Taylorcraft 26cc BNF

Assembly Manual

HANGAR 9®



BNF™

Bind-N-Fly.® Ready to fly. redefined.

Notice

All instructions, warranties and other collateral documents are subject to change at the sole discretion of Horizon Hobby, Inc. For up-to-date product literature, visit http://www.horizonhobby.com and click on the support tab for this product.

Meaning of Special Language

The following terms are used throughout the product literature to indicate various levels of potential harm when operating this product:

NOTICE: Procedures, which if not properly followed, create a possibility of physical property damage AND a little or no possibility of injury.

CAUTION: Procedures, which if not properly followed, create the probability of physical property damage AND a possibility of serious injury.

WARNING: Procedures, which if not properly followed, create the probability of property damage, collateral damage, and serious injury OR create a high probability of superficial injury.

⚠ ***WARNING***: Read the ENTIRE instruction manual to become familiar with the features of the product before operating. Failure to operate the product correctly can result in damage to the product, personal property and cause serious injury.

This is a sophisticated hobby product and NOT a toy. It must be operated with caution and common sense and requires some basic mechanical ability. Failure to operate this Product in a safe and responsible manner could result in injury or damage to the product or other property. This product is not intended for use by children without direct adult supervision. Do not attempt disassembly, use with incompatible components or augment product in any way without the approval of Horizon Hobby, Inc. This manual contains instructions for safety, operation and maintenance. It is essential to read and follow all the instructions and warnings in the manual, prior to assembly, setup or use, in order to operate correctly and avoid damage or serious injury.

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Introduction

The Hangar® 9 Taylorcraft 26cc BNF is a gorgeous giant-scale recreation of a one-of-a-kind clipped-wing T-Craft that you simply assemble, bind to your 6+ channel DSM2™ or DSMX™ aircraft transmitter and fly. It comes out of the box with a Zenoah™ G26 gas engine, Spektrum™ AR8000 DSMX receiver and Spektrum A6000 digital servos installed. It even includes a Spektrum 5-cell 2700mAh Ni-MH receiver pack.

Like the original ARF version, it boasts an impressive list of stunning scale details that include a painted fiberglass cowl, a detailed cockpit with a full-body pilot figure and painted Pitts-style wheel pants. And, like the ARF, it is expertly covered in genuine UltraCote from wing tip to tail.

Product Support

For technical assistance with this product, please contact the appropriate Horizon Product Support office. This information is located in the back of this manual.

Specifications

Wingspan	80.5 in (205cm)
Overall Length	63.5 in (162cm)
Wing Area	1152 sq in (74.5 sq dm)
Flying Weight	14.0–14.5 lb (6.35–6.50 kg)
Engine Size	Zenoah 26cc (included)
Radio	6-channel minimum DSMX or DSM2 compatible transmitter

Included Parts Listing

PACKAGED INDIVIDUALLY LARGE BAGS	QUANTITY	USAGE
Fuselage with servos, batteries and pushrods	(1)	
Right wing with aileron and servo	(1)	
Left wing with aileron and servo	(1)	
Stabilizer with elevator and hardware	(1)	
Fin with rudder	(1)	
Cowl	(1)	
Pre-assembled landing gear with wheels	(1)	
Pre-assembled left strut	(1)	
Pre-assembled right strut	(1)	

WINGS	QUANTITY	USAGE
Wing with strut mounting bracket	(2)	main wing
4-40 x 1/2-inch button head cap screw	(4)	strut bracket to wing*
Nylon 1/4-20 wing bolts	(2)	wing to fuselage
Clevis pins and keepers	(4)	wing struts to wing with silicone tubing

FUSELAGE	QUANTITY	USAGE
Fuselage with strut mounting bracket	(1)	strut mounting bracket*
6-32 x 1/2-inch button head cap screw	(4)	strut mounting bracket to fuselage*
#6 black flat washer	(4)	strut mounting bracket to fuselage*
Clevis pins and keepers	(4)	wing struts to wing with silicone tubing
4-40 x 1/2-inch button head cap screws	(4)	cowling to fuselage
#4 black nylon flat washers	(4)	cowling to fuselage

LANDING GEAR	QUANTITY	USAGE
Assembled landing gear	(1)	main landing gear
Landing gear cuff	(2)	main landing gear
Wheels, 3-inch (76mm)	(2)	main wheels*
4mm wheel collar with setscrew	(4)	wheel to main axle*
4mm axle	(2)	main wheel axle*
6-32 x 1/2-inch button head cap screw	(4)	gear spring to main landing gear (2)*and gear spring to fuselage (2)
6-32 x 3/4-inch button head cap screw	(4)	main landing gear to fuselage
#6 flat black washer	(6)	landing gear to fuselage (4) gear spring strut to landing gear (2)*

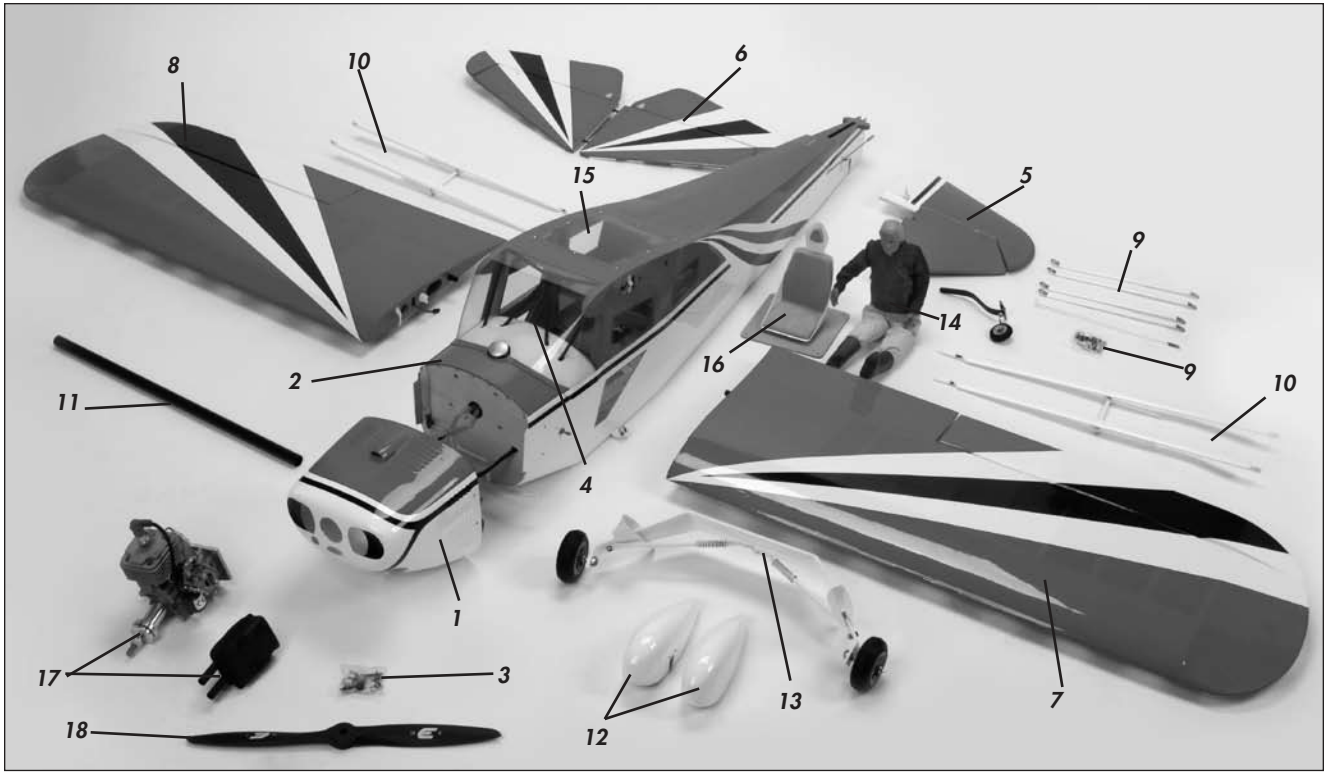
WING STRUT	QUANTITY	USAGE
Assembled strut (right and left)	(2)	main wing strut
4-40 x 1/2-inch button head cap screw	(8)	jury strut brace (4)*, strut to wing bracket (4)
4-40 lock nut	(8)	jury strut brace (4)*, strut to wing bracket (4)
#4 black flat washer	(8)	jury strut brace*

TAIL BRACING	QUANTITY	USAGE
Lower wood strut $10^{3}/_{4}$-inch (273mm)	(2)	front stabilizer to fuselage brace
Lower wood strut $10^{1}/_{2}$-in (267mm)	(2)	rear stabilizer to fuselage brace
Top wire strut with 3mm threads one-end	(2)	horizontal stabilizer to fin
3mm threaded rod end	(2)	horizontal stabilizer to fuselage
4-40 x 1/4-inch button cap screw	(6)	front/rear bottom strut to fuselage (4); threaded rod ends To brass tabs (2)
4-40 x 5/8-inch button head cap screw	(5)	horizontal stabilizer to tail strut (4) vertical fin to tail strut (1)
#4 black flat washer	(6)	horizontal stabilizer to tail strut (4) vertical fin to tail strut (2)
4-40 nylon insert lock nuts	(7)	horizontal stabilizer to bottom struts (4); fuselage to bottom struts (2); vertical fin to top tail strut (1)
Brass tabs	(2)	top strut to horizontal stab (2)
Aluminum spreader tab	(1)	bottom rear strut to fuse

TAIL WHEEL	QUANTITY	USAGE
Carbon fiber tail wheel assembly	(1)	includes $1^{1}/_{2}$-inch (38mm) wheel
Tail wheel steering spring	(2)	tail wheel steering
Aluminum tiller arm	(1)	tail wheel steering
2mm x 15mm Phillips wood screw	(2)	tiller arm to rudder
3mm x 15mm socket head wood screw	(2)	tail wheel to fuselage
#4 black flat washer	(2)	tail wheel to fuselage

MISCELLANEOUS	QUANTITY	USAGE
Wheel pants (right and left)	(2)	main wheel pants
4-40 x 1/2-inch button head cap screw	(4)	wheel pants to landing gear
#4 black flat washers	(4)	wheel pants to landing gear
Full body pilot figure	(1)	pilot
$2^{1}/_{2}$-inch (64mm) aluminum spinner	(1)	spinner
3/8-inch (10mm) engine standoff	(4)	engine to firewall
8-32 x 1-inch socket head cap screw	(4)	engine to firewall
#8 black flat washers	(4)	engine to firewall
Pilot seat	(1)	
Painted plywood plate	(1)	radio cover plate and seat with seat mount
2mm x 10mm washer head wood screws	(4)	radio tray cover
3/4-inch x $21^{5}/_{8}$-inch anodized black tube	(1)	main wing tube
Cable wire ties	(4)	fuel tubing, kill switch wiring
Zenoah 26A Engine (Boxed Separately)	(1)	engine
Evolution® 16 x 6 propeller	(1)	propeller

*preinstalled items



Contents of Kit and Parts Listing

Replacement Parts

1.	HAN492007	Cowl
2.	HAN492001	Fuselage with Top Hatch*
3.	HAN492014	Engine Standoffs for G26
4.	HAN4906	Windshield
5.	HAN4913	Fin and Rudder
6.	HAN4905	Stabilizer
7.	HAN4903	Left Wing Panel*
8.	HAN4904	Right Wing Panel*
9.	HAN4909	Stabilizer Strut Parts
10.	HAN4911	Wing Strut Assembly (left and right)*
11.	HAN4910	Wing Tube
12.	HAN4912	Wheel Pants*
13.	HAN4908	Landing Gear*
14.	HAN4566	Pilot
15.	HAN4902	Top Window
16.	HAN4915	Seat and Mounting Panel
17.	ZENE26A	G26 Air Engine (1.55 cu in)
18.	EVO16060	Evolution Propeller, 16 x 6

Not Shown

HAN4916	Small Parts Bag
HAN4917	Pushrods
HAN492015	2 1/2-inch CNC Spinner
HAN4563	Wing strut pins with keepers

*Items are not preassembled and do not include electronics

Safety Precautions and Warnings

Read and follow all instructions and safety precautions before use. Improper use can result in fire, serious injury and damage to property.

Age Recommendation: Not for children under 14 years. This is not a toy.

COMPONENTS

Use only with compatible components. Should any compatibility questions exist please refer to the product instructions, the component instructions or contact Horizon Hobby, Inc.

FLIGHT

Fly only in open areas to ensure safety. It is recommended flying be done at AMA (Academy of Model Aeronautics) approved flying sites. Consult local ordinances before choosing a flying location.

PROPELLER

Keep loose items that can get entangled in the propeller away from the prop, including loose clothing, or other objects such as pencils and screwdrivers. Especially keep your hands away from the propeller as injury can occur.

BATTERIES

Notes on Lithium Polymer Batteries

When used improperly, lithium polymer batteries are significantly more volatile than alkaline or Ni-Cd/Ni-MH batteries used in RC applications. Always follow the manufacturer's instructions when using and disposing of any batteries. Mishandling of Li-Po batteries can result in fire causing serious injury and damage.

SMALL PARTS

This kit includes small parts and should not be left unattended near children as choking and serious injury could result.

Safe Operating Recommendations

- Inspect your model before every flight to make certain it is airworthy.
- Be aware of any other radio frequency user who may present an interference problem.
- Always be courteous and respectful of other users of your selected flight area.
- Choose an area clear of obstacles and large enough to safely accommodate your flying activity.
- Make certain this area is clear of friends and spectators prior to launching your aircraft.
- Be aware of other activities in the vicinity of your flight path that could cause potential conflict.
- Carefully plan your flight path prior to launch.
- Abide by any and all established AMA National Model Aircraft Safety Code.

Important Information Regarding Warranty

Please read our Warranty and Liability Limitations in the back of this manual before building this product. If you as the purchaser or user are not prepared to accept the liability associated with the use of this Product, you are advised to return this Product immediately in new and unused condition to the place of purchase.

Using the Manual

This manual is divided into sections to help make assembly easier to understand, and to provide breaks between each major section. In addition, check boxes have been placed next to each step to keep track of each step completed. Steps with a single box (☐) are performed once, while steps with two or more boxes (☐☐) indicate the step will require repeating, such as for a right or left wing panel, two servos, etc. Remember to take your time and follow the directions.

UltraCote® Covering Colors

White	HANU870
True Red	HANU866
Black	HANU874

Transmitter Requirements

This model requires a minimum of a 6-channel radio to operate all the functions of your aircraft. We suggest the following radio systems available through Horizon Hobby or your local hobby distributor.

Spektrum DX6i	SPMR6610
Spektrum DX8	SPMR8800
Spektrum 10T	
JR® DSM2 or DSMX Systems	

Field Equipment Required

Fuel (gasoline)	
2-cycle oil	EVOX1001Q
Ultra fuel pump-manual	HAN155
Double Vision™ fast field charger	HAN114

Optional Field Equipment

PowerPro™ 12V Starter	HAN161
12V 7Ah Sealed Battery	HAN102
Self-stick weights, 6 oz	HAN3626
Spray cleaner	
Paper towels	

Included Components

Spektrum A6000 Servos (6)	SPMSA6000
Spektrum AR8000 DSMX Receiver	SPMAR8000
Spektrum 2700mAh 6.0V Ni-MH Rx Pack	SPMB2700NM
Zenoah G26 Air Magneto Engine	ZENE26A
Zenoah Ignition Kill Switch	ZEN20000
Hangar 9 Aluminum CNC $2^1/_2$-inch Spinner	HAN4902015
Hangar 9 Fuel Filler with Overflow Fitting	HAN116
Evolution® 16 x 6 Propeller	EVO16060

Required Tools

Low-tack tape	Needle nose pliers
Nut driver: 1/4-inch	Phillips screwdriver: #1, #2
Side cutter	

Open end wrench: 1/4-inch, 12mm, 17mm

Hex wrench: 5/64-inch, 3/32-inch, 1/8-inch, 2.5mm, 7/64-inch, 4mm

Required Adhesives

Silicone adhesive	DEVS250
Thin CA	PAAPT08
Threadlock	PAAPT42

Before Starting Assembly

Before beginning the assembly of your model, remove each part from its bag for inspection. Closely inspect the fuselage, wing panels, rudder and stabilizer for damage. If you find any damaged or missing parts, contact the place of purchase.

