

# Analysis on Machining Precision Control of Mechanical Die

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**Abstract:** *New era of rapid development and progress, to promote science and technology is increasingly perfect, manufacturing to meet customer demand, puts forward higher requirements on mechanical precision mold processing, and mechanical processing plant to ensure the precision mold processing, must improve the level of staff technology practice and professional quality, and constantly learning new technology, new equipment, and set up correct GongZuoGuan, Clearly understand the relationship between the machining accuracy of mechanical die and its application, deeply analyze its influencing factors, and put forward targeted control measures. Based on this, this paper carries out an in-depth analysis of the machining precision control of mechanical die, for reference only.*

**Keywords:** Mechanical Mold; Machining Accuracy; Control Measures.

## 1. KEY POINTS OF MACHINING PRECISION CONTROL OF MECHANICAL DIE

### 1.1 Choose the appropriate mechanical mold processing technology

Machinery processing plant should be correct to look at the precision control, is the key to mechanical mold processing, help technicians to choose the appropriate processing technology, for mechanical mold processing precision control to provide great help. Mechanical processing plants, therefore, must be partners according to the specification and the market demand, use targeted processing technology, which requires the processing technical personnel in addition to the rich work experience, but also has strong processing skills, cannot be free to use in the actual mechanical mould processing technology, but its own power and machinery processing industry greatly enhance machining precision, Avoid parameter deviation in later use. Nowadays, the most common mechanical mold processing technology for stamping processing technology, bench work processing technology and lathe process. No matter what kind of mechanical mold processing process is used, it will have advantages and disadvantages in application, and the processing personnel in the machine factory will master the operation key points and rules based on the processing needs, effectively select the appropriate processing technology, and give full play to its application value [1].

### 1.2 Reasonable selection of mechanical mold processing equipment

Machinery processing plants in the specific production and processing process, will use a variety of processing equipment, because of the different application conditions, so in the selection of mechanical equipment will also play a different impact, only scientific selection of mechanical equipment, in order to better improve the machining accuracy of mechanical die. For example, machinery processing plants will choose the right fitter processing technology according to customer requirements, will choose many kinds of file tools, and in the actual processing of the corresponding file tools, to ensure that the machining accuracy of mechanical die plays an important role. When the mechanical processing plant uses the forging process, in order to speed up the improvement of the machining accuracy of the mechanical mold, it is necessary to introduce new related machinery and equipment scientifically, and the technical personnel shall carefully refer to the operation process and the processing requirements of the mold, so as to provide help for the selection of consistent mechanical equipment. Therefore, now the machinery processing plant has been fully aware of the importance of precision control of mechanical mold processing, and supervision of relevant technical personnel to choose appropriate machinery and equipment, master various mechanical equipment operation points from practice, effectively play a role when necessary.

### 1.3 Research background

In recent years, the phenomenon of teenagers' psychological problems began to enter the public view, with extreme behaviors such as depression, anxiety and even self injury, and a younger trend, which has attracted more and more scholars' attention. (Nemerov, 2002). The problem of distrust and distrust of their environment is only the surface and behind many teenagers. If we don't adjust now, the problem of teenagers will be unimaginably

serious after entering puberty. 12- 16 years old is the main population of emotional disorders such as anxiety and depression. Severe depression is closely related to self injury and suicide. Serious Internet addiction shows more psychological problems (Roza, 2003, Kieling, 2001, Collishaw, 2004, Gunnell, 2018). Due to the increase of students with depression tendency, the incidence of campus bullying or student suicide is high. Let the society pay more and more attention to the mental health of teenagers, hoping to achieve timely mental health intervention. Research status of the impact of single parent families on children. Generally speaking, there are two tendencies in global research: "serious impact theory" and "limited impact theory". Wallerstein's survey of children from divorced families showed that 37% of single parent children and adolescents suffered from moderate and severe depression. They felt pain and anger at the loss of a complete family life. Bvnum concluded through the survey that the bad psychological behavior of single parent children will have a great impact on academic performance, manifested as depression and compulsion. Lamp believes that children from divorced families have serious psychological disorders, and boys in single mother families are more aggressive than girls. Bernard and Nesbitt studied the children of single parent families and children of complete families, and found that there was no significant difference. Shinn believes that the cognitive ability of children in a single parent family is the children of a geographically complete family. Cherlin conducted research in the United States and the United Kingdom and found that children from single parent families had more behavioral problems than those from two parent families. Baydar believes that if the non guardian does not adapt to the change of divorce, it will also have a negative impact on the behavior and mood of the children. Therefore, the deficiency of these studies is that there are two extreme understandings of single parent families: one is the estimation of the impact of single parent families; Second, it exaggerates the negative effects of single parent families and blames all the problems of single parent families on the family structure itself. In fact, the internal relations among family members and family education will also have different effects on children. Based on this, this study proposes to explore the impact of divorced families on Teenagers' psychological growth from the perspective of family education, teenagers' self-esteem and life attitude. Help experts better protect teenagers from sensitive and vulnerable puberty, protect them from psychological diseases, and promote the healthy development of personal mental health from youth to middle age.

