

Convair Sailing Club 2022

Engine Outboard Care (04/30/2022)

Presented by Paul Feldon, Fleet Captain and Chief of Maintenance

Fuel line connector

The fuel hose connects the fuel tank to the engine. Take note when attaching the connector to ensure the proper and correct connection. Disconnect the fuel line before tilting the engine. Yes, this applies to when you turn the motor off when starting to sail for your outing and every time before you tilt the motor. Failure to do this will bend the fuel line and place undue pressure on hose that will crack and fail. Note the silver clip on the left of this picture is a fastening bracket, and the ball valve inside the opening on the right side of this picture is the fuel supply line.



Fuel line balloon pump

In the fuel line leading from the fuel tank to the engine, is a small black rubber balloon. Pump this balloon by squeezing it several time to pump the fuel to the engine, until the balloon gets hard.



Pressure relief valve in-line

The valve controls the air pressure expansion I the fuel tank



Fuel tank cap

We have two different style / type gasoline tanks in the club. On top of the older style fuel tank cap there is a smaller pressure relief valve (vent) in the middle of the cap. Be sure to open before use and close after use.

The newer style tanks do not have a vent valve. However, pressure can build up in the tank, particularly in warm weather causing the tank to “bulge”. The pressure in the tank can be vented by loosening the cap to allow air to escape, then retightening the cap until you hear a click.



Fuel Connector on engine

The brass pin on the right is the fastening bracket mechanism. Align the silver clip in pic 1 with this brass pin. On the left in this picture below, is the fuel pin that depresses the ball valve (see item 1) in the fuel line. Trying to attach the fuel line to the motor in the reversed position can damage or break one or both of the connectors allowing fuel to leak and/or preventing the priming bulb from becoming hard and allowing fuel to flow to the motor.



Fuel filter

Fuel enters through the connector and then goes through the fuel filter. The off-white object in center between the fuel lines in photo below. In our experience this has very seldom been a cause of concern or problems. Test by pumping the bulb in the fuel line and see the fuel pass through the filter.

Also note choke and kill switch below



Fuel pump

The fuel pump is the rectangular silver metal part which is positioned between the fuel filter and the carburetor. The fuel pump can be tested by removing the hose at the top of the pump and (with the safety key disconnected) pulling the starter rope. If the pump is working properly, fuel will spurt out of the top of the pump as the motor flywheel turns.



Throttle

Rotate until the arrow indicator reaches the indicator start position. Note that on the white propane fueled motor, the throttle must be in the slowest position and the choke pulled out to allow the motor to start.



Engine mounting bolts

Check that these clamps are tight. Apply silicone grease or anti-seize grease as necessary.

In the past, a motor has been lost overboard because these clamps were loose while underway!



Cold engine start procedure

When starting the engine:

1. Check the fuel tank for fuel
2. Release the pressure valve on the fuel tank (if present)
3. Connect the fuel line to the engine
4. Pump the primer balloon in the fuel line
5. Lower motor into water
6. Ensure kill switch is not-active (key is in place)
7. Set throttle to correct starting position
8. Pull choke out
9. Set gear lever to neutral
10. Gentle pull the slack out of cord until it engages
11. Then pull starter cord firmly directly backwards
12. Pull 5 - 6 times
13. It helps to go down on both knees to keep your balance, place left hand (if right handed) on top of engine
14. It helps to rotate the engine slightly left, so that you can pull backward slightly right – this gives you better utilization of shoulder, body and longer pull distance (e.g. from front 11 on clock backwards towards 5 on clock)
15. If this does not work, there is another problem - typically fuel related
16. Do not set throttle to full open this will flood the engine. If the engine is “flooded” (will not start and smell of gasoline is detected), close (push in) the choke, set the throttle to full open (fastest) position, and pull starter until engine starts.

