



The Safe Choice

HYSTER SALES TIPS

XN Launch Q&A

During the past several months, we have conducted Regional Launches for the new E45-70XN electric counterbalanced fork lift truck. While conducting these Launches, Mike Adams, Bob Houston, Tim Mills and Glenn Spiers collected all the questions that were asked that needed additional information gathered to be properly answered and we got the answers for you. These questions and answers are listed below

Hopefully these answers will clarify the questions for you. However, if you still have questions, please contact your Regional Sales Manager for Electric Product and he will answer your questions.

Launch Q & A			
Item	Category	Questions	Answers
1	Attachments	Is the GPM flow through the 4th function valve automatically adjusted to suit different attachments?	Not sure I understand this question. My answer would be - No - the flow through the valve is variable through the electro hydraulic proportional control on the truck, either manual levers or mini-levers. If you need to adjust pressures for various loads handled by a clamp or you switch clamps on the truck, I would think that you need to install a 2 or 3 position pressure relief valve that can be adjusted to the proper setting.
2	Attachments	Why is there 10 week delivery on replacement sideshift carriages?	If it is ordered through manufacturing, it must go into the schedule and be built in accordance with other products. If it can be ordered through Aftermarket, it can be expedited, up to Red Alert.
3	Brakes	Did the previous model (Z truck) have Power Assist brakes?	No it did not because the truck did not have the VSM in it. It has a standard, basic braking system with self-energizing brakes, which we have had in our trucks for many years. No other electrics have this feature. However, all new NextGen trucks will have it as they are introduced.
4	Brakes	How does the parking brake work? Is it engaged by a cable?	There are two options for a parking brake. The standard is foot applied and hand released. It is applied by a cable to the drive wheel brakes. The problem with the cable that was experienced on the Z trucks has been addressed and should not be a problem on this new set up. Optional - is an automatic park brake that is connected to the end of the drive motor. When the truck slows down so that the drive motor is turning at 12 RPM or less and there is no input from the accelerator pedal, the brake automatically sets. It will release as soon as there is an input from the accelerator.

5	Brakes	How does the power assist braking work? Does it proportionally increase auto decel or auto regen?	The pressure transducer sends a signal to the VSM and the VSM uses the traction controller logic to slow the speed of the traction motor. The effect is similar to the regen feature when you change directions. Auto decel is when the operator takes his foot off the accelerator (coasting) the VSM slows the truck via the traction motor/controller. This can be adjusted from a range of coasting to an aggressive deceleration.
6	Brakes	Is the power assist braking savings in brake components and life around 50%	The feature provides lower pedal efforts and more feeling during braking. It also protects the drive train from the shock loading in the ring and pinion during panic stops since it slows the rotational speed of the traction motor. Because our current trucks use auto decel and regen now, using the brakes is minimal and the new feature does not really contribute to a substantial brake life improvement from the Z truck. It was really designed for the protection it provides to the drive train.
7	Brakes	What does "self-energizing" mean and how does it work?	The term "self-energizing" brake system describes the type of drum brake system used on the E45-70XN trucks. Self-energizing brake system are used on almost all modern DRUM brake systems and not really a selling advantage for us - unless you talk about it and explain it and the competition doesn't. For more info see: http://www.autospeednet.com/sites/3dauto.com/module/brakes/7034/
8	Capacity	Can you change capacities in the field with additional battery weight and / or counterweight?	Yes - the counterweight is designed with inserts to easily accept vertically mounted battery compartment counterweight slabs from SPED. Be careful as the capacities must match with the battery box sizes.
9	Comp	CAT - Does CAT have ramp control?	Generally trucks with AC motors and controls will have this feature. Ours is controlled through the trucks intelligence. We are unsure what Cat may have with regard to this.
10	Comp	CAT - Verify whether CAT has integral sideshift. Mike Stefo indicated that it may be false.	Cat price list shows Cascade 36" side shift.
11	Comp	CAT - Verify whether CAT transistor control hydraulics are standard and not optional anymore.	Cat literature that is downloadable from their web site states that Transistor Hydraulic controls are standard.
12	Comp	Crown - Does Crown have proportional hydraulics?	Not positive on this. Generally proportional hydraulics is only feasible with transistor controls and Crown does have an AC hydraulics option. However, I would believe that even their manual controls allow the operator to feather the movement of lift and tilt.
13	Comp	Crown - Verify whether Crown has no brake other than Regen braking and the park brake.	From Crown's literature on FC4500 Series 4 wheel sit-down electric trucks. Crown's unique full-circle power disc brakes, featuring large friction areas, improved responsiveness and extended brake pad life. All backed by a two-year warranty.

