



LIFTECH



Volume 1, Issue 1

Foreword

Dear Reader,

This issue of Liftech comes after a long hiatus. It will now be a quarterly magazine with a new look.

We're happy and proud to tell you that Godrej has become the only Indian lift truck manufacturer to find a place in the top 39 lift truck manufacturers of the world.

Many new products have been launched over the last year and many more are planned for launch.

Current products are undergoing revamps and upgrades.

Mainly we've introduced AC technology in electric forklifts and stackers. Going forward, AC will now be standard in all new battery powered equipment.

This issue presents a glimpse of the recent product launches. We invite your contribution by way of ideas on what you would like to see in forthcoming issues of Liftech.

Cheers!!

C. N. Dumasia
Chief General Manager
(Sales & Marketing)

Godrej becomes the only Indian lift truck manufacturer included in world ranking

There are over 400 large and small manufacturers of lift trucks in the world. DHF, a German industry magazine, brings out an annual ranking of the world's top 39 lift truck manufacturers. Companies are ranked each year in order of turnover after a close scrutiny of their business information. Only those revenue figures directly associated with the manufacture and servicing of lift trucks are considered.

| | | | |
|----|----------------|----|------|
| 27 | Ausa | 46 | 0,19 |
| 28 | DanTruck-Heden | 42 | 0,17 |
| 29 | Godrej & Boyce | 35 | 0,14 |
| 30 | OMG | 30 | 0,12 |
| 31 | CZ Strakonice | 22 | 0,09 |

Godrej is proud to gain the position of 29th largest lift truck manufacturer in the world and the only Indian company to be on this list. This is what makes us doubly proud – to make a place for India on this prestigious list. Our strongest market is India with a volume of barely 6,000 lift trucks p.a. This makes our achievement noteworthy compared to the giant markets in

which most large lift truck manufacturers operate.

Over 45 years ago, Godrej made India's first indigenous forklift truck with technology from Clark of USA. From that humble pioneering act we have grown to become India's undisputed market leader since a decade. Our 12,000 sq.m. manufacturing facility in the western port city of Mumbai is IMS certified by TUV Nord of Germany. This umbrella certification includes ISO 9001, ISO 14001 and OHSAS 18001.

From being manufacturers of diesel and electric forklift trucks, we have become solution providers with a vast range of equipment and services addressing the handling needs of almost every industry in India. Our equipment also serves customers in 46 other countries worldwide.

We are grateful for the patronage and confidence placed in us by our customers and channel partners. Their faith and trust have contributed significantly to our worldwide standing today.

Inside this issue:

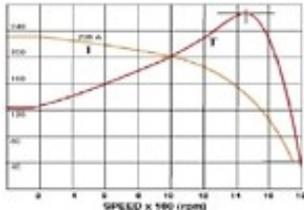
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AC powered lift trucks from Godrej

AC technology was applied to lift trucks over 10 years ago. As it happens with any new technology, the early years saw little proliferation of this concept with many manufacturers ignoring the new technology and even touting it as



an expensive technology that did not yield benefits commensurate with its price.

Recent advances in AC technology and dropping costs of motors and particularly their controllers have made AC very popular worldwide and today almost any lift truck manufacturer offers electric lift trucks with AC technology.

In this issue we take a closer look at this new technology and what benefits it really brings for you, the lift truck user, vis-à-vis the more conventional DC motor.

AC motors are brushless and therefore virtually maintenance free.

DC motors use brushes to transfer current to the rotating commutator. This makes DC motors maintenance intensive due to the carbon dust the brushes produce as they wear off, besides needing replacement from time to time.

AC motors draw 40-50% lower current than equivalent DC motors making them hugely energy efficient in comparison.

Lower operating currents also mean less heat generation, another form of wasting battery energy. Cooler running motors translate into more energy saving.

The high starting torque characteristic of AC motors requires a smaller gearbox to multiply the torque supplied to the lift truck's wheels. This results in lower mechanical losses in the gearbox, again leading to energy conservation.

