

ETCS INC

ETCS TOOL & DIE

21275 MULLIN AVE, WARREN, MI 48089

www.etcsinc.com, info@etcsinc.com

2021-2022 MMBDC certified

Minority Business Enterprise (MBE)

2021-2022 ISO 9001 certified



ETCS, Inc. Capabilities

ETCS INC is an Engineering, Tooling, Components systems company headquartered in the Metro-Detroit area that was established in 2003.

ETCS INC was founded to offer tool design, Engineering & Tool build for Stamping Dies, Injection Molds & Check Fixtures. Sister company, Chippewa Plastics, offers full-service tool room and plastic part production in MI



www.etcshinc.com

www.chippewaplastics.com



Our largest Clients include:



FIAT CHRYSLER AUTOMOBILES



wico metal products
Industry Leader In Stamped Extrusions and More...



ETCS, Inc. Capabilities

Engineering

- ETCS offers Stamping tool design, Injection mold & fixture design service.
- Manufacturing Feasibility, Product Optimization & CAE services. Quality Services, Measurement validation using Blue Light/ White Light scanning.
- Direct engineering vendor to Ford, GM, FCA, and several tier suppliers like Autodie and Gestamp.

Tooling

- ETCS builds over 200 stamping dies, injection molds, and check fixtures a year.
- Chippewa Plastic is a full service mold shop in Evert MI and ETCS Tool & Die is a full service Stamping Die shop in Warren MI.
- ETCS is recommended by Ford GVT and has won several tooling programs via the Ford/ Ariba auction process (details on next slide).

Components

- ETCS through its Plastics manufacturing plant in Evert MI supplies Interior and Exterior plastic parts and assemblies (Injection molded parts, up to 1000T).
- Major customers include Magna Seating, JCI, SMP/Mercedes, IAC, Group Antolin, General Dynamics, Steelcase, etc. www.chippewaplastics.com

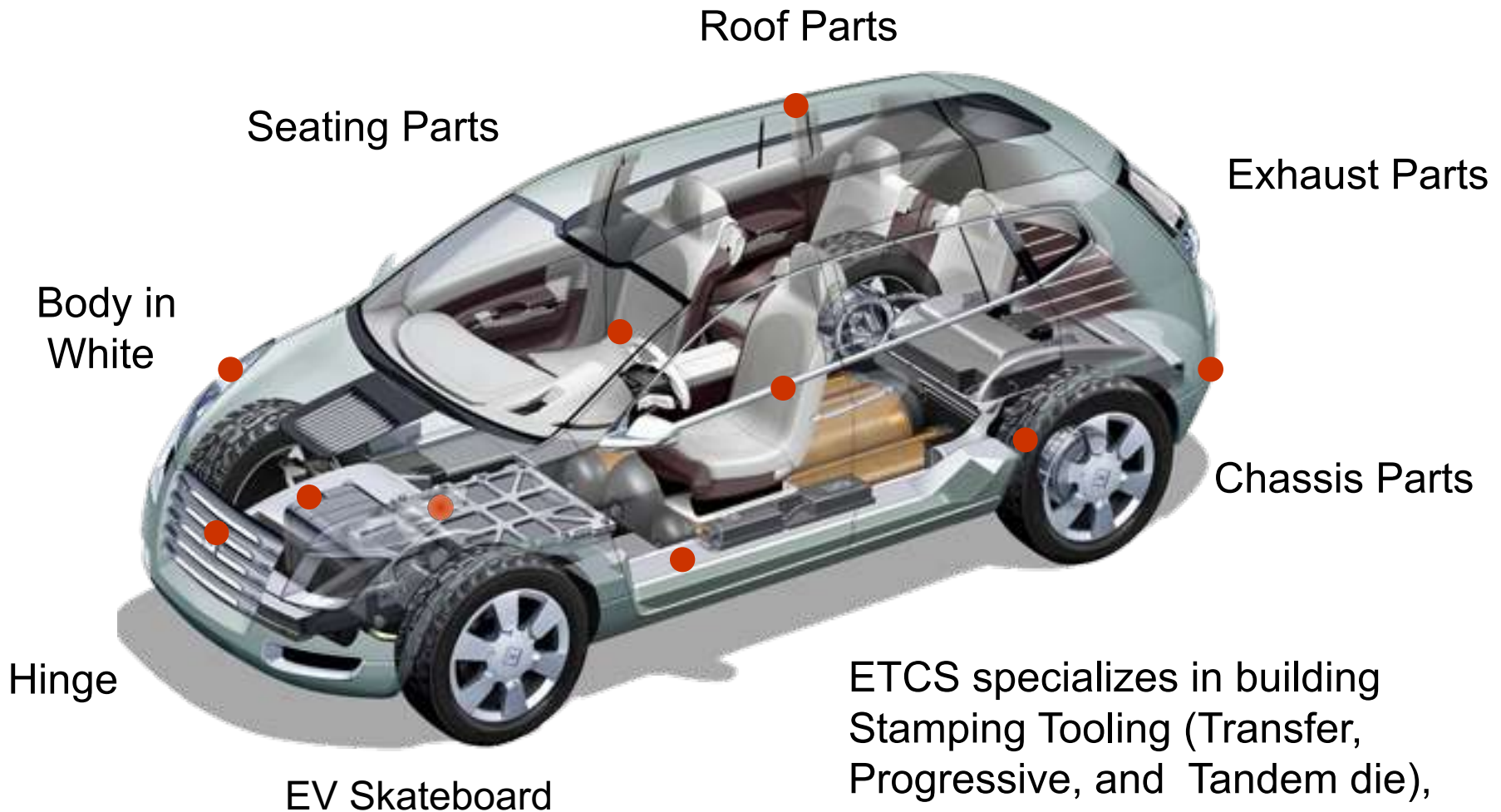


OUR MISSION

- The mission of ETCS is to serve our customers, in a responsive and cost-effective manner, while meeting their goals for developing high-quality products and services. Our customer base is the worldwide automotive and aerospace industry, as well as those customers who can benefit from our core technologies and expertise.
- Customer Satisfaction is a measure of our success and people are our strength.



Automotive Stamping Tooling & Parts



ETCS specializes in building Stamping Tooling (Transfer, Progressive, and Tandem die), precision checking fixtures for the above-mentioned parts.













Die Engineering, Die Design & Die Manufacturing Activities

- Die Design supplier to Ford Motor, Autodie, and many major Tier suppliers
- Product Optimization and CAE supplier to Ford, Gestamp, Fisher Dynamics, Martinrea and many Tier Stampers.
- Die Buyoff services – PPAP with Blue Light/White Light measurement and Gage R&R
- Die Build supplier to OEM: Rivian, Canoo, Honda, Ford, GM, Stellantis, Tier I & Tier II: WICO, Flex N Gate, Magna, Lear, Fisher Dynamics, Hamlin, Titan Industries, JCI, Challenge etc.

ETCS EQUIPMENT LIST

No.	Equipment Name	Picture	No.	Equipment Name	Picture	No.	Equipment Name	Picture
1	300 T Verson press with feel line, 96 Bed		2	Hurco VMX42 CNC machine with auto tool changer		3	Bridgeport 1	
4	1000T Danly press with feed line, 180" X 80", SH 53"		5	Hurco Vertical CNC machine		6	Bridgeport 2	
7	Dry Grinder 1		8	Wet Grinder 1		9	End Grinder	
10	Dry Grinder 2		11	Drill Press		12	Radial Drill	

ETCS EQUIPMENT LIST

No.	Equipment Name	Picture	No.	Equipment Name	Picture	No.	Equipment Name	Picture
13	Rough grinder		14	Tarus Horizontal arm CMM 10' by 6' bed		15	Ingersoll Rand Air Compressor	
16	Leblond Lathe		17	30 HP Denver Gardner Air Compressor		18	Toyota 5000 LBS Forklift	
19	Hyster 15000 LBS Forklift		20	7 ton crane		21	5 ton crane	
22	15/15 ton Overhead dual head roll over crane		23	10/10 ton Demag crane		24	5 ton crane	



ETCS EQUIPMENT



300 TON PRESS W/FEED LINE
RL: 96" x FB: 60"



1000 TON PRESS W/FEED LINE
RL:180" x FB:80"



FORKLIFT- 5000 LBS



FORKLIFT 15000LBS



CRANE 15/15/10/10/5/5/5 TON (7 NOS)



ETCS MANUFACTURING EQUIPMENT



BAND SAW



DRILL M/C



HURCO CNC M/C
42" 24" X/Y Axis Travel



CARLTON RADIAL DRILL



MILLING M/C



PEDESTRIAL GRINDER



ETCS MANUFACTURING EQUIPMENT



SURFACE GRINDER



SAW



SURFACE GRINDER



CNC MILLING M/C



SURFACE GRINDER



LATHE M/C



WET SURFACE GRINDER



ETCS EQUIPMENT



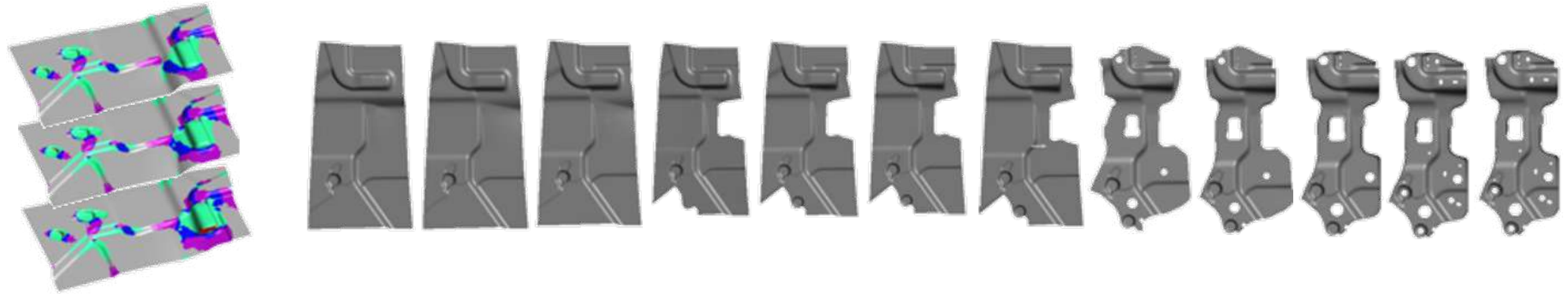
TARUS HORIZONTAL ARM CMM



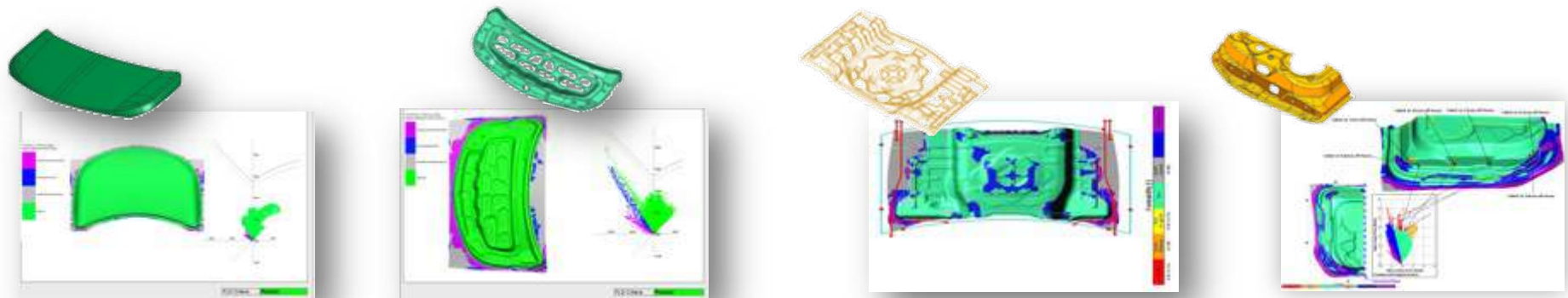
3D BLUE LIGHT SCANNER
ATOS/GOM



DENVER GARDNER
AIR COMPRESSOR

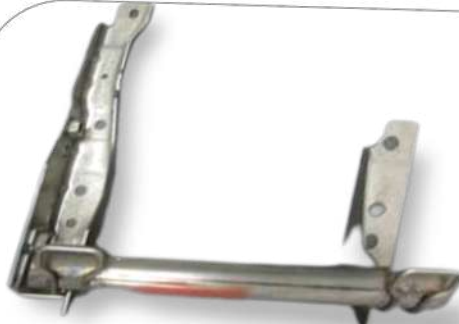


- Multi-step simulation using Autoform
- Spring-back Analysis and correction of draw surface for spring back compensation,
- Experienced in the simulation of Dual-phase materials, tailor welded blanks and Aluminum





