

## Outline of features

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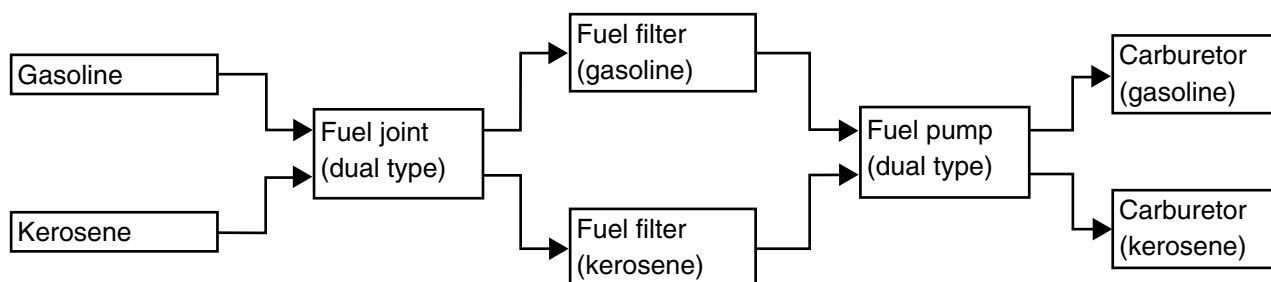
The EK9.9D, EK15D, EK9.9J, and EK15P outboard motors have the following features:

- A newly developed dual fuel system is used in the E9.9D and E15D outboard motors.
- On the EK9.9D and EK15D outboard motors, a fuel supply system of both gasoline and kerosene is adopted.
- On the EK9.9J and EK15P, only kerosene is supplied to the engine except for starting.

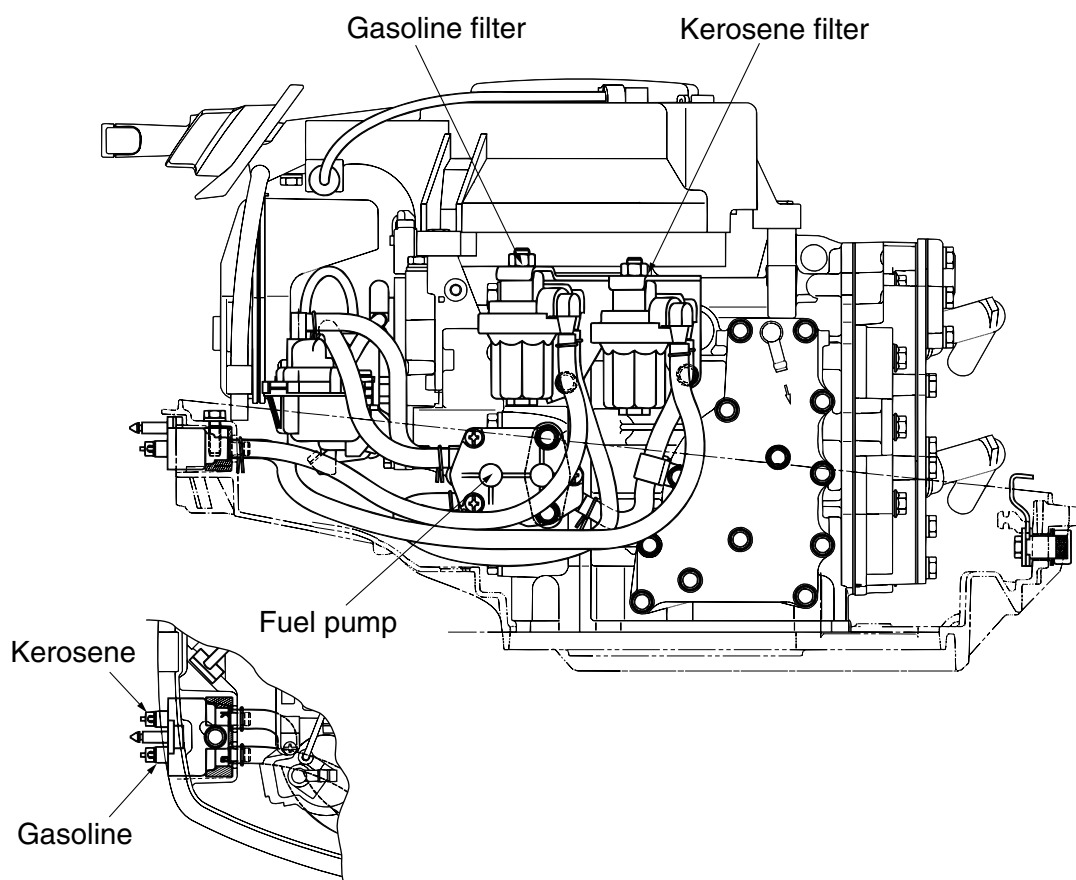
## Technical features and descriptions

### Dual fuel lines

The dual fuel line system is as follows.



