来料检验
material inspection

进料检验作业标准 standards of the incoming material inspection(material certificate and flaw detection report)

外观检验(appearance inspection)：检验表面是否有裂纹和砂孔以 及检验边角处是否有焊补和缺料，做好标识，不合格品放置于"退料区"。Examine whether there are cracks and holes in a surface; examine whether there are dilapidation and repair welding on the corner, then marking it. The unqualified material must be placed on the rejected material area.

尺寸检验(size inspection)：用卡尺或卷尺检验材料尺寸，材料尺寸公差为正1mm。不合格品放置于"退料区"。 check the material size by Caliper or tape measure t, material dimensional tolerance is 1mm. The unqualified material must be placed on the rejected material area.

垂直度检 (Verticality inspection)： 用角尺检验材料边与边的垂直度，在100mm内公差≤0.2mm，超出则不合格，依此类推（等比换算例如：200mm≤0.4mm）并做好标识。不合格品放置于"退料区"check the verticality by try square, the tolerance is less than 0.2mm or equal to 0.2mm within 100mm , The unqualified material must be placed on the rejected material area., then mark it .

材料标识(Marking)：用记号笔在合格的材料表面作上加工图号和尺寸标识 。将不合格材料标上"退料"字样，并注明不合格原因。Mark the drawing number and size on the surface with marker pen. Mark the unqualified material with " rejected material " and the reasons.

填进料检验单 fill in the inspection report

粗磨
Rough Grinding

- **1.**粗磨工件表面光潔
  ensure the smooth surface of the coarse work piece

- **2.**六面成直角
  ensure vertical angle of the hexahedron

- **3.**預留**0.3mm**
  reserve0.3mm

NC定点引孔镗孔

NC fix point and borehole

- 1. 确认挡板（基准边）水平度在O.1/600MM内,按照工艺卡确定加工面，装夹好工件.

  confirmed baffle (datum side) degree level within 0.1/600MM, confirm the machined surface in according with the operation card and clamp it. .

- 2.根据图纸定基准点并确认.
  fixed datum mark and confirmed it in accordance with drawing

- 3. NC自动加工.

  NC automatic processing

过程检验
in-process inspection

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- **1.** 按照图纸检查关键尺寸,并做尺寸标识**.**
  Inspect the key dimensions in accordance with the drawings and make record.

- **2.** 填写制程检验单
  fill in inspection sheet

- **3.** 如有异常，填写质量异常处理单
  Fill out a report when non-conformance be checked.

补孔攻牙
patching holes and tapping

- **1.**将油路板水平放置在机床工作台上并且夹紧

  lay the work piece on the working table and clamp it.

- **2.**根据加工图纸选定刀具,用游标卡尺测量刀具直径然后装刀.

  Select processing tool in accordance with drawings, loaded knife after measured the diameter of the tool by vernier .

- **3.**移动机床主轴，以刀具与工件表面的接触点为基准，设为钻孔零点.

  move machine spindle, set against drilling in accordance with the contact points on the surface of the tool and the work piece .

- **4.**以图纸深度钻孔并且加切削液.

  Drilling according to the depth of drawings and adding cutting fluid

倒角及去铁屑

CHAMFER AND CLEAN THE SCRAP

- 1、图纸无明确要求时，倒角尺寸为1.5-2mm，有特别要求时，依图纸 drawings without a definite requirement, the chamfer size 1.5-2mm, in particular , chamfering in accordance with drawing's requirement.
- 2、倒角内容为工件六面的所有锐边all the sharp edges must be chamfered
- 3、操作过程要施力均匀，均速，避免跳动ensure the uniform force, mean speed, ensure the stability in the process of operating.
- 4、完成后要复查，不合要求处要重新修正 recheck when completed , unqualified operation must be corrected
- 5、翻转前清理工作台，避免碰伤clean up the workbench before flipping, ensure no bumps

检牙
check the screw thread

01/01/2003 00:23:08

1. 按图纸检查有无遗漏攻牙
   ensure all the holes were tapped
2. 检查牙的深度是否合格
   ensure the qualified depth of the thread
3. 检查有无坏牙

   ensure no unqualified thread
4. 如有异常做标记

   marking the unqualified thread

清孔去毛刺及油口抛光

clean the bore and scrap   outlet polishing

01/01/2003 00:21:29

- 1、清理顺序以小孔优先，特别注意盲孔的清理clean the small holes first , pay attention to the blind holes.
- 2、同一面的所有孔清理完成后翻面clean another face after all the holes were finished in one face
- 3、翻转前，清理工作台，避免划伤工件clean the working table before turn over the work piece to stop from scratching the work piece
- 4、以LED灯配合旋转锉，做孔交汇处的去毛刺工作clean the scrap among the holes with the LED and rotary burrs
- 5、以36#砂纸配合气动工具打磨油口polish the ports with the sandpaper(36#) and pneumatic tools
- 6、以金相砂纸配合气动工具做重要表面抛光polish the important faces with the Metallographic sandpaper and pneumatic tools
- 7、细清完成的孔要做标识，整体完成后，要仔细核实有无遗漏mark the holes after the fine clearance and ensure all the holes were finished

初检
first inspection

檢測各尺寸,孔位是否与图纸一致

Inspect the dimensions and hole sites in accord with the drawings

精磨
fine grind

- 1、磨前清理台面，摆正工件，吸磁clean the working table before grinding , place the work piece correctly and absorb magnetic
- 2、磨削顺序为先磨无深度要求的表面，后磨有深度要求的平面，带o-ring槽的平面要以百分表确定面的平面度0.04以内grinding the faces without depth requirement first , then grinding the faces with depth requirement , ensure the flatness of the faces with o-ring groove within 0.04 by dial indicator
- 3、磨削过程中仔细观察表面状况，及时修整砂轮 observe the situation of the faces during grinding and fix the grinding wheel in time
- 4、以深度尺确认阀孔深度并在孔口附近做好标记ensure the depth of the valve hole by the depth indicator and mark it .
- 5、以比较样板确认表面粗糙度是否达到图纸要求ensure the surface roughness by the comparison of model

