
SPIN MASTER TOYS (A): FINDING A MANUFACTURER FOR E-CHARGERS

Ken Mark prepared this case under the supervision of Professor John Haywood-Farmer solely to provide material for class discussion. The authors do not intend to illustrate either effective or ineffective handling of a managerial situation. The authors may have disguised certain names and other identifying information to protect confidentiality.

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In mid-July 1999, Alex Perez, operations manager of Spin Master Toys of Toronto, Ontario, was trying to decide from which supplier to purchase the design and production of the company's latest toy, an electrically powered airplane named E-Chargers. He had investigated a number of potential suppliers in southern China and had settled on two finalists, Wah Shing Electronics Co. Ltd. (Wah Shing) and Wai Lung Plastics Mfy. Ltd. (Wai Lung). With the anticipated date for the launch of this product just a few short months away, Perez had to make his choice quickly.

SPIN MASTER TOYS

In April 1994, Anton Rabie, Ronnen Harary and Ben Varadi graduated from The University of Western Ontario, Rabie and Varadi from the Ivey Business School and Harary from political science. The three decided to forgo opportunities in the corporate world and strike out on their own. They were soon making Earth Buddy, a nylon stocking filled with sawdust and grass seed moulded into a head. After immersion in water, the grass seed would sprout to give the head a crop of grass — hair. Although Earth Buddy was clearly a fad item, the company managed to sell 1.5 million of them in just six months, making it one of the most popular gift items that year.

In February 1995, the company followed this success with the launch of Spin Master Devil Sticks, which consisted of two hand-held sticks used to manipulate a third. This product also became a resounding success. Eventually the company incorporated Spin Master into its name. The company's principals believed they had achieved their success through avant-garde, grassroots marketing savvy and a two-tier distribution network, which covered both the major and independent retail segments in North America.

In the following three years, Spin Master Toys produced an array of relatively low-technology, high-margin toys for the Canadian market. The product list included:

- Spin-A-Blo spinning toys

- Radical Reptiles foam reptiles attached to a metal leash
- Top-No-Sis spinning board
- My First Kite a starter kite for children
- Grow-Things water-absorbent play animals

Although Spin Master Toys achieved notable success with these fad items, none reached the unit sales that Earth Buddy had produced. Following its success with Spin Master Devil Sticks, Spin Master Toys spent six months moving from being project-focused to building relationships with retailers, investors and creating a research and development department.

At a major 1996 toy show, two inventors approached Rabie and Harary, and many other toy companies with the concept for a compressed-air-powered toy plane. Their initial design was a plastic soft drink bottle with wings attached. Rabie and Harary and the major toy companies rejected the idea as being too ambitious. However, the inventors were persistent, and after the original prototype had been revised several times, Spin Master Toys decided to purchase the rights to the concept. After a frustrating two years and \$500,000 in development, Spin Master Toys rolled out its Air Hogs line of compressed-air-powered planes, and, with outside engineering expertise, proceeded to manufacture them in China. The company used an innovative marketing campaign to generate a groundswell of excitement. Air Hogs became a top-selling toy for the 1998 North American Christmas season and was hailed by *Popular Science* as one of the 100 greatest inventions of the year, creating, as it did, a new category — compressed-air-powered planes. Spin Master Toys had to double production of Air Hogs just to keep up with demand, which was increased by the product shortage in the first few months after the initial shipments.

Following the success of Air Hogs, Spin Master Toys decided to develop a line of toys driven by compressed air. It subsequently launched a compressed-air-powered water rocket called the Vector, a car named the Road Ripper, and two new compressed-air-powered product-flanking planes, the V-Wing Avenger and the Renegade.

With over 50 people working in its Toronto head office, and a recently opened office in Hong Kong staffed by two project managers, Spin Master Toys was enjoying rapid expansion through its combination of speed to market and innovative marketing. Revenue had grown from nearly \$525,000 in 1994 to a projected \$45.8 million in 1999, earning it the 10th spot on the Profit 100 Canada's Fastest-Growing Companies list.

THE TOY INDUSTRY

The toy market included both hard and soft goods, as well as combinations. Hard goods included plastic and metal toys — water guns, construction toys, action figures, etc. Soft goods included plush toys, fabrics and dolls. Either hard or soft toys increasingly used embedded electronic components as differentiators.