Fuel flow chart



Fuel lines



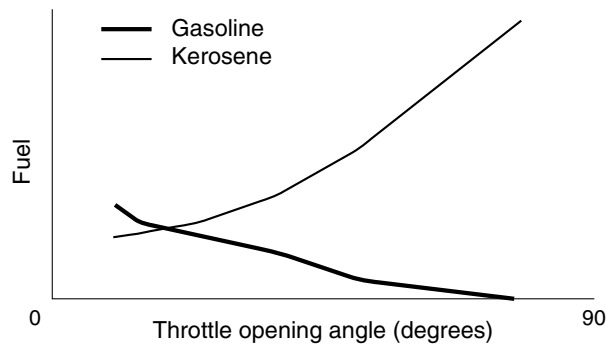
**Carburetor**

**1) EK9.9D AND EK15D**

The carburetor supplies gasoline and kerosene to the engine.

When the engine speed increases, gasoline supply is decreased and kerosene supply is increased.

When the throttle valve is opened fully, the supply of gasoline is stopped and kerosene continues to be supplied.

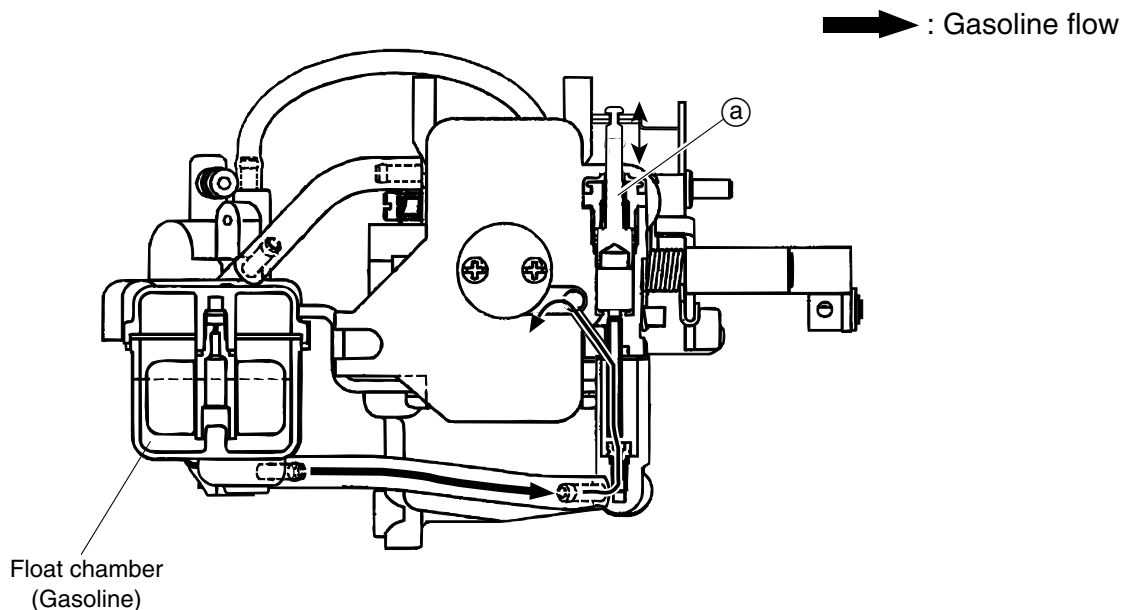


Fuel supply <Reference fig.>

**(1) Starting the engine**

When the choke is pulled, the plunger (a) is moved up and the starter valve in the fuel passage is opened.

The gasoline accumulated in the float chamber of the gasoline carburetor passes through the pipe and is supplied to the starter jet of the kerosene carburetor and mixes with air and is drawn out into the intake manifold.



