



 **Trifecta™**

**RAISING THE STANDARD
FOR WORLD-CLASS WHEEL ENDS**



TRUCK



TRAILER



STEMCO®

A Higher Standard of Performance.™

An EnPro Industries company

Making the Roadways Safer®

SAFETY. PERFORMANCE. CONFIDENCE.

Webb® Wheel Hub

- Industry-standard hubs
- Precision machined for Trifecta
- Ductile iron & aluminum options available
- Over 70 years of hub expertise

STEMCO Manufactured Bearings

- Exceed ABMA performance and durability standards
- Included in OEM long-life wheel end systems

STEMCO Spacer (patent-pending)

- Designed for optimized lubricant flow
- Reduces fretting corrosion between spindle and bearing mating surfaces
- Extends spindle, bearing and seal life

Discover® XR Wheel Seal

- High-temperature, long-life seal
- 4-zone labyrinth and slinger provide unmatched contamination prevention
- GlideLock patent-pending technology reduces installation force by 50%—no prelube required
- Addresses industry's leading seal failure modes—cocked seals and excessive heat generation



TRUCK



TRAILER

Defender ESP™ Hub Cap (Truck)

- Made from high-strength composite material
- 100% corrosion-free
- ESP (Extended Service Plug) prevents contamination from entering, protects lubricant integrity
- Included in FF & FL aftermarket applications

Zip-Torq® Axle Fastener



- Simplified, one-piece advanced axle fastener provides fast and simple installation
- Self-ratcheting feature prevents back-off
- No clips, keepers or set screws to install
- Easy removal

Sentinel® Hub Cap (Trailer)

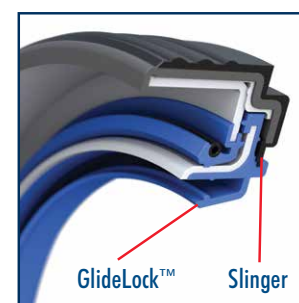
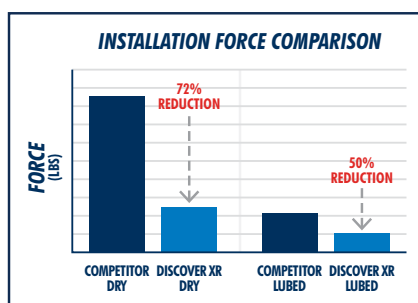
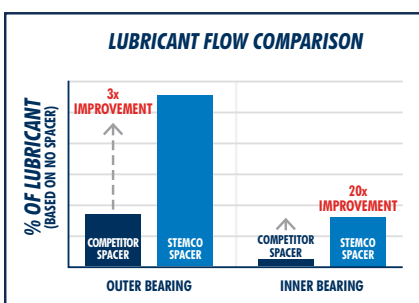
- Tamper-proof for maximum protection and maintenance-free performance
- Prevents dirt and water from contaminating hub oil, extending life of seal and bearing
- Reduces contaminant build-up on hub cap windows, allowing accurate determination of lube levels
- Required for full warranty coverage



DEFENDER



ALUMINUM



TRIFECTA HUB ASSEMBLY

ASSEMBLY PART NO.	DESCRIPTION
453-0136	FF 5.44" DFlat, 14.6K, 2.74" Wheel Stud, Iron Hub, w ABS
453-0236	FF 5.44" DFlat, 14.6K, 3.19" Wheel Stud, Iron Hub, w ABS
453-0137	FF 5.44" Tang, 14.6K, 2.74" Wheel Stud, Iron Hub, w ABS
453-0237	FF 5.44" Tang, 14.6K, 3.19" Wheel Stud, Iron Hub, w ABS
453-2136	FF 5.06" D-Flat, 14.6K, 2.74" Wheel Stud, Iron Hub, w ABS
453-2137	FF 5.06" Tang, 14.6K, 2.74" Wheel Stud, Iron Hub, w ABS
453-2236	FF 5.06" D-Flat, 14.6K, 3.19" Wheel Stud, Iron Hub, w ABS
453-2237	FF 5.06" Tang, 14.6K, 3.19" Wheel Stud, Iron Hub, w ABS