If you find any wrinkles in the covering, use a heat gun (HAN100) and covering glove (HAN150) or covering iron (HAN101) with a sealing iron sock (HAN141) to remove them. Use caution while working around areas where the colors overlap to prevent separating the colors.

Note: The hardware to complete each section of the manual is located in the bag with the items required. Leave items in their bags until instructed to open them for use in building your model.

Charging the Receiver Battery

Required Parts

Fuselage assembly Receiver charger

☐ 1. Open the cockpit door by pulling on the handle. The door is held in position using magnets. Do not rotate the door handle as it will loosen the handle.



☐ 2. Connect the charger lead to the connection at the charge jack. The model includes a 2700mAh 5-cell Nickel-Metal Hydride (Ni-MH) battery. Be sure and use a good quality charger. We recommend to cycle the receiver battery 2–3 times prior to flying.



⚠ ***CAUTION:*** Do not use a peak detection charger for the first 2–3 charges of your new Spektrum Ni-MH battery packs. New Ni-MH battery packs may false peak until cycled. The initial charges on your new Spektrum Ni-MH batteries should be done using the Spektrum dual output charger (SPM9550), or other slow chargers of 150 to 300mAh. This charge should be for a period of 24 to 48 hours, or until the battery begins to feel warm to the touch. Subsequent charges may be performed with peak detecting chargers, and at higher rates.

Do Not exceed the lower of 1C, or 2000mA. (Example: 1650mAH battery, 1C = 1.65A or 1650mA charge rate)

Binding Procedure - BNF

Required Parts

Fuselage assembly Transmitter
Bind plug

Binding is connecting a transmitter to an aircraft receiver so the aircraft receiver recognizes the transmitter GUID (Globally Unique Identifier) code. Binding is necessary for proper operation.

Your model requires a DSM2 or DMSX full range (high power) transmitter. The list below is Spektrum™ or JR® DSM2/DSMX-equipped full range transmitters and modules that can bind to your model's receiver:

- Spektrum DX8
- Spektrum DX6i
- JR X9303/9503 2.4
- JR 11X
- JR 12X 2.4/12X MV
- All SPM Aircraft Module systems

List is complete as of this printing. Additional compatible transmitters may be available.

☐ 1. Locate the BIND plug. The BIND plug will fit the charge jack in the switch as shown.



☐ 2. Follow the procedure as described in your radio manual for binding the receiver and transmitter. Check the operation of the rudder, elevator and throttle servos using the radio system.

☐ 3. Remember to remove the BIND plug from the receiver BEFORE turning off the radio system. Once you have completed binding the transmitter and receiver, unplug the motor battery and remove it from the fuselage.

Once you have finished programming your radio, you should re-bind the radio to be sure the fail-safe positions for the servos are correct.

Additional Operating Information

Before each flight, power on the transmitter and wait about five (5) seconds before moving the receiver switch to the on position. When the receiver is switched on too quickly for the transmitter to make frequency selection, the transmitter and receiver may not connect. When there is no connection, leave the transmitter powered on, turn off the receiver switch then turn it back on to power up the receiver.

Landing Gear Installation

Required Parts

Landing gear assembly
Fuselage assembly
#4 washer (4)
#6 washer (6)
Wheel pant (right and left)
6-32 x 1/2-inch button head cap screw (2)
6-32 x 3/4-inch button head cap screw (4)
4-40 x 1/2-inch button head cap screw (4)

Required Tools and Adhesives

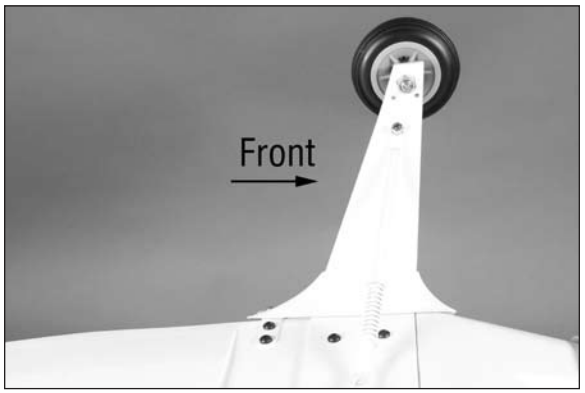
Low-tack tape
Threadlock
Silicone adhesive
Hex wrench: 5/64-inch, 3/32-inch

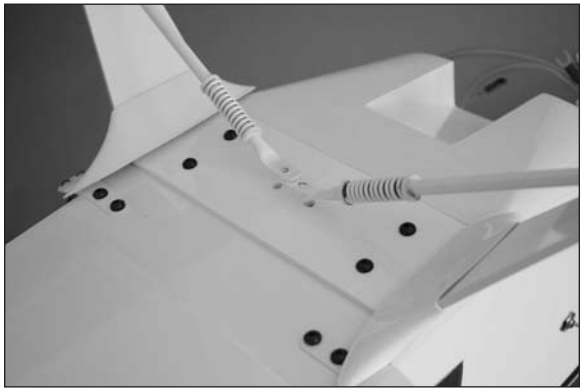
☐ 1. Locate the landing gear and wheel pants as well as the hardware packaged with these items. You will also need the fuselage assembly to attach the gear to.



Note: Always use threadlock on metal-to-metal fasteners to prevent them from vibrating loose.

☐ 2. Place the landing gear on the bottom of the fuselage. The gear will angle forward as shown. Slide a #6 washer on each of the four 6-32 x 3/4-inch button head cap screws. Install the screws through the landing gear. Use the included 3/32-inch hex wrench to tighten the screws.





Hint: A machined hex wrench is helpful to allow the bolts to be tightened and not strip the head of the bolt.

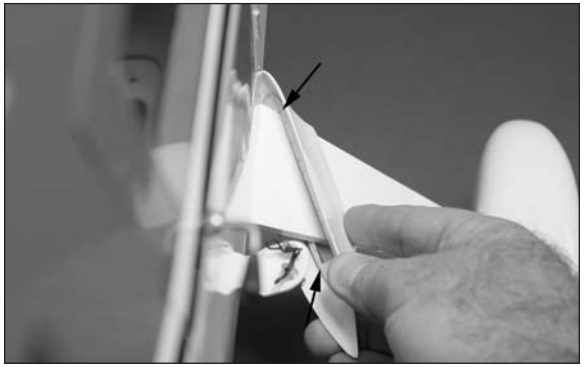
☐ 3. Slide a #6 washer on each of the two 6-32 x 1/2-inch button head cap screws. Install the screws through the landing gear strut springs, then through the landing gear. Use a 3/32-inch hex wrench to tighten the screws.



☐ 4. Attach the wheel pants to the landing gear using four 4-40 x 1/2-inch button head cap screws and four #4 washers. Tighten the screws using 5/64-inch hex wrench.



☐ 5. With the landing gear fairing as close to the fuselage as possible, apply a small amount of silicone adhesive to the plywood inside the landing gear fairing. Slide the fairing tight against the fuselage and use low-tack tape to hold it in position until the adhesive cures. Gluing the fairing to the gear will allow the gear to be removed without damaging the fuselage.





Tail Installation

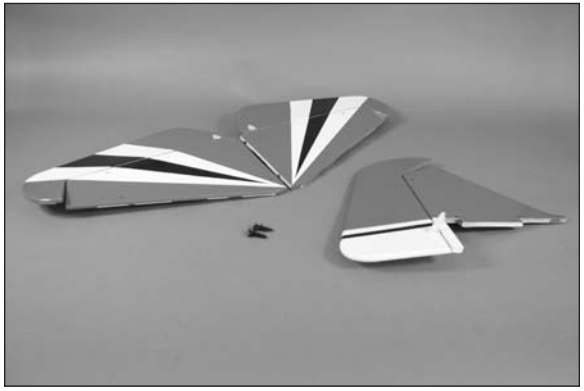
Required Parts

Fuselage assembly
Stabilizer and elevator
6-32 x 1-inch button head cap screw (4)
Rudder and fin
#6 washer (4)

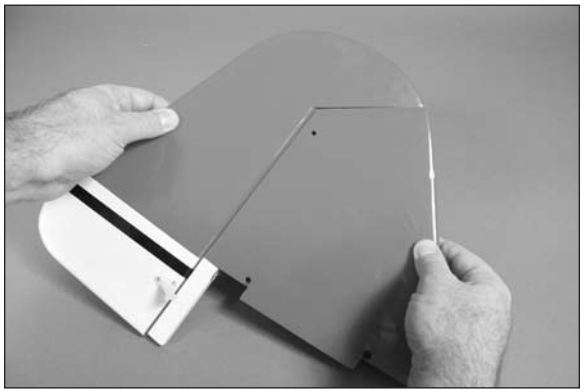
Required Tools and Adhesives

Hex wrench: 3/32-inch
Thin CA
Threadlock

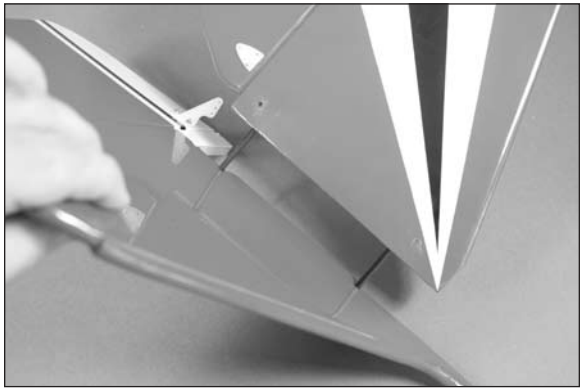
☐ 1. Open the bag containing the elevator and stabilizer and the four 4-40 x 1-inch button head cap screws and #4 washers. Also open the bag with the rudder and fin.



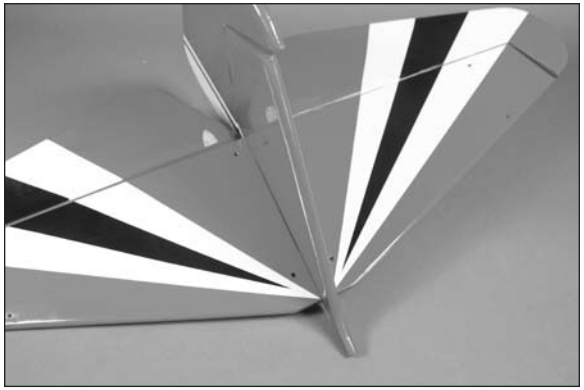
☐ 2. Check that the hinges are glued securely by gently separating the control surface from the fixed surface. If any loose hinges are found, apply thin CA to both sides of the hinge. Allow the CA to soak into the hinge before checking them again.



☐ 3. Separate the stabilizer halves. Slide the pins and one stabilizer half into the holes in the fin as shown.



☐ 4. Slide the remaining stabilizer half into position. Press the stabilizer halves so they fit tightly against the fin as shown.



☐ 5. Remove the packaging from the tail of the fuselage. Place the assembly on the fuselage. The fin will fit into the slot along the top of the fuselage.



Note: Always use threadlock on metal-to-metal fasteners to prevent them from vibrating loose.

☐ 6. Use four 6-32 x 1-inch button head cap screws and four #6 washers to secure the stabilizer to the fuselage. Use a 3/32-inch hex wrench to tighten the screws. Make sure not to over-tighten the screws and damage the underlying structure of the stabilizer.



Hint: A machined hex wrench is helpful to allow the bolts to be tightened and not strip the head of the bolt.

Tail Wheel Installation

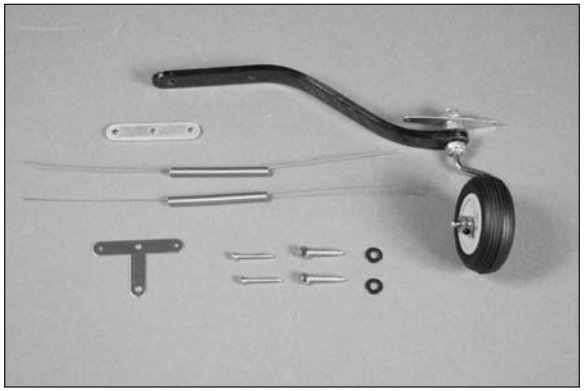
Required Parts

Fuselage assembly	Aluminum tiller arm
3mm washer (2)	Tail wheel steering spring (2)
Aluminum spreader tab	
2mm x 15mm Phillips wood screw (2)	
3mm x 15mm socket head wood screw (2)	
Carbon fiber tail wheel assembly with $1^1/_2$-inch (38mm)wheel	

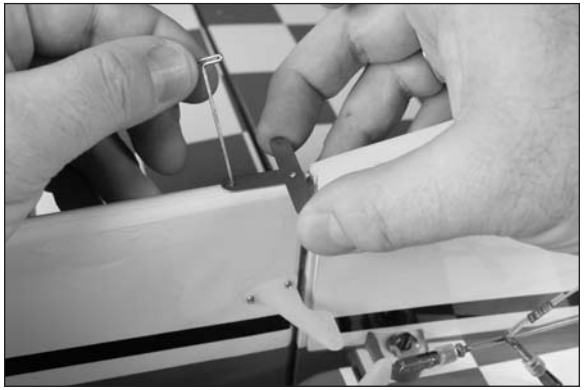
Required Tools and Adhesives

Hex wrench: 2.5mm	Thin CA
Phillips screwdriver: #1	Side cutter
Needle nose pliers	T-pin

☐ 1. Open the bag containing the tail wheel assembly and accessories. The fuselage assembly will also be required for this section of the manual.



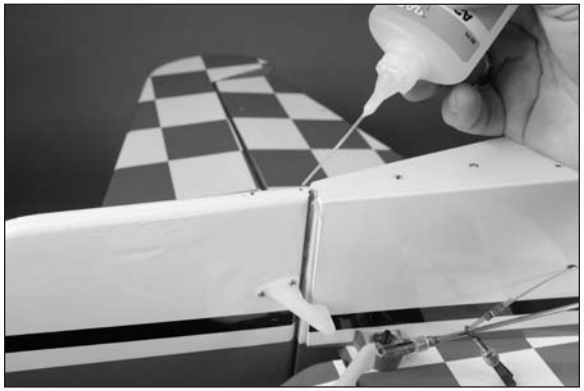
☐ 2. Position the tiller arm on the bottom of the rudder so the front edge is aligned as close to the hinge line as possible. Mark the two positions for the mounting screws using a T-pin.



☐ 3. Use a 2mm x 15mm Phillips wood screw and a #1 Phillips screwdriver to make the holes for the two mounting screws in the bottom of the rudder.



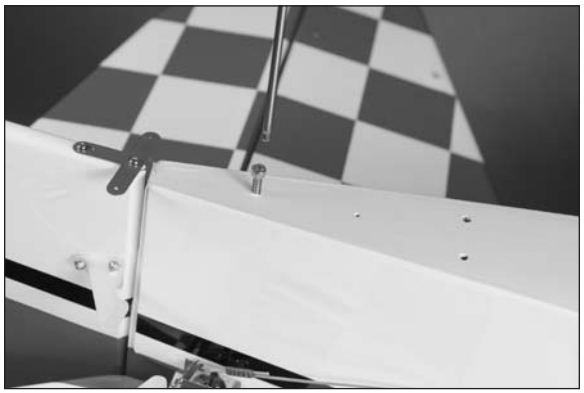
☐ 4. Remove the screw and place 2–3 drops of thin CA in each hole to harden the surrounding wood. This will keep the screws from vibrating loose.



