

Reach Trucks

Features, Benefits

Comparison

Hyster N30XMDR3

Raymond R30TT

Crown RR5020-45

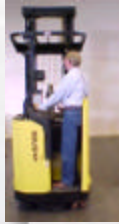


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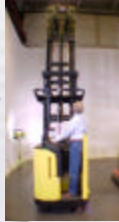
Operator Position

N30XMDR3 Flex Stance

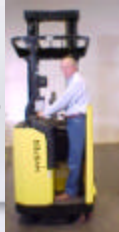
Nominal



Stacking



Driving



FLEX STANCE

The **Hyster** flex stance orients the steering and control handle to a nominal 45 degree position. This allows the operator to face forward while picking up and depositing loads, as well as rotate to face the direction of travel either driving forks first or chassis first.

Hyster's flex stance offers optimal ergonomics when retrieving loads at higher shelf levels, as well as full visibility in either travel direction. The operator can move within the compartment and change positions throughout the day. The flex stance has all the advantages of both the forward / aft stance or the side stance, with none of their inherent disadvantages.

Operator Position	
Raymond R30TT Stance	
Nominal	 Raymond offers forward / aft stance as standard and side stance as a no charge option. Forward / aft is ergonomically acceptable for high level stacking, but is not ergonomically correct for chassis first travel.
Driving	 Raymond's suggestion to turn around and face the direction of travel changes the operator's controls and steering orientation. Steering is then also reversed. The full side stance orientation is not ergonomically correct for high level stacking, but offers better visibility when traveling chassis first.
Aft Driving	 The Caterpillar / Raymond Reach Truck offers side stance only.

Operator Position

Crown RR5020-45

Side Stance

Nominal



Stacking



Driving



Crown offers side stance only. Twisting the neck when stacking to high lift heights can be uncomfortable (above the 4th level). When the operator is locked in the side facing position, visibility behind the operator is poor if exiting aisles into busy cross traffic.

Crown's Operator Manual, page 7 states "take advantage of stop time. Get off the truck and flex your arms and legs. Staying alert will help you be a better and safer driver."

Having to get off the truck to flex the body is unproductive. Crown admits their locked side stance is uncomfortable and therefore unproductive. The Hyster Reach Truck offers Flex Stance as standard.

Operator Position

Operator Sensing Switch

Hyster



The **Hyster** sensing switch ensures the operator has both feet within the compartment during startup.

Hyster allows the operator to shift the right foot to change stance positions throughout the shift.

Hyster uses a 5/8" thick floormat

Raymond



Raymond does not offer a sensing switch. The right foot can be left outside the chassis without activating the brake during either truck startup or operation.

Raymond uses a 3/8" floorboard.

Crown



Crown uses a large foot pedal as a right foot sensing plate. The right foot cannot be removed from the pedal or the brake will be activated. This locks the operator's feet in the same position throughout the day. Crown's angled and sprung floorboard locks the knees.

Operator Compartment

Step height

HYSTER



The advantage of a low step height is easier on and off. One advantage of a higher step height is better visibility and better foot protection.

Hyster has a 13" step height. The articulating MDU offers good stability when cornering as well as improved traction and braking.

RAYMOND



Raymond has a 9" step height. It uses a sprung caster system and a fixed drive unit, leading to possibly reduced traction and uneven drive tire and caster wheel wear.

CROWN



Crown has a 10 1/2" step height. Like Raymond, the sprung caster system allows uneven tire wear and less traction on corners.

Operator Compartment

Foot Space

The larger foot room allows the operator to change positions within the compartment throughout the shift improving productivity.

HYSTER



Hyster - 40" wide chassis.
19.5" wide floorboard,
332 sq. in. foot room. The
compartment is 17" deep for
forward stance operation.
(The Grocery Reach has a 44"
wide chassis with a 22.5' wide
floorboard, and 382 sq. in. foot
room).

RAYMOND



Raymond -40.5" wide chassis.
15.5" wide floorboard, 260 sq.
in. foot room. Raymond's
compartment tapers upwards
to provide good hip room.
Hyster has 22% more floor
space than Raymond.
Raymond is fwd / aft stance –
their compartment is 17" deep.