- 6、确认完成后，退磁 demagnetizing after all the procedures done

终检　试模组装　敲钢印

Final inspection　Die trial assembly　Stamping

01/01/2003 01:05:09

1. 检测各尺寸,孔位是否与图纸一致

   ensure the hole sites accord with the drawings

2. 品管人員使用模擬閥件試模组装

   Die trial assembly

3. 再次確認孔位與圖紙相同並按照圖紙要求打鋼印 reconfirming the hole sites and stamping in accordance with the drawings

清洗及脱脂处理
cleaning and degreasing

- 1、气枪清除磨屑clean the scrap with the air gun
- 2、除油，浸于除油槽内，时间为5-10分钟put the work piece in the degreasing tank for 5-10 minutes
- 3、清水冲洗，确保清洗所有孔位，特别注意盲孔清洗clean all the holes with water and pay more attention to the blind holes
- 4、防锈，以脱水防锈油，浸泡2-3分钟put the work piece in the rust preventing oil tank for 2-3 minutes

洗油处理

clean the stain & anti –rust treatment

1. 高压清洗

   high-pressure cleaning

2. 清洗液为18号液压油与长效防锈油混合物，按4：1配比

   cleaning solution is the mixture of hydraulic fluid(18#) and long-acting rust preventing oil **according to the ratio of 4:1**

发黑处理
black coating treatment

按照图纸要求发黑

Black coating in according with the drawings requirement

发黑后检验

quality inspection after black coating
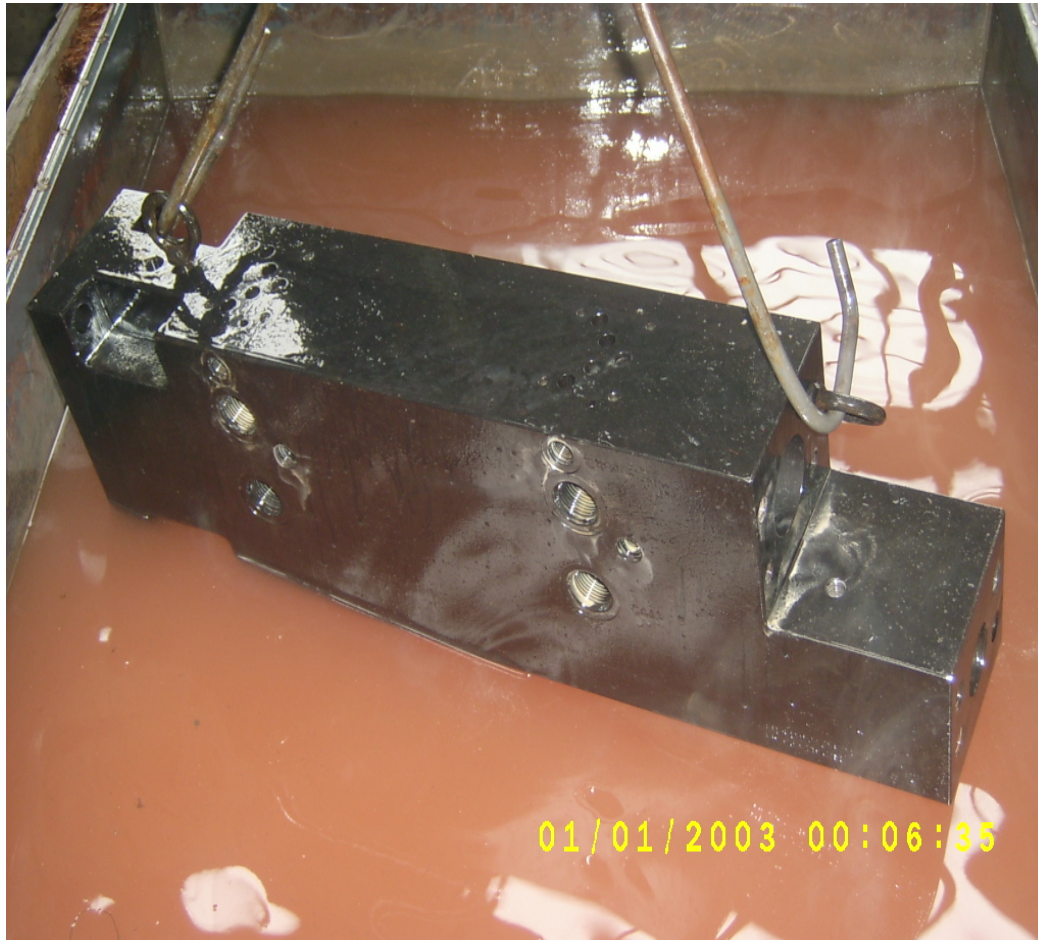

1.检查表面有无划痕

   ensure no-scratches on the surface

2.检查外表黑度是否均匀

   ensure the thickness of black coating

3.有无碰伤

   ensure no bruise damage

发黑后清洗
cleaning after the black coating

高压清洗
high-pressure
cleaning

包装
packing

1. 气泡膜、塑料膜和牛皮纸包装。
   Wrap the product with air bubble film ，plastic film and brown packing paper
2. 贴标签
   Labeling

成品
finished products