Southern China in and near Hong Kong accounted for a large percentage of the world's toy manufacturing industry; many manufacturers there had over 50 years of toy-making experience. Beginning with low-technology plastic and metal toys in the early years, toy makers in the area had developed sophisticated design, engineering and manufacturing skills. Such factors could be important. Perez, who used to work for a large toy company, remembered a competitor that sourced from Thailand because production costs were slightly lower. Despite this advantage, the project was a dismal failure, in part because of the lack of toy-making expertise in that country.

Aside from experience, the Hong Kong market had English-speaking workers, a western-style banking system, easy access to low-cost production facilities and workers in China, an entrepreneurial spirit and major port facilities. Deciding to source toys from this region was relatively easy.

E-CHARGERS

E-Chargers were Spin Master Toy's next foray into the powered toy airplane market. Unlike the traditional toy airplane powered by a stretched rubber band, gasoline engine, or compressed air, E-Chargers were driven by electricity. The product came in two parts: a battery pack holding four AA dry cell batteries, and a plastic foam airplane containing a small capacitor¹ connected to an electric motor. By inserting the battery pack into a special port on the airplane, the user both started the electric motor driving the plane's propeller and charged the capacitor. The user then disconnected the plane from the battery pack and launched it into the air. Spin Master Toys touted E-Chargers as being capable of flights of up to 90 metres and as "high performing, easy-to-use rechargeable planes that come with their own chargers — kids just have to let them charge for 10 seconds and then let them fly." In the company's view, the product line allowed it to extend the magic of real flight to children as young as five — younger than the user of Air Hogs. To encourage users to collect E-Chargers, the company planned to produce six different styles and promised high performance at a low price.

Spin Master Toys had sold the E-Chargers concept to retailers who subsequently placed endcap² orders for a December 7, 1999, delivery date to meet the spring planogram³ shelving period. This was the first time that Spin Master Toys would ship products for a planogram. In the past, the company had been able to obtain special shelf space only because of its products' uniqueness. The main advantage in shipping to a set deadline was the guarantee of shelf space. Spin Master Toys now had to design and make the E-Chargers in time to meet the order date.

PRELIMINARY E-CHARGER PRODUCTION ESTIMATES

Working back from December 7, 1999, Perez developed a somewhat accelerated schedule that would allow delivery of the E-Chargers plane. **Exhibit 1** shows the development schedule, delay in any step of which would make the project late.

Rough Engineering Model

This stage involved the engineering work needed to craft a design to meet the desired specifications provided by the manufacturer. These specifications included, for example, that the toy would be capable of high-speed production while maintaining acceptable finished-product quality, that it was within the weight and size required, and that any electronic components involved would function within tolerances provided.

¹A capacitor is an electronic device used to store charge — in essence it is like a rechargeable battery. It consists of an arrangement of conductors, separated by an insulator.

²Endcaps are the attractive, highly visible end spaces on shopping aisles. Executives of Spin Master Toys expected that an E-Chargers endcap order from a large retail customer would result in sales of about 150,000 units.

³Retailers took three weeks after Christmas to clear out old stock and put in new toys for the spring period. The layout of toys by aisle and shelf, known as a planogram, was determined in advance.

Although design work normally took about eight weeks, Spin Master Toys allowed less than three weeks for E-Chargers; the design work would have to be completed no later than the middle of June.

On June 22, K-Development of Erie, Pennsylvania, the company to which Spin Master Toys had contracted the development engineering, transferred the completed engineering designs to Reh Kemper, a prototype designer based in Chicago, Illinois. Reh Kemper completed its work on July 2. According to Perez's timeline, the project was already a week behind schedule for the start of production.

Engineering Models

After one week of examination, study and discussion of the prototype, Perez and his team approved it and issued a 'Final Design Release.' Spin Master Toys then returned it to K-Development, which had five days to improve the rough engineering model and produce three initial prototypes to ensure that the design was engineered correctly to the specified tolerances. This preliminary work showed that the weight of the plane would be of great concern. Initial tests showed that to achieve the expected flight times, E-Chargers had to weigh 17 grams. Once the third engineering model was ready, Perez released it to vendors, requesting preliminary quotes within five days.

Tooling

From this stage on, all work would be performed at the factory, with regular updates sent to Perez by phone or fax. The tool start involved creating the moulds and other tooling required to produce the toy in mass quantity. Plastic parts such as those used in E-Chargers were normally made by injection moulding in which a molten plastic was injected into the carefully machined cavity inside a two-piece block of metal (the mould). After applying pressure and cooling, the mould was opened to remove the part. In practice, moulders might use large moulds capable of making several parts simultaneously. This crucial step usually took four weeks; the time required was usually factored into the design component. Perez estimated that Spin Master Toys would need the first test samples by September 8.

