

STEMCO®



QUICK REFERENCE



STEMCO®

A Higher Standard of Performance.™

Making the Roadways Safer®

an EnPro Industries company



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**PLATINUM
PERFORMANCE SYSTEM™**

**SYSTEMS APPROACH
TO PERFORMANCE**

On their own, STEMCO® wheel end components are among the lightest, most durable and highest performing in the industry. Bundled together in a Platinum Performance System™, they work together to create the most reliable and efficient wheel end systems possible. With up to 7-year warranties, Platinum Performance Systems provide unrivaled confidence and peace of mind.

Warranty

From three to seven years, depending on the chosen system. Available for OEM and aftermarket applications.

Reduced Downtime

Exceptional reliability means trucks spend more time on the road and less in the shop.

Lower Operating Costs

Extended service life and warranty coverage reduce life-of-equipment costs.

Lightweight

STEMCO Platinum Performance System Plus 7 Light Weight removes up to 150 pounds of trailer weight, dramatically increasing payload capacity.

Improved Fuel Efficiency

Light Weight and Tire Inflation Platinum Performance Systems help reduce fuel costs.

Increased Revenue

Greater payload capacity, reduced maintenance, and industry-leading warranties all lead to greater profit potential.

**PPS SOLUTIONS PROVIDE
THE INDUSTRY'S BEST WARRANTY**

Platinum Performance System™ solutions provide exceptional performance and reliability, but it's their warranties that provide peace of mind for fleet owners and managers. And the more innovative STEMCO® products that are added to the package, the longer the warranty and the greater the peace of mind.

AFTERMARKET PACKAGES

STEMCO's Aftermarket Platinum Performance System solutions are an integrated system of wheel end products and performance. With the Platinum Performance System™, extend wheel end coverage to a three- or five-year limited warranty with unlimited mileage for tractors and trailers.

**PLATINUM
PERFORMANCE SYSTEM™**

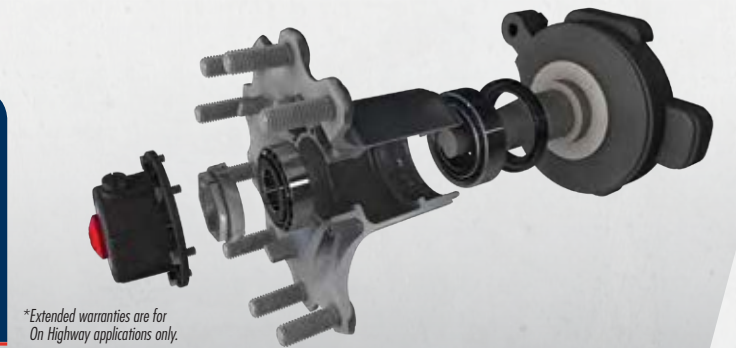
- Guardian® HP or Discover® Seal
- Pro-Torq® or Zip-Torq® Axle Fastener
- Defender™ Sentinel® or Sentinel® Hub Cap
- STEMCO Bearings

3 Year

**PLATINUM PLUS
PERFORMANCE SYSTEM™**

- Guardian® HP or Discover® Seal
- Zip-Torq® Axle Fastener
- Defender™ Sentinel® Hub Cap
- STEMCO Bearings

5 Year



*Extended warranties are for On Highway applications only.

OEM PACKAGES

The unprecedented performance of these STEMCO Platinum Performance System Plus solutions will lower maintenance costs by reducing down-time and protecting wheel end components. Choose our five-year Plus package, or add additional STEMCO components and extend the limited parts and labor warranty to seven years.

**PLATINUM PLUS
PERFORMANCE SYSTEM™**

- Guardian® HP or Discover® Seal
- Pro-Torq® or Zip-Torq® Axle Fastener
- Sentinel® Hub Cap
- STEMCO Bearings

5 Year

**PLATINUM PLUS
PERFORMANCE SYSTEM™**

- Discover® Seal
- Pro-Torq® or Zip-Torq® Axle Fastener
- Sentinel® Hub Cap
- STEMCO Bearings

5 Year

**PLATINUM PLUS 7
PERFORMANCE SYSTEM
TIRE INFLATION**

- Aeris® Automatic Tire Inflation System
- Guardian® HP or Discover® Seal
- Pro-Torq® or Zip-Torq® Axle Fastener
- Sentinel® Hub Cap
- STEMCO Bearings

7 Year

**PLATINUM PLUS 7
PERFORMANCE SYSTEM
LIGHT WEIGHT**

- STEMCO CentriFuse® Drum and Hub Assembly
- STEMCO Crewson™ Automatic Brake Adjuster
- Guardian® HP or Discover® Seal
- Pro-Torq® or Zip-Torq® Axle Fastener
- Sentinel® Hub Cap
- STEMCO Bearings

7 Year

*Extended warranties are for On Highway applications only.

ADDITIONAL WARRANTY COVERAGE

If STEMCO new or relined brake shoes are used in conjunction with the Platinum Performance System, lined shoes that have been exposed to oil contamination will be covered or replaced. For STEMCO brakes not covered by the PPS System, the length of the lining warranty against oil contamination will be the warranty period of the STEMCO seal. STEMCO Aeris Automatic Tire Inflation System is also available with a three year aftermarket warranty.

**Guardian®
HP**



**LONGER LIFE FOR
THE LONGEST HAUL**

The Guardian® HP incorporates the best features for preventing the leading causes of seal-life degradation—contamination ingress and heat generation.

Technologically Advanced Seal

With its high-performance sealing lip and superior contamination exclusion, Guardian HP has been developed for extra protection and greater sealing. The rubber outer diameter allows for faster hub cleaning with less corrosion damage to the hub.

Single-Step, Error-Proof Installation

Installation directly on the axle, rather than the hub bore, ensures positive alignment every time. No tool impact on

the seal means no damage or installation-related failures. Plus, Guardian HP is easy to remove and service, so there's no opportunity for bearing damage during seal removal.

Trailer and Axle OEM Standard Seal

With over 25 years of proven success, Guardian HP is the OEM seal of choice in the heavy-duty trailer industry. The enhanced seal features offer improved cost-per-mile performance in addition to simple, one-step axle installation.

