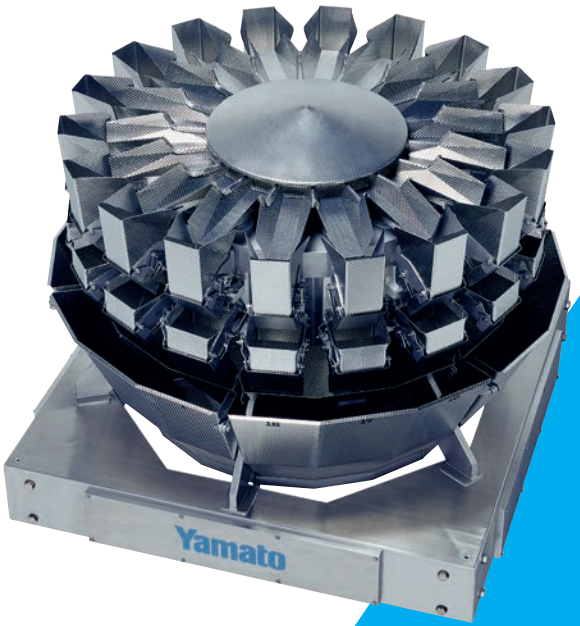
Yamato

White Paper Series

Genuine vs Pirate
The true cost of maintenance

There is an increasing market for non-genuine parts for weighing machines, multihead weighers and checkweighers used in processing plants of all kinds. Under-pressure plant managers often opt for cheaper pirate parts but there are very good reasons why this practice should be avoided as an example of false economy.



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Machinery manufacturers invest millions every year in research and development. Every component undergoes exhaustive testing in both laboratory and field based trials to ensure the materials, manufacturing processes and quality control are of the highest possible standard.

Clearly there is a cost attached to these activities and spare parts developed in this way can appear expensive. There is, therefore, a temptation for maintenance engineering managers to use cheaper alternatives when planning routine service programmes in their plants. This is frustrating for original equipment manufacturers (OEMs) which have to deal with failures and warranty issues due to the use of non-genuine or pirate parts.

Many parts - such as actuators used in automatic and semi-automatic checkweighers and table-top weighers - are sophisticated pieces of electronic equipment. Ultimately, many companies which use pirate parts will end up paying twice over for service and repairs, and potentially lengthy shutdowns of their food processing and packaging lines, which is a false economy.

The magnificent 7
reasons for using genuine parts

1. Lower total cost of ownership – will fit as intended and work as designed and work over time thereby reducing cost of ownership and improve return on investment (ROI).
2. Designed and tested to exact equipment specifications.
3. Revision control based on ongoing research and development –pirate parts don't take into account revisions in design and systems over time. Genuine parts are the most up to date.
4. Compliance with original system and parts warranties.
5. Expedited identification, ordering and stocking assistance.
6. Safety and risk management considerations – faulty pirate parts can cause damage to your machinery and increase the risk of accident to machines and operatives.
7. Access to OEM equipment experts.

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What is a spare part?

A spare part is broadly defined as an interchangeable part that is kept in an inventory and used for the repair or replacement of failed units. Spare parts are an important feature of logistics engineering and supply chain management, often involving dedicated spare parts management systems.

Spare parts can be classified as either repairables or consumables. Economically, there is a trade-off between the cost of ordering a replacement part and the cost of repairing a failed part. When the cost of repair becomes a significant percentage of the cost of replacement, it becomes economically favourable to simply order a replacement part. In such cases, the part is said to be 'beyond economic repair' (BER) and the percentage associated with this threshold is known as the BER rate. Analysis of economic trade-offs is formally evaluated using Level of Repair Analysis (LORA).

Repairable parts are parts that are deemed worthy of repair, usually by virtue of economic consideration of their repair cost. Rather than bear the cost of completely replacing a finished product, repairables typically are designed to enable more affordable maintenance by being more modular. This allows components to be more easily removed, repaired and replaced, enabling cheaper replacement. Spare parts that are needed to support condemnation of repairable parts are known as replenishment spares.