Engineering Pilots

The next step was testing the moulds and other tools, ideally with two engineering pilots. At least one engineering pilot had to be performed before the next stage, as it was almost inevitable that the moulds would need some adjustments. A factory would count on three weeks to run both engineering pilots. The first and second engineering pilots and the shots from them had to be completed by October 8.

Final Engineering Pilot

In this two-week process, the final moulds and other tools were finished. To have the product ready for the production pilot date of October 21, this step had to be completed in one week.

Production Pilot

This step tested whether the moulds and other tools would withstand high-speed production while delivering product within the required tolerances. The production pilot tests and the final quote had to be approved by November 22.

Production Start

In the case of E-Chargers, Perez estimated that production would have to start at least two weeks before the shipping date to allow production of enough units to meet retailer demand. Thus, production would have to start on November 22 to just make the December 7 ship date.

SPIN MASTER TOYS' CONTRACT MANUFACTURERS

In the past, Spin Master Toys had obtained its products from various Chinese manufacturers. Because of the large differences between its previous toys, the company had treated each product separately. Consequently, Spin Master Toys had gained considerable experience with several suppliers, as each toy had been manufactured by a different factory. Spin Master Toys believed that its product closest in design to E-Chargers was Air Hogs. In May 1999, while working on Water Rocket, one of its second generation compressed-air-powered toys, Spin Master Toys had visited Kin Seng Ltd., the Air Hogs manufacturer. During a factory tour, Spin Master Toys discovered that the Kin-Seng factory was at capacity. Because of the tightness of its E-Chargers schedule, Spin Master Toys decided not to consider Kin Seng as a potential supplier.

Spin Master Toys thus searched for an alternative manufacturer, eventually creating a short list of two, Wai Lung and Wah Shing.

WAI LUNG

In early 1999, Harary had been introduced to the owner of privately owned Wai Lung Manufacturing Co. Harary believed that Spin Master Toys would receive more attention from an owner-operated factory than from a subsidiary of a public corporation. Reassuring Harary that he would provide personal attention to this project, Eric Lee, Wai Lung's owner seemed eager to strike a deal with Spin Master Toys. Harary subsequently initiated a toy project, Flick Trix Finger Bikes, with Wai Lung. Finger Bikes were miniature die-cast replicas of brand-name BMX bikes with fully functional parts. Already in a rushed situation, Harary had asked Wai Lung if it could engineer the Finger Bikes, produce and ship them in six weeks — it normally took other manufacturers six to 10 weeks to perform these tasks. With Finger Bikes already engineered by Reh Kemper, Spin Master Toys would rely on Wai Lung's staff to beat a competitor to the market. Working at a break-neck pace, Wai Lung had been able not only to build the tools in the allotted time, but also to increase production very quickly with little lead time. Although Wai Lung had initially built tools to support a production rate of 10,000 bikes a day, once it was evident that demand was strong, the company was able to build additional tools in four weeks versus the previous six weeks, boosting Finger Bikes production to 40,000 bikes a day.

Not only had Wai Lung come through for Spin Master Toys, but it went on to produce a high quality toy and increased production more steeply than Harary had thought possible. Perez expressed his thoughts:

Wai Lung is highly committed and has put us at the top of its priority list. During our early experience with Finger Bikes, they returned calls promptly and answered all questions during the critical production period.

Wai Lung's performance with Finger Bikes allowed us to beat a major competitor to the market. This prompted our competitor to drop the project in mid-design. We should look at Wai Lung as a supplier for E-Chargers because of our positive experience with them. However, their engineering workforce is fairly small and they haven't produced toys with electronic components. They have focused on die-casting and plastic action figures. E-Chargers have to be designed and produced to much more stringent tolerances than die-cast or plastic toys. To put it bluntly, flying toys would take a paradigm shift in Wai Lung's engineering expertise.

We did plan to use a vendor survey report, but we don't have any engineering expertise at our Hong Kong office. And, in Canada, our manufacturing team includes me and Ronnen — with this in mind, I wonder if we can gather this information for Wai Lung and Wah Shing in time. We are already behind schedule as it stands.

