

塑模保養維修講義 mold maintenance handbook

By PIM [plastic mold company](#)

日常保養時機

daily maintenance schedule

(定時保養和每班保養)

(timely maintenance and shift maintenance)

- 1.定時保養模面清潔:

Timely clean mold surface

- 生產中之模具-----每隔1小時一次.

mold in operation -----one time per 1 hour

- 2.每班保養:

shift maintenance

- 生產中之模具-----每班保養一次.

mold in operation -----one time per shift

模具零部件保养

Mold components maintenance

1.批次结束
the end of operation

2.定时保养::
Scheduled maintenance:

大型外观件模具----每隔四万模次
large-sized mold ----every 40 thousands times
PVC 模具----每隔二万模次
mold for PVC material----every 20 thousands times
其它模具----每隔五万模次.
other mold ----every 50 thousands times

模具保养步骤

steps of mold maintenance

Separate mold 拆模

Clear up 清理

Lubricate 润滑

Assembly 组立

Position restore 归位

公,母模面及排气槽的清洗 Cleaning of the surface of mold and air vent

1. 用氣槍吹乾淨公模面,母模面及排氣槽內的料屑.

Clean the surface of core and cavity plates, also the air vent to remove the plastic relics.

2. 用沾去漬油的棉布擦拭乾淨公.母模面

Clean mold surface with the cotton soaked with cleaning fluid .

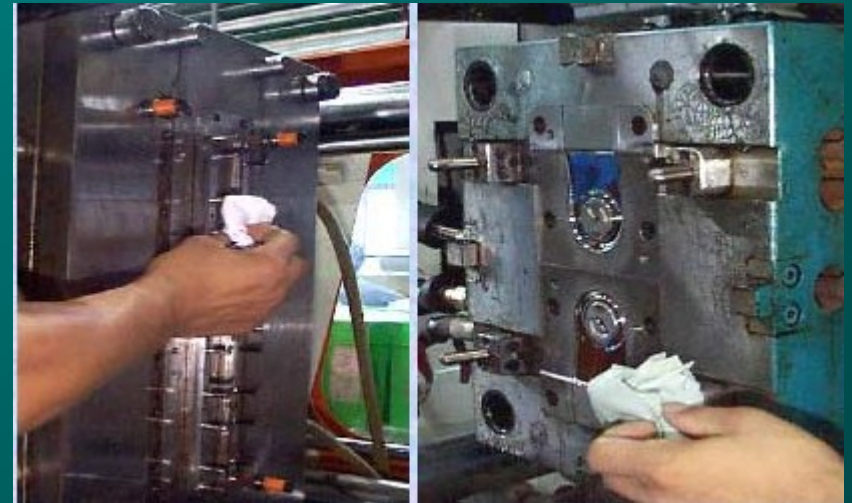


導套、頂針、滑塊的清洗 Clean bushing 、 ejector pins 、 sliding block.

1.用气枪清理导套，顶针和滑块等部件
1. To Clean bushing 、 ejector pins 、
sliding block with air gun



2.用沾去漬油的棉，布擦拭乾淨
2.Clean surface with the cotton
soaked with cleaning fluid



3.给公模导柱、复位杆、顶针、滑块等部位抹上一层润滑油

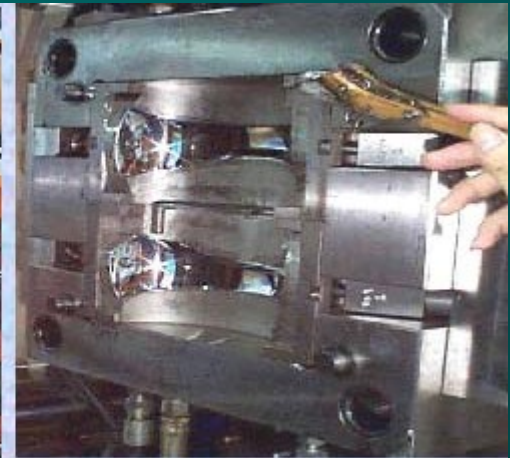
3. Lubricate the core guide pillar, return pins, ejector pins and sliders.

4.给母模导柱、导套等部位抹上一层润滑油

4. Lubricate the guide pins and bushing of cavity.

5.从顶针固定板间隙喷顶针润滑油

5. Lubricate the ejector pins through the gap between the pins and plate.



PIM plast

模具外表面的保养

maintenance of mold's outer surface

用喷枪吹模具表面上的粉尘,使其保干净

Blow away the dust on mold surface by air gun
and keep it clean.