#### 1.4 Research objectives

Based on the research status of other scholars, this paper determines that the mental health problems of teenagers are serious year by year, and scholars have begun to carry out relevant research and investigation in this field. However, the current research is mainly based on how to help teenagers establish a correct outlook on psychological growth, or study various factors that may lead to teenagers' mental health problems (Kieling, 2011, Rickwood, 2005). And the conclusions drawn by scholars are not unified. By understanding some previous literature, it can be determined that family relations will affect teenagers' mental health. The specific influencing factors include family status, family financial resources, parents' educational level and so on. On this basis, this study hopes to focus on the impact of family factors on Teenagers' own mentality. It mainly includes three aspects: the way of parents' education, the development of teenagers' self-esteem and their attitude towards life. Compared with the research of valuable scholars, this paper believes that these three aspects can explain why parents' divorce will affect teenagers' psychological growth from the perspective of teenagers themselves, and put forward relevant suggestions based on the conclusion. To help society make better use of limited resources to help teenagers from these single parent families.

## 2. MECHANICAL DIE PROCESSING PRECISION CONTROL MEASURES

Mental health has always been a hot issue in society, and adolescence is the key period to establish a good attitude. With the development of society, the divorce rate in various countries is increasing year by year, which leads to the psychological growth of teenagers will be affected by their parents' divorce. Current research has made it clear that parents' divorce will have an impact on Teenagers' psychological growth. However, scholars have disputes about the degree of impact. Some scholars believe that the impact is limited, while others believe that the impact of parental divorce on Teenagers' psychological growth is huge. And they have no scholars to further study the phenomena that parents' divorce will lead to, which will affect the psychological growth of teenagers. Taking this as the goal, this paper hopes to explore why teenagers' psychological growth will be affected after parents' divorce from three aspects: parental rearing style, teenagers' self-esteem and teenagers' life attitude. Through the questionnaire survey of teenagers whose parents are divorced and teenagers whose parents are divorced, it is found that the impact of parental divorce on Teenagers' psychological growth is limited.

### 2.1 Quality control

Mold processing needs to complete a number of working procedures, so in the specific production process can not fundamentally avoid the occurrence of problems, including mechanical equipment problems, manual operation problems, such as machine tool programming error, machine tool mold problems, manual operation is not rigorous and other problems. In view of the occurrence of different problems, there will be differences in handling. In order to reduce the incidence of errors, it is also necessary to analyze the problem from the root as a starting point, find out the root cause of the failure, take targeted preventive measures to prevent recurrence in the work, effectively improve the machining accuracy of mechanical molds, and provide convenience for the operation of relevant personnel. In view of human operation errors, strengthen the staff to put forward high requirements, promote the normal work, set up staff work attitude, is conducive to staff professional skills to achieve the desired results. In addition, in the face of mechanical problems, relevant personnel take in-depth analysis and investigation to ensure that each mechanical equipment can work smoothly, select the appropriate mold processing method, and ensure that the mold processing accuracy is more obvious [2].

