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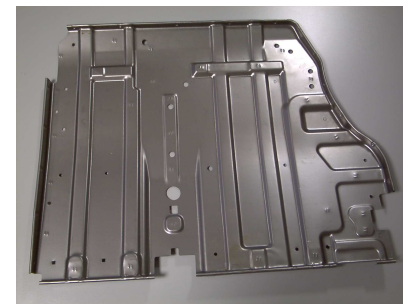
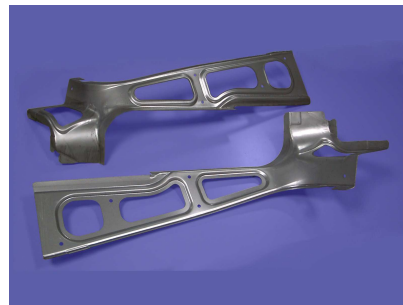
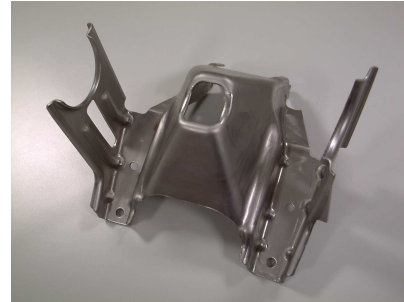
Dies
Automotive



Photo-gallery automotive 1



Photo-gallery automotive 2



CHASSIS

REINFORCEMENT SIDE PANEL

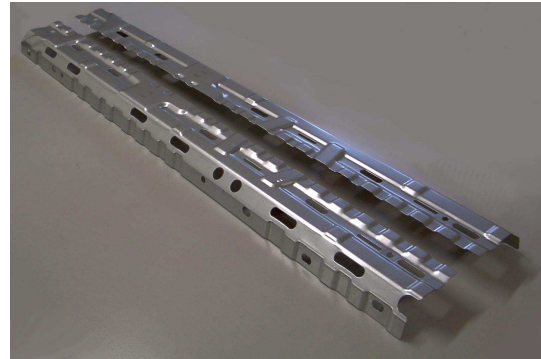
Material	FEE 270 F
Thickness	1,2 mm
Type of die	progressive 2 parts fall
No. Pitches	12
Dimensions of die	4000x2000x1000 mm
Weight of die	21.800 kg
Coil	1.340 mm
Pitch	305 mm
Productivity	22 strokes/minutes
Lead-time	6 month

RESULTS

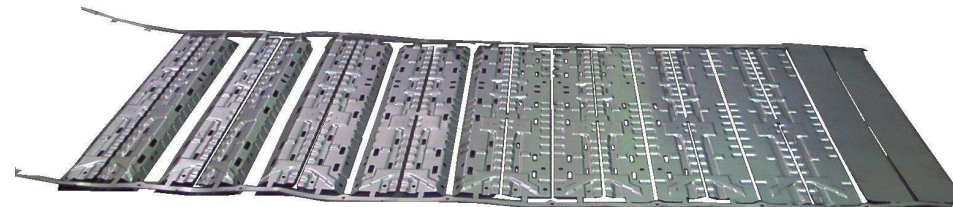
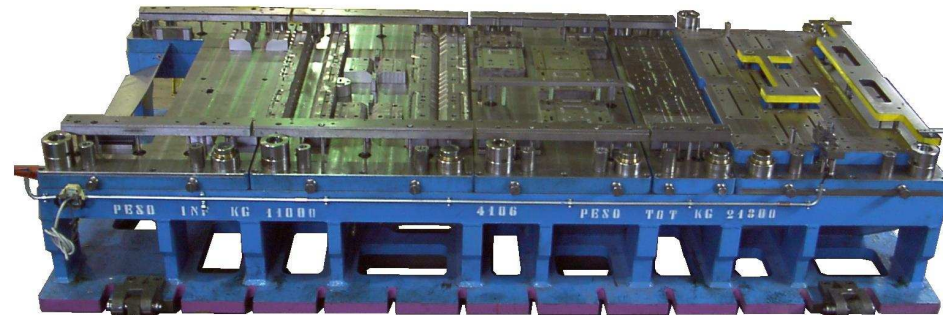
One die of large dimension to stamp both pieces (right the left)

High speed

Short time for press set-up.



Alfa Romeo 159



FENDER ADAPTER

Material	DX53D-Z100-MB
Thickness	0,65 mm
Type of die	progressive 2 parts fall
Dimensions of die	2250x1700x1030 mm
Weight of die	16.000 kg
Coil	1.230 mm
Pitch	205 mm
Productivity	16 strokes/minutes
Lead-time	7 month

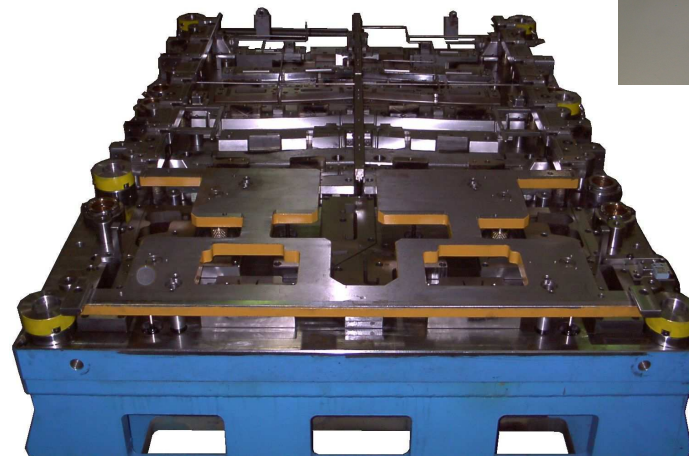


Volkswagen Touran

RESULTS

The very thin sheet has required a big adjustment of coil feeding

Very strict tolerances on coupled wings, even though the sheet was very thin.



