During engine operation place the tank horizontally, otherwise fuel flow may be disrupted.

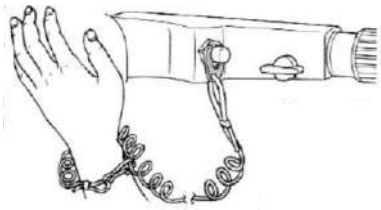


- Place the gear shift lever in neutral

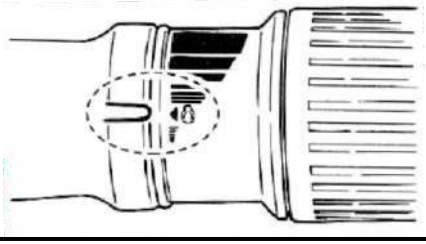


The start in gear protection device prevents the engine from starting except when in neutral.

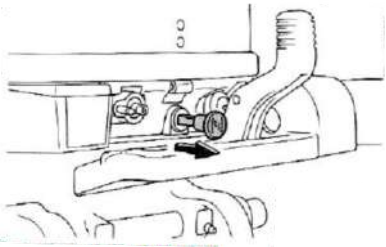
- Attach the engine shut off cord to a secure place on operators clothing, arm or leg. Then install the clip on the other end of the cord into the engine shut off switch.



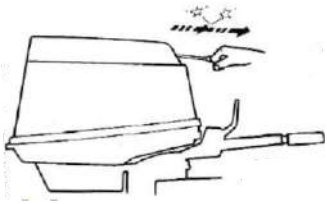
- Place the throttle grip in the "START" (start) position.



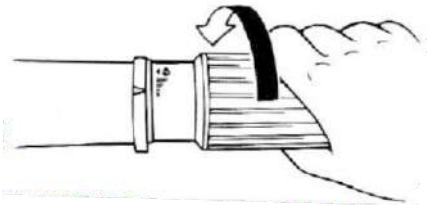
- Pull out/ turn the choke knob fully. After the engine starts replace/return the knob to the home position.



- It is not necessary to use the choke when starting a warm engine.
- If the choke knob is left in the "START" position while the engine is running. The engine will run poorly or stall.
- Pull the manual starter handle slowly until you feel resistance. Then give a strong pull straight out to crank and start the engine. Repeat if necessary.



- After the engine starts, slowly return the manual starter handle to its original position before releasing it.
- Slowly return the throttle grip to the fully closed position.



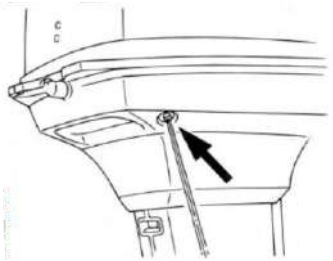
- When the engine is cold, it needs to be warmed up.
- If the engine does not start on the first try, repeat the procedure. If the engine fails to start after 4 or 5 trials, open the throttle a small amount (between 1/8 and 1/4) and try again. Also if the engine is warm and fails to start, open the throttle the same amount and try to start the engine again.

Cooling Water

Check for a steady flow of water from the cooling water pilot hole. A continuous flow of water from the pilot hole indicates that the water pump is pumping water through cooling water passages. If the cooling water passages are blocked, it may take a while for water to start flowing out of the pilot hole

NOTE

If water is not flowing out of the pilot hole at all times while the engine is running, overheating and serious damage could occur. Stop the engine and check whether the cooling water pilot hole is blocked. Consult a Dayliff Outboard Engine retailer/ D&S Outlet if the problem cannot be located and corrected.



Warming up Engine
Choke Start Models

After starting the engine allow it to idle for 3 minutes to warm up. Failure to do so will shorten engine life. Gradually return the choke knob to its home position as the engine warms up.

Checks after Engine Warm Up
Shifting
While the boat is lightly moored and without applying throttle confirm that the engine shifts smoothly into forward and reverse and back to neutral.

Stop Switches
- Turn the main switch to "OFF" or press the engine stop button and make sure the engine stops.
- Confirm that removing the clip from the engine shut off switch stops the engine.
- Confirm that the engine cannot be started with the clip removed from the engine shut off switch.

Shifting

WARNING

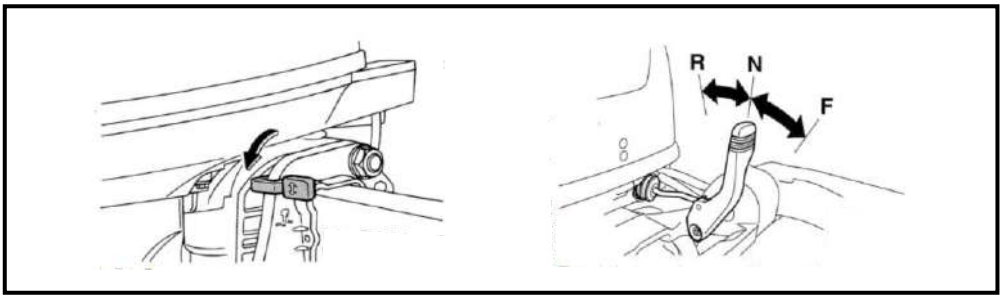
Before shifting, make sure there are no swimmers or obstacles in the water near you.

NOTE

Warm up the engine before shifting into gear. Until the engine is warm, the idle speed may be higher than normal. High idle speed can prevent you from shifting back to neutral. If this occurs, stop the engine, shift to neutral , then restart the engine and allow it to warm up.

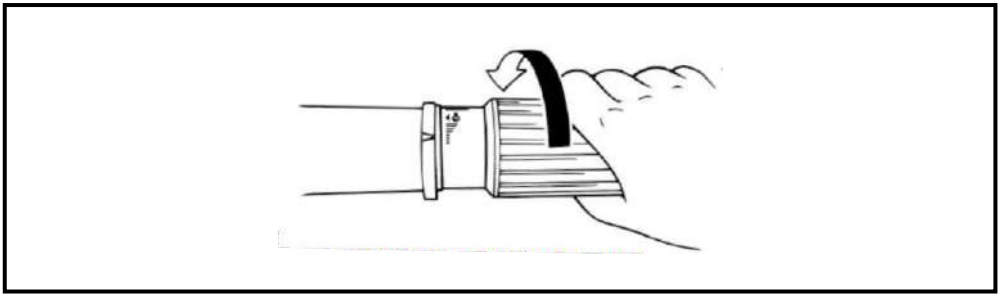
To shift out of neutral

- Move gear shift lever firmly and crisply forward (for forward gear) or backward (for reverse gear). Be sure to check that the tilt lock lever is in the loc/down position (if equipped) before operating in reverse.