日常保養注意事項

Daily maintenance attentions

- 一.保養前要注意确认:射座退出,料管内无料,液压马达关闭.

Injection nozzle moving back, no material in barrel, motor being off, which should be confirmed before maintenance

- 二.保養时注意:Attentions during maintenance:

1镜面和喷砂纹面不能用棉布擦拭;

Don't clean mirror surface and sandblasted surface with cotton cloth.

2擦拭过程不能碰伤咬花面和镜面;

Texture and mirror surface can't be damaged during cleaning.

3禁止在模面直接喷射润滑油,使模面残留油渍.

Forbidden to directly spray lubricant on mold surface. Make sure no lubricatant remains on the surface of the mold

- 三. 保養后注意:Attentions after maintenance:

成品外观有无异常,模面有无损伤等不良,登记结果于记录表.

Check the surface of finished part and the situation of the mold surface, the make record.

细部保养主要内容

Main contents for plastic mold components maintenance

因各模具的结构不同, 保养时应依次对模具的模仁、模板、顶针、滑块、镶块、水路、导柱等作相应保养

Due to different mold structure, corresponding maintenance should be core 、plate 、ejector pin 、sliding block 、insert blocks 、cooling channel 、guide pins in proper order.

下面以电镀件为例,对细部保养作例图说明(因为电镀件对油污敏感性要求比一般塑件要高.因此,清理保养更加彻底.)

We use electroplated part as example to introduce details maintenance:.
(The maintenance of electroplated part is more thorough than others because it has higher sensitivity to oil contamination than others.)

从拆模开始....

Start from disassembling mold

首先,用天车将模具放在整洁的工作台面上,准备好拆模工具.

move the mold on the clean working table by crane firstly , prepare the tools.

然后,将公模与母模分开,准备拆公模

Then open the mold ,core and cavity separated, and prepare to separate core plate.



公模底板上与模框连接的螺栓卸下,然后将公模固定板和模脚一起拉出,放于一旁
Unscrew the clamping plate from the mold base, pull out core supporting plate and mold housing, put aside.

notice

对于大模具,直接拉出比较困难,可以先用拔模器拔掉底板上的导柱.拉出时要平稳,防止折弯折断型芯. 所卸螺钉导柱等放在预备好的工作盘中.

For big mold. It could be harder, use tool to take them out smoothly to avoid bending and breaking the core pin, put the screws and guide pillar in tool box.



顶出底板上的螺钉卸下 拆出顶
出底板

unscrew the ejector pins base
plate, then separate it.

notice:

如果复位弹簧是在导柱中内置
的,卸螺钉时应该先卸对角,以免
顶出板卡死,不易脱出.

If the return spring is built-in
guide pins, unscrewing should
be diagonal operation to avoid
snatching of ejector pins
plate ,invite hard ejection .



顶出板从模板中脱出 放于安全的

地方,防止碰伤顶针和斜梢.

take out of the eject plate from mold plate and place safely to avoid damaging ejector pins and cams.

注意点:note:

有斜梢时要先卸掉斜梢后的滑块(注意编号).拉出时要平稳,不要碰伤顶针或斜梢..

If there is a lifter, disassemble the lifter firstly ,then slider (note the number), pull smoothly to avoid damaging ejector pins and cams.



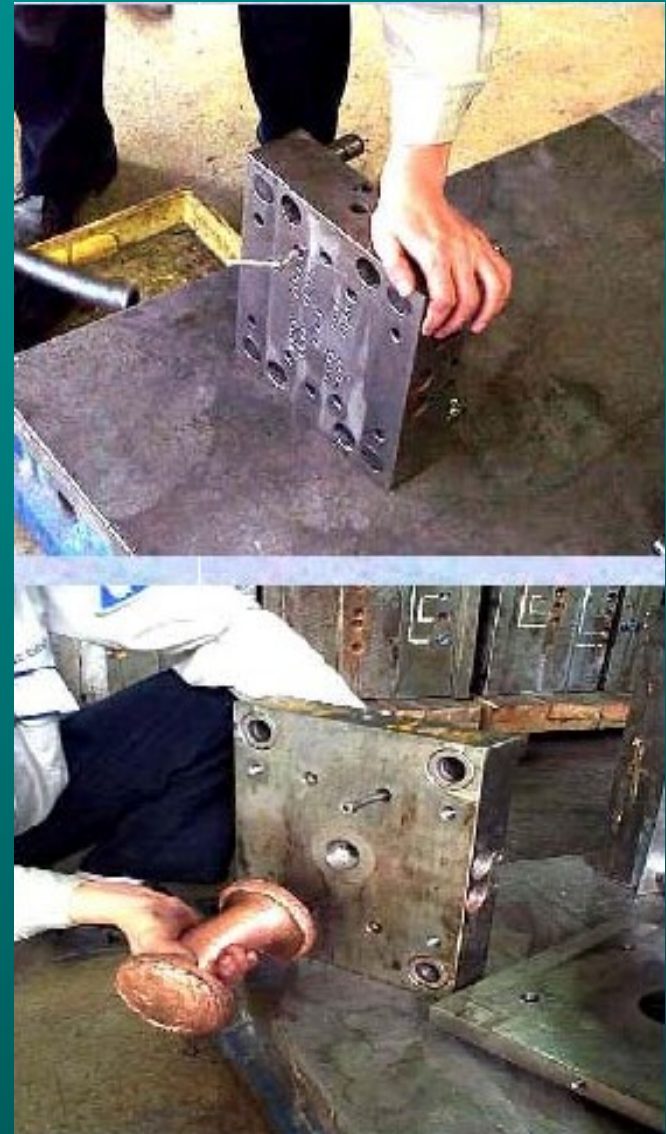
将模板上的模仁固定螺栓拆下
unscrew fixed core from the mold
plate.

