



*The BD-5 People.*

MICRO TECHNOLOGIES INC.  
1260 Wade Rd, Siletz, OR USA 97380 (541) 444-1343

## ADVANCED JIG ALIGNMENT and DRILLING

While there are many advantages to using jig drill services by BD-Micro, there are a few key points you should consider. Aside from an obvious savings in construction time, jig drilled components make it difficult to assemble the aircraft incorrectly. A significant number of builders come to us who are not satisfied with the quality of non-jig drilled components that they have either built or bought. In our 30 years combined experience, we can cite many examples of problems created by the inaccuracies found in non-jig parts. For instance, one builder was forced to severely limit his airspeed because he ran out of aileron control input due to a twist built into his non-jigged wings.

Build once, or build twice. Can you afford the money and time to NOT have your components jig drilled by BD-Micro?

### CHAPTER 1: FUSELAGE

	<u>labor price</u>	<u>part price</u>
FUSELAGE:		
01AAD02 A&D Fuselage - 5.2" Stretch	\$1,599.00	
Fuselage panel preparatory work includes trimming of tabs, panel edges, and pre-drilling of select panels by using integrated drill and router templates. Seven of the fuselage primary bulkheads are secured in the fuselage jig and the 12 fuselage and stretch skin panels, plus six splice strips, are then located and drilled to the primary bulkheads with the use of integrated drill and router templates. For further details refer to the BUILDER SERVICES of THE BD-5 SOURCE.		
Buy:		
1A01 Fuselage Series I		\$460.00
1A04 Fuselage Stretch – Standard, 5.2"		\$341.00
Send:		
FU69/70 Cockpit Rails (untrimmed)		
FU1 Bulkhead		
FU6 Bulkhead		
FU72 Nose Cone Splice		
Fuselage Panels (12)		
FU29/30 Doublers (untrimmed)		
01AAD03 A&D Fuselage – 13.5" SuperStretch	\$1,968.00	
Fuselage is stretched a total of 13.5". 8.25" in front of the wing and 5.25" behind the wing.		
Buy:		
1A01 Fuselage Series I		\$460.00
1A08 SuperStretch Series		\$529.25
01AAD04 Fuselage & Bulkhead Cutouts	\$574.00	
Includes 60+ openings and cut outs in fuselage skins and bulkheads. Save 300 to 500 hours building time. This service will prepare the fuselage for the FLS Hirth 3203E Powerplant Preinstallation Series.		
OPTIONS: (To be done during the fuselage jig drilling service)		
1A03 FU12 Fuselage Tee Splice		\$78.50
A&D Labor	\$27.00	
Rear Vertical Fuselage Closure Angles		
A&D Labor includes angles	\$62.00	

