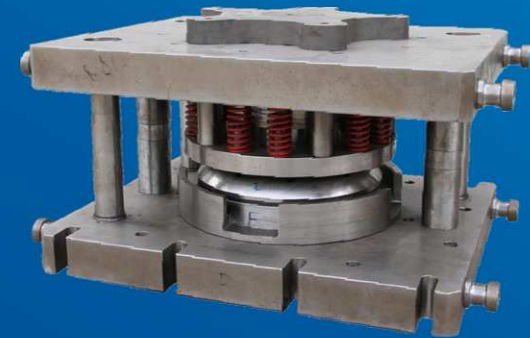




# METAL DIES DESIGN AND MANUFACTURING FOR STEEL WHEEL & STAMPING PARTS



Focus on the metal dies design and manufacturing for steel wheel rims, discs and stamping parts

**SHANDONG XIAOYA PRECISE MACHINERY CO., LTD.**  
No.51 GONGYE NAN ROAD, JINAN 250101 CHINA



**Little Duck**



# ABOUT US



Shandong Xiaoya (LittleDuck) Precise Machinery Co., Ltd. is a wholly-owned subsidiary of Shandong Xiaoya (LittleDuck) Group, and is a high and new technology enterprise that specializes in the development and manufacture of automobile mold, auto steel metal parts, wheel mold, intelligent wheel manufacturing line, and the special sophisticated CNC equipment, with

PRODUCTION FLOORS

**21,000 m<sup>2</sup>**

EMPLOYEES

**450**

ENGINEERS

**50 +**

NATIONAL PATENTS

**30 +**

QUALITY CERTIFICATE

**ISO 9001, ISO/TS 16949**

VIP CUSTOMERS

**SINOTRUCK, FAW , DFAC ETC.**

BRAND (China Market) |

LOGO

**Xiaoya**



BRAND (International Market) |

LOGO

**LittleDuck**



We adhere to the company philosophy of "create value for customers", always persist firmly in focus on the R&D and manufacturing of high-end equipments and tools, and devote ourselves to create the aircraft carrier of high-end equipments, tools and auto steel metal parts industry. The endeavoring and rising LittleDuck Precise boosts your career more successful!



# R&D AND DESIGN ABILITY



We have strong technical force, and have the province-level engineering technology research center, the province-level enterprise technical center, and the postdoctoral scientific research workstation.

In the field of die manufacturing, we have a complete production line and R&D capabilities in auto press dies, steel wheel dies, and it has been supplying for Chinese major automakers like SINOTRUCK, FAW and DFAC. We put the CAD/CAE/CAM/CAPP for effective integration, and carry out the precise and accurate design and agile manufacturing. Meanwhile, we adopt information management means and the lean production mode, and achieve the virtual assembly line management with mandatory beats against the development and manufacture of auto mold products, thus ensuring their manufacturing cycle and quality. We self-developed the “general expending tool base of large (small) production line” won the “national key & new product of mold”, the “one-time disc vents punching tool” was named “boutique tooling” by China Mold Industry Association.