CROSS MEMBER

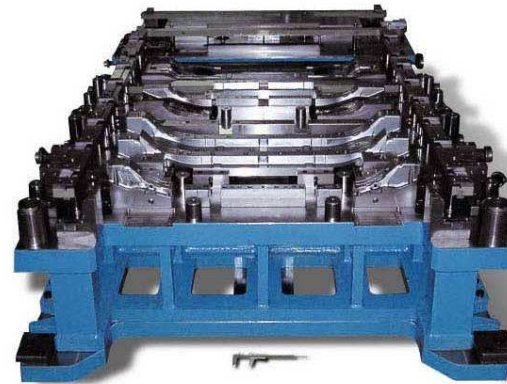
Material	FEE 220 BH
Thickness	1,2 mm
Type of die	progressive 1 part fall
Dimensions of die	2500x1800x1030 mm
Weight of die	16.000 kg
Coil	1.380 mm
Pitch	240 mm
Productivity	15 strokes/minutes
Lead-time	6 months

RESULTS

Hard deep drawing with strong resistance sheet metal made with a progressive die rather than a transfer die

High speed

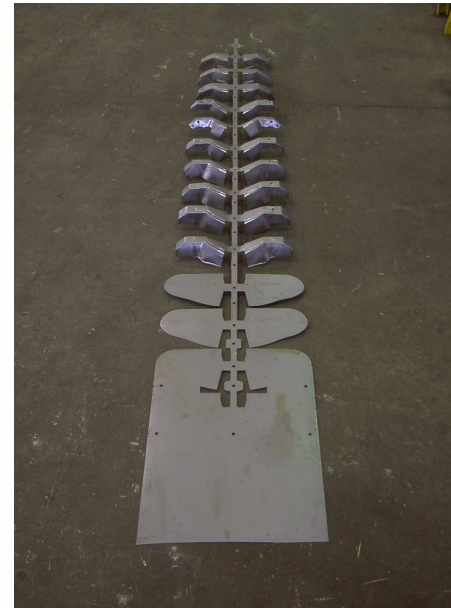
Short time for press set-up



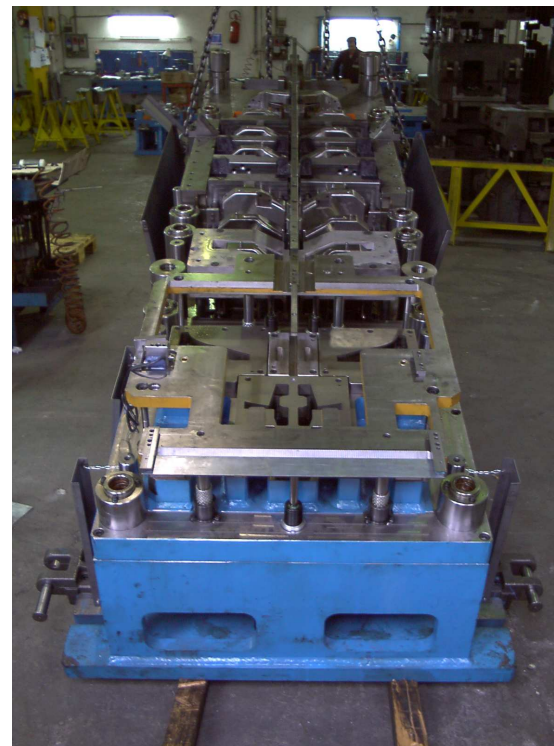
Lancia Y

FRONT END BRACKET

Material	HX 340
Thickness	1,5 mm
Type of die	progressive - 2 falls
No. of pitches	15
Dimensions of die	3750x1250xH1100 mm
Weight of die	16.000 kg
Blank width	630 mm
Pitch	230 mm
Productivity	14 pieces/minute
Lead-time	4 months

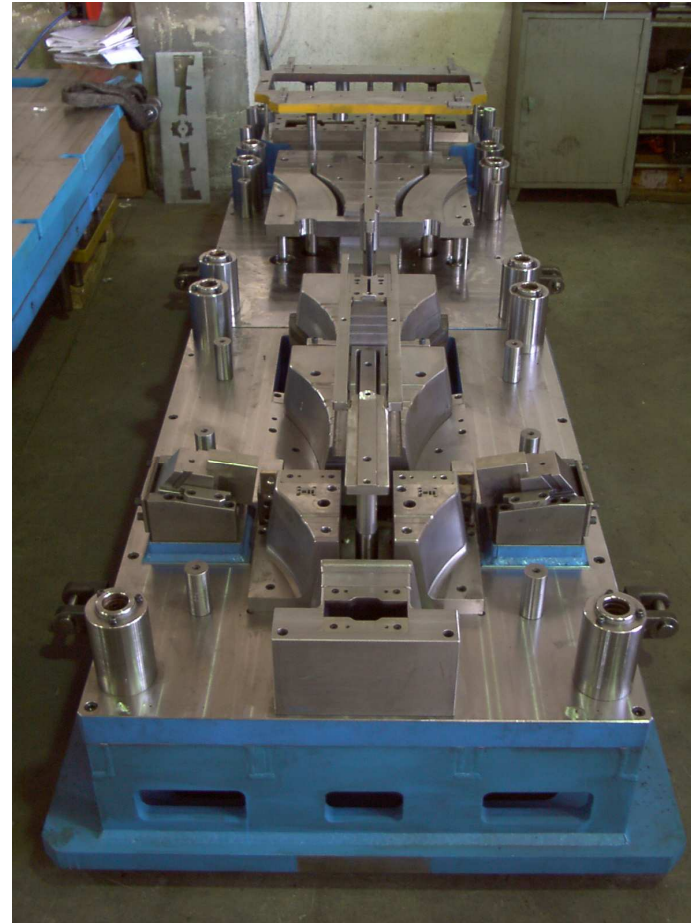


FIAT Grande Punto



SIDE RAIL

Material	DX54
Thickness	1,2 mm
Type of die	progressive – 2 falls
No. of pitches	6
Dimensions of die	3500x1200xH1080 mm
Weight of die	12.000 kg
Blank width	680 mm
Pitch	500 mm
Productivity	15 strokes/minute
Lead-time	3 months