Fuel flow for starting

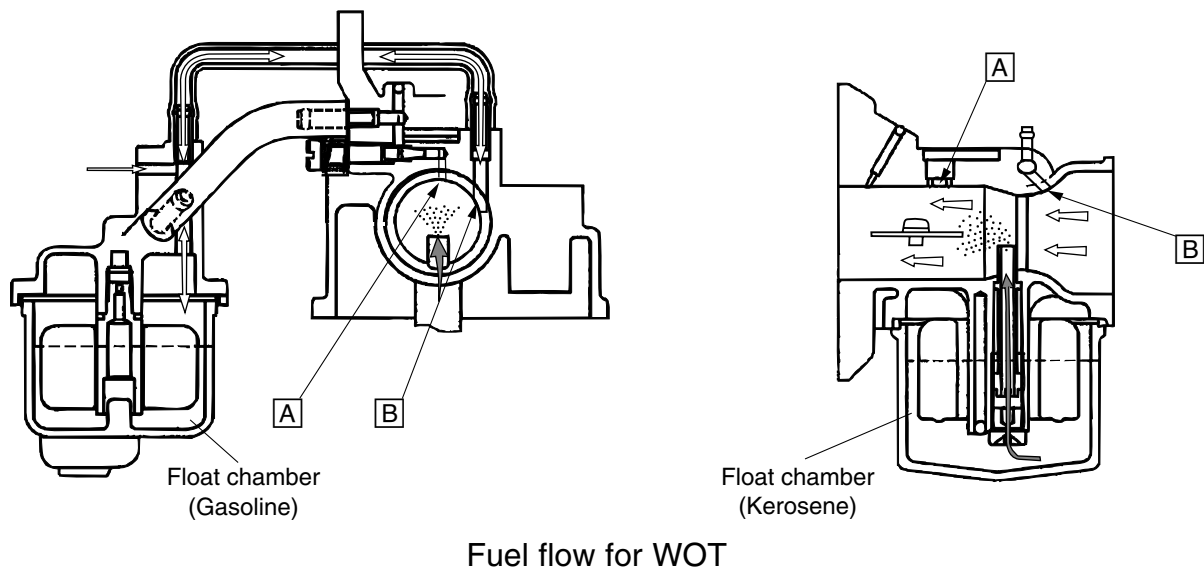
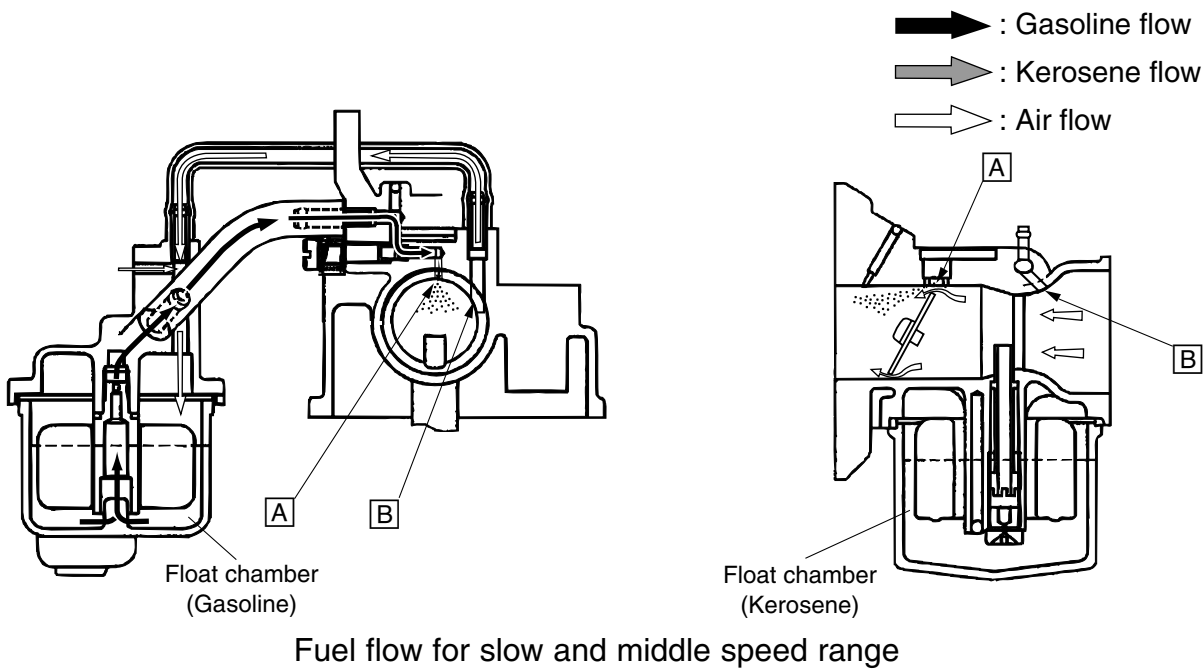
**(2) Running the engine**

With the throttle opened at a slight angle at low engine speeds, air flow on the surface of the pilot hole [A] is faster than that of the hole [B] connected to the float chamber of the gasoline carburetor. Therefore, the pressure at pilot hole [A] becomes lower than the pressure at hole [B]. Thereby gasoline is passed through the pilot jet of the gasoline carburetor and supplied to the pilot screw of the kerosene carburetor and mixed with air and is drawn into the carburetor Venturi.