**GUARDIAN® HP
APPLICATION REFERENCE GUIDE**

APPLICATION	GUARDIAN HP	INNER BEARING	UNIVERSAL AXLE TOOL HEADS
19,000# Trailer Axle: Standard Forge, Dana, Meritor, Eaton	307-0713	663	555-5100
Pro-Par Trailer Axle: Fruehauf, Eaton P-22, Meritor TP, Dana	307-0723	HM518445	555-5023
22,500# Trailer Axle: Meritor, Standard Forge, Dana, Eaton	307-0743	HM218248	555-5039
12,000# Front Axle: Meritor, Eaton, Ford, Freightliner, Kenworth, Western Star, Navistar, Peterbilt, Volvo GM	308-0836	39581 HM212044 HM212049-X HM212047	555-5062 555-5061 555-5098 555-5066
16,000# Front Axle: Ford, Navistar, Mack, Meritor, White, Kenworth, Volvo GM, Western Star, Peterbilt	308-0864	6461A	555-5007
34,000# Drive Axle: Mack	309-0903	580, 582	555-5072
44,000# Drive Axle: Mack	309-0904	663, HM516449-C HM516449-A	555-5072 555-5073
38,000#, 46,000# Tandem Axles: Eaton, Ford, Freightliner, Kenworth, Western Star, Peterbilt, Meritor, Navistar, Volvo GM	309-0973	594,-A 598,-A	555-5076 555-5071

GUARDIAN HP INTERCHANGE

GUARDIAN HP	GRIT GUARD	SKF CLASSIC	SKF PLUS	NATIONAL RED	NATIONAL GOLD
307-0713	372-7098	40136	40129	370036A	380036A
307-0723	372-7099	42623	42627	370065A	380065A
307-0743	372-7097	46305	46300	370025A	380025A
308-0836	382-8036	35066	35058	370001A	380001A
308-0864	382-8064	43764	43761	370048A	380048A
309-0903	392-9094	45099	45093	370022A	380022A
309-0904	392-9112 392-9130	42672	42673	370031A	380031A
309-0973	392-9131	47697	47691	370003A	380003A

Sealing lip, O.D. beads, thrust pad, and flexible contaminant exclusion lips are all molded as a single unit from high-temperature rubber for fewer leak paths and better heat resistance.

Flexible containment exclusion lips
O.D. beads allow for easier hub docking



High-performance sealing lip
Semi-unitized design

Discover®



**UNITIZED DESIGN,
UNWAVERING PERFORMANCE**

STEMCO® Discover® Seals feature a high-grade temperature-resistant material and multi-labyrinth sealing features for long-life applications.

Have Complete Confidence During Installation

Discover seals' piloted entry allows an easy and square installation every time. The ridged double wall steel case is the impact point for the tool head, maintaining the seal's internal geometries.

Strong Locking and Easy Removal

The Discover seal consists of a bonded, ribbed rubber OD and ID for easier removal without special tools, yet STEMCO's patented "SMART" anti-rotation features ensure positive positioning and locking of the seal to the spindle.

Lengthen the Life of the Seal

The premium sealing element is protected by a four-zone labyrinth that provides unmatched contaminant exclusion and performance.

Extended Warranty Component

Install the Discover seal with STEMCO's other premium wheel end components to experience the Platinum Performance System™. This system combines the Discover or Guardian® HP seal, the Pro-Torq® or Zip-Torq® nut, and the Sentinel® hub cap for a three-year warranty.

**DISCOVER® HIGH PERFORMANCE
AND REVOLUTIONARY DESIGN**

DISCOVER CROSS REFERENCE GUIDE

APPLICATION	DISCOVER P/N	INNER BEARING	HUB TOOL PART NUMBER	BEARING GUIDE
19,000# Trailer Axle: Standard Forge, Dana, Meritor, Eaton	373-0213	663	551-5313	570-0023
Pro-Par Trailer Axle: Fruehauf, Eaton P-22, Meritor TP, Dana	373-0223	HM518445	551-5401	570-0025
22,500# Trailer Axle: Meritor, Standard Forge, Dana, Eaton	373-0243	HM218248	551-5412	570-0026
12,000# Front Axle: Meritor, Eaton, Ford, Freightliner, Kenworth, Western Star, Navistar, Peterbilt, Volvo GM	383-0236	39581 HM212044 HM212049-X HM212047	551-5346 551-5346 551-5346 551-5346	570-0017 570-0018 570-0020 570-0019
12,000# Mack Front Axle	*383-0239	641 or HM212049	551-5413	570-0020
16,000# Front Axle: Ford, Navistar, Mack, Meritor, White, Kenworth, Western Star, Peterbilt, Volvo GM	383-0264	6461A	551-5327	570-0022
34,000#, 38,000# Drive Axle: Mack	393-0203	580 or 582	551-5415	570-0023
44,000# Drive Axle: Mack	393-0204	663 or HM516449-A	551-5414	570-0023
34,000# Drive Axle: Eaton, Ford, Navistar, Volvo GM	393-0212	47685 or 47686 47678 or 5760	551-5416 551-5416	570-0023 570-0022
38,000#, 46,000# Tandem Axles: Eaton, Ford, Freightliner, Kenworth, Western Star, Peterbilt, Meritor, Navistar, Volvo GM	393-0173	594 or 594A 598 or 598A	551-5320 551-5320	570-0028 570-0027

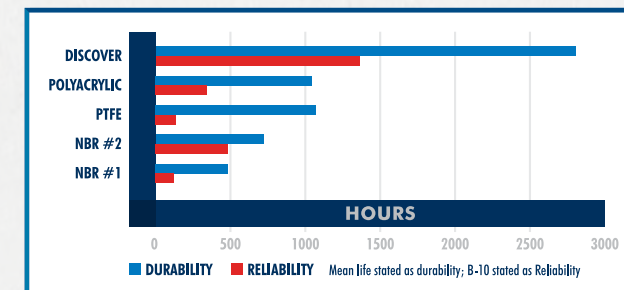
*Also sold as 383-8239 Kit, which includes the 310-1132 shoulder bushing.

DISCOVER INTERCHANGE

DISCOVER	SKF	SKF PLUS	NATIONAL RED	NATIONAL GOLD
373-0213	40136	40133	370036A	380036A
373-0223	42623	42622	370065A	380065A
373-0243	46305	46304	370025A	380025A
383-0236	35066	35059	370001A	380001A
383-0239	39988	39977	370033A	N/A
383-0264	43764	43769	370048A	380048A
393-0203	45099	45097	370022A	380022A
393-0204	42672	42671	370031A	380031A
393-0212	38780	38779	370023A	380023A
393-0273	47697	47695	370003A	380003A

STEMCO DISCOVER VS. COMPETITOR SEALS

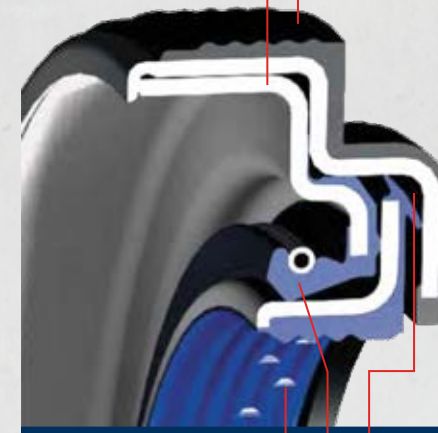
Listed by main sealing lip material. Hours shown are accelerated lab life test hours.



DISCOVER SEAL DESIGN FEATURES

Bonded rubber OD offers easy installation with piloted entry

Rugged, modular design avoids installation damage



Patented smart anti-rotation ID locks onto the axle

High temperature elastomeric co-polymer sealing element incorporating hydrodynamic pumping features

Four-zone labyrinth provides unmatched contaminant exclusion

VOYAGER® CROSS-REFERENCE GUIDE



REVOLUTIONARY HUB-INSTALLED, UNITIZED SEAL

The Voyager® wheel seal is designed for regional route trucks, city traffic and coach applications. Rugged design, simple installation and proven performance make Voyager the right choice for fleets seeking a superior seal for everyday stop-and-go traffic environments.