## Province-level Enterprise Technical Center



ENGINEERS

50 +

NATIONAL PATENTS

30 +

### Invention Patent

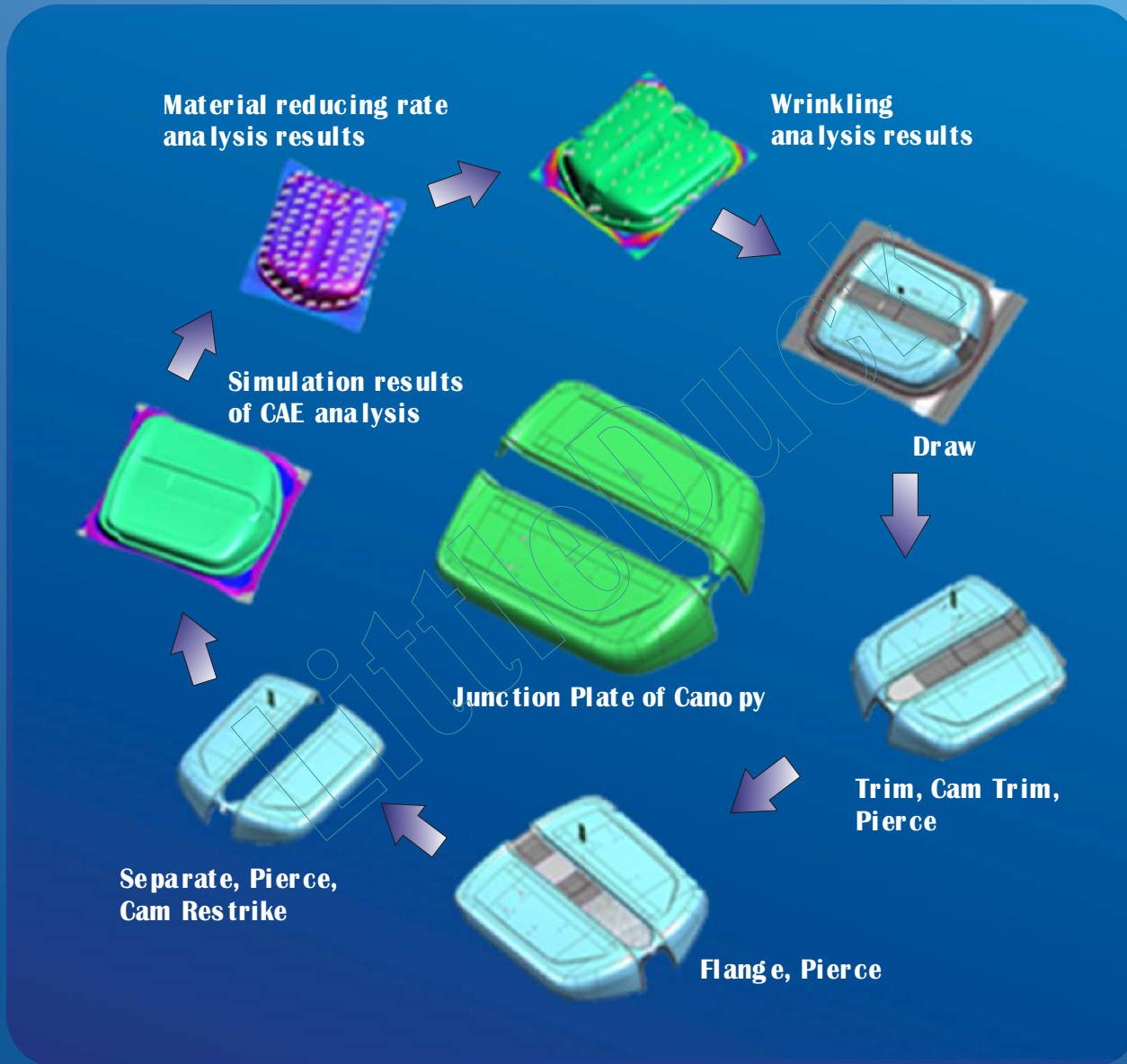


### Utility Model Patent



### Design Patent





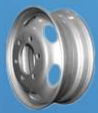
## DL DESIGN & CAE ANALYSIS

LittleDuck has formed a perfect management and service system based on our strong technical strength, excellent designers and R&D staff.

## SOFTWARE APPLICATION

CAE: AUTOFORM, DYNAFORM, ThinkDesign  
CAD: UG, CATIA, AUTOCAD  
CAM: UG, POWERMILL





# PROJECT DESIGN & MANAGEMENT



We put the CAD, CAE, CAM, CAPP for effective integration, and carry out the precise and accurate design and agile manufacturing. Meanwhile, we adopt information management means and the lean production mode, and achieve the virtual assembly line management with mandatory beats against the development and manufacture of auto mold products, thus ensuring their manufacturing cycle and quality.

The project management will through 8 main processes, includes production reverse design, CAE analysis, technics design, product design, product manufacturing, trial production, quality test and project delivery etc.