用两个较长的螺钉锁入模仁对角 并
交替敲击两个螺钉以取出模仁
fasten diagonally the mold core with
longer screws, then hit these two
screws by turns to eject the mold core
insert

注意点 notice:

如果模仁生锈太紧,可以先用防锈油
浸润一会.模仁取出后要注意保护好成
型面

If the core is rusted and hard to pull
out, soaked with the anti-rust agent.
and taken out, noted the core molding
surface should be protected carefully.



将模仁上的入子依次取出,
对于配合比较紧不易取出的入子
可以用小铜棒轻轻敲出..

Take out the core pins in order,
tap out it lightly with small
copper bar if the core pin
assembled tightly.

注意点 notice:

要看清入子、镶块、模仁对部
位是否已经标示,如果没有,要用
磨棒在非成型面上刻上,以免混淆.

Confirm the core pin、insert、
core are marked or not. If not,
mark it with grind machine.



开始公模部分清洗作业.....

Core cleaning ...

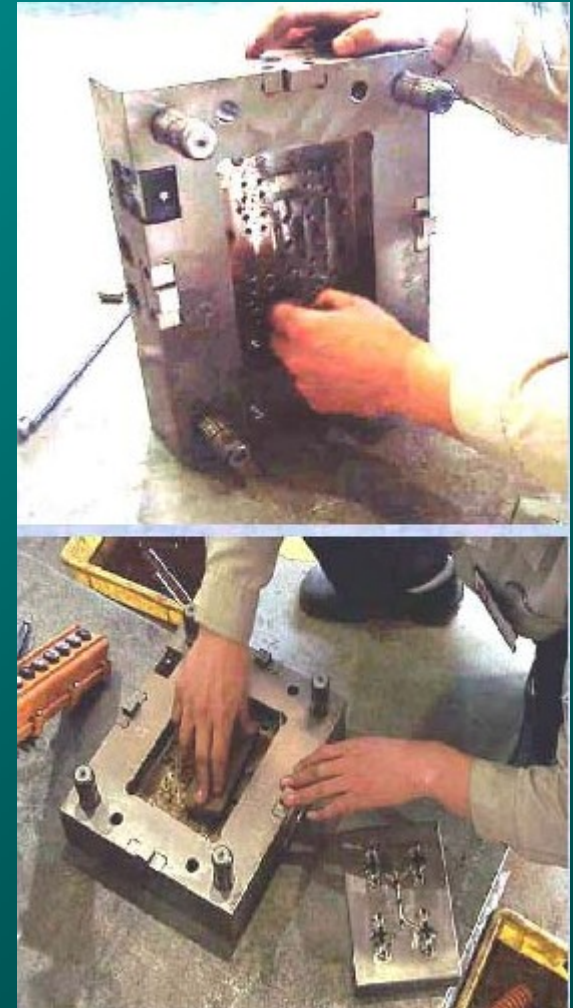
○型圈和水路的清理

“o” ring and water channel
cleaning

注意点:notice

要检查防水圈是否良好,对于已经损坏的
要及时更换.防水圈一定要放在工作盘中,以免丢失.

Inspect the “o” ring, if any,
replace the damaged rings
timely. put the “O” rings in the
tooling box to prevent missed.



