

DIAMOND 60 PRO

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FEEL THE POWER

KME

ENGINES

OWNER'S MANUAL

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Precaution Warnings

- Engines generate heat. Do not touch any part of the engine until it has thoroughly cooled down after use. Skin may suffer burns or other serious injury.
- Engine is for outdoor use only. The engine generates carbon-monoxide, which is deadly to humans. Do not operate your helicopter indoors – period.
- The moving parts on your helicopter may cause serious injury. Do not touch any part while it is moving.
- Model engine fuel is highly flammable and poisonous to humans. Do not smoke cigarettes or other tobacco products while operating your helicopter (do not permit spectators to smoke). Do not allow an open flame near your helicopter. Keep fuel out of reach of children. Keep fuel from coming into contact with eyes or mouth. Store fuel in a safe place in a clearly marked container.

Safety Warnings

- Be alert at all times when operating your helicopter. It is not a toy and it is your responsibility, as the pilot, to ensure that safety protocols are followed at all times for the safety of you and any onlookers. This is a model helicopter, designed as such. Do not use it for any other purpose.
- For the safety of any spectators, keep them at least 40 ft. from the launch pad. Make sure you remove any jewelry or baggy garments to eliminate risk of contact with moving parts. Secure your pockets so that contents, tools or other items will not fall into moving parts.
- Adhere to engine installation instructions as detailed within the helicopter's operating manual. It is imperative to install an exhaust silencer to reduce noise output. It is advisable to wear earplugs as well.
- Check moving parts prior to each flight to ensure security and use an electric starter. It is advisable to wear safety glasses. Do not allow any rotating parts to touch battery leads or glow plug clip, as severe damage may result.
- Method to stop engine quickly if necessary; pull off fuel line from carburetor

Clutch and Cooling Fan Installation

Instructions:

1. Remove the rear cover plate from the crankcase, rotate crankshaft to bottom dead center.
2. Insert crankshaft clamp block made with Delrin or similar plastic so that the crankpin/lower end of the connecting rod are surrounded by clamp's grooved area. Then you may tighten the clutch or fan onto the crankshaft. (Do not use anything that will scratch or damage aluminum parts.)

Electric Starter Application

If your engine is cold or not broken in, an electric starter may not be able to rotate the engine. Oftentimes a high-powered starter may be required. In addition, do not over prime the engine as this may result in hydraulic lock. If the engine becomes over-primed, simply remove the glowplug and close fuel line and apply starter to remove the excess fuel. Make sure to cover the head with an old rag, as it will prevent fuel from coming into contact with your body.

Glow Plug Installation

First, place washer on glow plug and set into head. To tighten glow plug, turn clockwise but do not over tighten. (You want to create a seal but do not want to break off the glow plug or strip the threads.)

Recommended glow plug: O.S. #8

Engine Installation

The mounts are identical to the OEM engine and should bolt in simply and easily. With supplied bolts from your helicopter kit, Loctite and/or lock washers will ensure that the bolts do not vibrate loose while in use.

Mixture Control Valve Operation

To adjust the mixture:

- to lean out mixture: turn screw right
- to increase richness: turn screw left

Several factors may affect mixture control, including altitude, fuel type and temperature. Fine tuning may be required to arrive at the optimal mixture.

Motor Preparation

Before starting your engine, please execute the following preparation sequence:

- Close Main Needle Valve: turn needle valve clockwise (close). Do not over tighten. (If too tight, this will damage the needle.)
- Close Idle Needle Valve: turn needle valve clockwise (close). Do not over tighten. (If too tight, this will damage the needle.)
- Open Main Needle Valve: carefully turn counterclockwise (open) 1.5 turns from closed position.
- Open Idle Needle Valve: carefully turn counterclockwise (open) .75 turns from closed position.
- Place the starting shaft into the starter. Make sure that it is secure.
- Inspect the starter to ensure proper direction. If improper, reverse the battery leads to change direction.
- Precisely insert the starting shaft into the shaft cup.
- Make sure that the engine is in Idle position (not full open).
- Transmitter throttle stick closed. Throttle trim at center position. Hold head of rotor with hand and use foot for bracing with landing gear.
- Please first check your main needle on your carburetor and make sure its open to a Minimum of 1.25 turns out from the Closed Position. This depends on the type of fuel your running some fuels may require you to run richer.

Starting the Motor

- First, connect the battery to the glow plug, open fuel line, apply starter. Once engine starts, switch starter to off position and remove starting shaft. Ensure that starter shaft has stopped moving prior to removal.
- To stop the engine, reduce throttle trim on transmitter. If the engine refuses to stop, grab fuel line with thumb and index finger to close off fuel or shut off fuel line.

Break-In Period

Main Needle: 1.25 turns out from the Closed Position, run 2 tanks of fuel through the engine. (Head speed 1900rpm)

Idle Needle: .75 turn out from Closed Position. When leaning the idle needle please do so in small increments.

Break in will help all the bushings, Ring and tight tolerances to seat properly. This procedure will add longer life to your KME engine.

Normal Operation / Adjustment

Recommended fuel: Cool Power 30% Nitro. The fuel type will determine proper settings.

Fuels that have more oil content (i.e. 24% oil) will make your engine run leaner therefore you will need to richen your motor. Open needle valve 4 to 5 clicks counterclockwise until you reach optimum operating temperature.

Normal operation main needle setting: Carburetor: Main needle 1.25 turns out (counterclockwise) from closed position.

Normal operation idle needle setting: Carburetor: Idle needle .75 turns out (counterclockwise) from closed position.

Normal operating temperature: 180 - 195 f

Normal operating head speed: 1950 - 2050 rpm

Normal engine rpm: 17000 - 18000

Keep in mind this is a KME .60 size engine and it will smoke more than your .50 size engine. The KME engine is a different type of engine and it will smoke more like a .90 size Engine.

The Diamond .60 Pro is burning more percentage of the fuel delivered to the head which will cause it to smoke more without using more fuel.

Ongoing Adjustments/Maintenance

After engine is broken in and appropriate mixture setting adjustments have been made, further major adjustments should not be necessary (with the exception of altitude-related mixture adjustments). Minor adjustments may also be necessary due to the addition of a new silencer or switching fuel grade.

After Flight: KME recommends after your flight to (Manually with the engine off and no glow plug igniter installed and all fuel removed from your fuel tank) Turn the Throttle to the Full Open Position and then turn the engine over for about 5 seconds with your starter. This will help get all of the bad smoke and unburnt fuel out of your engine. This will help the life of your engine.

Glow Plug: Recommended OS #8* (not included)

Keep in mind this is a KME .60 size motor and it will smoke more than your .50 size engine. The KME Engine is a different type of Engine and it will smoke more like a .90 size Engine. The Diamond .60 Pro is burning more percentage of the fuel delivered to the head. Which will cause it to smoke more without using more fuel.

If you have any technical questions please feel free to contact us at. Support@kmeengines.com



E N G I N E S

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