An rpm sensor on the AC traction motor shaft allows the motor to draw maximum current to generate high starting torque when the lift truck starts moving from a stationary position. Once the truck is in motion, the rpm sensor



senses the higher motor speed and understands that the machine has picked up momentum. It gradually reduces the current drawn so that the right torque is generated to



achieve and maintain the speed demanded by the operator. This closed loop system monitors the speed continuously and optimizes the current drawn by the motor.

AC motors are frequency controlled unlike the voltage dependence of DC motors. Hence an AC motor will deliver the same level of performance even when battery charge runs low, whereas a DC motor powered truck will require the operator to make compensatory adjustments

once the battery charge level starts dropping.

The smooth pick up and deceleration of lift trucks powered by AC motors are hard to beat. This makes the operator much more comfortable and confident of truck movement. It improves his productivity and enhances safety of operations.

All in all, AC motors deliver a super-smooth performance, higher productivity, make the traction battery last longer between charges and need next to zero maintenance. No wonder AC technology has taken the lift truck world by storm.

Godrej, always on the lookout to bring the most contemporary technology for its customers, had been watching the AC technology space for the last few years. Seeing the commercial viability of this new technology emerging for Indian market conditions, we have introduced AC technology across all our electric battery powered forklifts and warehouse trucks. New products developed are now launched with AC drive and control technology incorporated from the concept stage itself.

Godrej launches Counterbalanced Stacker

Electric battery powered stackers are a very economical and popular means of handling palletized loads in most warehouses world over. However, these machines face one obstacle in some applications – the protruding straddles (or outriggers) restrict their use in racking systems where the lowest level of storage is the floor itself. Fork over stackers are also unable to handle pallets with closed bottoms and you need to use wide straddle stackers with

standard forks. These place different limitations on the design of the racking system.

Another typical area where stackers can be ideally applied but find limited use is in handling of dies and moulds. In this case, the lift truck should

be able to come up very close to the mechanical press or moulding machine to place or pick the mould or die. The straddles prevent this and users have to use either cranes or forklifts.

In such and other situations

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where the lift truck has to approach very close to the point of picking or placing a load, regular counterbalanced forklifts are the most versatile because the forks are located outside the wheelbase of the truck. However, these are relatively expensive equip-

ment, designed for a high level of throughput and require more aisle space to work in. Forklifts also need trained and qualified operators, which translates into higher running costs.



The need to develop a lift truck that has all the economy and tight space working capability of a stacker as well

as the versatility of the counterbalanced forklift gave birth to the Counterbalanced Stacker. You may think of it as a counterbalanced walkie forklift.

Godrej have developed and introduced a 1.5 tonne Electric Counterbalanced Stacker with a powerful AC drive package. The initial investment is easy on the pocket and the AC technology ensures it stays easy on your operations and maintenance budgets too. The tilting mast is a feature unique to Godrej and is particularly useful in enhancing the safety of handling non-palletized items like moulds and dies. A

full function control handle brings all operating switches right up to the operator's fingertips.

First displayed at CeMAT 2008 last December, the Godrej Counterbalanced Stacker is now in regular production.



Give power to your load moving tasks with the new Godrej Powered Pallet Truck

Godrej has added a 2 tonne Powered Pallet Truck to its growing range of warehouse trucks. Available with both DC and AC drives, this new machine is designed for higher frequency of operation and longer travel distances.

An integrated drive unit consisting of the traction motor, gearbox and PU drive wheel, MOSFET electronic controller, failsafe electromagnetic brake, full function control handle and a compact, efficient hydraulics package are brought together in a superbly designed chassis.

The heavy gauge steel used throughout the chassis forms a protective cover around these valuable components while the curved body profile helps

minimize chances of impact with fixed objects and also results in a tighter turning radius to allow easy working in really tight spaces. The curved profile and length of the control arm ensure generous clearance for the operator's toes and heels while walking with the truck.