FIAT Ducato

BODY

REAR DOOR PART

Material	DX54
Thickness	1,2 mm
Type of die	transfer 2 parts fall
Dimensions of die	4500x1500x1150 mm
Weight of die	25.100 kg
Blank	780 x 340 mm
Productivity	18 strokes/minute
Lead-time	6 months

RESULTS

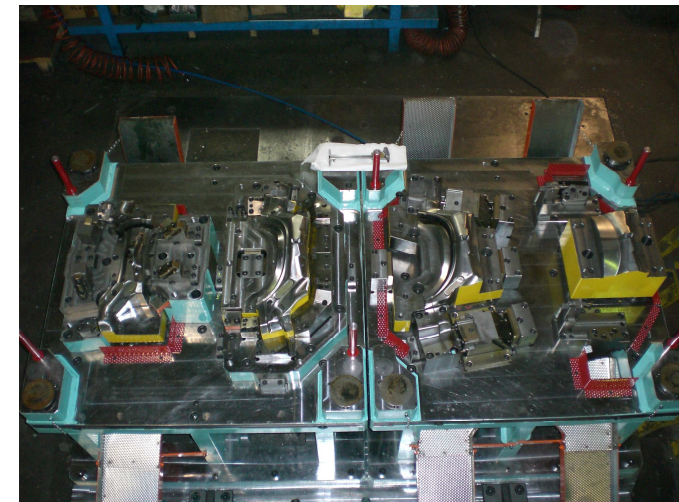
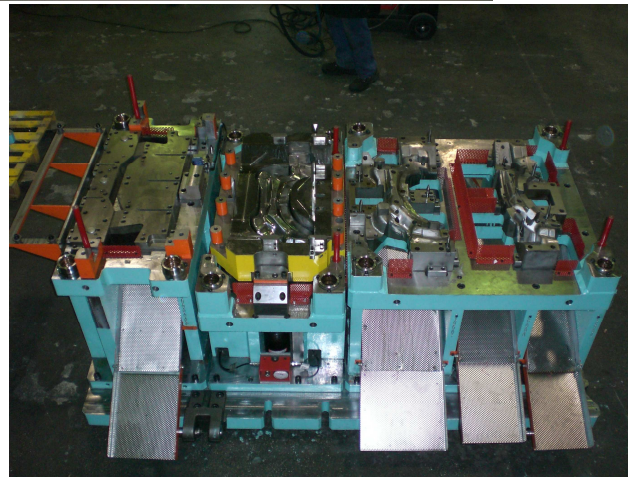
High productivity and short time for press set-up

Excellent quality with minimal sheet metal use

Extremely critical feasibility:
it required extensive engineering, simulation,
prototyping and co-design



New Lancia Delta





Nuova Lancia Delta

LEFT AND RIGHT SIDE PARTS

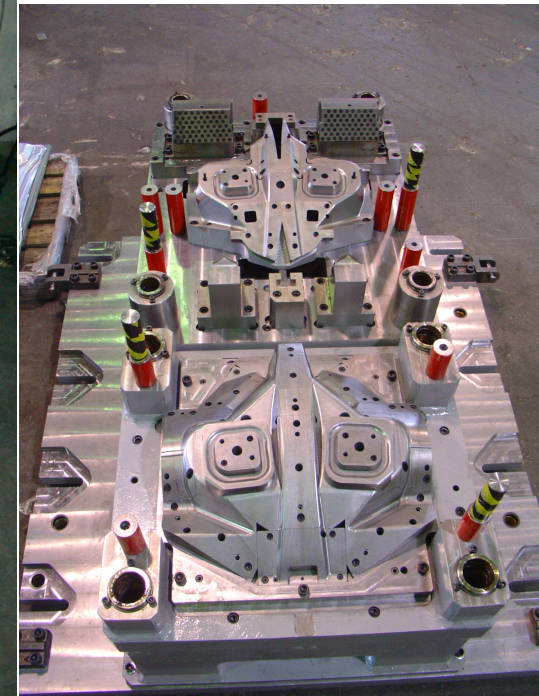
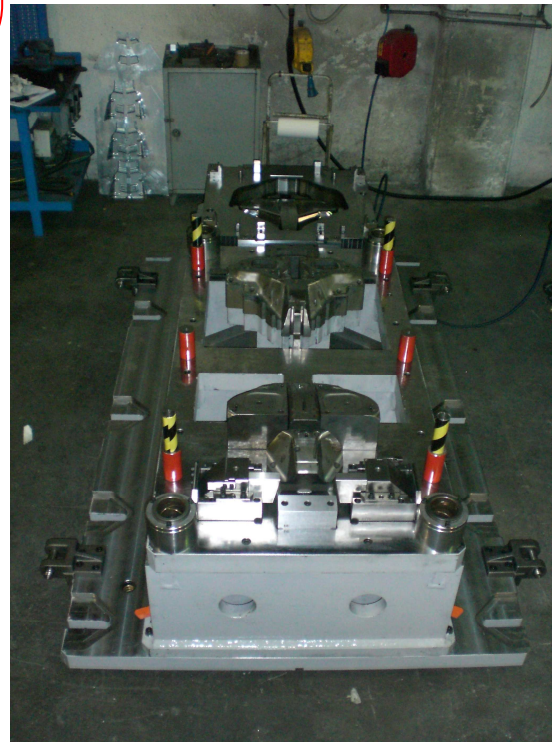
Material	DX54
Thickness	0,7 mm
Type of die	transfer
Dimensions of die	4500x1600x1050 mm
Weight of die	21.500 kg
Blank	760 x 680 mm
Productivity	18 strokes/minute
Lead-time	6 months



