

ILHA CO.,LTD.

COMPANY PROFILE

Ver. 2021

Korea

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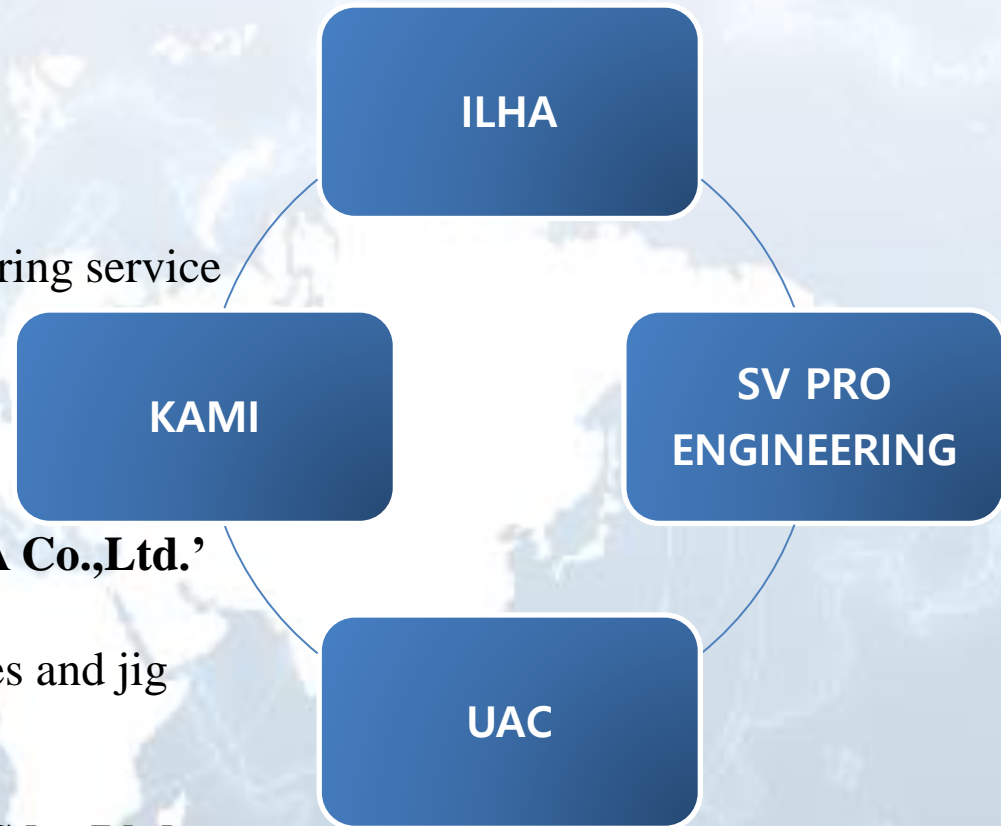
Malaysia

Block S, Level 10, Unit 6, Kiara 163
Jalan Kiara 51200, Kuala Lumpur, Malaysia
Tel: +603 2372 0719

Homepage : www.ilhaeng.com

COMPANY HISTORY

- 1990 Established ILHA Engineering**
 - Automotive Engineering and marketing
- 2002 Established KAMI Co., ltd**
 - Plastic mold engineering service
 - Special purpose processing line engineering service
- 2003 Established UAC in China**
 - Lamp manufacturer in Yantai, China
- 2013 Converted to a Corporation ‘ILHA Co.,Ltd.’**
 - Holding company
 - Directly appointed by PERODUA as dies and jig maker.
- 2015 Established SV PRO Engineering Sdn. Bhd. in Malaysia**
 - Die manufacturing, Die & Jig maintenance, Refurbishment Service
 - Supervisory service for Local Die Trial activity.



AUTOMOTIVE - SCOPE OF WORK



Styling and prototyping

- Rendering, Cray model, 3D digitizing
- Chassis, interior, exterior, functional parts
- Proto type, mockup, and real mock up sample



Design 3D, 2D & CAE

- CATIA , Auto CAD, and others
- Module, Chassis, interior, exterior, Engine & transmission parts



Tools and dies

- Injection mold
- stamping die, checking fixture
- Welding Jigs & Robot system



Stamping line

- Stamping press, washing unit, feeder, BTO
- Stamping automation
- Best Delivery



Production line & Test equipment

- Automation/manual assembly line
- Processing Line
- Test consulting and equipment
- Quality control consulting and data save



Parts sourcing

- Global parts sourcing
- Simultaneous Engineering development
- Best Cost structure and quality

Best Solution always !