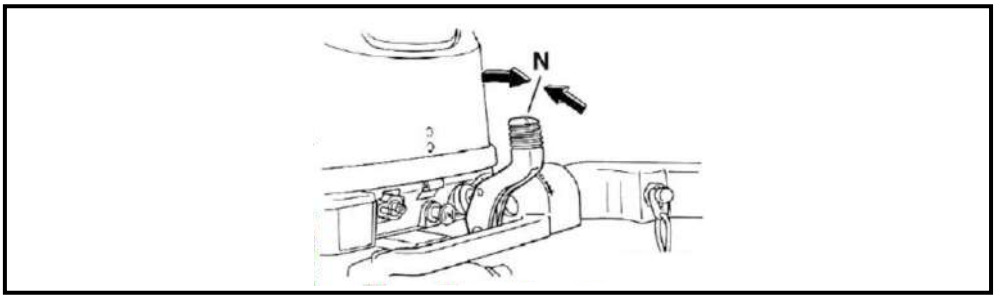


To shift from in gear (forward/reverse) to neutral

- Close the throttle so that the engine slows to idle speed.



- 2. After the engine is at idle speed in gear move gear shift lever firmly and crisply into the neutral position.



Stopping Boat

Do not use the reverse function to slow down or stop the boat as it could cause you to lose control, being ejected or impact the steering wheel and other parts of the boat. This could increase the risk of serious injury. It could also damage the shift

Do not shift into reverse while traveling at planing speeds. Loss of control, boat swamping or damage to the boat could occur.

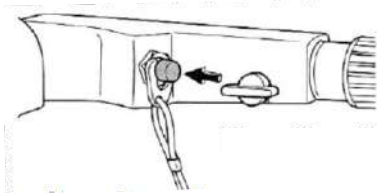
The boat is not equipped with a separate braking system. Water resistance stops it after the throttle lever is moved back to idle. The stopping distance varies depending on gross weight, water surface conditions and wind direction.

Stopping the Engine

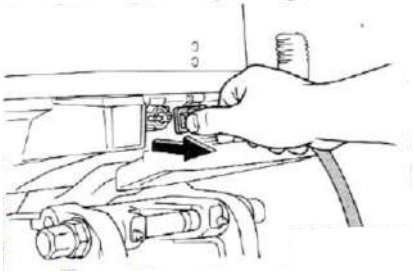
Before stopping the engine, first let it cool off for a few minutes at idle or low speed. Stopping the engine immediately after operating at high speed is not recommended.

Procedure

- Push and hold the engine stop button.



- After stopping the engine, disconnect the fuel line if there is a fuel joint on the outboard engine.



- Tighten the air vent screw on the fuel tank cap (if equipped).

- The engine can also be stopped by pulling the cord and removing the clip from the engine shut off switch, then turning the main switch to "OFF"

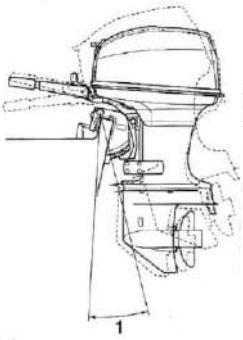
Trimming Outboard Engine

Trimming Outboard Engine

WARNING

Excessive trim for the operating conditions (either trim up or trim down) can cause boat instability and can make steering the boat more difficult. This increases the possibility of an accident. If the boat begins to feel unstable or is hard to steer, slow down and/or readjust the trim angle.

The trim angle of the outboard engine helps determine the position of the bow of the boat in the water. Correct trim angle will help improve performance and fuel economy while reducing strain on the engine. Correct trim angle depends upon the combination of boat, engine and propeller. Correct trim is also affected by variables such as the load in the boat, sea conditions and running speed.

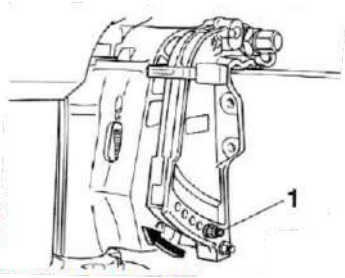


1. Trimmer operating angle

Adjusting trim angle for manual tilt models

There are 4 or 5 holes provided in the clamp bracket to adjust the outboard motor trim angle.

- Stop the engine.
- Tilt the outboard engine up and then remove the trim rod from the clamp bracket.



1. Trim rod

- Reposition the rod in the desired hole. To raise the bow (Trim out), move the rod away from the transom.
- To lower the bow (trim in), move the rod toward the transom. Make test runs with the trim set to different angles to find the position that works best for the boat and operating conditions.

Stop the engine before adjusting the trim angle.

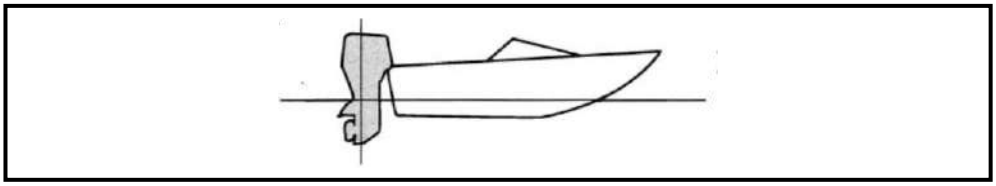
Take care to avoid being pinched when removing or installing the rod.

Exercise caution when trying a trim position for the first time. Increase speed gradually and watch for signs of instability or control problems. Improper trim angle can cause loss of control.

The outboard engine trim angle can be changed approximately 4^0 by shifting the trim rod one hole.