RESULTS

Excellent quality with minimal sheet metal use

High productivity and short time for press set-up





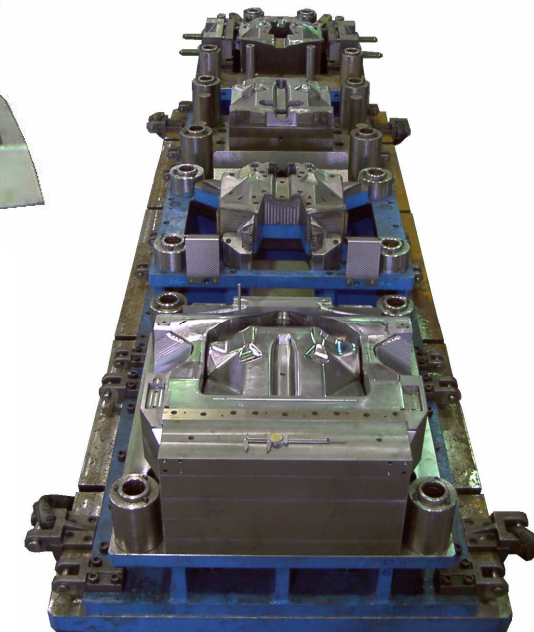
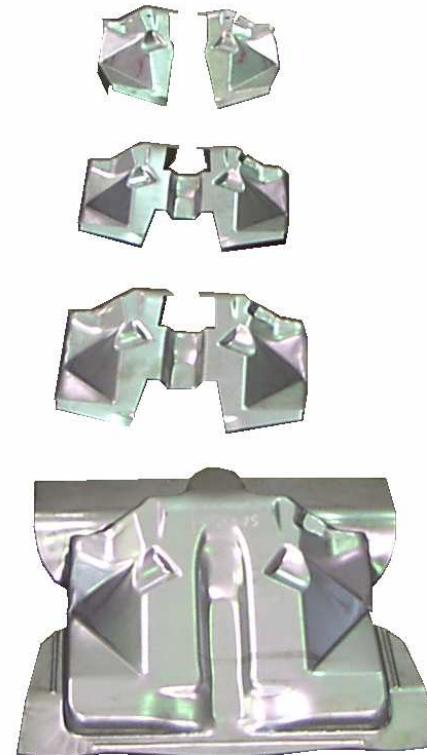
Alfa Romeo 159

CRASH REINFORCEMENT

Material	DP 600
Thickness	1 mm
Type of die	Transfer – 4 OPs–2 falls
Dimensions of die	4000 x 1200 x 1100 mm
Total weight of dies	16.500 kg
Blank size	650 x 690 mm
Productivity	10 strokes/minute
Lead-time	4 months

RESULTS

The part is obtained with only 4 working stations,
in spite of the sheet metal used.



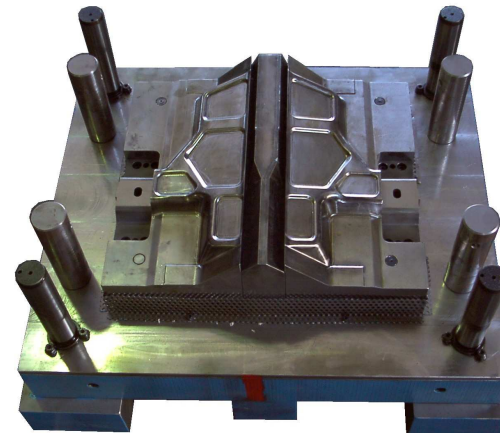
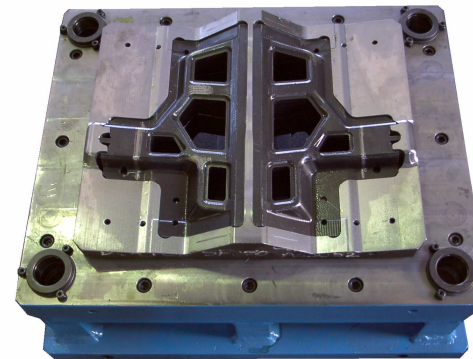
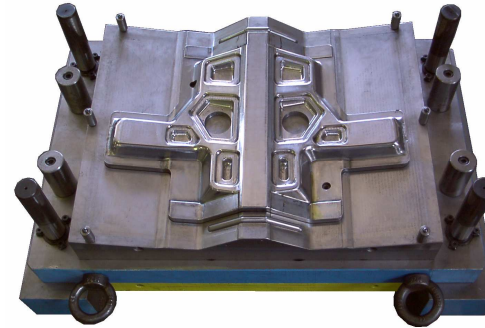
UPPER BRACKET

Material	BH 220
Thickness	0,8 mm
Type of die	manual-3 OPs-2 falls
Dimensions of the die	1000x850xH400 mm
Weight of the die	1.300 kg
Blank width	710 mm
Pitch	480 mm
Productivity	4 strokes/minute
Lead time	2 months

RESULTS

In-depth analysis has permitted to translate the part with transfer system, otherwise too complicated to be done.

