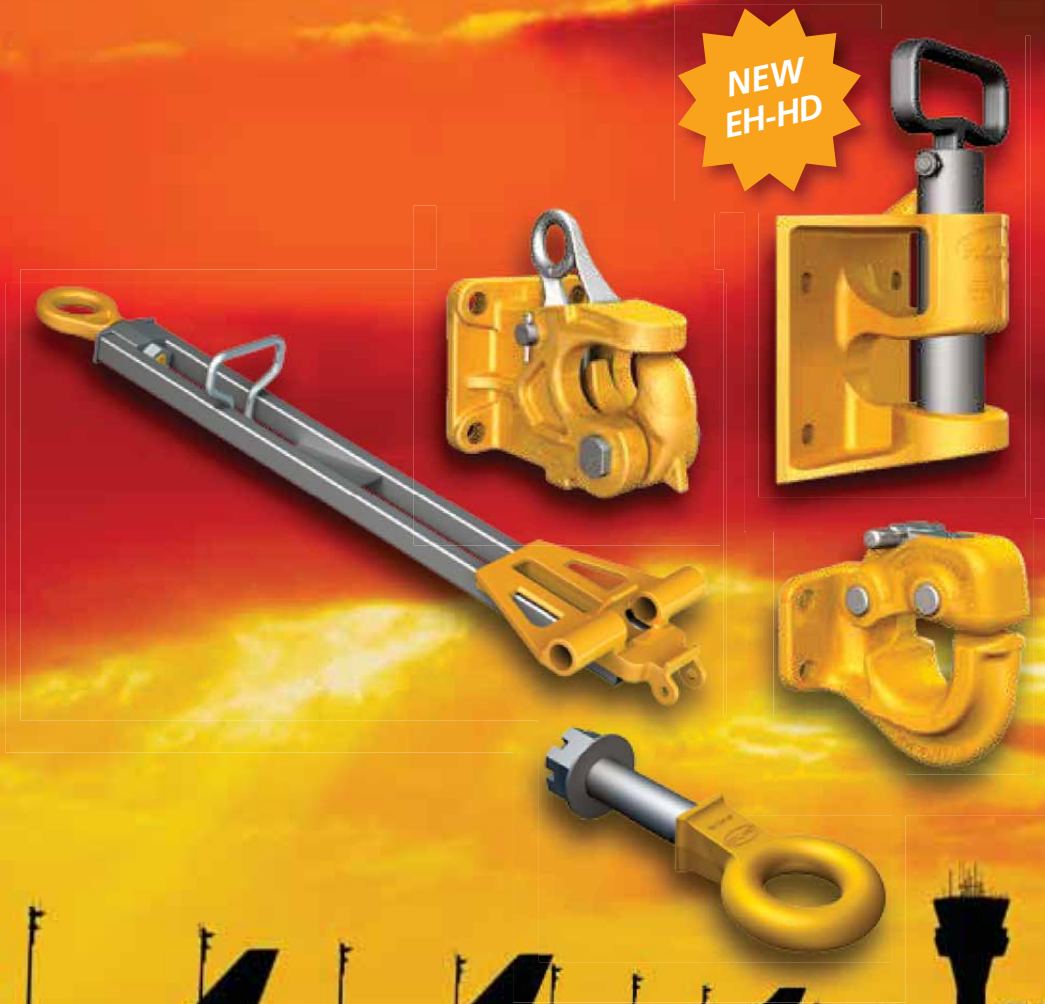


2014



SAF-HOLLAND Group

GROUND SUPPORT EQUIPMENT COUPLING PRODUCTS



PASSENGER — AIR CARGO — MILITARY



100 Years in the Design, Testing and Manufacturing of Coupling Products

Founded in 1910, the 'Safety Release Clevis Company' introduced the safety release hitch for horse drawn plows. Following a move to Holland, Michigan in the 1930s to be closer to a new automotive industry, the company changed its name to 'The Holland Hitch Company' and introduced vehicle tow couplings which, over the years, became the standard for commercial and military vehicles alike. In the 1940s, Holland Hitch began serving a growing aviation industry beginning in aircraft handling applications.