14	Comp	Toyota - Some sales people don't believe that Toyota has hip restraint as standard. Can we confirm that and if they do not, how do they get away with that? Isn't it an OSHA requirement?	Toyota designs to ASME B56.1 like NACCO and all other American manufacturers that sell trucks in America. Thus, I would not assume that they are getting away with anything. Every picture I can find of current production trucks from Toyota show a side restraint system.
15	Drive in Rack	Drive-in Rack - What options are limited?	This answer is too long for this spreadsheet. Please see Page 9 of this document for the full response
16	Electrical	Can a truck be easily converted to 80 Volt in the field?	The trucks can not be converted to 80 volt in the field. The trucks must be ordered as 80 volt from the factory.
17	Electrical	Can the fast charge connectors be added in the field?	Yes they can. Cabling, connectors and a bracket are needed. This should end up as a kit.
18	Electrical	Can we provide details on 80 volt batteries - amps, shift life, etc.	Plates and amps are listed in the Brochure/Tech Guide. Shift life will be dependent on the application. Refere to eTIP 2-2 that was sent to you on 2/2/09.
19	Electrical	Did the Z truck and other electric truck have auto decel?	Yes they do.
20	Electrical	Did the Z truck have a VSM?	No. This is new to the NextGen trucks and will be in all future releases.
21	Electrical	Do we offer a field kit for the EE option? If so, does it require an EE inspector to come out and check the truck?	The trucks can be converted in the field to EE. A parts kit is required. Also, a field visit from a UL inspector is still required. Regardless how we design our truck, if it leaves the factory with an E label, verification by an inspector is required to certify EE compliance. This certification inspection can be very expensive - in the \$6000 range or more depending on where the inspector has to come from.

22	Electrical	Is there a difference between EE on the old Z truck and the new XN which is all AC?	EE requirements do not change based on the type of motors used. AC motors and main line contactor (for example) still require banding kits/enclosures, the same as DC motors. The key difference in the XN truck is that we provide a lockable hood with the option which allows the customer to use non-EE batteries. The way we set up the XN is much easier since we provide the hood side extensions to cover the battery terminals (required) and a lock on the hood. Thus the customer can fit a standard battery in the truck and not have to order a special, and more expensive, EE battery. Be sure to understand existing EE batteries in prior series trucks, since many EE batteries have covers, increasing the height of the battery. Attention needs to be given to the added height to ensure they will fit under our hood height.
23	Electrical	On the Fortis, you need to buy an auxiliary wire harness to install a "shock" type device. Is this the same with the XN trucks?	Yes. However, the main wire harness has a connector that the unit simply attaches to. Also, the truck CDF will need to be updated as well. The design for factory and field install are almost identical to the Fortis.
24	Electrical	The battery connector looks weak and unanchored. Dealers are worried that operators will simply yank the cables and break it. Is there a more secure anchor planned?	The connector cable is very firmly mounted to the truck via a mounting bracket so there should not be any issues. Once the battery is in the truck, the batter side of the connection will have the cables resting on /supported by the battery. The SB style connectors are very rigid and once connected, are very reliable connections.
25	Electrical	What about simple electrical option like lights, strobe, back up lights and such? Are they easily added in the field or is there a software addition?	Lights and BU alarms require no software changes at this time. As the truck software matures, these items may end up CANbus enabled, making them software driven. The strobe light will need software.
26	Ergonomics	Can the Overhead Display be relocated? If so, where?	There are pre-drilled holes about 1/2 the way down the front right hand OHG leg - in case you want lights, want to get in and out that side or put an RF terminal in the upper right. At this point, the display can not be moved to the upper left side of the OHG as there is no wiring there and the display case is only designed to fit in the upper left.
27	Ergonomics	Can the Rear Driving Handle be added in the field?	Yes - the holes are in the OHG leg and filled with plugs. The main wire harness has a connector capped for the addition of the handle harness.
28	Ergonomics	Can we field convert between Monotrol and forward/reverse	Yes - there are kits available.