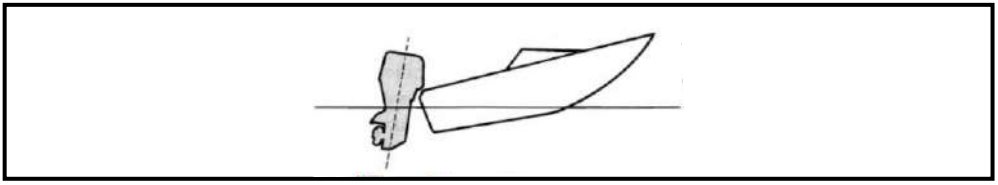
- **Adjusting boat trim**

When the boat is on plane (ridding on water), a bow up attitude results in less drag, greater stability and efficiency, This is generally when the keel line of the boat is up about $3\text{-}5^0$. With the bow up the boat may have a greater tendency to steer to one side or the other. Compensate for this as you steer. When the bow of the boat is down, it is easier to accelerate from a standing start onto plane.



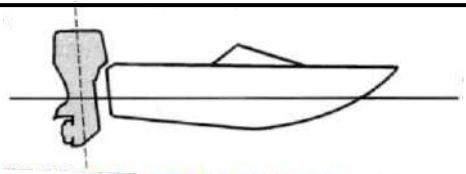
Bow Up

Too much trim out puts the bow of the boat too high in the water. Performance and economy are decreased because the hull of the boat is pushing the water and there is more air drag. Excessive trim out can also cause the propeller to ventilate which reduces performance further and the boat may "porpoise" (hop in the water), which could throw the operator and passengers overboard.



Bow Down

Too much trim in causes the boat to "plow" through the water, decreasing fuel economy making it hard to increase speed. Operating with excessive trim-in at higher speeds also makes the boat unstable. Resistance at the bow is greatly increased, heightening the danger of "bow steering" and making operation difficult and dangerous.



Depending on the type of boat, the outboard engine trim angle may have little effect on the trim of the boat when operating

Tilting up and down

If the engine will be stopped for some time or if the boat is moored in shallows, the outboard engine should be tilted up to protect the propeller and lower casing from damage by collision with obstructions and also to reduce salt corrossion.

WARNING

Make sure that no one is near the outboard engine when tilting the outboard engine up or down. Otherwise body parts could be crushed between the outboard engine and the clamp bracket.

WARNING

Leaking fuel is a fire hazard. If there is a fuel joint on the outboard engine, disconnect the fuel line or close the fuel cock if the engine will be tilted for more than a few minutes. Otherwise fuel may leak.

NOTE

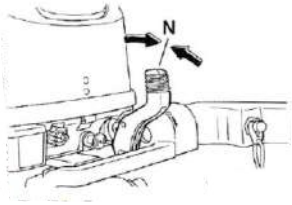
Before tilting the outboard engine, stop the engine by following the procedure. Never tilt the outboard motor while the engine is running. Severe damage from overheating can result.

NOTE

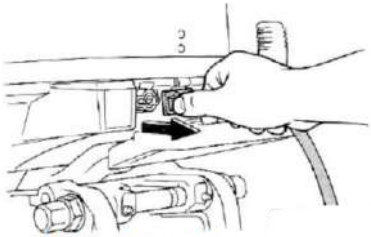
Do not tilt up the engine by pushing the tiller handle (if equipped) because this could break the handle.

Procedure for tilting up

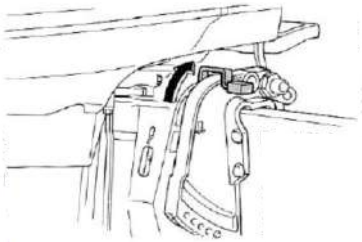
- Place the gear shift lever in manual.



- Disconnect the fuel line from the outboard engine.



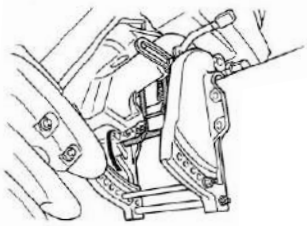
- Place the tilt lock lever (if equipped) in the release/up position.



- Pull up the shallow water lever (if equipped).
- Hold the rear of the top cowling with one hand and tilt the engine up fully.
- Push the tilt support knob into the clamp bracket or the tilt support bar will turn to the lock position automatically.

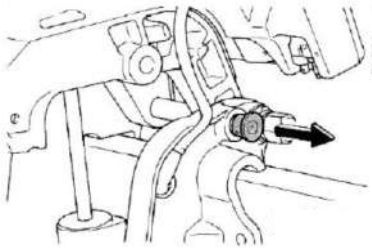
NOTE

Do not use the tilt support lever or knob when trailering the boat. The outboard engine could shake loose from the tilt support and fall. If the motor cannot be trailered in the normal running position, use an additional support device to secure it in the tilt position.



Procedure for tilting down (manual tilt models)

- Slightly tilt the outboard engine up.
- If equipped with a tilt support bar: slightly tilt up the engine until the tilt support bar is automatically released.
- If equipped with a tilt support knob: Pull it out, then slowly tilt the engine down.



Shallow water
Cruising in shallow water (manual tilt models)

WARNING

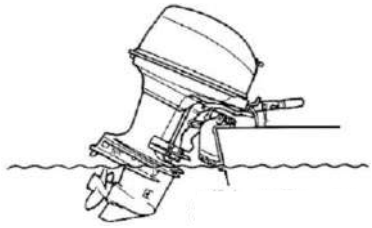
Run the boat at the lowest possible speed when using the shallow water cruising system. The tilt lock mechanism does not work while the shallow water cruising system is being used. Hitting an under water obstacle could cause the outboard engine to lift out of water resulting in loss of control.

WARNING

Use extra care when operating in reverse. Too much reverse thrust can cause the outboard engine to lift out of the water, increasing the change of accident and personal injury.

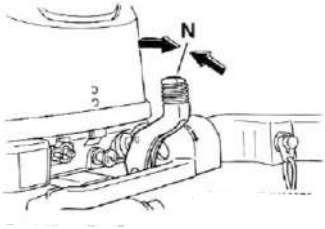
NOTE

Do not tilt the outboard engine up so that the cooling water inlet on the lower unit is above the surface of the water when setting up for the cruising in shallow water. Otherwise severe damage from overheating can result.