Today, the HOLLAND name represents quality and innovation for global GSE. Our capabilities are enhanced by the co-location of coupling engineering, testing and manufacturing in Holland, Michigan, USA. Those capabilities are further enhanced by the global sales and service network of SAF-HOLLAND.



*Clarkster with HOLLAND T-90-B Pintle Hooks
(Circa 1953)*

To see the complete line of HOLLAND coupling products, reference Catalog and Specification Guide XL-PH103975G.



*Schopf Shipboard Tow Tractor (STT) for U.S. Navy (2013)
with HOLLAND CP-400-GSE Couplers*

HOLLAND eHitch INNOVATION



NEW eHitch PRODUCTS

EH-HD

- Heavy-Duty Frame
 - Features increased vertical load capacity
- Universal Mounting Flange
 - Weld-on mounting
 - Bolt-on mounting - broad accommodation for fleet or OEM specified mounting patterns including SAE and metric dimensioning
- Enlarged Throat Area
 - For aircraft push-back applications, generous clearance is designed into the throat of the EH-HD so that a towbar eye is pushed by the pin, not by the frame



AUTO-LOCK PIN

- Available option for EH-3050 and EH-HD models
- Locks automatically upon closing; then unlocks with a 1/8-turn of the handle when opening

EH-3050

FLEX-MOUNT BOLT-ON FLANGE

For original equipment installations or retro-fit / replacement of existing couplings.

The unique flex-mount mounting pattern is compatible with:

- Obsolete HOLLAND E-Hitch models EH-20 and EH-40*
- HOLLAND pintle hook mounting patterns, including PH-10RP, PH-T-60-AOL-8, PH-30RP, BH-200RN and BH-50mmRN

* Replacement parts for EH-20 and EH-40 are available from SAF-HOLLAND.

Maximum Drawbar Pull – 30,000 lb. (13,610 kg) or 50,000 lb. (22,680 kg) depending on mounting bolt size

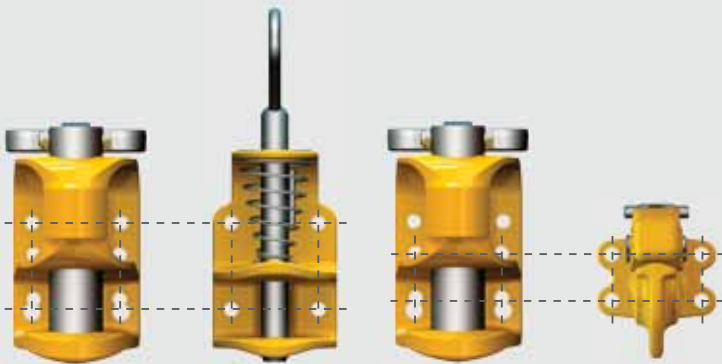
Maximum Vertical Load – 500 lb. (227 kg)

Towbar Eye Dimensions – 2.25" (57mm) to 3" (76mm) inside diameter with maximum 1.75" (44mm) diameter cross-section

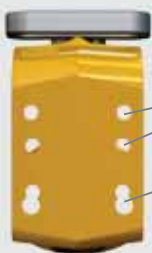
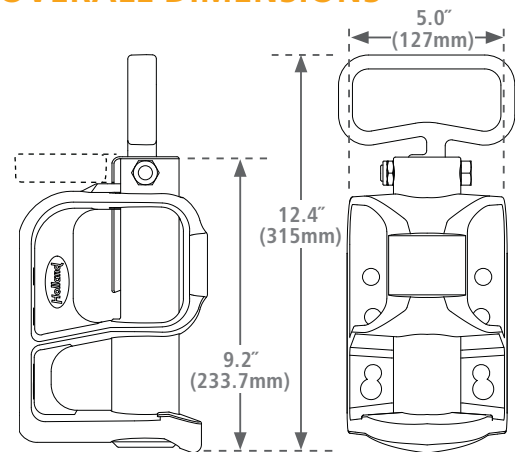


Patented (US 8,336,902 B2) and Patent Pending designs

BOLT PATTERN COMPATABILITY



OVERALL DIMENSIONS



FOUR (4) BOLT MOUNTING PATTERN

Two 1/2" bolts are required for all installations in either the top or middle rows.