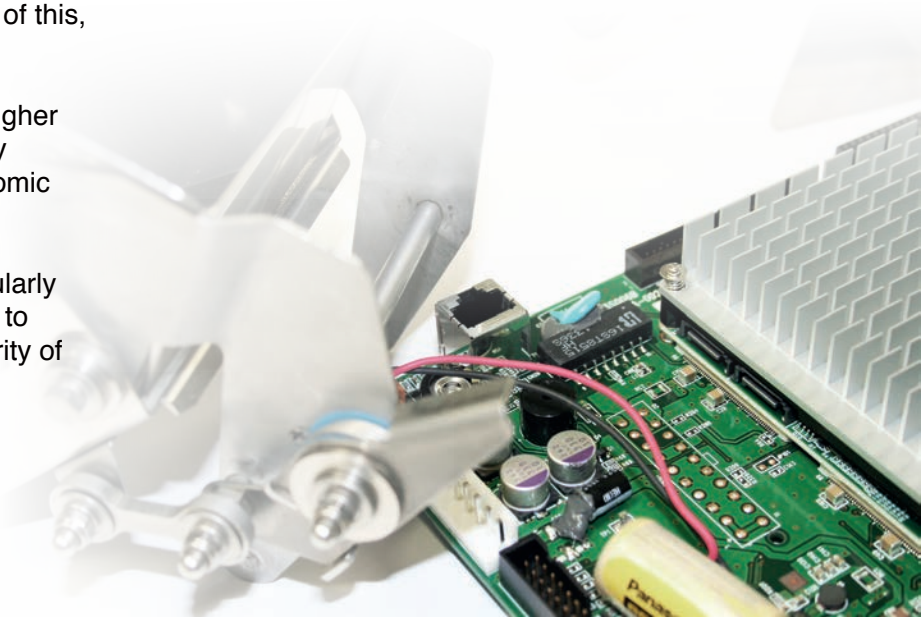
Unrepairable parts are considered consumable. Consumable parts are usually scrapped, or 'condemned', when they are found to have failed. Replacement rates of consumables are higher than an equivalent repairable part. Because of this, consumables tend to be lower cost items.

Because consumables are lower cost and higher volume, economies of scale can be found by ordering in large lot sizes, a so-called 'economic order quantity'.

Some spare parts have high demand particularly parts with high wear rates and those related to preventive maintenance) but the great majority of spares have intermittent demand.

The increasing complexity of products and their life cycles generate an increase in the risk of obsolescence. Initially, it is important to distinguish disposable parts from repairable ones. Spare parts are expensive and their repair (instead of discard) is advisable in order to keep costs down; damaged units can be replaced either by new units or by repaired ones. In this case, the inventory control models should also consider the costs and repair time.

The range of parts in stock at Yamato includes consumables such as bushes and bearings, conveyor belts and timing belts, and electronic components including actuators, boards and drivers. Actuator repairs are extremely important to ensure the optimum performance of weighing equipment. Ignoring zero drift errors, for example, can seriously compromise accuracy and performance.



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Design and test

If a pirate part is being installed there is no guarantee that the component, which may have minute differences to the existing genuine parts, will run effectively indefinitely. Failure of the pirate part will involve consequential damage to connected components resulting in wider damage and associated costs.

Pirate parts have not been tested to the same exacting standards as genuine parts; they might look the same but their origin and quality is unknown and therefore ‘suspect’.

Low cost parts do not meet standards and can result in product failure. Genuine spare parts manufactured by OEMs such as Yamato are products of intensive research and stringent quality control, guaranteed to deliver value and assure reliability and precision over the long run.

Counterfeiters cut corners on technical studies and quality control to slash costs. Appearances can be deceptive; these look-alike parts are often poorly finished, made to a poorer standard using low quality materials offering less durability.

When it comes to product testing a counterfeiter is not a stickler for details. By rounding up dimension thresholds and loosening controls, counterfeiters sacrifice quality and performance on the altar of profitability.

With genuine parts you can manage obsolescence and take advantage of the latest design enhancements available during the life of equipment such as Yamato checkweighers, multihead weighers and metal detectors. The risks of incompatibility are greatly increased with the use of pirate parts.

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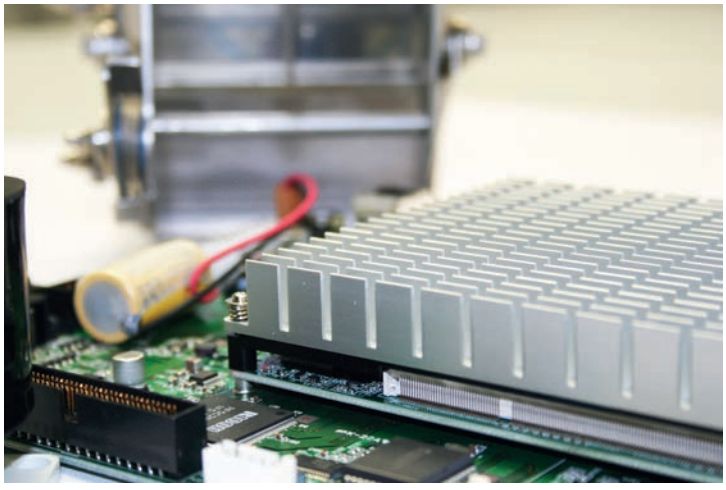
The repair cycle
Maintenance managers often develop a model of the life cycle of parts in a supply chain. This is called the repair cycle. It consists of a list of functioning parts in use by equipment operators. It describes the sequence of suppliers or repair providers that replenish functional part inventories, either by production or repair, when machines or parts have failed. Ultimately, this sequence ends with the manufacturer. Demands on a supply system for spares or repairs are increased or decreased depending on their operational reliability. This means that the use of spare parts can be analysed to help optimise predictive, routine and unscheduled maintenance.