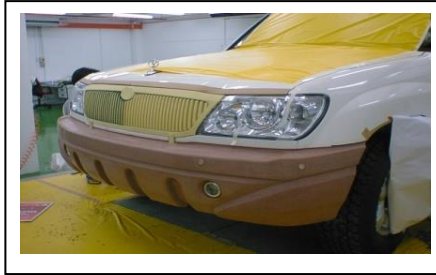
Styling



Original Car



Concept Rendering



Clay Model



Digitizing

Prototyping

Soft Tool & Fixtures



Laser Center



Sub-assembly



Mock Up



Stamping and Folded parts

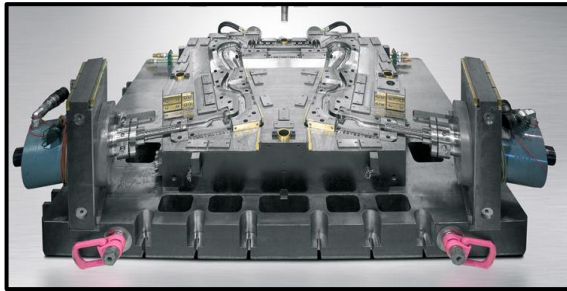


FRP

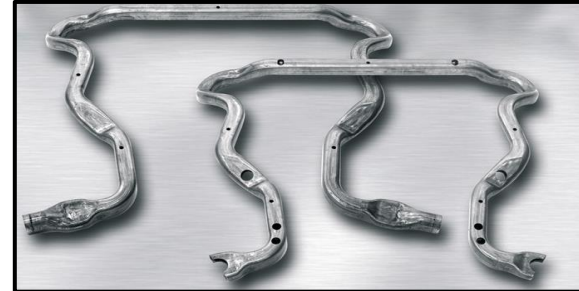


Tools & Dies

Stamping Dies



Hydro Forming Dies



Hydro Forming Parts



Hot Stamping Dies



Hot Stamping Parts



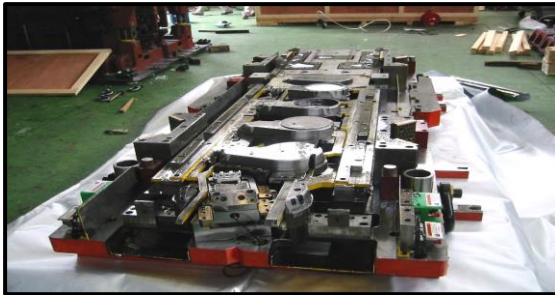
Stamping Dies



Stamping Parts

Tools & Dies

Stamping Dies



Progressive Dies



Progressive dies Parts



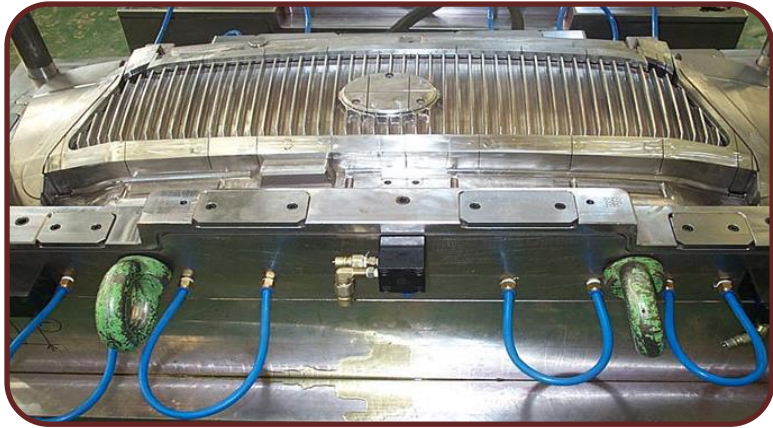
Hemming Dies



Hemming Parts

Tools & Dies

Plastic mold



Mold

Parts

Stamping Line

Tandem Line



Transfer Press



- Line up Proposal
 - Tandem press line
 - Transfer press line
 - Hyd. Press
 - Laser cutting M/C
 - Used machine
 - Die spotting press
 - Automation
- Process Engineering
- Stamping Standardization

Stamping Line

Automation



Material handling



- Automation Proposal
 - Blanking line
 - Material Transfer
 - In/Off line washing unit
 - Stacker - Destacker unit
 - BTO (Bundle turn over)
 - Centering unit
- Material handling System
 - Robot handling system
 - Auto pallet system
 - Auto-storage system
- Operating consulting

Production Line & Test Equipment



Press Line Hemming



Press Line Hemming with dies changer



Table Top Hemming



Robot Roller Hemming



Wheel House Clinch Hemming

Production Line & Test Equipment

Welding Jig and robot system



Door welding and assembly line

Fuel Tank welding and assembly line



Corner module

Production Line & Test Equipment



Lamp robot coating system



Robot spray booth



Lamp Assembly Line



BMC / AL Vacuum metalizing line



Head lamp UV coating line

Production Line & Test Equipment



Wheel alignment system tester



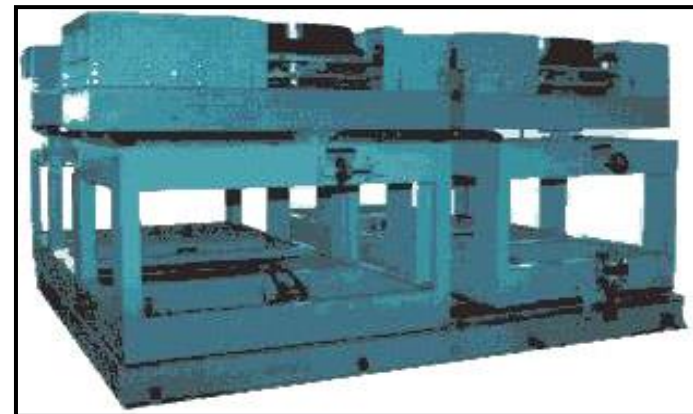
Roll tester



Head light tester



Antilock brake system



Turning radius tester

Parts Sourcing

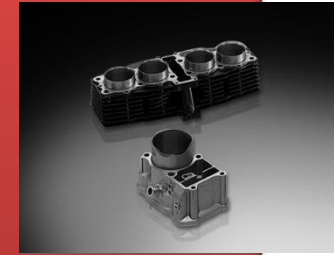
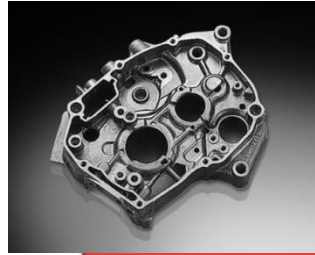
- **Global Sourcing**

We have....

- Quality check know-how
- Process check know-how
- Test method know-how
- Delivery control
- Price negotiation

- **All kinds of parts**

- Engine parts
- Transmission parts
- Fuel management parts
- Electric functional parts
- Break system parts
- EMS, TMS, ABS parts
- Raw materials
- Forging/Casting/
Machining parts
- Plastic parts



AUTOMOTIVE DIVISION PROJECT REFERENCE
(Selected Projects only)*

Turnkey Project – Parts Development & Assembly Line

Project Name : IAFM (Intake Air-Fuel Manifold Module)

Upper shell

1. Photograph of Tool



(Stational side)

2. Photograph of Product



(Cavity side)



(Core side)



(Core side)

Middle shell

1. Photograph of Tool



(Stational side)

2. Photograph of Product



(Cavity side)

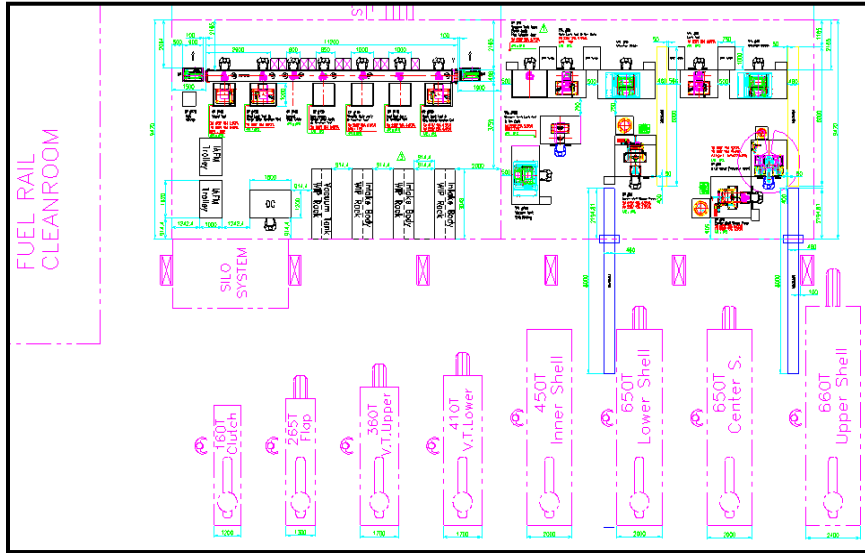


(Movable side)