Two bolts are required in the bottom row.

For 30,000 lb. (13,610 kg) MDBP installation, use upper slot sized for 1/2" bolts.
For 50,000 lb. (22,680 kg) MDBP installation, use lower slot sized for 5/8" bolts.

EH-HD



UNIVERSAL BOLT-ON FLANGE

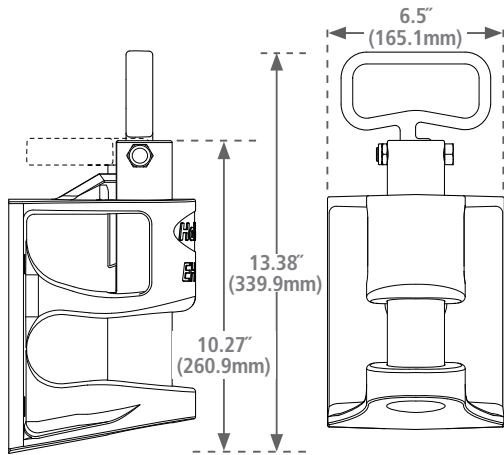
For original equipment installations or retro-fit / replacement of existing couplings.

Large mounting flange accommodates a broad range of fleet or OEM specified mounting patterns including SAE and metric dimensioning.

- The user's required mounting pattern, fastener sizes, and rated capacities must be reviewed and approved by SAF-HOLLAND
- Bolt holes are drilled to specification by SAF-HOLLAND (minimum order of 25 units)
- Standard mounting patterns or custom mounting patterns are also available. Contact SAF-HOLLAND for information.



OVERALL DIMENSIONS



Maximum Drawbar Pull – 50,000 lb. (22,680 kg)

Maximum Vertical Load – 1,000 lb. (454 kg)

Towbar Eye Dimensions – 2.25" (57mm) to 3" (76mm) inside diameter with maximum 1.75" (44mm) diameter cross-section

Patented (US 8,336,902 B2) and Patent Pending designs.

WELD-ON FLANGE

For original equipment installations or retro-fit / replacement of existing couplings.

Full perimeter weld required for installation

- Bolt holes or holes for plug welding are not permitted



eHitch FEATURES

AUTO-LOCK PIN

- Available option for EH-3050 and EH-HD models
- Locks automatically upon closing; then unlocks with a 1/8-turn of the handle when opening
- Auto-lock pins and non-lock pins are interchangeable between the EH-3050 and EH-HD (effective with all 2014 and later EH-3050 models)
- Simple and efficient lock design – the keyway is cast into the pin and the key is cast into the frame



OPTIONAL AUTO-LOCK PIN

DURABLE

- Cast carbon steel alloy construction including frame, pin and handle
- Proprietary, precision formed springs are tested to over 1 million compression cycles
- Pins are heat-treated and through-hardened for optimum wear resistance

RELIABLE

Lab Tested – SAF-HOLLAND's dedicated ISO certified Coupling Test Lab, located in Holland, Michigan, USA, has over 40 years of experience in static and dynamic testing of vehicle coupling systems.

Field Tested – Extensive, real-world testing is routinely performed during product development. For example, the new EH-HD was successfully field tested in cooperation with several major airlines.

INTERCHANGEABLE HANDLE SETTINGS

All EH models are shipped with handles mounted in the fold-down setting. To change to the other setting, simply remove the handle, turn 180°, and reinstall.