ASSEMBLY PART NO.	DESCRIPTION
453-0164	FL, 22K, 2.58" Wheel Stud, Iron Hub, w ABS
453-0264	FL, 22K, 3.35" Wheel Stud, Iron Hub, w ABS
453-0364	FL, 22K, 3.03" Wheel Stud, Iron Hub, w ABS
453-0173	R, 40K, 3.15" Wheel Stud, Iron Long Hub, w ABS
453-0273	R, 40K, 4.06" Wheel Stud, Iron Long Hub, w ABS
453-0123	Trailer P, 25K, 3.25" Wheel Stud, Iron Hub, w Drum
453-0223	Trailer P, 25K, 4.16" Wheel Stud, Iron Hub, w Drum

FF STEER AXLE APPLICATION GUIDE | SPINDLE CROSS SECTIONS



HUB PART NUMBER CROSS REFERENCE FOR CONMET TO TRIFECTA

ConMet PreSet						Truck OE Applications					Trifecta					
Hub Part No.	Offset	Material	Stud Standout	GAWR	Weight (lbs.)	DTNA	PACCAR	Navistar	Mack	Volvo	Assembly Part No.	Spindle	Offset	Material	Stud Standout	Weight (lbs.)†
FF - FRONT AXLE - DRUM BRAKE																
10082200	5.44"	Aluminum "Turbo"	2.47"	13.2K	38	•					453-0136	D-Flat	5.44"	Iron	Short (2.74")	51
											453-0137	Tang	5.44"	Iron	Short (2.74")	51
10082201	5.44"	Aluminum "Turbo"	2.92"	13.2K	39	•					453-0236	D-Flat	5.44"	Iron	Long (3.19")	52
											453-0237	Tang	5.44"	Iron	Long (3.19")	52
10082202	5.44"	Aluminum	2.47"	14.6K	46	•					453-0136	D-Flat	5.44"	Iron	Short (2.74")	51
											453-0137	Tang	5.44"	Iron	Short (2.74")	51
10082203	5.44"	Aluminum	2.97"	14.6K	47	•					453-0236	D-Flat	5.44"	Iron	Long (3.19")	52
											453-0237	Tang	5.44"	Iron	Long (3.19")	52
10082204	5.44"	Iron	2.60"	14.6K	55	•					453-0136	D-Flat	5.44"	Iron	Short (2.74")	51
											453-0137	Tang	5.44"	Iron	Short (2.74")	51
10082205	5.44"	Iron	3.06"	14.6K	56	•					453-0236	D-Flat	5.44"	Iron	Long (3.19")	52
											453-0237	Tang	5.44"	Iron	Long (3.19")	52
10082206	5.06"	Aluminum "Turbo"	2.47"	13.2K	39		•	•	•		453-2136	D-Flat	5.06"	Iron	Short (2.74")	52
											453-2137	Tang	5.06"	Iron	Short (2.74")	52
10082207	5.06"	Aluminum "Turbo"	2.92"	13.2K	39		•	•	•		453-2136	D-Flat	5.06"	Iron	Short (2.74")	52
											453-2137	Tang	5.06"	Iron	Short (2.74")	52
10082209	5.06"	Aluminum	2.97"	14.6K	44		•	•	•		453-2236	D-Flat	5.06"	Iron	Long (3.19")	52
											453-2237	Tang	5.06"	Iron	Long (3.19")	52
10082210	5.06"	Iron	2.60"	14.6K	52		•	•	•		453-2136	D-Flat	5.06"	Iron	Short (2.74")	52
											453-2137	Tang	5.06"	Iron	Short (2.74")	52
10082210	5.06"	Iron	3.06"	14.6K	5		•	•	•		453-2236	D-Flat	5.06"	Iron	Long (3.19")	53
											453-2237	Tang	5.06"	Iron	Long (3.19")	53
FL - FRONT AXLE - DRUM BRAKE																
10082213	4.29"	Aluminum	3.27"	20K	57	•	•	•	•	•	453-0264	D-Flat	4.29"	Iron	3.35"	74
10082214	4.29"	Iron	2.76"	23K	77	•	•	•	•	•	453-0164	D-Flat	4.29"	Iron	2.58"	74
											453-0364	D-Flat	4.29"	Iron	3.03"	74
10082215	4.29"	Iron	3.30"	23K	78	•	•	•	•	•	453-0264	D-Flat	4.29"	Iron	3.35"	74
R - DRIVE AXLE - DRUM BRAKE																
10082216	Long Barrel	Aluminum	2.94"	23K	52	•	•		•		453-0173	—	Long Barrel	Iron	Short (3.15")	71
10082217	Long Barrel	Aluminum	3.81"	23K	53	•	•		•		453-0273	—	Long Barrel	Iron	Long (4.06")	72
10082218‡	Long Barrel	Iron	3.06"	26K	64	•	•		•		453-0173	—	Long Barrel	Iron	Short (3.15")	71
10082219‡	Long Barrel	Iron	3.97"	26K	65	•	•		•		453-0273	—	Long Barrel	Iron	Long (4.06")	72
TRAILER PARALLEL SPINDLE (P) - DRUM BRAKE																
10082229		Aluminum	3.81"	25K	50						453-0123	Parallel		Iron	Short (3.25")	61
10082231		Iron	4.08"	25K	63						453-0223	Parallel		Iron	Long (4.16")	61