Harary returned to visit Wai Lung in May 1999 and, while walking through the factory, estimated by observation that Wai Lung was at 40 per cent of capacity. He also found out that Wai Lung had excess capacity to utilize because it had just lost a significant portion of its business during a disagreement with a large toy company. Harary was impressed by its size: it had 2,000 workers in its 100,000 square-foot factory in Shenzhen, about a one-hour journey by train and car from Hong Kong. Typical toy factories in this area averaged about 600 workers. He casually asked the owner of Wai Lung for a quick overview of the projects currently in progress. Wai Lung was working on plastic play sets and action figures for Hasbro. Another company with which Wai Lung had a contract had gone bankrupt. Pressing further on a different subject, Harary got the sense that Wai Lung would not begin many projects in the near future.

Lee, 48, had always been very accommodating to Harary and considered himself to be a self-made man, building up a successful factory. Still hungry to grow his business, he had recently hired three engineers. He was willing to extend favorable credit terms to Spin Master Toys, allowing for Finger Bikes production to commence with a simple wire transfer of funds versus a more formal letter of credit. Otherwise, a letter of credit from the bank, along with the requisite documentation, meant that up to 30 per cent of the total invoice amount needed to be securely transferred before the start of production. Once production was started, payments would immediately be taken out of cash flow. With a wire transfer, however, funds would be wired to the supplier's bank account 21 days after the goods were shipped.

WAH SHING

Wah Shing was a subsidiary of a Hong Kong public toy manufacturer. It was a company with annual revenues of US\$40 million (the average Hong Kong toy company with product line similar to Wah Shing's earned about US\$30 million in revenues per year). While at his previous employer, Perez had worked with Wah Shing. Wah Shing had been one of the suppliers of choice for major toy companies such as Tiger and Hasbro which needed electronic toys. These companies wanted to maintain their track record of successful electronic toy engineering development and manufacture in the electronic hand-held, feature electronic plush, radio control and IR interactive categories, including toys such as "Shotgun and Skidzo," "Furby," "Laser Light Tennis" and "Galactic Battle."

Wah Shing employed 3,500 people in its 100,000-square-foot factory, counting six engineers on its staff. Although Harary had toured the factory, during his visit, he had been unable to meet the owner, who was travelling. By observation, Harary estimated that Wah Shing was at 70 to 80 per cent of capacity at its Chinese factory, which was located five hours away from Hong Kong. Perez expressed his thoughts:

Before coming to Spin Master, I worked for a major toy company and got some experience with Wah Shing. Their upper and lower management are very committed. They are a non-hierarchical, action-oriented company. I have a personal friendship with the general manager.

In my experience, Wah Shing provides products on time and within quality specifications. But it has been four years since my last contact. During a visit a few weeks ago, I found out that the lower management had been changed. Also, there seemed to be less communication between upper and lower management than there used to be. However, they still have a good reputation in electronic toys and their costs are comparable to similar companies.

Ronnen, who was with me on the tour, noted that they had put their North American account manager in charge of the tour. Ronnen is used to dealing directly with factory owners and wonders if we could expect the same commitment as we have had with our previous projects.

RONNEN HARARY'S CHOICE

Harary discussed the decision he faced:

We believe that retail sales for toy airplanes will peak from March to mid-May, after which water toys will dominate. For E-Chargers, we've been fortunate to have secured a sizeable amount of shelf space in retail stores for this period and also have been awarded several large feature endcap orders! To meet this demand, we have to have 20,000 units ready to ship by December 1999 as shown in this schedule [see **Exhibit 1**]. On top of the fact that the retailers need time to move our product through their distribution system, we've heard that a major competitor, a large toy company, is also working on the same E-Chargers concept. We have to beat them to market at all costs because, in this industry, it is hard to overcome the first mover advantage. While we would like to have a five- to six-month design-to-delivery window, we have four months, max.

But we also have to consider the tight tolerances we require. Our initial work revealed that we have to be very careful to balance weight shaving and structural integrity. Ideally, an E-Charger should weigh 17 grams. An increase of only one gram decreases the flying time by 15 seconds. Just painting the plane adds enough weight to affect the performance significantly. According to our preliminary tests, the plane will weigh 18 grams, and we have to work tremendously hard to reduce that figure. At 18.5 grams, this thing won't even fly.

We have to find a supplier who can deliver on engineering expertise. Not many manufacturers in Hong Kong had experience with flying toys and, to add to the complexity of this project, we are using materials that are not commonly available.