# PRODUCTION EQUIPMENT - machining centers



**CNC Machining Centers**



**Gantry Machining Center**



**Vertical Machining Center**



**Horizontal Machining Center**



**High-speed Machining Center**





# PRODUCTION & TEST EQUIPMENT



**1600 Tons Stamping Production Line**



**Vacuum Furnace**



**Precision Die Spotting Machine**



**CMM (3-coordinates Measuring Machine)**



# QUALITY CERTIFICATE

 **副本**

## QUALITY MANAGEMENT SYSTEM CERTIFICATE

Certificate No.: 00112Q23810R2S/3700  
We hereby certify that  
**Shandong Xiaoya Precise Machinery Co., Ltd.**  
No.51,Gongye South Road,Lixia District,Jinan City,Shandong Province,P.R.China

by reason of its  
**Quality Management System**  
has been awarded this certificate for compliance with the standard  
**ISO9001: 2008**  
**GB/T 19001-2008**  
The Quality Management System Applies in the following area:  
**Design and production of stamping die and steel wheel production line**

Certified since: **May. 16, 2006**    Valid from: **Apr. 17, 2014**    Valid until: **May. 01, 2015**  
After a surveillance cycle, the certificate is valid only when used together with an Acceptance Notice of Surveillance Audit issued by CQC.  
Please access [www.cqc.com.cn](http://www.cqc.com.cn) for checking validity of the certificate.

Signed by:  Wang Kejiao

**CHINA QUALITY CERTIFICATION CENTRE**  
Section 9, No.188, Nanshuan(the South Fourth Ring Road) Xilu(West Road), Beijing 100070,China  
<http://www.cqc.com.cn>

Q 0164856 2009年版



Boutique Tooling by  
China Die & Mould Industry Association



Excellent Supplier by  
China National Heavy Duty Truck Group

 **Certificate of Registration**

This certifies that the Quality Management System of  
**Shandong Xiaoya Precise Machinery Co., Ltd.**  
No.51, Gongye South Road, Lixia District, Jinan City, Shandong Province, China 250101

has been assessed by NSF-ISR and found to be in conformance to the following standards(s):  
**ISO/TS 16949:2009**  
*Having been audited in accordance with the "Rules for the registration scheme for ISO/TS 16949:2009 3<sup>rd</sup> Edition"*

**Scope of Registration:**  
Production of Stamping Parts

**Exclusions:** Products Design

IATF Certificate Number:	0170255	 Carl Blazik, Vice President, Technical Operations, NSF-ISR, Ltd.
Certificate Number:	CN014076	
Certificate Issue Date:	2013/09/13	
Registration Date:	2013/09/10	
Expiration Date*:	2016/09/09	

**NSF International Strategic Registrations**  
789 North Dixboro Road, Ann Arbor, Michigan 48105 | (888) NSF-9000 | [www.nsf-ISR.org](http://www.nsf-ISR.org)

\*Company is notified for conformance at regular intervals. To verify registrations call (888) NSF-9000 or visit our web site at [www.nsf-ISR.org](http://www.nsf-ISR.org)