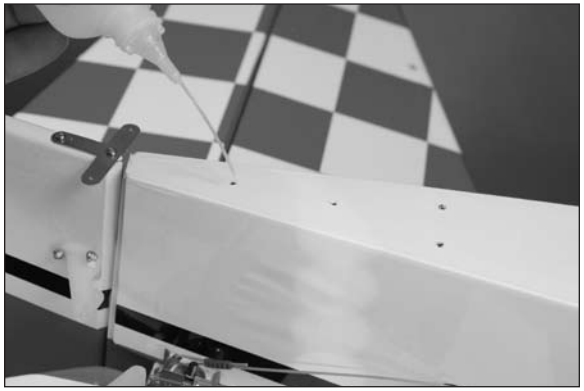
☐ 5. Use two 2mm x 15mm Phillips wood screws and a #1 Phillips screwdriver to attach the tiller arm to the bottom of the rudder.



☐ 6. Use a 2.5mm hex wrench to thread a 3mm x 15mm socket head wood screw into the holes in the bottom of the fuselage for mounting the tail wheel assembly. This will cut threads in the surrounding wood. Remove the screws from the holes.



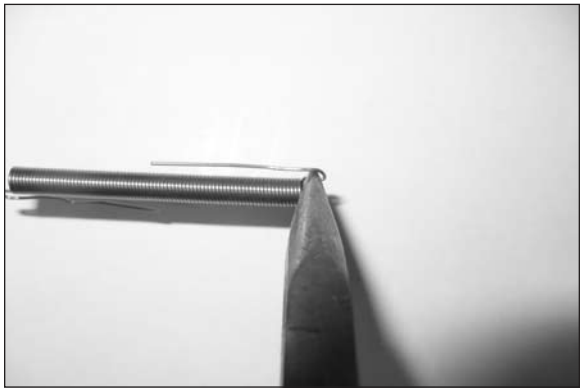
☐ 7. Place 2–3 drops of thin CA in each hole to harden the surrounding wood. This will keep the screws from vibrating loose in flight.



☐ 8. Attach the tail wheel assembly and the aluminum spreader tab on the fuselage using two 3mm x 15mm socket head wood screws and two 3mm washers. Tighten the screws using a 2.5mm hex wrench.



☐ 9. Connect the arm from the tail wheel to the tiller arm using two tail wheel steering springs. Make a loop on each end of the spring with needle nose pliers. Use care when bending the springs so the tail wheel is aligned with the rudder. Cut the excess spring using side cutters.







Tail Bracing Installation

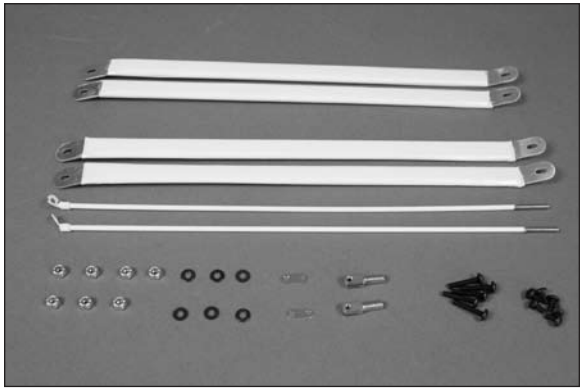
Required Parts

Fuselage assembly	3mm rod end (2)
#4 washer (6)	4-40 locknut (7)
Brass tab (2)	
4-40 x 1/4-inch button head cap screw (6)	
4-40 x 5/8-inch button head cap screw (5)	
Top wire strut with 3mm threads (2)	
Rear lower wood strut, $10^{1}/_{2}$-inch (267mm) (2)	
Front lower wood strut $10^{3}/_{4}$-inch (273mm) (2)	

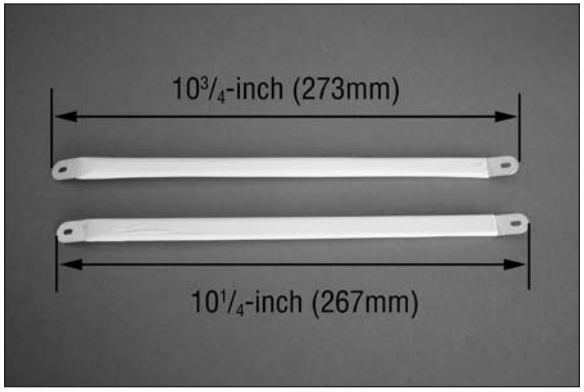
Required Tools and Adhesives

Needle nose pliers	Hex wrench: 5/64-inch
Nut driver: 1/4-inch	Open-end wrench: 1/4-inch
Threadlock	

☐ 1. Open the bag containing the tail bracing and hardware. The fuselage assembly will also be required for this section of the manual.

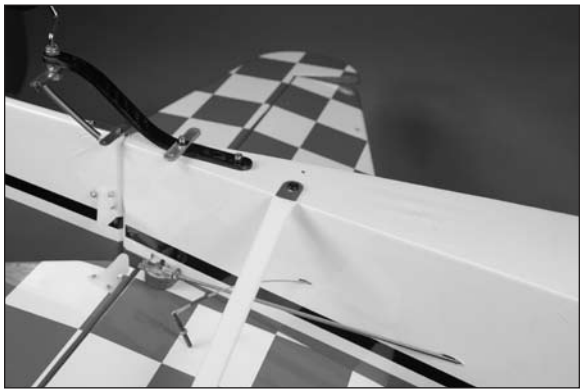


☐ 2. Measure and mark the front lower wood strut 10¾-inch (273mm) and rear lower wood strut 10½-inch (267mm). The longer strut will be used first in the front, then the shorter strut in the rear.



Note: Always use threadlock on metal-to-metal fasteners to prevent them from vibrating loose.

☐☐ 3. Attach the longer strut to the fuselage and stabilizer. Use a 4-40 x 1/4-inch button head cap screw to secure the strut at the fuselage. Leave the screw finger-tight at this time.



☐☐ 4. Use a 4-40 x 5/8-inch button head cap screw, #4 washer and 4-40 lock nut to attach the strut to the forward hole of the stabilizer. Place the washer on the screw before passing it through the strut so it is between the head of the screw and the stabilizer. Once everything is positioned, use a 1/4-inch nut driver and a 5/64-inch hex wrench to tighten the hardware. Use care not to over-tighten the hardware and damage the underlying structure.





☐ 5. Repeat steps 3 and 4 to install the remaining 10¾-inch (273mm) strut. Be careful to not induce any warps in the stabilizer when installing the braces.

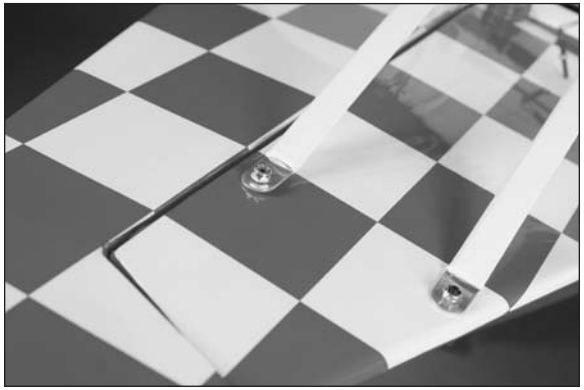
☐☐ 6. Use a 1/4-inch open-end wrench and 5/64-inch hex wrench to attach a 10½-inch (267mm) strut to the aluminum spreader tab. Do not fully tighten the hardware so the strut can be positioned in the following steps.



☐☐ 7. Use needle nose pliers to bend the brass tab at about a 30-degree angle.



☐☐ 8. The shorter strut can now be attached to the stabilizer using a 4-40 x 5/8-inch button head cap screw, #4 washer, 4-40 lock nut and the brass tab. Make sure the washer is between the stabilizer and brass tab to space the tab slightly away from the structure. Leave the hardware loose so the struts can be positioned. When installing the top wire strut.

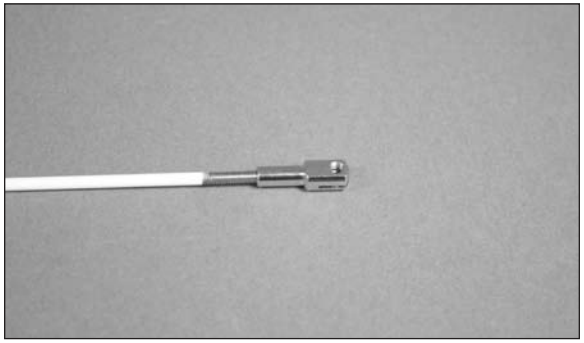




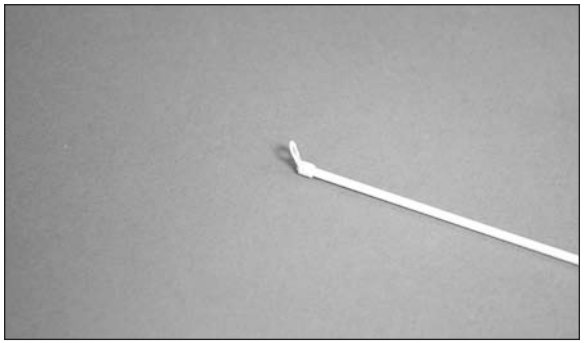
☐ 9. Repeat steps 6 through 8 to install the remaining short strut. Again leave the hardware loose at this time.

Note: Always use threadlock on metal-to-metal fasteners to prevent them from vibrating loose.

☐☐ 10. Thread the 3mm rod end partially on the top wire strut.



☐☐ 11. Use needle nose pliers to bend the tab of the top wire at about a 30-degree angle as shown.

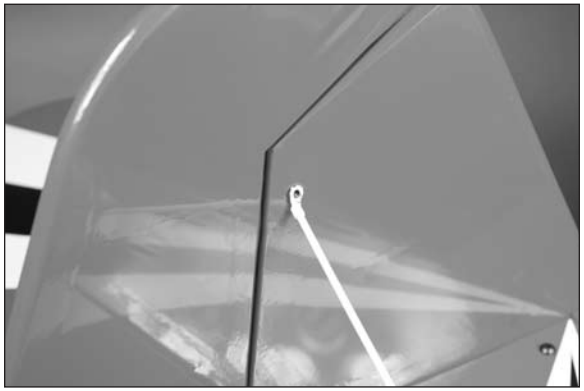


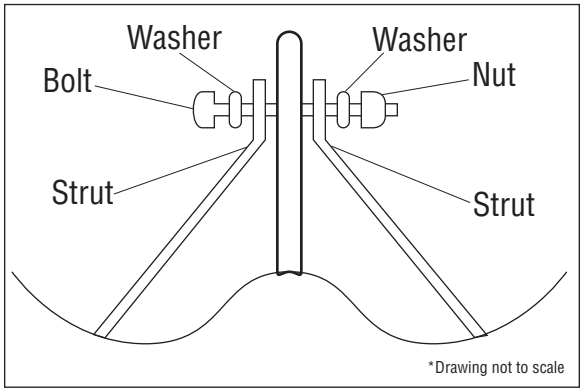
Note: Always use threadlock on metal-to-metal fasteners to prevent them from vibrating loose.

☐☐ 12. Attach the rod end to the brass tab using a 4-40 x 1/4-inch button head cap screw and a 5/64-inch hex wrench.

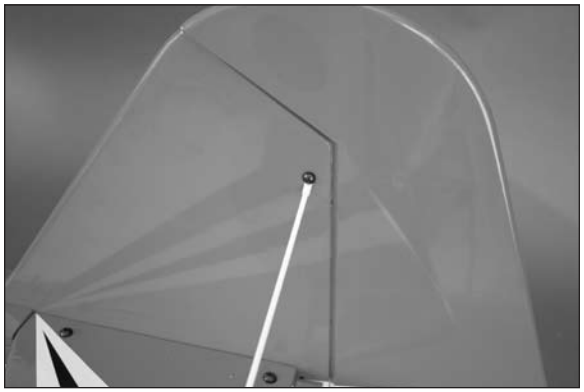


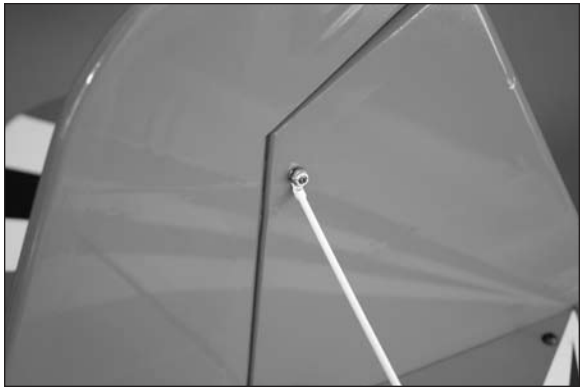
☐☐ 13. Adjust the length of the top wire so it just contacts the fin when positioned so the fin is 90 degrees to the stabilizer.



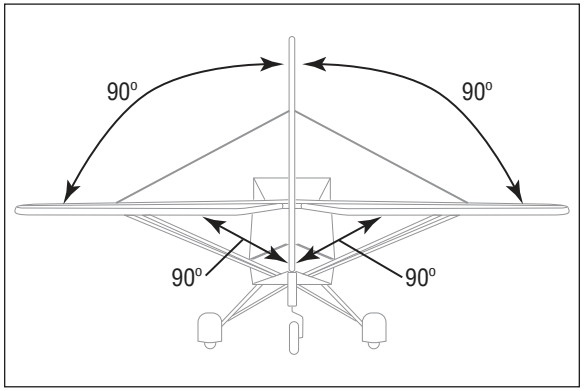


☐ 14. Repeat steps 10 through 13 for the remaining top wire. Once both wires are set to length, use a 4-40 x 5/8-inch button head cap screw, two #4 washers and a 4-40 lock nut to secure the top wires to the fin.





☐ 15. Check the alignment of the fin to the stabilizer to make sure they are perpendicular to each other. Also check the alignment between the rudder and fuselage. If not, loosen the hardware slightly to adjust the alignment.



☐ 16. Once all the struts and top wires are installed, make sure to check all the hardware to make sure it has been tightened.

Engine Installation

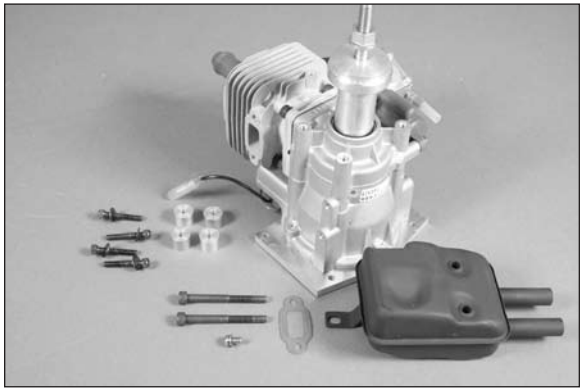
Required Parts

Fuselage assembly	Engine
Cable ties	Transmitter
Muffler with hardware	#8 washer (4)
8-32 x 1-inch socket head cap screw (4)	
Engine standoff, 3/8-inch (10mm) (4)	

Required Tools and Adhesives

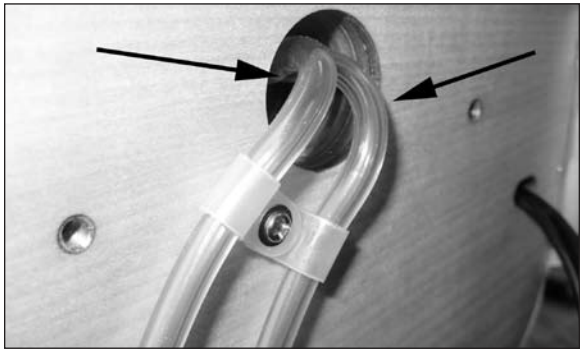
Needle nose pliers	Phillips screwdriver: #1, #2
Threadlock	
Hex wrench: 1/8-inch, 7/64-inch, 4mm	

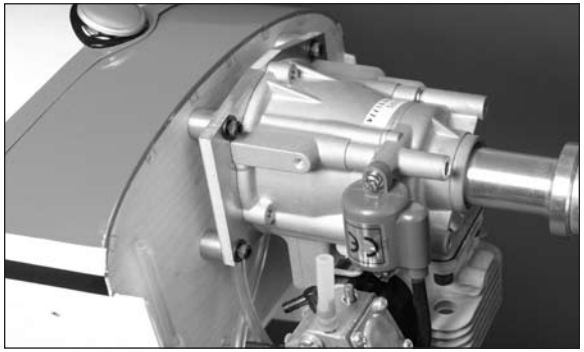
☐ 1. Locate the items to install the engine and muffler to the fuselage. You will also need the fuselage assembly for this section of the manual.



