



Mold Makers International Inc.

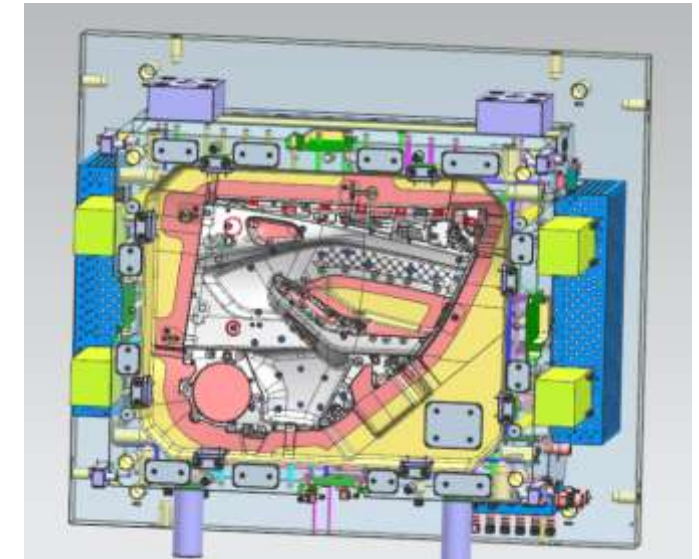
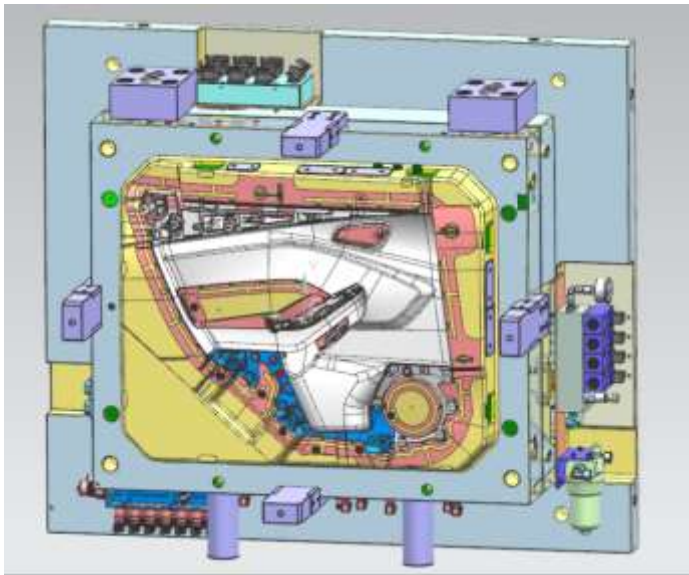
“Best cost tooling solutions”
Manufacturer of Automotive Plastic
Molds and Fixtures



- Turn Key supplier of Best cost tooling
- MMI operations
 - Consist of North American engineering, project management and quality systems
 - Partnerships in China ,North America and Europe for tooling and fixture manufacture and service
- Chinese joint venture partnerships for tooling and Fixtures
 - Exclusive representation of Kaihua Automotive Tooling capacities
- MMI partnerships
 - Are Built based on our collective strengths
 - Successful in design, management, manufacture and delivery of best cost tooling and fixture solutions to North American and European Standards

MMI Plastic Injection

- Standalone tooling company which supplies molds and fixtures for the world's major plastic part suppliers.
- VW, GM and Nissan approved tooling source
- MMI is built based on 35 years of experience in Canadian mold manufacturing in Windsor, Ontario.



MMI Plastic Injection

- MMI's approach is the melding of our North American engineering and design experience with the powerful Chinese low cost manufacture
- MMI's North American engineering group improves and develops tooling concepts which result in cost effective and durable solutions for part manufacturing processes



MMI Plastic Injection

- MMI offers a complete tooling and fixture package
- Experienced in managing entire projects from tool feasibility to part approval



MMI Plastic Injection

- MMI organization consists of:
 - Experienced NA engineering, design and program management
 - NA quality and management systems
 - Joint venture partner Kaihua with a well trained and managed low cost labor force with state of the art facilities and equipment in China
 - International tryouts and qualification services
 - On site international tooling support services
 - Full time MMI employees in Canada, Mexico and China
 - Engineering changes, repairs and warranty services
 - North American and China molding and assembly
 - Developing European Partnerships





