

# ZENAIR CH 64

# I.P.L. INSPECTION PARTS LIST

STANDARD 49% KIT	
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## RIGHT WING

REVISION DATE: AUG. 01		REVISION: 1		MAN. TO MWO: RIGHT WING			
PART NO	REV.	DRAWING	ASSEMBLY	DESCRIPTION	QTY	CODE	BUILDER
				Assemble this wing first - RIGHT WING			
COMPLETE ASSEMBLY							
640-V-2-5			640-V-2	UPPER SPAR CAP ANGLE. INSTALL TO WING SPAR EXTENSION 640-V-1-1 WITH 5/32 HOLES AND A5 RIVETS	1		
640-V-2-6			640-V-2	LOWER SPAR CAP ANGLE. INSTALL TO WING SPAR EXTENSION 640-V-1-1 WITH 5/32 HOLES AND A5 RIVETS	1		
640-V-1-1			640-V-2	INSTALL WING SPAR EXTENSION TO THE MAIN SPAR:THERE SHOULD BE 5mm GAP BETWEEN THE EXTENSION AND THE SPAR.	1		
			640-V-6	DRILL THE 3/16 HOLES IN THE NEW CAP ANGLES AND THE #20 HOLES IN THE WEB (AN3 BOLTS TOP & BOTTOM CAP,			
				6 A-5 RIVETS IN WEB)ENSURE THAT TIP IS STRAIGHT AND INLINE WITH REST OF SPAR.			
				MAIN SPAR - INSTALL THE WING SPAR EXTENSION 640-V-1-1 TO MAIN SPAR WITH 640-V-2-5 AND -6 INCLUDING L ANGLE AS SHOWN ON 640-V-2-WING SPAR EXTENSION ASSEMBLY. PLACE ON TABLE. THERE SHOULD BE 5mm GAP BETWEEN THE EXTENSION AND THE SPAR. DRILL THE 3/16 IN THE NEW CAP ANGLES AND THE #20 IN THE WEB, AN3 BOLTS TOP & BOTTOM CAP, 6 A-5 RIVETS IN WEB)ENSURE THAT TIP IS STRAIGHT AND INLINE WITH REST OF SPAR.			
AN3-7A				BOLT, WASHER, SL NUT	6		
640-V-2-8			640-V-2	INSTALL WITH THE L ANGLE TO THE EXTENDED SPAR WITH A5 RIVETS	1		
20-V-6-1			20-V-6	MAIN SPAR IS NOW COMPLETE	1		
20-V-7-1		20-V-7	20-V-11	NOSE RIBS - INSTALL ANGLES AS PER DRAWING 640-V-8	4		
L			20-V-8	STANDARD "L" FOR NOSE RIBS # 1 TO 4 L = 220 mm	4		
20-V-7-2		20-V-7	20-V-11	NOSE RIBS. - POSITION AND CLECO ALL NOSE RIBS TO THE SPAR STATIONS AS PER 640-V-11 STARTING WITH #1, #2, ETC. IT IS IMPORTANT THAT THE LEADING EDGE IS LINED UP AND PARALEL TO THE SPAR NOSE RIB 640 IS NOT INSTALLED WHEN INSTALLING THE EXTENDED WING TANKS.	5		
20-V-3-6				INSTALL RIB STIFFENER / FUEL TANK STOPS ON NOSE RIBS #5 AND #7 (NOSE RIB #640 IS ONLY ADDED WHEN INSTALLING THE STANDARD WING TANKS) AS PER DRAWING 640-V-3 AND 640-V-11.	2		
20-V-7-3		20-V-7	20-V-11	REAR RIB. ALL REAR RIBS ARE THE SAME SIZE. SEE 640-V-11 FOR LEFT AND RIGHT RIB INSTALLATION. SEE NOTE FOR 640-V-7-3 RIB #10 ON 640-V-7. THE REAR SPARS MUST BE PARALLEL TO THE MAIN SPAR	9R,1		
		20-V-9	20-V-11		2		
L			20-V-8	STANDARD "L" FOR REAR RIBS # 1 TO 4 L = 160 & 210 mm	4		
4050				GROMMETS - INSTALL AS PER 640-V-8	1		
RB-243		20-M-6	20-M-6	SPA-E-NAUR GROMMET	9		
				REAR RIBS. - POSITION AND CLECO REAR RIBS TO THE SPAR STATIONS AS PER 640-V-11 STARTING WITH #1, #2, ETC.			
20-V-9-3		20-V-9	20-V-9	FRONT CHANNEL DOUBLER - INSTALL TO 640-V-9-2	1		
20-V-9-2		20-V-9	20-V-10	FRONT CHANNEL - INSTALL TO NOSE RIBS	1		
20-V-9-5		20-V-9	20-V-9	REAR CHANNEL DOUBLER INSTALL TO 640-V-9-4	1		
20-V-9-4		20-V-9	20-V-10	INBOARD REAR CHANNEL - INSTALL TO REAR RIBS	1		
AN470AD5-5				RIVETS FOR 640-V-9-3 AND 5. SEE DCS FOR SOLID RIVET INSTALLATION.			