Note: Always use threadlock on metal-to-metal fasteners to prevent them from vibrating loose.

☐ 2. Use the four aluminum 3/8-inch (10mm) standoffs, four 8-32 x 1-inch socket head cap screws and four #8 washers to attach the engine to the firewall. Use a 1/8-inch hex wrench to tighten the screws. Do not pull the fuel lines too tightly through the nylon tubing clamp or you might kink the fuel tubing between the clamps and the fuel tank. Leave the lower-left bolt loose so the ground can be attached in step 5.





☐ 3. Use side cutters to cut the tie-wrap holding the ignition ground leads and fuel tubing together.



☐ 4. Check that the ignition switch is in the off position before connecting the leads to the engine in the following step. This will prevent accidentally starting the engine if the propeller shaft is rotated.



☐ 5. Connect the ignition wire exiting the firewall to the lead from the engine. The two will plug together with mating connectors. Place the ground lug under the washer between the washer and the engine mount. Tighten the bolt using a 1/8-inch hex wrench. Use a cable wire tie to secure the leads so they don't interfere with the muffler.

Note: Always use threadlock on metal-to-metal fasteners to prevent them from vibrating loose.

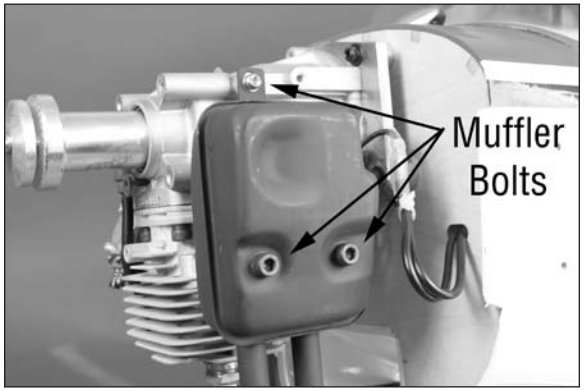
☐ 6. Route the ignition wire behind the engine to keep it from contacting the engine. Secure the muffler to the engine using the hardware included with the muffler. Use a #2 Phillips screwdriver and 4mm hex wrench to tighten the hardware to secure the muffler to the engine.



⚠ ***WARNING***: Read and follow all instructions and precautions before use. Failure to do so could result in product malfunction, damage and injury.

⚠ ***WARNING***: This product can become extremely hot when in use, which could lead to burns.

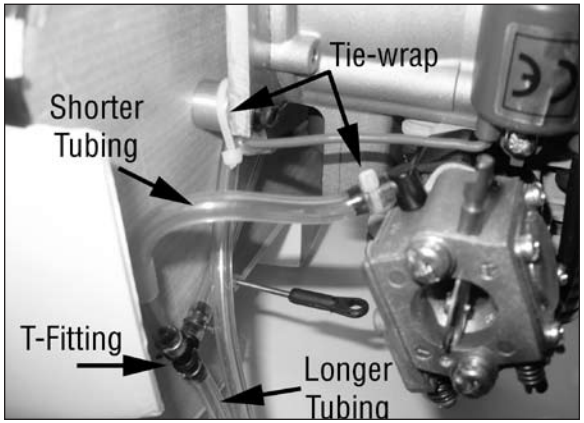
NOTICE: Only use this product with parts specified in the product literature.



Hint: The use of high-temperature exhaust manifold sealant is helpful to help keep the manifold from leaking over time.

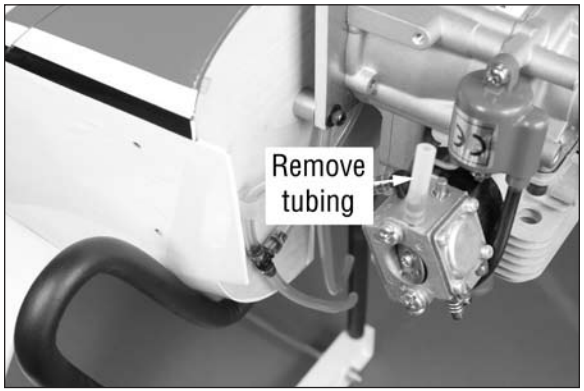
Note: Check the muffler bolts frequently to be sure they are not getting loose. If you heat up the engine and then tighten the bolts down when hot, the bolts will stay secure longer.

☐ 7. Connect the fuel line from the T-fitting to the carburetor. Secure the fuel line to the carburetor fitting using a small tie-wrap. Be sure to secure the ignition wire away from the hot cylinder head using a tie wrap. Don't overtighten the tie wrap and deform the wiring or the fuel line on the carburetor inlet.



Note: Be sure and keep the fuel line and wiring away from the HOT exhaust muffler.

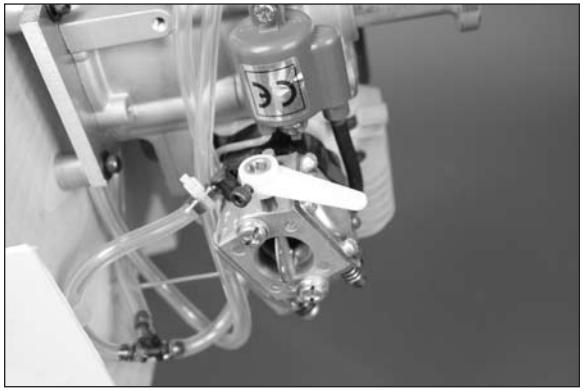
☐ 8. Remove the tubing from the choke shaft of the engine. You may need to use a hobby knife and #11 blade to cut the tubing so it can be removed.



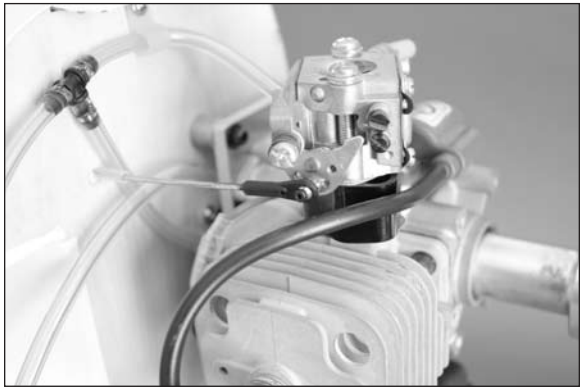
☐ 9. Thread the screw into the nylon arm included with the engine.



☐ 10. Install the included nylon choke arm on the brass shaft of the carburetor. Be sure the arm can rotate fully and does not hit the engine cylinder. Access the arm by reaching through the front cowl opening inlet with your finger or a small piece of wire with a hook on the end (not supplied). Tighten the screw in the arm using a 7/64-inch hex wrench.



☐ 11. Connect the ball link to the carburetor arm. The pushrod should slide easily as it is not connected to the throttle servo. Use needle nose pliers to snap the ball link on the ball.



Hint: Remove the idle limit setscrew as you will adjust the idle from your transmitter using the throttle trim.

☐ 12. Center the throttle stick and trim. With the radio system on, connect the servo arm to the throttle servo using the hardware from the servo and a #1 Phillips screwdriver. Make sure the servo arm is installed perpendicular to the servo center line as shown.



☐ 13. Check the operation of the throttle using the radio system. It may be necessary to change the travel adjust at the radio to prevent the servo from binding at high- and low-throttle. Make sure when the throttle is at idle the butterfly in the carburetor is closed.

Cowling, Propeller and Spinner Installation

Required Parts

Fuselage assembly
Cowling
Propeller, 16 x 6
#4 nylon washer (4)
4-40 x 1/2-inch button head cap screw (4)
Aluminum spinner with backplate and hardware

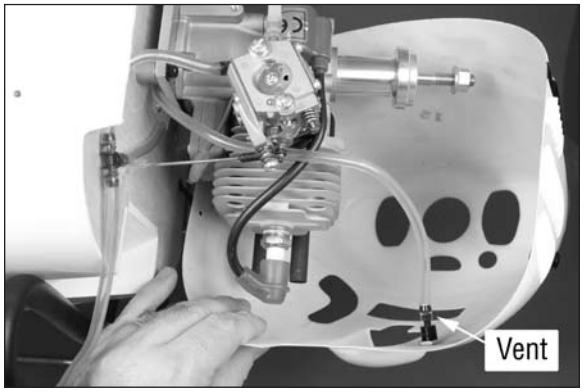
Required Tools and Adhesives

Wrench: 1/2-inch, 14mm
Hex wrench: 5/64-inch, 4mm
Threadlock

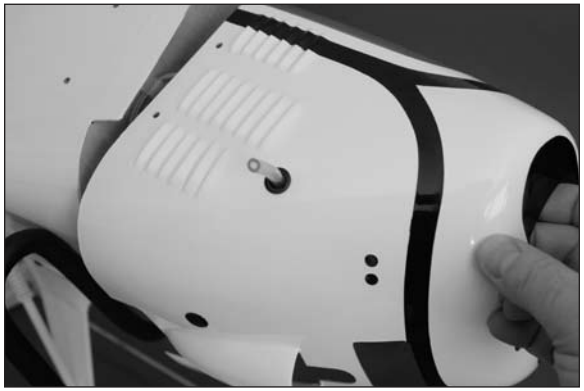
☐ 1. Locate the items to attach the cowling to the fuselage. You will also need the fuselage assembly for this section of the manual.



☐ 2. Connect the fuel line that comes directly from the fuel tank to the vent fitting on the bottom of the cowl. This is the line not connected to the T-fitting.



☐ 3. Remove the plug for the fill line from the cowl. While guiding the cowl on the fuselage, guide the line from the T-fitting through the fill line in the cowl.



☐ 4. Guide the cowl into position. The holes in the cowl will line up with the holes in the fuselage. Use four 4-40 x 1/2-inch button head cap screws and four #4 nylon washers to secure the cowl. Tighten the screws using a 5/64-inch hex wrench.



Note: The included velocity stack for the G26 is not being used as the carburetor is completely enclosed inside the cowling.

Hint: A small dot of canopy glue on the threads of the screws will help to stop them from coming loose from vibration.

☐ 5. Insert the plug into the fuel line. The line can now be placed in the fitting. Use this to fill the fuel tank at the field. When the fuel line is inside the cowl, make sure it is not contacting the engine, which could cause it to melt.





☐ 6. Remove the nut and washer from the engine propeller shaft. Slide the propeller backplate on the engine shaft.



Important: Always balance your propeller. An unbalanced propeller can cause vibrations to be transmitted into the airframe, which could damage the airframe or other components as well as produce unwanted flight characteristics.

☐ 7. Slide the propeller and washer on the engine shaft. Position the propeller with the engine turned counterclockwise into compression with the propeller at approximately between two o'clock and eight o'clock positions. Use the large nut included with the spinner and a 1/2-inch wrench to tighten the nut.



☐ 8. Thread the spinner adapter on the engine shaft. While holding the larger nut with a 1/2-inch wrench, use a 14mm wrench to tighten the adapter nut against the first nut.



☐ 9. The spinner can now be attached using the screw provided and a 4mm hex wrench. Make sure the spinner does not contact the propeller when it is installed.



Rudder and Elevator Linkages

Required Parts

Fuselage assembly Transmitter

Required Tools and Adhesives

Needle nose pliers

☐ 1. Turn on the radio and check the operation of the servos. Make sure that both elevator servos are working and moving in the same directions. You will need to use a computer radio to mix the elevator channel to the AUX2 channel for the elevators. You will also need to set up dual ailerons or flaperons to operate the two separate aileron servos.

Note: When setting up the mixing for your radio, make sure to disable the switches for the flaps and the AUX2 channels so they don't change the control surfaces if they are moved accidentally.

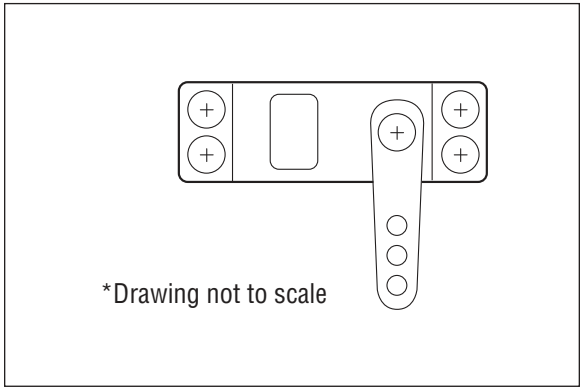
SERVO REVERSING SETTINGS

Before setting the control throws, check to make sure the servo reversing settings are set as follows:

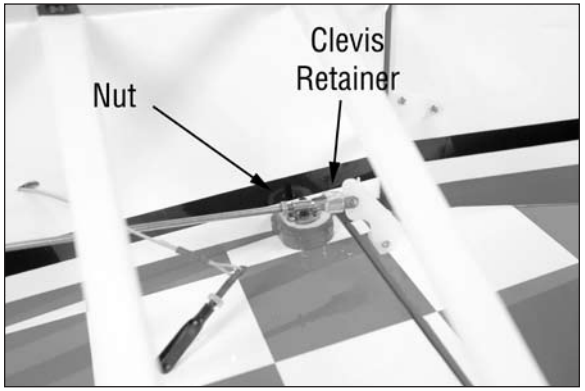
JR 9503, 11X, 12X and Spektrum DX8:

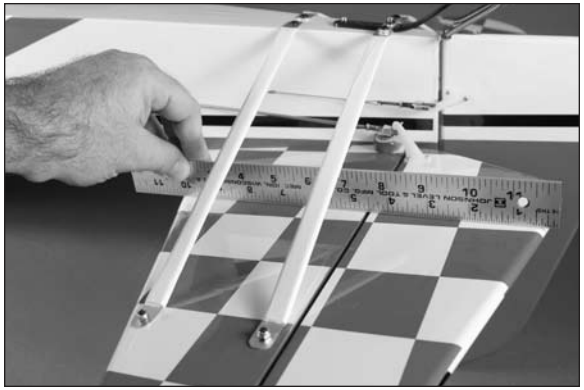
Channel number	Channel Name	Position
1	Throttle	Normal
2	Right Aileron	Normal
3	Right Elevator	Reverse
4	Rudder	Reverse
5	N/A	N/A
6	Left Aileron	Normal
7	Left Elevator	Reverse
8	N/A	N/A

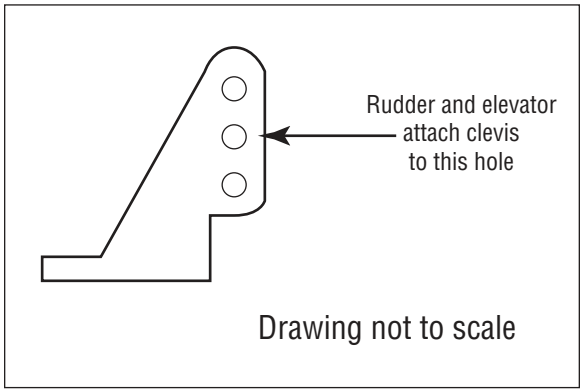
☐ 2. Check to make sure the servo horns are perpendicular to the servos when the sticks and trims on the transmitter are centered. If not, use the sub-trim feature to make sure the servos are centered correctly.



