

FUSELAGE HULL - STAGE ONE

SECTION 1

REVISION DATE: 2/7/01 REVISION: 0

| PART NO | REV. | DRAWING | ASSEMBLY | DESCRIPTION | QTY | CODE | BUILDER |
|------------|------|---------|----------|--|-----|------|---------|
| | | | | BUILDING THE MAIN FUSELAGE - STAGE 1. IMPORTANT: USE THE COMOPUTER PHOTO GUIDE | | | |
| | | | | CRITICAL LOCATION POINTS - | | | |
| | | | | - ALL SPAR LOCATIONS | | | |
| | | | | - RUDDER HINGE LOCATIONS | | | |
| | | | | - ELEVATOR HINGE LOCATIONS | | | |
| | | | | - SPAR ANGLES / LOCATIONS AND THAT THE SPARS WILL MATCH THE | | | |
| | | | | WING SPARS | | | |
| | | | | SECONDARY LOCATION POINTS - - FIREWALL | | | |
| | | | | - INSTRUMENT PANEL | | | |
| | | | | - BULKHEADS | | | |
| | | | | - UPPER LONGERON | | | |
| | | | | KEY: LINE UP THE CENTER LINE OF THE WORK BENCH / TABLE TO THE CENTER LINE OF THE FUSELAGE. ALSO, THE TOP LONGERON GOES FROM THE FIREWALL TO THE RUDDER HING, AND MUST BE COMPLETELY FLAT. | | | |
| | | | | | | | |
| | | | | INSTALLING THE MAIN SUB ASSEMBLIES. FISR INSTALL TOGETHER WITH ONLY A FEW HOLES / CLECO'S. ONCE TOGETHER, DRILL ALL THE HOLES. MARK THE RIVET LINES AND RIVET PITCH AS YOU ARE INSTALLING EACH SECTION. | | | |
| | | | | | | | |
| | | | | REAR FLOOR ASSEMBLY. LINE UP THE CENTER LINE OF THE FLOOR TO THE CENTER LINE OF THE TABLE. OVERHANG END PAST TABLE UP THE THE HT RIVET LINE | 1 | | |
| | | | | REAR HORIZONTAL ATTACHMENT SUB-ASSY. INSTALL TO THE REAR FUSELAGE BOTTOM. PRE-DRILL HOLES IN BOTTOM SKIN. HT SIDES ARE 90 DEG. TO BOTTOM. CLECO. | 1 | | |
| | | | | CENTER SPAR ASSEMBLY. POSITION THE FRONT OF THE SPAR TO THE FRONT OF THE REAR SKIN. DRILL ONE HOLE AT EACH END INTO TABLE AND CLECO | 1 | | |
| | | | | REMOVE THE CENTER SPAR ASSEMBLY | 1 | | |
| | | | | FORWARD FLOOR ASSEMBLY. REMOVE THE BOTTOM CHANNELS. POSITION THE FRONT FLOOR TO THE REAR FLOOR BY OVERLAPING 18mm. MAKE SURE THAT THE CENTER LINES MATCH. DRILL THE TWO HOLES INTO THE FRONT SKIN. | 1 | | |
| | | | | RE-INSTALL CENTER SPAR | | | |
| | | | | CHECK FOR PROPER SKIN OVERLAP AT LOWER SPAR FLANGES. | | | |
| 640-F-24-4 | | | | MAKE SURE THAT EXTRUSINGS 640-F-24-4 ARE BENT AT THE REAR. SEE 640-F-3 DETAIL A | | | |
| | | | | CLECO THE EXTRUSIONS TO THE BOTTOM OF THE FRONT FLOOR. THIS IS THE TOUGHEST PART TO UNDERSTAND. THE TWO EXTRUSIONS, 640-F-24-4, WHEN INSTALLED ARE LOWER THAN THE BOTTOM OF THE FUSELAGE AT THE REAR. THEREFORE, WHEN INSTALLED, THE FUSELAGE BOTTOM IS NOT FLAT ON THE TABLE. BY CUTTING A SMALL AREA INTO THE TABLE NEAR THE END OF THE EXTRUSIONS, THE REAR FUSELAGE BOTTOM CAN NOW BE FLAT. NOTE THAT ON DRAWING 640-F-3 DETAIL A, THE REAR FUSELAGE DOES GO UP, STARTING AT 200mm FROM THE FRONT. | 3 | | |
| | | | | CUT HOLES IN TABLE FOR THE TWO EXTRUSIONS, 640-F24-4 | | | |
| 640-F-17-1 | | | | CLECO 640-F-17-1 | | | |