(Core side)



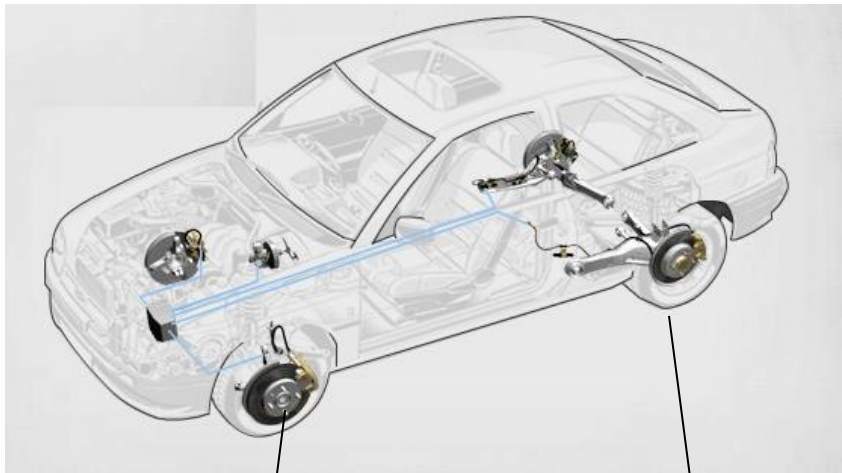




Turnkey Project – Parts Development & Assembly Line

Project Name : Corner Module

Developed Parts



Front Module



Rear Module

Assembly Line



ILHA's Tooling Capacity

▶ MANPOWER

| DESCRIPT | MANPOWER | | | | | TOTAL |
|-----------|----------|--------|---------|---------|--------|-------|
| | DESIGN | ASS'Y | MACHINE | POLISH | MANAGE | |
| MAN | 4 | 6 | 6 | 16 | 8 | 40 |
| WORK YEAR | 9YEARS | 7YEARS | 6YEARS | 10YEARS | 7YEARS | |
| ETC | | | | | | |

▶ SUPPLIERS

| NO | DESIGN | CASTING | STEEL | COMPONENT | COATING | MACHINE | |
|----|------------|---------|----------|-----------|---------|-----------|--|
| 1 | YOUNG TECH | SHINHAN | WONIL | TAEGEUN | HYUNDAI | CHUNGSOL | |
| 2 | ONE TECH | DIOTECH | YOUNGNAM | TAEWON | BALZERS | DAECHANG | |
| 3 | KOREA TECH | DOHYUN | | | | HYUNYOUNG | |
| 4 | | | | | | MS TECH | |

▶ EQUIPMENT

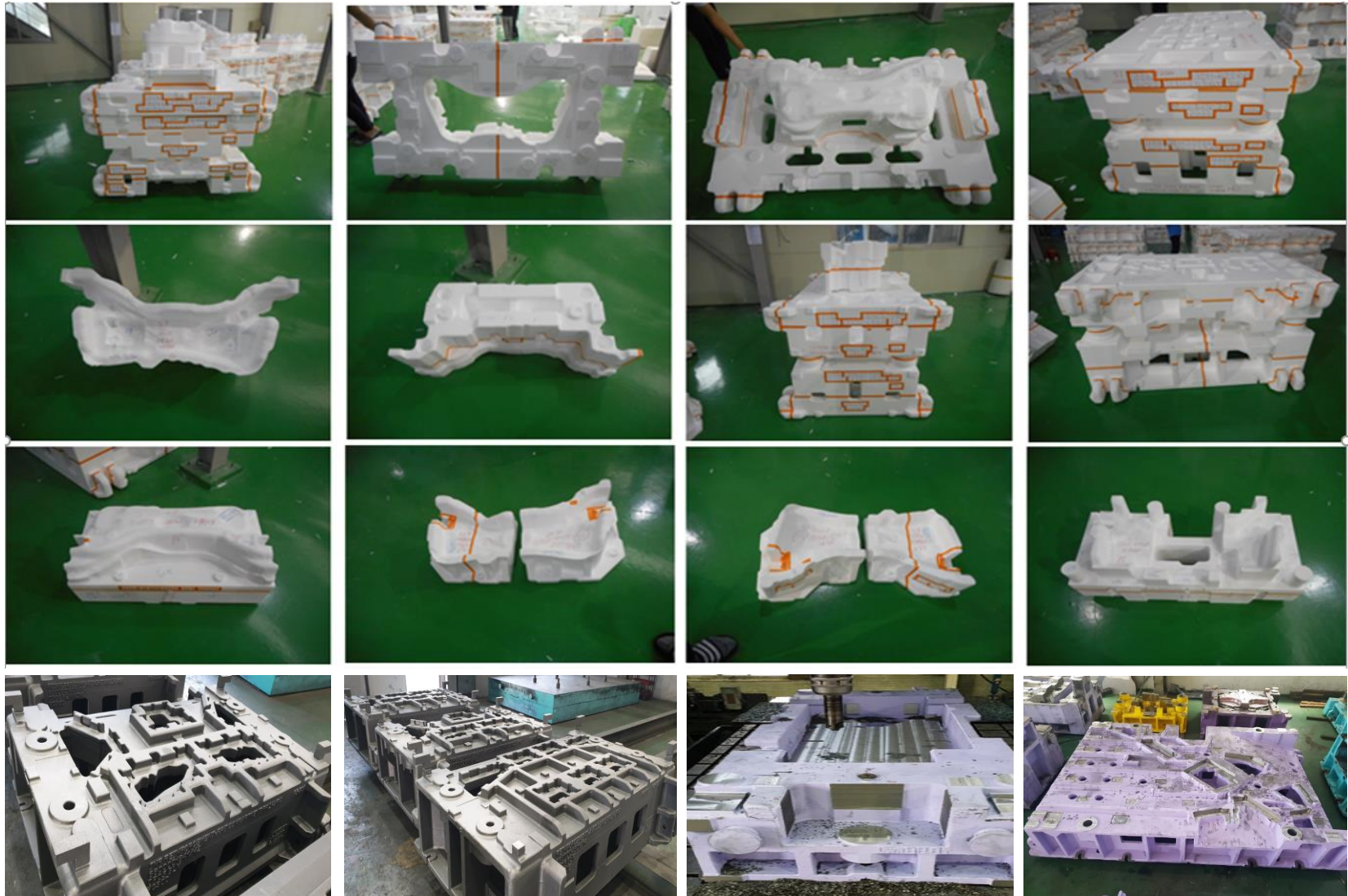
| NO | PRESS | | NC MACHINE | | ANALYSIS | | SOFTWARE | |
|----|---------|---|------------|---|----------|---|----------|---|
| 1 | 1000TON | 1 | SIZE 20 | 2 | AUTOFORM | 1 | CATIA | 2 |
| 2 | 1000TON | 1 | SIZE 12 | 2 | | | CIMATRON | 2 |
| 3 | 250TON | 1 | SIZE 8 | 2 | | | | |
| 4 | 200TON | 4 | | | | | | |

