

**Estimate Name**      **Demo Part 14 Prog Die**

**Estimate Date**      5/28/2024 3:42 PM  
**Customer**      Auto Parts Inc  
**Project**      Demo  
**Estimated By**      jeffb@toolplanners.com  
**Completed Date**  
**Estimate Status**      In-Progress  
**Die Spec**      A Class Die (High Production) PPAP  
**Labor Rate**      North America  
**Estimated Price (USD)**      \$ 113692  
**Confirmed Price (USD)**      \$ 0  
**Confirmed Delivery (wks)**  
**Notes**



**Part**  
**Part Name**      Bracket Restraint  
**Part Number**      5665  
**Rev/EC**      A  
**Material Type**      Steel - HSS High Strength 60ksi (400 Mpa)  
**Material Thickness**      0.082 in

**Sheet Material**  
**Blank Size F-B**      5.131 in  
**Blank Size L-R**      5.899 in  
**Blank Weight**      0.705 lb  
**Blank Weight Per Part**      0.705 lb

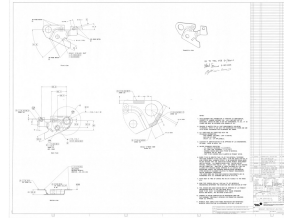
**Operation**  
**Part Annual Usage**  
**Die Type**      Progressive Die  
**Parts Per Stroke**      1

**Die Stations**  
**Marking/Stamp Stations**      1  
**Blanking Stations**      3  
**Draw/Crash Stations**      1  
**Trimming Stations**      1  
**Bend/Flange Stations**      1  
**Restrike Stations**      1  
**Coin/Flatten Stations**      1  
**Hole Punch Stations**      1  
**Idle Stations**      3  
**Parting Stations**      1  
**Total Number of Stations**      14

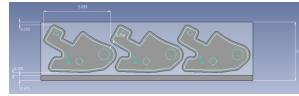
**Die Size**  
**Die Size L-R**      89 in  
**Die Size F-B**      23 in  
**Die Shut Height**      8.62 in  
**Buildup Height**      11.38 in  
**Shut Height**      20 in  
**Step**      5.899 in  
**Die Weight**      4957 lb

**Die Force**  
**Cutting**      73.1 UST  
**Bending**      0.3 UST  
**Drawing**      55.0 UST  
**Coining**      13.8 UST  
**Stripping**      7.3 UST  
**Bending Pad**      0.5 UST  
**Draw Pad**      5.5 UST  
**Total Force**      155.5 UST

**Brkt Rest stamping only.igs**



**246595 part drawing.pdf**



**strip.JPG**

**Die Cost Estimate**

Description	Material Cost	Labor Hours	Labor Cost	Total Cost	Percentage
Die Set (Shoe)	\$ 8175	17	\$ 1324	\$ 9499	11 %
Build Up	\$ 7134	20	\$ 1558	\$ 8692	10 %
Punch and Die	\$ 950	240	\$ 18694	\$ 19644	23 %
Punch and Die Options	\$ 1050	124	\$ 9627	\$ 10677	13 %
Spring Pads	\$ 4460	75	\$ 5873	\$ 10333	12 %
Stock Control	\$ 610	67	\$ 5219	\$ 5829	7 %
Cams	\$ -	-	\$ -	\$ -	-
Sensors	\$ 100	4	\$ 312	\$ 412	0 %
Tool Steels	\$ 1581	-	\$ -	\$ 1581	2 %
Wire EDM	\$ -	63	\$ 4868	\$ 4868	6 %
Die Surface Machining	\$ -	22	\$ 1714	\$ 1714	2 %
Custom Items	\$ -	-	\$ -	\$ -	-
Design	\$ -	82	\$ 6387	\$ 6387	8 %
Tryout	\$ -	39	\$ 3038	\$ 3038	4 %
Part Approval	\$ -	21	\$ 1636	\$ 1636	2 %
Die Approval	\$ -	8	\$ 623	\$ 623	1 %
<b>Total</b>	<b>\$ 24060</b>	<b>782</b>	<b>\$ 60871</b>	<b>\$ 84931</b>	