Complex CAM-cutting



FIAT Ducato

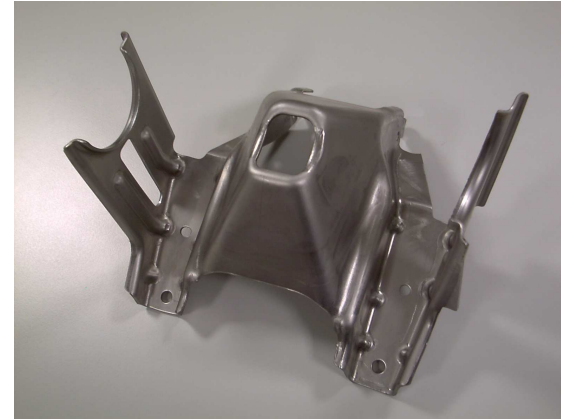
SUSPENSION COMPONENTS

BRACKET STRG COL

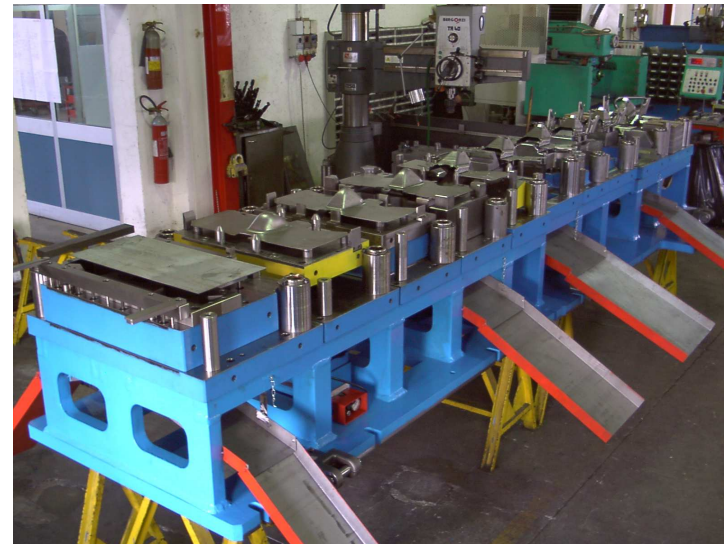
Material	FeP04
Thickness	2,7 mm
Type of die	transfer – 10 OP
Dimensions of die	4800x1300x1145 mm
Weight of die	16.000 kg each
Blank	650 x 300 mm
Productivity	14 strokes/minute
Lead-time	11 months

RESULTS

intense co-design activity with customer to make the piece suitable to be stamped with a transfer tool instead of a manual one



New Fiat Punto

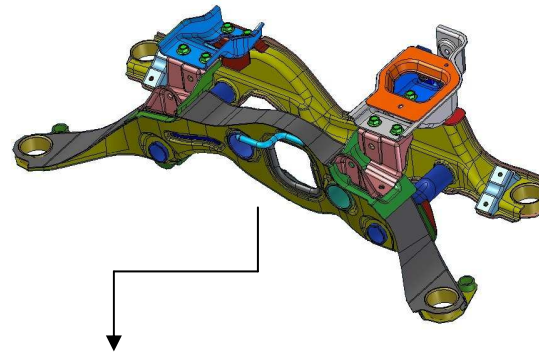


SHELLS FOR BACK SUSPENSION

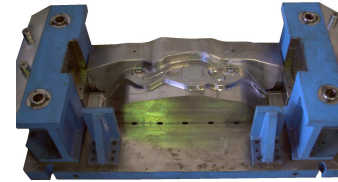
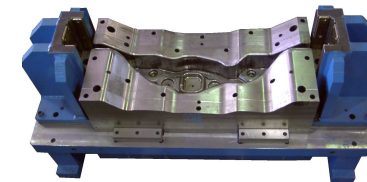
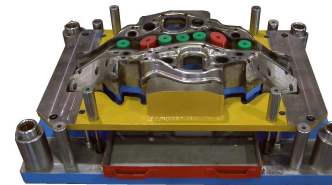
Material	FEE 340
Thickness	2 mm
Type of die	7 manuali
Dimensions of die	1800x1200x900 mm
Weight of die	6.000 kg each
Blank	1410 x 710 mm
Lead-time	6 months

RESULTS

- Very small reduction of the sheet metal thickness
- Very difficult drawing due to the hard material
- Only one kit of dies for two different parts



Alfa Romeo 159 4WD



CROSS MEMBER FRONT WHEEL SUSP.

Material	FEE 355
Thickness	2 mm
Type of die	8 manual
Dimensions of die	1500x1000x1000 mm
Weight of die	5.000 kg each
Blank	1245 x 540 mm
Lead-time	5 months

RESULTS

The suspension, compound of 2 shells, has been realized with only 4 dies for each shell.

Very hard deep drawing specially in the "candle" area that are usually welded in a second time.

Very small reduction of the sheet metal thickness as requested on this kind of components .