This is an unprecedented toy requiring design work for the engine and to accommodate the capacitor, not to mention the separate battery box. Our rough design calls for about 50 different parts! How should we compare the quality of work between the Wai Lung and Wah Shing factories? Although both have done projects for us in the past, this product is totally new. Price might play a factor in the decision, but it will not override our most pressing concern of getting to market quickly.

A concern is the quality of the suppliers' sources of raw materials and prefabricated components, most of which are based in mainland China. A large number of small- and mid-sized competitors vie for the world toy business — no one factory controls a significant portion of toy manufacturing. Clients like us have to be extra careful, because machinery and worker training in mainland China are generally inferior to those in Hong Kong.

We should consider many factors in making this decision: reputation, capacity, quality levels, capability in engineering, the capability of the factories' Chinese suppliers, speed to market, costs, tooling time needed (critical in this project), attention to your company. In the past, due to our small size and limited engineering expertise, we prioritized a close working relationship with the owner of the factory in question. Because the owner took a personal interest in our projects, it reassured us that our needs would be top priority, and he would do whatever it took to produce results. With E-Chargers, I still strongly believe that this is necessary to ensure we meet the December 7 deadline. A personal relationship is key. What could make that difficult is the fact that the owners of these private toy manufacturers, like many in Hong Kong, all seem to have several businesses going on at once.

We are very pressed. We might not have enough time to do proper due diligence on Wai Lung or Wah Shing. We just got these quotes from each of them [see **Exhibits 2 and 3**]. Although we would like to have more time to qualify more suppliers in the Hong Kong area, we simply can't afford the time. We need engineering development work to start almost immediately! We need a factory to develop the wings and fuselage for E-Chargers, the rest of the 50 parts, prototype moulds, then sample shots for our inspection. We do not have the luxury of extra time. We're not even sure what our competitors are up to. Which factory should we choose?

The Richard Ivey School of Business gratefully acknowledges the generous support of the MBA '89 class in the development of these learning materials.

Exhibit 1

PROJECTED DEVELOPMENT SCHEDULE AND CURRENT PROGRESS

Item# 40004

Item Name: E-Chargers Flying Machines (6 styles)

Pack: 12

Target FOB HK (US\$) 1.75

FOB HK (US\$)

Landed Cost (Estimated in US\$)

Spin Master Toys Engineer: Alex

Project Manager: Tammy

Date: June 30, 1999

<u>Description</u>	<u>Responsible</u>	<u>Planned</u>	<u>Current</u>
Quote Package	Alex	July 1	
• General product profile	Tammy	June 23	June 30
• Product electronic schematics	Tammy	June 25	July 2
• Preliminary parts drawings	Tammy	June 25	July 2
• Assembly-exploded view drawings	Tammy	June 25	July 2
• Bill of materials/parts list	Tammy	June 25	July 2
• Rough engineering model	Tammy	June 15	June 22
Vendor Preliminary Quotes	Alex	July 10	July 17
• Final vendor decision	Ronnen	July 11	
• 1st engineering model	Tammy	July 1	
• 2nd engineering model	Tammy	July 3	
• 3rd engineering model	Tammy	July 5	
Final Design Release	Alex	July 1	
• Model ready (propeller)	Factory	July 10	
• Decision on gear	Factory	July 10	
• Recommend foam type	Factory	July 19	
• Approval on foam type	Alex	July 20	
• Samples of the motor and capacitor	Factory	July 22	
• Plastic housing evaluation	Alex	July 27	
• Verify motor specification is compatible with Mabuchi	Factory	July 31	
• Plastic housing resubmission	Factory	July 31	
Models Available	Factory	July 22	
Approved product quote (purchase order , material authorization release)	Tammy/Ronnen	July 26	
Tooling purchase order for airplane	James	July 22	
Tooling purchasing order release (all others)	James	August 4	
Tool start (35 days leadtime)	Factory	August 4	
1st test shot	Factory	September 8	
1st engineering pilot	Factory	September 18	
Sales samples ready (from 1st shot)	Factory	September 23	
2nd test shot	Factory	September 28	
2nd engineering pilot	Factory	October 3	
Final shot	Factory	October 8	
Final engineering pilot	Factory	October 14	
Production pilot	Factory	October 21	

Exhibit 1 (continued)