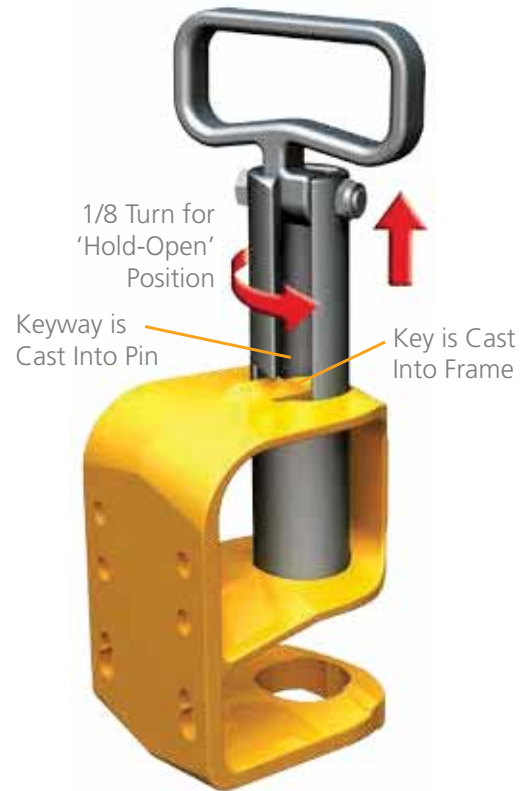


HOLD-OPEN FEATURE

A standard feature for all non-lock and auto-lock pins. When the pin is raised to its full open position, a 1/8-turn of the handle will engage the hold-open position of the key / keyway.

SURVIVABLE

- Frames receive a 6-stage phosphate pre-treatment prior to an epoxy power coat finish. Standard colors are safety yellow or white. Red is optionally available.
- Pins, springs and handles receive a thermal diffusion zinc coating from a dry, chromate free coating process. This process coats both the outer and inner surfaces of the pin.
- Pins are open on the bottom so that water, ice and debris does not accumulate in the pin.



HOLLAND E-HITCH APPLICATIONS

- Aircraft Tow / Pushback Tractors
- ULD / Cargo Dollies
- Baggage Tractors and Trailers

SIMPLE DESIGN WITH MINIMAL PARTS



EH-HD



EH-3050



STANDARD
NON-LOCK PIN



OPTIONAL
AUTO-LOCK PIN



HANDLE

HOLLAND PINTLE HOOKS

For towbar eye dimensions 2" (50.8mm) to 3" (76mm) ID with 1.25" (31.75) to 1.63" (41.4mm) diameter cross-section.

PH-10RP41

with FastLatch™

National Stock Number 2540-00-891-6831 (PH-10RP51)

Max. Drawbar Pull	10,000 lb.	(4,540 kg)
Max. Vertical Load	2,000 lb.	(910 kg)



PH-T-60-AOL-8

National Stock Number 2540-00-835-9039

PH-T-60-S11240

White Finish

Max. Drawbar Pull	30,000 lb.	(13,610 kg)
Max. Vertical Load	6,000 lb.	(2,720 kg)



For towbar eye dimensions 2.38" (60.45mm) to 3" (76mm) ID with 1.25" (31.75) to 1.63" (41.4mm) diameter cross-section.

BH-200RN41

2" Ball Diameter with FastLatch™

National Stock Number 2540-01-265-3887 (BH-200RN51)

BH-50mmRN41

50mm Ball Diameter with FastLatch™

Max. Drawbar Pull - Hook	20,000 lb.	(9,070 kg)
Max. Vertical Load - Hook	4,000 lb.	(1,810 kg)
Max. Drawbar Pull - Ball	10,000 lb.	(4,450 kg)
Max. Vertical Load - Ball	1,000 lb.	(454 kg)



*FastLatch is available with a Tethered Lock Pin: replace '41' / '43' with '51' / '53' in the part number.