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PART NO	REV.	DRAWING	ASSEMBLY	DESCRIPTION		QTY	CODE	BUILDER	
20-V-9-6		20-V-9	20-V-10	OUTBOARD REAR CHANNEL- INSTALL TO REAR RIBS. OVERLAP BY 20mm --- DISASSEMBLE ALL PARTS, CLEAN ALL RIVET HOES AND RIVET EVERYTHING TOGETHER EXCEPT FOR THE REAR SPARS. CLECO ONLY AT THIS TIME.		1			
				INSTALL SKIN(S) - ALL SKINS TO BE CLEANED AND INSPECTED BEFORE RIVETING. CLAMP INTO PLACE BEFORE DRILLING. MAKE SURE THAT THE WING SPARS ARE PARALLEL TO THE TABLE. MAKE SURE THAT WING IS NOT TWISTED. PLACE SPACERS UNDER REAR SPARS SO THAT THE WING DOES NOT MOVE WHEN DRILLING. WING RIBS MUST BE 90 DEG. TO SPARS.					
				TURN THE COMPLETE WING OVER SO THAT THE BOTTOM OF THE WING IS FACING UP. MARK THE CENTER LINE OF ALL RIBS AND SPARS.					
640-V-2-9		640-V-11	640-V-2	POSITION AND INSTALL THE GUSSETS, TOP AND BOTTOM		4			
20-V-15-5		20-V-15	20-V-16I/B	BOTTOM REAR SKIN - POSITION THE REAR BOTTOM SKINS ONTO THE WING AND CHECK FOR SIZE AND FIT. SKIN HOLES MUST LINE-UP WITH RIB MARKER LINE. DRILL INTO RIBS AND REAR SPAR ONLY AND NOT THE MAIN SPAR		1			
20-V-15-6		20-V-15	20-V-16	I/B L.E. SKIN. POSITION TO RIBS AND SPAR AND CLAMP. MAKE TEMPORARY WOOD RIBLETS AS PER 640-V-16 TO SIMULATE RIB TIP. PLACE SPACER AT FRONT CHANNEL AND WRAP SKIN AROUND TO TOP OF FRONT CHANNEL.		1			
20-V-15-8		20-V-15	20-V-15	BELLCRANK ACCESS COVER. CUT-OUT HOLE AS PER 640-V-15-5 AND POSITION THE COVER OVER THE SKIN.		1			
94733			20-V-15	INSTALL4 RIVNUTS 3/16 DIA. INTO THE BOTTOM REAR SKIN AT ACCESS COVER.		4			
AN525-10R6			20-V-15	SCREWS + LOCK WASHER FOR ACCESS COVER. (MS35333-39)		4			
20-V-15-5A		20-V-15	20-V-16	BOTTOM REAR TIP SKIN. OVERLAP WITH INBOARD BOTTOM REAR SKIN AT RIB #9		1			
20-V-15-7		20-V-15	20-V-16	CENTER L.E. SKIN. LINE UP NOSE RIBS WITH EDGE OF WORK BENCH AND POSITION SKIN SO THAT ONE EDGE IS AT THE MAIN SPAR AND OTHER HANGING DOWN THE BENCH. THE SKIN MUST OVERLAP THE MAIN SPAR JUST PAST THE SPAR CAPS AS SHOWN ON 640-V-16		1			
20-V-15-7A				L.E. TIP SKIN.		1			
				INSPECT AND CLEAN HOLES BEFORE RIVETING THE FOUR BOTTOM SKINS TO THE SPARS AND RIBS. DO NOT RIVET SKINS ONTO REAR CHANNEL AT THIS TIME. CLECO ONLY.					
				TURN THE WING ASSEMBLY TOP FACING UP.					
INSTALL CABLES			20-C-14	INSTALL CABLES, CONTROL ROD AND WIRING					
20-V-12-1		20-V-12	20-V-8	AILERON STOP		1			
20-V-9-1		20-C-5	20-C-5	AILERON BELLCRANK SUPPORT - COMPLETE BELLCRANK/SPOOL ASSEMBLY --- SEE AILERON BELLCRANK IPL TO ASSEMBLE		L+R			
L				L ANGLE L=200		2			
20-C-14-2		20-C-14	20-C-14	CABLE ASSEMBLY RIGHT FWD ---- SEE CONTROL CABLE - WING IPL TO ASSEMBLE		1			
20-C-14-4		20-C-14	20-C-14	CABLE ASSEMBLY RIGHT REAR ---- SEE CONTROL CABLE - WING IPL TO ASSEMBLE		1			
20-C-5-3		20-C-5	20-C-5	AILERON ROD		1			
CW 5-12				ROD END		2			
AN315-5				JAM NUT		2			
AN5-12A				BOLT (PUSH ROD/BELLCRANK)		1			
AN960-516				WASHER (PUSH ROD/BELLCRANK)		5			