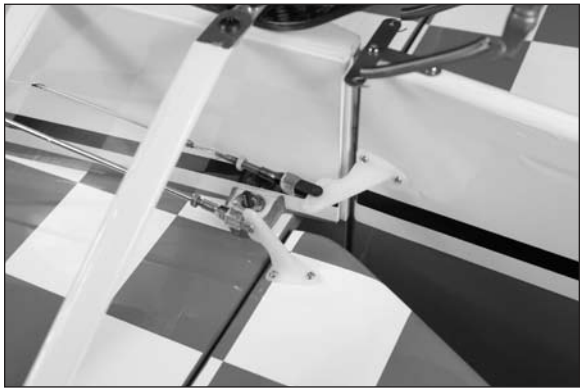
☐ 3. Once the servos have been centered, it may be necessary to loosen the 4-40 nut so the clevises can be adjusted. Thread the clevis in or out on the elevator pushrod so when the clevis is connected to the control horn, the control surface is aligned with the fixed surface. Use a ruler to verify the control surface is aligned with the fixed surface. Once centered, slide the clevis retaining over the forks of the clevis to keep it from opening in flight. Center both elevators at this time. Tighten the 4-40 nut against the clevis to prevent it from changing positions in flight.







☐ 4. When connecting the clevises to the rudder, make sure there is a light amount of tension on the cables so the rudder has no play at neutral so it will not flutter.



Note: Always use threadlock on metal-to-metal fasteners to prevent them from vibrating loose.

☐ 5. Once the clevises are connected, use needle nose pliers to tighten the nuts against the clevises to keep them from vibrating and changing positions.



Interior Installation

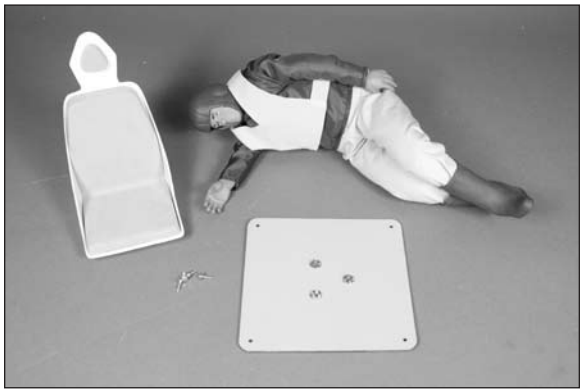
Required Parts

Fuselage assembly	Pilot
Pilot seat	Painted plywood plate
2mm x 10mm washer head wood screw (4)	

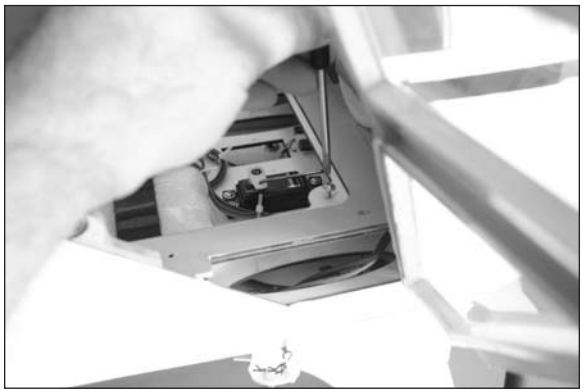
Required Tools and Adhesives

Phillips screwdriver: #1	Thin CA
Hook and loop tape or Zap-A-Dap-A-Goo	

☐ 1. Locate the items to install the interior. You will also need the fuselage assembly for this section of the manual.



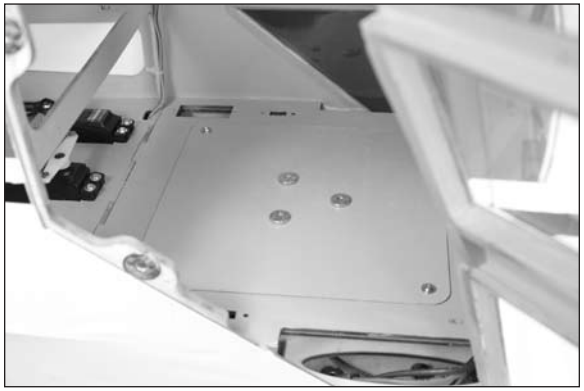
☐ 2. Use a #1 Phillips screwdriver to install and remove one of the 2mm x 10mm washer head wood screws in each of the four mounting holes in the fuselage. This will cut threads in the surrounding wood, preparing them for the next step.



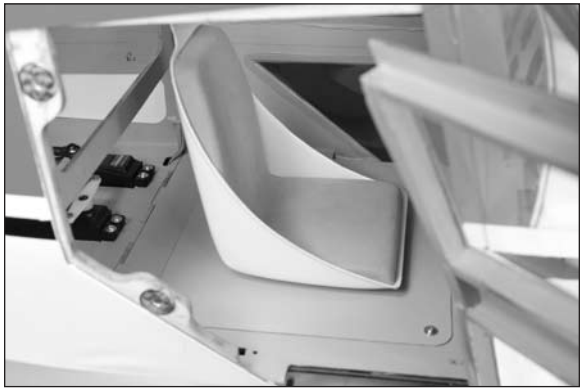
☐ 3. Apply 2–3 drops of thin CA in each of the holes to harden the threads in the surrounding wood. This will make the screws more secure and help prevent them from vibrating loose.



☐ 4. Secure the painted plywood plate in the fuselage using four 2mm x 10mm washer head wood screws and a #1 Phillips screwdriver. Note that the plate will have the single magnet to the front of the fuselage as shown.



☐ 5. Install the seat by attaching the magnet from the seat to those in the painted plywood plate.



☐ 6. The pilot comes with a helmet and life jacket that can be removed. Remove these items to make your pilot look like a civilian pilot for your model.



☐ 7. Place the pilot in the cockpit of your model. His legs will straddle the fuel tank when installed. Use hook and loop tape or silicone adhesive to secure the pilot in the seat.



Wing Strut Installation

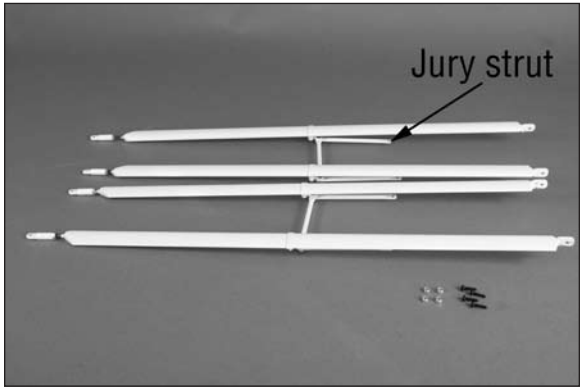
Required Parts

Wing panel (right and left)
Wing strut assembly (right and left)
4-40 x 1/2-inch button head cap screw (4)
4-40 lock nut (4)

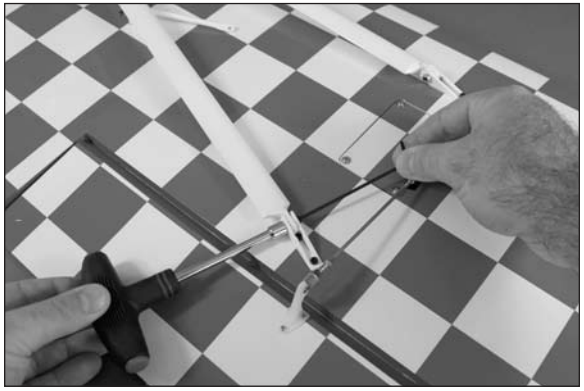
Required Tools and Adhesives

Nut driver: 1/4-inch Hex wrench: 5/64-inch

☐☐ 1. Locate the items to attach the wing struts to the wing panels. You will also need the right and left wing panels for this section of the manual.

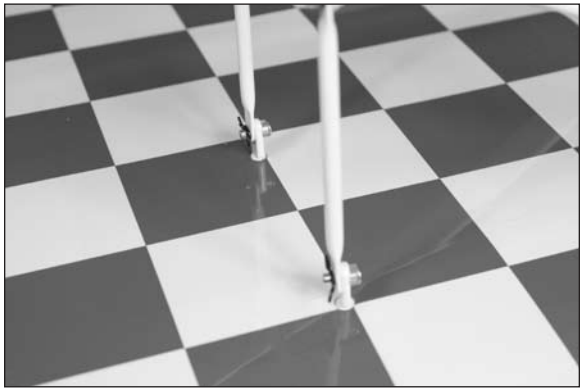


☐☐ 2. When installing the wing struts, the airfoil of the strut will match that of the wing when the jury struts are facing toward the fittings on the wing. Use two 4-40 x 1/2-inch button head cap screws and two 4-40 lock nuts to secure the struts to the fittings. Use a 5/64-inch hex wrench and 1/4-inch nut driver to tighten the hardware.



Note: Do not over-tighten the hardware that secures the wing struts to the fittings so the struts can be folded in for transport.

☐☐ 3. The jury struts are secured using the clevis pins and keepers. Attach the struts toward the root of the wing. Note the silicone tubing is placed on the pin before its installation. The struts can be left folded in for transportation.



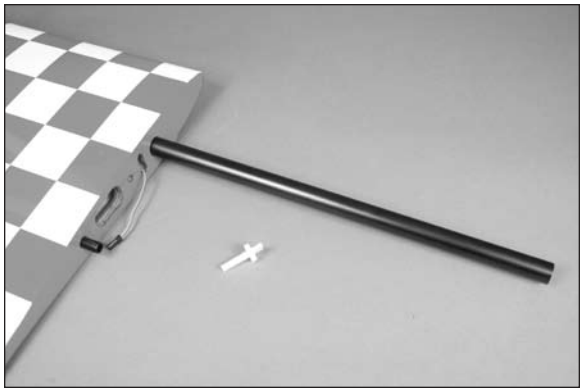
☐ 4. Repeat steps 1 through 3 for the remaining wing strut installation.

Wing Installation

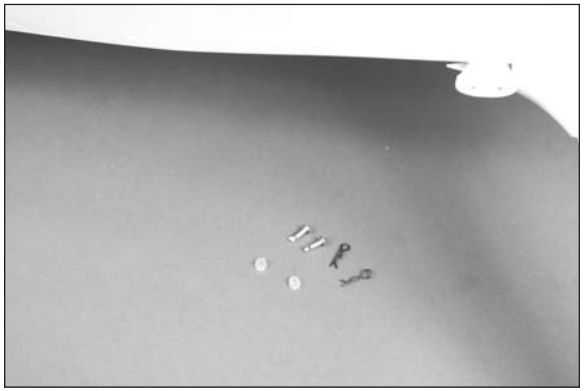
Required Parts

Fuselage assembly	Nylon 1/4-20 wing bolts (2)
Transmitter	Anodized-aluminum wing tube
Wing assembly (right and left)	

☐ 1. Slide the wing tube into the wing panel as shown. The tube will slide in easily, so don't force it in farther than it will easily slide. Also remove the nylon wing bolt from the wing.



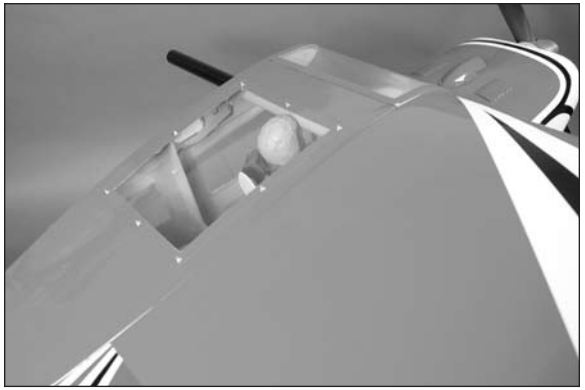
☐☐ 2. Remove the pins, keepers and silicone tubing from the fitting on the fuselage.



☐☐ 3. Slide the wing panel into position on the fuselage. Make sure to connect the aileron extensions together using the connector fasteners.

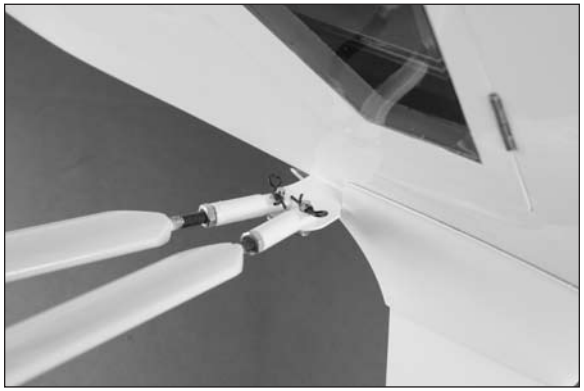


☐☐ 4. Slide the wing tight against the fuselage.

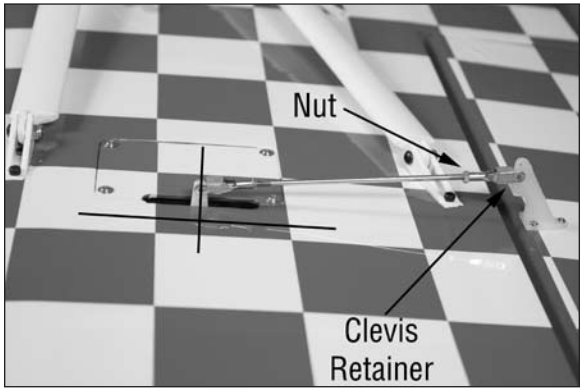


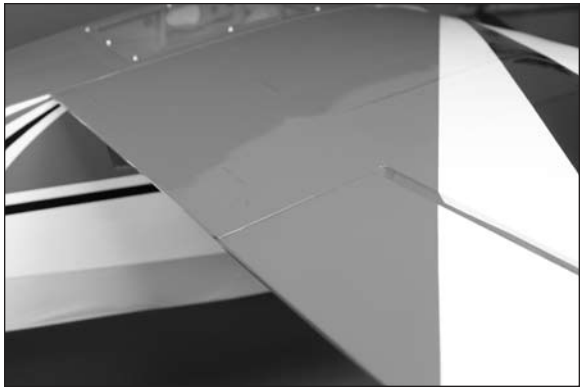
Note: If the length of the strut is not correct, loosen the nut on the strut end. Adjust the position of the strut end so the hole in the end aligns with the hole in the bracket. Once adjusted, tighten the nut against the end to prevent the end from vibrating and changing position.

☐☐ 5. Secure the wing to the fuselage using the nylon wing bolt removed in step 1. Attach the struts to the fitting on the fuselage using two clevis pins and keepers. The strut is attached to the top of the fitting as shown. Note the silicone tubing is placed on the pin before it is installed through the fitting.



☐☐ 6. Center the aileron stick and trim on the transmitter. With the radio system on, check that the aileron servo is perpendicular to the servo as best as you can. Use the sub-trim in the radio programming if necessary to adjust the servo arm position. Next, check that the aileron is aligned with the wing as shown. It may be necessary to loosen the 4-40 nut so the clevises can be adjusted. Thread the clevis in or out on the aileron pushrod so when the clevis is connected to the control horn, the control surface is aligned with the fixed surface. Once centered, slide the clevis retainer over the forks of the clevis to keep it from opening in flight. Center both ailerons at this time. Tighten the 4-40 nut against the clevis to prevent it from changing positions in flight.