Automotive Seating Parts





Automotive Seating Parts



BACKREST SIDE MEMBER LH/RH



UPPER CROSS MEMBER



CUSHION SIDE MEMBER LH/RH



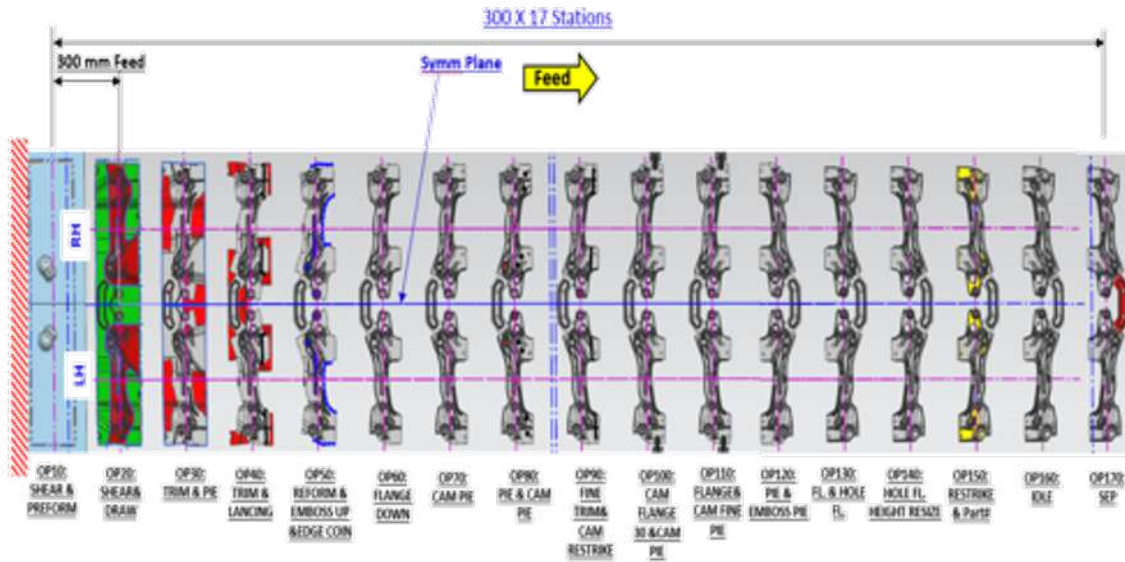
BRACKET



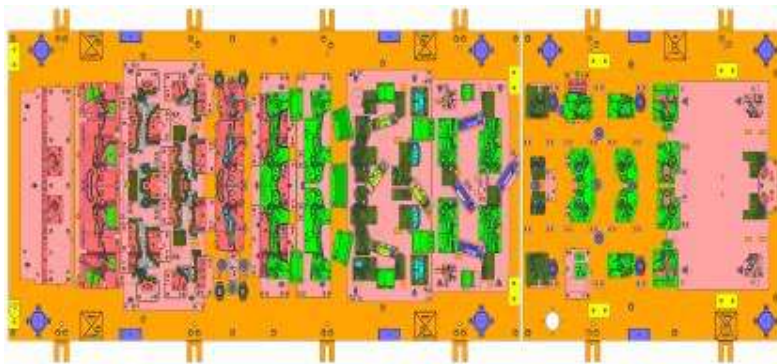
GUSSET



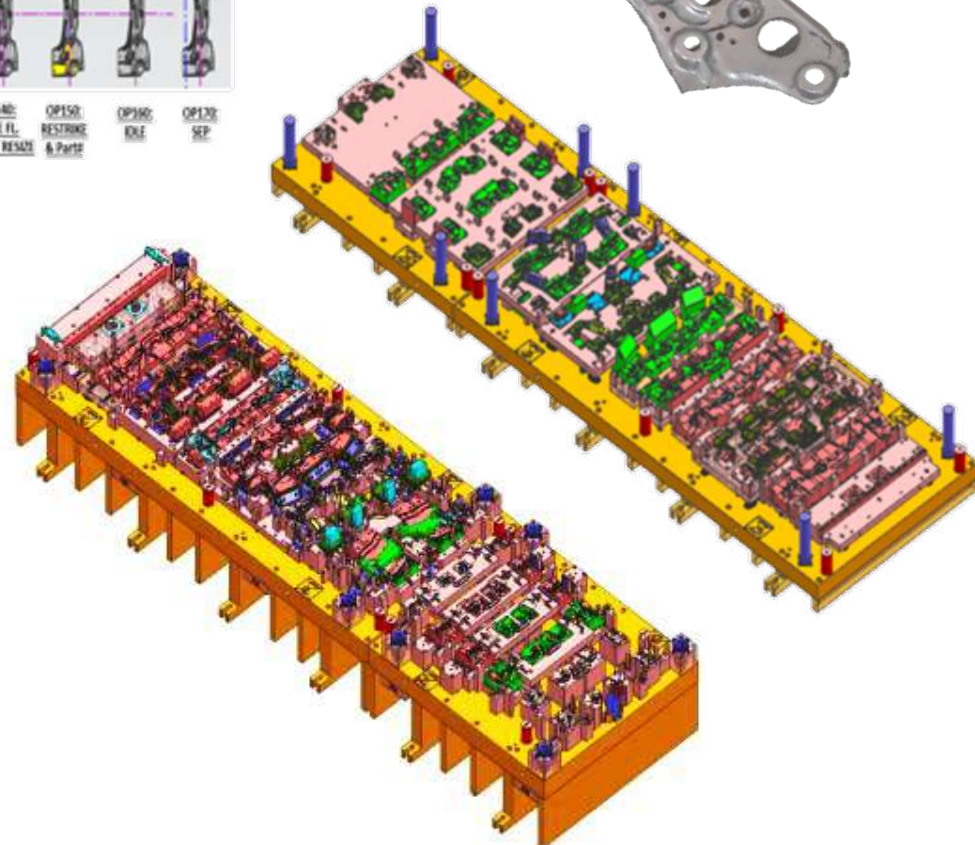
Dies Built – For Seating System Parts



1ST ROW LOWER SIDE MEMBER

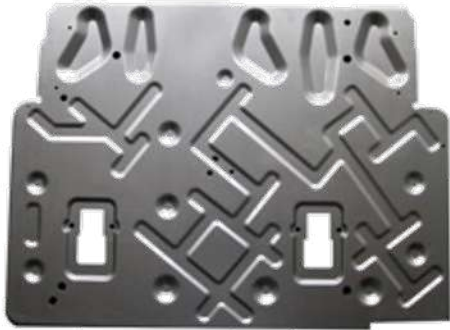


Total weight- 31.96 Tons

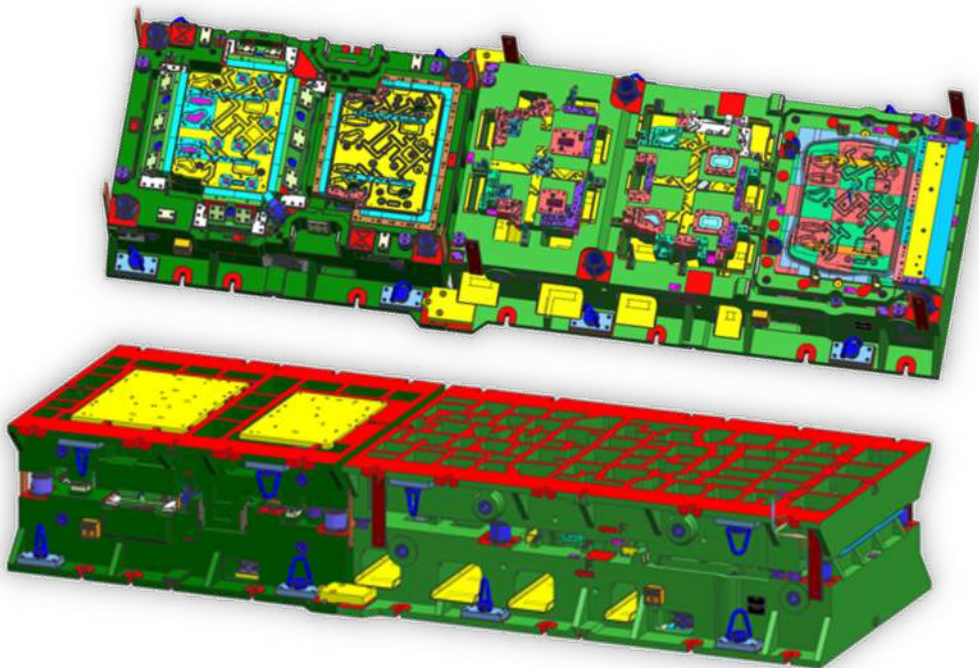
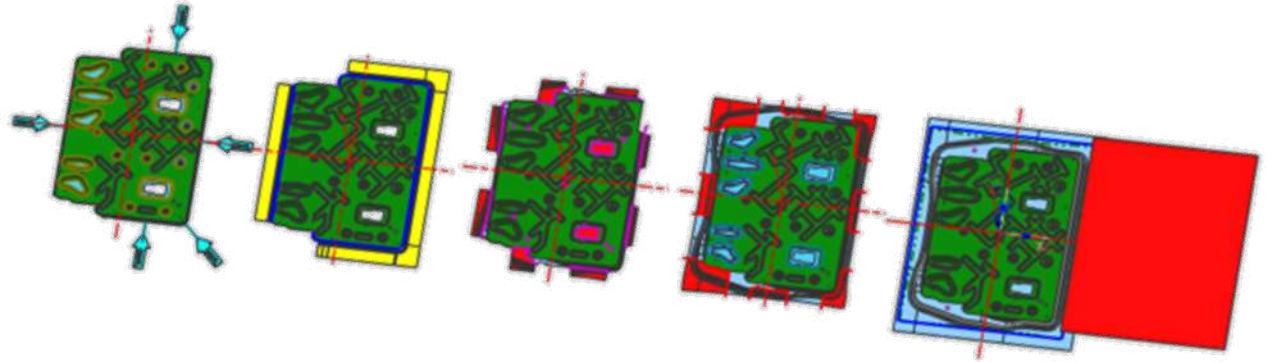