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PART NO	REV.	DRAWING	ASSEMBLY	DESCRIPTION		QTY	CODE	BUILDER	
AN365-524				LOCKNUT (PUSH ROD/BELLCRANK)		1			
AN3-6				BOLT (CONTROL CBL'S/BELLCRANK)		2			
AN310-3				CASTELLATED NUT (CONTROL CBL'S/BELLCRANK)		2			
MS24665-132				COTTER PIN (CONTROL CBL'S/BELLCRANK) 1/16"		2			
				ALL CONTROL CABLES SHOULD NOW BE COMPLETED IN THE WING TO BELLCRANK.					
				FUEL SENDER WIRE 16 GAUGE L = 1470mm INSTALL WIRE 12" PAST WING		1			
				PASS WIRE THROUGH RIB INSPECTION HOLES AND TIE WRAP TO RIBS.		1			
						2			
OPTION				STALL WARNING SWITCH AS PER 640-E-16. INSTALL WIRES AT THIS POINT					
				ADDITIONAL WIRES MAY BE ADDED FOR WING TIP LIGHTS ETC. SEE 640-M-1 AND 640-M-2					
				FUEL TANK INSTALLATION - PART OF FUEL SYSTEM KIT.					
FUEL TANK				THE FUEL TANK MAY BE INSTALLED AT THIS TIME. A SMALL 4X4 INCH ACCESS COVER MAY BE INSTALLED ON THE BOTTOM SKIN, INBOARD OF NOSE RIB #4, FOR EASY INSPECTION OF THE FUEL FINGER SCREEN. NOTE THAT THE FUEL TANK MUST ONLY TOUCH CORK. USE 1/8" CORK AND GLUE STRIPS TO TANK. RUN THE FUEL LINE PAST THE END OF THE WING BY ABOUT 12". NOTE THAT THE FUEL LINE MUST NOT HAVE ANY LOW PONTS FOR WATER ACCUMILATION. SEE 640-V-8 (FUEL TANK IS PART OF FUEL KIT		1			
SAE-30R7-KVL				3/8" GASOLINE HOSE L=500mm (PART OF FUEL KIT)		1			
HS-4				1/2" HOSE CLAMP (PART OF FUEL KIT)		1			
640-E-4-6				FUEL TANK FINGER SCREEN (PART OF FUEL KIT)		1			
125-6B				FLAIRED NIPPLE FROM FINGER SCREEN TO FUEL LINE. (PART OF FUEL KIT)		1			
CCA-1550				CURTIS DRAIN VALVE		1			
INSPECTION:				SIG. _____ DATE _____					
				WING TRAILING EDGE INSTALLATION.					
20-V-12-3		20-V-12	20-V-13	AILERON SUPPORT GUSSET. INSTALL TO REAR WING CHANNEL, FLUSH TO BOTTOM OF REAR CHANNEL. SEE 640-V-13 FOR EXACT LOCATION FROM RIB #8 AND #9.		2			
20-V-12-2		20-V-12	20-V-13	AILERON SUPPORT CHANNEL. INSTALL BOTTOM EDGE BETWEEN BOTTOM SKIN AND REAR CHANNEL. SEE 640-V-13 DRAWING AT BOTTOM OF PAGE AND 640-V-14		1			
20-A-1-1		20-A-1	20-A-7	AILERON RIGHT. BUILD THE AILERONS AS PER IPL AND					
				INSTALL AILERON PIANO HINGE TO 20-V-12-2 AS SHOWN ON 640-V-14, STARTING 2295+3mm FROM SPAR ROOT AS SHOWN ON DRAWING 640-V-11. MAKE A POSITIONING TEMPLATE OUT OF ALUMINUM AS SHOWN ON 640-V-14 FOR EXACT HINGE POSITIONING.					
				INSTALL AILERON TO WING PIANO HINGE AND CHECK FOR APROX. TRAVEL DEFLECTION AS PER 640-A-7 AND 640-C-14					
				INSTALL AILERON ROD 640-C-5-3 TO AILERON FROM BELCRANK. NOW INSTALL THE AILERON STOP 20-V-12-1 TO REAR RIB #7 WITH 6 A5 RIVETS.		1			
AN960-516				WASHER (PUSH ROD/AILERON)		6			