Heavy steel wear plates under the fork base provide additional strength in a high

impact area where uneven floor surfaces tend to strike the truck. The 'C' channel fork design and pull rod linkage are among the toughest in the industry to ensure strength and long life.

Tandem load rollers ensure that the pallet truck maintains constant contact with the ground even on rough floors. They also distribute the load more evenly ensuring a long service life for the rollers.

Options include an on-board electronic charger, an operator platform if you have longer distances to travel and a roll-out facility for quick battery changes. What's more, the traction controller can be specifically programmed to customize the

equipment's performance to a specific application and provide enhanced capabilities such as brake override, lift slowdown, different travel speed, etc.



Tow away your problems with the new Godrej Tow Truck

Many industries require the transport of goods from one location to another over fairly large distances. For moving small goods or items of various sizes, it is often practical



and economical to load them into trolleys and tow the trolleys to the desired location. For instance, carrying batches of machined parts from one processing section to another in an automobile or auto component manufacturing facility. Or carrying textile materials between sheds in a textile plant. Or handling baggage at airports. Or shifting goods within a warehouse serving

the retail industry.

These applications are aptly



addressed by the Godrej Electric Tow Truck. Zero emis-

sions and a quiet drive train make it ideal for use indoor as well as outdoor. Ingenious design and engineering have combined a generous 5 tonne pulling capacity with a compact, well designed body. While the first 5 tonne model is in production, further models with lower capacities are taking shape on our computer screens.

Sales of Godrej 2 tonne Electric Platform Truck pick up smartly

We had launched a 2 tonne Electric Platform Truck in the latter half of 2008. Sales of this equipment have picked up smartly in the targeted industries, namely, defence, ordinance factories and the railways. Since years, these sectors have typically used Platform Trucks for shifting small, loose item loads around their large factory premises.

The focus while developing our Platform Truck was on

simplicity with contemporary technology, ease of use and ease of maintenance. A DC SepEx motor and controller powers the front drive wheel of this 3-wheeler truck. Self-adjusting shoe type hydraulic service brake and parking brake ensure safe, quick stops.

The 1 x 1.5 m heavy checker plate platform is located 600 mm above the ground to make it convenient in case you



want to load / unload the platform manually. A 36V, 315 Ah battery means you can comfortably use the Platform Truck to carry loads up

to 2 tonne around your facility for a shift before the battery needs re-charging.

Heavy duty users can benefit a lot from the power steering option which makes driving the truck around your facility fatigue free for the operator.

Larger capacities and a 4-wheel configuration are on the anvil for future expansion of this range.

Can good-as-new equipment really be as good as new?

2008 began with a nose diving stock market. However signals from industry remained strong and it was mostly business-as-usual till September. But would this continue? Would India remain largely insulated from what the US housing loan crisis had triggered off? No one could tell. So at Godrej Material Handling we decided to prepare for the worst.

Past experience with economic downturns had taught

us that when trouble strikes, material handling equipment is usually the first to get the chop in the capex budgets of users. After all, if you're going to produce less, you need to move fewer goods. New projects and expansions would slow down. If budgets were squeezed, buyers would naturally prefer to use what capex was available, for production machinery.

But the need for lift trucks would not disappear, it would

just change. We anticipated that customers would still need trucks but they would have to cost less. Lift trucks would be used for less working hours a day, many would prefer to hire equipment rather than buy it outright.

One kind of lift truck could answer all these needs cost effectively: Good-as-new lift trucks. Pre-owned forklifts normally cost between 40% to 60% of equivalent new equipment, depending on

their condition, work content involved in rebuilding them, etc.

Though Godrej had for years been buying back old forklifts from customers who wanted to trade them in for new, we now required greater numbers and relatively recent models. The answer came from our partner – Crown. Talks with Crown yielded fruit and with their enthusiastic response the modus operandi was soon ready.