† FF & FL Aftermarket Assemblies Include Defender ESP Hubcap (weight not included in Trifecta Assembly figures)

‡ ConMet "Side Pull" Designs

FREQUENTLY ASKED QUESTIONS

What is Trifecta?

Trifecta is a pre-adjusted hub assembly—STEMCO's latest commercial vehicle wheel end innovation launched in 2018. The assembly combines STEMCO's high performance Discover XR seal, the revolutionary Zip-Torq axle fastener, precision bearings, and a spacer optimized for lubricant flow, all housed in a precision machined hub. Additionally, for truck steer axle applications (FF and FL), a Defender ESP hubcap is also included in aftermarket packaging. The combination of these premier components ensures mistake proof installation and less downtime; providing fleets the Trifecta of SAFETY, PERFORMANCE, and CONFIDENCE.

What does pre-adjusted mean?

Pre-adjusted hubs eliminate the need for bearing adjustment. The precision manufactured bearings, spacer, and hub provide a fixed dimensional distance between the inner and outer bearings eliminating the need to manually adjust the bearings.

A torque wrench must be used to set the axle fastener according to the pre-adjusted hub manufacturers recommended torque setting, with no backing off the nut.

What tools do I need to install the Trifecta hub?

The only tools needed are a torque wrench and socket. Please download the Zip-Torq installation instructions or see the back of the Zip-Torq box for socket sizes.

Where can I buy service hub assemblies or components?

Trifecta hub assemblies and components can be ordered through the independent aftermarket or original equipment dealers. For more information contact your STEMCO distributor, local STEMCO sales person, or call 1-800-527-8492. In Canada, call 1-877-232-9111.

What are the service intervals?

The recommended service intervals are detailed in STEMCO's Tech Tip #21 and TMC's RP 631.

Which lubricants are approved with the Trifecta pre-adjusted hub?

The list of approved lubricants can be found in STEMCO's Tech Tip #34.

Why does the spacer have holes?

The STEMCO patent pending spacer is designed with six center holes allowing lubricant to reach the mating surfaces between the interior diameter of the bearings and the spindle. The improved lubricant flow prevents fretting and associated corrosion from lubricant contamination, increasing bearing, seal and spindle life. Traditional spacers are solid, blocking lubricant flow to the mating surfaces, potentially leading to fretting corrosion and frozen hubs.

Can I remove the spacer?

Yes, the spacer can be removed. If the spacer is removed, the bearings must be adjusted manually following TMC RP 618 procedures. Please refer to STEMCO's Tech Tip #50 for more information.