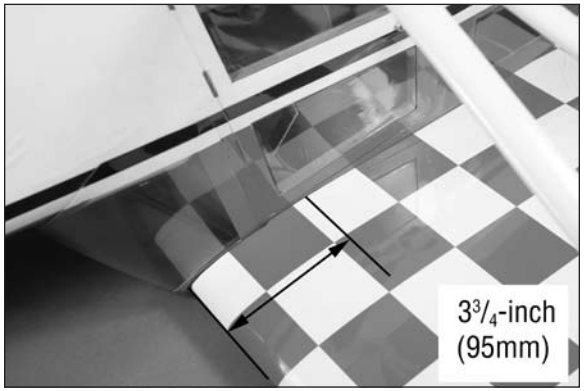
☐ 7. Repeat steps 2 through 6 to attach the remaining wing panel and adjust the aileron.

Center of Gravity

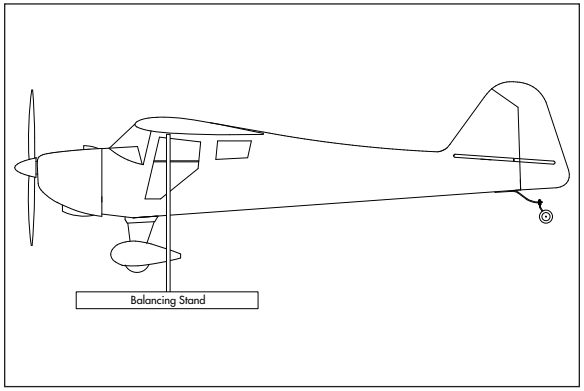
An important part of preparing the aircraft for flight is properly balancing the model.

⚠ ***CAUTION: Do not inadvertently skip this step!***

☐ 1. The recommended Center of Gravity (CG) location for your model is $3^{3}/_{4}$-inch (95mm) back from the leading edge of the wing as shown. Mark the location of the CG on the bottom of the wing with a felt-tipped pen.



☐ 2. When balancing your model, make sure it is assembled and ready for flight with the fuel tank empty. Support the plane upright at the marks made on the wing with your fingers or a commercially available balancing stand. This is the correct balance point for your model.



☐ 3. You should find the CG to be very close with the components installed as shown in this manual. If the nose of your aircraft hangs low, add weight to the rear of the aircraft. If the tail hangs low, add weight to the nose of the aircraft. Stick-on weights are available at your local hobby store and work well for this purpose.

After the first flights, the CG position can be adjusted for your personal preference. We have found this model to balance and fly just fine if balanced between $3^5/_8$ to 4 inches (86mm–101mm).

Control Throws

☐ 1. Turn on the transmitter and receiver of your model. Check the movement of the rudder using the transmitter. When the stick is moved right, the rudder should also move right. Reverse the direction of the servo at the transmitter if necessary.

☐ 2. Check the movement of the elevator with the radio system. Moving the elevator stick toward the bottom of the transmitter will make the airplane elevator move up.

☐ 3. Check the movement of the ailerons with the radio system. Moving the aileron stick right will make the right aileron move up and the left aileron move down.

☐ 4. Use a ruler to adjust the throw of the elevator, ailerons and rudder.

Note: When measuring the control throws, always measure the throw from the widest part of the control surface.

Aileron:

High Rate:		
Up:	$1^1/_2$-inches	38mm
Down:	15/16-inches	24mm
Low Rate:		
Up:	1-inches	25mm
Down:	9/16-inches	14mm

Elevator:

High Rate:		
Up:	$1^1/_2$-inches	38mm
Down:	$1^1/_2$-inches	38mm
Low Rate:		
Up:	$1^1/_8$-inches	29mm
Down:	$1^1/_8$-inches	29mm

Rudder:

High Rate:		
Right:	$3^1/_4$-inches	83mm
Left:	$3^1/_4$-inches	83mm
Low Rate:		
Right:	$1^7/_8$-inches	48mm
Left:	$1^7/_8$-inches	48mm

These are general guidelines measured from our own 1/4-scale flight tests. You can experiment with higher rates to match your preferred style of flying.

Note: Travel Adjust, Sub-Trim and Dual Rates are not listed and should be adjusted according to each individual model and preference.

Note: We highly recommend re-binding the radio system once all the control throws are set. This will keep the servos from moving to their endpoints until the transmitter and receiver connect.

⚠ ***CAUTION:*** Do not use a peak detection charger for the first 2–3 charges of your new Spektrum Ni-MH battery packs. New Ni-MH battery packs may false peak until cycled. The initial charges on your new Spektrum Ni-MH batteries should be done using the Spektrum dual output charger (SPM9550), or other slow chargers of 150 to 300mAh. This charge should be for a period of 24 to 48 hours, or until the battery begins to feel warm to the touch. Subsequent charges may be performed with peak detecting chargers, and at higher rates.

Do Not exceed the lower of 1C, or 2000mA. (Example: 1650mAH battery, 1C = 1.65A or 1650mA charge rate)

Preflight

Check Your Radio

Before going to the field, be sure your batteries are fully charged per your radio's instructions. Charge the transmitter and receiver battery for your airplane. Use the recommended charger supplied with your particular radio system, following the instructions provided with the radio. In most cases, the radio should be charged the night before going out flying.

Before each flying session, be sure to range check your radio. See your radio manual for the recommended range and instructions for your radio system. Each radio manufacturer specifies different procedures for their radio systems. Next, run the motor. With the model securely anchored, check the range again. The range test should not be significantly affected. If it is, don't attempt to fly! Have your radio equipment checked out by the manufacturer.

Double-check that all controls (aileron, elevator, rudder and throttle) move in the correct direction.

Check the radio installation and make sure all the control surfaces are moving correctly (i.e., the correct direction and with the recommended throws).

Check all the control horns, servo horns, and clevises to make sure they are secure and in good condition.

Range Test Your Radio

Before each flying session, and especially with a new model, it is important to perform a range check. It is helpful to have another person available to assist during the range check. If you are using a Spektrum transmitter, please refer to your transmitter's manual for detailed instructions on the range check process.

Safety Do's and Don'ts for Pilots

- Consult local laws and ordinances before choosing a location to fly your aircraft.
- Check all control surfaces prior to each takeoff.
- Do not fly your model near spectators, parking areas or any other area that could result in injury to people or damage of property.
- Do not fly during adverse weather conditions. Poor visibility can cause disorientation and loss of control of your aircraft. Strong winds can cause similar problems.
- Do not take chances. If at any time during flight you observe any erratic or abnormal operation, land immediately and do not resume flight until the cause of the problem has been ascertained and corrected. Safety can never be taken lightly.
- Do not fly near power lines.

Daily Flight Checks

- 1. Check the battery voltage of the transmitter battery. Do not fly below the manufacturer's recommended voltage. To do so can crash your aircraft.

When you check these batteries, ensure you have the polarities correct on your expanded scale voltmeter.

- 2. Check all hardware (linkages, screws, nuts, and bolts) prior to each day's flight. Be sure that binding does not occur and that all parts are properly secured.
- 3. Ensure all surfaces are moving in the proper manner.
- 4. Perform a ground range check before each day's flying session.
- 5. Prior to starting your aircraft, turn off your transmitter, then turn it back on. Do this each time you start your aircraft. If any critical switches are on without your knowledge, the transmitter alarm will sound a warning at this time.
- 6. Check that all trim levers are in the proper location.
- 7. All servo pigtails and switch harness plugs should be secured in the receiver. Make sure the switch harness moves freely in both directions.

Notice

All instructions, warranties and other collateral documents are subject to change at the sole discretion of Horizon Hobby, Inc. For up-to-date product literature, visit http://www.horizonhobby.com and click on the support tab for this product.

Meaning of Special Language

The following terms are used throughout the product literature to indicate various levels of potential harm when operating this product:

NOTICE: Procedures, which if not properly followed, create a possibility of physical property damage AND a little or no possibility of injury.

CAUTION: Procedures, which if not properly followed, create the probability of physical property damage AND a possibility of serious injury.

WARNING:Procedures, which if not properly followed, create the probability of property damage, collateral damage, serious injury or death OR create a high probability of superficial injury.

WARNING: Read the ENTIRE instruction manual to become familiar with the features of the product before operating. Failure to operate the product correctly can result in damage to the product, personal property and cause serious injury.

This is a sophisticated hobby product and NOT a toy. It must be operated with caution and common sense and requires some basic mechanical ability. Failure to operate this Product in a safe and responsible manner could result in injury or damage to the product or other property. This product is not intended for use by children without direct adult supervision. Do not attempt disassembly, use with incompatible components or augment product in any way without the approval of Horizon Hobby, Inc. This manual contains instructions for safety, operation and maintenance. It is essential to read and follow all the instructions and warnings in the manual, prior to assembly, setup or use, in order to operate correctly and avoid damage or serious injury.

Very Important Regarding your Zenoah G26 Gasoline Engine

FAILURE TO READ AND FOLLOW THESE INSTRUCTIONS BEFORE YOU PROCEED MAY RESULT IN ENGINE DAMAGE AND THE VOIDING OF YOUR WARRANTY!

Introduction

Congratulations on purchasing a Zenoah™ engine. Cared for properly, these high-quality, finely crafted engines will offer many years of reliability.

This instruction manual has been developed to ensure optimum performance from the Zenoah engine you have purchased. It's important that the instructions are read thoroughly prior to mounting and running the engine.

Safety Warnings

WARNING: Model engines produce a substantial amount of power which can create unsafe situations if not used correctly. Always use common sense and observe all safety precautions when operating, handling or performing any procedure involving your engine. Failure to follow safety precautions could result in serious injury and property damage.

- Always ensure spectators, especially children, are at least 30 feet away when running the engine
- Always ensure that the propeller is securely attached to the engine shaft and all retaining fasteners are tightened properly before EACH flight. Use of blue threadlock to tighten nuts is advisable.
- Always keep small parts out of the reach of children as they can be choking hazards
- Always secure the airplane before powering the engine.
- Always keep your face and body away from the path of the propeller blades when starting or running your engine.
- Always stand behind the propeller when making carburetor adjustments.
- Always wear safety glasses or goggles when starting and running your engine.
- Always keep your fuel in a safe place well away from sparks, heat or anything that can ignite.
- Always ensure the aircraft is secure and will not move once the engine is started.
- Always rebind your transmitter to your receiver(s) after setup and before first flight.
- Always ensure the throttle failsafe is set to low throttle in your transmitter.
- Always perform a range check prior to flight.
- Always cut off the fuel supply (pinch or disconnect the fuel line to the carburetor) or use the throttle linkage to shut off the air in order to stop the engine.
- Never use hands, fingers, or any other body part to stop the propeller.
- Never throw any object into a propeller to stop it.
- Never run the engine in the vicinity of loose small objects, such as gravel or sand, to avoid the propeller uncontrollably throwing such materials.
- Never wear loose clothing or a loose neckstrap when operating your model engine as these items could become entangled in the propeller.
- Never have loose objects such as screwdrivers, pencils etc. in your pockets when operating your model engine. These could fall into the propeller.
- Never allow fuel to come into contact with eyes or mouth. Gasoline and other fuels used in model engines are poisonous.
- Always ensure gasoline and fuel are stored in a clearly marked container well away from the reach of children.

Precautionary Guidelines

- Always mount the engine securely on a bench mount or high-quality engine mount.
- Always use the correct size and pitch of propeller for your engine. Refer to Propeller Chart in this manual.
- Always confirm proper balance of your propeller prior to installation of the engine. Failure to do so could cause damage to the engine and/or the airframe.
- Always utilize an electric starter to start your engine.
- Always discard any propeller that is nicked, scratched, cracked or damaged in any way.
- Always run your model engine in a well-ventilated area. Model engines produce possibly harmful carbon monoxide fumes.
- Always store your fuel safely in a sealed, water-resistant container.
- Always store fuel in a cool, dry location. Do not allow fuel containers to come in direct contact with concrete, as the fuel may absorb moisture.
- Always responsibly discard fuel if there is condensation and/or water inside the fuel container.
- Never return unused fuel from the fuel tank back into the fuel container.
- Never attempt to repair or modify a propeller beyond its intended use.
- Never handle model engines, mufflers and/or tuned pipes until they have had time to cool. They become extremely hot when in use.

Support Equipment

The following items are not included with your Zenoah engine but are necessary for operation.

Fuel—Mix gasoline and 2-stroke gas compatible oil at a mixing ratio of 25–40:1.

> ***Note*:** Be sure to use a gasoline-resistant fuel tubing (do not use any silicone rubber tube). Never use any alcohol fuel or alcohol-added fuel as this will damage the rubber part of the carburetor.

Manual or Electric Starter—For manual starts, a chicken stick is highly recommended. **Never** use your fingers to start any model engine as you could be injured. If you must hand-start a gasoline engine, be sure to protect your hand with a heavily padded glove. There are a variety of heavy-duty electric starters on the market that can be used.

Engine Operation

Break-In

No specific break-in is required. The engine is gradually broken in as it is used, and the output power increases gradually as the engine breaks in.

Starting the Engine—Aircraft

Before attempting to start the engine, be sure to read through all the steps for starting the engine as outlined below:

Zenoah engines are equipped with the ultra compact C.D.I. type flywheel magneto ignition system and should be started according to the following procedure.

Note: The magneto system is timed in such a way that when the compression stroke starts (refer to Figure 1-A) sparks are never produced on the spark plug, no matter how fast the propeller is flipped. The correct starting procedure is to quickly flip the propeller when the edge of the magnet on the rotor is approaching the coil (Figure 1-B). This means the propeller should be quickly flipped at about 90 degrees in crank angle before the compression stroke is about to start.

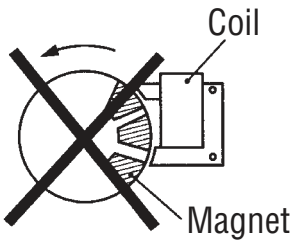


Fig 1-A

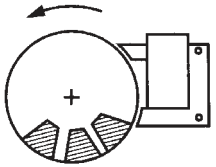


Fig 1-B

1. Make sure the spark (glow) plug(s) is installed and tightened. Check the condition of the plug cap for cracks or breaks.
2. Be sure the propeller is properly secured.
3. Make sure the fuel tank line(s) is properly connected. The main line should be connected to the carburetor spray bar.
4. Be certain the mufflers are installed properly.
5. Fill the fuel tank.
6. Move the ignition kill switch to the "off position" prior to choking the engine.
7. Choke the engine and turn the propeller through a few times until the fuel appears at the carburetor.
8. Set the throttle valve at the idle position or at the position slightly open from idle.
9. Quickly flip the propeller in a counterclockwise direction. (See note on previous page).
10. The engine should start after a few flips of the propeller.
11. Be sure to open the choke when the initial firing of the engine is heard.
12. When the choke is opened, be sure to close the throttle valve to a position near the idle position before the next flipping of the propeller is attempted.

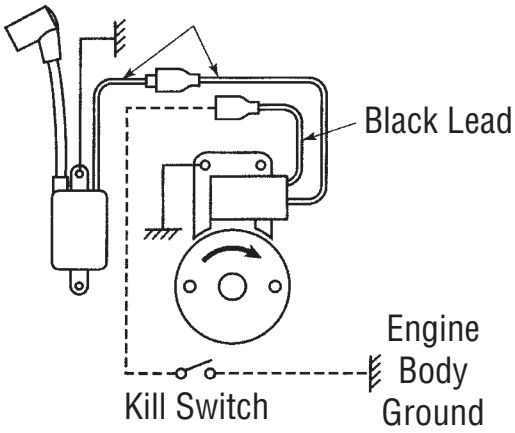
    CAUTION: If the engine is started when the throttle is wide open, a great thrusting force will be generated, which could cause injury.

13. If you do not use a chicken stick to start the engine, be sure to wear a thick glove when flipping the propeller and use all fingers, except the thumb, for the flipping operation.
14. Do not over-rev the engine. These engines are designed to develop maximum output with the standard muffler and the recommended propeller size. Please refer to the propeller chart on page 10 to confirm the proper propeller for the applicable Zenoah engine.

