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Article
September 2011

Unprotected Tooling: High Risk Practices in Chinese Manufacturing

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As a result of globalization and the ability of consumers to purchase products at the lowest cost, manufacturers in China have become an integral part of the supply chains of many consumer product companies. With the high level of integration of consumer product companies and their overseas manufacturers in China, there is an increasing reliance on manufacturers to finance, fabricate and manage customer tooling for plastic injection, metal stamping or die casting — the core equipment components in the manufacturing process.

During the last 15 years, many product companies viewed the use of manufacturer capital for tooling as "free money" and subsequently lowered their own financial thresholds for moving forward with a project—and in doing so did not fully appreciate the issues that emerge when the proper safeguards are not in place. The value of the tooling involved is not small, and it is not uncommon for a manufacturer to hold and manage millions of dollars of customer tooling at any one time.

Managing the issues relating to tooling assets remains one of the more difficult elements of manufacturing arrangements. Unclear apportionment of rights and responsibilities, including use of underlying intellectual property, repair, misuse and "end of life" issues, can give rise to a number of issues. This article will look at the most common issues relating to Original Design Manufacturer (ODM) and Original Engineering Manufacturer (OEM) supplier-managed tooling, and will discuss some solutions that should be incorporated in any manufacturing agreement that contemplates a manufacturer's use and management of customer tooling.

Tooling - An Integral Part of the Outsourcing Process

Manufacturing agreements often include provisions for the handling of customer-supplied equipment (including machinery, jigs and fixtures) but do not adequately cover the manufacturer's responsibilities across the full tooling life cycle from fabrication, use, maintenance and end-of-life. Due to the potentially severable nature of a piece or set of tooling from the overall manufacturing processes, it is best practice to incorporate all terms relating to tooling in a separate tooling agreement so that the unique issues that arise with respect tooling are less likely to impact the other manufacturing activities.

Manufacturer-customer relationships differ significantly according to the nature of the manufacturer, the provenance and ownership of the product design, the incorporated intellectual property and the ownership of and rights in the tooling in question. A common mistake many customers make is to incorporate blanket terms in their purchase agreements stating that they own the exclusive rights to all tooling used in the manufacture of their products, regardless of ownership of the toolings.

Purchase agreements where the customer will not own the tooling (for ODM products) should also contain basic warranty clauses that provide that the manufacturer owns and has an unencumbered use of the toolings to manufacture the products. These agreements should also include manufacturer indemnity clauses that protect the customer against future infringement actions taken by others claiming that the products infringe their intellectual property rights. Absent outright ownership of the tooling, customers cannot move their manufacturer's tooling in the event the customer wants or needs to change their source of supply. In the case of the ODM manufacturer, the customer typically purchases a product "off-the-shelf," and the tooling will have already been designed, financed and fabricated by the manufacturer and the customer's rights to the underlying toolings will be accordingly limited.

Tooling Financing and Ownership

Tooling financing and ownership are the most difficult tooling issues because of the intersection of title, use and equity liens on tooling in the possession and use of a manufacturer in China. If a customer has agreed that the manufacturer will fabricate tooling (tool-up) a product or purchase from a third-party tooling house, then issues of funding must be settled. Under ordinary

agreements, if a manufacturer is to finance the tool, it is common practice for the manufacturer to quote for tooling at up to several multiples of the actual fabrication cost/sub-contractor quotation to account for interest on the capital employed and to hedge against possible non-recovery of some portion the amortized value of the tool.

Most manufacturer employ a simple tooling amortization mechanism based on a proportion of the expected commercial life requirements, not physical life-cycle capabilities, in production shots of the tooling. In a traditional tooling arrangement, the customer has provisions that allow for the manufacturer to finance the purchase or fabricate the tooling and charge-back the customer on a per piece (amortized) basis as the finished products or components ship. However, unless title is specifically vested in the customer at the outset (first production), title will remain in the manufacturer until the end of the amortization period despite any payments that the customer already made. This is important because, unless properly structured, tooling agreements can leave the customer hamstrung and married to a supplier that jeopardizes their supply chain if the relationship turns sour. This leaves the customer to consider financing a second tooling with a second manufacturer and running the risk of leaving partially paid-for tooling with the first manufacturer.

Common Problems

A common problem with manufacturer-financed toolings is that it is often difficult for the parties to track the number of "useable" shots from the tooling that have been charged back to the customer through the amortization process. Unless the customer remains vigilant, it is likely that the manufacturer will continue to charge for tooling amortization well after actual amortization complete.

Another common problem is the use of the tooling for "second shift" production: production of product for the local market, or for a customer in another market, beyond the first customer's knowledge. Tooling agreements need to specifically allow for conditioned use of the tooling as well as licensed use of any customer intellectual property in the tooling. Further, the provisions that outline those restrictions need to survive the agreement. Revocation of the license to use the intellectual property in the tooling is a means of restricting the supplier from legally using the tooling or creating another set of tooling with the intellectual property.

Tooling agreements should also contain a manufacturer guarantee that requires the manufacturer, as the fabricator or commissioner of the tooling, to replace a broken or defective tooling during the useful life of the tooling equipment. To avoid difficulties, it is often advisable to require the manufacturer to take out insurance to cover the cost of replacing the tooling. Additionally, as the tooling is in the supplier's use, control or possession during its useful life, the supplier should be required to clean, repair and maintain the tooling according to industry norms. Manufacturer should further be required to engrave (not tag) the customer's asset number into the tooling with a statement to the effect that the tooling belongs to the customer. This should help to give notice to a potential buyer that title in the tooling is vested in the customer and not the manufacturer.