<u>Description</u>	<u>Responsible</u>	<u>Planned</u>	<u>Current</u>
Production pilot tests completed	Factory	October 29	
Final production pilot approval	Ronnen	November 2	
Final quote approval	Ronnen	November 2	
Production start	Factory	November 22	
1st on-board shipment	Factory	November 28	
Packaging Timeline			
English film and disk send to Hong Kong	Selene	July 20	
Packaging approval (7 days)	Tammy	July 27	
English package arrival (3 weeks)	Factory	August 17	
Bilingual package disk to Hong Kong	Selene	August 3	
Bilingual package approval in Hong Kong	Willy	August 10	
Bilingual package arrival	Factory	August 31	
TV commercial sample (quantity)			
TV commercial sample (date)			
Estimated sales forecast	Jennifer	July 17	
Consigned materials		N/A	
Motor and capacitor			
Material authorization or purchase order	Heather/James	August 3	

<u>Ramp-up Schedule</u>	<u>Date</u>	<u>Produce</u>	<u>Cumulative</u>	<u>Changes</u>
First week: Day 1	November 8	50	50	
Day 2	November 9	50	100	Ramp-up
Day 3	November 10	100	200	not yet
Day 4	November 11	150	350	confirmed
Day 5	November 12	250	600	
Day 6	November 13	400	1,000	
First on-board shipment	November 15	600	1,600	
Second week	November 22	9,000	10,600	
Third week	November 29	12,000	22,600	
Fourth week	December 6	18,000	40,600	
Fifth and subsequent weeks		18,000		

Source: Company files.

Exhibit 2

QUOTE FROM WAI LUNG PLASTIC MFY., LTD.

Quotation Submission Form (Summary)
Spin Master Toys

Attention: Ronnen Harary
 Item: 4004
 Description: E-Chargers
 Reference: Quotation Submission
 From: Wai Lung Plastics Mfy., Ltd

<u>Description</u>	<u>Cost in HK\$</u> <u>Per 1,000 Toys¹</u>
1 Plastic	\$540.50
2. Other parts	4,670.00
3. Packaging	3,620.00
4. Shipping carton	<u>295.00</u>
Total material cost	\$9,125.50
 Total labor cost	 <u>\$2,380.00</u>
 Total materials plus labor	 \$11,505.50
Overhead and markup @ 16% (of materials and labor)	\$1,840.88
Scrap allowance @ 1.5% (of materials)	136.88
Capacitor handling charge @ 3% (of capacitor cost)	150.74
Motor handling charge @ 3% (of motor cost)	<u>197.12</u>
Total	\$13,831.12
 Transportation FCL, ² Hong Kong, FOB ³ Hong Kong, 40-foot FCL container	 <u>\$487.00</u>
Total	\$14,318.12
 Transportation LCL, ⁴ Hong Kong, FOB Hong Kong, 40-foot LCL container	 <u>\$1,607.50</u>
Total	\$15,438.62 ⁵

Source: Company files.

¹The Hong Kong dollar was pegged against the United States dollar at the rate of HK\$7.75 = US\$1. In July 1999, a Canadian dollar was worth about HK\$5.21.

²FCL: Full container load.

³FOB: Free on board. In essence, the location signifies the point at which the customer takes ownership, and thus financial responsibility.

⁴LCL: Less than container load.

⁵This price does not include the capacitor or the motor.

Exhibit 3

QUOTE FROM WAH SHING ELECTRONIC CO., LTD.

WAH SHING ELECTRONIC CO., LTD.

To: Alex Perez
 From: John Yi
 Subject: E-Flyer Quote: Ref "0" vs. Mattel

Cost Summary Sheet

Product Name: E-Flyer

<u>Item</u>	<u>Cost description</u>	<u>FCL (HK\$)</u>	<u>LCL (HK\$)</u>
1	Electronic parts (includes motor and capacitor)	15.7998	15.7998
2	Plastic material	0.2396	0.2396
3	Metal parts	0.8976	0.8976
4	Packaging material	2.5805	2.5805
5	Miscellaneous	4.2534	4.2534
6	Bonding	0.0000	0.0000
7	Labor cost	0.8000	0.8000
8	Decoration cost	0.0000	0.0000
9	Injection cost	0.5313	0.5313
10	Overhead and markup	3.3523	3.3523
11	Transportation	<u>0.2914</u>	<u>1.0238</u>
	Ex-factory price FOB Hong Kong	28.7459	29.4783

Source: Company files.