Asian tooling partnership

Supporting Canada, Europe, USA, Mexico and South America

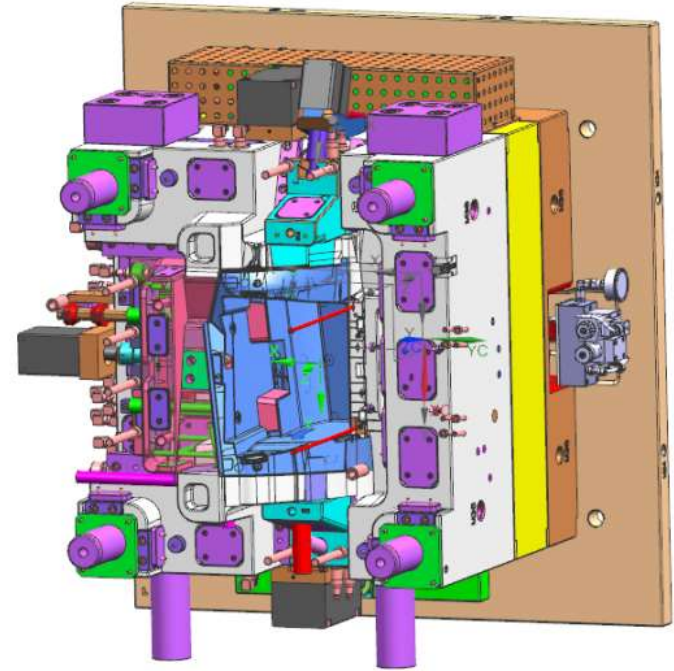
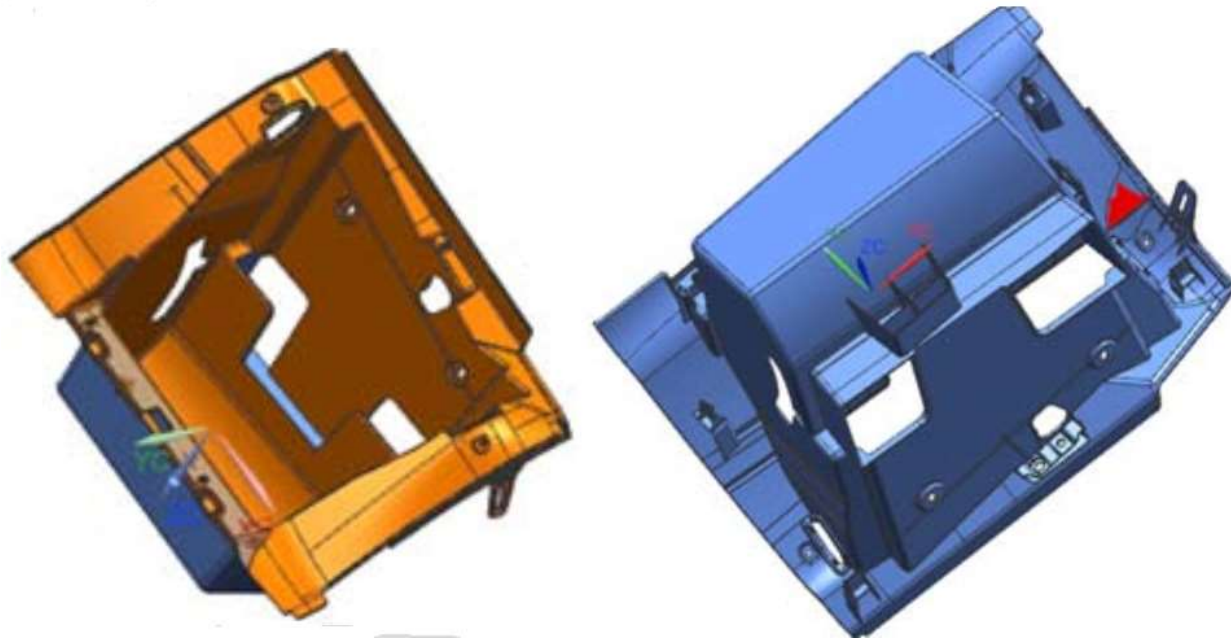
- MMI Joint venture supplier of molds, fixtures, prototype and low volume
- Specializes in molds for interior and exterior trim, bumpers, instrument panels, door panels and under the hood components
- ISO 9001:2008 certified
- 76,000 m2 in 2 facilities
- 2018 sales net \$86M USD
- 2000 molds per year
- 1000 Employees





- Full time program managers employed in China with Canadian training
- Our process technicians travel to China to sign off final tryouts
- The same process technicians will re-trial molds in NA or Europe