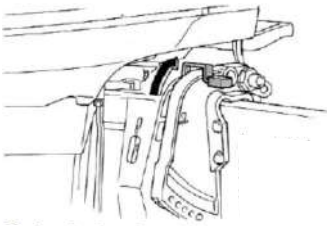


Procedure

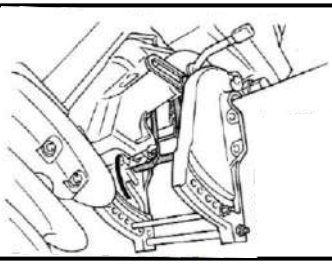
- Place the gear shift lever in neutral.



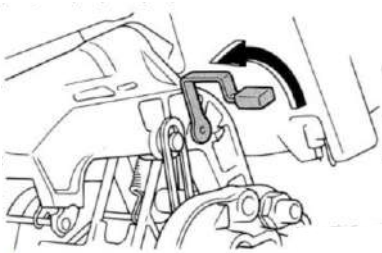
- Place the tilt lock lever in the release/up position.



- Slightly tilt the outboard engine up. The tilt support bar will lock automatically supporting the outboard motor in a partially raised position. This outboard moto has 2 positions for shallow water cruising.



- To return the outboard engine to the normal running position, place the gear shift lever in neutral.
- Place the tilt lock lever in the down position, then slightly tilt the outboard engine up until the tilt support bar automatically returns to the free position.



Cruising in other conditions

Cruising in salt water

After operating in salt water, flush the cooling water passages with fresh water to prevent them from becoming clogged. Also rinse the outside of the outboard engine with fresh water.

Cruising in muddy, turbid or acidic water

It is strongly recommended that the operator installs the optional chromium plated water pump kit, when using the outboard engine in acidic water or water with a lot of sediment in it such as muddy or turbid (cloudy) water. After operating in such water, flush the cooling passages with fresh water to prevent corrosion. Also rinse the outside of the outboard engine with fresh water

Anti-fouling Paint

A clean hull improves boat performance. The boat bottom should be kept as clean of marine growth as possible. If necessary, the boat bottom can be coated with an anti-fouling paint approved for your area to inhibit marine growth.

Do not use anti-fouling paint which includes copper or graphite. These paints can cause more rapid engine corrosion.

5. MAINTENANCE

Transporting and storing outboard engine

Use care when transporting fuel tank, whether in a boat or car.

Do not fill fuel container to maximum capacity. Fuel will expand considerably as it warms up and can build up pressure in fuel container. This can cause fuel leakage and a potential fire hazard.

Leaking fuel is a fire hazard. When transporting and storing the outboard motor, disconnect the fuel line from the outboard engine to prevent fuel from leaking.

Never get under the outboard engine while it is tilted. Severe injury could occur if the outboard motor accidentally falls.

Do not use the tilt support lever or knob when trailering the boat. The outboard engine could shake loose from the tilt support and fall. If the outboard engine cannot be trailered in the normal running position, use an additional support device to secure it in the tilt position.

NOTE

When storing the outboard engine for prolonged time, fuel must be drained from the fuel tank. The deteriorated fuel could clog the fuel line causing engine start difficulty or malfunction.

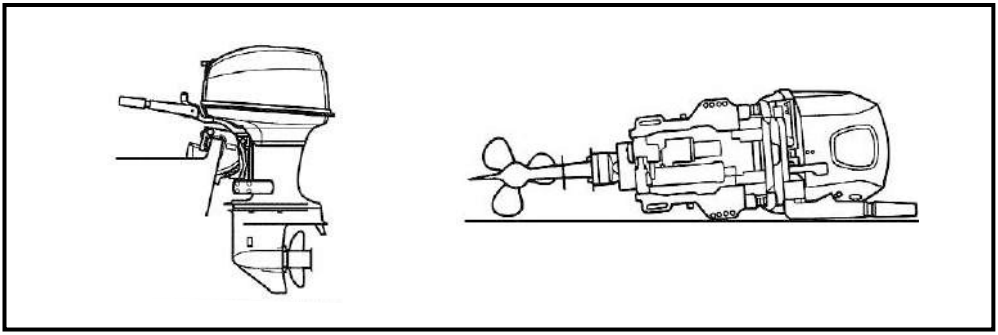
When storing or transporting the outboard motor, make sure to follow the procedure listed below;

- Disconnect the fuel line from the outboard motor.
- Tighten the fuel tank cap and its air vent screw.
- When the outboard engine is tilted for a prolonged time for mooring or trailering the boat, disconnect the fuel line from outboard motor. Tighten the fuel tank cap and its air vent screw.

The outboard engine should be transported and stored in the normal running position. If there is insufficient road clearance in this position, then trailer the outboard motor in the tilt position using an engine support device such as a transom saver bar.

Clamp screw mounting models

When transporting or storing the outboard motor while removed from a boat, keep the outboard engine in the orientation shown.



Place the outboard engine on soft surface or with a soft material underneath it to protect it from damage.

Storing outboard engine

When storing outboard engine for prolonged periods of time (2months or longer), several important procedures must be performed to prevent excessive damage. It is advisable to have the outboard engine serviced by an Dayliff retailer prior to storage. However, the owner with a minimum of tools can perform the following procedures.

NOTE

Do not place the outboard engine on its side before the cooling water has drained from it completely, otherwise water may enter the cylinder through the exhaust port and cause engine trouble.

NOTE

Store the outboard engine in a dry, well ventilated place not in direct sunlight.

Procedure

1. Flushing the cooling system

- Clean the exterior of the outboard engine with fresh water and flush the cooling system with fresh water.
- Cooling system flushing is essential to prevent the cooling system from clogging up with salt, sand or dirt. In addition, fogging/lubricating of the engine is mandatory to prevent excessive engine damage due to rust. Perform the flushing and fogging all the same

Do not touch or remove electrical parts when starting or during operation. Keep hands, hair and clothes away from the flywheel and other rotating parts while the engine is running.