Simpler, Quicker Installations

A bonded rubber OD and piloted entry ensures an easy and square installation.

Superior Seal

A ribbed rubber OD forms a superior seal between the seal case and the hub bore without needing additional sealant.

Reduce Contamination

A four-zone labyrinth system excludes waterborne and airborne contaminants.

Avoid Installation Damage

Thick-wall steel construction allows positive hub installation without seal warping or bending.

Increase Reliability

The temperature-resistant polymer with hydrodynamic pumping keeps the lubricant in place.

Easy Removal

Bonded rubber ID and OD allow for easier removal while anti-rotation features lock the ID surface in place.

APPLICATION	VOYAGER P/N	TYPE	INNER BEARING	HUB TOOL P/N	BEARING GUIDE
19,000# Trailer Axle: Standard Forge, Dana, Meritor, Eaton	373-0113	L2	663	551-5313	570-0023
Pro-Par Trailer Axle: Fruehauf, Eaton P-22, Meritor TP, Dana	373-0123	L1	HM518445	551-5401	570-0025
22,500# Trailer Axle: Meritor, Standard Forge, Dana, Eaton	373-0143	L1	HM218248	551-5412	570-0026
20,000# Trailer Axle: Meritor, Shuler	373-0144	L3	665A	551-5339	570-0024
25,000# Trailer Axle	373-0191	L2	749/643	551-5401	570-0003
Meritor Front Transit	383-0101	L2	6386 or 6389 6379	551-5420	570-0020 N/A
12,000# Front Axle: Meritor, Eaton, Ford, Freightliner, Kenworth, Western Star, Navistar, Peterbilt, Volvo GM	383-0136	L1	39581 HM212044 HM212049-X HM212047	551-5346 551-5346 551-5346	570-0017 570-0018 570-0020 570-0019
12,000# Mack Front Axle	*383-0139	L2	641 or HM212049	551-5413	570-0020
Navistar Front Axle, FA309, FA329	383-0153	L3	641 or HM212049 H715345	551-5419 551-5419	570-0020 570-0021
9,000# Front Axle: Navistar, FA 109 Cast Wheel 79 and Up	383-0156	L2	641 H715345	551-5344 551-5344	570-0020 571-0021
16,000# Front Axle: Ford, Navistar, Mack, Meritor, White, Kenworth, Western Star, Peterbilt, Volvo GM	383-0164	L2	6461A	551-5327	570-0022
6,000#, 7,500#, Front Axle: Navistar	383-0166	L3	JM207049 or JM205149	551-5423	570-0036 570-0033
GMC F-120 1985 and up	383-0171	L2	HM212047	551-5403	570-0019
8,000# Front Axle: GMC Topkick	383-0175	L2	JM205149	551-5417	570-0033
11,000# Front Axle: GMC Topkick	383-0176	L2	33212	551-5418	570-0031
34,000#, 38,000# Drive Axle: Mack	393-0103	L2	580 or 582	551-5415	570-0023
44,000# Drive Axle: Mack	393-0104	L2	663 or HM516449-A	551-5414	570-0023
34,000# Drive Axle: Eaton, Ford, Navistar, White	393-0112	L2	47685 or 47686 47678 or 5760	551-5416 551-5416	570-0023 570-0022
17,000# Single and 34,000# Tandem: GMC	393-0115	L3	47686	551-5424	570-0023
Meritor Drive Transit	393-0134	L2	6580 or 6559	551-5421 551-5421	570-0025 570-0023
50,000#, 60,000# Drive Axle: Mack	393-0148	L2	687 or 780	551-5400	570-0032
38,000#, 46,000# Tandem Axles: Eaton, Ford, Freightliner, Kenworth, Western Star, Peterbilt, Meritor, Navistar, Volvo GM	393-0173	L1	594 or 594A 598 or 598A	551-5320 551-5320	570-0028 570-0027

* Also sold as 383-8139 Kit, which includes the 310-1132 shoulder bushing.

VOYAGER INTERCHANGE

VOYAGER	SKF	SKF PLUS	NATIONAL RED	NATIONAL GOLD
373-0113	40136	40133	370036A	380036A
373-0123	42623	42622	370065A	380065A
373-0143	46305	46304	370025A	380025A
373-0144	43752	43754	370037A	N/A
373-0191	42624	N/A	370107A	N/A
383-0101	40086	40088	370066A	N/A
383-0136	35066	35059	370001A	380001A
383-0139	39988	39977	370033A	N/A
383-0153	44922	44919	370124A	N/A
383-0156	45103	45102	370131A	380131A
383-0164	43764	43763	370048A	380048A
383-0166	28758	N/A	370150A	N/A
383-0171	36358	36357	370011A	N/A
383-0175	N/A	23590	370199A	N/A
383-0176	N/A	29480	370211A	N/A
393-0103	45099	45097	370022A	380022A
393-0104	42672	42671	370031A	380031A
393-0112	38780	38779	370023A	380023A
393-0115	38750	N/A	370024A	N/A
393-0134	48690	N/A	370195A	N/A
393-0148	52658	N/A	370069A	380069A
393-0173	47697	47695	370003A	380003A

Four-zone labyrinth active contaminant exclusion system

Rugged, thick-wall steel construction avoids installation damage

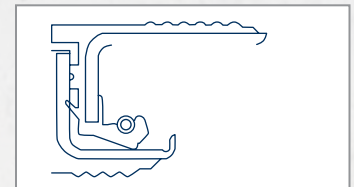
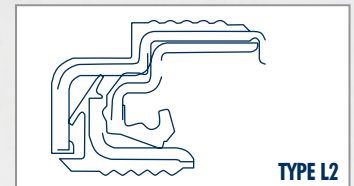
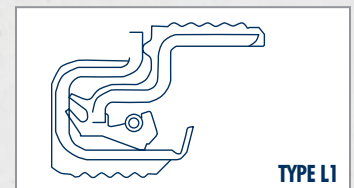
Hub-installed with piloted entry features