Shoulder Harness/LG89A Spring Hanger		
A&D Labor		\$77.85
The LG89A Spring Hanger structure is an integral part of the fuselage and powerplant system. It is needed to relocate the m.l.g. spring hangers for clearance with the NACA scoops and structurally ties in the Shoulder Harness Attach with the aircraft structure.		
Buy:		
1A06 Shoulder Harness Attach		\$65.70
6C14 LG89A M.L.G. Spring Perch		\$124.00
Vertical Stabilizer Attachment		
02BAD01 A&D Vert. Stab. Bulkheads to Fuse.		\$84.00
VS-21 Doubler located and drilled into place. VS-17 Bulkhead and VS-18 Doubler located and drilled into fuselage for Vertical Stabilizer attachment.		
Buy:		
2B01 Vert. Stab. Attach. Series		\$133.00
Center Spar		
06CAD02 A&D FU99 Trunion Holes		\$95.00
FU-99 Center Spar trunion (LG-147) holes drilled and reamed. Final wing alignment is determined by these holes as is the proper alignment and operation of the main landing gear retract system. This service is required before the 06CAD03 procedure can be done.		
06CAD03 A&D Center Spar to Fuselage		\$448.90
Fuselage stretch and center (engine compartment) section is assembled or clecoed together along with FU29/30 Doublers. Structure is then locked onto a large multi-purpose fixture that automatically positions the center spar for drilling to the fuselage.		
If desired, at the same time this fixture positions the pitot tube, wings, aileron torque tube bearing mount, vertical stabilizer, and horizontal stabilators in position for A&D as is done for our FLS kits. Call for pricing and details concerning this service.		
Buy:		
1A02 Fuselage Series II		\$254.00
6C03 Spar Attach Plates		\$203.25
6C06 LG80 M.L.G. Pulley Assy.		\$213.50
Send:		
FU99 Center Spar		
Horizontal Stabilator Pivot Support		
05AAD05 A&D Pivot Support to Fuse.		\$240.90
Horizontal Stabilator pivot support weldment aligned and drilled to fuselage and FU62 bulkhead. FU62A, FU63, and FU64 also aligned and drilled to fuselage.		
Buy:		
5A04 H. S. Pivot Support Weldment		\$109.00
10DAD01 A&D NACA SCOOPS, HIRTH 3203E		\$77.85
Scoops are predrilled to the fuselage. Sides and aft end are trimmed for the FLS Hirth 3203E Powerplant System. Cooling air to the engine is provided by the NACA scoops.		
NOSE BOX:		
01BAD01 A&D Nose Gear Box		\$451.00
Align and Drill Nose Gear Box sheet metal structure. LG-69 Bearing Blocks are drilled into place to assure accurate location of Nose Gear Strut. Nose Gear Box Series 3 is .032" thick, one piece sides instead of the traditional 3 piece sides.		
Buy:		
1B01 Nose Gear Box Series I		\$358.00
1B02 Nose Gear Box Series II		\$255.50

1B03 Nose Gear Box Series III	\$76.00
Send:	
LG69 Bearing Block (2)	

Nose Box

01BAS01 Assemble Nose Box, Basic	\$371.00
Nose Gear Box sheet metal structure riveted and ready for systems installation. Nutplates installed for rudder pedal mount. FU77 Bulkhead is not permanently riveted at this time until Nose Gear Box is located and drilled into fuselage. After pitot tube is aligned and drilled to FU77, it is then permanently riveted to the Nose Gear Box forward end.	
01BAD02 A&D Nose Box & Pitot to Fuselage	\$395.50
Locate and drill in Nose Gear Box structure to fuselage. Align and drill in Pitot and Static Noseboom to FU77 Bulkhead. Also, align and drill in CC77/78 Floor Channels and CC107/108 Heel Skid Plates.	
Buy:	
1C01 Pitot Static System	\$124.00
8C02 Cockpit Floor Series	\$373.50
8C03 Heel Skid Plate Install Series	\$168.50

**CHAPTER 2: VERTICAL STABILIZER and RUDDER**

VERTICAL STABILIZER

02AAD01 A&D Vertical Stabilizer	\$225.50
Align and drill spars, ribs and skin for riveting.	
Buy:	
2A07 Vertical Stabilizer Series	\$108.90
Send:	
VS1 Front Spar	
VS2 Rear Spar	
VS3 Vertical Stabilizer Skin	
VS12 Rear Spar Doubler	

RUDDER

02AAD02 A&D Rudder	\$184.50
Align and Drill ribs and skin for riveting.	
Buy:	
2A08 Rudder Series	\$126.10
Send:	
R1 Rudder Skin	

VERTICAL STABILIZER ATTACHMENT

02BAD02 A&D Vertical Stabilizer to Fuselage	\$165.50
Aircraft is leveled. Vertical stabilizer is located, aligned, and secured to the fuselage with fixtures. Rear spar is then drilled to VS17 Bulkhead. VS14 Center Angle, VS15/16 Attach Angles are drilled to the front spar and fuselage skins.	