CROWN



Crown - 42" wide chassis. 17"
wide floorboard, 276 sq. in. foot
room (16.2" deep).
Hyster has 20% more floor
space than Crown.

Operator Compartment

Multi-function handle / Palm

Rest / Actuation

HYSTER



Hyster – The palm rest supports the operator's hand, upper arm, and shoulder, reducing operator fatigue. The handle uses an "X / Y" axis actuation, with lift /lower and travel, as well as one other hydraulic function available simultaneously. There are two speed reach and retract buttons. The functions conform to ANSI B56 recommendations on "intuitive mapping". Hyster uses hall effect sensors to replace potentiometers. The handle can be rotated laterally for operator preference.

RAYMOND



Raymond

Does not conform to ANSI B56 recommendations (lift / lower is left to right movement) Raymond uses potentiometers. The Raymond has neither an armrest or palm rest for operator support.

CROWN



Crown

Conforms to ANSI B56 but is not as intuitive as the Hyster handle. Crown uses potentiometers. Crown has a non-adjustable armrest.

Operator Compartment

Operator Display

HYSTER



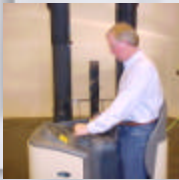
The **Hyster** operator display indicates BDI, Hour meter, function icons, and fault and service warning messages as well as operator selectable travel and acceleration speeds. The Hyster reach truck display is mast mounted at eye level. The operator does not have to look up or down.

RAYMOND



The **Raymond** display is chassis mounted. The operator has to look down.

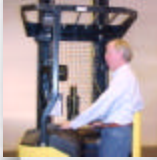
CROWN



The **Crown** display is chassis mounted, the operator has to look down.

Operator Compartment Lumbar Support / Left Rear Protection Post

HYSTER



The **Hyster** lumbar support is a padded backrest for the resting position, and offers support to the body when starting, stopping, cornering, and traveling.

The left rear post offers protection from second level rack beam intrusion into the operator compartment.

RAYMOND



Raymond does not offer a lumbar support as standard. Raymond does not offer a protection post as standard. It is a \$500.00 option. Raymond does offer a high lumbar support option on side-stance models only.

CROWN

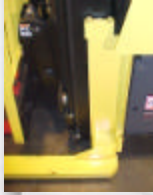


Crown offers a padded lumbar support but it is not protected by the chassis, and is easily damaged. The rounded shape locks the operator in one position. Crown does not offer a protection post as standard. It is a \$355.00 option.

Frame Design & Durability

Base Arm Weldment/ Trunnion Mast

HYSTER



Hyster welds the base arms to the chassis providing added strength to the base arms. With the mast removed, a "rolling chassis" makes shipping and installation easier, improves serviceability, allows interchangeability of masts, allows easy upgrading to taller masts and flexibility in rental fleets. Hyster uses a trunnion mount mast design.

RAYMOND



Raymond welds the mast to the base arms – higher installation and service costs and less strength.

CROWN



Crown welds the mast to the base arms – higher installation and service costs and less strength.

Frame Design & Durability

Vista™ Mast

HYSTER



The **Hyster** Vista™ mast design protects the dual lift cylinders behind the mast channels. This improves visibility, allows easier servicing of the cylinders, and offers protection for the cylinders. The XMR3 upgrade also offers a smaller diameter free lift cylinder.

RAYMOND



Raymond does not use a vista style mast, but 4 clustered center cylinders. Higher service costs. Their "clear view" mast provides a clear view of their center cylinders, and only 7.5" of visibility on either side of clustered cylinders.

CROWN



Crown uses a high visibility style mast, but the cylinders and chains are not completely protected by the mast channels.

Frame Design & Durability

Base Arm Toe Caps

HYSTER



Hyster encloses the toe caps as standard for added protection. There are only 10 parts in the standard Hyster load wheel design. Tapered tips and bolt on tips are available through SPED.

RAYMOND



Raymond has exposed load wheels, making load wheels susceptible to impact damage. 21 parts in their load wheel design. "Straddle" base arms have enclosed tapered tips as a \$135. - \$270. option.

CROWN



Crown has exposed load wheels, making them susceptible to impact damage. 19 parts in their load wheel design. Enclosed tapered tips are a \$140. option.