PH-30RP41

with FastLatch™

National Stock Number 2540-00-835-9039 (PH-30RP51)

PH-30RP43

White Finish

Max. Drawbar Pull	30,000 lb.	(13,610 kg)
Max. Vertical Load	6,000 lb.	(2,720 kg)



NOTE: HOLLAND coupling products are supplied from factory with standard black paint finish. Some models are available with white finish, as indicated above.

HOLLAND COUPLERS

Automatic close and lock when towbar is inserted into the coupler - manual release to open. For towbar eye dimensions 2.5" (63.5mm) to 3" (76.20mm) ID with 1.25" (31.75mm) to 1.63" (41.4mm) diameter cross-section.



TLD Large Land Based Tow Tractor (LLTT) for U.S. Navy (2011) with HOLLAND CP-360-S01340 Couplers

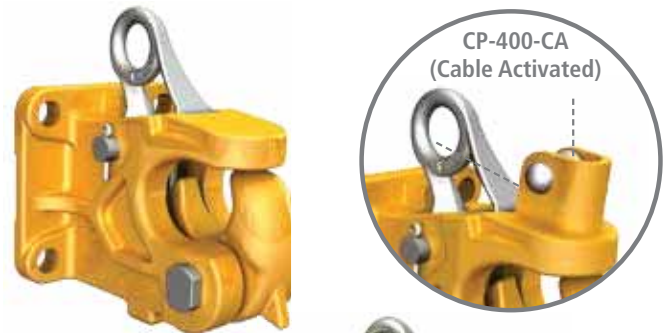
PRIMARY LOCK ONLY

CP-400-GSE

CP-400-CA

National Stock Number 2540-00-768-7455 (CP-400-CA)

Max. Drawbar Pull	30,000 lb.	(13,610 kg)
Max. Vertical Load	7,500 lb.	(3,400 kg)



PRIMARY AND SECONDARY LOCKS

CP-400-H

Max. Drawbar Pull	30,000 lb.	(13,610 kg)
Max. Vertical Load	7,500 lb.	(3,400 kg)



CP-360

National Stock Number 2540-01-213-7842

Max. Drawbar Pull	52,000 lb.	(23,590 kg)
Max. Vertical Load	3,000 lb.	(1,360 kg)



PRIMARY AND SECONDARY LOCKS WITH TETHERED LOCK PIN

CP-360-S01340

National Stock Number 2540-01-205-8577

Max. Drawbar Pull	52,000 lb.	(23,590 kg)
Max. Vertical Load	3,000 lb.	(1,360 kg)



This Part Number includes additional quality tests:

1. Magnetic Particle test of latch, jaw and body.
2. Brinell Hardness test of latch, jaw and body.
3. 60,000 lb. (27,220kg) Static Drawbar Load Test of complete assembly.
Upon successful test completion, components / assembly are metal stamped for certification.

HOLLAND TOWBAR EYES

LUNETTES – WELD-ON

DB-010EJ1 (Unpainted)

Eye - 2.88" (73.15mm) ID x
1" (25.4mm) Cross-Section

Max. Drawbar Pull 10,000 lb. (4,540 kg)
Max. Vertical Load 2,000 lb. (910 kg)



When used with hinged tongue trailers, where maximum vertical load does not exceed 500 lb. (227 kg), the MDBP is 20,000 lb. (9,070 kg).

DB-020FK1 (Unpainted)

Eye - 3" (76.2mm) ID x
1.63" (41.4mm) Cross-Section

Max. Drawbar Pull 20,000 lb. (9,070 kg)
Max. Vertical Load 4,000 lb. (1,810 kg)



When used with hinged tongue trailers, where maximum vertical load does not exceed 500 lb. (227 kg), the MDBP is 40,000 lb. (18,140 kg).