Stopping the Engine

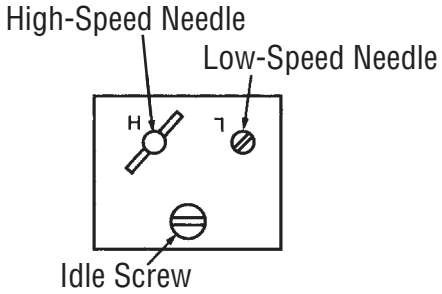
The ability to shut down the engine in an emergency is extremely important. For stopping the engine, use the kill switch located on the side of the fuselage as shown in the engine installation section of this manual.

The Zenoah ZEN20000 Kill Switch has been preinstalled for your model. The following example shows how the kill switch is wired for your particular model.



Carburetor Adjustment

The carburetor is provided with three adjustment screws, which are factory set to the best (approximate) positions. They may need minor adjustment, depending upon the temperature, humidity, atmospheric pressure (altitude), etc., of the area where the engine is being used.



1. Start the engine without making any adjustments.
2. Make adjustments only when the engine shows signs of inefficient operation.
3. Standard settings of each needle is as follows:

   a. Low-Speed Needle: $1^1/_8$ plus/minus $^1/_4$

   b. High-Speed Needle: $1^3/_8$ plus/minus $^1/_4$

Idle Screw: Turning this screw clockwise increases the idling rpm. Turning it counterclockwise decreases the idling rpm.

Low-Speed Needle: This is the fuel-adjust screw (not the air screw). Turning this needle clockwise makes the gas mixture leaner, and turning it counterclockwise makes it richer.

High-Speed Needle: Turning this needle clockwise makes the gas mixture leaner, and turning it counterclockwise makes it richer. Set this needle at a position which is 1/4 open from the maximum rpm position while the aircraft is on the ground.

***Note*:** Do not tighten the high-and low-speed needles too tightly.

When the engine has just started and is not warm enough, there may be insufficient acceleration and the engine may die. Be sure to allow the engine to warm up at idle for a few minutes before conducting normal operation.

Engine Care and Maintenance

Recommendations

To extend the life of your Zenoah engine, the following is recommended:

1. Use an Evolution® quality 2-stroke oil mixed at 32 to 1
2. Use the recommended spark plugs.
3. Use the proper propeller size and balance the propeller prior to use.
4. Always adjust the engine to a slightly rich setting.
5. For long-term storage, make sure there is no fuel left in the tank or the engine. Remove the spark plug(s) and apply several drops of high-quality oil (e.g., Marvel Air Tool Oil) to the top of the engine and into the spark plug hole. Rotate the crankshaft several times. Store the engine in the box it came in or on the airplane with the nose down in order to keep oil in the bearings.
6. Check the muffler bolts frequently to be sure they are not getting loose. If you heat up the engine and then tighten the bolts down when hot the bolts will stay secure longer.

Servicing the Engine

Required Tools

- Regular screwdriver
- Phillips screwdriver
- Hexagonal wrench (4mm, 5/32-inch)
- Open wrench (19mm, 3/4-inch)
- Plastic hammer
- Thickness gauge
- Tapered round rod
- Liquid gasket (Permatex or equivalent)
- Threadlock (Blue Threadlock Z-42 or equivalent)
- Lithium grease
- Engine oil
- Washing gasoline
- Brush
- Scraper
- Cloth

The engine can be disassembled or reassembled without any specific difficulties, but note the following:

For disassembling, the special tools shown in the parts list are required (stopper, puller assembly), in addition to general tools. Be sure to use a new gasket when the crankcase and cylinder have been disassembled.

Note: Because the crankshaft is of the assembly type, do not disassemble, hit or twist its end.

Disassembly

1. Dismount the engine from the model.
2. Remove the carburetor and insulator carefully without damaging the gasket.
3. Remove the muffler.
4. Remove the spark plug and ignition module.
5. Remove the propeller hub.
6. Remove the rotor (flywheel). If it cannot be detached, use a plastic hammer and tap the part lightly.

   a. Screw the stopper in place of the spark plug, then turn the rotor counterclockwise until the piston touches the stopper. Take care, as it can cause damage to the piston or connecting rod if the stopper is not screwed into the bottom.

   b. Loosen and remove the rotor securing nut.

   c. Remove the rotor by using the puller. Do not hit the crankshaft with the plastic hammer, as this can increase the runout of the shaft.
7. Remove the mounting plate.
8. Remove the four bolts from the crankcase.
9. Tap around the case fitting side gently with the plastic hammer and slowly separate the crankcase from the cylinder block.
10. Pull out the crankshaft with the piston, bearings, and other parts attached.
11. Remove the Woodruff key from the crankshaft.
12. Remove the oil seal, snap ring and bearings.
13. Remove the circlip and pull out the piston pin.
14. Remove the piston ring.
15. Wash each part. Check for abrasion and damage, and replace any part that is defective.

Maintenance Chart

Items	Action	Before Use	Every 25 hours	Every 100 hours	Note
Leakage, Damage/Crack	Check	✓	✓	✓	
Losing Speed	Check/Adjust	✓	✓	✓	
Air Cleaner (PUH)	Check/Cleaning	✓	✓	✓	Replace if necessary
Spark Plug (gap)	Check/Adjust		✓	✓	▼
Cylinder (barrel)	Check/Cleaning		✓	✓	▼
Piston, Ring	Check/Cleaning		✓	✓	▼
Muffler & Bolt	Check/Cleaning	✓	✓	✓	▼
Bearings	Check/Cleaning		✓	✓	▼
Crankshaft	Check/Alignment		✓	✓	▼
Rotor	Check		✓	✓	▼
Propeller Hub (PU)	Check/Alignment		✓	✓	▼
Water Jacket (PUM)	Check/Leakage	✓	✓	✓	▼

Troubleshooting Guide for Gasoline Engines

Generally speaking, there are very few things that will keep today's modern engines from starting. Use good quality "fresh" fuel and make sure good plugs are installed. Should the engine fail to start after these items are verified, refer to the charts on the following page.

In the event that none of the above procedures result in the engine running properly, contact our service department for suggestions at:

Horizon Hobby, Inc.
4105 Fieldstone Road
Champaign, IL 61822
Phone: 1-877-504-0233 (M–F 8:00–5:00 CST)

Specifications & Technical Data

Items	Unit	G260PU
Type	—	Air Cooled
Bore x Stroke	mm	34 x 28
Displacement	cm^3	25.4
Effective Compression Ratio	—	8.4
Carburetor	Type (Walbro)	WT-645
	Venturi (mm)	12.7
Air Cleaner		—
Starting	—	Hand Flipping or Electric Motor
Ignition	Type	CDI
	BTDC/rpm	28/7000
Spark Plug	STD	RZ7C
	Option	—
Max. Power	rpm	1.62/12000
Min. Torque	rpm	1.48/9000
Fuel Consumption	cc	790
Weight	kg	1.69 (* 1.52)

a) The engine does not start

- The crankshaft does not rotate
  - Seizure, intrusion of a foreign substance — Disassemble and repair
- The crankshaft rotates
  - The fuel has not been fed to the carburetor
    - Clogging inside the carburetor — Disassemble and clean
    - Clogging of the fuel piping — Clean
  - The fuel has been fed to the carburetor
    - No compression (normally 7 kg/cm^2 99.5 psi or more)
      - Loosened spark plug — Tighten further
      - Abrasion or damage of the cylinder, piston, or piston ring — Replace
    - Compression adequate
      - The spark plug does not spark
        - The Stop switch has been turned off — Turn on
        - Wiring is disconnected — Repair
        - The spark plug is defective — Replace
        - The ignition module is defective — Replace
        - The air gap is too large — Adjust
        - The spark plug gap is too large — Adjust
      - The spark plug does spark
        - Wet plug — Remove the spark plug and dry it
        - The carburetor has not been properly adjusted — Readjust
        - The fuel is not suitable — Replace

b) The engine stops by itself

- It suddenly stops
  - The crankshaft does not rotate or is abnormally heavy — See a)
  - The crankshaft rotates
    - The plug cap has come off — Put back
    - Wiring disconnection — Repair
    - Spark plug bridge
      - Use a standard plug
      - Use clean fuel
    - The Stop switch has been turned off — Turn on
- It slows down and stops
  - Out of fuel — Refuel
  - Not out of fuel
    - The fuel is not fed to the carburetor — See a)
    - Water is mixed in the fuel — Replace

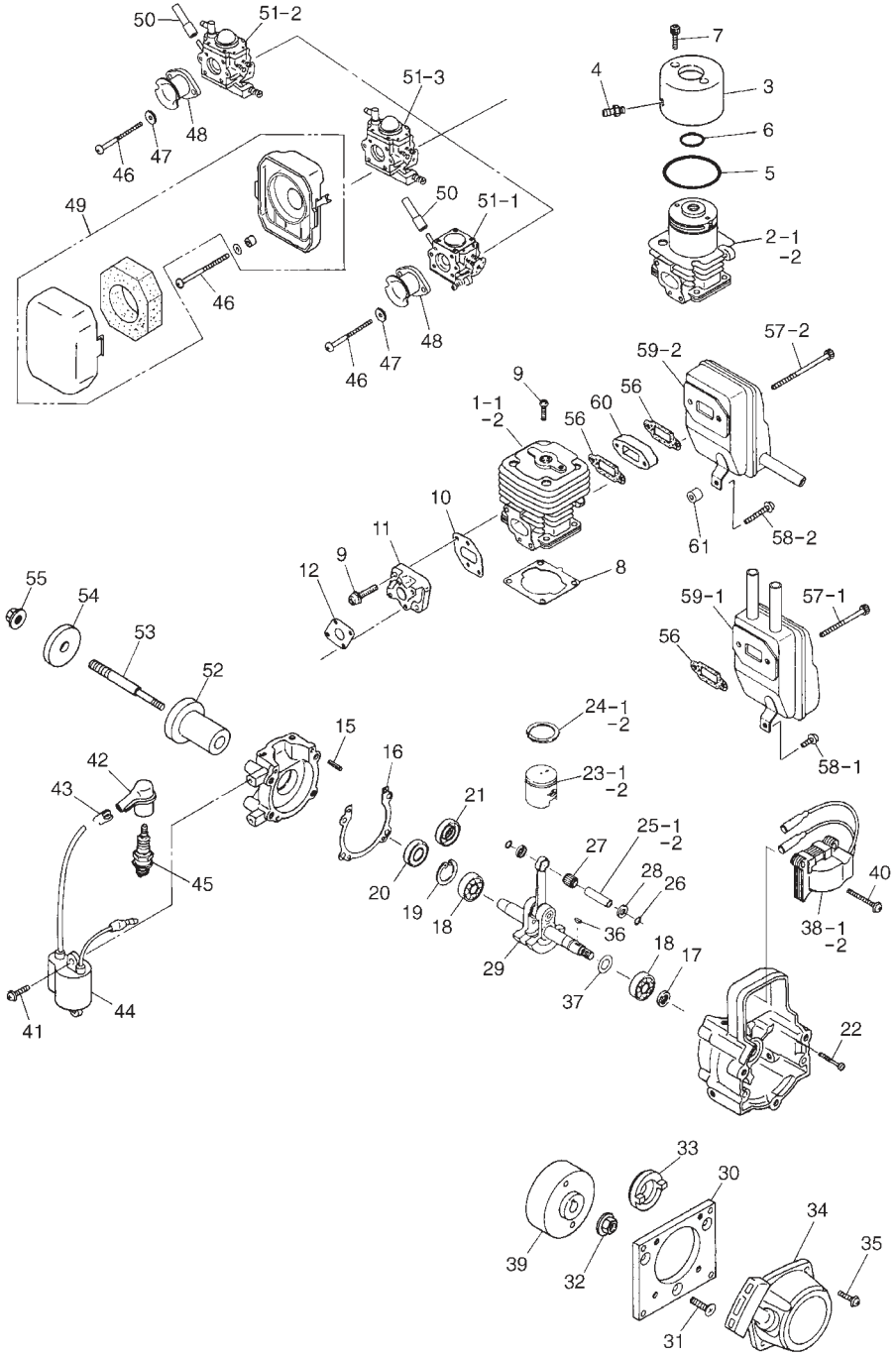
c) Lower power output

- The carburetor has not been properly adjusted — Readjust
- Air suction from a carburetor joint or oil seal — Repair
- Abrasion of the piston ring — Replace
- Overheating
  - The fuel is not suitable — Replace
  - Clogging of the muffler or exhaust port due to carbon — Clean
  - The spark plug heat range is not proper — Replace

d) The engine does not stop

- Overheating — See c)
- The Stop switch is defective — Repair
- Switch wiring is disconnected — Repair

Zenoah G26 Exploded Illustration and Replacement Parts Listing



Key #	New ZEN Part #	Out of Date Part #	Description	Quantity
1-1	ZENT207512110	ZEN2601	CYLINDER	1
8	ZENT207513120	ZEN23108	GASKET, CYLINDER	1
9	ZEN331012281	ZEN2309	BOLT M5X20	6
10	ZENT207513150	ZEN2305RC	GASKET, INSULATOR	1
11	ZEN114813162	ZEN23111	INSULATOR	1
12	ZENT207514120	ZEN23112	GASKET, CARBURETOR	1
13-14	ZENT207521100	ZEN23114	CRANKCASE, COMPLETE	1
15	ZEN262921130	ZEN6213	PIN	3
16	ZENT207521140	ZEN23116	GASKET	1
17	ZEN216921210	ZEN3828	SEAL, 12 x 22 x 7	1
18	ZEN115521240		BEARING	2
19	ZEN0406502812	ZEN2319	SNAP RING	1
20	ZEN0603406001	ZEN2320	BEARING	1
22	ZEN0125230530	ZEN2322	BOLT, M5 x 30	4
23-1	ZENT208841110	ZEN2623	PISTON	1
24-1	ZENT208841210	ZEN2624	RING	1
25-1	ZEN160041310	ZEN2625	PISTON PIN	1
26	ZEN126041320	ZEN2323RC	SNAP RING	2
27	ZEN8488881100	ZEN2324RC	BEARING	1
28	ZEN110141340	ZEN2325RC	WASHER	2
29	ZENT207542000	ZEN23129	CRANKSHAFT, COMPLETE	1
30	ZEN115574110	ZEN2330	MOUNT, PLATE	1
31	ZEN026210516	ZEN2331	SCREW, M5 x 16	3
32	ZEN165043230	ZEN2327RC	NUT, M8	1
35	ZEN100043240	ZEN2328RC	KEY	1
36	ZEN114043250	ZEN2337	SHIM	1
37-1	ZEN262971210	ZEN6236	COIL, (GRAY)	1
38	ZEN115571110	ZEN2354	ROTOR	1
39	ZEN026030422	ZEN6241	SCREW M4 x 22	2
40	ZENT207572210	ZEN2638	PLUG CAP	1
41	ZEN190072120	ZEN6239	SPRING	1
42	ZEN262971311	ZEN6237	COIL	1
43	ZENT207073110	ZEN26451	SPARK PLUG RZ7C	1
44	ZEN026330555	ZEN2648	SCREW, M5 x 55	2
45	ZEN114283110	ZEN2647	SPACER, 5 x 10 x 1.6	2
46	ZEN848ES08300	ZEN2649A	AIR FUNNEL (VENTURI)	1
48-1	ZENT207581000	ZEN2651	CARBURETOR ASSY WT-645	1
49	ZEN115243260	ZEN2359	HUB	1
50	ZEN115243281	ZEN2360	STUD	1
51	ZEN115243290	ZEN2361	WASHER	1
52	ZEN335053410	ZEN2362	NUT, M8	1
53	ZEN114013141	ZEN23156	GASKET, MUFFLER	1
54-1	ZEN0125230550	ZEN2357	BOLT, M5 x 50	2
55-1	ZEN026330408	ZEN2358	SCREW, M4 x 8	1
56-1	ZENT207515110	ZEN2655	MUFFLER	1
59	ZENT303991310	ZEN23124RC	SOCKET	1
60	ZEN20005	ZEN20005	PISTON STOPPER	1

Zenoah Engine Warranty and Repair Policy

WARRANTY PERIOD

Exclusive Warranty- Horizon Hobby, Inc., (Horizon) warranties that the Products purchased (the "Product") will be free from defects in materials and workmanship for a period of 3 years from the date of purchase by the Purchaser.