## **2.2 Training the skills of operators**

Because the operator's ability distance is too large, there are obvious differences in professional literacy, especially in specific work. Therefore, regular special training for operators can effectively improve their professional quality and practical skills. When mechanical mould processing priority to customer requirements, combining the situation give full play to a certain value, at the same time, the operator shall comply with the mould processing specification, attaches great importance to the mechanical precision mould processing, is advantageous to the relevant personnel to complete their work seriously, prevent quality problem caused in the processing, from simply avoid illegal behavior. In order to ensure that each operator to achieve professional working conditions, strengthen and enhance the comprehensive quality of all workers, take targeted guidance to ensure that each processing link will not appear problems. the organization of mechanical processing technical personnel to complete the education and training, is conducive to each staff clearly grasp the processing process and operation process, refine each work process, promote each process can be smoothly launched, to prevent unnecessary processing errors. In addition, the establishment of reward and punishment system, encourage employees to constantly learn new knowledge, strengthen and improve themselves, accumulate rich practical experience, establish a good mechanical mold processing precision control consciousness, standardize their own work behavior, promote each process can be successfully completed.

## **2.3 improve the scientific nature of NUMERICAL control coding**

After improving the machining technology of mechanical die, we should also pay attention to optimizing the numerical control coding parameters. As a mechanical equipment processing operator, clear grasp of data coding parameters, fully aware of the importance of mechanical mold processing technology, NUMERICAL control coding parameters. For example, in the process of coding part of numerical control mechanical equipment, parameter errors often occur, which requires in-depth analysis of the problem, and the main reason for the problem is that the programming control is in an open state, affecting its intelligent adjustment role. Therefore, relevant personnel should deeply understand the key points of CNC machining technology operation of mechanical mold, and actively optimize the equipment coding, which is conducive to the smooth operation of mechanical mold processing.

## **2.4 At the same time**

For CNC machining technology, relying on the corresponding intelligence and precision, effectively in the mechanical mold processing industry to achieve wide application. But in practice, numerical control technology does not belong to automation technology, through the specific use of accurate operation flow and processing parameters. Therefore, more attention must be paid to coding quality and parameter reliability. Specifically, reasonable setting of coding parameters can greatly improve the processing efficiency and level, so as to ensure the accuracy of machining and production of mechanical molds and achieve better control [3].

## **3. CONFLICT OF DATA PROPERTY OWNERSHIP**

The "Twenty Data Articles" define the scope of data subjects, including public data, enterprise data, and personal data. From the perspective of the relationship between the three, there is inevitably a crossover in data content. On the one hand, enterprise platforms collect personal data for desensitization, processing, and other purposes to form data with commercial purposes for enterprises. On the other hand, for data of a public nature that is collected and

generated by organs and units in the process of performing public services or exercising responsibilities, this public data not only involves personal data, but also enterprise data. Therefore, the content conflict of the three types of data directly affects the determination of data property ownership.

### **3.1 Conflict between personal data and corporate data**

The conflict between personal data and corporate data is the most common and typical conflict. Personal data, as the raw supply content composed of data sets or databases, plays a fundamental role in the operation and marketing development direction of enterprise platforms in the development of the digital economy. Taking existing mobile software or mini programs as an example, when using or receiving a service, there are two extreme situations: accepting the service, agreeing to the service agreement, and not accepting it. In this case, if the user uses or accepts the service, they need to use “consent” as a prerequisite[15]. In the future, we will obtain information such as the user's avatar, nickname, contact information, geographic location, and even obtain user photo albums and address books. If you choose not to accept the service, it will automatically exit or become unusable. Whether in terms of the formation process of enterprise data or the collection content of receipts, the aggregation of original personal data is the primary link in the formation of data value, thereby achieving data value[16].

In the process of data collection, enterprises inevitably involve personal privacy data. Such privacy data is based on authorized use, and the premise for establishing enterprise data is the absence of personal information and public interest data. Therefore, the formation, desensitization, and cleaning of enterprise data are essential. However, the specific degree and boundaries of desensitization and cleaning depend entirely on the purpose of the enterprise's use of the data. Therefore, in the process of utilizing enterprise data, the protection of personal information and privacy rights is a prerequisite for the utilization of enterprise data. The “Twenty Data Articles” clarify the operating mechanism of the “three rights separation” of data property rights. There are still conflicts and ambiguities in the determination of the scope of data ownership rights and the subject of data profit rights in the empowerment and holding of personal data and enterprise data.