# PRODUCTION APPLICATION



For wheel discs

1



## STEEL WHEEL DIES



2

For section steel rims



For tubeless rims

3



## STAMPING PARTS DIES



4

For stamping parts





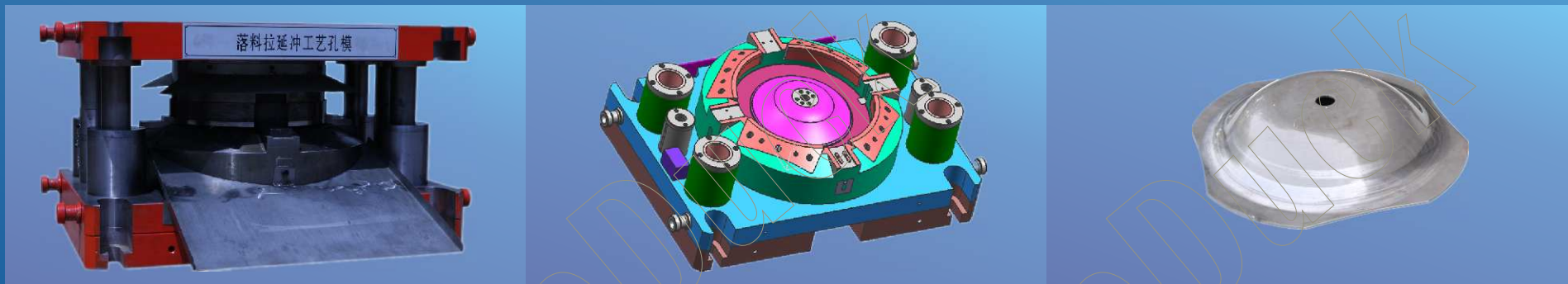
# APPLICATION - wheel disc die - for automatic stamping line



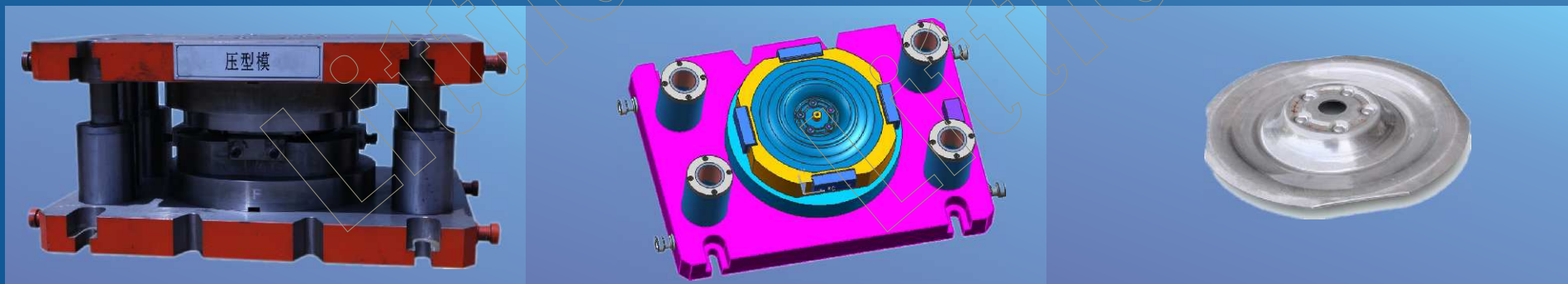
Along with the development of the automobile civilization, lightweight, high strength and attractive appearance has become the basic requirement of passenger cars equipped with wheels, the popularizing rate of high strength plate is higher and higher in steel wheels industry. At the same time, the spokes fast-paced, large-scale wheel disc production line also put forward higher request on the standardization and long service of die and mold for robotized operation and high-efficiency.

So we improved and optimized the production process of disc die and mold to design and develop complete disc mold for automatic disc production line which was made of seven (7) sets of mold covered blanking, forming, flanging, piercing and restriking.