**CHAPTER 3: WINGS**

WING CONSTRUCTION

03AAD02 A&D "B" Wings	\$1,312.00
Check wing spar ends (micrometer) to determine inboard end. Wing parts are loaded onto wing jig to align and drill ribs to main spar and rear spar. Wing skins positioned and drilled to ribs and rear spar. Wing trailing edge is then drilled and trimmed with the trailing edge drill/router template to ensure a perfectly straight wing trailing edge. Drill/router templates are then used for the inboard rib cutouts, fuel filler openings, fuel quick drain holes, and optical fuel gauge openings.	
Buy:	
3A07 FLS .032" Wing Skin Set	\$559.60
Send:	

W1 to W22 Ribs  
W23 Main Spar (2)  
W27 Rear Spar, L.H.  
W28 Rear Spar, R.H.

**WING ATTACH INSTALLATION**

03BAD01 A&D Wings to Center Spar \$372.25  
Wing spars are honed and sized to center spar. Aircraft is leveled and secured in jig. Wings are installed onto center spar, leveled and drilled into place. Locating hole is enlarged and taper reamed to fit W-74 Taper Bolts.  
Buy:  
W74 Taper Bolt (2) \$29.00 ea.

**CHAPTER 4: FLAP and AILERONS**

**FLAPS**

04AAD01 A&D Flaps \$287.00  
Align and drill nose ribs, sheetmetal ribs, and skin for riveting.  
Buy:  
4A01 Flap & Aileron Rib Series \$440.00  
Send:  
F10 Flap Skin (2)

**AILERONS**

04AAD02 A&D Ailerons \$246.00  
Align and drill ribs and skin for riveting.  
Buy:  
4A08 Aileron Arm Weldment \$99.50  
Send:  
A6 Aileron Skin (2)  
A17 Torque Tube (2)

**WING BRACKETS**

04AAD03 A&D F&A Brackets to Rear Spar \$496.00  
Wing brackets and bearings assembled. Fit and install F&A wing brackets to wing rear spar. Flap and ailerons are placed in a router/drill fixture and trailing edges net trimmed and drilled. Install F&A spacers, net trim ends and cutout flap center hinge opening.  
Buy:  
3A02 Wing Bracket Series \$435.00  
4A04 Flap & Aileron Spacer Series \$38.95  
Send:  
B539DD Bearing (6)  
B540DD Bearing (2)

**CHAPTER 5: HORIZONTAL STABILIZER**

**HORIZONTAL STABILATOR**

05AAD01 A&D Horizontal Stabilizer \$451.00  
Align and drill spars, ribs and skin for riveting. Spars are routed to net trim.  
Buy:  
5A01 Horizontal Stabilator Series \$225.00  
Send:  
HS1 Sub Spar (2)  
HS2 Rear Spar (2)  
HS3 Front Spar (2)  
HS4 Skin (2)

**TRIM TAB**

05AAD03 A&D Trim Tab \$92.25  
Buy:  
HS23 Hinge (4) \$11.55 ea.  
Send:  
HS5 Tab Spar

HS6 Tab Skin

## CENTER SECTION

05AAD02	A&D Horizontal Stabilator Center Section	\$165.50
	Channels routed to net trim. Align and drill Hor. Stab.Center Section, brackets, gussets, and control horns for riveting.	
Buy:	5A02 H.S. Center Sec. Mount Assy.	\$194.00
Send:	HS27 Channel	
	HS28 Channel	

## HORIZONTAL STABILATOR ATTACHMENT

05AAD04	A&D Horizontal Stabilators to Center Spar	\$238.00
	Aircraft is leveled and secured. H.S.'s are then positioned and locked into place with holding fixtures for drilling to the H.S. Center Spar.	

## CHAPTER 6: LANDING GEAR

### MAIN LANDING GEAR

06CAD01	A&D Main Landing Gear.	\$594.50
	Request Main Landing Gear letter for parts to buy and send.	
06CAD02	A&D FU99 Trunion Holes	\$95.00
	FU-99 Center Spar trunion (LG147) holes drilled and reamed. Final wing alignment is determined by these holes as is the proper alignment and operation of the main landing gear retract system.	
06DAD01	A&D M.L.G. Crossover Pulley Assembly	\$49.50
	LG132/133 Pulley Assemblies aligned and drilled. Made ready for drilling to LG14 Pulley Axles	
Buy:	6D04 M.L.G. Crossover Pulley Assy.	\$198.75

## CHAPTER 7: CONTROL SYSTEM

CAUTION: Do not install any flap and aileron control system parts until **AFTER** the wing has been located and drilled to the wing center spar. Contact BMT for detailed instructions for this phase of construction.