Dies Built – For Seating System Parts



60% BACK PANEL



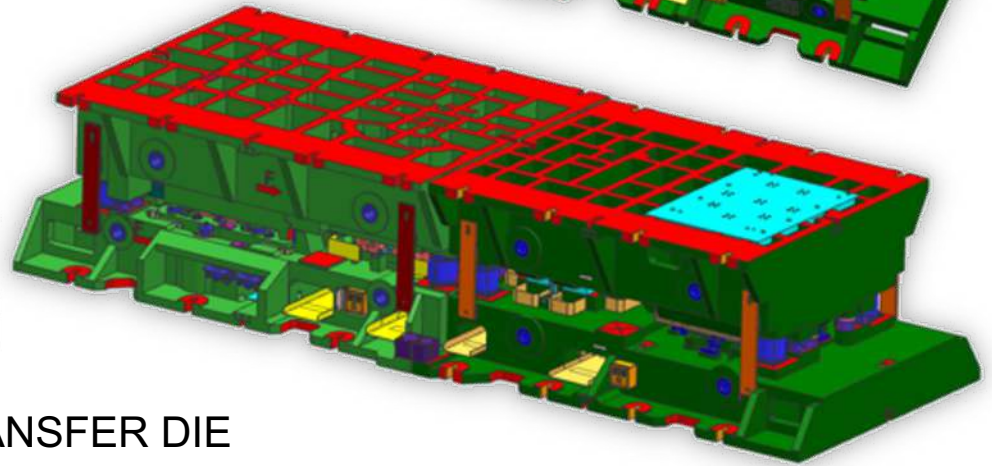
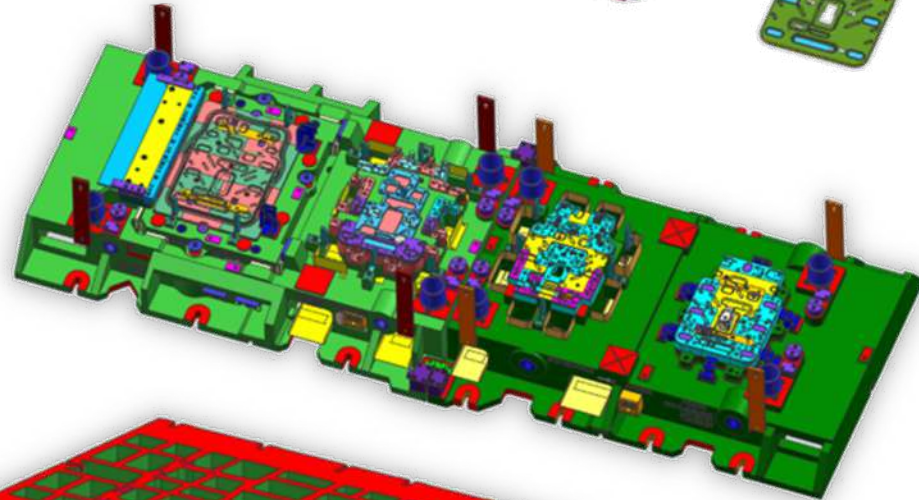
TRANSFER DIE



Dies Built – For Seating System Parts



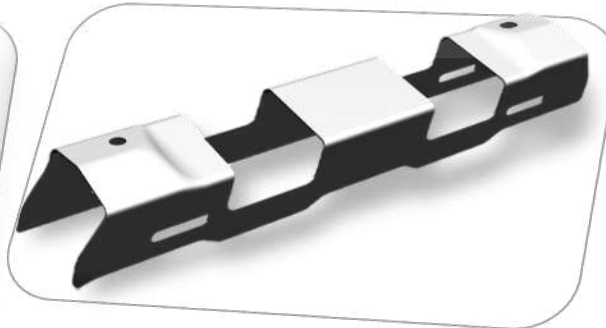
40 % BACK PANEL



TRANSFER DIE

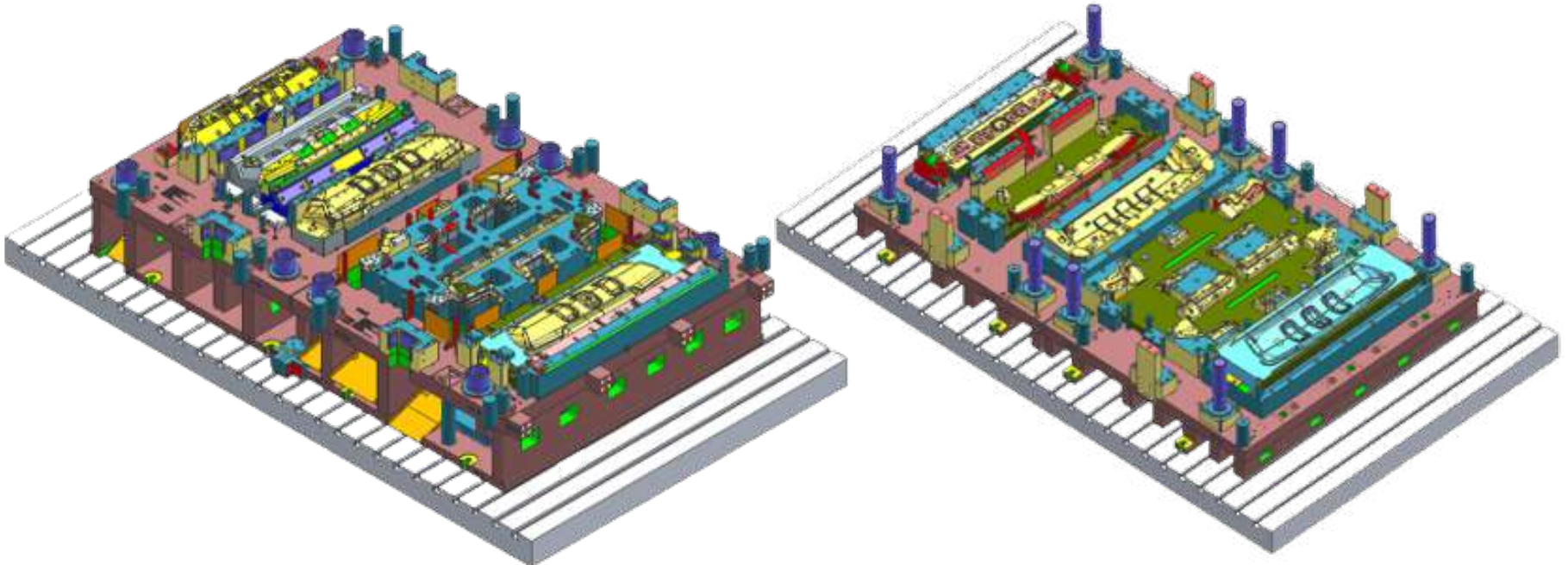
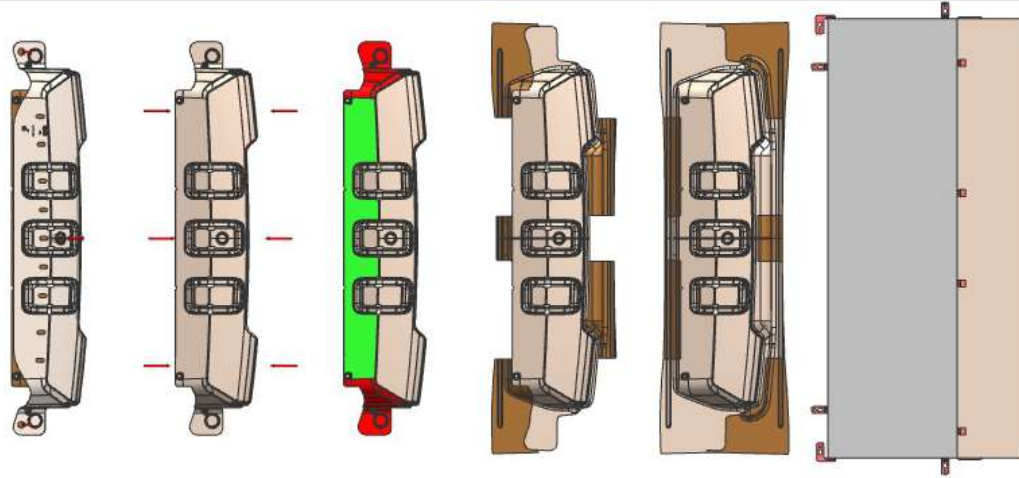
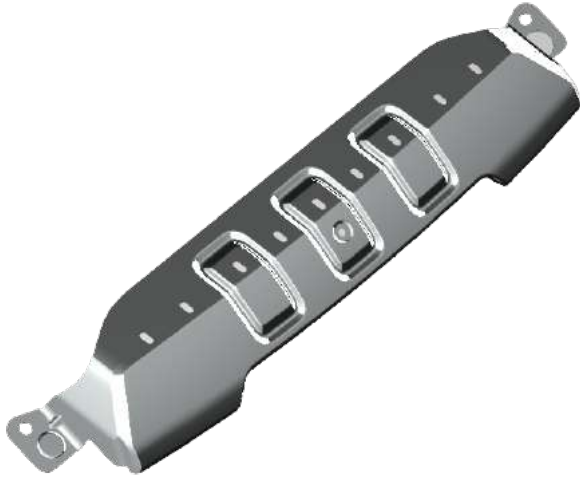


Dies Built – For Rivian Electric Amazon Van Program (RPV-500/700)



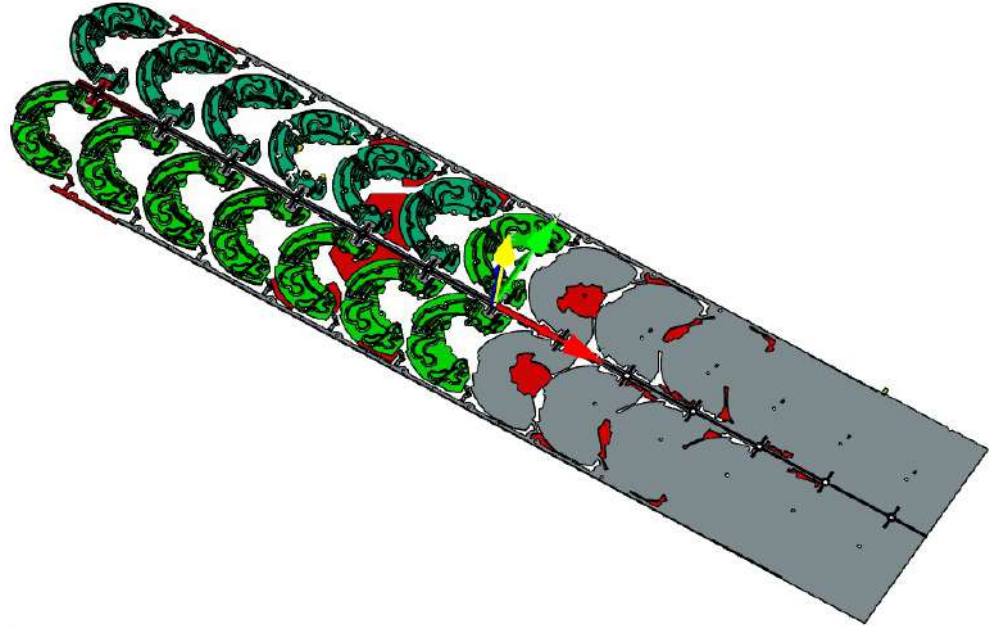
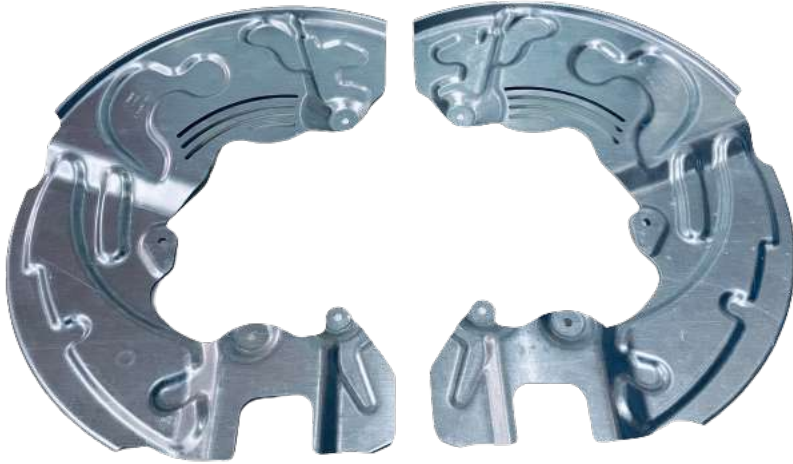