## STEP 1 - blanking, drawing, technological location hole piercing



## STEP 2 - forming



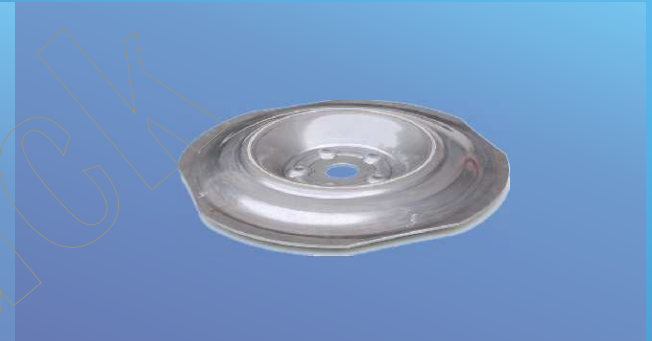
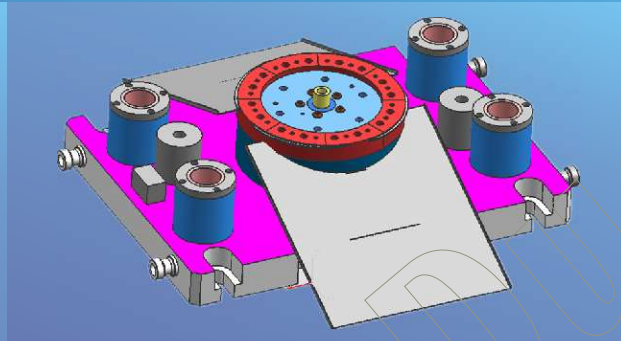
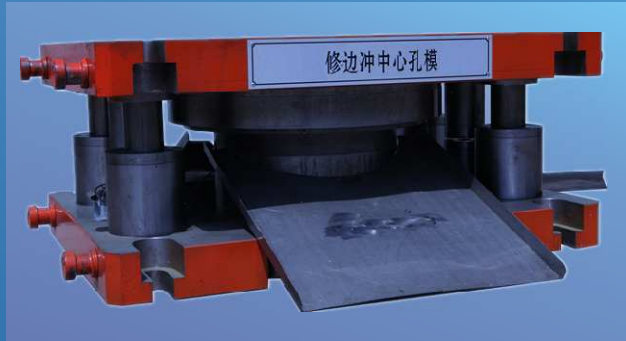




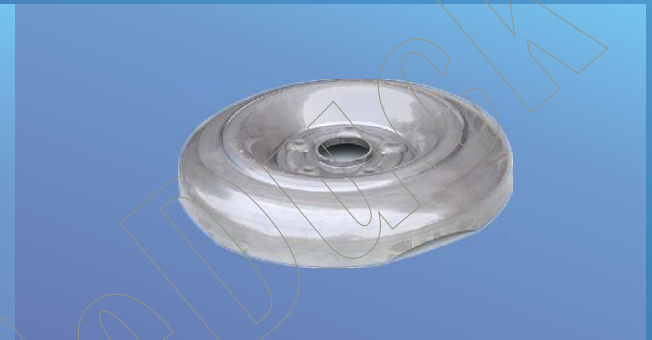
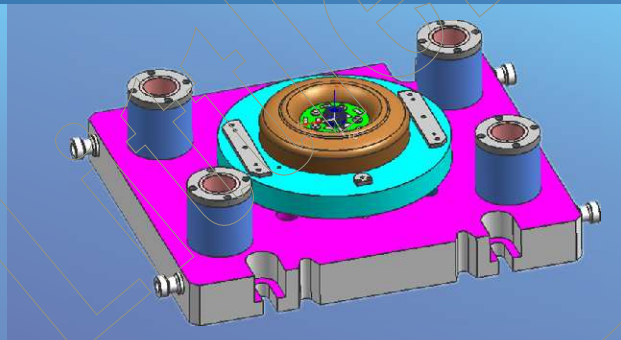
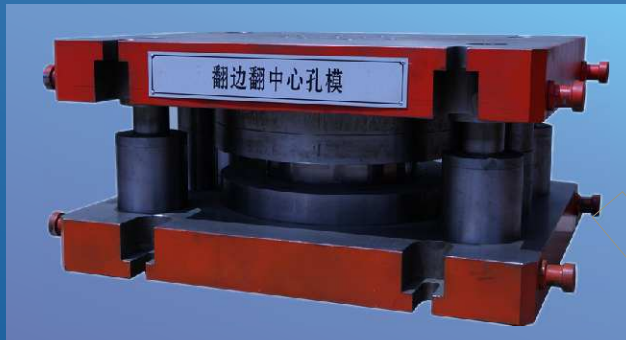
# APPLICATION - wheel disc die - for automatic stamping line