The repair cycle requires careful management because cannibalisation (the practice of removing parts or subsystems necessary for repair from another similar device, rather than from inventory) of other machines may be necessary if stocks of spare parts run out. The cannibalised machine is usually crippled as a result, if only temporarily, in order to allow the recipient device to function properly again. As a result, operational availability is impaired.

Keeping an inventory of genuine spare parts guarantees security, quality, performance and longevity.



Costs
When choosing between an original component and a corresponding copy product, it is necessary to assess both the costs of the parts and risks associated with their use. These costs are not only those related to the individual part but also include the labour for the interruption to service and the machine downtime which can be caused by premature failure.

The fact that a counterfeit part fits doesn't mean it is manufactured to the same standard as a genuine part. Copy parts can be poor quality, unreliable and potentially dangerous so it is important to be aware of the impact that fitting pirate parts may have. In the event of a system failure or – in a worst case scenario, an accident – the ultimate responsibility lies with the service and repair engineer rather than the product which was ill-chosen for the application.

Genuine parts work better and longer – reducing costs and downtime due to breakdown or maintenance.

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Safety
Faulty or out-of-spec generic parts can compromise machinery and lead to safety concerns for the operators. Bad or poor performing electrical parts can lead to control failure, open circuits, fire hazards and other potentially dangerous operating conditions.

By only stocking and using reliable OEM-warranted parts, the overall safety of processing facilities is increased and there is a contribution to positive risk management for workers.

No matter how good the quality of the part there is usually a price level that cannot be exceeded. The use of non-genuine parts is more likely where there is a machine of low capital cost. However, it's in the interests of the user to install parts that are fit for purpose to ensure that the equipment works efficiently, safety and reliably. The cost of the spare is just part of the overall cost of repair and it takes an engineer just as long to replace a non-genuine as a genuine spare part.

Using genuine parts also helps to reduce the possibility of repetitive failure and therefore production downtime that damage the reputation of the end user in terms of its ability to deliver products reliably.

Using genuine parts means lower likelihood of subsequent failure and therefore reduced inventory costs of holding spares and improved forecasting of the repair cycle.

There is only a need to store parts that require frequent replacement – by using genuine parts you can rely on Yamato to stock the parts for you. These are in stock and can be ordered online and dispatched quickly, thereby reducing the need to invest in stock and downtime caused by failure and the wait for repairs.

All Yamato machines are built to the highest standards, using only the best materials and minimising the number of components. However, from time to time, spare parts may be needed. Time is money so a quick and reliable supply of parts is vital.

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Talk to the experts
Dealing with OEMs directly is the best way to handle part replacement and general maintenance needs. By continuing a relationship with an OEM, you can tightly control maintenance and labour costs. Most OEMs have technical support available which will assist in lifecycle planning and provide information so a company can identify 'critical spares' in order to balance appropriate part budgets. Instructions can also be provided on how to replace parts and repair equipment in-house, saving time and maintenance costs.

Why choose Yamato genuine spare parts for actuator repairs?
Only Yamato can supply genuine spare parts for Yamato weighing machines.

Yamato genuine spare parts are high quality robust parts that promote the longevity of your weighing machine. There are over 3,000 parts which have 99 per cent availability from Yamato stocks at all times and can be dispatched by a courier on the day that they are ordered.

All Yamato spare parts are subject to rigorous quality controls to ensure durability.

Yamato genuine parts are guaranteed. They fit and are purpose-designed for purpose with no need for adaptation. They are use the same quality and reliability standards as the original components.

There are an ever-increasing number of copy parts available on the market for almost any machine. Ultimately it comes down to personal choice; however there are some things that should be considered.

Only Yamato can supply Yamato Scale Dataweigh guaranteed parts. These parts are genuine, certified and specific to each weighing machine and any repair requirements will ensure the durability and reliability of your weighing equipment.

It is important to ensure that cost-saving measures do not compromise the quality, performance and longevity of your machine for the sake of short-term gain. Using non-Yamato spare parts, such as load cells for example, can increase the likelihood of breakdowns as components are often of an inferior quality. These are far less accurate and are often constructed using cheaper components which are significantly less hard wearing than Yamato genuine parts.

All machine repairs carried out by Yamato are undertaken by dedicated and experienced Yamato engineers who have undertaken rigorous training to equip them with unparalleled knowledge of Yamato's range of weighing machines.

A Yamato engineer should always be called because his or her knowledge and experience will ensure that any issues are resolved promptly and professionally; whereas a general technician may only compound the problem – increasing downtime and ultimately costs.

For service and spares call the Yamato service department on 0113 322 1546 or visit www.yamatoscale.co.uk
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