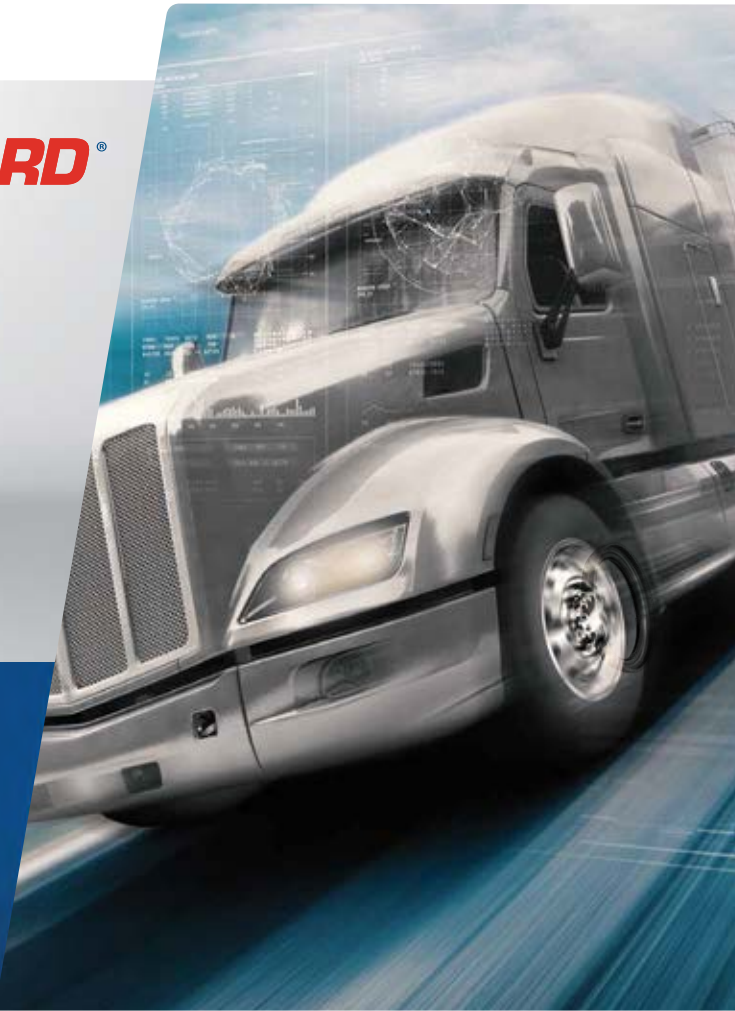
Bonded rubber OD and ID seals the bore and spindle, with easier installation and removal

Fully unitized design provides protection of main sealing lip

Temperature-resistant polymer with hydrodynamic pumping features



GRITGUARD®



SUPERIOR SEALING IN SEVERE APPLICATIONS

Engineered for exceptional performance, durability and contaminant exclusion in severe service applications, the STEMCO® Grit Guard® hub seal features a two-piece design that reduces maintenance and unnecessary wear on expensive spindles.

Spindle-Mounted Deflector Ring

Provides new surface for sealing lip; compensates for worn or damaged spindles.

Metal Case Seal

Exceptional durability; provides metal-to-metal press fit between seal and hub.

Blue Bore Sealant

Applied to case seal; prevents minor seepage between the seal and hub.

Elastomeric Leather Sealing Lip

Rotates on deflector ring for improved heat dissipation; remains flexible and durable in the most grueling environments.

Dust Shield

Built into deflector ring; creates an additional level of dirt and contaminant exclusion.

Severe-Service Performance

Designed for rugged, severe-duty applications that exceed the capabilities of other seals.

GRIT GUARD® APPLICATION REFERENCE GUIDE

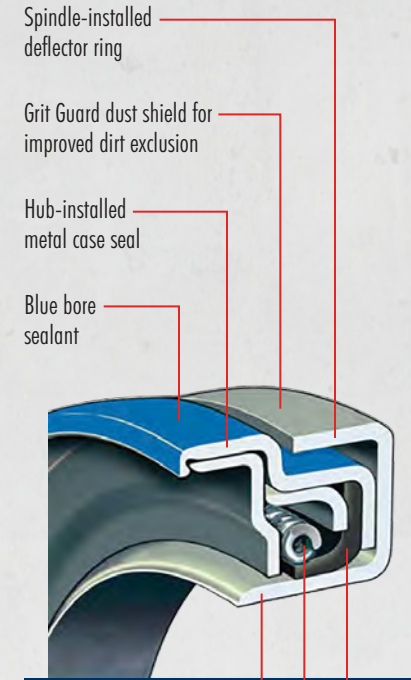
APPLICATION	GRIT GUARD P/N	SEAL/RING	INNER BEARING	UNIVERSAL HEAD*/ HUB TOOL**	BEARING GUIDE
20,000# Trailer Axle: Meritor, Shuler	372-7095	2118/1510	665A	555-5069 / 551-5321	570-0024
22,500# Trailer Axle: Dana, Eaton, Meritor, Standard Forge	372-7097	2110/1504	HM218248	555-5039 / 551-5412	570-0026
19,000# Trailer Axle: Dana, Eaton, Meritor, Standard Forge	372-7098	2109/1507	663	555-5100 / 551-5313	570-0023
Pro-Par Trailer Axle: Dana, Eaton P-22, Fruehauf, Meritor TP	372-7099	2023/1503	HMS18445	555-5023 / 551-5401	570-0025
19,000# Drive Axle: Eaton, Ford, GMC, Navistar, White	392-9088	2113/1517	594 or 594A	555-5076 / 551-5412	570-0028
50,000# & 60,000# Drive Axles: Mack	392-9089	2097/1516	687 or 780	555-5004 / 551-5400	N/A
34,000# Drive Axle: Mack	392-9094	2129/1511	580 or 582	555-5072 / 551-5393	570-0023
38,000#, 40,000#, 42,000# Tandem Drive Axles: Eaton, Ford, GMC, Mack, Navistar, White	392-9096	2114/1508	595 598	555-5072 / 551-5412 555-5071 / 551-5412	570-0023 570-0027
34,000# Drive Axle: Eaton, Ford, Navistar, White	392-9099	2102/1501	47685 or 47686 47678 or 5760	555-5031 / 551-5318 555-5074 / 551-5318	570-0023 570-0022
44,000# Drive Axle: Mack	392-9112	2213/1515	663 or HMS16449, -C	555-5072 / 551-5364	570-0023
44,000# Drive Axle: Mack	392-9130	2213/1519	HMS16449A	555-5073 / 551-5364	570-0023
38,000#, 46,000# Tandem Axles: Eaton, Ford, Freightliner, Kenworth, Meritor, Navistar, Peterbilt, Volvo, GM, Western Star	392-9131	2106/1525	594 or 594A 598 or 598A	555-5076 / 551-5320 555-5071 / 551-5320	570-0028 570-0027
38,000# Drive Axle: Eaton, GMC, Mack, Meritor	392-9132	2104/1018	495AX 33287	555-5074 / 551-5383 555-5011 / 551-5383	N/A N/A

*Use Universal Body 555-0001 with 555 Series Tool Heads.
**Use Universal Fleet Tool Handle 551-0001 with 551 Series Tool Heads.

GRIT GUARD INTERCHANGE

GRIT GUARD	SKF	SKF PLUS	NATIONAL	TRI SEAL
372-7095	43753	43752	370037A	69599
372-7097	46305	46304	370025A (38)	69598
372-7098	40136	40133	370036A (38)	69597
372-7099	42623	42622	370065A (38)	69596
392-9088	45160	45158	370021A	69791
392-9089	52664	52658	370069A (38)	69781
392-9094	45099	45097	370022A (38)	70796
392-9096	43860	43861	370019A	69797
392-9099	38780	38779	370023A (38)	69794
392-9112	42672	42671	370031A (38)	69788
392-9130	42672	42671	370031A (38)	69788
392-9131	47697	47695	370003A (38)	69799
392-9132	47690	N/A	370005A	69757

Designed to reduce maintenance and prevent unnecessary wear on expensive spindles, the Grit Guard two-piece design provides effective and lasting protection against contamination.