MMI Plastic Injection



MMI Plastic Injection



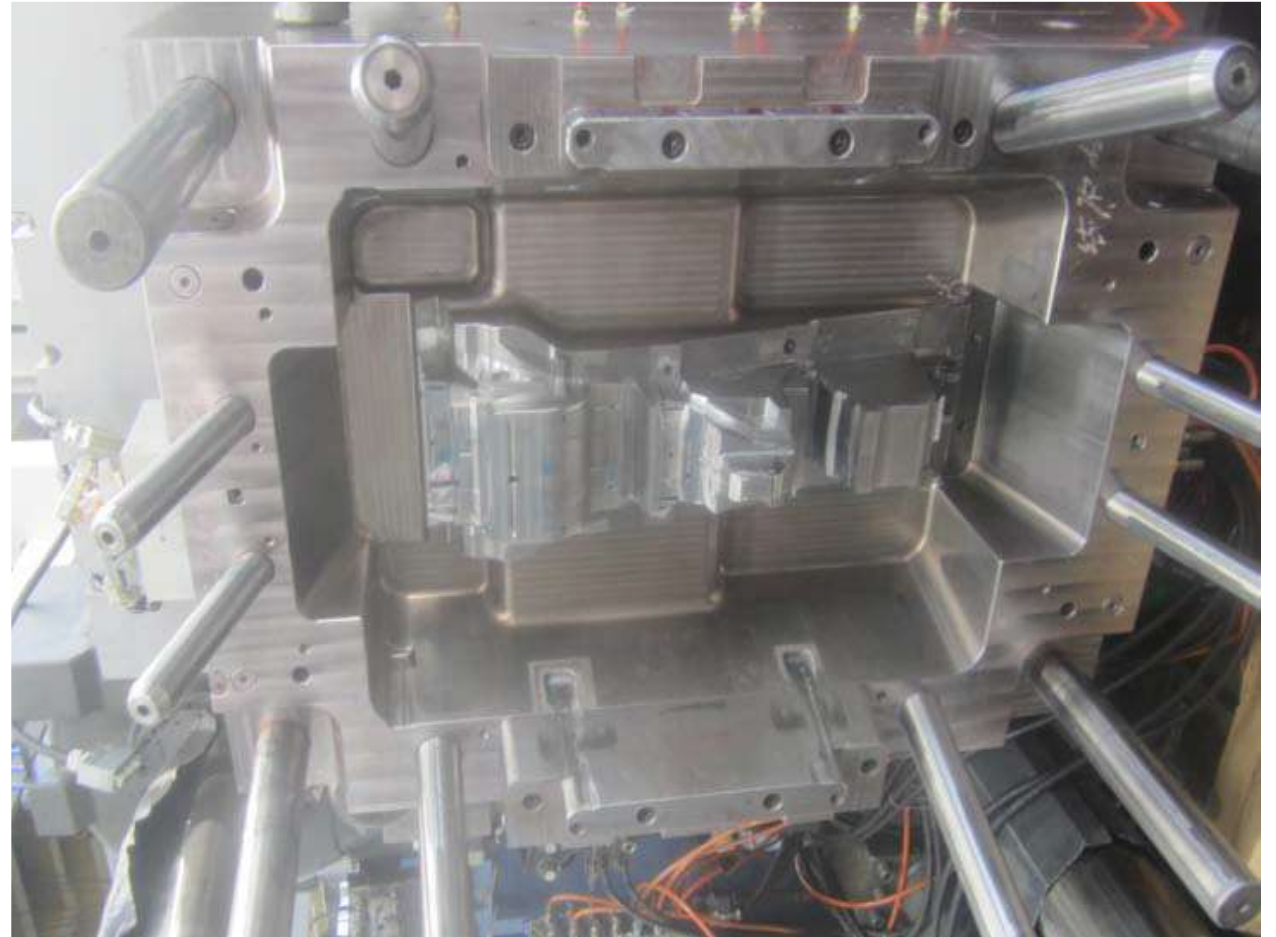
MMI Plastic Injection