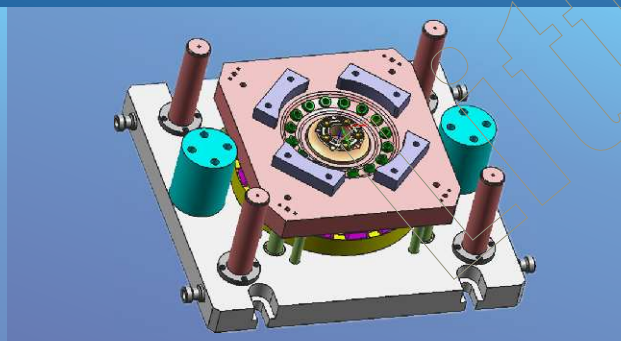
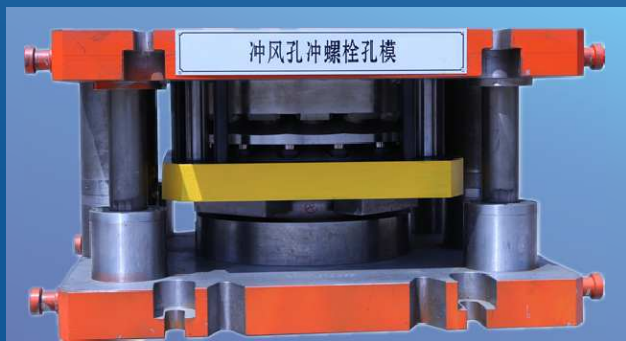
STEP 3 - trimming, centre hole piercing

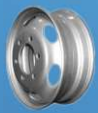


STEP 4 - flanging, centre hole flanging



STEP 5 - vent holes and bolt holes piercing

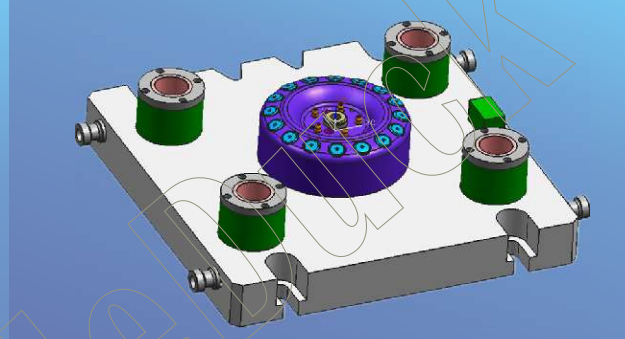
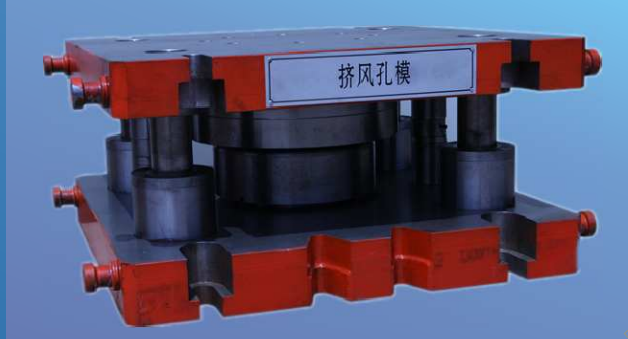




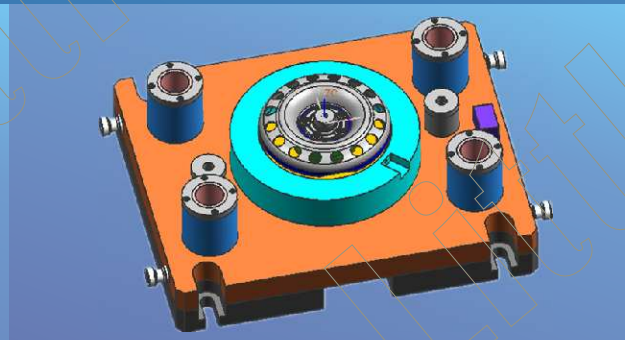
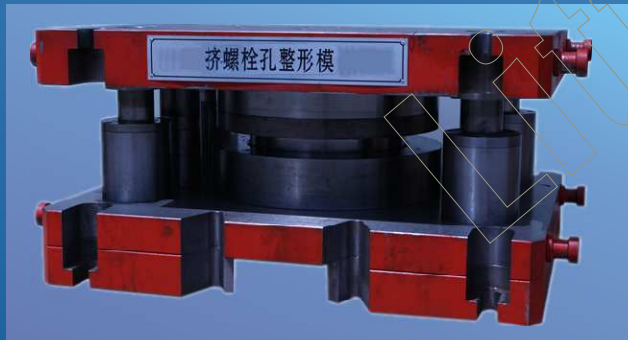
# APPLICATION - wheel disc die - for automatic stamping line