Dies Built – Ford/ TDM Skid Plate



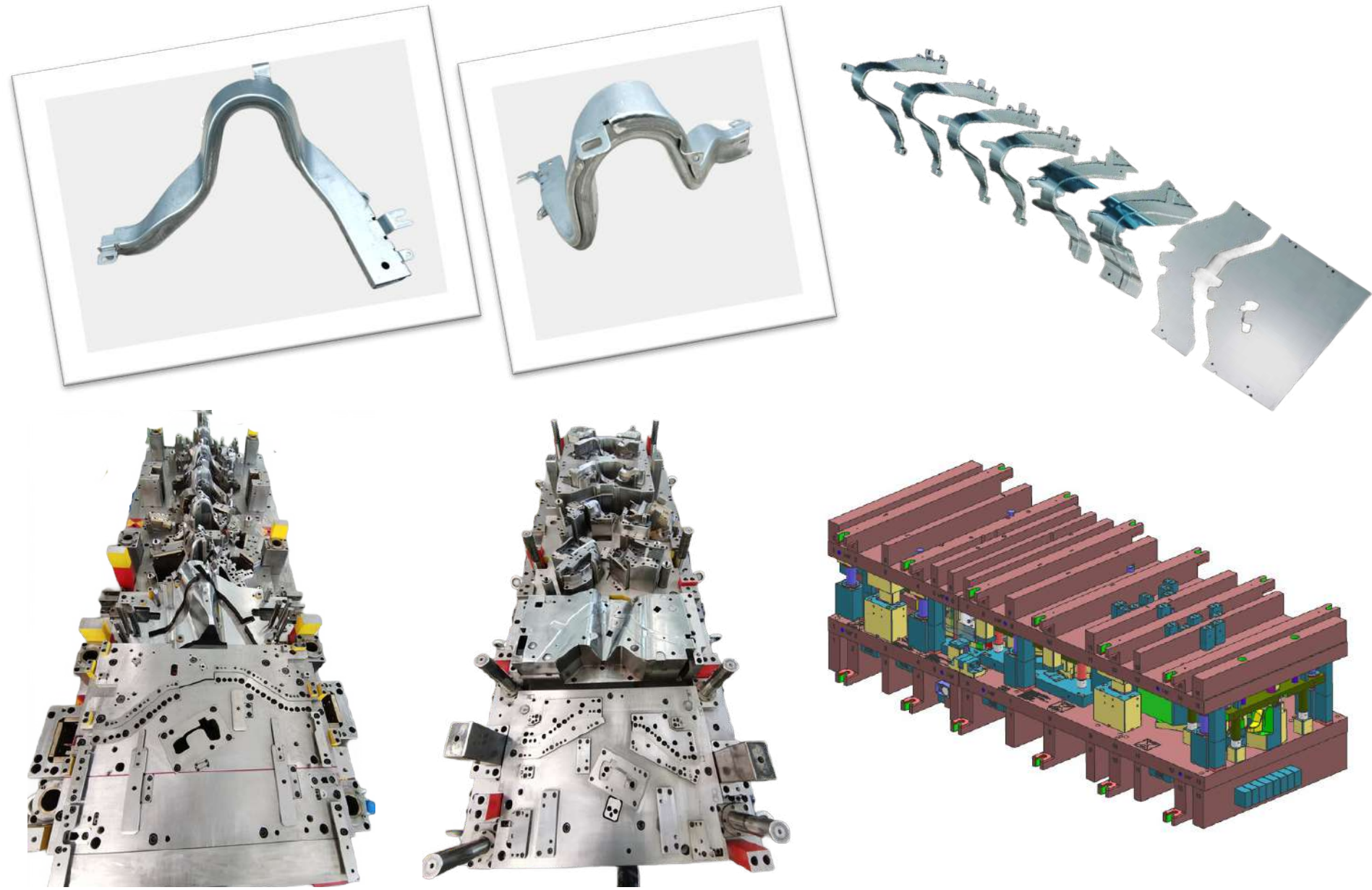


Dies Built – Ford/Wico CX727 Program





Dies Built – FCA Aptiv Tunnel





Major Die Build Programs

- ❖ 2023 Fisher CDX746_7 Electric Crossover (Nautilus/Edge)
- ❖ 2022/3 Canoo EV Van
- ❖ 2022 Flex N Gate Ford P708 Bumper program
- ❖ 2022 Rivian Electric Amazon Van Program (RPV-500/700)
- ❖ 2021 FCA Aptive EV
- ❖ 2021/22 Ford/Wico P758 Small Pickup Program
- ❖ 2021/22 Ford/Wico P708
- ❖ 2021 Ford U725 Bronco Program
- ❖ 2021 GM/Fisher Synergy Program
- ❖ 2021 GM/Challenge B1TXX Electric Hummer Program
- ❖ 2020/21 Chrysler/Magna Jeep WL/WL45 Programs
- ❖ 2020 Ford/Wico CX727 Program
- ❖ 2019 Mercedes C167, X167, V167 Programs
- ❖ 2018 Mercedes X166, W166, C292 Programs
- ❖ 2018 Ford/Wico CX483 Program
- ❖ 2017/18 Ford/Wico CX482 Program
- ❖ 2017/18 Ford/Brose/Gill C2 1st Row Seat Structures Metal Program
- ❖ 2017/18 Ford/Lear U625 1st Row Seat Structures Metal Program
- ❖ 2017 VW/JCI Tiguan Program
- ❖ 2016/17 Ford/JCI U55X Seat Structures Metal Tooling
- ❖ 2015/16 GM C1XX Stamping and Plastic Tooling
- ❖ 2014 FORD CD4.2 seat structure program(CD539N & U540 program)
- ❖ 2013 Ford V363 (Transit) 1st Row & 2nd Row Plastic seating
- ❖ 2011 RT Mini-Van Program
- ❖ 2010 WK/WD Chrysler Seating Plastics Program

Major Die Build Programs - Details

Ford/Flex N Gate P708 - Bumper Stampings

No.	Part # (or description)	Picture	Tooling Type	Station	Stock Attributes Th x W x P			Tool Dimensions LR x FB x SH			Tonnage
1	PC3B 17B894 / 5 AA Plate Front Bumper RH / LH		1+1 OUT PROG DIE	12	Matl Type	WSS-M1A367- A46	ST E	LR	220	"	2000 T
					Thickness	4.20	mm	FB	65	"	
					Width	990	mm	SH	45	"	
					Pitch	445.00	mm	TP		"	
2	PC3B 17B836 / 7 AA Brkt Frt Bmpr Outer RH / LH		1+1 OUT PROG DIE	13	Matl Type	WSS-M1A367- A46	ST E	LR	107	"	800 T
					Thickness	2.67	mm	FB	62	"	
					Width	921	mm	SH	45	"	
					Pitch	189.00	mm	TP		"	
3	PC3B 17A750 AA- Brkt Asy RR Bmpr Mtng RH		1 OUT PROG DIE	11	Matl Type	WSS-M1A367- A46	ST E	LR	127	"	1000 T
					Thickness	4.20	mm	FB	50	"	
					Width	620	mm	SH	45	"	
					Pitch	270.00	mm	TP		"	
4	PC3B 17A751 AA- Brkt Asy RR Bmpr Mtng LH		1 OUT PROG DIE	11	Matl Type	WSS-M1A367- A46	ST E	LR	127	"	1000 T
					Thickness	4.20	mm	FB	50	"	
					Width	620	mm	SH	45	"	
					Pitch	270.00	mm	TP		"	
5	PC3B 17795 / 6 AA Arm RR Bmpr Otr RH / LH		1+1 OUT BLANK + MANUAL TRANSFER	8	Matl Type	WSS-M1A367- A46	ST E	LR	114	"	1000 T
					Thickness	2.00	mm	FB	41	"	
					Width	386	mm	SH	60	"	
					Pitch	256.00	mm	TP		"	
6	PC3B 17787 / 8 AAW Bracket RR Bmpr Arm Otr RH / LH		1+1 OUT PROG DIE	11	Matl Type	WSS-M1A367- A46	ST E	LR	69	"	1000 T
					Thickness	5.70	mm	FB	55	"	
					Width	740	mm	SH	45	"	
					Pitch	136.00	mm	TP		"	



Major Die Build Programs - Details

Ford/Flex & Gate P708 - Bumper Stampings



Major Die Build Programs - Details

Ford/Flex & Gate P708 - Bumper Stampings





Major Die Build Programs - Details

Rivian Electric Amazon Van Program USA 2022

No.	Part # (or description)	Picture	Tooling Type	Stat	Stock Attributes Th x W x P			Tool Dimensions LR x FB x SH			Tonnage
1	PT00032830 / PT00054525		1+1-OUT PROG DIE	13	Matl Type	CR-550Y-650T- LA-SH-GI60-LI	STE	LR	199	"	850 T
					Thickness	2.50	mm	FB	52	"	
					Width	662	mm	SH	36	"	
					Pitch	370.00	mm	TP		"	
2	PT00054446 / PT00054451		1+1-OUT PROG DIE	15	Matl Type	CR - DP 980	STE	LR	104	"	1100 T
					Thickness	2.00	mm	FB	72	"	
					Width	1180	mm	SH	40	"	
					Pitch	160.00	mm	TP		"	
3	PT00031919-REINF - FRT RAIL ; INR ; RR ; UPR ; RPV		1-OUT PROG DIE	14	Matl Type	CR-590Y-980T- DP-GI60	STE	LR	85	"	1200 T
					Thickness	2.20	mm	FB	86	"	
					Width	1546	mm	SH	40	"	
					Pitch	137.00	mm	TP		"	
4	PT00031940-REINF - FRT RAIL ; INR ; RR ; UPR ; LH ; RPV		1-OUT PROG DIE	14	Matl Type	CR-590Y-980T- DP-GI60	STE	LR	86	"	1183
					Thickness	2.20	mm	FB	86	"	
					Width	1525	mm	SH	40	"	
					Pitch	138.00	mm	TP		"	
5	PT00031941-REINF - FRT RAIL ; OTR ; RR ; UPR ; LH ; RPV		1-OUT PROG DIE	14	Matl Type	HR-550Y-610T- LA-GI60	STE	LR	89	"	735
					Thickness	2.20	mm	FB	85	"	
					Width	1515	mm	SH	40	"	
					Pitch	144.00	mm	TP		"	
6	PT00031917-REINF - FRT RAIL ; OTR ; RR ; UPR ; RPV		1-OUT PROG DIE	14	Matl Type	CR-590Y-980T- DP-GI60	STE	LR	89	"	1200 T
					Thickness	2.20	mm	FB	86	"	
					Width	1546	mm	SH	40	"	
					Pitch	143.00	mm	TP		"	
7	PT00034320- CROSSMEMBER - MOTOR MOUNT ; LWR ; RPV-500		1-OUT PROG DIE	14	Matl Type	CR-420Y-480T- LA-GI60	STE	LR	149	"	304
					Thickness	1.80	mm	FB	49	"	
					Width	604	mm	SH	40	"	
					Pitch	253.00	mm	TP		"	