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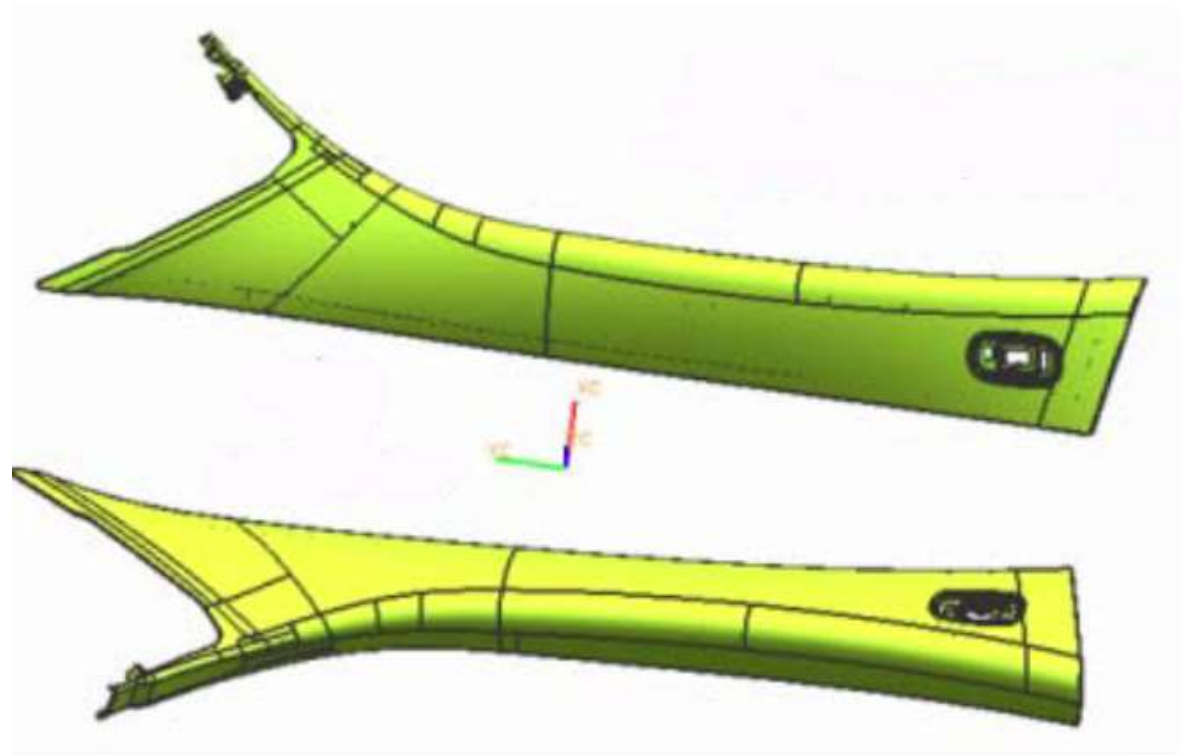
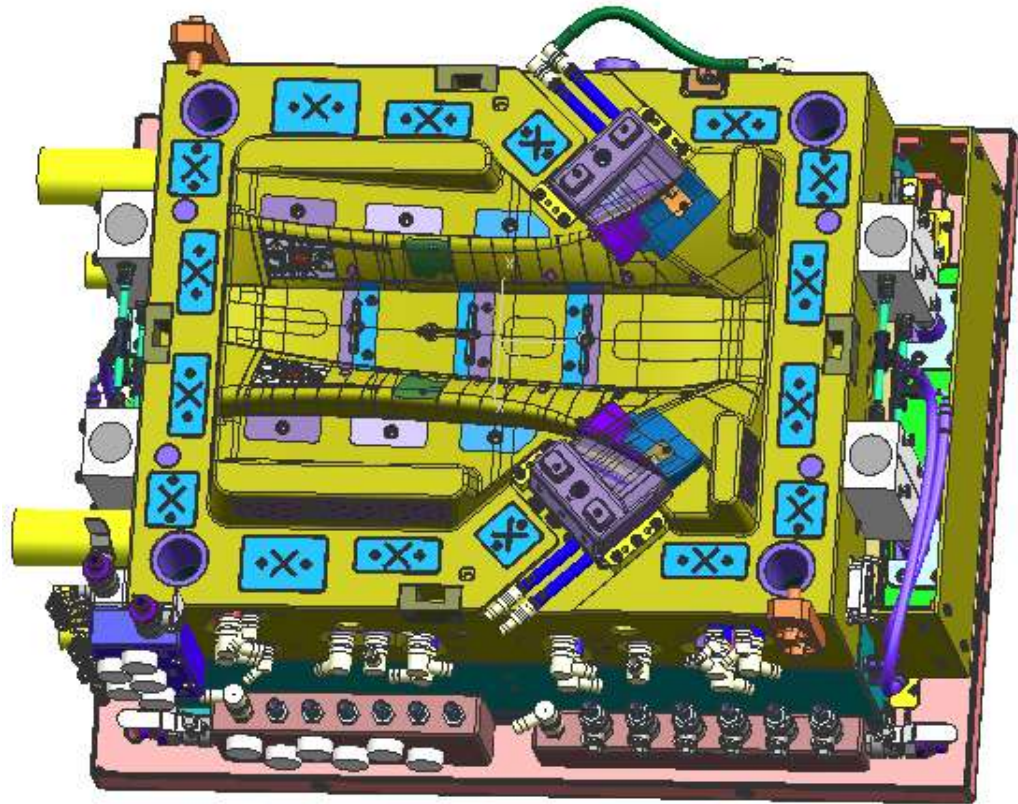