3 YEAR LIMITED WARRANTY

Horizon reserves the right to change or modify this warranty without notice and disclaims all other warranties, express or implied.

(a) This warranty is limited to the original Purchaser ("Purchaser") and is not transferable. REPAIR OR REPLACEMENT AS PROVIDED UNDER THIS WARRANTY IS THE EXCLUSIVE REMEDY OF THE PURCHASER. This warranty covers only those Products purchased from an authorized Horizon dealer. Third party transactions are not covered by this warranty. Proof of purchase is required for all warranty claims.

(b) Limitations- HORIZON MAKES NO WARRANTY OR REPRESENTATION, EXPRESS OR IMPLIED, ABOUT NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OF THE PRODUCT. THE PURCHASER ACKNOWLEDGES THAT THEY ALONE HAVE DETERMINED THAT THE PRODUCT WILL SUITABLY MEET THE REQUIREMENTS OF THE PURCHASER'S INTENDED USE.

(c) Purchaser Remedy- Horizon's sole obligation hereunder shall be that Horizon will, at its option, (i) repair or (ii) replace, any Product determined by Horizon to be defective. In the event of a defect, these are the Purchaser's exclusive remedies. Horizon reserves the right to inspect any and all equipment involved in a warranty claim. Repair or replacement decisions are at the sole discretion of Horizon. This warranty does not cover cosmetic damage or damage due to acts of God, accident, misuse, abuse, negligence, commercial use, or modification of or to any part of the Product. This warranty does not cover damage due to improper installation, operation, maintenance, or attempted repair by anyone other than Horizon. Return of any Product by Purchaser must be approved in writing by Horizon before shipment.

DAMAGE LIMITS

HORIZON SHALL NOT BE LIABLE FOR SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES, LOSS OF PROFITS OR PRODUCTION OR COMMERCIAL LOSS IN ANY WAY CONNECTED WITH THE PRODUCT, WHETHER SUCH CLAIM IS BASED IN CONTRACT, WARRANTY, NEGLIGENCE, OR STRICT LIABILITY. Further, in no event shall the liability of Horizon exceed the individual price of the Product on which liability is asserted. As Horizon has no control over use, setup, final assembly, modification or misuse, no liability shall be assumed nor accepted for any resulting damage or injury. By the act of use, setup or assembly, the user accepts all resulting liability.

If you as the Purchaser or user are not prepared to accept the liability associated with the use of this Product, you are advised to return this Product immediately in new and unused condition to the place of purchase.

Law: These Terms are governed by Illinois law (without regard to conflict of law principals).

Warranty Services

QUESTIONS, ASSISTANCE, AND REPAIRS

Your local hobby store and/or place of purchase cannot provide warranty support or repair. Once assembly, setup or use of the Product has been started, you must contact Horizon directly. This will enable Horizon to better answer your questions and service you in the event that you may need any assistance. For questions or assistance, please direct your email to productsupport@horizonhobby.com, or call 877.504.0233 toll free to speak to a Product Support representative. You may also find information on our website at www.horizonhobby.com.

INSPECTION OR REPAIRS

If this Product needs to be inspected or repaired, please use the Horizon Online Repair Request submission process found on our website or call Horizon to obtain a Return Merchandise Authorization (RMA) number. Pack the Product securely using a shipping carton. Please note that original boxes may be included, but are not designed to withstand the rigors of shipping without additional protection. Ship via a carrier that provides tracking and insurance for lost or damaged parcels, as Horizon is not responsible for merchandise until it arrives and is accepted at our facility. An Online Repair Request is available at www.horizonhobby.com http://www.horizonhobby.com under the Repairs tab. If you do not have internet access, please contact Horizon Product Support to obtain a RMA number along with instructions for submitting your product for repair. When calling Horizon, you will be asked to provide your complete name, street address, email address and phone number where you can be reached during business hours. When sending product into Horizon, please include your RMA number, a list of the included items, and a brief summary of the problem. A copy of your original sales receipt must be included for warranty consideration. Be sure your name, address, and RMA number are clearly written on the outside of the shipping carton.

Notice: Do not ship batteries to Horizon. If you have any issue with a battery, please contact the appropriate Horizon Product Support office.

WARRANTY INSPECTION AND REPAIRS

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NON-WARRANTY REPAIRS

Should your repair not be covered by warranty the repair will be completed and payment will be required without notification or estimate of the expense unless the expense exceeds 50% of the retail purchase cost. By submitting the item for repair you are agreeing to payment of the repair without notification. Repair estimates are available upon request. You must include this request with your repair. Non-warranty repair estimates will be billed a minimum of ½ hour of labor. In addition you will be billed for return freight. Horizon accepts money orders and cashiers checks, as well as Visa, MasterCard, American Express, and Discover cards. By submitting any item to Horizon for inspection or repair, you are agreeing to Horizon's Terms and Conditions found on our website under the Repairs tab.

UNITED STATES

(Electronics and engines)
Horizon Service Center
4105 Fieldstone Rd
Champaign, Illinois
61822 USA
productsupport@horizonhobby.com
877-504-0233
Online Repair Request visit:
www.horizonhobby.com/repairs

(All other products)
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Hangar 9 Warranty and Repair Policy

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UNITED STATES

(Electronics and engines)
Horizon Service Center
4105 Fieldstone Rd
Champaign, Illinois
61822 USA
productsupport@horizonhobby.com
877-504-0233
Online Repair Request visit:
www.horizonhobby.com/repairs

(All other products)
Horizon Product Support
4105 Fieldstone Rd
Champaign, Illinois
61822 USA
productsupport@horizonhobby.com
877-504-0233

UNITED KINGDOM

Horizon Hobby Limited
Units 1-4 Ployters Rd
Staple Tye
Harlow, Essex
CM18 7NS
United Kingdom
sales@horizonhobby.co.uk
+44 (0) 1279 641 097

GERMANY

Horizon Technischer Service
Hamburger Str. 10
25335 Elmshorn
Germany
service@horizonhobby.de
+49 4121 46199 66

FRANCE

Horizon Hobby SAS
14 Rue Gustave Eiffel
Zone d'Activité du Réveil Matin
91230 Montgeron
infofrance@horizonhobby.com
+33 (0) 1 60 47 44 70

Compliance Information for the European Union

INSTRUCTIONS FOR DISPOSAL OF WEEE BY USERS IN THE EUROPEAN UNION

This product must not be disposed of with other waste. Instead, it is the user's responsibility to dispose of their waste equipment by handing it over to a designated collection point for the recycling of waste electrical and electronic equipment. The separate collection and recycling of your waste equipment at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste equipment for recycling, please contact your local city office, your household waste disposal service or where you purchased the product.

CE DECLARATION OF CONFORMITY

(in accordance with ISO/IEC 17050-1)

No. HH2011022501

Product(s): HAN Taylorcraft 26cc BNF
Item Number(s): HAN4920

Equipment class: 1

The object of declaration described above is in conformity with the requirements of the specifications listed below, following the provisions of the European R&TTE directive 1999/5/EC and EMC Directive 2004/108/EC:

EN 301 489-1 V1.7.1: 2006

EN 301 489-17 V1.3.2: 2008

EN55022: 2006 +A1:2007

EN55024:1998+A1:2001+A2:2003

Signed for and on behalf of:

Horizon Hobby, Inc.
Champaign, IL USA
Feb 25, 2011

Steven A. Hall



Vice President
International Operations and Risk Management
Horizon Hobby, Inc.

DECLARATION OF CONFORMITY

Konformitätserklärung gemäß Gesetz über Funkanlagen und Telekomunikationseinrichtungen (FTEG) und der Richtlinie 1999/5/EG (R&TTE) und 2004/108/EG (EMV).

Declaration of conformity in accordance with the Radio and Telecommunications Terminal Equipment Act (FETG) and directive 1999/5/EG (R&TTE) and European EMC Directive 2004/108/EC.

Horizon Hobby GmbH
Hamburger Straße 10
D-25337 Elmshorn

erklärt das Produkt: HAN Taylorcraft 26cc BNF HAN4920
declares the product:

Artikelnummer(n): HAN Taylorcraft 26cc BNF HAN4920
Item Number(s):

Geräteklasse: 1
equipment class

den grundlegenden Anforderungen des §3 und den übrigen und EMV Richtlinie 2004/108/EG einschlägigen Bestimmungen des FTEG (Artikel 3 der R&TTE) entspricht. complies with the essential requirments of §3 and other relevant provisions of the FTEG (Article 3 of the R&TTE directive) and EMC Directive 2004/108/EC:

Angewendete harmonisierte Normen:
Harmonised standards applied:

EEN 301 489-1 V1.7.1: 2006
EN 301 489-17 V1.3.2: 2008
EN55022: 2006 +A1:2007
EN55024:1998+A1:2001+A2:2003

CE

Elmshorn, 25.02.2011



Steven A. Hall
Geschäftsführer
Managing Director

Birgit Schamuhn
Geschäftsführerin
Managing Director

Horizon Hobby GmbH; Hamburger Str. 10; D-25337 Elmshorn
HR Pi: HRB 1909; USt IDNr.:DE812678792; Str.Nr.: 1829812324
Geschäftsführer: Birgit Schamuhn, Steven A. Hall
Tel.: +49 4121 4619960 • Fax: +49 4121 4619970 eMail: info horizonhobby.de; Internet: www.horizonhobby.de
Es gelten unsere allgemeinen Geschäftsbedingungen, die in unseren Geschäftsräumen eingesehen werden können. Ware bleibt bis zur vollständigen Bezahlung Eigentum der Horizon Hobby GmbH

Academy of Model Aeronautics National Model Aircraft Safety Code

Effective January 1, 2011

A. GENERAL

A model aircraft is a non-human-carrying aircraft capable of sustained flight in the atmosphere. It may not exceed limitations of this code and is intended exclusively for sport, recreation and/or competition. All model flights must be conducted in accordance with this safety code and any additional rules specific to the flying site.

1. Model aircraft will not be flown:
   (a) In a careless or reckless manner.
   (b) At a location where model aircraft activities are prohibited.
2. Model aircraft pilots will:
   (a) Yield the right of way to all man carrying aircraft.
   b) See and avoid all aircraft and a spotter must be used when appropriate. (AMA Document #540-D-See and Avoid Guidance.)
   (c) Not fly higher than approximately 400 feet above ground level within three (3) miles of an airport, without notifying the airport operator.
   (d) Not interfere with operations and traffic patterns at any airport, heliport or seaplane base except where there is a mixed use agreement.
   (e) Not exceed a takeoff weight, including fuel, of 55 pounds unless in compliance with the AMA Large Model Aircraft program. (AMA Document 520-A)
   (f) Ensure the aircraft is identified with the name and address or AMA number of the owner on the inside or affixed to the outside of the model aircraft. (This does not apply to model aircraft flown indoors).
   (g) Not operate aircraft with metal-blade propellers or with gaseous boosts except for helicopters operated under the provisions of AMA Document #555.
   (h) Not operate model aircraft while under the influence of alcohol or while using any drug which could adversely affect the pilot's ability to safely control the model.
   (i) Not operate model aircraft carrying pyrotechnic devices which explode or burn, or any device which propels a projectile or drops any object that creates a hazard to persons or property.

Exceptions:

- Free Flight fuses or devices that burn producing smoke and are securely attached to the model aircraft during flight.
- Rocket motors (using solid propellant) up to a G-series size may be used provided they remain attached to the model during flight. Model rockets may be flown in accordance with the National Model Rocketry Safety Code but may not be launched from model aircraft.
- Officially designated AMA Air Show Teams (AST) are authorized to use devices and practices as defined within the Team AMA Program Document (AMA Document #718).
  (j) Not operate a turbine-powered aircraft, unless in compliance with the AMA turbine regulations. (AMA Document #510-A).

3. Model aircraft will not be flown in AMA sanctioned events, air shows or model demonstrations unless:
   (a) The aircraft, control system and pilot skills have successfully demonstrated all maneuvers intended or anticipated prior to the specific event.
   (b) An inexperienced pilot is assisted by an experienced pilot.
4. When and where required by rule, helmets must be properly worn and fastened. They must be OSHA, DOT, ANSI, SNELL or NOCSAE approved or comply with comparable standards.

B. RADIO CONTROL (RC)

1. All pilots shall avoid flying directly over unprotected people, vessels, vehicles or structures and shall avoid endangerment of life and property of others.
2. A successful radio equipment ground-range check in accordance with manufacturer's recommendations will be completed before the first flight of a new or repaired model aircraft.
3. At all flying sites a safety line(s) must be established in front of which all flying takes place (AMA Document #706-Recommended Field Layout):
   (a) Only personnel associated with flying the model aircraft are allowed at or in front of the safety line.
   (b) At air shows or demonstrations, a straight safety line must be established.
   (c) An area away from the safety line must be maintained for spectators.
   (d) Intentional flying behind the safety line is prohibited.
4. RC model aircraft must use the radio-control frequencies currently allowed by the Federal Communications Commission (FCC). Only individuals properly licensed by the FCC are authorized to operate equipment on Amateur Band frequencies.
5. RC model aircraft will not operate within three (3) miles of any pre-existing flying site without a frequency-management agreement (AMA Documents #922- Testing for RF Interference; #923- Frequency Management Agreement)
6. With the exception of events flown under official AMA Competition Regulations, excluding takeoff and landing, no powered model may be flown outdoors closer than 25 feet to any individual, except for the pilot and the pilot's helper(s) located at the flight line.
7. Under no circumstances may a pilot or other person touch a model aircraft in flight while it is still under power, except to divert it from striking an individual. This does not apply to model aircraft flown indoors.
8. RC night flying requires a lighting system providing the pilot with a clear view of the model's attitude and orientation at all times.
9. The pilot of a RC model aircraft shall:
   (a) Maintain control during the entire flight, maintaining visual contact without enhancement other than by corrective lenses prescribed for the pilot.
   (b) Fly using the assistance of a camera or First-Person View (FPV) only in accordance with the procedures outlined in AMA Document #550.

C. FREE FLIGHT

1. Must be at least 100 feet downwind of spectators and automobile parking when the model aircraft is launched.
2. Launch area must be clear of all individuals except mechanics, officials, and other fliers.
3. An effective device will be used to extinguish any fuse on the model aircraft after the fuse has completed its function.

D. CONTROL LINE

1. The complete control system (including the safety thong where applicable) must have an inspection and pull test prior to flying.
2. The pull test will be in accordance with the current Competition Regulations for the applicable model aircraft category.
3. Model aircraft not fitting a specific category shall use those pull-test requirements as indicated for Control Line Precision Aerobatics.
4. The flying area must be clear of all utility wires or poles and a model aircraft will not be flown closer than 50 feet to any above-ground electric utility lines.
5. The flying area must be clear of all nonessential participants and spectators before the engine is started.

NOTICE: Please see your local or regional modeling association's guidelines for proper, safe operation of your model aircraft.

Registration Form

Fill in and mail this form along with your dated sales receipt (send a copy, keep the original for your files) within 10 days of purchase to:

Horizon Service Center
Attn: Zenoah Warranty Dept.
4105 Fieldstone Road
Champaign, IL 61822

Engine Type: _____
Date of Purchase: _____
Owner's Name: _____
Street Address: _____
City/State/Zip: _____
Daytime Phone Number: _____
Purchased From: _____
Dealer's Name: _____
Street Address: _____
City/State/Zip: _____

Please cut on dotted line.

HANGAR 9®

HORIZON HOBBY

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