		thumb switch?	
29	Ergonomics	Can we reduce the operator convenience space. Customer makes French Fries and they fall down on the truck and will fill the open spaces on the dash.	Recommended that dealer work with SPED to develop way to cover the openings with thin plastic sheets.
30	Ergonomics	Has consideration been given to a rear drive handle with horn positioned for looking over the left shoulder when driving in reverse?	The handle horn position is set up for the right thumb to activate. If the handle was mounted on the left rear OHG post, the button would be toward the back and outside of the truck. It would be very awkward to operate in this position. However, there is no reason why it could not be mounted on the left rear OHG post. Engineering would need to understand the impact of putting mounting holes in that OHG leg. Also, keep in mind that the seat has been located 53 mm left of center on the truck and canted 3 degrees to the right to improve visibility and to make it easier to turn to the right to drive in reverse. Also, with the swivel seat, you get 12 degrees turn to the right.
31	Ergonomics	How does the Operator Presence system work?	There is a PIB out on this (Hyster Digital Dealer site). OPS senses an operator in the seat and if the operator leaves the seat, locks the hydraulics' functions. There is an override lowering port on the valve for a technician to lower the forks if they are in the up position.
32	Ergonomics	In the Food Packaging Package, we recommend a cloth/full suspension seat. Per one of the sales people, that is unacceptable in food applications due to sweat retention in the seat fabric. He was asked to replace the cloth with vinyl. Will we change that spec in the Food Package?	The sales people can modify the content of the packages. The options are simply packaged for quoting convenience and each application /customer requirement will vary. Keep in mind that many food processing environments are in a cooler/freezer environment and condensation accumulation on a vinyl seat has it's own issues. Plus vinyl seats have more of a tendency to crack in freezers with time and wear.
33	Ergonomics	Is the Operator Presence system the same whether the truck has standard park brake or auto park brake?	The OPS works independently of the park brake systems.

34	Ergonomics	What items were used in the Box 'o Stuff?	10 ink pens, 3 highlighter markers, 2 Sharpie permanent markers, 1 Coffee mug, 1 tape measure, 1 pair of gloves, 1 clip board, 2 sets of ear plugs, 1 box cutter, 1 cell phone, 1 roll of tape, 1 yellow lined tablet, 1 small stapler, 1 small tablet, 1 white out tape dispenser, 1 Maglite AAA flashlight, 1 pair of safety glasses. There is nothing magic about this list. You can develop your own list.
35	Masts	In many of our package recommendations we include the 189 3 stage mast. Most agree that this mast has major vision problems caused by the cross member. What can be done?	The 189" is the highest take up mast option so we started there. Yes, almost all the 189" mast have a cross member that is fairly low. It is recommended that you look at the 200" mast which has an 88" lowered height that matches up with the over head guard.
36	Masts	Who makes the 4 stage mast?	Same as the Fortis. We make the 4 stage mast. On trucks less than 4500#, we buy from Lift Technology.
37	Masts	Why don't the lift heights on the XN trucks match up with the lift heights on the Z trucks?	This is caused by several factors. First, Engineering has tried to match up mast lowered heights with overhead guard heights so that you don't have the top of the mast blocking the view of the operator. Second, we are using the Fortis mast with the J hook mounting which causes slight differences between the lift heights.
38	MDU	Are XN axle tubes replaceable?	Yes through the aftermarket. The new axle tubes are also beefed up and stonger.
39	MMST	How do I copy a power point slide from the MMST?	For speed of operation and to ensure that it is always with you, it is best to copy the MMST onto your computer hard drive. Insert the MMST CD into your CD drive. It will start automatically. Close out of the MMST by clicking on the X at the lower right corner of the screen. Open My Documants. Click on the drop down arrow that shows you your various drives. Click on the CD drive. You will see all the programs in the MMST. At this point, you can open the appropriate file and then copy the slide(s) that you want into a new PowerPoint or you can right click on the slide, copy and then go to an email or work doc, right click and paste the slide. To speed up the MMST performance you can highlight all the files and then copy them to a single folder on your hard drive. All files must be in that one folder for the MMST to work properly. After you have the files on your computer, you can then open that folder and see all the programs. Then open a program and copy and paste as listed above.
40	Productivity	Do you need a laptop to change Extended Shift ON to OFF and vice versa?	No. The ES functionality can be changed through the display or PC Service Tools. We did make an enhancement over the Z series in that when you move to ES OFF, we now automatically load the highest possible traction and acceleration settings. The Z series required you to do this separately for all the functions. Most folks did not do this for demos and the truck would not perform to top speeds.