Carriage Design & Pantograph

Hook Carriage / Sideshift

HYSTER



The new **Hyster** hook-type carriage is manufactured by Bolzoni. Hyster has 7" sideshift as standard, which is reduced to 4" with a base arm ID of less than 38"

RAYMOND



Raymond - A hook carriage is standard, a pin carriage is a \$485. option.

4" sideshift is standard.

8" sideshift is a n/c option.

CROWN



Crown

A hook carriage is standard, a pin carriage is not available.

4" sideshift is standard

8" sideshift is a n/c option.

Carriage Design & Pantograph Cushioning and Arm Durability

HYSTER



Hyster's pantograph is cushioned at both ends of the reach and retract strokes. Hyster has had 1" thick pantograph arms since 1993. Uses standard grease fittings.

RAYMOND



Raymond's pantograph is cushioned on the reach, but not the retract stroke. Raymond uses 3/4" thick pantograph arms. Uses needle type grease fittings, with a special grease gun required

CROWN



Crown's pantograph is 1" thick and not cushioned at either the reach nor retract stroke. The load is "slammed" in or out. Crown's 5000 series carriage has been strengthened over previous models.

Carriage Design & Pantograph Visibility Through Carriage

HYSTER



A clean pantograph design with good visibility reduces product damage and improves productivity.

Hyster's new Bolzoni hook carriage offers far superior visibility through the carriage for second level stacking.

RAYMOND



Raymond

At second level visibility is almost zero, far less than Hyster.

CROWN

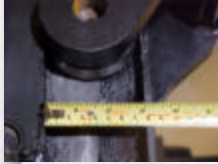


Crown

Almost zero visibility through carriage. The operator has to look around the mast for visibility, twisting the upper body outside the chassis.

Carriage Design & Pantograph Load Rollers

HYSTER



Hyster – Large 3" Diameter rollers, adds to strength and rigidity.

RAYMOND



Raymond - 2 3/4" Diameter rollers.

CROWN



Crown - 2 5/8" Diameter rollers.

Component Access & Serviceability

Component Access

HYSTER



Hyster provides easy access to the motors compartment, which improves serviceability, increases uptime and helps reduce maintenance costs. The spacious compartment allows the motors to run cooler. Brushes are easily accessed.

RAYMOND



Raymond components are cramped. Rotating drive motor allows good access to brushes, but flexing of motor cables. There is excessive heat build up due to all three motors being located in the same compartment.

CROWN



Crown's compartment is extremely cramped and congested. A map is provided and is needed to figure out where all the components are. The dual hoist motor option results in an even more congested compartment as well as excessive heat build up.

Component Access & Serviceability

Electrical Component Access

HYSTER



Hyster's electrical components are easily accessed by snapping off the top cover. There is plenty of room for servicing and a cool running operation.

RAYMOND



Raymond's components are very cramped and are split into two areas. The area in the operator compartment reduces the floorboard to 260 sq. in. (vs. Hyster's 332 sq. in.).

CROWN

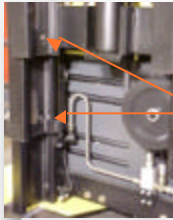


Crown's top electrical compartment is congested and crowded. A map is required. Some components are located behind the carriage with difficult access. Other components are in the operator compartment area. There is potential for excessive heat build up.

Component Access & Serviceability

Lift Cylinders Adjustable Wear Plugs

HYSTER



Hyster uses adjustable wear plugs, which allows very simple periodic mast adjustment, which in turn, reduces mast sway. No exposed center cylinder.

RAYMOND



Raymond

No adjustable wear plugs for mast adjustment. The exposed center cylinders can lead to potential damage when the base arms straddle a pallet (with a 42" + ID).

CROWN



Crown

No adjustable wear plugs for mast adjustment.

The new mast design now offers no exposed center cylinders. Lift cylinder access for service is VERY difficult. Aesthetics compromise serviceability.

Component Access & Serviceability

HYSTER



Hydraulic Tank Access

Hyster offers easy access to the dipstick for daily checks and easy access to the spin-on filter.

RAYMOND



Raymond's filter is in the system compartment, with a potential for contamination.