No.	Part # (or description)	Picture	Tooling Type	Stat	Stock Attributes Th x W x P			Tool Dimensions LR x FB x SH			Tonnage
8	PT00034338- CROSSMEMBER - MOTOR MOUNT ; LWR ; RPV- 700/900		1-OUT PROG DIE	14	Matl Type	CR-420Y-480T- LA-GI60	STE	LR	148	"	365
					Thickness	1.80	mm	FB	56	"	
					Width	785	mm	SH	40	"	
					Pitch	250.00	mm	TP		"	
9	PT00032023 LH / RT BRKT - FRT RAIL ; INR ; RR ; LH ; RPV- 700		1+1 OUT PROG DIE	10	Matl Type	CR-590Y-980T- DP-GI60	STE	LR	188	"	1472
					Thickness	2.00	mm	FB	80	"	
					Width	1380	mm	SH	40	"	
					Pitch	452.00	mm	TP		"	
10	PT00052930/PT00 054301		1+1 OUT PROG DIE	12	Matl Type	CR-330Y-590T- DP-SH-GI60-LI	STE	LR	139	"	2000 T
					Thickness	2.00	mm	FB	71	"	
					Width	1143	mm	SH	40	"	
					Pitch	273.00	mm	TP		"	
11	PT00050026/PT00 054300		1+1 OUT PROG DIE	12	Matl Type	CR-330Y-590T- DP-SH-GI60-LI	STE	LR	135	"	2000 T
					Thickness	2.00	mm	FB	71	"	
					Width	1145	mm	SH	40	"	
					Pitch	265.00	mm	TP		"	
12	PT00031921 LT / RT PLATE - FRT BUMPER MNTG ; RPV		1+1 OUT PROG DIE	12	Matl Type	HR-550Y-610T- LA-GI60	STE	LR	127	"	2000 T
					Thickness	3.50	mm	FB	58	"	
					Width	820	mm	SH	40	"	
					Pitch	248.00	mm	TP		"	
13	PT00032829 / PT00032831		1+1-OUT PROG DIE	13	Matl Type	CR-420Y-480T- LA-SH-GI60-LI	STE	LR	151	"	1000 T
					Thickness	2.50	mm	FB	69	"	
					Width	1112	mm	SH	36	"	
					Pitch	275.00	mm	TP		"	
14	PT00031926 RT / LT BRKT - FRT RAIL ; OTR ; RR ; RPV		2-OUT PROG DIE	11	Matl Type	CR-590Y-980T- DP-GI60	STE	LR	227	"	2500 T
					Thickness	2.20	mm	FB	74	"	
					Width	1240	mm	SH	40	"	
					Pitch	502.00	mm	TP		"	

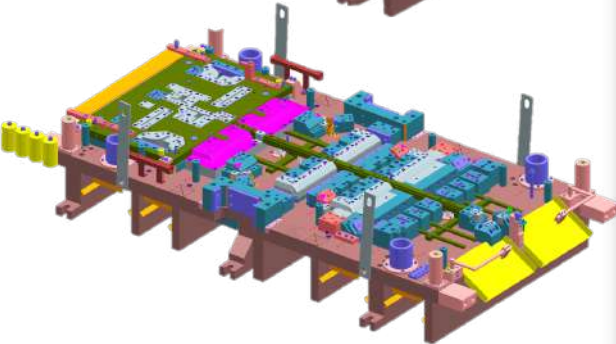
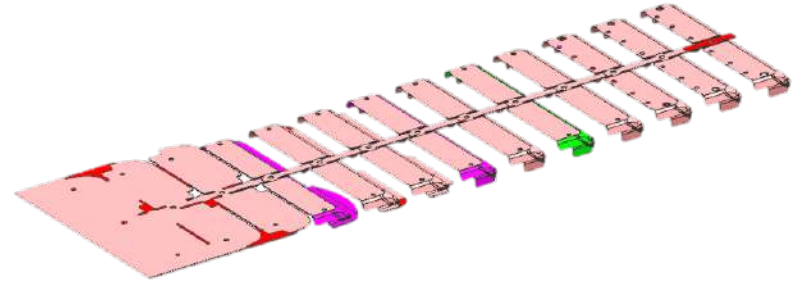
Major Die Build Programs - Details

Rivian Electric Amazon Van Program USA 2022

No.	Part # (or description)	Picture	Tooling Type	Stat	Stock Attributes Th x W x P			Tool Dimensions LR x FB x SH			Tonnage
15	PT00044629-BRKT-SKATEBOARD TO BODY ATT_AT_6; LH; RPV PT00044615-BRKT-SKATEBOARD TO BODY ATT_AT_6; RH; RPV		1+1 OUT PROG DIE	10	Matl Type	CR-550Y-650T- LA-SH-G160-II	STE	LR	103	*	550 T PRESS# 5 600 T USED
					Thickness	2.20	mm	FB	40	*	
					Width	358	mm	SH	32	*	
					Pitch	236.00	mm	TP		*	
16	PT00050544-BRKT DAMPER MOUNT LH / PT00050545-BRKT DAMPER MOUNT RH		1+1 OUT PROG DIE	10	Matl Type	CR-550Y-650T- LA-SH-G160-II	STE	LR	62	*	650 T PRESS# 1 1000 T USED
					Thickness	3.00	mm	FB	46	*	
					Width	520	mm	SH	32	*	
					Pitch	132.00	mm	TP		*	
17	PT00044088-BRKT-SKATEBOARD TO BODY ATT_AT_5; RPV / PT00044089-BRKT-SKATEBOARD TO BODY ATT_AT_5; LH; RPV		1+1 OUT PROG DIE	10	Matl Type	CR-550Y-650T- LA-SH-G160-II	STE	LR	142	*	900 T PRESS# 1 1000 T USED
					Thickness	2.50	mm	FB	42	*	
					Width	425	mm	SH	32	*	
					Pitch	336.00	mm	TP		*	
18	PT00032155		1 Out Transfer Die		Matl Type	CR-330Y-590T- DP-SH-G160-II	STE	LR	113.23	*	900 T
					Thickness	1.20	mm	FB	69.69	*	
					Width	1018.00	mm	SH	35.98	*	
					Pitch	221.00	mm	TP		*	
19	PT00050546- PT00050547		1+1 Out Prog Die		Matl Type	HR-550Y-610T- LA	STE	LR	140.16	*	610 T
					Thickness	2.00	mm	FB	52.36	*	
					Width	480.00	mm	SH	29.49	*	
					Pitch	165.00	mm	TP		*	
20	PT00044317		2-Out Prog Die		Matl Type	CR-420Y-480T- LA	STE	LR	45.08	*	90 T
					Thickness	1.00	mm	FB	39.76	*	
					Width	336.00	mm	SH	20.98	*	
					Pitch	63.00	mm	TP		*	
21	PT00033646		1-Out Prog Die		Matl Type	CR 330Y-590T- DP-SH-G160-II	STE	LR	137.80	*	420 T
					Thickness	1.20	mm	FB	56.30	*	
					Width	751.00	mm	SH	29.49	*	
					Pitch	235.00	mm	TP		*	
22	PT00032174		1-Out Transfer Die		Matl Type	CR-330Y-590T- DP-SH-IIC-II	STE	LR	111.73	*	520 T
					Thickness	1.8	mm	FB	45.67	*	
					Width	416.00	mm	SH	30.98	*	
					Pitch	288.00	mm	TP		*	

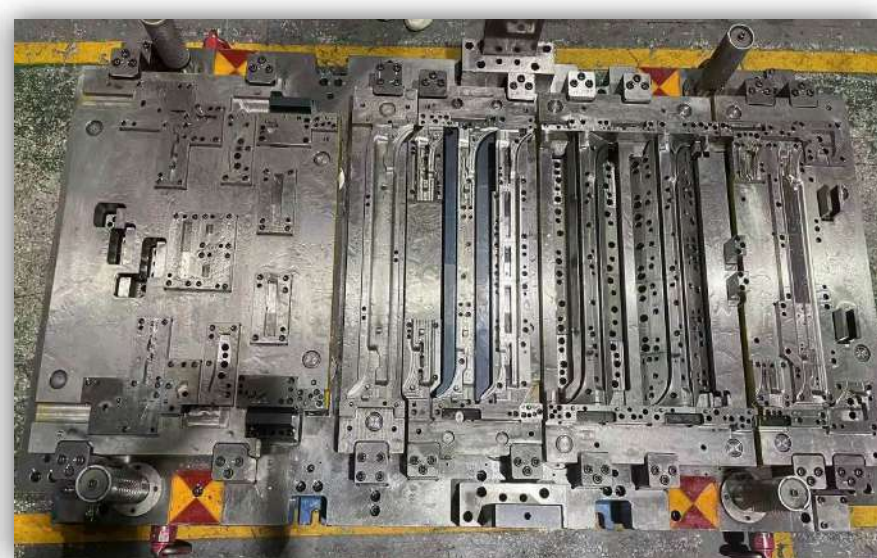
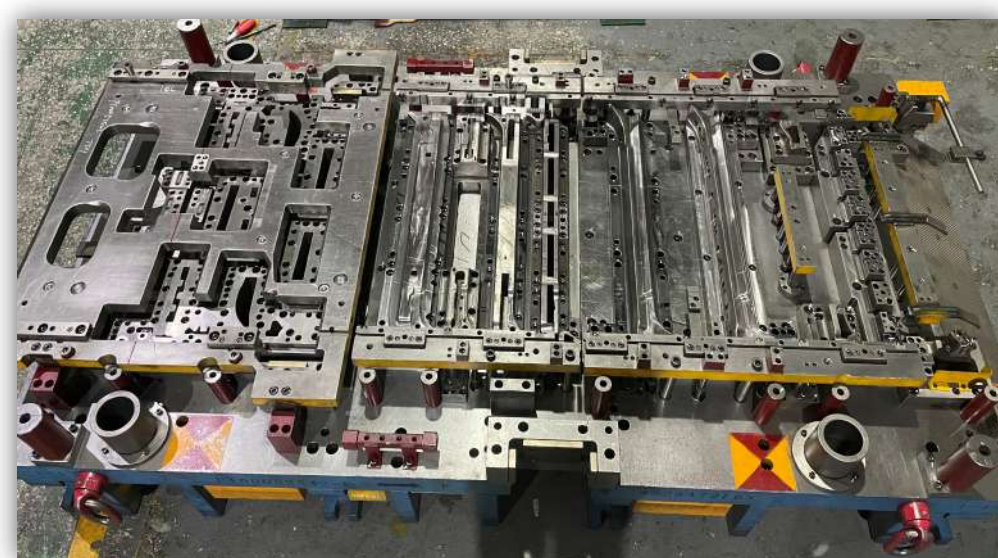
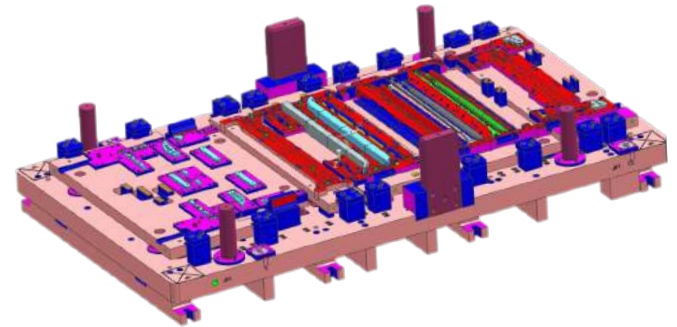
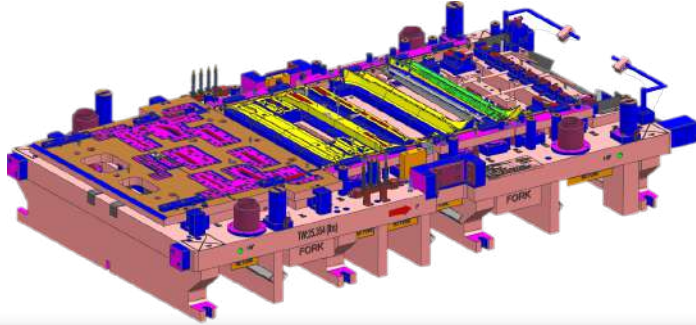
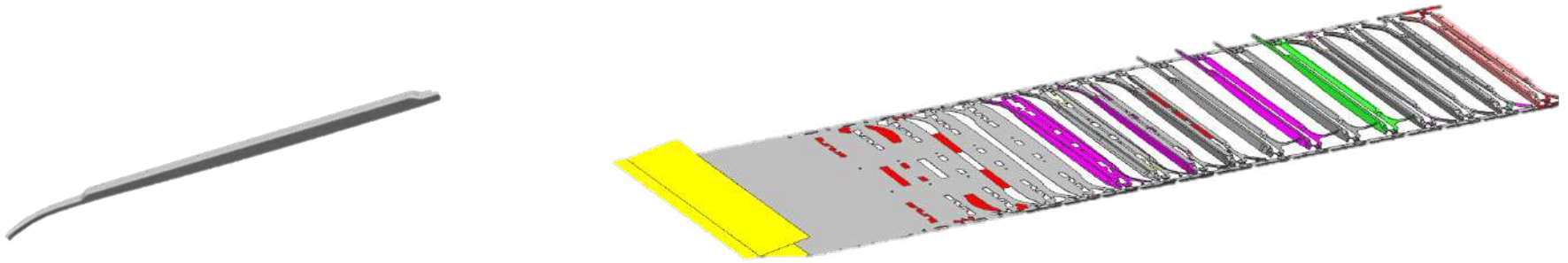