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Crown have a separate line of business called Crown Movemore which deals only in pre-owned equipment. The used trucks go through a structured, rigorous renewal process refined by years of experience. The trucks coming out of their rebuild program are aptly branded 'Encore'

and they come with a 6 month warranty.

We ordered an initial batch of fully rebuilt trucks from Crown in January 2009. Before the equipment landed in India, they were already assigned to customers.

There was an opportunity to

further reduce the price tag for our customers by importing pre-owned trucks in as-is condition and rebuilding them at Godrej. Our Service team was trained at Crown's Move-more facility in USA on the process of rebuilding lift trucks to give them a super *second life*. With this encouraging

start Godrej have eagerly embarked on this new line of business.

Renewed equipment – an idea born in adverse times has become a great value creating solution for users in various situations and circumstances.

How do you handle a vehicle tyre weighing as much as 10 Alto cars and as tall as two people?

Simple. Just ask Godrej.

Godrej has marketing alliances with several world leaders including Crown, Tennant, Hubtex and Komatsu in the field of Material Handling Equipment. One of our partners, Manitou of France, is a leading player in Rough Terrain equipment.

Rough Terrain equipment typically includes forklifts,



telescopic handlers and access equipment suited for working at construction sites, mining sites, forests, industries, sandy beaches and almost any place where it would be difficult to walk, leave alone drive a vehicle.

Though very popular in most advanced economies, Rough Terrain equipment, particularly the Telescopic Handler or Telehandler for short, is a new concept for the Indian

market, which is relatively accustomed to handling technologies a couple of generations old when it comes to rough terrain. Godrej has worked over the last 4 years to open and develop this segment in India with considerable success.

Apart from the various Rough Terrain equipment delivered by Godrej to Indian customers in construction and industrial applications, one of the most significant and recent orders is for Telehandlers with Tyre Manipulators from South Eastern Coalfields Ltd. (SECL).

The Indian mining Industry has graduated from using 35 tonne dump trucks to 180 tonne dump trucks over the last 4 decades. These vehicles



are fitted with wheels weighing about 3.5 tonnes each and around 3m in diameter.

Dump truck wheels need to be taken off for tyre maintenance or replacement and put back on. Handling these massive wheels was a cinch for Godrej Tyre Handler Forklifts, of which there are a few dozen units in various sizes in operation all over India.

With Coal India recently upgrading technology and starting the use of 240 tonne capacity dump trucks, vehicle wheel weights increased to 8 tonne (that's about the weight of 10 Alto cars). And wheel sizes were closer to 4m in diameter (that's two 6 ft tall people standing head to toe, with room to spare). SECL needed a new solution to handle these monster wheels and Godrej had the right answer – Manitou Rough Terrain Telehandlers with Tyre Manipulators.

Sustained efforts over a year, particularly by our Indore branch team, resulted in

Godrej being awarded the order for four such Telehandlers by SECL. Besides this new feather in Godrej's cap, the order has opened a new avenue for the mining industry

to address its problem of handling giant dumper tyres.





We hope that this issue was of immense value to you. If you have any queries or questions about our products, feel free to get in touch with us. You can also use the response form below to ask for information about our product range. Just fill up the response form and fax it to +91 22 6796 1519.

Yes, I want Godrej & Boyce Material Handling Division to contact me for:

Forklifts

- Godrej
- Crown

Warehousing Equipment

- Pallet Truck
- Powered Pallet Truck
- Stackers
- Reach Truck
- Stock Picker
- Turret Stock Picker
- Tow Truck
- Platform Truck

Tennant

- Sweeper
- Scrubber
- Sweeper Cum Scrubber

Other Equipment

- Telehandlers
- Sideloaders
- Access Equipment

-
- Diesel
 - Electric
 - LPG
 - Articulated

Pre owned Equipment

- Crown

Attachments

- _____
- _____

Name _____

Designation _____

Company _____

Address _____

City _____

Pin code _____

Phone _____

Fax _____

Email _____

Comments: _____



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