### RUDDER PEDALS

07AAD01	A&D Rudder Pedals	\$102.50
	Align and drill rudder pedals to pedal assembly.	
Buy:	7A02 Rudder Pedal Series	\$114.50
	7A03 Pedal Assembly	\$196.00
	7A04 Rudder Pedal Mount Series	\$31.50

### STICK BOX

07BAD01	A&D Stick Box Assembly	\$85.00
	Align, drill, install nutplates, and rivet together stick box assembly.	
Buy:	7B01 Control Stick Box Assy. Series	\$124.50
Send:	B538DD Bearing	

### AILERON CONTROL

07CAD01	A&D Aileron Torque Tube, Longitudinal	\$72.50
	CA1 fork and CA18 actuating arms indexed and drilled to CA9 torque tube.	
Buy:	7C03 Aileron Actuating Arm Series	\$95.50

7C08 Control System Torque Tube Set	\$84.00
Send:	
CA1 Fork	

**HORIZONTAL STABILATOR CONTROL**

07DAD01 A&D Horiz. Stab. For. Control Pulley	\$77.85
--	---------

A&D forward H.S. control pulley assembly in preparation for locating and drilling to fuselage. Aft H.S. pulley brackets match drilled for riveting to FU6 Bulkhead.  
Buy:

7D01 Horiz. Stab. Control Series	\$123.00
Send:	
BD-0083 Pulley	

**CHAPTER 8: COCKPIT and CANOPY CONSTRUCTION**

**COCKPIT FLOOR and SIDE CONSOLES**

08CAD01 A&D Basic Cockpit Floor and Console to Fuse.	\$574.00
--	----------

CC77/78 Channels, three piece cockpit floor and lower side console support angles located and drilled into place. Center floor access panels, FU127/128 Bulkheads, seat belt attachment doublers and brackets, heel skid plates, and upper console support angles also located and drilled into place.  
Buy:

8C01 Console Installation Series	\$225.00
8C02 Cockpit Floor Series	\$373.00
8C03 Heel Skid Plate Installation Series	\$168.50

**CHAPTER 10: POWERPLANT**

**ENGINE INSTALLATION**

10AAD01 A&D Basic Engine Support Structure	\$287.00
--	----------

Forward engine compartment floor located and drilled into place. Aft support bulkheads located and drilled to fuselage. Aft crossmember preassembled and drilled to aft bulkheads.  
Buy:

7C04 Aileron Torque Tube Support Series	\$230.00
10A01 Engine Installation Sheet Metal Series	\$298.00

**NOTE:** Engine Support Structure completed only after engine has been aligned and drilled into place.

10DAD01 A&D NACA Scoops, Hirth 3203E	\$77.85
--------------------------------------	---------

Scoops are predrilled to the fuselage. Sides and aft end are trimmed for the Hirth 3203E powerplant. Cooling air to the engine is provided by the NACA scoops.  
Buy:

10D01 NACA Scoops	\$172.00
10D02 NACA Cooling Scoops	\$80.25

**PROPELLER DRIVE SYSTEM**

10BAD01 A&D Drive Support, Hirth 3203E	\$328.00
--	----------

A&D drive system support sheet metal parts for the Hirth 3203E drive system to be mounted on FU6 bulkhead.  
Buy:

10B01 Drive System Sheet Metal Series, Hirth	\$333.00
--	----------

10BAD03 A&D Drive Support to FU6 Bulkhead	\$496.00
---	----------

Fit and install drive system sheet metal support to FU6 Bulkhead. Nutplates installed. Access opening for lower pulley support cut out. Parts deburred for riveting. Lower half of drive support riveted into place in preparation for drive system installation.  
Buy:

FU66 bulkhead (2)	\$65.00 ea.
-------------------	-------------