MMI Plastic Injection

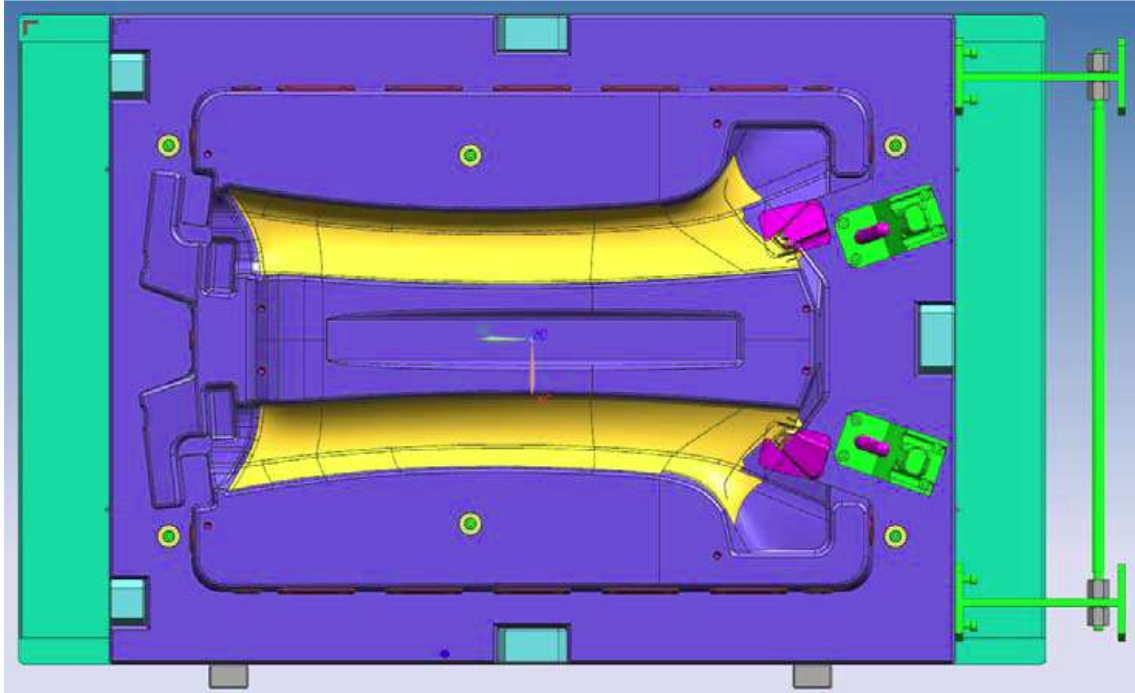




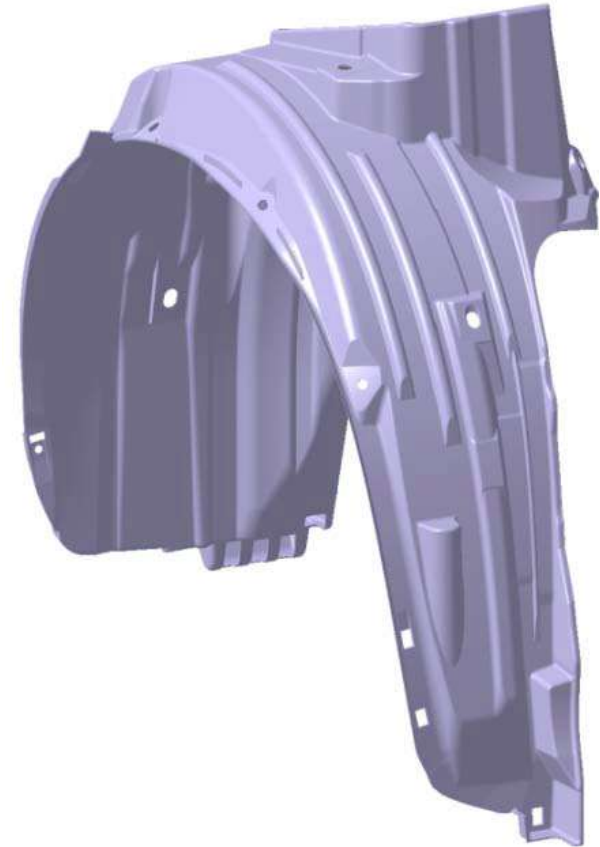
MMI Plastic Injection



MMI Plastic Injection



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MMI Plastic Injection



MMI Plastic Injection

- MMI manages the joint ventures and all logistics
- Our organization has successfully produced best cost tooling for North America, Europe, Mexico and Colombia amongst others
- Engineering support and service for all changes and warranties available at all locations where our molds and fixtures are used



