



# **JODEL DR400 45-61 ARF ECS SEMI SCALE MODEL WITH POLYCOTE ECS ENHANCED GRAPHICS SYSTEM**

#VMA-R160F  
(as shown)



This model may be produced in a number of Military and Civilian Graphic Schemes. The last character of the part number will vary according to the model. This Assembly and Operations Manual is pertinent to all graphic schemes of the JODEL DR400 45-61 ARF ECS.

## **ASSEMBLY & OPERATIONS MANUAL**

*Please review this manual thoroughly before assembling or operating this model.*

### **Proceeding with assembly and use of this product indicates Agreement With & Acceptance of the following Liability Disclaimer.**

Model airplanes, model engines, model engine fuel, propellers and related accessories, tools and equipment can be hazardous if improperly used. Be cautious and follow all safety recommendations when using your VMAR model airplane. Keep hands, tools, clothing and all foreign objects well clear of engines when they are operating. Take particular care to safeguard and protect your eyes and fingers and the eyes and fingers of other persons who may be nearby. Use only a good quality propeller that has no cracks or flaws. Stay clear of the propeller and stay clear of the plane of rotation defined by the propeller.

The Manufacturer, Distributor, Retailer and/or other suppliers of this product expressly disclaim any warranties or representations, either expressed or implied, including but not limited to implied warranties of fitness for the purposes of achieving and sustaining remotely controlled flight.

In no event will the Manufacturer, Distributor, Retailer and/or other suppliers of this product have any obligation arising from contract or tort, or for loss of revenue or profit, or for indirect, special, incidental, consequential or other damages arising from the use of this product.

In purchasing and/or using this product, the user accepts all responsibility for its use and accepts all liability associated with such use.

### **CAUTION**

**A Remote Control Model Aircraft is not a toy. It is a flying model that functions much like a full size airplane. If you do not assemble and operate this product properly you can cause injury to yourself and others and damage property. DO NOT FLY this model if you are not qualified.**

**You are ultimately responsible for the mechanical, aeronautical and electrical integrity of this model and it's structure, control surfaces, hinges, linkages, covering, engine, radio, wiring, battery and all other components. Check all components before and after each flight.**

**Don't fly until it's right!**

**POLYCOTE™ ECS**  
ENHANCED COVERING SYSTEM

This model is covered with our ULTRA TOUGH POLYCOTE ECS Enhanced Covering System. Please see the Important Information sheet for this model on how to care for & clean POLYCOTE ECS. For more POLYCOTE info... [www.richmondrc.com/polycote.htm](http://www.richmondrc.com/polycote.htm)

# POLYCOTE™ ECS

## ENHANCED COVERING SYSTEM

This model is covered with our ULTRA TOUGH POLYCOTE ECS Enhanced Covering System.

## CARE & MAINTENANCE OF POLYCOTE™ ECS.

**POLYCOTE ECS is a proprietary Enhanced Covering System engineered in Canada & available only from VMAR.** With POLYCOTE ECS the graphics are inside the covering... not stuck on top. No Decals! No Layers! No Strips! No Stripes! POLYCOTE ECS utilizes ULTRA TOUGH polyester and our SURE SEAL system to ensure that the seams stay down! Best of all POLYCOTE is totally fuel proof! Quite simply... **POLYCOTE ECS leads the pack in ARF covering systems!** By putting the graphics inside the POLYESTER covering... we've reduced the need for maintenance to a minimum. No seams to pick up, very few edges, extraordinary fuel proofing etc. With POLYCOTE ECS you will spend more time flying and less time reworking the covering! Polyester offers the best in covering performance and as with any POLYESTER covering here are a few tips to make it even easier to keep POLYCOTE ECS looking it's best!

**REMOVING & USING TAPE:** Tape may be used to hold control surfaces or other parts in place during shipping. When removing tape from POLYCOTE ECS, peel the tape back on itself so that the pulling is parallel to the surface of the covering. If the tape is near or across a seam or an edge, peel towards the edge or seam. Do NOT pull the tape up at right angles to the covering or away from a seam or edge. If you use tape during the assembly process use a low tack masking tape and remove it using the procedure noted above.