- Run the engine at a fast idle for a few minutes in neutral position.
- Prior to turning off the engine, quickly spray "fogging oil" alternately into each carburetor or the fogging hole of the silencer cover, if equipped. When properly done, the engine will smoke excessively and almost stall.
- If the "fogging oil" is not available run the engine at a fast idle until the fuel system becomes empty and the engine stops.
- Drain the cooling water completely out of the engine. Clean the body thoroughly.
- If the "fogging oil" is not available remove the spark plug(s). Pour a teaspoonful of clean engine oil into each cylinder. Crank several times manually. Replace the spark plug(s).
- Drain the fuel from the fuel tank.
- Store the fuel tank in a dry, well - ventilated place not in direct sunlight.

2. Lubrication

- Change the gear oil. Inspect the oil for the presence of water that indicates a leaky seal. Seal replacement should be performed by an authorized dealer.
- Grease all grease fittings.
  For long term storage, fogging (spraying or applying a thin layer of oil) the engine with oil is recommended.

Replacement Parts

If replacement parts are necessary , use only genuine our parts or parts of equivalent design and quality. Any part of inferior quality may malfunction and the resulting loss of control could endanger the operator and passengers. Use genuine parts and accessories which are available from any Dayliff retailer.

Severe Operating Conditions

Severe operating conditions involve one or more of the following types of operation on a regular basis:

- Operating continuously at or near maximum engine speed (rpm) for many hours.
- Operating continuously at a low engine speed (rpm) for many hours.
- Operating without sufficient time for engine to warm up and cool down.
- Frequent quick acceleration and deceleration.
- Frequent shifting
- Frequent starting and stopping the engine.
- Operation that fluctuates often between light and heavy cargo loads.

Outboard engine operating under any of these above conditions require more frequent maintenance. It is recommended that service is carried out twice as often as specified in the maintenance chart. For example, if a particular service should be done at 50 hours, do it instead at 25 hours. This will help prevent more rapid deterioration of engine components.

Maintenance Chart 1

The maintenance cycle on these charts assume usage of 100 hours per year and regular flushing of the cooling water passages. Maintenance frequency should be adjusted when operating the engine under adverse conditions such as extended trolling.

- Disassembly or repairs may be necessary depending on the outcome of maintenance checks.
- Expendable or consumable parts and lubricants will lose their effectiveness over time and through normal usage regardless of the warranty period.

When operating in salt water, muddy other turbid (cloudy), acidic water, the engine should be flushed with clean water after each use.

The " ● " symbol indicates the check ups which maybe carried out by Dayliff retailer

The " ○ " symbol indicates work to be carried out by our Dayliff retailer

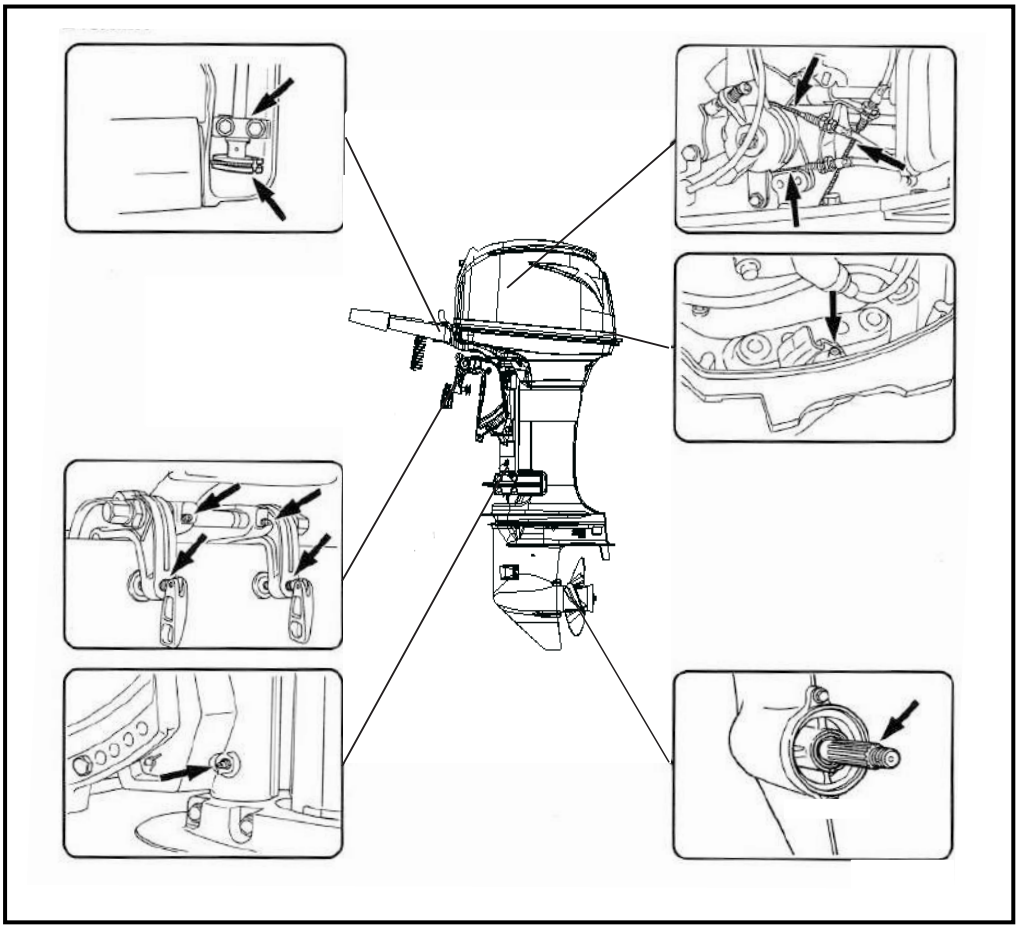
Item	Actions	Initial	Every		
		20 hours (3 months)	100 hours (1 year)	300 hours (3 years)	500 hours (5 years)
Anodes (external)	Inspection or replacement as necessary		●/○		
Anodes (cylinder head thermostat cover)	Inspection or replacement as necessary				○
Anodes (exhaust cover, cooling water passage cover, Rectifier regulator cover)	Replacement				○
Battery (electrolyte level, terminal)	Inspection	●/○	●/○		
Battery (electrolyte level, terminal)	Fill, charging or replacing as necessary		○		
Cooling water leakage	Inspection or replacement as necessary	○	○		
Cowling lock lever	Inspection		●/○		
Engine starting condition/noise	Inspection	●/○	●/○		
Engine idle speed/ noise	Inspection	●/○	●/○		
Fuel filter (can be dis-assembled)	Inspection or replacement as necessary	●/○	●/○		
Fuel line (High pressure)	Inspection	●	●		
Fuel line (High pressure)	Inspection or replacement as necessary	○	○		
Fuel line (Low pressure)	Inspection	●	●		○
Fuel line (Low pressure)	Inspection or replacement as necessary	○	○		
Fuel Pump	Inspection or replacement as necessary			○	
Fuel/engine oil leakage	Inspection	○	○		
Gear oil	Replacement	●/○	●/○		
Greasing points	Greasing	●/○	●/○		
Impeller/water pump housing	Replacement		○		
Impeller/water pump housing	Inspection or replacement as necessary			○	

