

(ab Anfang August bei Auslieferungsstart ist die Anleitung komplett in Deutsch erhältlich)

Dear customer, thank you for your purchase of the ROCKMANN R40s model airplane engine. The engine is designed for easy assembly. Before beginning assembly, please read all the assembly instructions, become familiar with the individual parts, and allow sufficient work space for the assembly. The following tools will be needed for assembly; Phillips head screwdriver, small hammer, needle nose pliers, scissors, and wrenches.

Let us begin the assembly of the model airplane engine.

1: Bearing assembly

Required parts: Bearing 40090 x 1

Tool used: Small hammer

Lubricants are required during assembly on the bearings and spark plug threads.



2: Seal assembly

Parts used: seal number 40100 x 1

Use assembly lubricant on the output shaft for assembly

Gently push the seal on the output shaft



3: Propeller shaft assembly)

Parts used, steps 1-7 assemble crankshaft and aluminum propeller shaft number 40130 x 1, (Lock washer x 1, 40140 x 1, M10 Nut x 2, Woodruff key 40230 x 1, Assemble the ? to the crankshaft and bearing assembly.)



The order of installation for the propeller shaft



2 x M10 nuts required



Tighten the outside nut against the inside nut



Turn the outside nut

(1)

(Tighten the outside nut)

(1)

4: Piston Ring

Required parts: (Piston) 40040 x 1 , (Piston ring) 40030 x 1

warning: do not use excessive force with the piston ring.

Using thumbs and index fingers gently spread the piston ring to slide over the piston top and down into the piston ring groove. Note the location of the gap with respect to the locating pin on the piston.



- 5: (Circlip assembly)
(Required parts): **(Circlip)** 40060 x 1
tool required: needle nose pliers

Seat the circlip into the groove of the piston pin bore using the needle nose pliers



6: Needle roller bearing and piston pin assembly

Parts required : (Needle roller bearing) 40070 x 1, (Piston pin) 40050 x 1, (Connecting rod?) 40080 x 1

Note the position of the piston with respect to the crankshaft assembly

Insert the piston pin into the needle bearing and then secure with a circlip using needle nose pliers



7: Other crankshaft end

Parts required: 卡簧(?) 40060 x 1

2 (Tool used ?)

8: (Rear bearing assembly)

(Parts required): (Bearing) 40090 x 1

(Tool required) : (small hammer)

(Apply lubricant to the shaft)

(Gently tap bearing onto shaft)



9: Cylinder assembly)

(Parts required): (Cylinder)40020 x 1, 1-7 (Assembly from steps 1 through 7)

(Apply lubricant to the cylinder bore prior to assembly. Note: correctly orient the piston and crank assembly output with front of the cylinder as shown in the photo.)



10: (Sealing the crankcase bottom)

Parts required): (Crankcase bottom) 40110 x 1, (Sealant number)

Apply sealant to the bearing surfaces of the cylinder head





11: (Installation of the cylinder head with the crankshaft and piston assembly)
(Parts required): (Crankcase bottom) 40120 x 1, M5X? (Screw) X4, M5 (lock washers ?)X4, (Sealant)

Apply sealant to the crankcase bottom and assemble as shown in the pictures. Tighten the 4 screws to ? in-lbs (N-M).





12: (Carburetor insulator mount)

(Parts required) : (carburetor insulator)40190 x 1, (insulator gasket) 40161 x 1, M5X?
(Screw) X2, M5 (lock washer) X2

Place the insulator gasket between the carburetor insulator and the cylinder head. Use screws and lock washers to secure the carburetor insulator to the cylinder head and torque to ? in-lb (N-M).



13: (carburetor installation)

(Parts required) : (carburetor gasket) 40162 x 2, (Insulating pad) 40240 x 1, 化油器 (Carburetor) 40180 x 1, (Velocity stack) 40200 x 1, M5X? (screw) X2
the carburetor to the engine as shown in the picture using the screws and torque to ? in-lb (N-M).



14, (Engine mount assembly)

(Parts required): (engine mounts) 40220 x 2, M5X? (Screw) X4, (lock washer) X4

(Assemble the engine mounts to the engine using the screws and lock washers. Torque the screws to ? in-lb (N-M)



15: (Exhaust pipe assembly)

(Parts required) : (Exhaust pipe) 40210 x 1, (Exhaust gasket) 40170 x 1, M5X? 螺丝
(Screw) X2, M5 (lock washer)X2

(Mount exhaust pipe as shown)



16, (Sensor assembly)

(parts required) : (Sensor) 40150 x 1, M4X? (Phillips head screw) X2

Mount the sensor to the engine. Carefully rotate the propeller shaft to make sure that there is no contact between the shaft and the sensor)



17, (Airway assembly)
(Parts required) : Tubing 40250 x 1



(Allow four hours for the sealant to dry before attempting to start the engine.)

(Prepare the batteries for the CDI. You will need a high capacity (> 2000 Mah 4.8 V battery pack for best results.)

(Before starting the engine, note the following:)

1, The warranty covers replacement of defective parts but does not cover improper assembly, the use of non-original parts, improper use of the engine, and damage caused by improper use.)

