- FUSELAGE

Start the fuselage assembly by inserting the completed wing assembly into the wing saddle of the fuse and bolting securely in place. Slide the horizontal stabilizer into position and center from side to side. Use the string method to determine if the stab is centered when viewed from above the fuse. View from rear and make sure it is in perfect alignment with the main wing. The covering on the center section has been removed from the stab. Once the stab has been aligned perfectly, wick thin C/A glue on the top and bottom of the stab where it contacts the fuselage. There is a balsa-mating surface inside the fuse on top and bottom of the stab that will allow for a secure gluing.

Remove the wing at this time. The elevators and rudder are pre-hinged at the factory with high quality C/A hinges. Ensure that all hinges are centered in both the rudder and elevators. Install the tail wheel wire into the pre-cut and drilled slot located in the leading edge of the rudder. Wick thin C/A into the medium hard balsa to secure this wire permanently. Insert the rudder hinges into the vertical fin and then secure the tail wheel bracket with four (4) supplied 3/8" Phillips head screws. Move the rudder through the maximum range of motion while maintaining a tight gap. Wick thin C/A into both sides of each hinge on the rudder. (*NOTE: Do not use "kicker" accelerant to glue the hinges. This causes brittleness and can cause in-flight failure of the hinges.) Install the supplied tail wheel and secure in place with the supplied wheel collar. Insert the elevator hinges into the pre-cut slots in the trailing edge of the horizontal stabilizer. Move each surface through the maximum range of motion while maintaining as tight a gap as possible. Wick thin C/A into both sides of each hinge on both elevators.

Remove all components from the shipping bag that contains the main landing gear. Insert the 1 ½" shouldered bolt into the wheel and screw on one nut. Place the spacer collar against the nut and then insert this assembly onto the bottom hole on the landing gear. The whole assembly is then held in place with a locknut. Repeat this process for the other wheel. The main gear is bolted to the fuselage with four (4) ¾" Phillips head machine screws. Make sure to put a lock washer and washer on each screw. Use of a little threadlock compound will ensure that your 120 BALSA NOVA won't be making any gearless or wheelless landings! Install the wheel pants over each wheel and secure to the landing gear with the supplied screws washers and lock washers. (*NOTE: The wheels might fit tightly within the wheel pant. Use a Moto-tool to grind open the fiberglass so the wheel will rotate freely.)

Use a #11 blade on your hobby knife to cut open the covering to expose the openings for the two elevator servos. Seal this covering down with a covering iron when the openings have been cut. Install your elevator servos along with servo extensions in these openings at this time. (*NOTE: These openings are staggered so the two servos will fit in the narrow area of the fuse. There are two different length pushrods to accommodate this stagger.) Install a control horn on each elevator with four (4) supplied 3/8" Phillips head wood screws. Install a horn on each side of the rudder with four (4) supplied ½" long machine screws and hex nuts. Use thread lock compound on these nuts to prevent coming loose in flight. Install the longer elevator rod on the left side and the shorter one on the right. Make sure the supplied spring restraints are in place to prevent the loss of control in flight. Locate the pin- prick in the covering just below each elevator servo. Cut open the covering at these points so the pull-pull wire can pass from the rudder horns through the fuse sides and on up to the rudder output arm. Use the supplied cable rigging to make two cables. Ensure that the cable passes through the brass crimp pieces three times to prevent the cables from going slack. Make sure that the rudder servo is installed centered in the servo opening of the fuselage. The width of the rudder servo output arm holes should be two (2) inches and the clevis should be installed on the middle holes of each rudder horn.(These are also two inches apart.) This will ensure that the cables will not go slack during flight, causing rudder flutter. Use a band of fuel tubing over each rudder clevis.

Temporarily install the cowling in place with tape. Measure through the shaft hole from the firewall to approximately 3/32" past the front edge of the cowling. This will be the distance from the firewall to the back surface of the spinner. By placing your engine on the supplied resin mounts and securing them with your choice of fasteners, the motor/mount assembly will fit within this measured distance. Position the motor/mount assembly to the firewall using the pre-scribed alignment marks on the face of the firewall. Mark the mount holes on the firewall. (*Note: Use of a Great Planes Dead Center Engine Mount Hole Locator will ease this task greatly!) Drill these holes and install the supplied screws and blind nuts to secure the motor mount to the firewall. (NOTE: Two stroke engines on the prototype have been mounted inverted, side-mounted and with the engine head at the 10 o'clock position when viewed looking aft. Four-stroke engines have been side mounted as well as inverted.) Drill a hole in the firewall to accommodate the supplied throttle rod. Install this rod along with the supplied clevis and ply rod brace. Assemble the supplied fuel tank and install inside the fuselage. Secure the

tank with your preferred method to prevent shifting in flight. The fuel supply and pressure vent lines pass thru the 15/16" hole in the firewall. Install fuel tubing on these lines and connect to the muffler pressure fitting and the carburetor supply nipple. Make any cutouts in the cowl for muffler, fuel dot, cooling air, etc. Install the cowl and secure to the fuse with the supplied 3/8" Phillips head screws located in the same bag with the cowl.

Install the throttle servo in the servo tray next to the rudder servo. Placement of the throttle servo will depend on which side the carburetor arm is on your particular engine. Secure the throttle rod to the throttle servo arm at this time. Install the switch harness, receiver and receiver battery in front of the rudder and throttle servos. Don't forget to route the antenna wire outside the plane.

Radio setup can now be done at this time. All measurements are at the widest point of each control surface. Recommended throws are as follows:

Ailerons:	Low Rate - 5/8" up & down, High Rate – ¾" up & down
Elevator:	Low Rate – 7/8" up & down, High Rate- 1" up & down
Rudder:	Low Rate - 4" each way, High Rate- 4 ½" each way

The correct balance point is located 5 1/4 " back from the leading edge right next to either side of the fuse. You can deviate from this ¼" either fore or aft. This provides smooth flight characteristics and mild to wild aerobatics.

Assembly is now complete.