RIVIAN USA 2021: RPV700 D-Pillar



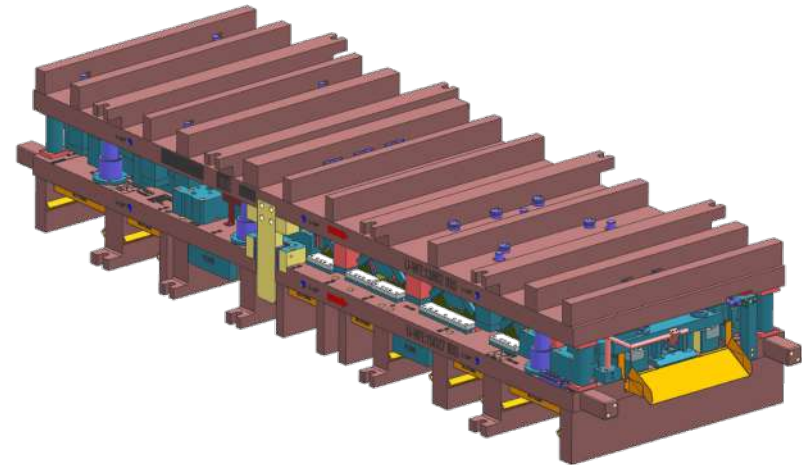
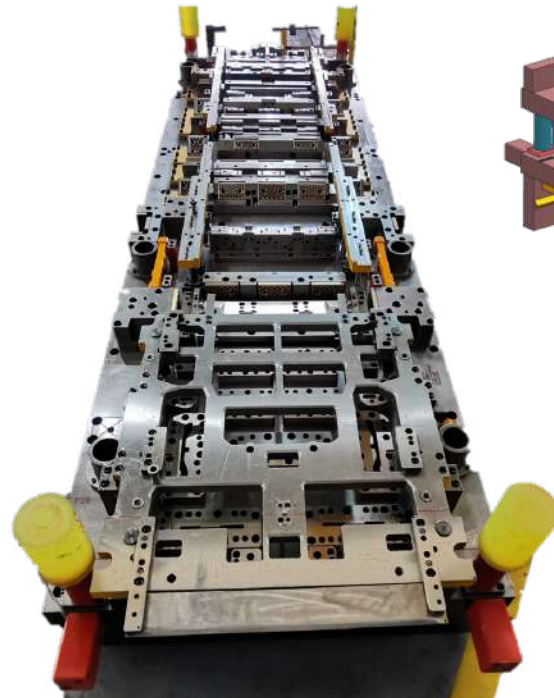
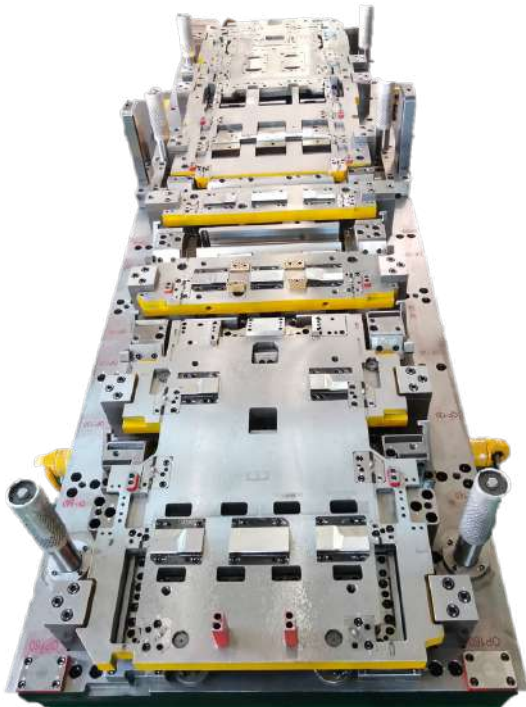
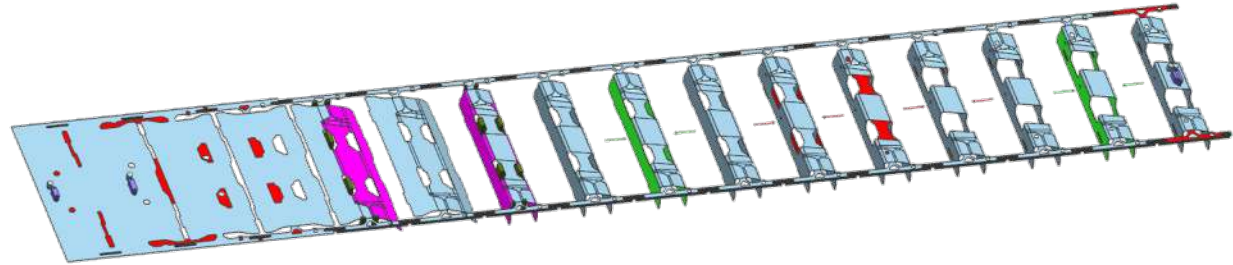
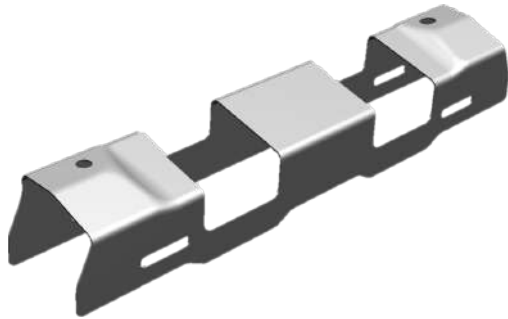


RIVIAN USA 2021: RPV700 D-Pillar





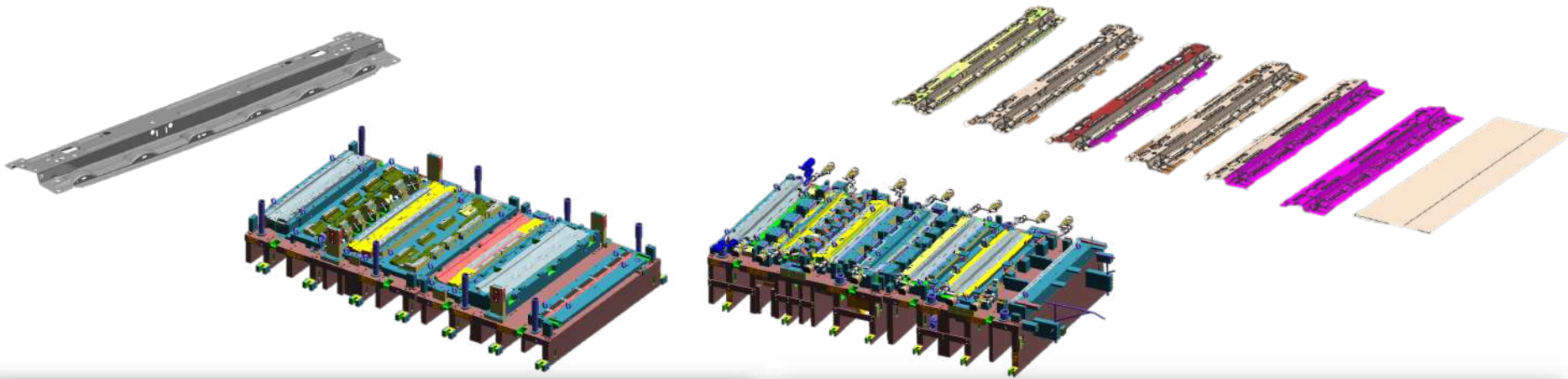
RIVIAN USA 2021: RPV700 Skateboard





GM/ CHALLENGE 2021: BT1XX

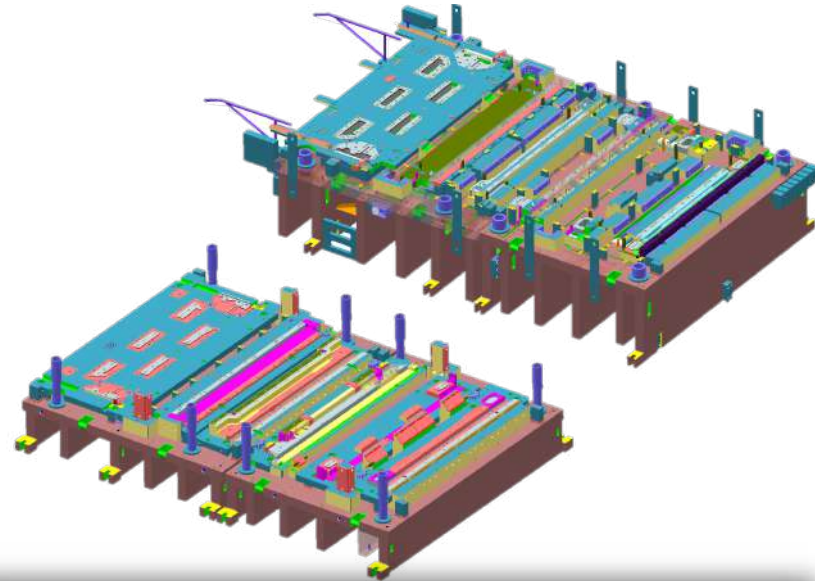
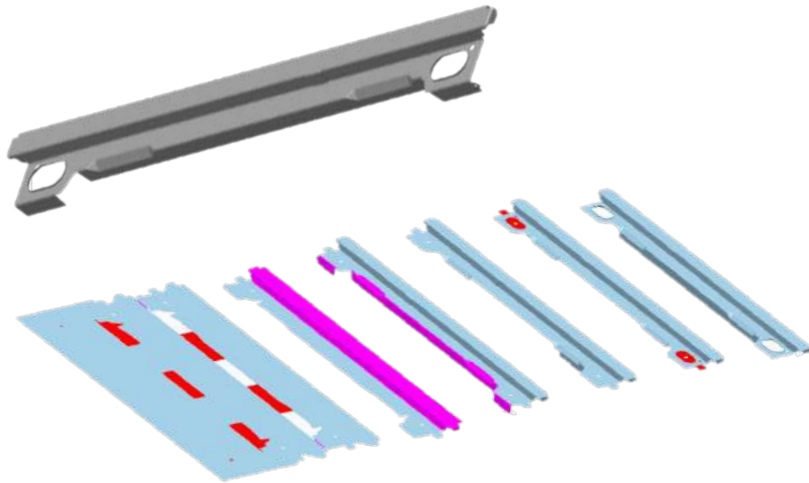
Program-Transfer Die