2. Warning! This engine is not a toy! Misuse can lead to serious injury or death! Please pay attention attention to the following matters and learn to use the engine safely, and to understand the potential danger)

3. Break in can be accomplished with the engine mounted in the model.)

4. (Mount the engine securely)

5. (Allow for sufficient air flow to the engine to provide for adequate cooling)

6. (The recommended propeller sizes are 18X10, 20X8, 20X10. Balance the propeller and securely mount it to the engine. Check the propeller condition frequently.)

7. Mount the CDI in a location to avoid engine heat. Use a switch with the battery pack for the CDI.)

8. 25-35:1 (Use tubing, tanks, and accessories that are compatible with gasoline fuels. The fuel is gasoline 87 octane or higher mixed with 2 cycle oil at a ratio of 25-35 parts gasoline to oil.)

9. Make sure clean fuel is used to avoid engine damage)

10. (Keep the engine surfaces clean for effective cooling)

11. (Make sure the engine is mounted securely before attempting to start it)

12. (Take all safety precautions when starting the engine)

13. (Do not make any carburetor adjustments unless you have experience in doing so.)

14. (Ensure that all spectators are a safe distance back from the engine and model)

15. (Wear appropriate clothing and avoid any that are loose and could become entangled in the engine and propeller)

16. (Avoid the propeller rotation area when the engine is on!)

17. (Avoid dusty areas as this will adversely affect engine performance and life)

18. (Do not use the engine in an enclosed space, only in a well ventilated area. The exhaust is toxic)

19. (The engine will become hot when running. Be careful not to touch it or you will get burned.)

(Now we can begin the starting process)

(Inspect the engine prior to starting. Put a small amount of oil in the spark plug hole and rotate the propeller to distribute the oil.)

If you start with the right hand, please stand in the left front and vice versa.)

1、 (First, confirm the power is off to the CDI)

2、 (Close the throttle and rotate the propeller to prime the engine)

3、 Turn on radio, transmitter, and CDI power)

4、 Rotate the propeller until the engine pops. Open the throttle)

5、 (Rotate the propeller until the engine starts)

6

(For safety and after the first five minutes of run time, stop the engine and recheck all the screws)

(Run the engine at low speed for up to 30 minutes at a time. Allow the engine to cool between runs. Repeat the process until 2 hours of running total is completed.)

(After hours of break in you can fly but pay attention to the following items☺)

6500 转! (Do not exceed 6500 rpm!)

(Provide good cooling for the engine!)

Do not lower the oil content in the fuel to far!)

4、 (The engine needs 20 hours run time to fully break in)

5、 (?)

6、 (In 3d flight, use a 30:1 fuel :oil ratio)

(Day to day use, maintenance, and troubleshooting)

1、 (each pre-flight inspection should include:)

CDI; (Engine and CDI)

(Gasoline and oil ratio is correct)

(Spark plug is good)

(CDI is securely mounted)

(Spark plug cap is securely connected)

(Muffler is securely attached to the engine)

(The propeller is securely attached to the engine)

(The engine is securely attached to the model aircraft)

(Fuel lines and wiring is secure.)

(Make sure the receiver is at least 20 cm (8 inches) away from the CDI)

2、 (After break in the fuel can have a 35-40 : 1 ratio of gasoline to oil.)

3、 (Use the same brand and ratio of gasoline and oil for your fuel)

4、 : (After each flight check the following items:)

; (Check to make sure the engine is not overheating)

; (Spark plug is functioning normally)

; (All screws and nuts are properly torqued)

(Fuel flow is normal)

5、 (Engine maintenance)

。 (Clean the engine and store in a dry place)

(store the engine inverted, that is spark plug down)

(prevent insects, dust, and water from entering the engine)

6、 (Frequently asked questions)

。 (We need to spend some time to understand any problems with the engine, which in your day to day use is a significant help)

First, the CDI on the remote control equipment interference) (Through the CE certification, in normal use the CDI will not cause interference)', (If there is interference) (please check the power supply wiring, the sensor wiring, spark plug and wiring, to verify the electrical insulation is in good condition. Make sure all the wiring is clean)

7、 (Engine will not run or is difficult to start)

Typically problems arise in the following areas, wiring or fuel. Check for good electrical connections ad fuel flow)

(make sure the wiring is clean to prevent electrical leakage)

(Check the engine for damaged gaskets)

, CDI 0. 5A. (For high speed problems check to make sure the battery is high enough capacity.
Current less than 0.5 A will cause the ignition to stop working)

(Ignition Manual)

- 1、 (Wiring diagram)
- 2、 (Installation and use)
 - 1) 。 **(Please use four nickel-cadmium or nickel-metal hydride batteries in series.)**
 - 2) (High voltage will damage the ignition)
 - 3) (?)
 - 4) (The ignition is not compatible with water or oil and should not be used in a humid environment)
 - 5) (To prevent interference, the CDI ignition should have its own power source (battery pack). Do not combine with the receiver or servo battery pack)
 - 6) (Insulate the throttle servo from the engine to prevent interference)
 - 7) (Place the ignition CDI away from the heat of the engine, to avoid overheating the CDI)
 - 8) (Separate the wiring for the CDI from the sensor wiring)
 - 9) (Please use a resistor type spark plug)
 - 10) 。 (For poor engine performance, check the battery capacity and voltage.)