### **3.2 Conflict between personal data and public data**

Personal data includes general personal information and sensitive personal information, both of which require consent as a prerequisite for disclosure. Even if there is an emergency situation without personal consent, the notification procedure should be followed after the emergency situation is eliminated. Compared to general information, the collection, processing, and use of sensitive information require stricter requirements. According to the content of the data, on the basis of the coexistence of personal data and public data, it can be divided into non-public data and public data. Non-public data includes data that carries personal information and data that does not carry personal information. Similarly, public data also includes data that carries personal information and data that does not carry personal information[17]. Due to the relatively small impact of non-public data on personal data, the focus of this discussion is on the carrying content of public data. Publicity means that it is publicly available, so the conflict between personal data and publicly available data, and identifiability, is the key.

Regarding identifiability, the Civil Code and the Personal Information Protection Law have clarified it from different degrees and perspectives, including not only the name, date of birth, ID number, biometric information, address, phone number, email, health information, whereabouts information, etc. of natural persons, but also religious beliefs, specific identities, medical health, financial accounts, etc., that is, whether others can access public data content, directly locate or determine the original provider of data. Because once identifiable personal data is made public, personal information and privacy rights can be attacked at any time, and the fundamental rights enjoyed by citizens are violated. Therefore, as the original carrier of publicly available data, whether the publicly available data can meet the standards for protecting individual rights, and thus there is an irreconcilable contradiction between the scope of rights of individuals and the subject of publicly available data regarding the data content and the remedies for rights infringed upon.

### **3.3 Conflict between enterprise data and public data**

The difference between enterprise data and public data is that enterprise data is data collected by enterprises in the production and operation process or obtained from third parties for their own use. Public data, due to its public nature, is more of a data obtained by government agencies in the process of fulfilling management and service functions, including public data and official data[18]. The two are fundamentally different from personal data in

terms of content. As mentioned earlier, personal data emphasizes identifiability, while corporate data and public data emphasize control over data[19].

The conflict between public data and enterprise data lies in the fact that there is a certain degree of overlap between the content of public data and enterprise data. Simply put, government and other departments have the right to access enterprise data. Therefore, how should the data collected by the enterprise with a public interest nature be transformed, and what kind of data rights do they have for such data enterprises, such as treating the enterprise as a data holder, So whether it constitutes an infringement on the ownership rights of government and other departments of public data, whether the data ownership rights and data processing and use rights of enterprises can be enjoyed on this basis, and whether the collection and use of data are based on the original data collection authorization or consent of enterprises and individuals, that is, whether it goes beyond the scope of contract relativity and directly affects the data ownership rights of enterprises or government and other public management departments The right to use and even the right to benefit from the use of data.

#### **4. THE SEPARATION OF RIGHTS UNDER THE CONFLICT OF DATA PROPERTY OWNERSHIP**

In the development of the data economy, the issue of ownership has always been a key topic of discussion among scholars. Whether it is granting ownership to data subjects or data usage rights to data subjects, the ownership of data is ultimately uncertain. Scholars have conducted research from different perspectives, advocating that data property rights belong to data owners[25], Some also advocate that individuals have personal rights over data[26].Some scholars believe that the property rights of enterprise data are based on the right to use data obtained through contracts or authorizations[27], On the contrary, scholars suggest that the ownership of data rights should be enjoyed by data collectors and miners, rather than data producers[28].Of course, from a global perspective, data ownership must first confirm the personal information rights enjoyed by the data subject, and then determine the property rights of the data processor. Otherwise, the infringement of personal information and privacy rights directly deviates from the original intention of the development of data elements[29].From different perspectives of research, the dispute over data ownership has not yet been resolved. In the face of ownership disputes, the “Twenty Articles of Data” innovatively proposed a structural system of “three rights separation” of data property rights based on personal data, enterprise data, and public data. However, the rights subject, content, and other rights of the data subject were not clearly defined and left blank in the opinion, It is inevitable to encounter confusion in specific applications, which is not only detrimental to the clear ownership of data property rights, but also to the normal circulation and utilization of data, affecting the stable operation of the digital economy. Therefore, clarifying the rights content of the structural division of data property rights is an important part of addressing legal issues in the process of accelerating the development of the digital economy.