GM/ CHALLENGE 2021: BT1XX

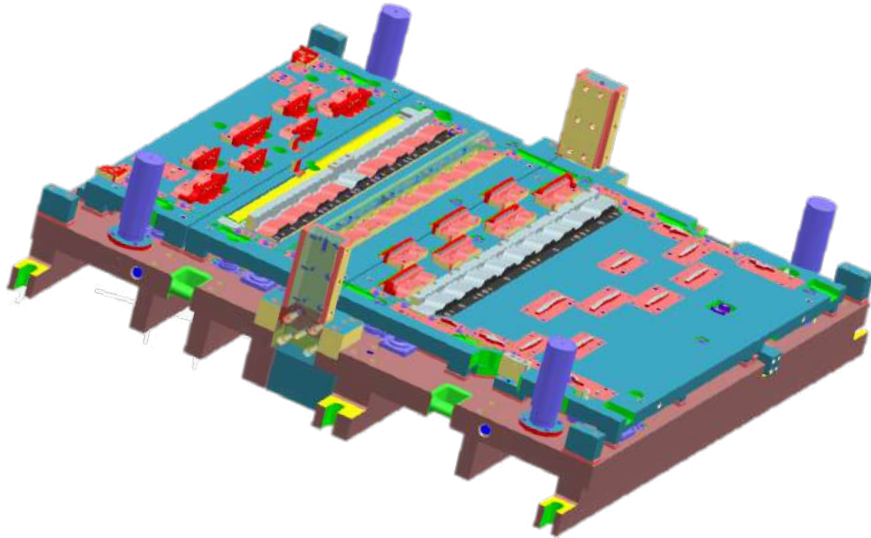
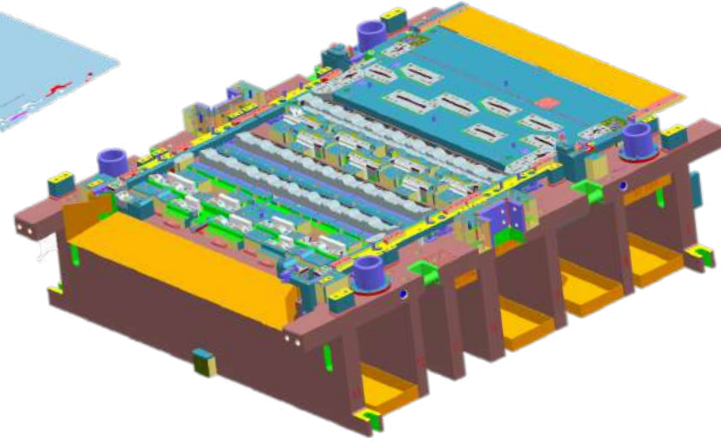
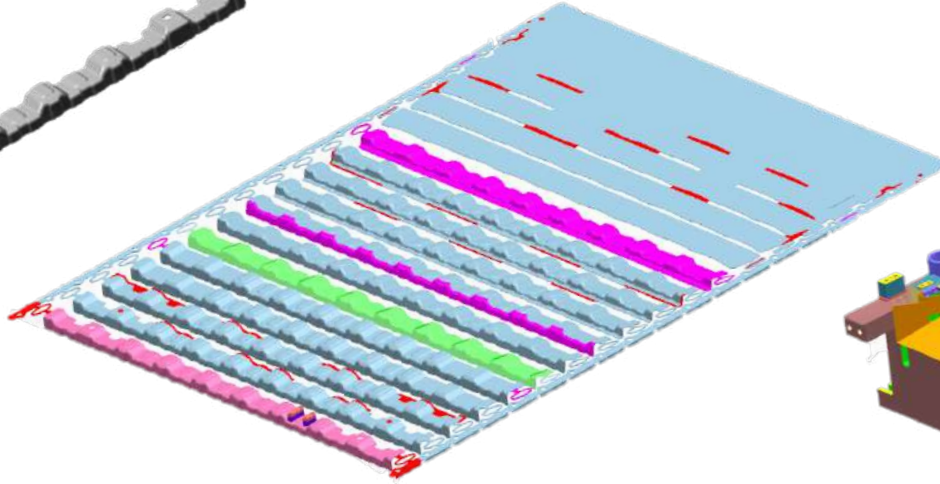
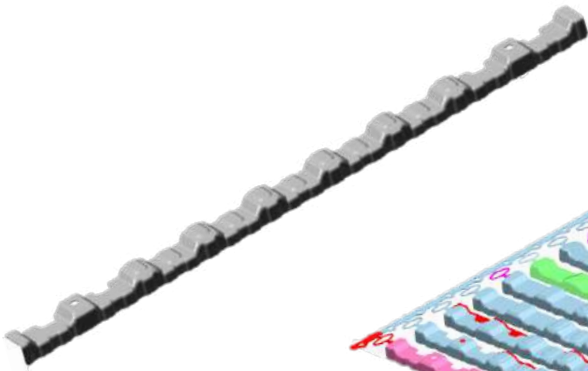
Program-Transfer Die









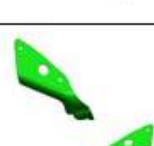
GM/ CHALLENGE 2021: BT1XX



Program- Progressive Die



Major Die Build Programs - Details

Ford/Continental plastic Big-3 U725 Bronco Program USA 2021

No.	Part # (or description)	Picture	Volume	Tooling Type	Stock Attributes Th x W x P			Tonnage
1	N2DV-S27840-41-A-PIA-01		11283	1+1 OUT PROG	Matl Type	STEEL WSS-M1A365-A11	STE	#400 T KOMATSU
					Thickness	1.00	mm	
					Width	758	mm	
					Pitch	119.00	mm	
2	N2DV-S27840-A-PIA-03 N2DV-S27841-A-PIA-03		11283	1+1 OUT PROG	Matl Type	STEEL WSS-M1A365-A11	STE	#400 T KOMATSU
					Thickness	1.07	mm	
					Width	273	mm	
					Pitch	82.00	mm	
3	N2DV-S27841-A-PIA-04		11283	1-OUT PROG	Matl Type	STEEL WSS-M1A365-A11	STE	#400 T KOMATSU
					Thickness	0.70	mm	
					Width	273	mm	
					Pitch	247.00	mm	
4	N2DV-S27840-A-PIA-05		11283	1-OUT PROG	Matl Type	5052 Aluminum	STE	#200 T KOMATSU
					Thickness	1.00	mm	
					Width	90	mm	
					Pitch	34.00	mm	
5	M2DB-S278D58-A		11283	1-OUT PROG	Matl Type	M1A367-A33	STE	#200 T KOMATSU
					Thickness	1.00	mm	
					Width	78	mm	
					Pitch	30.00	mm	
6	N2DV-16005-A-PIA-05 N2DV-16006-A-PIA-05		11283	1+1 OUT PROG	Matl Type	STEEL WSS-M1A365-A11	STE	#400 T KOMATSU
					Thickness	1.20	mm	
					Width	128	mm	
					Pitch	129.00	mm	

No.	Part # (or description)	Picture	Volume	Tooling Type	Stock Attributes Th x W x P			Tonnage
7	N2DV-16005-A-PIA-06		11283	1-OUT PROG	Matl Type	STEEL WSS-M1A365-A11	STE	#200 T KOMATSU
					Thickness	0.75	mm	
					Width	66	mm	
					Pitch	38.00	mm	
8	N2DV-16005-A-PIA-02 N2DV-16006-A-PIA-02		11283	1+1 OUT PROG	Matl Type	STEEL WSS-M1A365-A11	STE	#400 T KOMATSU
					Thickness	0.95	mm	
					Width	704	mm	
					Pitch	177.00	mm	
9	N2DV-16005-A-PIA-03 N2DV-16006-A-PIA-03		11283	1+1 OUT PROG	Matl Type	STEEL WSS-M1A365-A11	STE	#400 T KOMATSU
					Thickness	1.20	mm	
					Width	590	mm	
					Pitch	140.00	mm	
10	N2DV-16005-A-PIA-12 & N2DV-S27840-A-PIA-09			1+1 OUT PROG	Matl Type	WSS-M1A365-A11 CLASS3	STE	#200 T KOMATSU
					Thickness	0.75	mm	
					Width	171	mm	
					Pitch	79.00	mm	
11	N2DV-S27840-A-PIA-04			1-OUT PROG	Matl Type	5052-H32 ALUMINUM	STE	#200 T KOMATSU
					Thickness	1.00	mm	
					Width	87	mm	
					Pitch	36.00	mm	
12	N2DV-S27840-A-PIA-04			1-OUT PROG	Matl Type	WSS-M1A365-A11 CLASS3	STE	#200 T KOMATSU
					Thickness	0.75	mm	
					Width	48	mm	
					Pitch	46.00	mm	



Major Die Build Programs - Details

Ford/Continental plastic Big-3 U725 Bronco Program USA 2021






TOOL WEIGHT : 9.43 TON



TOOL WEIGHT : 5.14 TON







Lear Ford U625 Program, USA/ Year 2017/8

Yes	Yes	Yes
L2	L2	L2
		
L0274638	L0274637	L0274643 / L0274645
CUSA-96610A06-AC	CUSA-99611D06-AE	CUSA-96610A08-AD / CUSA-96610A08-AD
1810337	1810337	1810337 na
E-S-2017-06	E-S-2017-07	E-S-2017-06
AA06	AA07	AA08 / AA08
3-Nov-16	3-Nov-16	3-Nov-16
C:\Users\RAJIV RAN...	C:\Users\RAJIV RAN...	C:\Users\RAJIV RAN...
C:\Users\RAJIV RAN...	C:\Users\RAJIV RAN...	C:\Users\RAJIV RAN...
10-Mar-17	10-Mar-17	10-Mar-17
Dimech, Raymond S RDimech@lear.com	Dimech, Raymond S RDimech@lear.com	Dimech, Raymond S RDimech@lear.com
SAE J2340 4200F	SAE J2340 4200F	SAE J2340 4200F
445.01	765.0	400.05
381	438.7	355.6
30%	76%	72.7%
0.9 + 0.08/-0.0	0.9 + 0.08/-0.1	0.9 + 0.08/-0.0
17.520	30.906	15.750
15.000	17.272	14.000



Major Die Build Programs - Details

Lear Ford U625 Program, USA/ Year 2017/8


Lear U625									
DATE: 22-Dec-16									
Lear U625 Data Released?	Revised	SI No. #	Lear Backlog #	GRAPHICS	Customer Part #	Field Part Number #	Annual Volume	ETCS DIE #	CLD #
									
Yes			5		L0549404AA,00,____,001 & L0604052AA,00,____,001			E-S-2017-01	AA00_001
Yes			5		L0554599AA_01 (old: L0549414AA,00,____,002 / L0549431AA,00,____,002)	600762		E-S-2017-02	AA00_002
			1		L0549436AA_00____,001 & L0604051AA_00____,001			E-S-2017-03	AA00_003
Yes			2		L0549437AA,00,____,001 / L0549439AA,00,____,001	7149575 an		E-S-2017-04	AA00_001
Yes			2		L0549402AA,00,____,001 / L0549405AA,00,____,001	600762 an		E-S-2017-05	AA00_001





Major Die Build Programs - Details

Wico Ford CX483 Program, USA/ Year 2018





WICO CX483 Dies																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
DATE: 2-Aug-17																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
Data Received?	Row#	Sl. No. #	Wico Basket #	GRAPHICS	Customer Part #	Ford Part Number #	Annual Volume	ETCS DIE #	LEAD- WEEKS FROM Wico	Part Description	Part Drawing Number	RELEASE LEVEL DATA																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
												Quote Data			ACTIVE Data							Blank Material		Coil Width (mm)		Pitch (mm)		Material Utilization (%)		Thickness (mm)		Strapcut Dimensions (mm)		Coil Width (INCH)		Pitch (INCH)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
												RFQ Level	Drawing Rev	RFQ Level CAD Rev	Data Received Date	ACTIVE Dwg Rev	ACTIVE CAD Rev	ACTIVE Data Received Date	OK-TO-TOOL Dwg Rev	OK-TO-TOOL CAD Rev	OK-TO-TOOL Data Received Date																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			