Fiat Panda 4x4



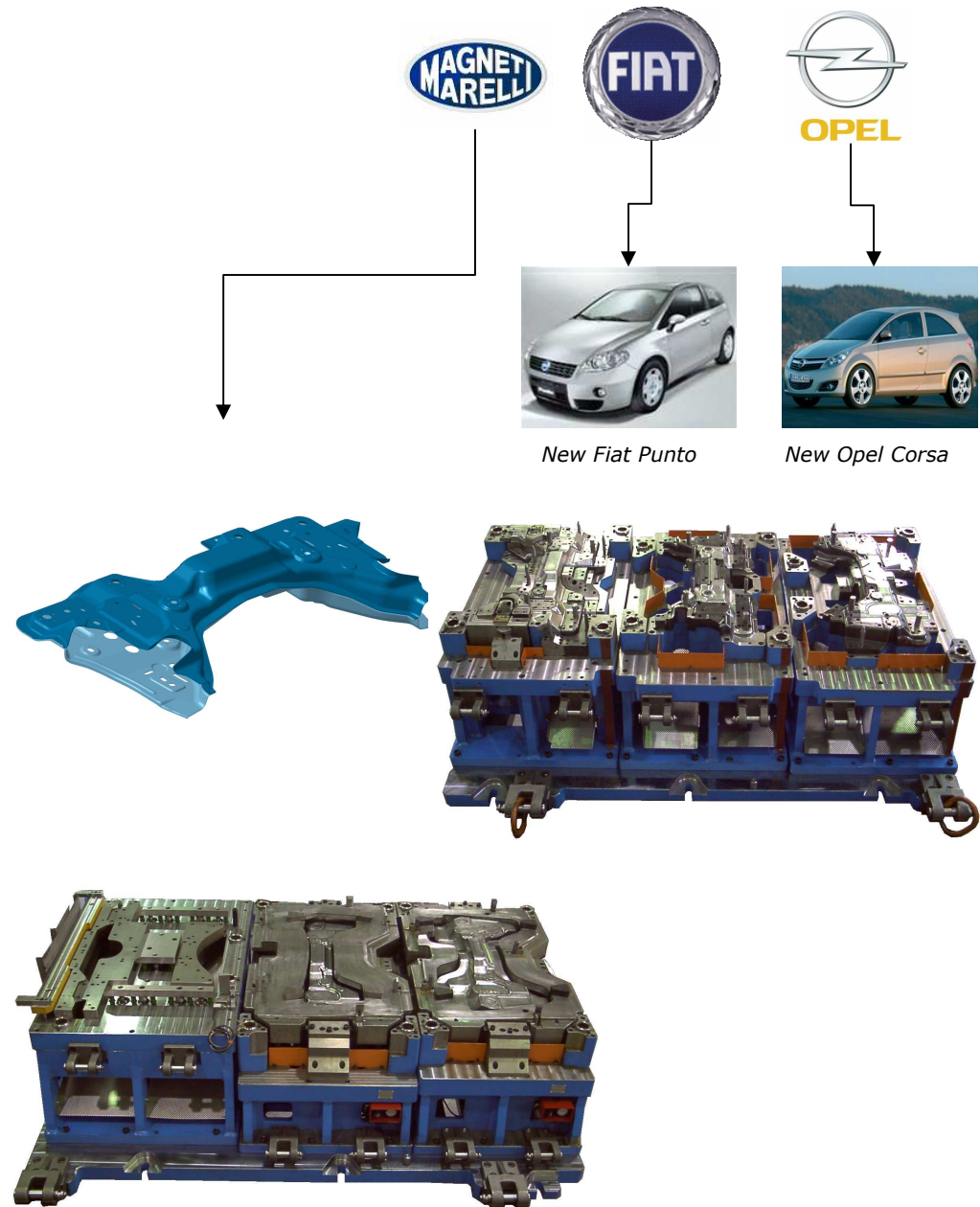
CROSS MEMBER FRONT WHEEL SUSP.

Material	FEE 340
Thickness	1,8 mm
Type of die	2 transfer – 6 OP each
Dimensions of die	5000x1400x1000 mm
Weight of dies	60.000 kg
Blank	1010 x 560 mm
Productivity	15 strokes/minute
Lead-time	10 months

RESULTS

Very small tolerances on the interaxis between holes.

Materials and type of hardening guarantee a very large production



FRONT SUSP. REINFORCEMENT

Material	DX 340
Thickness	2,4 mm
Type of die	transfer – 5 OPs-2 falls
Dimensions of die	4000x1500xH1100 mm
Weight of die	22.000 kg
Blank width	835 mm
Pitch	400 mm
Productivity	10 strokes/minute
Lead time	4 months

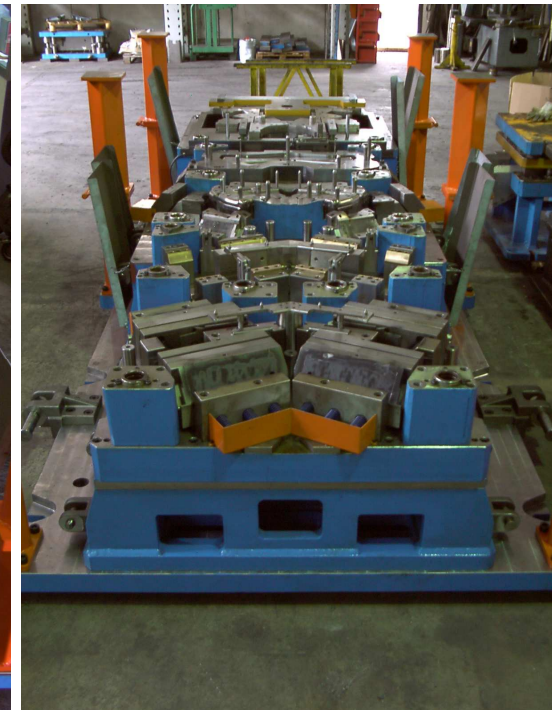
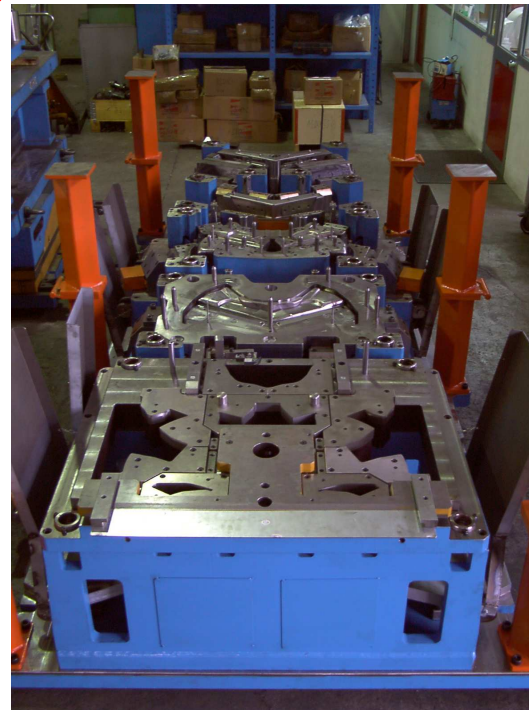


FIAT Ducato

RESULTS

In-depth analysis has permitted to translate the part with transfer system, otherwise too complicated to be done.