Item	Actions	Initial	Every		
		20 hours (3 months)	100 hours (1 year)	300 hours (3 years)	500 hours (5 years)
Propeller/propeller nut/cutter pin	Inspection or replacement as necessary	●/○	●/○		
Shift link/ Shift cable	Inspection, adjustment or replacement as necessary	○	○		
Spark plug	Inspection or replacement as necessary		●/○		
Spark plug caps/ Spark plug wires	Inspection or replacement as necessary	○	○		
Water from the cooling water pilot hole	Inspection	●/○	●/○		
Throttle link/ Throttle cable/ Throttle pickup timing	Inspection, adjustment or replacement as necessary	○	○		
Thermostat	Inspection or replacement as necessary		○		
Cooling water inlet	Inspection	●/○	●/○		
Main switch/ Stop switch/ Choke switch	Inspection or replacement as necessary	○	○		
Wire harness connection/ Wire coupler connections	Inspection or replacement as necessary	○	○		

Greasing points

Grease A (water resistant grease)

Grease D (Corrosion resistant grease, for propeller shaft)



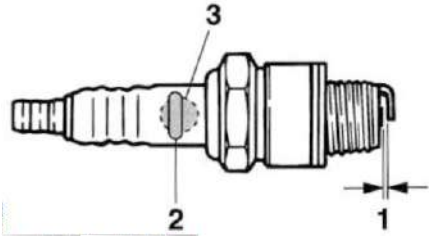
Cleaning and Adjusting Spark Plug

The spark plug is an important engine component and is easy to inspect. The condition of the spark plug can indicate something about the condition of the engine. For example, if the center electrode porcelain is very white, this could indicate an intake air leak or carburetion problem in that cylinder. Do not attempt to diagnose any problems yourself. Instead consult an outboard specialist. Periodically remove and inspect the spark plug because heat and deposits will cause the spark plug to slowly break down and erode

- Remove the caps and inspect the spark plugs.
- If the electrode erosion or the buildup of excessive carbon and other deposits on the spark plug becomes significant, it is recommended to replace it with a new one of the appropriate type.

When removing or installing a spark plug, be careful not to damage the insulator. A damage insulator could allow external sparks which could lead to explosion or fire.

- Recommended spark plug is BR7HS.
- Be sure to use the specified spark plug otherwise the engine may not operate properly. Before fitting the spark plug, measure the electrode gap with a wire thickness gauge; replace it if out of specification.

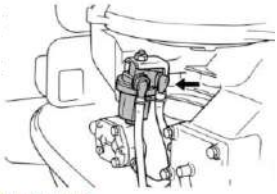


1. Spark plug gap (0.6-0.7mm)
2. Spark plug part number
3. Spark plug I D Mark (NGK)

- When fitting the plug, wipe off any dirt from the threads and then screw in to the correct torque,25 Nm.
- If a torque wrench is not available when fitting a spark plug, a good estimated of the correct torque is 1/4 to 1/2 a turn past finger fight. Have the spark plug adjusted to the correct torque as soon as possible with a torque wrench.

Checking fuel filter

Check the fuel filter periodically. If any water or foreign matter is found in the filter, clean or replace it. For cleaning or replacement of the fuel filter consult a Dayliff retailer.



Inspecting Idle Speed

Do not touch or remove electrical parts when starting or during operation.

Keep hands, hair and clothes away from the flywheel and other rotating parts while the engine is running.

NOTE

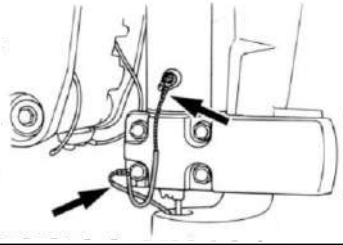
This procedure must be performed while the outboard engine is in the water a flushing attachment or test tank can be used.

If the boat is not equipped with a tachometer for the outboard engine use a diagnostic tachometer for this procedure. Results may vary depending on whether testing is conducted with the flushing attachment , in a test tank or with the outboard engine in the water.

- Start the engine and allow it to warm up fully in neutral unit it is running smoothly.
- Once the engine has warmed up, verify whether the idle speed is set to specification. If you have difficulty verifying idle speed or the idle speed requires adjustment consult a Dayliff retailer or qualified mechanic.

Inspecting wiring and connectors

Inspect that each connecter and ground lead is properly secured.



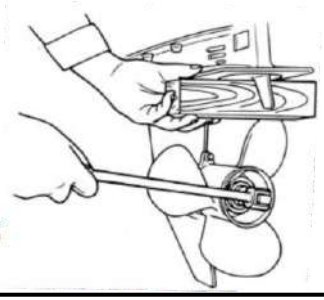
Checking Propeller

WARNING

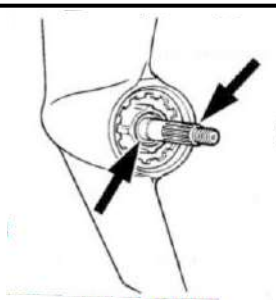
Serious injury can occur if the engine accidentally starts when one is near the propeller. Before inspecting, removing or installing the propeller place the sift control in neutral, turn the main switch to "OFF" and remove the key and remove the clip from the engine shut off switch.

WARNING

Do not use your hand to hold the propeller when loosening or tightening the propeller nut. Put a wood block between the anti cavitation plate and the propeller to prevent the propeller from turning.