Pressure in the Venturi is decreased when the engine exceeds middle speed, and kerosene is drawn from the main jet of the kerosene carburetor.

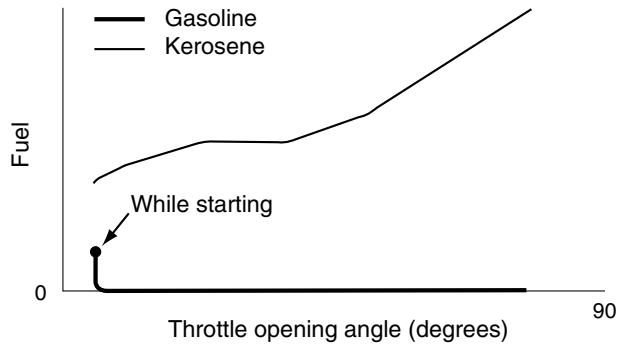
With the throttle fully opened at high engine speeds, the points [A] and [B] do not differ in pressure and gasoline will not be drawn from the pilot hole.

For this reason, the flow of gasoline from the pilot hole decreases as engine speed increases. Finally, when there is no difference between the pressure at the two holes, gasoline stops flowing out of pilot hole [A] and only kerosene is supplied.



**2) EK9.9J AND EK15P**

The carburetor supplies gasoline while the engine is being started (ie. the choke is being used), and supplies kerosene after starting (ie. the choke is not being used).

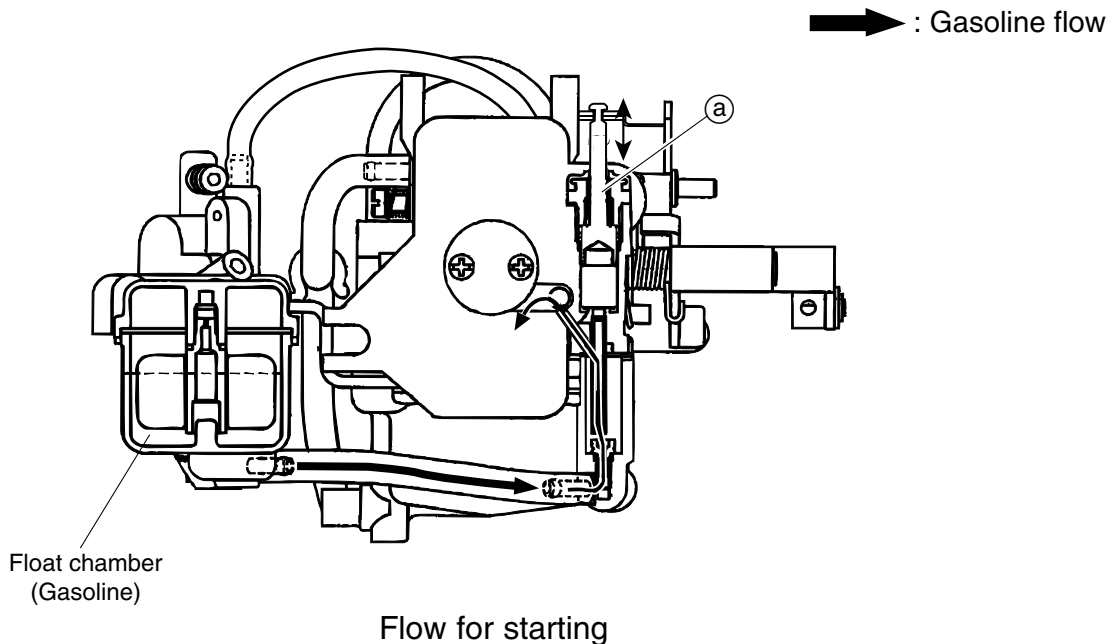


Fuel supply <Reference fig.>

**(1) Starting the engine**

When the choke is pulled, the plunger (a) is moved up and the starter valve in the fuel passage is opened.

The gasoline accumulated in the float chamber of the gasoline carburetor passes through the pipe and is supplied to the starter jet of the kerosene carburetor and mixes with air and is drawn out into the intake manifold.



**(2) Running the engine**

When the choke is returned to the original position, gasoline supply is stopped and kerosene is supplied from the pilot and main jets.