Deflector ring provides heat sink into spindle

Spring

Elastomeric leather sealing lip

HUB SEAL REFERENCE CHART

APPLICATION	GUARDIAN HP HUB SEAL	VOYAGER	DISCOVER	GRIT GUARD STANDARD	GG/STANDARD COMPONENTS SEAL/RING	INNER BEARING	UNIVERSAL AXEL TOOL HEADS 4	UNIVERSAL HUB TOOL HEADS 3	BEARING GUIDE
19,000# Trailer Axle: Standard Forge, Dana, Meritor, Eaton	307-0713 9	373-0113	373-0213	372-7098	2109/1507	663	555-5100	551-5313	570-0023
Pro-Par Trailer Axle: Fruehauf, Eaton P-22, Meritor TP, Dana	307-0723 9	373-0123	373-0223 373-0323	372-7099	2023/1503	HM518445	555-5023	551-5401	570-0025
22,500# Trailer Axle: Meritor, Standard Forge, Dana, Eaton	307-0743 9	373-0143	373-0243 373-0343	372-7097	2110/1504	HM218248	555-5039	551-5412	570-0026
20,000# Trailer Axle: Meritor, Shuler	307-0744	373-0144	N/A	372-7095	2118/1510	665A	555-5069	551-5321	570-0024
12,000# Meritor Front Transit	N/A	383-0101	N/A	382-8001	2086/1013	6386 or 6389 6379	555-5060 555-5014	551-5420 19	570-0020 21
Meritor Center Point	N/A	N/A	N/A	382-8028	2028/1028	756A	555-5067	551-5385	N/A
GMC F-120 to 1985	N/A	N/A	N/A	382-8034	2034/1034	HM212047	555-5066	551-5387	570-0019
12,000# Front Axle: Meritor, Eaton, Ford, Freightliner, Kenworth, Western Star, Navistar, Peterbilt, Volvo GM	308-0836 9	383-0136	383-0236 383-0336	382-8036	2036/1036	39581 HM212044 HM212049, -X, XI HM212047	555-5062 555-5061 555-5098 555-5066	551-5346 551-5346 551-5346 551-5346	570-0017 570-0018 570-0020 570-0019
12,000# Mack Front Axle: Navistar Front Axle, FA 309, FA 329	N/A 308-0853	383-0139 13 383-0153	383-0239 14 N/A	382-8039 382-8053	2039/1038 2181/1093	641 or HM212049 641 or HM212049 H715345	NONE REQ'D 555-5060 555-5070	551-5413 10 551-5419 15 551-5419 15	570-0020 570-0020 570-0021
9,000# Front Axle: Navistar FA 109 Cast Wheel '79 and up,	308-0855	383-0156	N/A	382-8056	2199/1093	641	555-5060	551-5344	570-0020
12,000# Front Axle: Navistar	308-0856	383-0156	N/A	382-8056	2199/1093	H715345	555-5070	551-5344	570-0021
7,000#, 9,000# Front Axle: Ford	308-0863	N/A	N/A	382-8063	2133/1036	39581 45284	555-5062 555-5064	551-5353 551-5353	570-001 N/A
16,000# Front Axle: Ford, Navistar, Mack, Meritor, White, Kenworth, Western Star, Peterbilt, Volvo GM	308-0864 9	383-0164	383-0264	382-8064	2137/1037	6461A	555-5007	551-5327	570-0022
6,000#, 7,500# Front Axle: Navistar	308-0866	383-0166	N/A	382-8066	2164/1008	JM207049 JM205149	555-5088 555-5089	551-5423 18 551-5423 18	570-0036 570-0033
Volvo FA 7.5 Front Axle	308-0870	N/A	N/A	N/A	N/A	JF7049A	555-5297	N/A	N/A
GMC F-120 1985 and up	N/A	383-0171	N/A	382-8071	2216/1034	HM212047	555-5066	551-5403	570-0019
8,000# Front Axle: GMC Topkick	N/A	383-0175	N/A	N/A	N/A	JM205149	NONE REQ'D	551-5417	570-0033
11,000# Front Axle: GMC Topkick	N/A	383-0176	N/A	N/A	N/A	33212	NONE REQ'D	551-5418	570-0031
34,000#, 38,000# Drive Axle: Mack	309-0903 9	393-0103	393-0203	392-9094	2129/1511	580 or 582	555-5072	551-5415 11	570-0023
44,000# Drive Axle: Mack	309-0904 9	393-0104	393-0204	392-9112 392-9130	2213/1515 2213/1519	663 or HM516449, -C HM516449A	555-5072 555-5073	551-5414 12 551-5414 12	570-0023 570-0023
34,000# Drive Axle: Eaton, Ford, Navistar, White	309-0912 4	393-0112	393-0212	392-9099 20	2102/1501	47685 or 47686 47678 or 5760	555-5031 555-5074	551-5416 16 551-5416 16	570-0023 570-0022
17,000# Single and 34,000# Tandem: GMC	309-0915 5	393-0115	N/A	Refer to above 392-9099 set	2102/1501	47686	555-5031	551-5424	570-0023
Meritor Drive Transit	N/A	393-0134	N/A	392-9034	2061/1066	6580 6559 33287	555-5023 555-5072 555-5011	551-5421 17	570-0025 570-0023 N/A
15,000# Drive Axle, Ford, Meritor F-Series	309-0935	N/A	N/A	392-9035	2057/1062	33287	555-5011	551-5353	N/A
Mack Drive Axle 50,000# and 60,000#	309-0948	393-0148	N/A	392-9089	2097/1516	687 or 780	555-5004	551-5400	570-0032
GMC H/T 150 and H/T 175 Ford, Meritor H 170, 172, 175	309-0957	N/A	N/A	392-9057	2104/1018	495AX 33287	555-5074 555-5011	551-5383 551-5383	N/A N/A
38,000# Drive Axle: Mack, GMC, Eaton, Meritor	309-0960	N/A	N/A	392-9132 6	2115/1530	598A 594A	555-5071 555-5076	551-5356 551-5356	570-0027 570-0028
34,000# Drive Axle: Meritor	309-0961	N/A	N/A	392-9095	2117/1509	580, 582 or 663A	555-5072	551-5325	N/A
19,000# Drive Axle: Eaton, Navistar, Ford, GMC, White	309-0964	N/A	N/A	392-9088	2113/1517	594 or 594A	555-5076	551-5412	570-0028
Van Hool Bus	391-9066 1	N/A	N/A	392-9066	2115/1107	594A	555-5076	551-5356	570-0028
38,000#, 40,000# and 42,000# Tandem Drive Axles: Ford, Eaton, GMC, Mack, Navistar, White	309-0965	N/A	N/A	392-9092 7 392-9096	2131/1508 2114/1508	598 595 598	555-5071 555-5072 555-5071	551-5363 551-5412 551-5412	570-0027 570-0023 570-0027
38,000# Drive Axle: Eaton, Meritor, White	309-0970	N/A	N/A	392-9087	2162/1502	683XA or 683 681A	555-5076 555-5071	551-5333 551-5333	570-0028 570-0027
38,000#, 46,000# Tandem Axles: Eaton, Ford, Freightliner, Kenworth, Western Star, Peterbilt, Meritor, Navistar, Volvo GM	309-0973 9	393-0173	393-0273 393-0373	392-9131 8	2106/1525	594 or 594A 598 or 598A	555-5076 555-5071	551-5320 551-5320	570-0028 570-0027