**Totals**

<b>Total Material</b>	\$ 24060
<b>Total Labor</b>	\$ 60871
<b>Total Mfg Cost</b>	\$ 84931
<b>Material Profit</b>	\$ 2673
<b>Labor Profit</b>	\$ 26088
<b>Total Profit</b>	\$ 28761

**Hours By Cost Center**

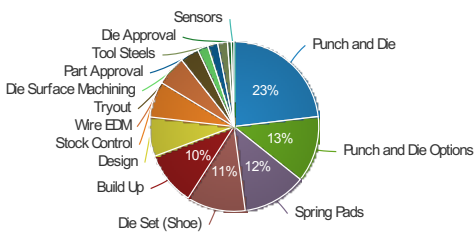
Labor Rate	Hours
Design	82
Machine/Assembly	555
Die Surface Machining	22
Wire EDM	63
Tryout	39
Inspection	21

<b>Subtotal</b>	\$ 113692
<b>Calibration</b>	
<b>Customer Adjustment</b>	
<b>Total Cost Estimate</b>	\$ 113692
<b>Labor Hours</b>	782 hrs
<b>Delivery</b>	16 wks

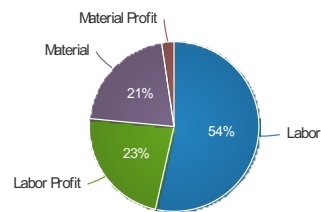
**Part Cost Estimate**

<b>Material Cost</b>	\$ 0.423
<b>Setup Cost</b>	\$ 0.006
<b>Run Cost</b>	\$ 0.050
<b>Total Part Cost</b>	\$ 0.479
<b>Tool Amortization</b>	\$ 0.259

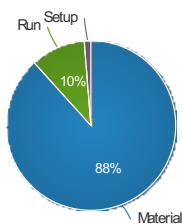
Cost Breakdown



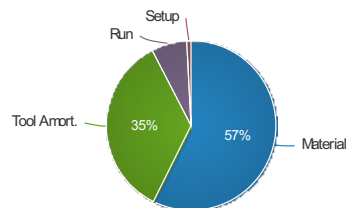
Material, Labor, and Profit



Part Cost



Part Cost with Tool Amortization



## Die Construction Specification

3d Design Required	Yes
Fully Detailed Design	Yes
Replaceable Details	Yes
Documentation Required	Yes
Document "As Built"	Yes

Heavy Duty Catalog Retainers	Yes
Hardened Backing Plates	Yes
Ball Lock Catalog Punches	No
Scrap Ejector Pins	Yes
Cutting Inserts	Yes
Die Buttons	Yes
Forming Inserts	Yes
Adjustable Forms	Yes
Punch Guiding	No
ID Die Details	Yes

Stripper & Pad Spring Type	Nitrogen Drop in Springs
Stripper & Pad Spring Retention	Spring Pockets
Stripper Retention	Spools
Stripper Guiding	Stripper Pin & Bushing
Stripper Windows	No
Draw Pressure Type	Tankers Manifold

Die Set Type	Plate
Die Set Guide Type	Precision Ball
Die Set Bosses	No
Die Set Thrust Blocks	No
Setup Blocks	Yes
Build Up Type	Parallel Build Up
Change / Master Plate	No Quick Change
Die Handling	Tapped Holes Set of Four
Data Label	Yes

Die Set Steel	ANSI - A36
Cutting Steel	ANSI - D2
Forming Steel	ANSI - D2
Draw Die Steel	ANSI - D2
Draw Punch Steel	ANSI - D2
Stripper Steel	ANSI - 4140 HT
Form Pad Steel	ANSI - 4140 HT
Draw Binder Steel	ANSI - D2
Punch Plate Steel	ANSI - 4140 HT
Die Plate Steel	ANSI - 4140 HT
Backing Plate Steel	ANSI - A2
Riser Plate Steel	HRS
Pilot Punch Steel	ANSI - M4

Parts To Inspect 100%	6
Parts To Inspect Criticals Only	30
Number of Inspections	1
Process Capability Studies	Yes
Run Off Location	Run Off At Seller
Run Off Quantity	300
Run Off Time	8 hours