BOLT-ON (SHANK MOUNT)

DB-1250-3

Eye - 2.5" (63.5mm) ID x
1.25" (31.75mm) x 1.50" (38.1mm)
Cross-Section

Max. Drawbar Pull 15,000 lb. (6,800 kg)
Max. Vertical Load 3,000 lb. (1,360 kg)
National Stock Number 2540-01-461-9306



When used with hinged tongue trailers, where maximum vertical load does not exceed 500 lb. (227 kg), the MDBP is 50,000 lb. (22,680 kg).



DB-1249-49

Eye - 3" (76.2mm) ID x
1.63" (41.4mm) Cross-Section

Max. Drawbar Pull 45,000 lb. (20,410 kg)
Max. Vertical Load 9,000 lb. (4,080 kg)
National Stock Number 5306-01-269-8693



When used with hinged tongue trailers, where maximum vertical load does not exceed 500 lb. (227 kg), the MDBP is 85,000 lb. (38,560 kg).



BOLT-ON (BAR & FLANGE MOUNT)

DB-1228-1

Eye - 2.50" (63.50mm) ID x
1.25" (31.75mm) x 1.50" (38.10mm)
Cross-Section

Max. Drawbar Pull 20,000 lb. (9,070 kg)
Max. Vertical Load 4,000 lb. (1,810 kg)



When used with hinged tongue trailers, where maximum vertical load does not exceed 500 lb. (227 kg), the MDBP is 60,000 lb. (27,220 kg).

DB-1238

Eye - 3" (76.2mm) ID x
1.63" (41.4mm) Cross-Section

Max. Drawbar Pull 22,000 lb. (9,980 kg)
Max. Vertical Load 4,500 lb. (2,040 kg)
National Stock Number 2540-01-192-4699



When used with hinged tongue trailers, where maximum vertical load does not exceed 500 lb. (227 kg), the MDBP is 70,000 lb. (31,750 kg).

DB-040DQ1

Eye - 2.5" (63.5mm) ID x
1.25" (31.75mm) x 1.5" (38.10mm)
Cross-Section

Max. Drawbar Pull 40,000 lb. (18,140 kg)
Max. Vertical Load 8,000 lb. (3,630 kg)



When used with hinged tongue trailers, where maximum vertical load does not exceed 500 lb. (227 kg), the MDBP is 60,000 lb. (27,200 kg).

To see the complete line of HOLLAND coupling products, reference Catalog and Specification Guide XL-PH10397SG.



NOTE: HOLLAND drawbars are supplied from factory with standard black paint finish.