CROWN



Crown has dual hydraulic tanks and a filter mounted underneath covers on the outside of the mast channels. 30 minutes to access and fill tanks. There are hydraulic hoses routed under the battery. A hydraulic fluid check port is located inside the battery compartment.

Aesthetics compromise serviceability!

REACH TRUCK DEMONSTRATION GUIDELINES

PREPARATION	7/32" ALLEN WRENCH, SPARE KEY, TAPE MEASURE, POINTER, FLASHLIGHT, BROCHURES, DATA SHEETS, PRODUCT MANUAL	DRIVE THE TRUCK BEFOREHAND
	LOOSEN BOLTS TO HAND TIGHT, CHECK BATTERY CHARGE. CHECK BATTERY MOVEMENT	
PRE-DEMO	KNOW YOUR COMPETITION, DISCUSS APPLICATION, DISCUSS WHAT YOU WANT TO ACCOMPLISH, KNOW THE PEOPLE AND POSITIONS YOU ARE DEMONSTRATING TO	
DEMONSTRATION POINTS TO COVER - USE A LOGICAL FLOW THROUGHOUT THE DEMO		
FRONT END AND SIDE OF TRUCK		MOTORS COMPARTMENT
HOOK FORKS		EASE OF ACCESS
CARRIAGE TILT		COMPARTMENT OPENNESS
1" THICK PANTOGRAPH ARMS		MOTORS BRUSH ACCESS
ZINC ALLOY THRUST WASHER		CLASS H, FAN COOLED
MAST ID - STRENGTH		CHASSIS VENTING
CUSHIONED STROKE		NON ROTATING DRIVE
NESTED I BEAM CHANNELS		DRUM BRAKE ACCESS
TRUNION MOUNTED MAST		HFK TRANSMISSION
DUAL CYLINDERS		DRIVE TIRE REMOVAL
SIDE THRUST WEAR PLUGS		ARTICULATING MDU
RIGID BASE ARMS		ARTICULATING STOPS
WELDED TOE CAPS		ARTICULATING CASTER
LOAD WHEEL SERVICING		HYDROSTATIC STEERING
BATTERY CABLE GUARD		STEERING ADJUSTMENT
2 1/2" DIA. BATTERY ROLLERS		PRIORITY FLOW TO STEER
EASY BATTERY REMOVAL		SPUN HYDRAULIC TANK
ELECTRICAL DISCONNECT		SPIN ON FILTER
SIDESHIFT 7" TOTAL		DIP STICK
REAR OF CHASSIS		BRAKE FLUID RESERVOIR
REAR GUARD		SEM CURTIS TRANSISTOR
LUMBAR SUPPORT/PROTECTION		MIB ADJUSTABILITY
OH GUARD HEIGHT		
13" STEP HEIGHT/ VISIBILITY		
EASY ON / OFF BRAKE		OPERATOR AREA
PARKING BRAKE / PLUGGING		OPERATOR FLEX STANCE
CUSHIONED FLOOR MAT		VISTA MAST
SENSING SWITCH		MESH SCREEN
1/2" STEEL BUMPER		DESK TOP COMPARTMENT
OPERATOR PADDING		BDI W/ LIFT INTERRUPT
		SELECTABLE HOUR METER
GENERAL DISCUSSION POINTS		PROGRAMMABLE TRAVEL SPEEDS
EASE OF MAINTENANCE		MIB STATUS LED'S
ISO PLANTS		FAULT CODES
UL APPROVAL "E" OR "EE"		PROGRAM SPEEDS THROUGH MIB
DISCUSSION OF OPTIONS		HANDLE PALM REST
		2 SPEED REACH/RETRACT
GENERAL DEMONSTRATION TECHNIQUES		
KNOW THE ROLES OF YOUR CUSTOMERS - FOCUS ON THEIR NEEDS		
RELATE THE FEATURE / BENEFIT TO THE ADVANTAGE TO THEM		
DO NOT USE HYSTER NOMENCLATURE (ie MIB, MDU)		
INVOLVE THE CUSTOMER IN THE DEMO (ie OPERATE THE TRUCK)		
OBTAIN AGREEMENT ON APPLICABLE FEATURES		
ASK FOR THE NEXT STEP IN THE PROCESS		
BE CONFIDENT AND ANIMATED - MAINTAIN CONTROL OF THE DEMONSTRATION		