##### **4.1 The “Three Rights Separation” System of Data Property Rights**

The three rights of data resource ownership, data processing and usage rights, and data product management rights proposed in the “Twenty Articles of Data” are defined based on the source and generation characteristics of data, in the process of data production, circulation, and use. The proposed structural division of data property rights is referred to as the “three rights division” of data property rights in both theoretical and practical circles. The term "separation of three rights" was first proposed for the reform of the land system, which refers to the separation of collective land ownership, land contracting and management rights, and land management rights. From the expression of the three rights division of data property rights and the three rights division of agricultural land, it seems that both have the existence of ownership and benefits. However, as data is a production factor with the same status as land, the three rights division of agricultural land and the three rights division of data property rights have similarities and unique connotations of their own. Therefore, taking the division of agricultural land rights as a reference, in the process of analyzing similarities and differences between the two, the ownership rights of data resources, data processing and use rights, and data product management rights of the structural division of data property rights are clearly defined and analyzed, in order to activate the value of data elements.

The similarities between the “three rights separation” of agricultural land and the “three rights separation” of data property rights lie in that, firstly, both are products of social and economic development. The “three rights separation” of agricultural land is based on the original rural land collective contracting responsibility system, and the reason for institutional reform is because in the face of the increasing phenomenon of land management rights transfer due to the flow of rural population and idle agricultural land, in order to adapt to the changes and development of rural economy, The Opinions of the General Office of the Central Committee of the Communist



Party of China and the General Office of the State Council on Improving the Separation of Rural Land Ownership Contract Rights and Management Rights clarify the “Three Rights Separation” of agricultural land[30]. Similarly, the structural “three rights separation” of data property rights is a product of the development of the digital economy in the digital era. As a new type of production factor, data faces the diversification of data subjects and data content. Under the concept of rights first, clarifying the ownership of rights is a trend and inevitable choice. Secondly, both involve different subjects. Under the “three rights separation” of agricultural land, there are collective land owners, land contracting rights holders, and land management rights holders. The contracting rights holders contract out the land through leasing and other means, and a third party carries out land management. Under the premise of ensuring the contracting rights, the land management rights have undergone subject changes. In the process of data collection, circulation, and utilization, there are also different entities based on different classifications, including data generators, data collectors, data processors, etc., which in turn generate data classification for personal data, enterprise data, and public data. For the rights of different data subjects, the holders of data resources essentially have ownership rights. Data subjects such as enterprises have the right to process and use personal data collected according to contracts or authorization agreements, and even conduct in-depth research and development on the collected or authorized data through data analysis, desensitization, cleaning, and other processes, forming data products with industrial value. To carry out market circulation, the “three rights” of data are reflected in the utilization of data circulation.

As the saying goes, there are no two identical leaves in the world, and there is also a fundamental difference between the two. The “three rights separation” of agricultural land is a clear division of ownership, and the contractor and the management right holder have a natural collective ownership and personal binding relationship based on their collective nature. Whether it is an individual who serves as a data source, or a company or government management department that collects, summarizes, and analyzes data, there is no obvious connection in their identity. Government management departments may also collect information based on public management authority, but there is a relative equality between individuals and enterprises, and there is a balance between individual access to services and enterprise data collection. Therefore, for the ownership of data resources, the premise of ownership is that the data resources should exist as usable resources, and the resources should be valuable in order to have the possibility of ownership. This is consistent with the provisions on resource ownership in Chapter 5 of the Property Code of the Civil Code. The personal information itself is only used as a basis for identifying specific objects. Personal data is in one's own hands and has no value, so it cannot be called a resource. Based on this analysis, individuals do not have the right to hold data resources. Correspondingly, the status of the data producer and ownership of the original data still exist, and they enjoy corresponding personal information protection and privacy protection in accordance with the law. This is also the reason why personal information protection should be prioritized in data circulation and utilization, which is the foundation of personal personality in the data world[31]. For the right to use data processing, the premise for the ownership of the right to use it is the existence of data processing behavior. Regarding the source of data being collected by oneself or obtained through contracts or authorized licenses, we will not discuss it temporarily. The focus is that unprocessed data is in the hands of enterprises, governments, etc., and cannot play the role of market operation and public affairs management by government management departments. Unprocessed data has the same valuelessness as data held by individuals themselves, so processed data, whether it is data cleaning, desensitization, or data analysis, already has the purpose of enterprise operation or public management in application. Therefore, the right of data processing and use enjoyed by data subjects lies in their qualification to process data. On the other hand, the data subject enjoys the right to use the processed data on the basis of data processing, which is the inherent meaning of the right to use data processing. As a typical result of data circulation and utilization, the generation of data products can be said to be a key content in the development process of the data economy. It represents the original intention and results of data utilization, and is a direct reflection of the labor of data subjects. Therefore, the enjoyment of data product management rights is based on the research and development and output of data products. As a product with market value, data products, like ordinary commercial goods, can circulate in the market and bring benefits to the data product output entities. This is the process of enjoying data product management rights. Of course, due to the circulation of products, data subjects can not only obtain data profits through their own operations, but also carry out a series of legal actions such as transfer, rental, authorization, licensing, etc. to maximize the value of data products within the legal scope and enjoy the property benefits they bring.