MMI Plastic Injection

- Plastic injection molds from 100tn to 4000tn



MMI Plastic Injection

- Prototype and low volume molds
- 2 shot and 3 shot multi material molds
- Systematic control of the complete manufacturing cycle
- North American, Asian, European and Mexican tryout services



MMI Fixtures and Automation

- Best cost high quality fixture development
- Joint venture partner (Taizhou Huangyan Rixing)
- Check fixtures
- Assembly fixtures
- End of arm tooling
- Automation

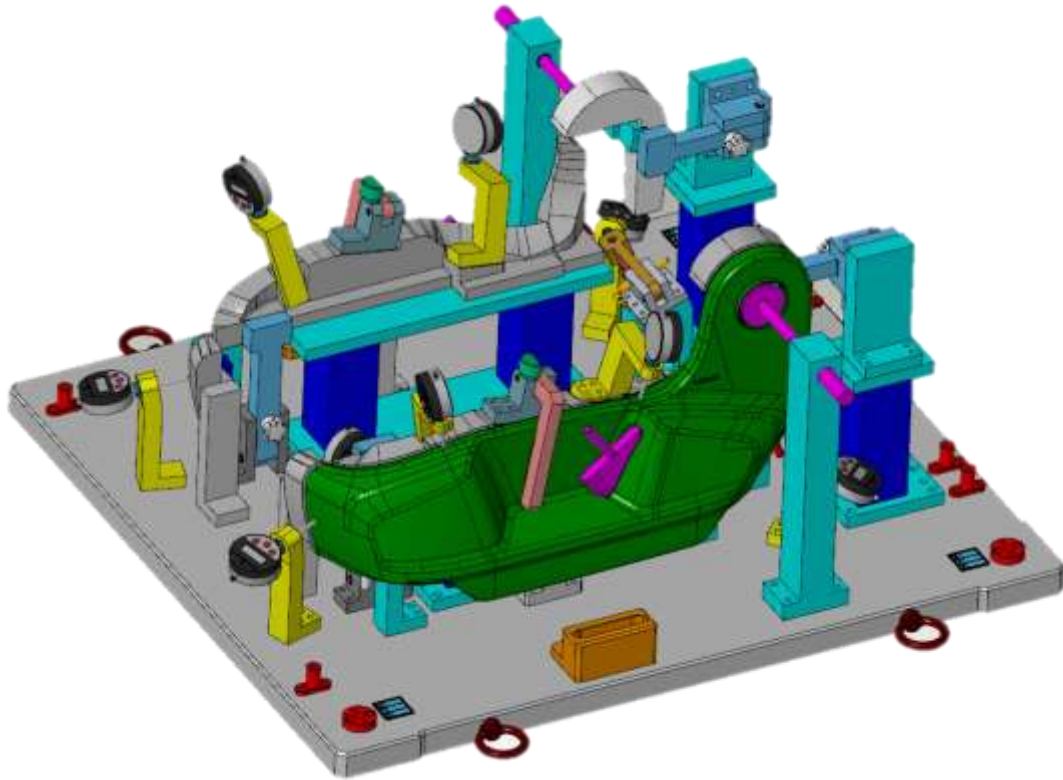


MMI Fixtures and Automation

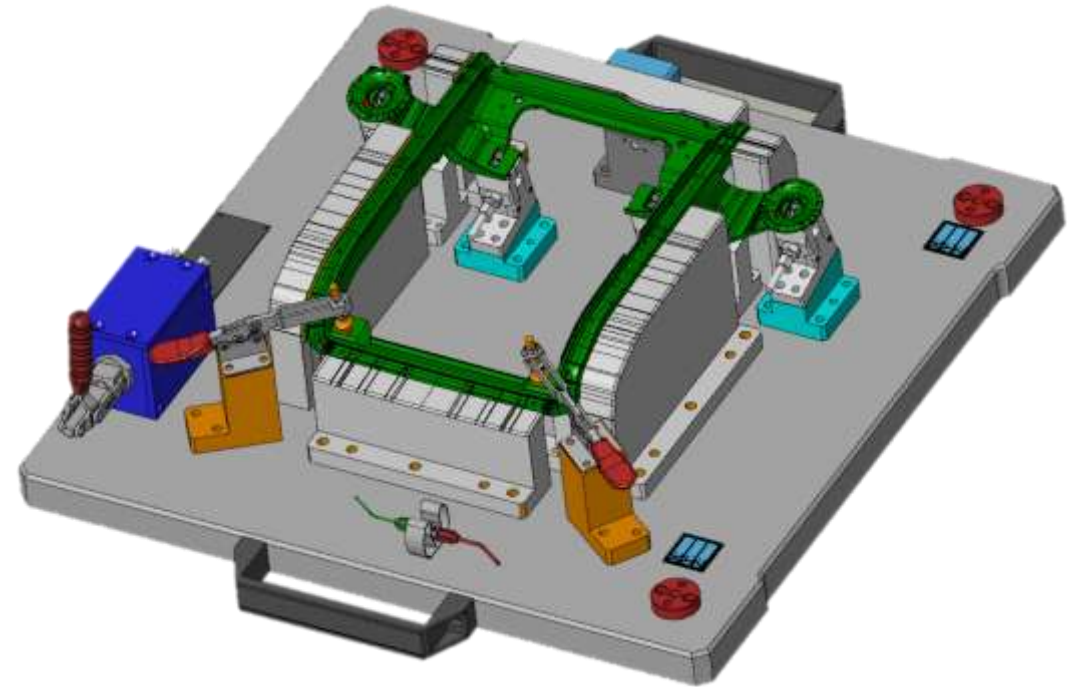


Antonio S.D.





Tiguan Side Shield Fixture



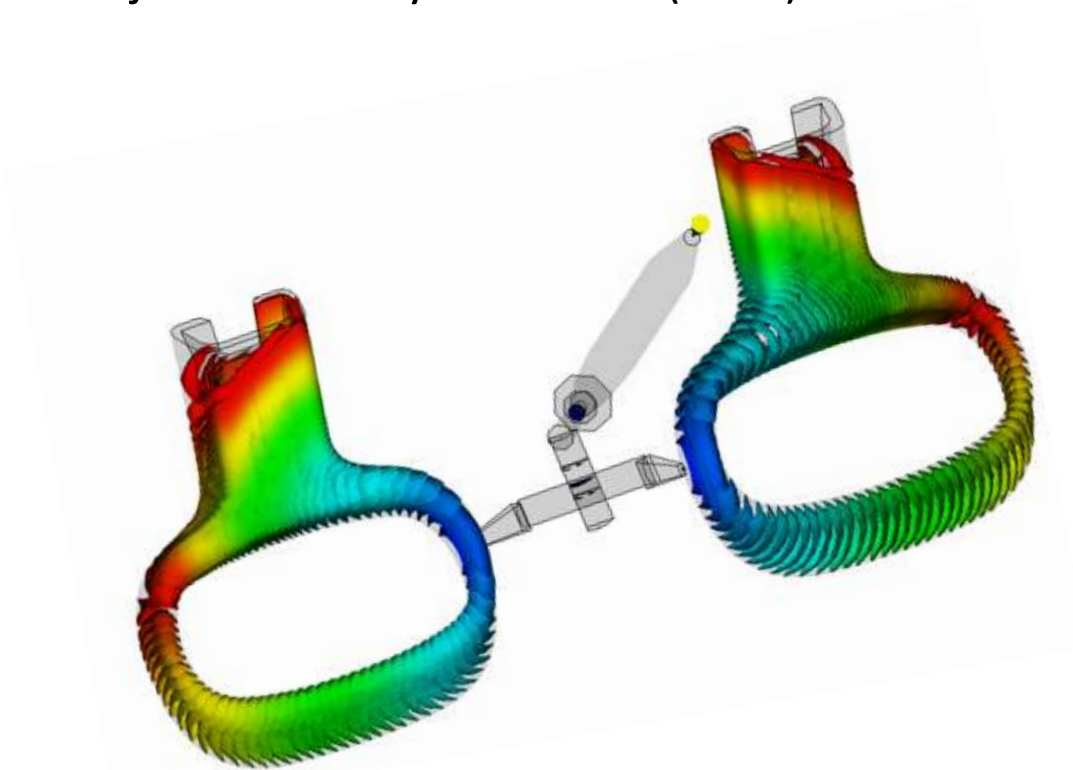
Jetta Console Fixture

Antonio S.D.