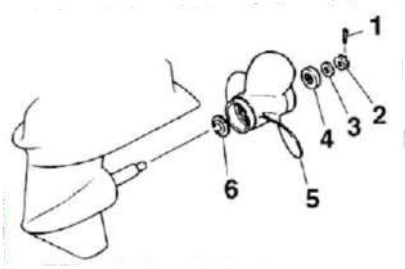
- Check each of the propeller blades for erosion from cavitation or ventilation or other damage.
- Check the propeller shaft for damage.
- Check the splines for wear or damage.
- Check for fish line tangled around the propeller shaft.



- Check the propeller shaft oil seal for damage

Removing Propeller
Spline Models

- Straighten the cotter pin and pull it out using a pair of pliers.
- Remove the propeller nut, washer and spacer (if equipped)



1. Cotter pin
2. Propeller nut
3. Washer
4. Spacer
5. Propeller
6. Thrust washer

- Remove the propeller, washer (if equipped) and thrust washer.

Installing Propeller
Spline Models

NOTE

Make sure to use a new cotter pin and bend the ends over securely. Otherwise, the propeller could come off during operation and be lost.

- Apply marine grease or a corrosion resistant grease to the propeller shaft.
- Install the spacer (if equipped), thrust washer, washer (if equipped) and propeller on the propeller shaft.

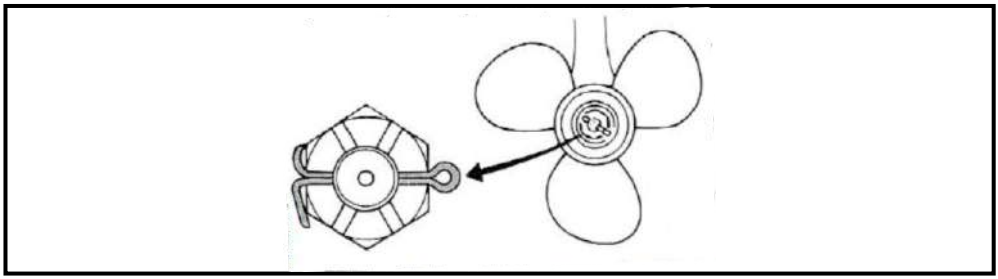
NOTE

Make sure to install the thrust washer before installing the propeller. Otherwise, the lower case and propeller boss could be damaged.

- Install the spacer (if equipped) and the washer. Tighten the propeller nut to the specified torque, i.e 40Nm.
- Align the propeller nut with the propeller shaft hole. Insert a new cotter pin in the hole and bend the cotter pin ends.

NOTE

Do not reuse the cotter pin. Otherwise, the propeller can come off during operation.



If the propeller nut does not align with the propeller shaft hole after tightening to the specified torque, tighten the nut further to align it with the hole.

WARNING

Be sure the outboard engine is securely fastened to the transom or a stable stand. Serious injuries can occur if the outboard motor falls on someone.

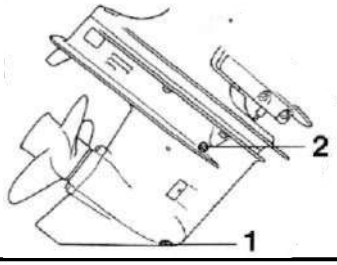
WARNING

Never get under the lower unit while it is tilted, even when the tilt support lever or knob is locked. Severe injury could occur if the outboard motor accidentally falls.

- Tilt the outboard engine so that the gear oil drain screw is at the lowest point possible.
- Place a suitable container under the gear case.
- Remove the gear oil drain screw and gasket

NOTE

If there is excessive quantity of metal particles on the magnetic gear oil drain screw, this can indicate lower unit problem. Consult a Dayliff retailer.



1. Gear oil drain screw
2. Oil level plug

- If a magnetic gear oil drain screw is equipped, remove all metal particles from the screw before installing it. Always use new gaskets. Do not reuse the removed gaskets.
- Remove the oil level plug and gasket to allow the oil to drain completely.

NOTE

Check the used gear oil after it has been drained. If the gear oil is milky or contains water or a large amount of metal particles, the gear case may be damaged.

NOTE

Dispose used oils in accordance with local regulations.

- Put the outboard engine in a vertical position. Using a flexible or pressurized filling device, inject the gear oil into the gear oil drain screw hole. Recommended gear oil Hypoid gear oil SAE#90, 250L for 15HP, 320L for 25HP & 430L for 40HP.
- Put a new gasket on the oil level plug. When the oil begins to flow out of the oil level plug hole, insert and tighten the oil level plug with a torque of 9Nm.

Cleaning the Fuel Tank

WARNING

Fuel is highly flammable and its vapors are flammable and explosive

WARNING

Keep away from sparks, cigarettes, flames or other sources of ignition when cleaning the fuel tank.

WARNING

Remove the fuel tank from the boat before cleaning it. Work only outdoors in an area with good ventilation.

WARNING

Wipe up any spilled fuel immediately.

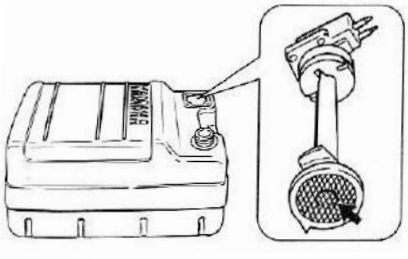
WARNING

Reassemble the fuel tank carefully. Improper assembly can result in a fuel leak, which could result in a fire or explosion hazard.

WARNING

Dispose of old gasoline according to local regulations.

- Empty the fuel into an approved container.
- Pour a small amount of suitable solvent into the tank. Install the cap and shake the tank. Drain the solvent completely.
- Remove the screws holding the fuel joint assembly. Pull the assembly out of the tank.