HOLLAND TOWBAR

TB-2000 SERIES 'TORSIONAL RELIEF' TOWBAR FOR BAGGAGE CARTS

- 20,000 lb. (9,070 kg) Max Drawbar Pull Rating

HARDENED FORGED STEEL EYE FEATURES
A 2.5" (63.5MM) ID X 1.0" (25.4MM) CROSS-SECTION

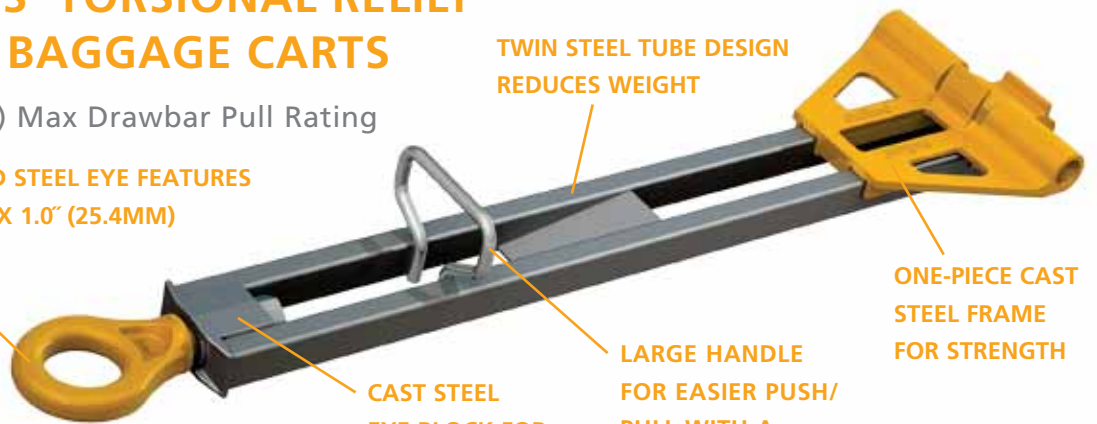
TWIN STEEL TUBE DESIGN
REDUCES WEIGHT

ONE-PIECE CAST STEEL FRAME
FOR STRENGTH

LARGE HANDLE
FOR EASIER PUSH/
PULL WITH A
GLOVED HAND

CAST STEEL EYE BLOCK FOR DURABILITY

Towbar design can be modified to meet OEM design specifications. Contact SAF-HOLLAND for information.

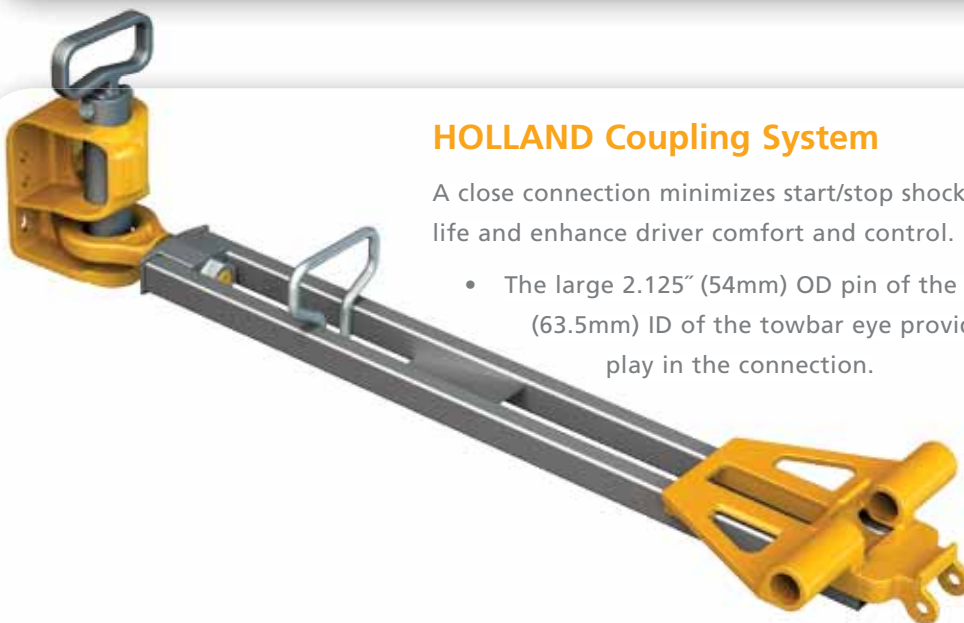
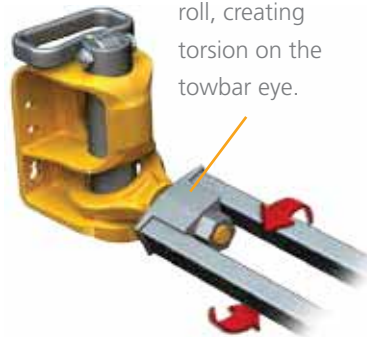


EXCLUSIVE 'TORSIONAL RELIEF' FEATURE

In the event of a cart roll-over, the towbar eye will release from its rigid setting and swivel as a result of the torsional load transmitted by the towbar. This 'torsional relief' feature helps prevent damage to the coupler system and towbar. Following the roll-over event, the towbar eye can be reset to its original position without removing the towbar from the cart.

Cart begins to roll, creating torsion on the towbar eye.

As cart rolls over, the eye releases from its rigid setting and swivels to prevent damage to the coupling system and towbar.

