Causes and trouble shootings for some Injection molding defects

Based on our experience in the maintenance and operation of our product, we append below information concerning various machine failures/ defects and the relative trouble shootings for customer's reference. In order to reduce the machine breaks down period, and to find out the cause of defects as soon as possible, operator should try to keep a record of the best injection molding parameters in a special designated record book for reference only, out company is not responsible for its perfect accuracy and completion, it is at the machine user's sole discretion to determine the application of the given solutions.

1. Clamping units

Fault	Cause	Solving method
1. The machine sounds cacophony at opening and closing mold	1 oil amount of lubrication too small	1. Take time of lubrication longer. 2.clean lubrication oil circuit
	2.clamp force too heavy	Adjust clamping force lower according product quality
2.open mold too low	Starting speed too low	1. Adjust flow proportion larger on the menu.
3.creeping of opening and closing mold	1. Leader supported moving platen and tie bars wear out heavily.	Change wears out parts and often lubricate machine.
	2. Level and vertical between two platens	1.setting leader levelly. 2.adjust slide of moving platen to make tie bar straight.
	3.the opening mold speed and pressure setting data are wrong	1.exhaust air gas. 2. Adjust flow and pressure proportional. 3. Set current data of proportion valve
4. Fault of adjustment mould counter	1.proximity switch is bad	Change switch, setting position
	2.adjusting mold travel time too short	Adjusting molds stroke time.
	3.adjustment nut blocked	Change burned parts and set clearance of adjustment mold nut
5.big oil pump do not unload	1.hydraulic valve blocked	Clean pressure valve or reconnect
	2.unloading time too short	Extend unloading time
	3.Speed and pressure of unload too small or nothing	Raise speed and pressure of discharge
6.after clamping, the mold is auto opened slowly at other operation	Opening mold valve is leakage	Change opening mold valve
7. During clamping, the moving platen no closed	Wire connecting error	Check and reconnect them
Fault	**Cause**	**Solving method**
8. High pressure of clamping not receive	Set Mold height improper	Adjustment moving platen forward
9.only have speed and no pressure at clamping	High pressure stroke switch does not work	Check the switch and repair or change it

10. Clamping blocked	There is air in the oil circuit	Exhaust
11 Not control to open mould fast or slow	The Relay on program plate is wrong	Change relay
12.no adjust mold	1. The clearance between pressing lid of adjusting nut and nut is too small	Adjustment the clearance between lid and nut
	2.screw thread gnaws dead	Change nut, or repair the screw
	3.the slide of moving moves too heavy	Adjustment moving slide again
	4. The motor use for adjusting mould does not work.	Check adjustment valve, if bad change or repair it
	5.proximity switch, relay and contactor are burned	Check 3-phase voltage, and change these parts
	6.the wire interrupt or connect bad	Check control wire and each contact, then reconnect
13.the sound is too high when opening mold	1. Lubricates of clamping structure are worse	Check steel sleeve and shaft with locking, if wear out, change it.
	2.clamping force is too large	Adjust suitable clamping force.
	3. Parallel between mold and moving platen is bad	Set moving platen and increase mold parallelism
	4.exchange time is too short from low to quick speed	Add Propriety opening mold time

2. Injection units

Fault	Cause	Solving method
1. The motor oscillating at plasticizing	1.gearing damaged	Change gearing
	2.setting clearance between gearing improper	Check transmission shaft shaking or not at plasticizing, reset the clearance.
	3.screw distortion	If screw bend change screw
	4.copper bushing of carriage wear out heavily	Check copper bushing and leader and change them
2. Not injecting	1.winding of solenoid valve is burned	Check and change it
	2.valve core blocked by dirt thing	Clean or change solenoid valve
	3.pressure of injection is too low	Set injection pressure
	4. The temperature of material barrel is too low	Check, change fuse and reset temperature of material barrel
	5. Piston seal ring of injection cylinder damaged	Check seal ring and change one
2. Not injecting	6.shut off ring broken	Check and change the ring
	7.nozzle blocked	Clean nozzle or change it
3.not feeding	1.back-pressure valve damaged or back-pressure too high	Change backpressure valve or adjust pressure lower
	2.the cooling water of barrel are not enough, temperature of hopper is too high	Clear plastic block feel in the hopper, in the barrel, increase cooling water capacity.