- 1 SS4 Seal
- 2 Use 555 Series Tool Heads with Universal Tool Body 555-0001. The Axle Tool Heads Install the Standard/Grit Guard Rings & Guardian/SS4 Seals.
- 3 Use 551 Series Tool Heads with new Universal Tool Handle 551-0001. The Hub Tool Installs the Standard Seal, Voyager and Discover Seals.
- 4 Use with 5.687" Bore Only
- 5 Use with 5.500" Bore Only
- 6 Does not fit Mack Applications
- 7 Fits Mack Application Only
- 8 Use with Wabco ABS
- 9 HP Design
- 10 Use 551-5395 for 320-2039 seal
- 11 Use 551-5393 for 320-2129 seal
- 12 Use 551-5364 for 320-2213 seal
- 13 383-8139 includes 310-1132 shoulder bushing
- 14 383-8239 includes 310-1132 shoulder bushing
- 15 Use 551-5349 for 320-2181 seal
- 16 Use 551-5318 for 320-2102 seal
- 17 Use 551-5356 for 320-2061 seal
- 18 Use 551-5366 for 320-2164 seal
- 19 Use 551-5311 for 2086 seal
- 20 Does not fit 5760 Inner Bearing
- 21 Does not fit 6379 Inner Bearing
- # Blue numbers indicate obsolete parts.

SKF TO STEMCO

SKF	GUARDIAN HP HUB SEAL	GRIT GUARD/STD. WHEEL SET	VOYAGER	DISCOVER
28758	308-0866	382-8066	383-0166	N/A
29480	N/A	N/A	383-0176	N/A
35058	308-0836	382-8036	383-0136	383-0236
35059	308-0836	382-8036	383-0136	383-0236
35066	308-0836	382-8036	383-0136	383-0236
35102	308-0836	382-8036	383-0136	383-0236
36357	N/A	382-8071	383-0171	N/A
36358	N/A	382-8071	383-0171	N/A
36365	N/A	382-8071	383-0171	N/A
38748	309-0915	392-9099	393-0115	N/A
38750	309-0915	392-9099	393-0115	N/A
38776	309-0912	392-9099	393-0112	393-0212
38779	309-0912	392-9099	393-0112	393-0212
38780	309-0912	392-9099	393-0112	393-0212
38783	309-0912	392-9099	393-0112	393-0212
39977/455031	N/A	382-8039	383-0139	383-0239
39979	N/A	382-8039	393-0139	393-0239
39990	N/A	382-8039	383-0139	383-0239
39988/455031	N/A	382-8039	383-0139	383-0239
40086	N/A	382-8001	383-0101	N/A
40088	N/A	382-8001	383-0101	N/A
40091	N/A	382-8001	383-0101	N/A
40129	307-0713	372-7098	373-0113	373-0213
40133	307-0713	372-7098	373-0113	373-0213
40136	307-0713	372-7098	373-0113	373-0213
40146	307-0713	372-7098	373-0113	373-0213
42622	307-0723	372-7099	373-0123	373-0223
42623	307-0723	372-7099	373-0123	373-0223
42624	N/A	372-7091	373-0191	N/A
42627	307-0723	372-7099	373-0123	373-0223
42631	307-0723	372-7099	373-0123	373-0223
42671	309-0904	392-9112	393-0104	393-0204
42672	309-0904	392-9112	393-0104	393-0204
42673	309-0904	392-9112	393-0104	393-0204
43752	307-0744	372-7095	373-0144	N/A
43753	307-0744	372-7095	373-0144	N/A
43754	307-0744	372-7095	373-0144	N/A
43761	308-0864	382-8064	383-0164	383-0264
43763	308-0864	382-8064	383-0164	383-0264
43764	308-0864	382-8064	383-0164	383-0264
43875	309-0973 1	392-9131 1	393-0173	393-0273
44916	308-0853	382-8053	383-0153	N/A
44919	308-0853	382-8053	383-0153	N/A
44922	308-0853	382-8053	383-0153	N/A
45097	309-0903	392-9094	393-0103	393-0203
45093	309-0903	392-9094	393-0103	393-0203
45099	309-0903	392-9094	393-0103	393-0203
45102	308-0856 2	382-8056	383-0156 2	N/A
45103	308-0856 2	382-8056	383-0156	N/A
45108	309-0903	392-9094	393-0103	393-0203
45152 3	309-0973	392-9131	393-0173	393-0273
46300	307-0743	372-7097	373-0143	373-0243
46304	307-0743	372-7097	373-0143	373-0243
46305	307-0743	372-7097	373-0143	373-0243
46308	307-0743	372-7097	373-0143	373-0243
47691	309-0973	392-9098	393-0173	393-0273
47692	309-0973	392-9098	393-0173	393-0273
47693	309-0973	392-9131	393-0173	393-0273
47695	309-0973	392-9131	393-0173	393-0273
47697	309-0973	392-9131	393-0173	393-0273
48690	N/A	392-9034	393-0134	N/A
48691	N/A	392-9034	393-0134	N/A
52658	309-0948	392-9089	393-0148	N/A
52664	309-0948	392-9089	393-0148	N/A

- D Drive Application
- T Trailer Application
- F Front Application
- 1 With 364-6402
- 2 For IHC FA-109 1979 and up with spoke wheel use 308-0855 Guardian Set
- 3 With 364-6435
- 4 Ring no longer available
- # Blue numbers indicate obsolete parts.

NATIONAL TO STEMCO

NATIONAL	GUARDIAN HP HUB SEAL	GRIT GUARD/STD. WHEEL SET	VOYAGER	DISCOVER
370001A (380001A)	308-0836	382-8036	383-0136	383-0236
370003A (380003A)	309-0973	392-9131	393-0173	393-0273
370011A	N/A	382-8071	383-0171	N/A
370022A (380022A)	309-0903	392-9094	393-0103	393-0203
370023A (380023A)	309-0912	392-9099	393-0112	393-0212
370024A	309-0915	392-9099	393-0115	N/A
370025A (380025A)	307-0743	372-7097	373-0143	373-0243
370031A (380031A)	309-0904	392-9112	393-0104	393-0204
370033A/AR12	N/A	382-8039	383-0139	383-0239
370034A	309-0973	392-9131	393-0173	393-0273
370036A (380036A) T	307-0713	372-7098	373-0113	373-0213
370037A	307-0744	372-7095	373-0144	N/A
370048A (380048A)	308-0864	382-8064	383-0164	383-0264
370065A (380065A)	307-0723	372-7099	373-0123	373-0223
370066A	N/A	382-8001	383-0101	N/A
370069A	309-0948	392-9089	393-0148	N/A
370086A	309-0973	392-9131	393-0173	393-0