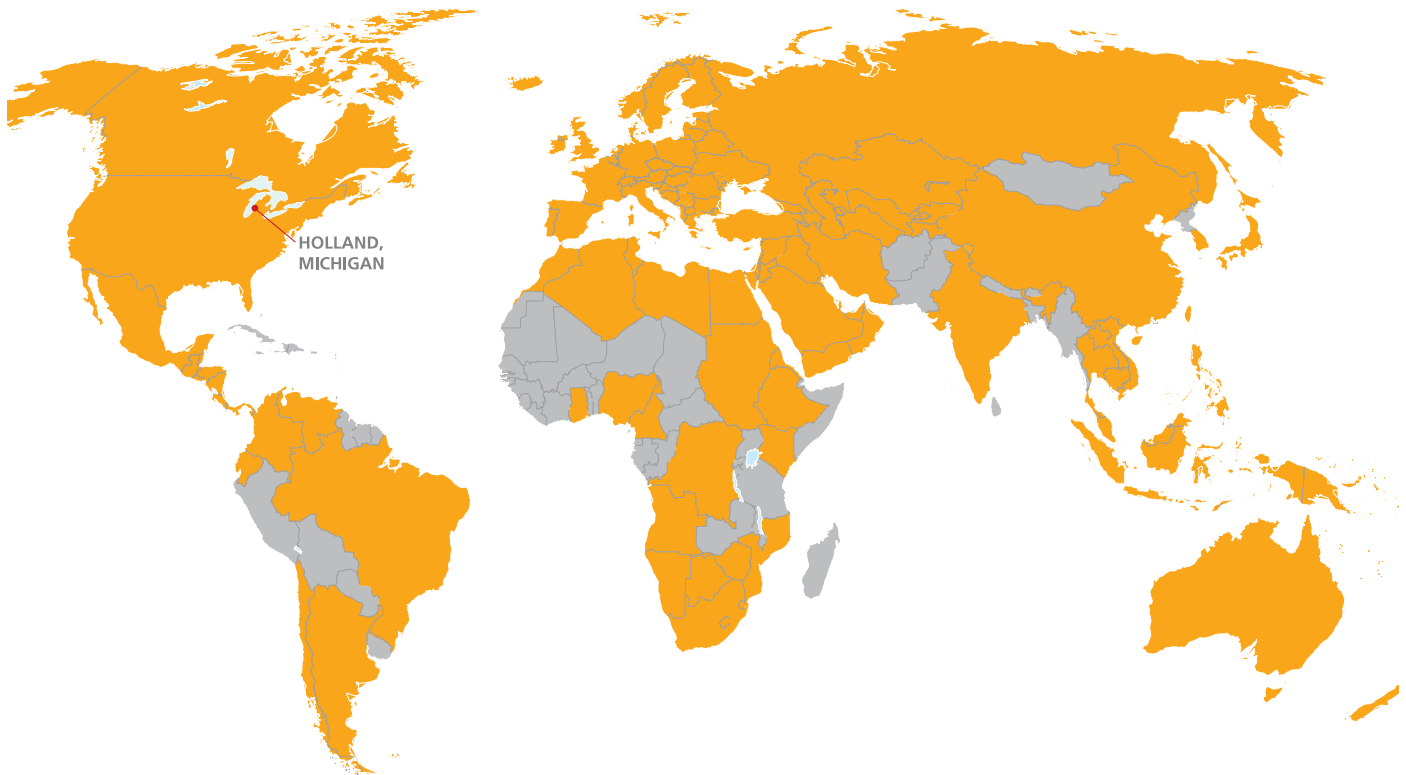


HOLLAND Coupling System

A close connection minimizes start/stop shock loads to increase equipment life and enhance driver comfort and control.

- The large 2.125" (54mm) OD pin of the E-Hitch coupled to the 2.5" (63.5mm) ID of the towbar eye provides only .375" (9.5mm) of total play in the connection.

GLOBAL REACH AND LOCAL PRESENCE



■ Countries with Localized Sales & Service Points

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