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PART NO	REV.	DRAWING	ASSEMBLY	DESCRIPTION		QTY	CODE	BUILDER	
AN365-524				LOCK NUT (PUSH ROD/AILERON)		1			
				INSTALL TRAILING EDGE OF WING AREA OVER FLAP					
20-V-12-41		20-V-12	20-V-13	RIBLET		1			
20-V-12-42		20-V-12	20-V-13	RIBLET		1			
20-V-12-43		20-V-12	20-V-13	RIBLET		1			
20-V-12-44		20-V-12	20-V-13	RIBLET		1			
20-V-12-45		20-V-12	20-V-13	RIBLET		1			
20-V-12-46		20-V-12	20-V-13	RIBLET		1			
20-V-12-47		20-V-12	20-V-13	RIBLET		1			
20-V-12-48		20-V-12	20-V-13	RIBLET		1			
20-V-15-1		20-V-15	20-V-16	WALKWAY SKIN. INSTALL - TOP . MAKE SURE THAT THE TRAILING EDGE SKINS FOLLOW THE WING SHAPS AS PER 640-A-7. MAKE THE WOODEN JIG ON 640-A-7. TWO ARE REQUIRED FOR FLAP AND AILERON RIGGING.		1			
20-V-15-2		20-V-15	20-V-16	T.E. SKIN OVER RIBLETS. - TOP		1			
20-V-12-5		20-V-12	20-V-13	RIBLET GUSSET		4			
20-V-12-6		20-V-12	20-V-13	INBOARD GUSSET		1			
20-V-15-3		20-V-15	20-V-16	AILERON GAP COVER - TOP		1			
20-A-4-1R		20-A-4	20-A-6	FLAP RIGHT. ASSEMBLE RIGHT FLAP AS PER FLAP IPL. INSTALL HINGE TO REAR WING SPAR AS PER 640-V-14. MAKE SURE THAT THE FLAP DOES NOT INTERFERE WITH THE AILERON AND THAT IT DOES NOT STICK OUT PAST THE REAR SPAR AT THE FUSELAGE. SEE 640-V-11 DRAWING TOP RIGHT.					
20-V-14-1		20-V-14	20-V-14	TIE DOWN		1			
20-V-15-4				I/B TOP REAR WING SKIN		1			
20-V-15-4A				TOP REAR TIP SKIN		1			
20-E-11-1		20-E-11	20-V-16	FIBERGLASS TIP		1			
20-V-17-2		20-V-17	20-V-17	TIP ANGLE		1			
20-V-17-3		20-V-17	20-V-17	TIP ANGLE		1			
20-V-17-4		20-V-17	20-V-17	ANGLE		1			
20-V-17-5		20-V-17	20-V-17	TIP ANGLE		1			
20-V-17-1		20-V-17	20-V-17	WINGTIP		1			
				DRILL THE WING SWEEP POSITIONING DIMPLE INTO THE LEADING EDGE SKIN ONLY, ON TOP OF THE SPAR. THIS HOLE IS TO BE LOCATED 3785 MM FROM THE I/B CENTER SPAR ,ON THE REAR RIVET LINE OF THE SPAR. THE EXACT LOCATION IS NOT IMPORTANT AS LONG AS THE LOCATION ON BOTH WINGS IS THE SAME. SEE 640-V-0 DRAWING, LOWER LEFT CORNER.					
LANDING LIGHT		640-M-1		OPTION. INSTALL AS PER 640-M-1 AND 2 BEFORE CLOSING THE WING SKIN. INSTALLED ON LEFT WING ONLY.					

