

AccuThrow™

Control Surface Deflection Meter

Assembly and Operation Instructions

Assembly

(Refer to the sketch on the back of this sheet.)

1) Select one set of the Support Wires and install one into each side of the Base Block. Each wire should snap lightly into the Base Block. The Short Support Wires work for most control surfaces and the Long Support Wires should be used on large surfaces or long rudders/elevators etc. **Note:** It may be necessary to adjust the bend angle of the wire slightly to allow complete insertion.

2) Attach the Ruler to the side of the Base using (2) 2-56 x 3/8" machine screws. Do not tighten the screws. They must allow the ruler to slide back-and-forth.

3) Attach a Foam rubber pad to the bottom of each Pylon. The pads have a peel and stick backing.

4) Install the Pylon onto the end of the Support Wire and secure using a 3/32" wheel collar and 4-40 x 1/8" set screw. Repeat this procedure for the other Pylon.

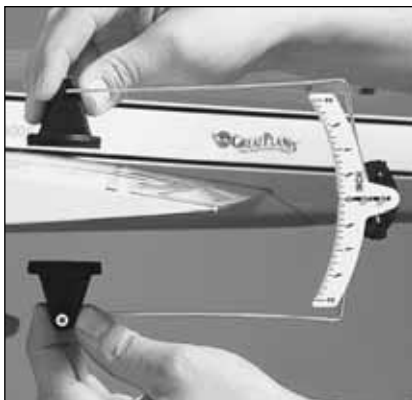


To use

1) Make sure the surface of the wing/stabilizer is free of fuel and exhaust residue.

2) Switch the transmitter and receiver on, center the trims on your transmitter and select "High Rate" if your radio has Dual Rates.

3) Spread the Support Wires apart and clamp the AccuThrow to the fixed structure of the wing or tail surface. The pylons of the AccuThrow should be positioned on a solid sheeted surface or on a cap-stripped rib and with the Ruler close to the trailing edge of the control surface.



4) Slide the Ruler until it is near, but not touching, the control surface.



5) Move the Pylons fore or aft to adjust the AccuThrow so the "0" indication is aligned with the center of the control surface.

6) Using your airplane manufacturer's control throw recommendations as a reference, deflect the control surface fully in each direction, using the transmitter, while observing the movement along the ruler. Adjust the control linkages or the radio computer



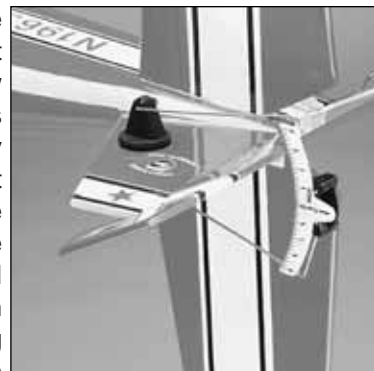
system to obtain the proper output. Remember, moving the connector out on the *servo arm* creates more throw, but moving the connector out on the *control horn* of the control surface creates less throw.

7) Now is a good time to set your Dual rates if your radio is so equipped. Switch the rate switch to the Low Rate and adjust the radio output to achieve the recommended Low Rate control surface movement.

8) Repeat steps 3-7 on the remaining control surfaces.

Special note

When checking the throw of the rudder of some models it may be difficult to keep the AccuThrow from sagging. If this is a problem, slightly "over-bend" the Support Wires to increase the pressure against the surface. If this still does not create enough pressure, with the wing removed, rotate the fuselage 90 degrees and attach the unit to the vertical fin in the same manner you would on a stabilizer or wing.



High Performance Tips

If your model is equipped with Split elevators, check the throw of each elevator, making sure each elevator's movement is identical. If not, check the linkage to ensure it is pushing and pulling straight.

Centering

The AccuThrow works well as a centering mark. After you have set the "0" of the ruler at the trailing edge of the control surface, deflect the surface in each direction making sure it returns to the same centered location each time. If not, make sure the linkages do not bind and that the hinge moves smoothly. Finally, check the centering accuracy of your servo.