Ford Brose Gill C2 Program, USA/ Year 2018

Gill Brose Ford C2 Side Members															
DATE: 10-Jan-17															
13	14	Data Received?	Row#	SI. No. #	Gill Basket #	GRAPHICS	Ford Part Number #	Annual Volume	ETCS DIE #	Buyoff Book	Customer DIE #	Gill Purchase Order #	LEAD- WEEKS FROM GILL	RELEASE LEVEL DATA	
														Quote Date	ACTIVE Data
15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30









[illegible]

YES/ 23FEB2016	YES/ 23FEB2016	YES/ 23FEB2016	YES/ 23FEB2016	JCI JCDS Data Received?
YES/ 01-MAR-2016	YES/ 23FEB2016	YES/ 23FEB2016	YES/ 25-JAN-2016	P.O. ISSUED?
2		1		
JCI Basket #		SI. No. #		
 		 		
2965718	2965715	2965719	2965714	Customer Part #
176000		49896		GM Part Number #
E-S-2016-029		E-S-2016-028		Annual Volume
				ETCS DIE #
				Tool Source DIE #
				Customer DIE #
YES	YES	YES	YES	JCI Purchase Order #

Major Die Build Programs - Details

JCI Ford U55x Program, USA/ Year 2016/17





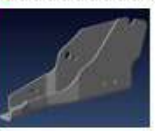
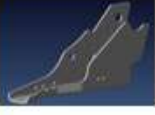
JCI ACTX Data (Access)	Isyad	SL No.	JCI Part #	GRAPHICS	Customer Part #	Prod Part Number	Annual Volume	ETCS DE
YES 01/06/2016	2				3250149	3250149	4000	E-S-2016-001
YES 01/06/2016	2	1	13		3250141	3250141	4000	E-S-2016-001
YES 01/06/2016	2	2	13		3259244	3259244	1000	E-S-2016-002
YES 25/JAN/2016	2	3	13		3315960	3315960	5000	E-S-2016-003
YES 10/FEB/2016	3				3270728	3270728	1000	E-S-2016-004
YES 10/FEB/2016	3	4	13		3270729	3270729	1000	E-S-2016-004

JCI ACTX Data (Access)	Isyad	SL No.	JCI Part #	GRAPHICS	Customer Part #	Prod Part Number	Annual Volume	ETCS DE
YES 22/MAY/2016	3	21	16		3258119	JAA-0000002A	3000	E-S-2016-021
YES 22/MAY/2016	3	22	16		3257068	JAA-0001000A	1000	E-S-2016-022
YES 22/MAY/2016	3	23	16		3290538	JAA-0000000A	1000	E-S-2016-023
YES 01/MAY/2016		24				30002_1000		E-S-2016-024
YES 21/JAN/2016	2				3408183/ 3408184	3408183/3408184		E-S-2016-005
YES 21/JAN/2016	2	5	14		3408195/ 3408196	3408195/3408196		








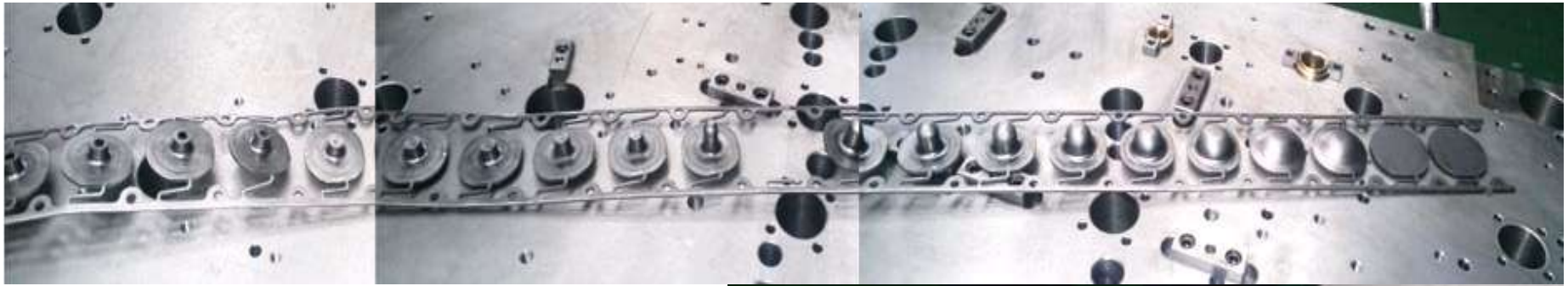
Major Die Build Programs - Details

Magna GM C1Y Program, USA/ Year 2015

ITEM #	STATUS R/Y/G	PART IMAGE	Cam-Slide Magna PART #	PART DESCRIPTION
3rd row Back Frame	Y		ACR60057	BACK PANEL - 60% C1Y
3rd row Back Frame	Y		ACR60603	BACK PANEL - 40% C1Y
2nd Row Back Frame	Y		ACR61778	BACK PANEL - 40%
2nd Row Back Frame	Y		ACR61171	BACK PANEL - 60% TS C1YX
2nd Row Stanchion	G		ACR60763	U-BRACKET - 40% IB DR TALL
2nd Row Stanchion	Y		ACR61675	U Bracket 60% IB

Magna GM C1XX Program, USA/ Year 2014/15

CSI Tool Count	ETCS Tool #	ETCS	Customer Part #	GM Part Number	Annual Volume	ETCS DIER	Tool Source DIER	Customer DIER	Purchase Order #	Volume Year #
27	14020S		ACR59147 ACR51864	ACR59147	641,315	14020S				
28	14021S		ACR60624	ACR60624	66,740	14021S				
30	14023S		ACR60027 ACR60030	ACR60027	424,175	14023S				
33	14026S		ACR59467	ACR59467	124,315	14026S				
34	14027S		ACR59513	ACR59513	44,415	14027S				



- ❖ 36 STATIONS EXTRUSION PROGRESSIVE DIE
- ❖ EXTRUSION WALL THICKNESS IS 2 x MATL. THICKNESS
- ❖ MATERIAL : 340XF, $t = 2.0$ mm
- ❖ DIE INCLUDES COOLING CIRCULATION
- ❖ NO IN-DIE TAP (DIE SIZE WAS CONSTRAINT)

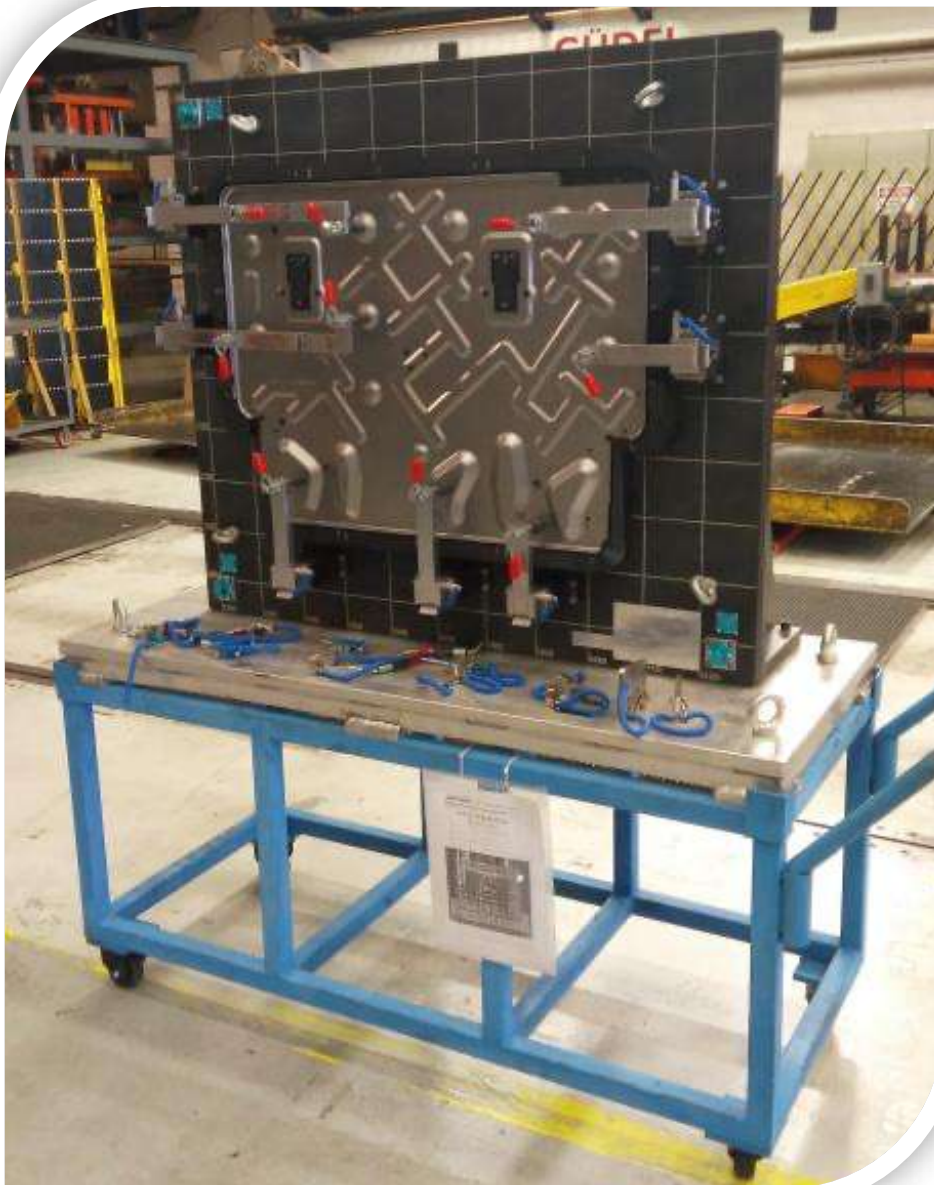


Checking Fixture Design & Build



Program – 2014 Ford CD4.2
GAGE FOR 60% Back Panel
Stamper: Guelph Tool

Checking Fixture Design & Build



Program – 2016 GM C1Y
GAGE FOR 60% Back Panel
Stamper: ODM



Die Build – Quick Delivery & Prototyping Support

- **Early Part Requirements:** To meet customer early parts requirements, ETCS uses a combination of Production Die Form Details and Laser Cut to support the customer in early build requirements at a fraction of the prototype cost.
- **Prototype Parts:** ETCS has capability to build prototype dies in USA at its facility as well.
- **Upfront Engineering:** ETCS Engineering center in Warren, MI works in close coordination with the customer tooling team to prepare the layout & manufacturing feasibility using formability simulation. This support is provided at pre and post sourcing stage.
- **Project Management:** ETCS maintains a quick delivery timeline using its Design & Project Management Centers in MI & India as well as a follow-up office in China. We work with our JV Die Shops & Gage Shops in China & India to support our customers.



Die Build – Quick Delivery & Prototyping Support



* Stage 7: For Early Part builds, a reusable small die set is used to fix all the stations on it & to produce Proto parts with laser cut. This way, the prototype build timing (around 12 weeks ~16 weeks) is also maintained, and the cost impact is about 10% over the actual cost of the Production die.



Thank You!

***Ravi Kapur
President and CEO***



CONTACT NUMBERS:

(248)-763-9467



Email Address:

ravi@etcsinc.com

ravi@chippewaplastics.com



Address:

**ETCS, Inc.
ETCS Tool & Die LLC
21275 Mullin Ave, Warren, MI
48089**