## RIGHT WING

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PART NO	REV.	DRAWING	ASSEMBLY	DESCRIPTION		QTY	CODE	BUILDER	
				SIG. _____ DATE _____					
PRE-CLOSING INSPECT									
A4				A4 RIVETS. FINISH RIVETING ALL SKINS		200			
A5				A5 RIVETS. FINISH RIVETING ALL SKINS		1000			
CHECK OFF LIST				CHECK THE FOLLOWING ;					
				-- AILERON ROD ENDS - WITNESS HOLES					
				-- TRAVEL UP & DOWN , FREEDON OF MOVEMENT					
				-- FLAP TRAVEL UP - DOWN					
				-- CLEAR OF FOULING					
				-- WING PROFILE CHECK					
				-- WIRING ROUGH IN INSTALLATION					
				-- CONTROL CABLES INSTALLED					
				--SWEEP DIMPLE 3785mm FROM CENTRE SPLICE HOLE IN SPAR (TOP)					
MS20995C-32				-- AILERON & FLAP HINGE & FUEL LINE SAFETY WIRE 032		AS R			
				Ref. Std. Procedure A116-54 Aileron Adj. Part 1, A116-54 Flap Adj. Part 2					
INSPECTION:				SIG. _____ DATE: _____					
LEFT WING				LEFT WING. SAME ITEMS AS RIGHT WING EXCEPT:					
				NOTE: PITOT HEAD AND FITTINGS ARE PART OF THE INSTRUMENT KIT. THIS IS INSTALLED ON THE LEFT WING ONLY.					
PITOT STATIC				INSTALL PITOT STATIC LINE AS PER 640-V-8					
487-4				1/4" NYLON TUBE		800m			
487-4				1/4" NYLON TUBE		800m			
640-V-8-1				INSTALL TO NOSE RIB #4 IF REQUIRED. THE IMPORTANT THING IS THAT THE PITOT LINE GOES DOWN TO BOTTOM OF WING TO PITOT HEAD. SEE 640-E-22 FOR HEAD LOCATION. SEE NOTES ON 640-E-22.		1			