

HORIZONTAL TAIL ASSEMBLY

REVISION DATE: 10/01		REVISION: 0		MAN. TO MWO: HORIZONTAL TAIL ASSEMBLY			
PART NO	REV.	DRAWING	ASSEMBLY	DESCRIPTION	QTY	CODE	BUILDER
				Once you have completed the spar assembly, proceed to this assembly.			
640-T-4				SPAR ASSEMBLY. Position the spar on the work bench, which must be very flat. You do not want a twist in the assembly. When installing the ribs and skins, make sure that all the ribs are lined up in the same plane.	1		
640-T-5-2		640-T-5	640-T-6	REAR RIBS. Install the rear ribs to the main spar. Start at the spar center line and measure out 60mm+340mm+340mm+340mm, as per drawing 640-T-6. Ribs are located 90 deg. From the main spar. Do not pay attention to the nose ribs at this time. The three left and three right rear rib flanges face outboard. Two rivets A5 per rib into the spar. Draw the rivet locations on the spar first. Drill the spar holes. Draw a center line on the rib flange. Line up the ribs to the spar, locate the rib center line through the spar holes, clamp and drill. Use the same procedure as the tail rudder assembly.	4		
640-T-5-3		640-T-5	640-T-6	CENTRE REAR RIBS. Start from the spar center line and measure out 150mm left and right for the first rib. Note that the rear ribs attach to the rear channel 640-T-2-3 and are attached with L angles. Cut the L angles about 76mm long and attach to the ribs and channel with three (3) A5 per side. The two rear ribs must be in the same plane as the other rear ribs.	2		
L				LENGTH = 76mm	4		
640-T-5-1		640-T-5	640-T-6	NOSE RIB. Install the nose ribs as per drawing 640-T-6.	4		
640-T-7-2R/L		640-T-7	640-T-6	REAR SKINS. Make sure that the skin dimensions are as per drawing 640-T-7. The installation of the skins is similar to the tail rudder rear skins. Drill the rivet holes into the skins first, except at the spar. Draw marker center lines on the ribs, install the skin and locate the rib marker lines through the skin rivet holes. Lay the assembly flat on the work bench. Slide the left and right rear skins into place. Do not drill into the spar at this time. Note that A4 and A5 rivets are used in different areas. From the spar center line, the trailing edge distance from one skin to the other must be about 110mm. This positions the rear skins from the spar center line. The front of the rear skins lines up with the front of the spar.	2		
640-T-7-1R/L		640-T-7	640-T-7	NOSE SKINS. Make sure that the skin dimensions are as per drawings 640-T-7. Place the nose skins into place. Use straps to pull the skins down. Before drilling into the spar, make sure that the complete assembly is not twisted. The bottom rear skins must be flat on the work bench, and the spar from left to right must be straight. The Nose ribs must be 90 deg.. From the spar. Finish drilling all holes.	2		
20-E-11-2		20-E-11	640-T-7	FIBREGLASS TIP. As per drawing 640-T-7, install the tips. By placing the assembly flat on a work bench, draw a marker line around the fiberglass tip about 20mm from the edge. draw a marker line about 10mm from the edge of the aluminum skin for rivet location. Slide the tip inside the tail assembly so that the marker line is just visible from the edge of the aluminum skin. Make sure that the tip nose is tight with the nose skin. Drill and Cleco. A4 P40	2		
				Take the assembly apart. Deburr the skins and ribs and spar etc.. Re-install and rivet the one side. Turn the assembly over and drill through the skins into the rib and spar marker line. Open the skins, deburr, clean the inside, inspect and rivet together. The assembly is now complete.	1		
INSPECTION:				DATE: SIG:			
20-M-45-1		20-M-45	20-M-46	TRIM TAB FORK. Assemble as per IPL	1		
20-M-46				TRIM TAB ASSEMBLY. Assemble as per IPL	1		

ZENAIR CH 640

I.P.L. INSPECTION PARTS LIST

STANDARD 49% KIT	
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PART NO	REV.	DRAWING	ASSEMBLY	DESCRIPTION	QTY	CODE	BUILDER
				Place the completed horizontal tail down on a flat table with the top facing down. As per drawing 640-M-46, position the two trim tab assemblies to the trailing edge of the horizontal tail assembly. There is a .4mm clearance dimension between the tail training edge and the tab hinge. From spar center line, there is 131mm between the trim tab fork at the tail trailing edge. Also, from the horizontal tail trailing edge to the tab fork slot, there is an exact dimension of 230. These two dimensions locates the trim tabs. Pre-drill the hinge holes, place the trim tabs into position and drill into the tail training edge. Make sure that you do not drill through to the other side of the training edge. Once complete, rivet together.			
94733				RIVNUT 3/16". From the trim fork, drill into the trim tab end. See 640-T-8. Make sure that assembly dimensions are true before drilling. Now install two 3/16" rivuts. You will need a rivnut tool for this. #12-13700 from Aircraft Spruce (about \$35.00) is adequate.	4		
AN3H-3A				BOLT. Bolt the fork to the trim tab.	1		
MS20995C-32				SAFETY WIRE .032. Install safety wire as per 640-M-46			
AN4-17A				BOLT & WASHER & LOCK NUT. Bolt the balance bar into place.	2		
AN4-20A				BOLT & WASHER & LOCK NUT. Bolt the balance bar into place with the horn.	1		
FINAL INSP.				DATE: SIG:			