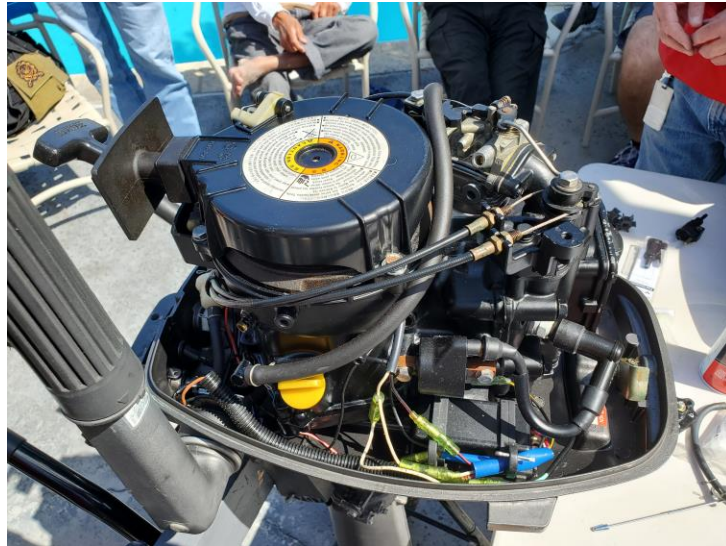
Air intake

When the engine does not start after 5 to 6 pulls, spray “Starting Fluid Spray” into the air intake (the circular part with a metal mesh screen attached to the carburetor). A one second spray from 8-12 inches is adequate. This “Starting Fluid” spray is stored in dock box #3



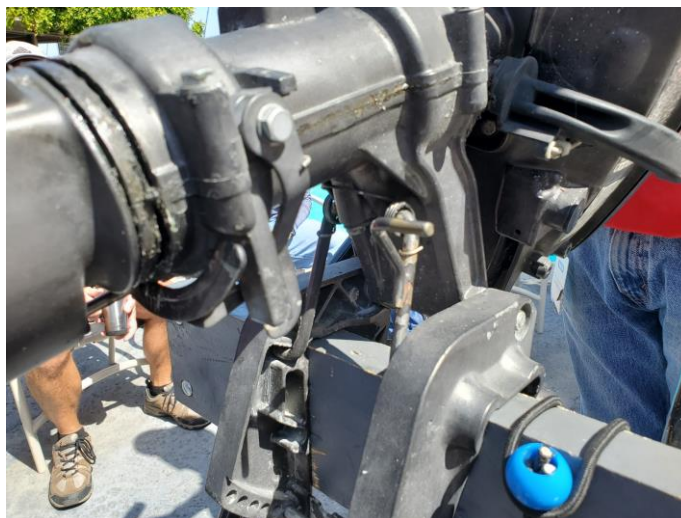
Spark plug. Oil cap.

No service by operator needed



Lifting release bracket

Release this bracket to lower the motor gently down into the water



Oil pressure red light

Do not operate when the oil pressure light keeps on flashing red.

Note

Gear selector lever must be in forward position to tilt the engine out of the water.

Legacy items

Many members may recall that in the past we used to:

1. Disconnect and detach the fuel line and keep run the engine until it runs dry. The purpose was to prevent fuel from coagulating in the carburetor. This is advisable, but not absolutely necessary.
2. Connect the water hose from the dock to a connector on the engine and rinse the motor with fresh water. We do not do this anymore.

Water coolant intake

Water coolant intake is at the bottom of the shaft near the propeller



Water coolant exhaust

After starting the engine, always visually confirm water coming out of the water exhaust. If not stop operation immediately. This exhaust can be blocked and can be cleared with a thin wire pin



Lubricants



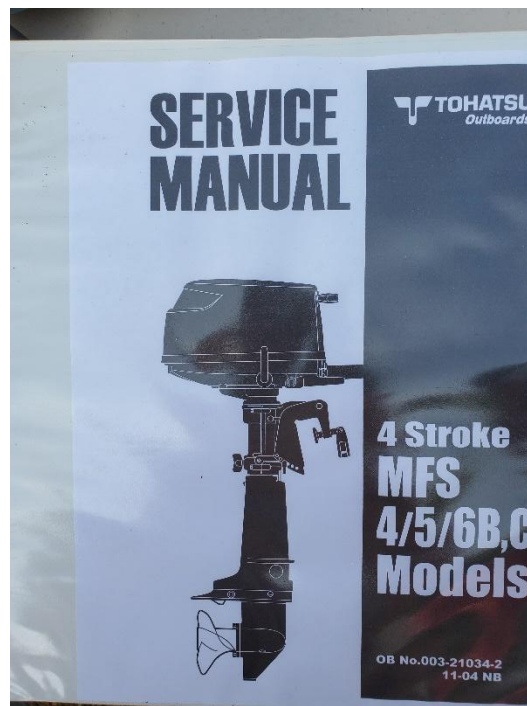
Fuel treatment enzyme

We add one ounce per tank of gasoline (3 gallon)

This gets added to the fuel tank when the tank is filled. Do not add more. Stored in dock box #3



Google search and download generic manual



Good YouTube channels to watch:

1. Skinny River

<https://www.youtube.com/watch?v=tD2eeR7btXs&list=PLDGdsoVKe8bHgWzUZ2bZXAAI8TE-MNNuh&index=1&t=18s>

2. Skinny River

<https://www.youtube.com/watch?v=m1qcSxLACUE>