#### 4.2 Extension of Data Property Rights

After the release of the “Twenty Data Articles”, scholars on data property rights, whether from the perspective of data holders[32], propose configuration plans for enterprise and public data property rights[33]. The research on the

legal implementation of the “separation of three powers” is constantly deepening. However, explicitly stating the above three rights does not mean that the data subject only enjoys that right. While listing the ownership rights of data resources, data processing and usage rights, and data product management rights, the “Twenty Articles of Data” also adds the word “etc.” after it, meaning that as the process of data development accelerates, data property rights should not only include three property rights. The concept of 'wait for words' is not only a basic design for the development of data, but also a forward-looking configuration for the future development of data. Based on different forms and contents of data flow, targeted and practical property rights that reflect the value of data are configured, which is the best embodiment of the structural division of data property rights.

The “Twenty Articles of Data” in the “Exploring the Structural Separation System of Data Property Rights” section corresponds to the “Establishing and Improving the Legal Rights and Interests Protection System of All Participants in Data Elements” below. This section explicitly respects or protects the rights and interests of data sources, data processors' independent control rights, and data processors' rights to use data and obtain profits. Correspondingly, regarding the right to operate data products, the emphasis is placed on the data rights brought about by licensing behavior, which is consistent with the connotation of the data product profit rights mentioned earlier. These rights affirm a series of data behaviors of data sources and data processors from a legal perspective and a high degree of rights granting, forming a strong complementarity with the “three rights separation” data property structure. Therefore, the diversification of data usage forms and the complexity of data participants have led to varying rights and interests enjoyed by data subjects in different stages of data circulation and utilization during the constantly changing and developing process of data property rights. Only in this way can the deep significance of the structural separation system of data property rights be reflected.

## 5. CONCLUSION

In order to ensure the stable development of modern machinery processing plants, we must create a new development mode under the condition of reasonable cost investment, obtain the maximum economic benefit, and strengthen the focus on the machining precision control of mechanical molds. But in the actual mechanical mold processing, often in the processing technology, processing methods and operator behavior and other aspects of mechanical mold processing accuracy, due to the different influence factors, so the degree of harm will be different, fully highlight the relevance. Therefore, machinery processing plants should actively introduce advanced processing equipment and processing technology and processing operation methods, strengthen the training of application-oriented professional operators, continue to learn new technology and new knowledge, master the key points of maintenance and management, which is conducive to the effective use of equipment, ensure the accuracy of mechanical mold processing more reliable. From the conclusion, after parents divorce, parents' parenting attitude, teenagers' self-esteem and life attitude will affect the growth of teenagers' mental health. From the statistical results, there is no significant difference in the mental health level between divorced and non divorced students. Preliminary statistics on the mental health of adolescents from divorced and non divorced families show that, at all levels of adolescents' mental health, the data of adolescents from non divorced families in the three research directions of evaluating parents' educational attitude, self-esteem evaluation and self life attitude evaluation are slightly lower than those from divorced families. Because the questionnaire adopts the rhetorical method, In other words, the psychological growth of teenagers from non divorced families is slightly better than that of teenagers from divorced families. This gap is not as significant as known in the literature review, indicating that although parental divorce will have a negative impact on Teenagers' psychological growth, it is limited.

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