Complex CAM-cutting



SEATING

SIDE MEMBER DRIVER SEAT

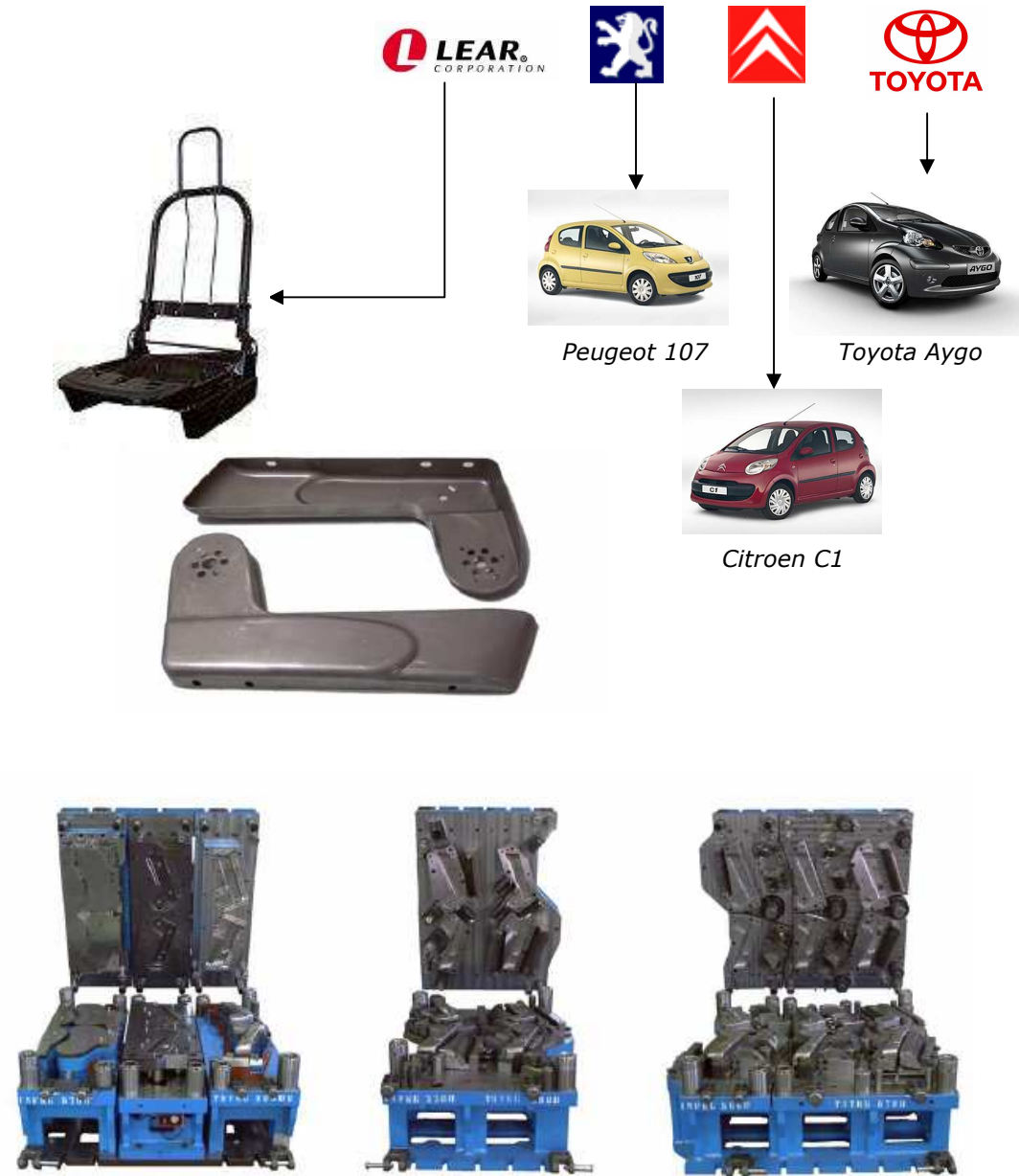
Material	FEE 355
Thickness	2 mm
Type of die	transfer
Dimensions of die	4500x1600x1100 mm
Weight of die	25.000 kg
Blank	1085 x 285 mm
Productivity	12 strokes/minute
Lead-time	8 months

RESULTS

Very small drawing radius - reached with a complex cycle and using special materials and hardening

Very small tolerance on many surfaces

Since it is an aesthetical part, we have put special care to all components of the die in order to avoid signs on the part



(one die splitted in three parts for handling purposes)