GUARDIAN/GUARDIAN HP TO STANDARD/GRIT GUARD AND VOYAGER/DISCOVER HUB SEAL CROSS REFERENCE

GUARDIAN/ GUARDIAN HP SEAL #	INNER BEARING CONE	UNIVERSAL TOOL HEAD	STD./GRIT GUARD SET	VOYAGER DISCOVER
*307-0713	663	555-5100	372-7098	373-0113 373-0213
*307-0723	HM518445	555-5023	372-7099	373-0123 373-0223
*307-0743	HM218248	555-5039	372-7097	373-0143 373-0243
307-0744	665A	555-5069	372-7095	N/A
*308-0836	39581 HM212044, 557A HM212049, -X HM212047	555-5062 555-5061 555-5098 555-5066	382-8036	383-0136 383-0236
308-0853	641 HM212049 H715345	555-5060 555-5070	382-8053	383-0153
308-0855	641	555-5060	N/A	N/A
308-0856	H715345	555-5070	382-8056	383-0156
308-0863	39581 45284	555-5062 555-5064	382-8063	N/A
*308-0864	6461A	555-5007	382-8064	383-0164 383-0264
308-0866	JM207049 JM205149	555-5088 555-5089	382-8066	383-0166
308-0870	JF7049A	555-5297	N/A	N/A
*309-0903	580 582	555-5072	392-9094	393-0103 393-0203
*309-0904				393-0204
*309-0904	663 HM516449,-C	555-5072	392-9112	393-0104 393-0204

Use Universal Tool Body 555-0001 with 555 Series Tool Heads.

*Guardian HP

Blue numbers indicate obsolete parts.

GUARDIAN/ GUARDIAN HP SEAL #	INNER BEARING CONE	UNIVERSAL TOOL HEAD	STD./GRIT GUARD SET	VOYAGER DISCOVER
309-0912	47685 47686 47678 5760	555-5031 555-5074	392-9099	393-0112 393-0212
309-0915	47685 47686	555-5031	392-9099	N/A
309-0935	33281 Thru 61 33287 62 Up	555-5002 555-5011	392-9035	N/A
309-0948	687 780	555-5004	392-9089	393-0148
309-0957	495AX 33287	555-5074 555-5011	392-9057	N/A
309-0960	594A 598A	555-5076 555-5071	392-9132	N/A
309-0961	580 582 663A	555-5072	392-9095	N/A
309-0964	594 594A	555-5076	392-9088	N/A
309-0965	595 598	555-5072 555-5071	392-9096	N/A
309-0970	683XA 683 681A	555-5076 555-5071	392-9087	N/A
*309-0973	594A 594 598 598A	555-5076 555-5071	392-9131	393-0173 393-0273

GUARDIAN/GUARDIAN HP HUB SEAL CROSS REFERENCE

OIL SEAL ¹	DEFLECTOR RING ¹	GUARDIAN/ GUARDIAN HP SEAL
327-2701	317-1743	*307-0743
327-2702	317-1702	*308-0836
327-2703	317-1703	*309-0973
327-2704	317-1704	*307-0713
327-2705	317-1705	*307-0723
327-2706	317-1706	*309-0903
327-2707	317-1707	309-0912
327-2708	317-1708	308-0853
327-2709	317-1709	307-0744
327-2710	317-1710 317-1706	308-0855 308-0856
327-2711	317-1711	*308-0864
327-2712	317-1712	309-0964

OIL SEAL ¹	DEFLECTOR RING ¹	GUARDIAN/ GUARDIAN HP SEAL
327-2713	317-1713	309-0965
327-2715	317-1756	309-0915
327-2716	317-1761	309-0970
327-2717	317-1761	309-0960
327-2718	317-1720	*309-0904
327-2719	317-1719	309-0961
327-2721	317-1721	308-0863
327-2724	317-1724	309-0957
327-2727	317-1726	308-0866
327-2728	317-1728	309-0935
327-2741	317-1790	309-0948
327-2757	317-1724	308-0870

¹ 327-Series Oil Seals and 317-Series Deflector Rings are component parts for the Guardian Hub Seal. These parts are not sold separately.

*Guardian HP

STANDARD AND GRIT GUARD HUB SEAL TO SET CROSS REFERENCE

OIL SEAL	AXEL RING	HUB SEAL SET	INNER BEARING #	UNIVERSAL TOOL HEAD	HUB TOOL	COMMENT	
320-2001	310-1095	392-9001	758	555-5069	551-5398		
	310-1103	392-9062	760	555-5079	551-5398		
	For trailer applications, use 310-1045 (set was 370-7019).		760	555-5079	551-5398		
320-2009	310-1028	392-9019	598	555-5071	551-5356		
	310-1079	392-9081	598A	555-5071	551-5356		
320-2012	310-1012	392-9012	47678	555-5074	551-5405		
			47686	555-5031	551-5405	See Set Remarks	
			5760	555-5074	551-5405		
320-2017	310-1017	382-8017	39581	555-5062	551-5352	1	
320-2018	310-1008	372-7046	28995	555-5052	551-5351		
	310-1008	382-8018	45284	555-5064	551-5351		
320-2022	310-1050	382-8010	4595 or 39578	None	551-5381		
320-2023	310-1022	372-7022	593	None	551-5401	I Beam Axle Model 5	
	310-1023	372-7023	593 & HM518445	555-5023	551-5401	Pro-Par	
	310-1041	382-8060	5760 or 6461	None	551-5401		
	310-1130	372-7062	592A or 593	555-5023	551-5401	Modified No. 5 1	
	315-1503	372-7099	HM518445	555-5023	551-5401	Grit Guard for Pro-Par only	
320-2028	310-1028	382-8028	756A	555-5067	551-5385		
320-2029	310-1018	372-7018	495AX	555-5074	551-5386		
	310-1018	392-9018	495AX	555-5074	551-5386	Ford thru 1969-70 Up use 392-9057 1	
320-2031	310-1036	382-8025	557A or HM212044	555-5061	551-5388		
	310-1051	382-8011	559 or 3982	None	551-5388		
	320-2032	310-1032	382-8032	HM212049	None	551-5388	
320-2034	310-1036	372-7009	39250	555-5066	551-5388		
	310-1034	382-8034	HM212047	555-5066	551-5387	1	
	320-2036	310-1036	382-8036	39581	555-5062	551-5346	
				557A or HM212044	555-5061	551-5346	
				HM212047	555-5066	551-5346	
320-2039			HM212049	555-5098	551-5346		
			HM212049X	555-5098	551-5346		
	310-1038	382-8039	641 or HM212049	None	551-5395	Replaced by Voyager Seal 383-8139 2	
					551-5413 3		
320-2041	310-1028	382-8045	756A	555-5067	551-5398		
	310-1043	372-7015	759	555-5023	551-5398	C&M K-30 Std. Forge TA-26, A-26-S	
320-2046	310-1036	372-7006	567	555-5011	551-5388		
320-2050	310-1052	382-8009	45284 or 45285	555-5036	551-5347	1	
320-2051	310-1047	372-7008	5605	555-5038	551-5388		
320-2056	310-1061	382-8005	3778	555-5001	551-5302	1	
320-2057	310-1062	392-9035	33287	555-5011	551-5353	1	
	310-1063	392-9036	33281	555-5002	551-5353	1	
320-2058	310-1093	392-9033 or 6559	663, 749A	555-5072	551-5303	Gaskets Must be Ordered Separately	
320-2059	See Catalog 392-9053 and/or 392-9089 Remarks.						
320-2061	310-1066	392-9034	6580	555-5023	551-5356	Gasket Sold Separately	
			6559	555-5072	551-5356		
320-2072	310-1064	372-7048	3984	555-5097	551-5308		
	310-1064	392-9038	3984	555-5097	551-5308	1	
320-2077	310-1104	392-9063	188931	555-5054	551-5362		
			387AS or 7451929	555-5062	551-5362		
320-2086	310-1013	382-8001	6386 or 6389	555-5060	551-5311		
			6379	555-5014	551-5311		
320-2091	SEE COMMENTS W/392-9045 SET	392-9045	33287	555-5011	551-5312		
			33281	555-5002	551-5312		
			495AX	555-5074	551-5312		
			47686	555-5031	551-5312		