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| | | | | RAISE THE FORNT OF THE FRONT BOTTOM SO THAT IT IS 9.5 DEG. FROM THE TABLE. (ABOUT 190mm UP AT THE FRONT). | | | |
| | | | | WINGS. MAKE A SIMPLE WOOD JIG THAT MATCHES THE THREE WING ROOT SPAR FITTINGS. ONE PIECE 1076 LONG WITH A CENTER SECTION THAT CAN SLIDE INTO THE CENTER SPAR. ONCE COOMplete, FIT TO THE CENTER SPAR. THIS WILL LOCATE THE EXACT POSITION OF THE FRONT AND REAR SPARS. | 1 | | |
| | | | | INSTALL THE REAR AND FRONT SPAR ASSEMBLIES TO THE BOTTOM SKINS. | | | |
| | | | | INSTALLING THE FIREWALL. MAKE A SIMPLE WOOD JIG OUT OF 1/2" PLYWOOD SO THAT THE FIREWALL IS LOCATED 19.5 DEG FROM THE TABLE. TWO JIGS ARE RECOMMENDED. | 1 | | |
| 640-F-14-1 | | | | TAKE THE FIREWALL ASSEMBLY AND INSTALL THE TWO HORIZONTAL PANNELS 640-F-14-1. MAKE SURE THAT THEY ARE EXACTLY 90 DEG. TO THE FIREWALL. RIVET TOGETHER. | | | |
| 640-F-18-3 | | | | INSTALL THE TWO UPPER ENGINE MOUNT FITTINGS. USE AD-5 SOLID RIVETS OR AN3 BOLTS. | 2 | | |
| | | | | INSTALL THE FIREWALL ASSEMBLY TO THE FRONT FUSELAGE BOTTOM. USE THE TWO JIGS TO HOLD THE FIREWALL IN PLACE. DRILL AND CLECO THE FIREWALL TO THE FLOOR. | | | |
| | | | | LOWER REAR SIDE SKIN ASSEMBLIES. POSSITION THE SIDE SKINS TO THE FUSELAGE BOTTOM. THE FLOOR EXTRUSIONS GO BETWEEN THE SIDE SKINS AND L ANGES. THE SIDE SKINS ARE LINED UP TO THE SPAR AND HT ASSEMBLY. SEE DRAWING 640-F-20 FOR LINING UP THE SIDE SKINS TO THE SPAR. CUT OUT A SLOT FOR THE REAR SPAR. | 1 | | |
| | | | | NOTE THAT THE FRONT OF THE SIDE SKINS ARE FLUSH TO THE FRONT OF THE REAR SPAR UP-RIGHT. THE SPAR MUST BE 5.5 DEG. TO THE REAR. DRILL AND CLECO A FEW HOLES AT EACH END FOR NOW. | 2 | | |
| 640-F-24-1 | | | | UPPER LONGERONS. SPLICE TOGETHER FOR A TOTAL LENGTH OF 5195mm. INSTALL TO THE TOP OF THE REAR SIDE SKINS, BETWEEN SKIN AND L ANGLE UP-RIGHTS. MAKE SURE THAT THEY TOUTCH THE FIREWALL. CLAMP TO THE FRONT. EXTRUSIONS MUST BE FLUSH WITH THE SPAR UP-RIGHTS. IF THEY ARE NOT, TEMPLATE ON 640-F-24 MAY HAVE TO BE MADE FOR REFORMING THE EXTRUSIONS. | 1 | | |
| | | | | DRILL A FEW HOLES IN THE REAR SIDE SKINS INTO THE TOP EXTRUSIONS EVERY 300mm OR SO. DO THE SAME WITH THE BOTTOM. | 2 | | |
| | | | | Compte drilling all the holes. Remove everything, clean and rivet everything together. Make sure that you do not rivet area's that will be overlapped by another skin later on. THE HOLES IN THE TOP LONGERON MUST BE FLUSH RIVETED, SINCE THE REAR TOP SKIN WILL OVERLAP. | | | |
| | | | | CABIN AREA ASSEMBLY | | | |
| | | | | ASSEMBLE TORQUE TUBE & CONTROL COLUMN | | | |
| | | | | ASSEMBLE TOGETHER ON THE BENCH FIRST. JOINTS MUST MOVE FREELY BUT WITH NO PLAY. BOLT TOGETHER. | | | |
| 20-C-2-1 | | 20-C-2 | 20-C-14 | TORQUE TUBE | 1 | | |
| 20-C-2-2 | | 20-C-2 | 20-C-2 | CONTROL BEARING | 1 | | |

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| AN3-16A | | | 20-C-2 | BOLT | 2 | | |
| AN960-10 | | | 20-C-2 | WASHER | 2 | | |
| AN365-1032 | | | 20-C-2 | LOCK NUT | 2 | | |
| 20-C-2-6 | | 20-C-2 | 20-C-9 | BUSHING | 1 | | |
| 20-C-1-1 | | 20-C-1 | 20-C-14/M- | CONTROL COLUMN | 1 | | |
| AN5-21A | | | 20-C-9 | BOLT | 1 | | |
| AN960-516 | | | 20-C-9 | WASHER | 1 | | |
| AN365-524 | | | 20-C-9 | LOCK NUT | 1 | | |
| | | | | TAKE CONTROL ASSEMBLY APART AND INSTALL INTO THE FUSELAGE. | | | |
| 640-V-4-1 | | | 640-C-14 | THIS BEARING MUST BE FITTED TO THE MAIN SPAR BUT NOT RIVETED AT THIS TIME. SLIDE THE TORQUE TUBE THROUGH 640-V-4-1 AND 640-F-15-5 | 1 | | |
| | | | | PUT THE CONTROL COLUMN ASSEMBLY BACK TOGETHER, INTO THE FUSELAGE. | | | |
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