▶ DIE MAKING CAPACITY

| DESCRIOT | CASTING | | | STEEL | | |
|-----------|---------------|--------------|------|---------------|--------------|------|
| | MONTHLY (SET) | YEARLY (SET) | TONS | MONTHLY (SET) | YEARLY (SET) | TONS |
| INHOUSE | 24 | 288 | 1440 | 50 | 600 | |
| OUTSOURCE | | | | | | |
| FULL | 24 | 288 | 1440 | | | |

Tools & Dies : Supply of Castings

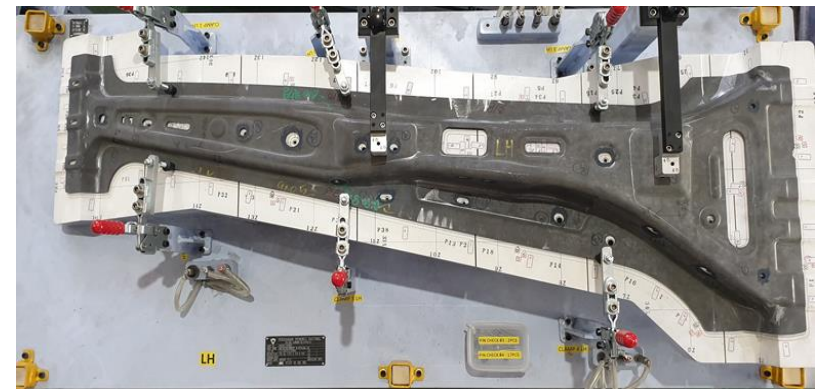
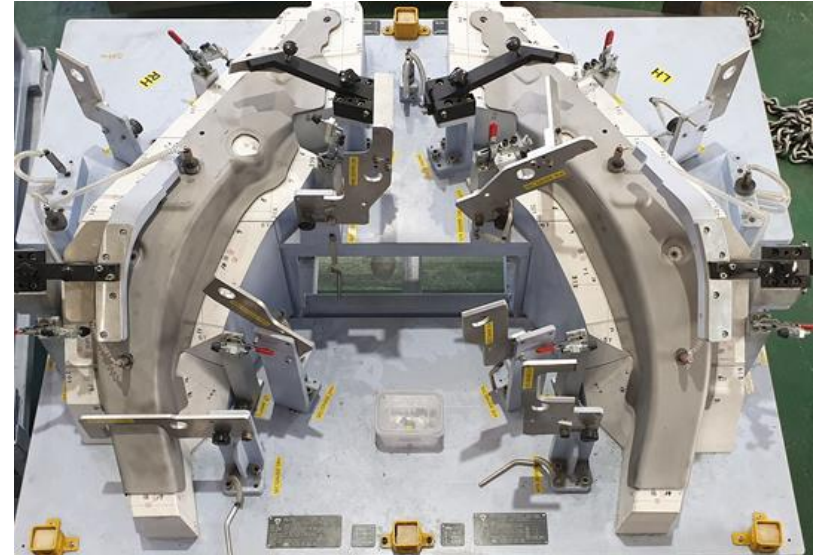
➔ Pattern, Raw casting, Semi machined, full machined



Tools & Dies : Various type of Material Spec

Ultra high tensile strength material (Hot Stamping)

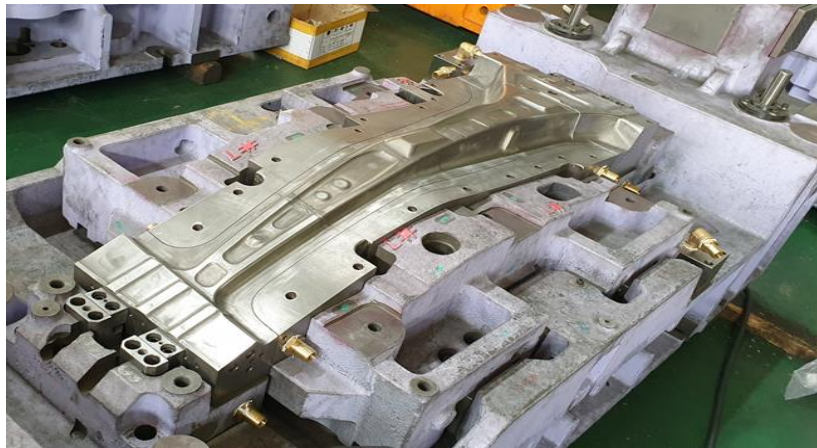
PROTON-GEELY SX-11RA



Tools & Dies : Various type of Material Spec

Ultra high tensile strength material (Hot Stamping)

PROTON-GEELY SX-11RA



Tools & Dies : Various type of Material Spec

Ultra high tensile strength material (Hot Stamping)

(GM)
FRT SIDE DOOR IMPACT BEAM LH
 Material : **950YMS-AL60G60G**



- Thickness : 1.6mm
- 1400~1500 Mpa

(GM)
FRT SIDE DOOR IMPACT BEAM RH
 Material : **950YMS-AL60G60G**



- Thickness : 1.6mm
- 1400~1500 Mpa

(GM)
RR SIDE DOOR IMPACT BEAM LH
 Material : **950YMS-AL60G60G**



- Thickness : 1.3mm
- 1400~1500 Mpa

(GM)
RR SIDE DOOR IMPACT BEAM RH
 Material : **950YMS-AL60G60G**



- Thickness : 1.3mm
- 1400~1500 Mpa

Tools & Dies : Various type of Material Spec

Super high tensile strength material (Cold Stamping)