MMI Quality assurance

- Mold flow analysis on all molds (20 Autodesk Stations)
- OEM and tier one mold standards review and implementation
- NA and EU brand components and manifolds
- Project feasibility at kick off (DFM)



- 60 UG and 3 Catia Design Platforms
- Quality planning
- Open issue tracking
- MS project timelines
- On time mold and fixture delivery and tracking
- Continuous improvement – Lessons learned
- Portable on site inspection services
- NA or EU plastic shipped for all trials
- Tryout reports with photos and video
- Weekly visits and tracking by MMI employees in China
- Japanese or German steel per customer exact material specifications
- 100% compliance with customer specifications



MMI Production Alliance

- PAPP has a Querétaro, Mexico facility
- 300tn to 4000tn press size available
- Part production and mold tryouts
- MMI Mold Service area



With offices in Windsor and Mexico City, personnel in Canada, Mexico and China,
MMI offers a flexible cost effective manufacturing process with a systematic
approach for your tooling requirements



THANK YOU !



Mold Makers International Inc.

Kaihua



SPEED AND PASSION

ANNEX 1 - EQUIPMENT



Antonio S.D.



MMI – Kaihua Mold Manufacturing plants



Antonio S.D.



MMI – Kaihua – Injection Trials





Antonio S.D.



MMI – Kaihua plant equipment



Name	Type	Qty	Manufacturer	Specification
CNC Center	HTM-630GA/ HTM-1000G	8	Haitian	1200*630*50 1500*1000*600
	HTM-1500G/ HTM-3225G	3		2000*1500*650 3200*2500*1000
	HTM-3216G/ HTM-2028G	3		3200*1600*1000 3200*2800*1000
5-axis high-speed CNC	D318	2	Italy FIDIA	3000*1000*800
	GTF2214/3500	2	Italy FIDIA	3500*2200*1400
	MCR-B III 25E	1	Japan OKUMA	4000*2500*1200
5-axis CNC	DMU65	1	Germany DMG	3000*2000*1600
High-speed CNC	F5	1	Japan MAKINO	900*500*450
	AV-1612/ AV-1280	1 1	Taiwan QUICK JET	1600*1200*650 1200*800*500
Horizontal CNC Center	AKB-13	1	Japan KURAKI	3000*2000*1600
Graphite high- speed CNC	E33	2	Japan MAKINO	600*400*350
	GD7 GD5	1 1	Taiwan TAKUMI	750*600*400 600*550*300



MMI – Kaihua plant equipment



Name	Type	Qty	Manufacturer	Specification
Double head EDM	TURBO 3500CNC	2	DAEHAN EDM	3000*2000*1500
SPARK MACHINE	CUTDM EDM	8	CUTDM CHINA	2500*1000*1000 1250*800*450 1000*600*400 800*500*300 700*400*300
SPARK MACHINE	EDGE3	1	MAKINO JAPAN	600*400*400
WIRE CUTTING MACHINE	CTWG302TB CTWG400TB CTWG500TB CTWG630TC CTWG1000TC	5	CUTDM CHINA	630*440*300 850*500*500 950*600*500 1070*700*1000 1460*960*1000
Slow-feeding wire cut	DUO64	1	JAPAN MAKINO	650*400*420



MMI – Kaihua plant equipment



Name	Type	Qty	Manufacturer	Specification
5-axis gun drill	DHD3015-15RT	1	HK MINGLEE	3000*2000*1500
Gun drill	DHD2515-15S	1	HK MINGLEE	2500*1500*1500



MMI – Kaihua plant injection equipment



Name	Type	Qty	Manufacturer	Specification
Injection Machine	MA3300T/ 15800U	1	Hai Tian	3300T
Injection Machine	MA1600T/ 13700U	1	Hai Tian	1600T
Injection Machine	MA1000T/ 8400U	1	Hai Tian	1000T
Injection Machine	MA600T/ 4000U	1	Hai Tian	600T
Injection Machine	MA470T/ 2250U	1	Hai Tian	470T
Injection Machine	MA250T/	1	Hai Tian	250T



MMI – Kaihua plant inspection equipment



Name	Type	Qty	Manufacturer	Specification
CMM Machine	Alpha Image 25.33.15	1	American Hexagon	2500*3300*1500
CMM Machine	Xorbit87	1	Germany WENZEL	1000*800*700
Balance Machine	TCMDZ92	1	Germany SCHENCK	200-800
Image Measurement	v09060283	1	Taiwan Wanhao	300*150*100
Roughness Measurement	SRM-1	1	China LIANSHENG	
Mirco-hardness	HXS-1000AY	1	Taiwan HAOWEI	
Portable hardness	HT-1000A	1	Taiwan QIANDA	5-1000 HV
Rock Hardness	200HR-150	1	China HUAYING	
Oil/Water pressure testing machine		1	China WUXING	0-20MPa