What are half stand bearings?

Half stand bearings are precision bearings manufactured to a tighter tolerance than standard bearings. They are used in pre-adjusted hub assemblies to eliminate the need for manual bearing adjustment. STEMCO's half stand bearings can be identified with the prefix HS. Bearing cups and cones are a matched set and must be replaced as a set. Only STEMCO half stand bearings are approved for the Trifecta pre-adjusted hub assembly.

What is GlideLock?

GlideLock is a patent-pending feature on the ID (interior diameter) of the Discover XR seal. GlideLock significantly reduces seal installation load, helping to maintain the integrity of the sealing lips during hub mounting and reduces the potential for heat generation and cocked seals.

Does the Discover XR seal require pre-lubrication?

The Discover XR seal's GlideLock technology is designed to perform with or without pre-lubrication, eliminating one of the industry's leading causes of seal failure—heat.

Will the STEMCO components work in a non-Trifecta hub?

The Discover XR seal and the Zip-Torq axle fastener can be used in any commercially available wheel end. The STEMCO spacer is designed to work only in a Trifecta pre-adjusted hub assembly.

Can I use a Pro-Torq axle fastener with my Trifecta hub?

The Trifecta hub comes standard with the Zip-Torq axle fastener. However, Pro-Torq can be used with the system, replacing Zip-Torq during routine maintenance.

Can I use Pro-Torq or Zip-Torq axle fasteners with other pre-adjusted hubs?

Yes. Pro-Torq and Zip-Torq can be installed with other brands of pre-adjusted hubs. Please refer to the hub manufacturer's torque recommendations for proper axle fastener torque specifications.

Are STEMCO hub caps required with the Trifecta systems?

To ensure lubricant integrity and proper venting in long life wheel end systems, and to maintain maximum STEMCO warranty coverage, the Trifecta hub requires STEMCO Defender or aluminum hub caps with STEMCO's ESP or Sentinel technology on trucks and tractors, and Sentinel technology on trailers.

Can I convert the Trifecta hub to a manually adjusted hub?

Yes, the spacer can be removed and the bearings can be adjusted manually following TMC 618 procedures. Please refer to STEMCO's Tech Tip #50 for more information.

What are the axle fastener torque specs for the Trifecta hub assembly?

The Zip-Torq axle fastener torque specification, when used with a Trifecta system, is 200 lb/ft. Simply torque the nut to 200 lb/ft and spin the hub one full rotation. Repeat two additional times. Do not back off the nut.

What are the currently available applications?

The part numbers currently-released applications include:

TRUCK

- 5.44" offset FF (steer axle) — common to Freightliner products
- 5.06" offset FF (steer axle) - common to PACCAR, Navistar, and Mack products
- FL (steer axle) — common across the majority of truck manufacturers
- Long-Barrel R (drive-axle) — common to Freightliner, PACCAR and Mack products

TRAILER

- Parallel Spindle (P)

Where can I get more information?

Please visit stemco.com/trifecta or call 1-800-527-8492 for more information. In Canada, call 1-877-232-9111.

Making the Roadways Safer®

United States | 800-527-8492 | 903-758-9981

300 Industrial Drive
Longview, Texas 75602 | US

Canada | 877-232-9111 | 905-206-9700

5775 McLaughlin Road
Mississauga, Ontario L5R 3P7 | Canada

Mexico | 444-804-1736

Eje Central Sahop No 215, Zona Ind
San Luis Potosi SLP 78395 | Mexico

Australia | 011-61-2-9793-2599

Unit 6 CNR Rookwood & Muir Roads
Yagoona NSW 2199 | Australia

stemco.com

STEMCO, Trifecta, Defender ESP, Discover XR, GlideLock, Sentinel, and Zip-Torq are trademarks of STEMCO Products Inc.
© 2020 STEMCO Products Inc. Printed in the USA.
Part No. 571-3225 | Rev. 1/20


STEMCO®
A Higher Standard of Performance.™

an EnPro Industries company