(POSCO)
 B PILLER, LH
 Material : **1180TRIP**



(POSCO)
 SIDE MBR FRT LWR, LH
 Material : **1180TRIP**



Tools & Dies : Various type of Material Spec

Super high tensile strength material (Cold Stamping)

(POSCO)
 B PILLER, LH
 Material : **1180TRIP**



- Thickness : 1.6mm
- **1180 Mpa**

(POSCO)
 SIDE MBR FRT LWR, LH
 Material : **1180TRIP**



- Thickness : 1.6mm
- **1180 Mpa**

(POSCO)
 A PILLAR LWR, LH
 Material : **1180TRIP**



- Thickness : 1.0mm
- **1180 Mpa**

(HMC)
 MBR FRT DOR IMPACT, L/RH
 Material : **SPFC1180Y**



- Thickness : 1.4mm
- **1180 Mpa**

High tensile strength material (Cold stamping)

(GM)
 PANEL-RKR INR, RH/LH
 Material : CR1180T/825Y-MP



- Thickness : 0.8mm
- 1180 Mpa

(GM)
 REINFORCEMENT-RKR INR PNL LH/RH
 Material : CR980T/700Y-MP



- Thickness : 2.0mm
- 980 Mpa

(HMC)
 REINF-FR SIDE RR UPR,LH/RH
 Material : SGAF780 60/60



- Thickness : 1.8mm
- 780 Mpa

(GM)
 CTR PLR LH/RH
 Material : CR980T/700Y-MP



- Thickness : 1.0mm
- 780 Mpa

(GM)
 PANEL-FLR PNL TUN
 Material : CR780T/420Y-DP



- Thickness : 1.0mm
- 780 Mpa

(GM)
 REINF-RKR INR FRT L/RH
 Material : CRT980T/700Y-MP



- Thickness : 2.0mm
- 980 Mpa

High tensile strength material

(PROTON)
 CROSS MEMBER FRONT UPPER
 Material : DP590-P



- Thickness : 1.8mm
- 590 Mpa

(PROTON)
 SIDE MEMBER UPPER LH
 Material : DP590-P



- Thickness : 1.8mm
- 590 Mpa

(PROTON)
 SIDE MEMBER LOWER LH
 Material : DP590-P



- Thickness : 1.8mm
- 590 Mpa

(PROTON)
 C/MBR DASH LWR INR LH/RH
 Material : CR780T/420Y-DP



- Thickness : 1.6mm
- 780 Mpa

(PROTON)
 REINF REAR SEAT BELT LWR CTR
 Material : CR780T/420Y-DP



- Thickness : 1.2mm
- 780 Mpa

(PROTON)
 REINF DASH LWR INR LH/RH
 Material : DP590-P



- Thickness : 1.4mm
- 590 Mpa

Normal chassis part

(HMC)
HEAT PROTECTOR
Material : SACD 0.6 mm



(HMC)
HEAT PROTECTOR
Material : SACD 0.6 mm



(HMC)
GLASS SUPT
Material : SGACC 60/60 1.2 mm