41	Productivity	What is the difference in motors and controllers for Power Plus performance package?	Larger motors and higher amp capacity controllers. The drive motor is 2 inches longer and higher kWh capacity with better thermal capability. The hydraulic motor provides more power within the same package due to space constraints.
42	Productivity	Will we develop a spreadsheet, like on the Fortis, recommending various function settings for various industries, we the dealers can set our truck up properly going into a demo?	There is no plan to develop a spreadsheet at this time. We included functionality to the Extended Shift OFF selection in the dash to provide the best demo speeds, accelerations, etc. possible. They are automatically set when you activate Extended Shift OFF. Previously you have to set the performance factors you wanted. Since the electrics are used indoors mostly, each customer may have speed limitations in and around the work areas. It is always best for the dealer to understand these limitations and set the truck up for each demo. We will need to work with the dealers to develop such a spreadsheet if it is truly necessary. There are a number of settings that you can adjust during the demonstration to customized the truck for the customer's application - speed, acceleration, plugging, auto deceleration, lift speed, and lowering speed. This is a great way to show off the trucks capabilities and has proven to be an effective way to win over operators when you can adjust the truck to them.
43	Serviceability	Can the display be programmed to slow the truck down at a pre-determined hour internal (such as just prior to a PM)?	There is no method to program the control to slow the truck down at a specified hour reading. However, we are looking at an additional software enabled option for a maintenance reminder that will notify the driver that he is approaching a pre-determined hour meter reading or interval for service. No firm date is set for this yet.
44	Temp	How will trucks work in very high ambient temperature - 120 degrees F?	These trucks will operate better than previous models and our competition in high ambient temperatures. The VSM monitors the heat build up in the various systems - Traction, Pump and Hydraulic fluid. The cooling fans come on at 140 degrees F and continue to cool the controllers up to 176F before the VSM begins to decrease performance. Lift cut out will occur at 190F. The traction and pump motors will cut back performance at 284F.
45	Warranty	How do I get quote for extended warranty?	You can use the Standard Extended Warranty pricing in eHERO. If you want something special, you need to send in an SOR specifying exactly what you want. The warranty cost will be calculated and you will get a SPED quote back for the option you requested. Depending on what you ask for, you could get a no quote response.
46	Warranty	Warranty - What does the standard warranty 2 yr power train cover?	The 2 year power train warranty covers the following: MDU including all internal parts Drive motor & Hydraulic motor Excludes - seals & gaskets, Traction controller, Hydraulic controller, VSM. If the customer purchases an extended Major Component warranty, all the above is covered plus the steer motor, Dash Display, and wire guidance, if applicable.

47	Warranty	What is included in the extended power train warranty?	For Twenty-four (24) months or 4000 hours of operation from the date of delivery, whichever comes first, Hyster will, at its sole option, repair or replace the drive unit, including all of its internal parts, drive, and hydraulic motors exclusive of seals and gaskets, traction controller, hydraulic controller, master controller (VSM), found by Hyster not to conform to this warranty. (From Warranty Statement on Digital Dealer)
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EXN Trucks for Drive Thru Rack

Standard Truck Configuration (FS and NS Seats)

- Seat is offset 2.1 Inches (53 mm) to the left of the centerline of the truck.
- Seat is rotated ~ 3 degrees towards the center of the truck.
- Rear opening hood.
- Standard position for both accelerator (and Monotrol) and brake pedals.
- Manual or E-hydraulics available.
- Seat side or Monotrol available.

Standard DTR Configuration (NS Seat Only)

- DTR width is 30" across, symmetrical across the width of the truck.
- Seat is offset 0.5 inches (13 mm) to the left of the centerline of the truck (moved 1.6 inches [40 mm] inboard from standard) to best center the driver between the DTR.
- Seat is rotated 0 degrees.
- Seat side directional control only.

Price List Incompatibility

- Several "incompatibilities" exist in the price pages:
 - o MLM are not available since the rear hood and DTR width do not allow for the armrest to clear the OHG legs, therefore manual hydraulics is the only option.
 - o 4 manual levers are not available since the 4th lever extends outside the DTR width. Since the valve cannot be moved, a 4th function is only available via push-button (The Push Button is big and easy to push. While this is not the best for customers working in freezers, it does work and they will have to be shown this option.)
 - o Monotrol is not available since the manual lever pod prohibits comfortable use of the rear direction selection when traveling in reverse. (See Below).

Over the past several weeks we have been investigating alternative designs to allow for the DTR-Monotrol combination and have been successful. We will continue to keep the incompatibility in the price list, however we will make a note to "Contact Applications Engineering" for the DTR-Monotrol compatibility. This is best so SPED can explain the changes to the trucks and ensure the modifications are acceptable for the customer application. SPED can then provide a quote for the following:

SPED Quote for DTR-Monotrol Compatibility

- DTR width is 30" across, symmetrical across the width of the truck – no change.
- Seat is offset 0.5 Inches (13 mm) to the left of the centerline of the truck (moved 1.6 inches (40 mm) inboard from standard location) to best center the driver between the DTR – no change.
- Seat is rotated 0 degrees – no change.
- Brake & Monotrol pedal moved 2.4 inches (60 mm) inboard (to the left from standard location) – new floor plate required. (During testing, operators expressed that it was uncomfortable to get their foot onto the reverse driving side of the Monotrol pedal due to the seat being moved 1.6 inches (40 mm) to the right from standard and their knees interfering with the manual hydraulic control module. This movement aligns the operator better to the relocated seat.)
- Minor changes to the manual hydraulic lever orientation to provide improved knee clearance – utilizing existing part numbers to accomplish.
- Modified floor matt to accommodate relocated pedals – new floor matt.
- Estimated List \$ Add: Contact SPED