**CLEANING INITIALLY:** POLYCOTE ECS has very few seams and we use our SURE SEAL system to really lock the seams down. Upon initial inspection if you see a thin streaky film on any of the POLYCOTE ECS when looked at under bright light this is a residue from the SURE SEAL process. It is easily removed using Mineral Spirits (Paint Thinner, Varsol). If you've ever painted with oil base paints you probably have Mineral Spirits on hand already, if not, it is readily available at a paint or hardware store. **It is recommended that you work with Mineral Spirits outdoors and follow the directions on the container.** Use a paper towel and wipe a slightly wet film of Mineral Spirits over 1/4 of a wing or half a fuselage at a time. Rub gently while still wet. Change towels frequently. Use a clean towel to buff dry. If you want to accentuate the deep "clear coat" gloss of POLYCOTE ECS even more, use a bit of Armorall and buff shiny with a clean paper towel. Discard all soiled paper towels into a metal garbage can stored outdoors.

**CLEANING AFTER FLYING:** To clean POLYCOTE ECS after flying we recommend Fantastic household cleaner and disposable paper towels. You can use just about any cleaner and we are not aware of any cleaner that will damage POLYCOTE but it is a good idea to always test a small out of the way spot first. Wipe along seams, not across. To really show off your POLYCOTE ECS covering, after cleaning with Fantastic... use a bit of Armorall and buff dry & shiny.

**CARE:** Avoid puncturing. Avoid leaving your model in a closed car exposed to direct heating from the sun for lengthy periods. Temperatures under such conditions can exceed 50C (122F) and sagging may occur.

**TIGHTENING:** To tighten POLYCOTE ECS we recommend using a medium-high temperature **heat iron on the seams, edges, around perimeters and over solid surfaces.** Use a heat iron "sock" on the iron and push down firmly on the covering over solid areas to bond the covering to the underlying substrate. Work with the iron set at 250-300F. You may also work with a heat gun over solid surfaces provided that all edges and seams are set with a heat iron first. If using a heat gun over solid surfaces, make sure the edges are firmly set with a heat iron first then use the heat gun to heat about 1 square foot of area at a time, then rub the warm covering down firmly with a soft cotton cloth to bond the covering to the underlying substrate. **DO NOT USE A HEAT GUN NEAR EDGES & SEAMS.** Higher temperatures may assist with complex curved surfaces. Use a medium-high temperature **heat gun on POLYCOTE ECS applied over open bays.** Always practise on the bottom of a less noticeable section first. Be patient and work systematically... you will likely only have to tighten POLYCOTE once or twice to accommodate any shrinkage of the airframe in dry hot conditions.

**RESEALING SEAMS:** POLYCOTE ECS seams are sealed with our SURE SEAL system and will not normally lift. If you find a loose edge, clean any oil residue from the area and the edge and reseal with thin CA.

**PATCHING:** If you puncture POLYCOTE ECS, clean any oil residue from the area of the puncture. We clean using Fantastic and then a paper towel moistened with Pacer De-Bonder or alcohol or water to remove any remaining residue from the surface. The patch should be 1/2" bigger than the hole on all sides. We recommend using POLYCOTE patch sheets if provided with your model or polyester covering such as POLYCOTE, ULTRACOTE or ORACOVER and the use of a heat iron and soft cloth. Monokote, SolarFilm or V-COTE covering material will also work. Cut the patch with rounded corners. Seal the patch in place with a heat iron set at 250F first and then tighten the patch and the original covering around the patch as outlined in the tightening section above. To repair larger more extensive damage areas, you may wish to obtain the appropriate POLYCOTE ECS covering set for this model.

**CUTTING:** POLYCOTE ECS is made from ULTRA TOUGH POLYESTER. Where possible, use scissors to cut POLYCOTE. Scissors work well. Otherwise use a new sharp #11 Blade. **The blade must be SHARP.**

Check for updates & more information  
about POLYCOTE ECS at  
[www.richmondrc.com/polycote.htm](http://www.richmondrc.com/polycote.htm)