(HMC)
RR CROSS MBR
Material : SAPH-38P 1.8 mm



(HMC)
FRT LWR ARM LWR/UPR
Material : SAPH-45P 2.6 mm



(HMC)
FRT FRAME
Material : SPH-270D 1.6 mm

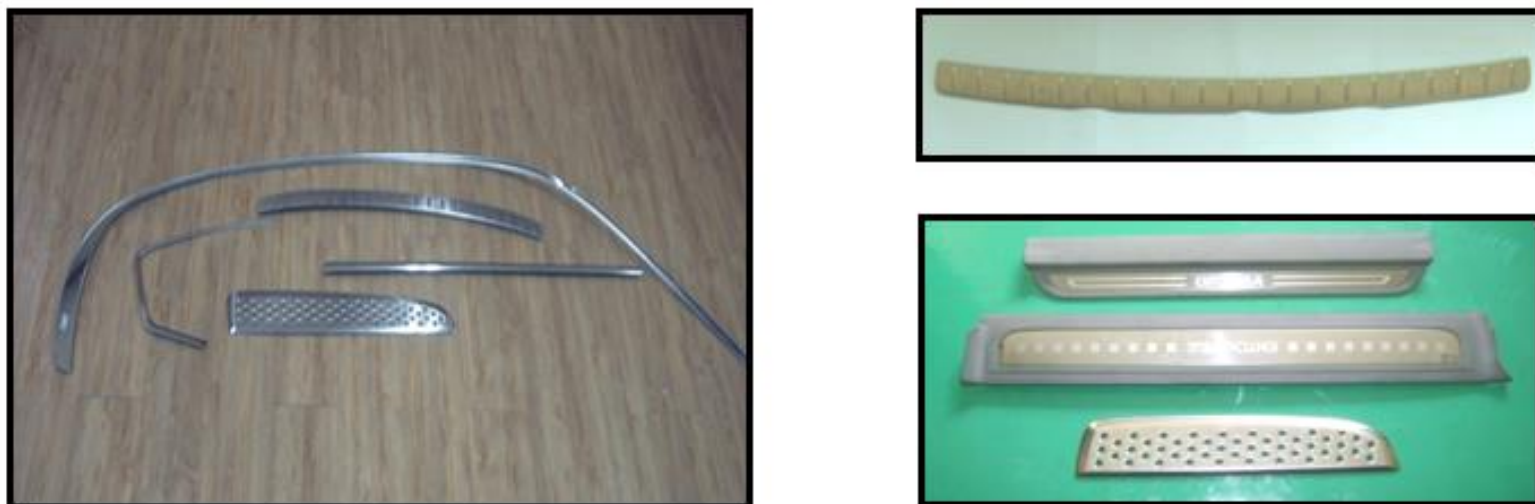


Aluminum stamped parts insert injection

(HMC)
 GANISHER
 Material : **AL8083 0.5 mm**



(HMC)
 MOLDING
 Material : **SUS304 0.5 mm**



Generals

(PERODUA)
 APRON,FR FENDER,RH/LH
 Material : **SPC270E 0.8mm**



(PERODUA)
 PLATE, FR SPRING SUPPORT,RH/LH
 Material : **SHGA440 2.0mm**



(PERODUA)
 PLATE,FR SIDE MBR,OTR RH
 Material : **SPCC 1.2mm**



(PERODUA)
 PLATE,FR SIDE MBR,OTR LH
 Material : **SPCC 1.2mm**



(PERODUA)
 MEMBER,FR SIDE,RR RH
 Material : **SPH440 1.2mm**



(PERODUA)
 MEMBER,FR SIDE,RR LH
 Material : **SPH440 1.2mm**



Generals

(GM)
 H/PLR LH
 Material : DP290 1.0 mm



(GM)
 H/PLR RH
 Material : DP290 1.0 mm



(GM)
 WHEEL HOUSE
 Material : CR180B2 0.8 mm



(GM)
 CTR PLR L/RH
 Material : CR590/340Y-DP 1.4 mm



(GM)
 EXTN FLR
 Material : SPRC440 1.0 mm



Generals

(PERODUA)
 MBR,FR APRON TO COWL SIDE LWR FR LH
 Material : [SCGA270D 1.2mm](#)



(PERODUA)
 MBR,FR APRON TO COWL SIDE LWR FR RH
 Material : [SCGA270D 1.2mm](#)



(PROTON)
 PANEL FRT END CTR
 Material : [SPCC 1.0 mm](#)



(PROTON)
 REINF FRT END CTR
 Material : [SPCC 1.0mm](#)



(PROTON)
 PANEL REAR END LH
 Material : [SPRC45 0.85mm](#)



(PROTON)
 PANEL REAR END RH
 Material : [SPRC45 0.85mm](#)



Generals

(GM)
CTR PLR INR L/RH
Material : **ST-S-270B2 1.0 mm**



(GM)
INSUL HEAT FRT FLOOR
Material : **SACD 0.6 mm**



(GM)
INSUL HEAT RR FLOOR
Material : **SACD 0.6 mm**



(HMC)
FRT CROSS MBR UPR
Material : **SGARC440 60/60 1.8 mm**



(HMC)
FRT CROSS MBR LWR
Material : **SGARC440 60/60 1.8 mm**

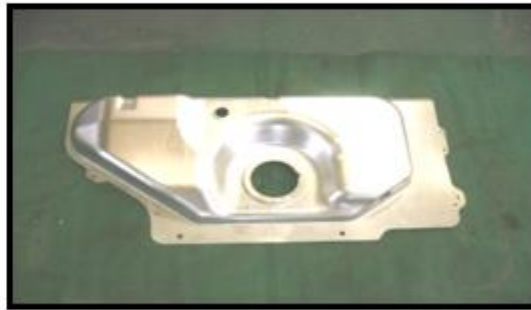


Generals

(KIA)
PORTER RR PNL
Material : SPRC440 1.0 mm



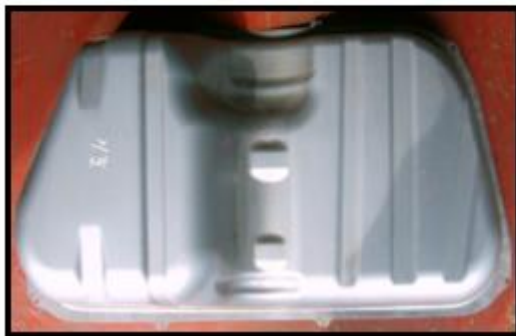
(KIA)
F/TANK UPR
Material : SRNCEN 0.8 mm