Customers should have the right to dictate the fate of the tooling used in their products at the end of product life cycle and, importantly, must maintain the discipline to take action at that moment — for a variety of reasons. The first reason is offensive — maximizing useful life value of the equipment. As mentioned above, many toolings are amortized over their expected "commercial" life rather than their physical life—meaning that a hardened steel tooling equipment may be fully amortized over 200,000 pieces yet have an actual useful life of more than 1 million pieces. Thus, while the product cycle for one market may be completed, there actually may be much more life in the tooling (value) and it is possible for the tooling to have a highly productive "second life" for years after its "completed" initial use. This situation is compounded when there are multiple cavities and sets of the same tooling created to meet initial market requirements.

The second reason the customer should hold the right to dictate the fate of the tooling is defensive. If the fate of tooling equipment is not entirely in the hands of the customer, the manufacturer may be motivated to do make independent use if the toolings, whether to recover the any remaining payments, or merely seeking to optimize the manufacturer's return. Ideally, a customer should be able to dictate what happens to all tooling for the customer's products throughout the equipment life. A good customer tooling management agreement includes clear end-of-life provisions, including collection to a central customer-controlled repository or certified destruction on site.

Tooling in the Real World

In order to analyze the risk associated with manufacturer-owned and managed tooling it is useful to consider two different real-world scenarios: (i) where the customer needs to move production to another manufacturer and (ii) where the product life-cycle ends before the end of the amortization period.

In the first scenario, although the customer has effectively paid for a portion of the tooling value through production payments, such amortization does give rise to any clear customer title or rights to the toolings. With title remaining vested in the manufacturer, the manufacturer has a number of options (provided the tooling does not contain any of the customer's intellectual property); it can use the tooling for its own purposes (production and sales), sell it to a third party or destroy it.

If the tooling does contain the customer's intellectual property, then the manufacturer can legally hold or destroy the tooling, but cannot use it for its own purposes or sell it. However, it is not uncommon in a situation where relations have broken down between the parties, that a manufacturer would use or sell a tooling that contains customer intellectual property to recover remaining value of the tooling.

To avoid this problem, the customer should insist that title to the tooling vests in the customer at first production and that the tooling is then subject to a bailment arrangement. In essence, such an arrangement has the customer lending the tooling to the manufacturer for the customer's use. This bailment arrangement is coupled with a financing agreement—essentially a mortgage agreement with the tooling as mortgaged collateral, but with the important distinction of the customer having legal title to the tooling and an equitable right to redeem the mortgage and reclaim possession.

Repayment of the tooling value is still be done on a piece-count basis and under such an arrangement the parties are more likely to record the actual number of products made. This offers a twofold benefit to the customer. First, the customer is more likely to get a lower "close–to-market" tooling quotation, because the manufacturer is not required to hedge its risks by building in a contingency factor. Secondly, the direct costing impact makes the customer more likely to be vigilant in counting the number of products shipped in order to ensure discharge the mortgage and avoid being overcharged by the manufacturer.

In the second scenario, product manufacture has stopped before the amortization piece-count was achieved and the manufacturer has title to the tooling equipment that has not been fully paid for. Despite not having met the full amortization piece count quantity, the customer will likely have some interest in preventing the manufacturer from using the tooling for the manufacturer own sales and keeping the tooling from falling into the hands of a third party, especially a party that may feed a market competitor.

It is important that the customer be able to exercise its rights to collect or immobilize the tooling for safe keeping or to have the tooling destroyed by the manufacturer. A bailment and mortgage arrangement as outlined above is well suited to provide the customer with this power. Depending on the circumstances, the customer may want to license, sell or grant to the manufacturer the right to the use the toolings and some or all of the intellectual property or simply pay off the outstanding amount to discharge the mortgage. Under such an arrangement, the customer will have tools that should enable it to control how the tooling is managed for the remainder of the tooling life cycle.

Importance of Comprehensive, Enforceable Tooling Arrangements

For the reasons highlighted above, tooling agreements should include comprehensive provisions that take into account the full range of possible issues and that hold the realistic prospect of enforceability. For this, with Chinese manufacturers, contracts governed by Hong Kong can be effective. Hong Kong judgements as well as Hong Kong arbitration awards orders can be enforced in Mainland China. Court awards from the United States and many other jurisdictions are not afforded such enforcement.

It is inevitable that in any given customer-manufacturer relationship, different factors govern different pieces of tooling in use at any given time. Tooling agreements need to incorporate specific terms for all relevant tooling based on their circumstances.

Customers that source products through Chinese manufacturers using their own capital for manufacturer fabricated and managed tooling face much the same range of problems as those who use manufacturer capital. It is good practice to create and diligently work through an issues checklist that takes into account each of the problems highlighted above in each customer-manufacturer relationship and insure that tooling agreements include provisions to address them.

Conclusion

Tooling constitutes one of the most basic components of manufacture, and consequently is a critical issue to get right in any arrangement for manufacture in China. Careful consideration and treatment of the tooling issues in any customer-manufacturer arrangement can avoid problems and set the stage for predictable manufacture and protection of customer assets and business opportunities both during the product life cycle and afterwards. ◆