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	3.no material in the hopper	Check and charge the material
	4.screw and barrel wore out	Check and change it
4.carriage do not moves	1.piston bar broken	Remove locking nut and change piston bar
	2.direction valve of carriage is no working	Clean it
	3. Electricity wire disconnected	Change winding of solenoid valve or connect wire
5. The noise of injection loudly at beginning injection	1.beginning speed of injection too quick	Adjustment setting value on the menus
	2.backpressure too high	Decrease backpressure
	3.there are air in the oil circuit	flow and pressure proportion valve
6. The noise of beginning plasticizing is loudly after injection	Exchange fast/low speed over fast	1. Raise backpressure or increase injection section step 2. Raise holding pressure, add plasticizing time
7.back-pressure not set at plasticizing	Bad back-pressure valve	Clean back pressure valve or change it
8. It have some black points on the product	1. There are leftover on the screw	Clean and polishing screw
	2. There are some leftover on the barrel, or accessory hasn't clean	Clean accessory and polishing barrel
	3. Some parts are dirty and rust such as suck off ring, thrust ring screw tip, material cylinder	Clean, polish and change them
	4. Have leftover on the flange and nozzle	Clean, polish and change them
	5. Temperature is too high, backpressure of charging is too high	Check each section temperature, and fall down, decrease backpressure.
	6.raw material are dirt	Check and change them
9.screw mixes color poor	1.material have problem	Change
	2.temperature too low	Check and increase it
	3.back pressure too low	Raise it
	4.screw rotation speed too low	Add the speed
	5. Diffuse quantity of oil is too small	Add them
10.no injection at semi automatic operation 10.no injection at semi automatic operation	1. The platen do not clamp to end at the carriage forward end	Check stroke switch and connect wire
	2.wire broken	Reconnect it
	3.relay inserted wrong	The relay insert Correctly
	4. No zero on the computer	Reset zero position on the menu
	5.time relay is worse	Change it
11.barrel temperature exceed setting value when semi auto or automatic operation	1.screw rotation speed too fast	Adjust the screw speed
	2.backpressure too high	Increase it
	3.screw and barrel worn	Check and change them
	4.temperature setting improper	Reset the temperature
	5.the temperature at plastic cutting too high (specially ABS)	Adjustment screw rotation peed and backpressure lower

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12.it has injection action only at semi-auto operation	Injection time relay is wrong	Check the time relay and change one
13.semi automatic operation failure	Because electricity switch or time relay no working	Find fault according to action diagram or change electricity part
14.full automatic operation failure	1.sensor is failure or fixed bolts loosen	Fix the sensor's bolt well or change it
	2.time relay failure or damaged	Check time relay and change it
	3.thermocouple connect poor or damage	Change or reconnect it
	4. Heating ring damaged	Change it
	5.temperature gauge damaged	Check and change it

3. hydraulic and electricity units

Fault	Cause	Solving method
1.pressure and oil temperature too high	1.the oil leveling line too low	Filling hydraulic oil enough
	2.pressure too high at no load	Set pressure at no load to 1.5Mpa
	3.water temperature is over high	Clean water scale and add water flow capacity or clean water
2. Flow and pressure do not proportion	1.transformer connected bad	Measure transformer output by omnipotence meter or reconnect it
	2.wiring wrong	Measure connecting wire point by omnipotence meter and reconnect it
	3.number control grid weld fails	Measure connecting point by omnipotence meter and weld again
3.the machine shakes heavy	1.fixed bolt of main motor loose	Tighten the bolts
	2.body and guide of machine not level	Adjust the parallelism and beeline
4.the action of machine too slow	1.current set fail	Check current of flow and pressure and reset it
	2.flow valve blocked	Clean flow valve
	3.system pressure too low	Adjust system pressure
5.no action of machine	1. Amplificatory board no output	Measure output voltage of amplificatory board, and check no voltage, change the board.
	2.fuse burn out	Check or change commutator fuse
	3.oil pump motor rotation reversion	Exchange two phase
	4.join device between oil pump and motor	After switch off change it
	5.pressure valve blocked no pressure	Clear pressure valve, and change hydraulic oil and filter
	6.24V power wire broken	Measure and reconnect them
	7.oil pump motor burn out and not start	Measure motor winding by omnipotence meter Change motor

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	8. Oil pump is wrong, not retraction oil and increase pressure	Remove oil pump and check Change oil pump
	9. be wanting one phase at three-phase of electricity power.	Check 380V input voltage Reconnect it
6.machine operate without force	1. The relief valve blocked and often release oil	Check relief valve and Clean the valve
	2.oil seal ring wear out	Check each oil cylinder, piston and oil seal ring or change
	3.oil pump wear out	Remove oil pump and check
		Change oil pump
	4.preportion valve wear out	Check and Change proportion valve
7.the current value is up to maximum during no action	1.magnify plate no output	Measure it by omnipotence meter And repair or change it
	2. Winding of solenoid valve connect machine frame	Measure grounding point by omnipotence meter and change it
	3. There is some water in the magnify plate	Clean it
8.temperature control failure	1.temperature control gauge is wrong	Measure by omnipotence meter Change temperature control meter
	2.thermocouple is wrong	Check each section thermocouple Change thermocouple
	3. During charging, the barrel and screw are too hot to make the heating band broken.	Measure heating band Change heating band
9. Not replacement at semi auto or automatic operation	1.limit switch of safety door is bad.	No pressure after finished semi or full automatic
	2.relay insert wrong	Insert relay exchange and check
	3. Ejector is not retract end	Check program, Adjustment or change end switch
10. The noise too loud when motor starting	1.Wanting one phase at three-phase of electricity power.	Measure 3-phase voltage and connecting wire
10. The noise too loud when motor starting	2.exchange-button has not replacement at starting with action.	Check each selected button Replace switch to original position
	3.preportion valve and relief valve core blocked	Check valve and Clean valve core
	4. Oil pump is worn out	Remove pump and check Change oil pump
11.oil pump sound too laud after period production	1.filter net has dirty	Clean filter and change oil
	2.quality of absorb oil pipe is poor	Check absorbing oil pipe, Change oil pipe, filter net
	3.oil pump worn out faster	Check and change oil pump

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