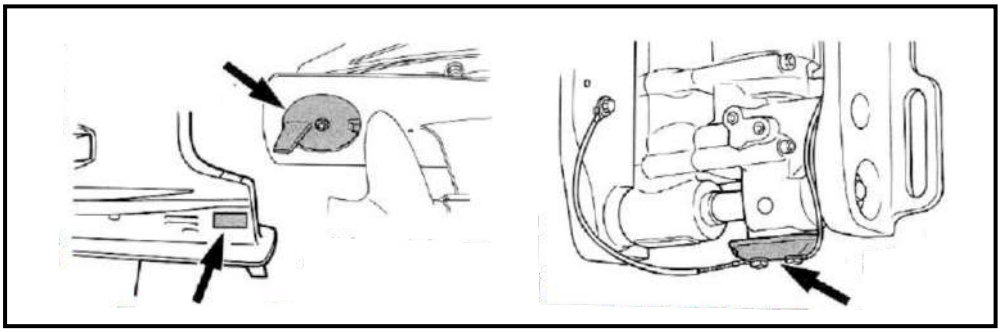
- Clean the filter (located on the end of the suction pipe) in a suitable cleaning solvent. Allow the filter to dry.
- Replace the gasket with a new one. Reinstall the fuel joint assembly and tighten the screws firmly.

Inspecting and replacing anode

Outboard engine are protected from corrosion by sacrificial anodes. Inspect the external anodes periodically. Remove scales from the surface of the anodes. Consult a Dayliff retailer for replacement of external anodes.

NOTE

Do not paint anodes as this would render them ineffective.



Inspect ground leads attached to external anodes on equipped models. Consult a Dayliff retailer for inspection and replacement of internal anodes attached to the power unit.

Motor Disposal Requirements

The outboard should be discarded in accordance with local regulations.

6. TROUBLE SHOOTING

Problem	Possible Cause	Solution
Engine will not start	Is fuel tank empty	Fill tank with clean, fresh fuel
	Is fuel contaminated or stale	
	Is fuel filter clogged	Clean or replace filter
	Has fuel pump malfunctioned	Have serviced by a qualified mechanic
	Are spark plugs fouled or of incorrect type	Inspect spark plugs. Clean or replace with recommended type
	Are spark plugs fitted incorrectly	Check and re-fit caps
	Is ignition wiring damaged or poorly connected	Check wires for wear or breaks. Tighten all loose connections. Replace worn or broken wires
	Are ignition parts faulty	Have serviced by a qualified mechanic
	Is engine shut-off cord (lanyard) not attached	Attach cord
	Are engine inner parts damaged	Have serviced by a qualified mechanic

Problem	Possible Cause	Solution
Engine idles irregularly or stalls	Are spark plugs fouled or of incorrect type	Inspect spark plugs. Clean or replace with recommended type
	Is fuel system obstructed	Check for pinched or kinked fuel line or other obstructions in fuel system
	Is fuel contaminated or stale	Fill tank with clean, fresh fuel
	If fuel filter clogged	Clean or replace filter
	Have ignition parts failed	Have serviced by a qualified mechanic
	Has alert system activated	Find and correct cause of alert
	Is spark plug gap incorrect	Inspect and adjust as specified
	Is ignition wiring damaged or poorly connected	Check wires for wear or breaks. Tighten all loose connections. Replace worn or broken wires
	Is specified engine oil not being used	Check and replace oil as specified
	Is thermostat faulty or clogged	Have serviced by a qualified mechanic
	Are carburetor adjustments incorrect	
	Is fuel pump damaged	
	Is air vent screw on fuel tank closed	Open air vent screw
	Is choke knob pulled out	Return to home position
	Is motor angle to high	Return to normal operating position
	Is carburetor clogged	Have serviced by a qualified mechanic
	Is fuel joint connection incorrect	Connect correctly
	Is throttle valve adjustment incorrect	Have serviced by a qualified mechanic

Problem	Possible Cause	Solution
Engine shuts down on high temperature	Is cooling system clogged	Check water intake for restriction
	Is heat range of spark plug incorrect	Inspect spark plug and replace it with recommended type
	Is load on boat improperly distributed	Distributed load to place boat on an even plane
	Is water pump or thermostat faulty	Have serviced by a qualified mechanic
	Is there excess water in fuel filter cup	Drain filter cup
Engine vibrates excessively	Is propeller damaged	Have propeller repaired or replaced
	Is propeller shaft damaged	Have serviced by a qualified mechanic
	Are weeds or other foreign matter tangled on propeller	Remove and clean propeller
	Is motor mounting bolt loose	Tighten bolt
	Is steering pivot loose or damaged	Tighten or have serviced by a qualified mechanic
Engine power loss	Is thermostat faulty or clogged	Have propeller repaired or replaced
	Is air vent screw closed	Open the air vent screw
	Is fuel pump damaged	Have propeller repaired or replaced
	Is fuel joint connection incorrect	Connect correctly
	Is heat range of spark plug incorrect	Inspect spark plug and replace it with recommended type
	Is high pressure fuel pump drive belt broken	Have serviced by a qualified mechanic
	Is engine not responding properly to shift lever position	Have serviced by a qualified mechanic

7. TERMS OF WARRANTY

i) General Liability

- In lieu of any warranty, condition or liability implied by law, the liability of Dayliff in respect of any defect or failure of equipment supplied **is limited to making good by replacement or repair** (at the Company's discretion) defects which under proper use appear therein and arise solely from faulty design, materials or workmanship within a specified period. This period commences **immediately after the equipment has been delivered to the customer** and at its termination all liability ceases. Also the warranty period will be assessed **on the basis of the date that the Company is informed of the failure**.

- **The warranty applies solely to equipment supplied and no claim for consequential damages**, however arising, will be entertained. Also the warranty specifically excluded defects caused by fair wear and tear, the effects of careless handling, lack of maintenance, faulty installation, incompetence on part of the equipment user, Acts of God or any other cause beyond the Company's reasonable control. Also, any repair or attempt at repair carried out by any other party **invalidates all warranties.**

ii) Standard Warranty

If equipment failure occurs in the normal course of service having been competently installed and when operating within its specified duty limits warranty will be provided as follows:-

- **Up to one year - The item will be replaced or repaired at no charge.**

The warranty on equipment supplied or installed by others is conditional upon the defective unit **being promptly returned free to a Dayliff retailer** and collected thereafter when repaired. No element of site repair is included in the warranty and any site attendance costs will be payable in full at standard charegeout rates. Also proof of purchase including the purchase invoice must be provided for a warranty claim to be considered.

DAYLIFF is a brand of **Davis & Shirtliff**

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or visit

www.dayliff.com

for details of the nearest branch or stockist

INS538A-11/23