模仁外表的銹污清除

remove the rust and pollution of
core surface

用油石將模仁外表的銹污清除.

remove the rust and pollution of
core surface with oilstone.



注意點 notice:

檢查水塞是否密閉良好,對於
損壞的水塞及時更換.

check the airtight of the stop plug,
replace them if any founded



镶块清理 Insert cleaning

用小油石和装有钢刷的电转除去镶块孔中的锈污..

Clean the rust dirt in the hole of insert with small oilstone and electric driller with steel brush.

用小油石(320#以上)除去镶块表面的锈,并用喷枪清洗,吹干.

Use small oilstone (over 320#) to remove the rust on the surface of insert and blow dry with spray gun.



頂針孔或是小型芯孔內的銹污也可
用頂針或型芯來清理,只要用相應的
頂針或者小型芯在孔內反復抽動几
次即可.

Use same size ejector pin and
core pin to remove the rust
inside the holes for ejector pin
and core pin, just flick several
times inside.



模仁和模框的清洗 Mold core and base cleaning

用去漬油對模仁和模框噴洗乾淨后
吹乾，
尤其是模仁孔內部一定要清洗乾淨。
Clean the mold core and mold
base with cleaning fluid ,then blow
dry, special attention for the inside
of the mold core.

注意點 notice:
清理的順序一般是先側面,再正面,再
反面,最后又正面。
Cleaning order:side,front,back
then front again



型芯组装

Core insert assembly.....

组装时注意导柱入子等清洁,润滑
After cleaned and lubricated
the guide pins and core pin could be
assembled

用干净的手装上镶块及入子.
to assemble insert and core pin with
clean hands.

注意点 notice:

注意镶块入子的编号要和模仁上保持一致,
装入后要检查是否装正确.

Confirm the No. of insert should match
that on the core, check again after
assembly.



模仁和“o”型圈组装

Mold core and “O-ring assembly

将模仁装入装好防水圈的模框中,并用螺钉紧固好.

set core insert into the mold base with “O-ring, and fix it with screws.



顶针固定板和支持板组装

Ejector retain plate and support plate assembly

用干净的布条将顶针及导柱擦干净,在导柱上涂上少许白油润滑.再将顶出板装入公模板,并将所有的顶针依次装好.

Clean return pins and ejector pins with clean cloth, and lubricate the return pins, then assemble the ejection retain plate to core support plate, install the ejection pins in order.

注意点 notice:

注意顶针是否装反,对于有斜梢的模具还要检查斜梢是否装正确.

Check the ejector pins installed and lifter assembly.



顶出板和顶出底板组装 ejector plates assembly

用乾淨的布条对顶出底板稍作擦拭,再将顶出板和顶出底板合好并用螺钉紧固好.

Clean ejector plate with clean cloth,
then

assemble the ejector plate with base
plate

and fix it with screws.

注意 note:

顶出底板装入时要平稳,否则容易使装好的顶针震出. 锁螺钉时先锁对角. 锁好后最好再次检查顶针等是否装正确.

assemble ejector base plate smoothly,
otherwise the installed pins will be
shaken out. Screws diagonally firstly.
After fixed, check the assembly again



导柱润滑 Guide pin lubricating

用油石将模脚和底板上的锈除去并用布擦乾淨. 再在导柱上涂上白润滑油.

Remove the rust on mold housing and clamping plate and clean it with cloth. Then lubricate the guide pins.



模脚和压板组装

Assembly of mold housing and clamping plate

将模脚及公模底板推入合好,并用螺钉紧固好..

Match mold housing and clamping plate and screws them correctly.

注意 note:

对于有型芯的底板要注意检查型芯是否转到位,确认后用小螺钉紧固好.

Make sure the right location of core pin if any, then fix it with small screw after confirmation.



模具表面清理

Mold surface cleaning

用乾淨的布条擦拭模面,除去模面上所粘的塑胶、屑等杂质.

Use clean cloth to wipe mold surface, get rid of the plastics relics、scrape and etc..

装好后,应该将模具放倒,用天车吊起顶出板,以检查顶出和复位是否顺利.

Place mold safely after assembling, lift the ejector plate by crane to check the function of ejection and position recovering



型腔保养办法同型芯

same method for the maintenance of cavity.....

For PVC mold specially

除常规作业外,每日需用专用中和剂 (SPRAY NO.816)均匀喷洗 母模面和排气槽一次,待3分钟酸硷中和后,用气枪吹乾淨模面.

spray neutralizer (SPRAY NO.816) on cavity surface and air vent 1 time, after 3 minutes use air gun to clean mold surface.



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