Differential Aileron Travel

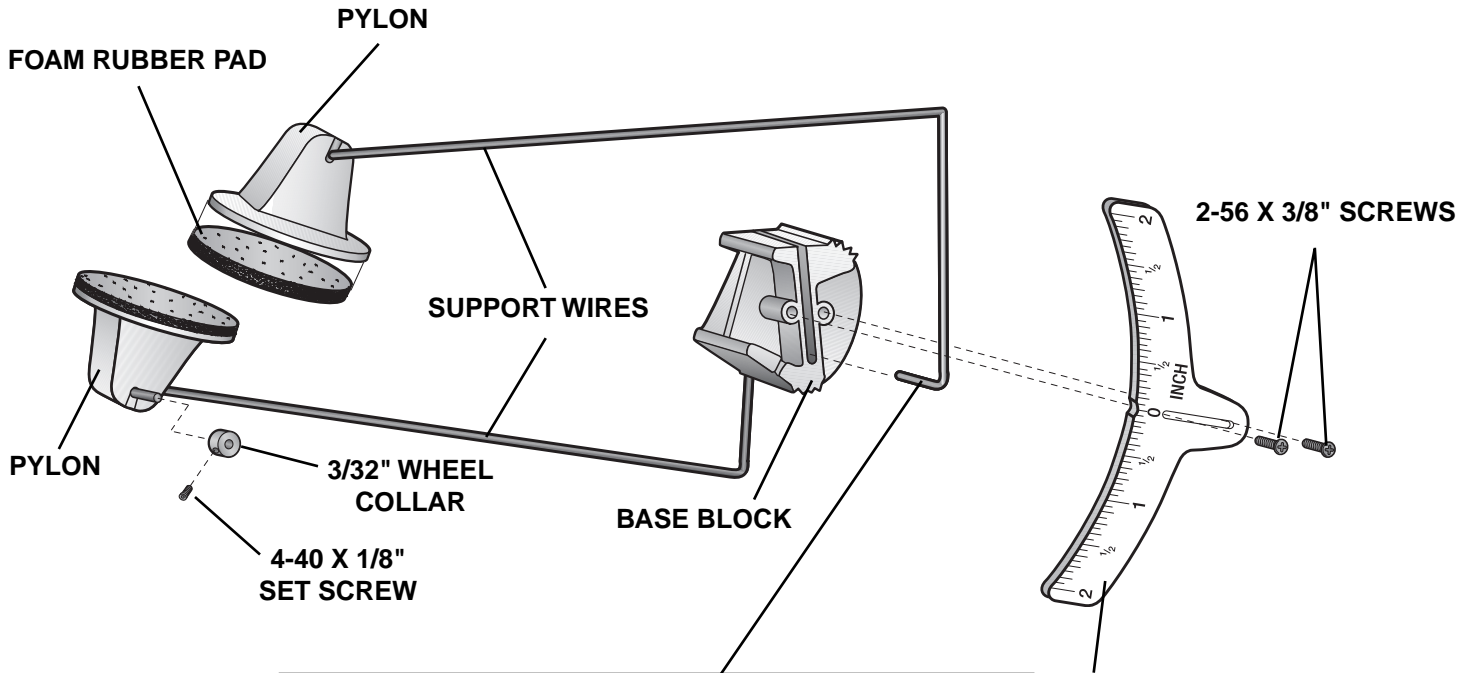
Differential aileron travel assists the model in turning more aerodynamically efficiently. Aileron differential causes the aileron to travel more up than down. This creates less drag on the down traveling aileron, resulting in less adverse yaw. This can be done several ways. The most popular methods are mechanically or electronically. The AccuThrow can be used to quickly and accurately check the amount of travel of each aileron. This should be done with an adjust-and-fly method. Make the adjustment, record the settings, fly the model and readjust if necessary.

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Parts List

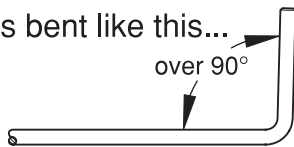
NYLON148	1	Base Block
NYLON149	2	Pylon
RULE001	1	Ruler
WBNT265	2	Short Support Wire
WBNT266	2	Long Support Wire
FOAM015	2	Foam Rubber Pad
WCHL004	2	3/32" Wheel Collar
SCRW015	2	4-40 x 1/8" Set Screw
WRENCH03	1	.050" Hex Wrench
SCRW001	2	2-56 x 3/8" Machine Screw

If any parts are missing, broken or defective, or if you have any questions about assembling this meter, please call us at (217) 398-8970 and we'll be glad to help. If you are calling for replacement parts, please look up the part numbers and the kit identification number (stamped on the end of the carton) and have them ready when calling.



When you prepare to insert the wire into the base block, first examine the 90-degree bend in the wire. You can check this against anything square, such as the corner of a sheet of paper. This angle must be 90-degrees or slightly less. If the angle is greater than 90-degrees, the wire will tend to pop out of the slot. Use a pliers to change the angle, if necessary.

If the wire is bent like this...



Re-bend it like this