SIDE MEMBER

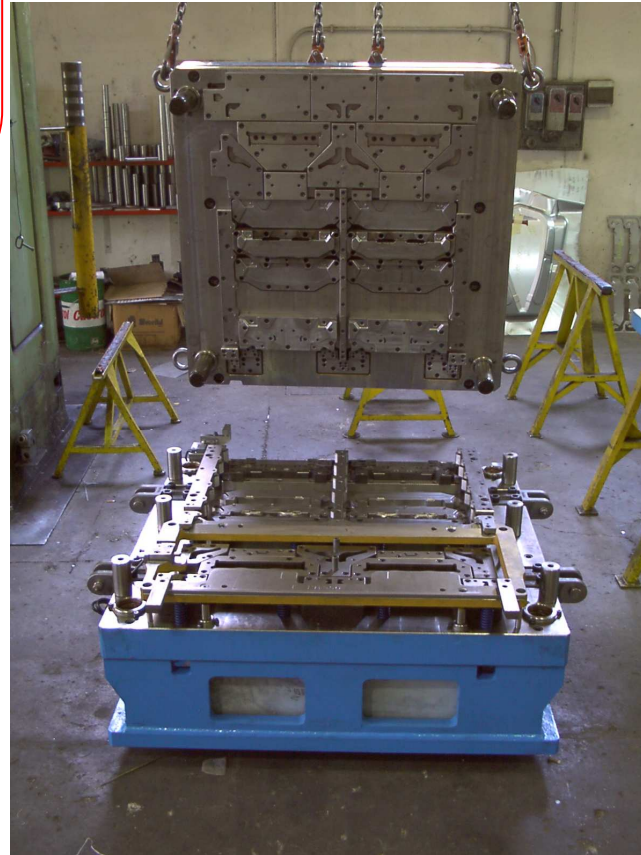
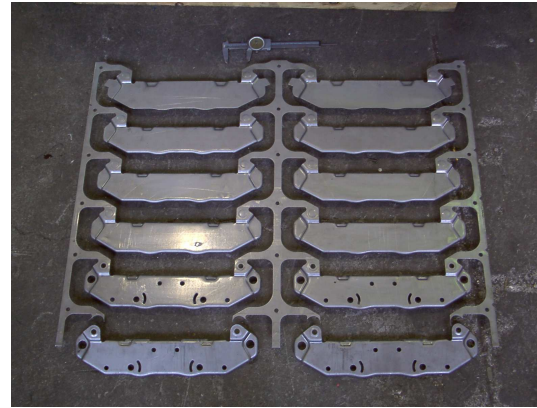
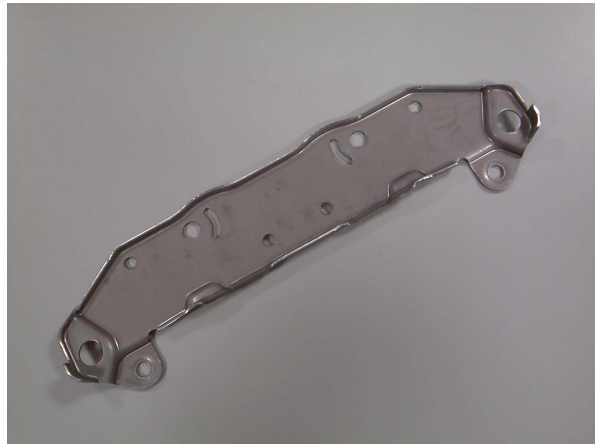
Material	HX 420
Thickness	1,5 mm
Type of die	progressive – 2 falls
No. of pitches	13
Dimensions of die	2300x1500xH760 mm
Weight of die	10.000 kg
Blank width	1195 mm
Pitch	140 mm
Productivity	18 strokes/minute
Lead time	3 months

KEIPER



CONNECTION PLATE

Material	S355 MC
Thickness	2 mm
Type of die	progressive - 2 falls
No. of pitches	9
Dimensions of die	1200x1200xH 640 mm
Weight of die	3.000 kg
Blank width	830 mm
Pitch	110 mm
Productivity	20 strokes/minute
Lead-time	2 months



FIAT Ducato



HEAD REST - TUBE

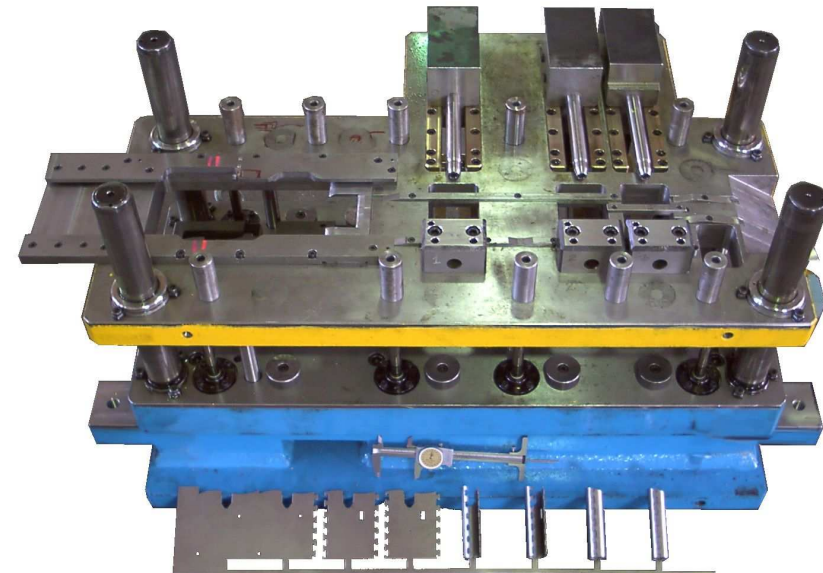
Material	HX 340
Thickness	1,5 mm
Type of die	Progressive
Dimensions of die	950 x 660 x 575 mm
Total weight of dies	1.200 kg
No. of pitches	8
Blank size	130 mm
Pitch	90 mm
Productivity	10 strokes/minute
Lead time	2 months



Alfa Romeo 159

RESULTS

It has been possible to realize the tube with stamping technology at a quite high production pace, considering geometry of the piece.



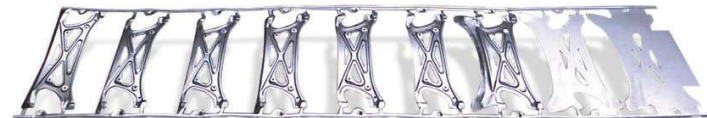
BACKREST – LOWER CROSS MEMBER

Material	HX 355
Thickness	1 mm
Type of die	Progressive
Dimensions of the die	300 x 1200 x 850 mm
Total weight of the die	11.000 kg
No. of pitches	10
Blank width	505 mm
Pitch	285 mm
Productivity	15 strokes/minute
Lead time	3 months



RESULTS

The part was made by progressive die, even if usually it is made by transfer.



BACKREST – UPPER CROSS MEMBER

Material	DX 54
Thickness	1 mm
Type of die	Progressive
Dimensions of the die	3000 x 1400 x 752 mm
Total weight of the die	8.000 kg
No. of pitches	11
Blank width	406 mm
Pitch	265 mm
Productivity	15 strokes/minute
Lead time	3 months



RESULTS

The part was made by progressive die, even if usually it is made by transfer.



Back seat

Material	Fe P04
Thickness	1,2 mm
Type of die	Transfer - 5 OP
Dimension one die	1200x970x825 mm
Weight one die	3.500 kg
Blank	610 x 600 x 1,2 mm
Productivity	12 strokes/min
Lead time	4 months