(KIA)
F/TANK LWR
Material : SRNCEN 0.8 mm



(KIA)
FUEL TANK LWR
Material : SRNCEN 0.8 mm



(KIA)
FUEL TANK UPR
Material : SRNCEN 0.8 mm



(KIA)
FRT PLR UPR
Material : ST-S-CR3 1.0 mm



Assembly line

GM KOREA-J300



GM KOREA-J300 Roof line



RSM-L47-Wheel House



Proton P2-31A (GSC) : Sub-frame welding & assembly line



Honda Malaysia : 2WF BIW



Honda Malaysia : 2XP BIW



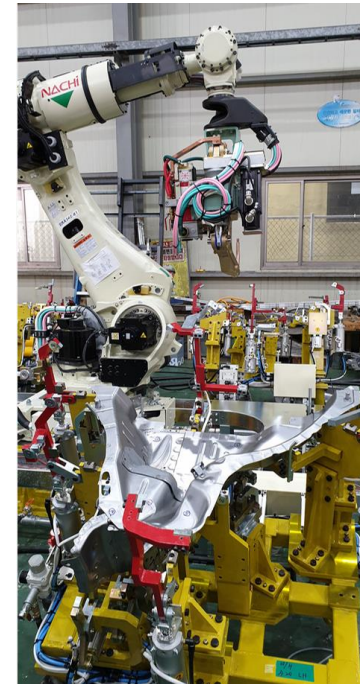
Honda Malaysia : 2SK BIW



Honda Malaysia : 2HX BIW



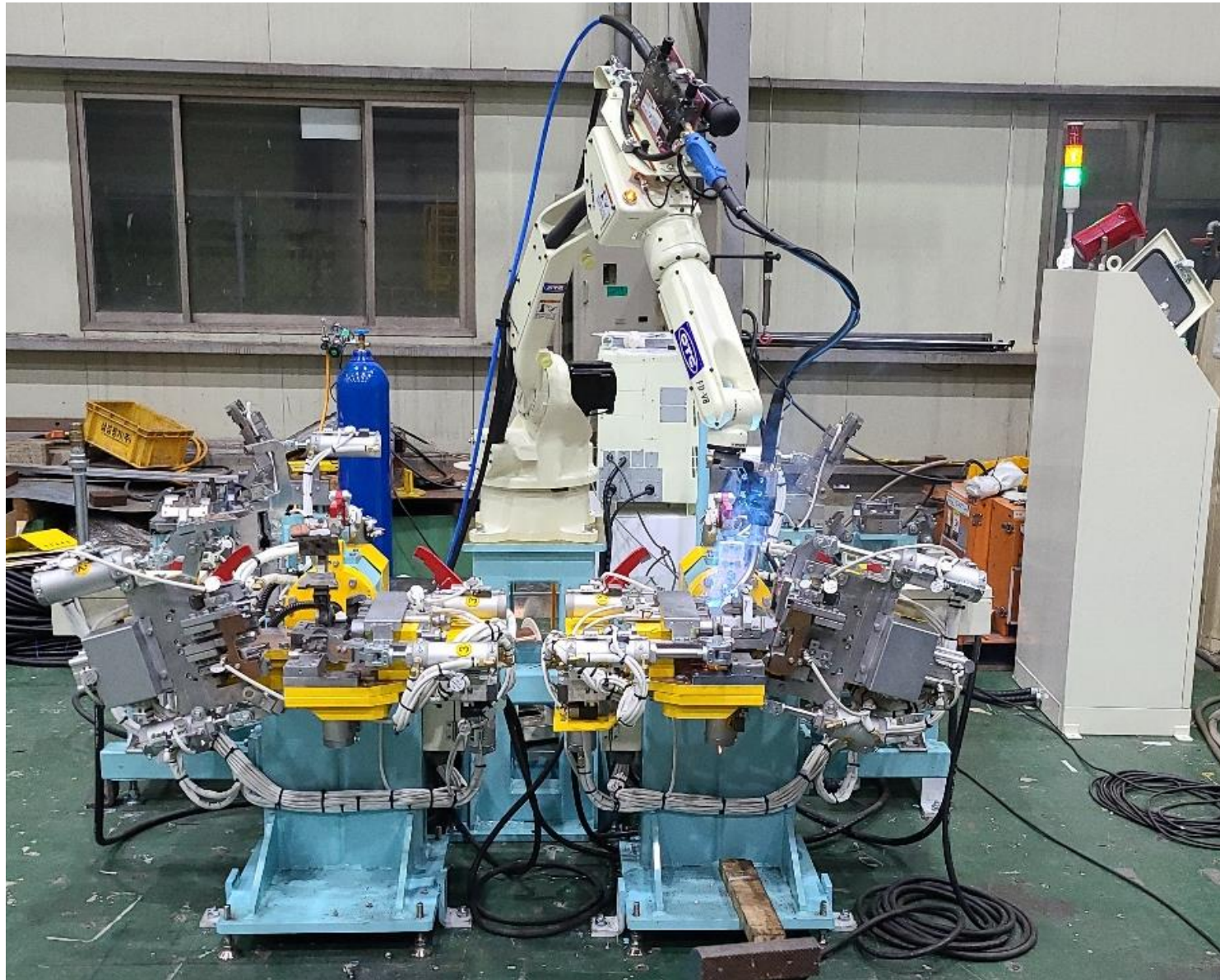
Honda Malaysia : T00A BIW



Honda Malaysia : 2TG 5DR BIW



TOYOTA Malaysia : 104D BRACKET SUB-ASS'Y FR SIDE MEMBER



Perodua : D20N Cross Member



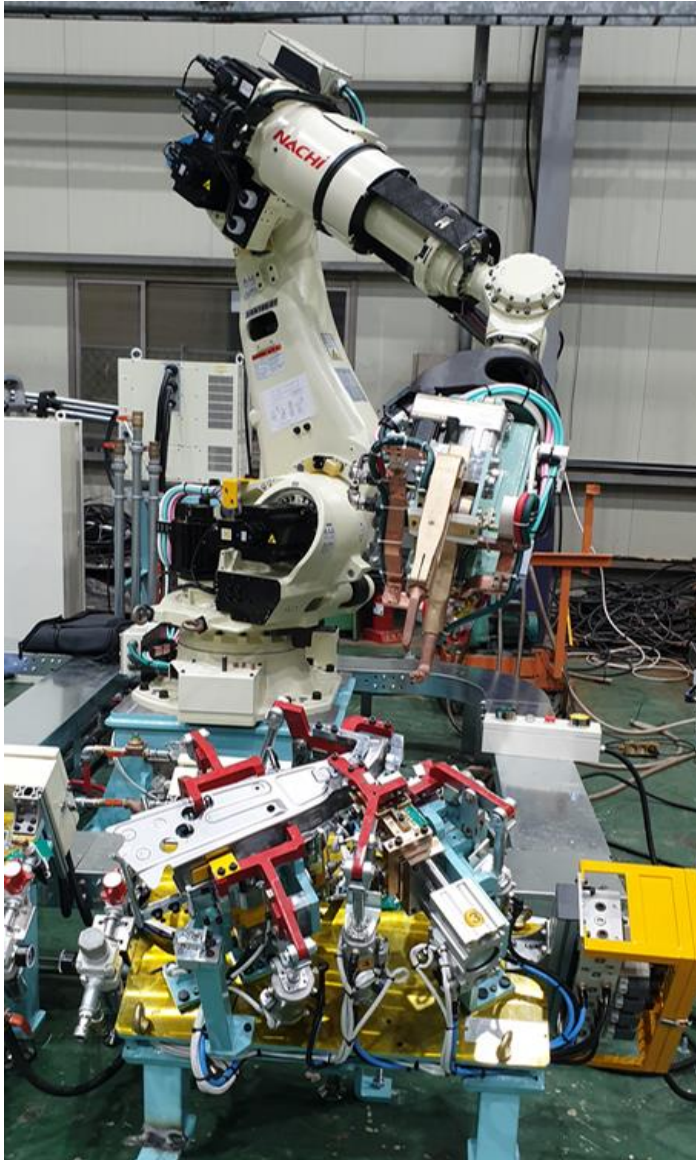
Perodua : D38L BIW



