O.S. ENGINE

Four-stroke gasoline engine for GF40

It is of vital importance, before attempting to operate your engine, to read the general SAFETY INSTRUCTIONS AND WARNINGS in this section and to familiarize yourself with the entire contents of this instruction manual. Be sure to adhere to the advice contained herein.

Also, please study the entire contents of this instruction manual, so as to familiarize yourself with all the parts, names of the parts and how to operate the engine properly.

SAFETY INSTRUCTIONS AND WARNINGS ABOUT O.S. ENGINES

Remember that your engine is not a "toy", but a highly efficient internal-combustion machine that must be treated with the strictest attention to the details of its operation, if it is misused or abused. As owner, you, alone, are responsible for the safe operation of your engine, so act with discretion and care at all times.

It is at some future date, your engine is acquired, dismantled or repaired, it will be required to consult the section in this instruction manual which details the advice that the instructions also are explained in the same manner.

The advice which follows is grouped under two headings according to the degree of damage or difficulty which might arise through misuse or neglect.

NOTES

These cover the many other possibilities, generally less obvious sources of danger, but which, under certain circumstances, may also cause damage or injury.

The notes which follow are intended to alert you to the possibility that your engine and your safety may be affected by situations you may not consider to be real, under normal operating conditions.

Keep the engine in your mind, and the engine in your memories.

This engine is designed for experimentation.
Beginners and new owners should not use this engine.

The engine unit, silencer, carburetor and ignition module are special specifications.

The engine is designed for four-stroke gasoline engines for GF40.

This engine is designed for experienced pilots. Beginners and new owners should not use this engine.

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**FUEL**

- Use regular gasoline. (No need to use high octane gasoline.)
- Alcohol-based gasoline cannot be used in this engine. (Note: the engine will not work properly and the combustion parts will be damaged.)
- Use commercially available 2-stroke oil engine.
- Follow the manufacturer's recommendations concerning the mixture ratio of gasoline and oil. (If there is no recommendation, mix with a 2:1 ratio.) We have changed and improved the following oil mixture ratio: Zenoah genuine 2-stroke engine oil (E) and K&L MOTO Two-stroke Oil (E). (This does not mean we guarantee the quality of these oils.)
- Follow the instructions for changing the mixture in the section concerning the mixture for running.

**RUNNING IN/STARTING**

- Use a fuel with increased octane content and set the needle to the left on the rich side. A rich mixture may cause muffling or running due to the fuel (plug).
- Use a 25:1 fuel mixture if the particular brand of oil is 50:1:1 or more. Use a 20:1 fuel mixture if the particular brand of oil is 30:1:1 or more. (Set the fuel with the high speed needle to 20:1 and the low speed needle to 10:1.)
- Use a 25:1 fuel mixture. The needle should not be too rich.
- No need to warm up when starting the engine. (Just turn the knob and the engine will start.)

**WARNING**

- Avoid running the engine, avoid dust or sandy locations. If dust or grit is drawn into the engine, this may cause malfunction or a short-term engine failure is a matter of minutes.

**Initial needle position**

- When starting the engine for the first time, set both the high speed needle one and 2/3 turns open and the slow speed needle one and 2 turns open from the fully closed position. (With this position both high and slow speed mixtures will be rich. This settings are same, back this to this setting and adjust them according to the procedure in the needle setting section.)

**Starting by an electric starter**

1. Turn on the transmitter switch.
2. Turn on the receiver switch.
3. Turn on the ignition switch.
4. Open the choke valve fully (OFF).
5. Pull down the throttle stick on the transmitter fully, or to the 1/8 to 1/3 closed position. (With the throttle stick fully closed, the fuel will not be delivered to the carburetor suitable when an electric starter is applied. Also, the model will move forward with engine high power after it is started, which is very dangerous.)
6. Tilt the handlebar and push the throttle stick to the right to start the engine now and have the helper hold the model.
7. Apply the electric starter.