## STEP 6 - vent holes burring & chamfering



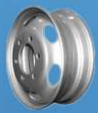
## STEP 7 - bolt holes restriking



*Debugging And Testing  
For  
Mold And Workpiece Before Delivery*







# APPLICATION - wheel disc die - for standalone operating



single-pass vent hole piercing die



one-time vent holes piercing die



compound piercing die



disc forming die



press-fitting die



compound piercing die



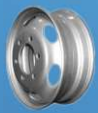
double-station blanking die



Technology And Processes of Die and Mold  
Can Be Design And Optimization  
According to Customer's Requirements

double-station vent holes piercing die





# APPLICATION - tubeless wheel rim die



Roll Forming Die



Flaring Die



Expanding Tool Base  
For Small Rim Line



Rim Width 2.5-8 inch, Diameter 12-17.5 inch  
Equipment: 200 -315 Ton Hydraulic Press

Expanding Tool Base  
For large Rim Line



Rim Width 6-11.75 inch, Diameter 17.5-24.5 inch  
Equipment: 500 Ton Hydraulic Press

Expanding Tool Base  
For Extra large Rim Line



Rim Width 8-20 inch, Diameter 19.5-38 inch  
Equipment: 500 Ton Hydraulic Press

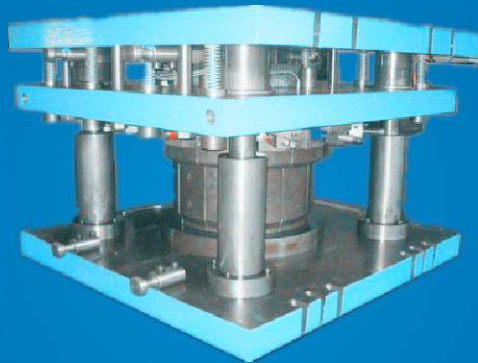




# APPLICATION - section steel rim die



**Expanding Tool  
For Section Steel Rim**



Rim Width 6.5 inch or 8.5 inch  
Rim Diameter 16 inch or 20 inch  
Equipment: 630 Ton Hydraulic Press

**Shrinkage Tool  
For Section Steel Rim**

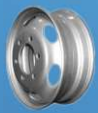


Rim Width 6.5 inch or 8.5 inch  
Rim Diameter 16 inch or 20 inch  
Equipment: 630 Ton Hydraulic Press

**Finishing Die  
For Closing Ring**



Rim Width 6.5 inch or 8.5 inch  
Rim Diameter 16 inch or 20 inch  
Equipment: 630 Ton Hydraulic Press



# APPLICATION - stamping parts die



**Drawing Die For Inside Plate Of Gusset**



**Drawing Die For Inside Plate Of Canopy**



**Flanging Die For Outside Door Panel**



**Compound Die of Drawing, Trimming+Piercing, Flanging +Restriking For Beam**







# APPLICATION - stamping products





# LOCATION & CONTACT



## 中國的行政區分布

Distribution of Administrative Divisions in China



## LOCATION

Jinan City, Shandong Province, CHINA

## AIRPORT

Jinan International Airport

## SEA PORT

Qingdao Port, China

## MANUFACTURER

Shandong Xiaoya Precise Machinery Co., Ltd.

## EXPORTER

Shandong Xiaoya Group Imp. & Exp. Co., Ltd

No.51 Gongye Nan Road, Jinan 250101 China

<http://www.littleduckgroup.com.cn>

Tel: 0086-531-8312 2094, 8312 2068,

8312 2326, 8312 2599

Fax: 0086-531-8312 2009

Email: [jn\\_yongxin@126.com](mailto:jn_yongxin@126.com)