Perodua : D38L Cross Member

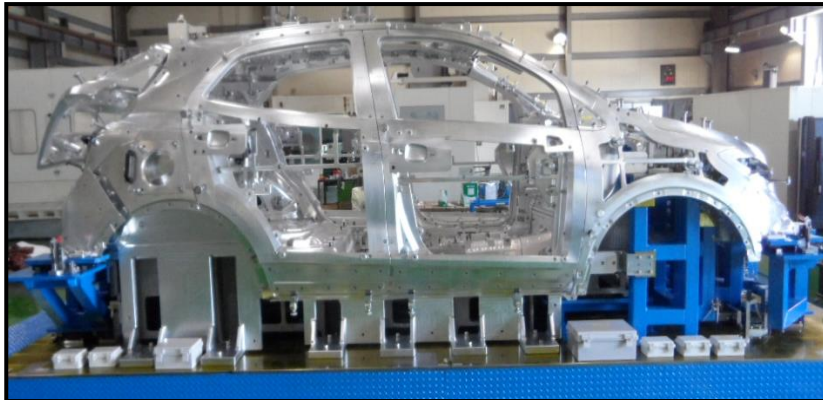


Perodua : D55L BIW

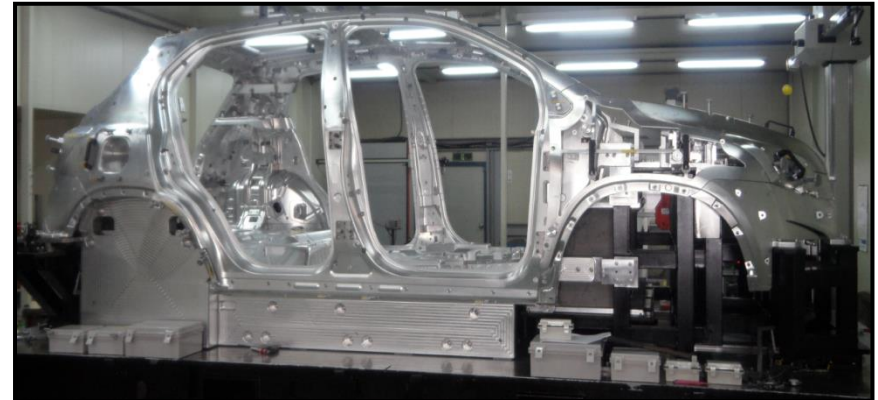


Cubic Jig and C/F, I/F

Cubic Jig



Exterior / Interior



Exterior / Interior



FRT VIEW (EXT)



Exterior / Interior

Project reference : Cubic Jig and C/F, I/F

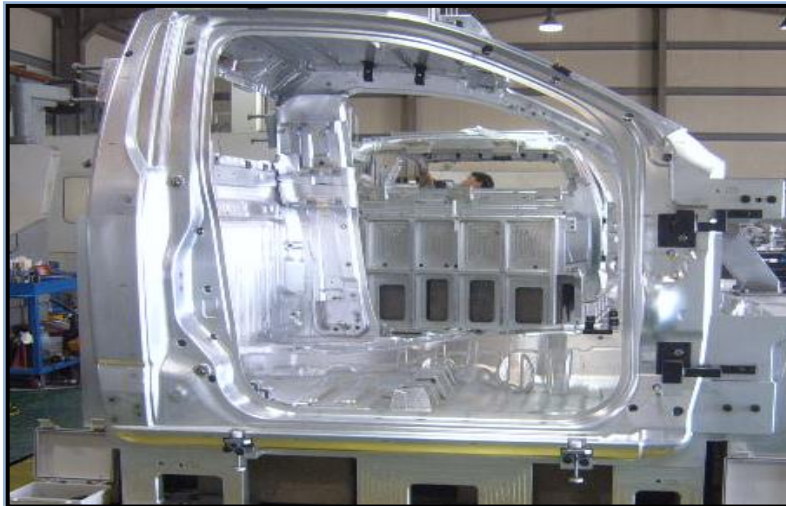
Cubic Jig



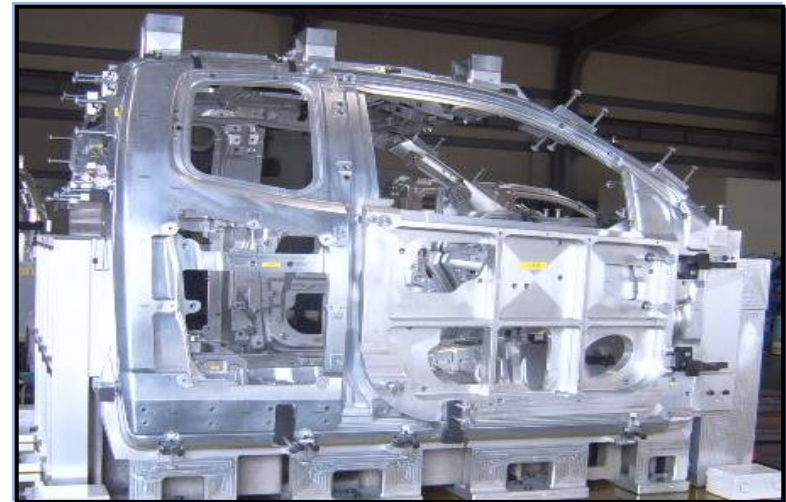
Exterior



Interior



LDT (1.5 BOX)

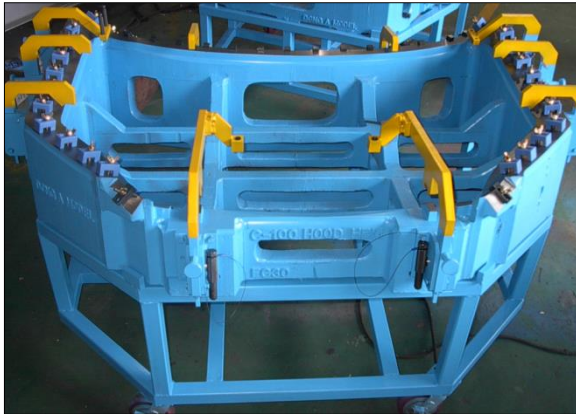


LDT K/C (1.5 BOX)

Project reference : Cubic Jig and C/F, I/F

CF / IF

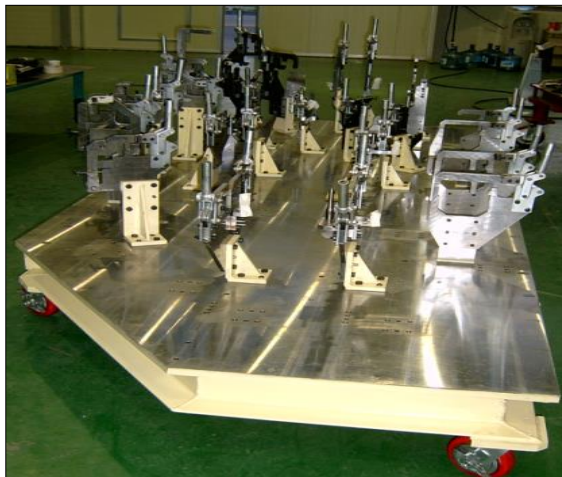
◆ PROTO TYPE HEMMING JIG



◆ ASSY CHECK FIXTURE (SSP)



◆ PROTO TYPE ASSY JIG



◆ PART CHECK FIXTURE



BEST SOLUTION ALWAYS

COST, QUALITY, TIME

THANK YOU!