CONTINUED ON NEXT PAGE

¹ Oil seal installs in bearing cup bore
² Oil seal installs in bearing cup bore on steel hubs. On spoke wheels use seal bore.

³ Voyager Seal tool
Blue numbers indicate obsolete parts.



RAISING THE STANDARD FOR WORLD-CLASS WHEEL ENDS

STEMCO's Trifecta™ Pre-Adjusted Hub Assembly combines premiere STEMCO wheel end technologies with the trusted Webb® hub in a single, pre-adjusted assembly, ensuring a faster and more secure installation. Trifecta eliminates the need to purchase, install and adjust separate wheel end components and fasteners while guaranteeing reliability.

Safety

Provides quick, easy installation with a simple torque-down procedure and no bearing adjustment.

Includes Zip-Torq® axle fastener featuring a unitized design with no additional clips, keepers, snap rings or screws, increasing simplicity for technicians.

Performance

Trifecta includes the Discover® XR, a high-performance seal with patent-pending GlideLock™ technology which essentially eliminates installation issues by reducing installation force by 50% with no prelube required—an industry first.

Discover XR and the Defender ESP™ hub cap combine to set a new standard for contamination exclusion and raise the bar for long-life wheel end systems.

Confidence

Features industry-standard components manufactured by STEMCO & Webb Wheel.

Backed by STEMCO support nationwide, including on-site training and certification, TMC-approved procedures and a 5-year/500,000 mile parts and labor OEM warranty.



SIMPLE INSTALLATION. TOTAL PEACE OF MIND.

Designed for fleets that value component longevity between service intervals and keeping time in the service bay as brief as possible, the Trifecta™ hub assembly represents the peak of durability and simplicity—the toughest, most resilient wheel end components united in an easy-to-install package.

STEMCO Manufactured Bearings

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

Defender ESP™ Hub Cap

- Made from high-strength composite material
- 100% corrosion-free
- ESP (Extended Service Plug) prevents contamination from entering, protects lubricant integrity

Zip-Torq® Axle Fastener



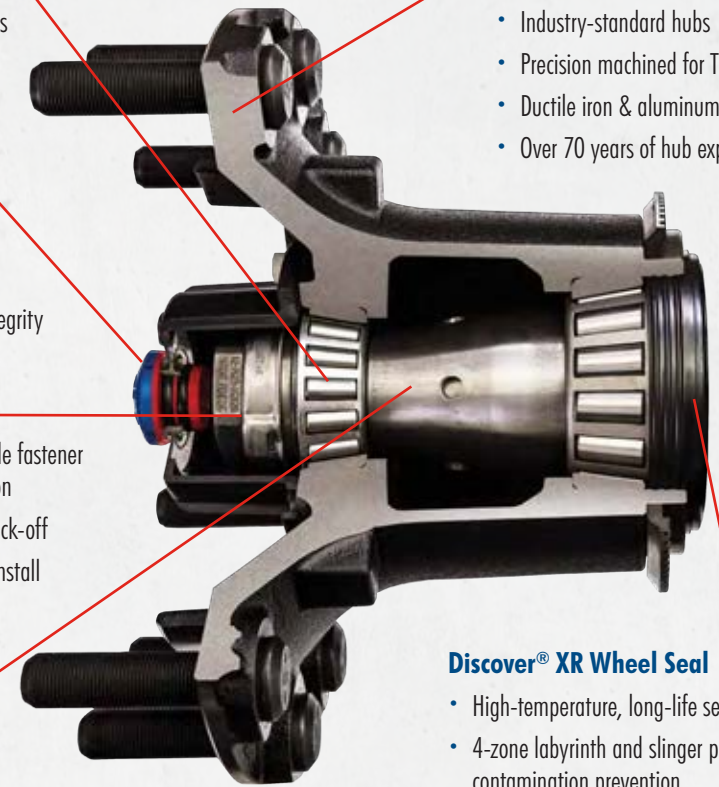
- Simplified, one-piece advanced axle fastener provides fast and simple installation
- Self-ratcheting feature prevents back-off
- No clips, keepers or set screws to install
- Easy removal

STEMCO Spacer (patent-pending)

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

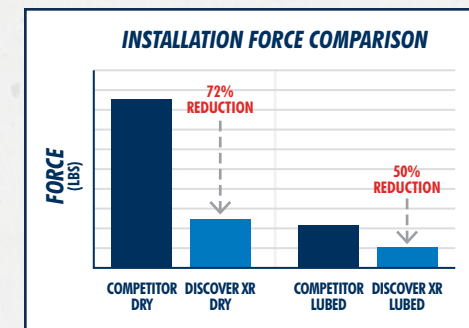
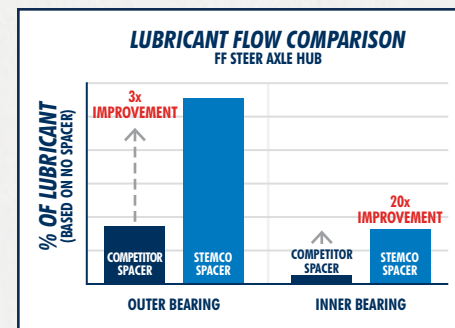
Webb® Wheel Hub

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



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





HEAVY DUTY BEARINGS



**UNRIVALED PERFORMANCE,
UNBELIEVABLE VALUE**

Bearings are at the heart of commercial trucking. Inferior quality can cost far more than the money its saves. STEMCO® heavy-duty bearings deliver unmatched quality and reliability and are part of our promise of Making the Roadways Safer®.

State of the Art Manufacturing

We design and manufacture all of our bearings, ensuring unparalleled reliability and a product that meets or exceeds ABMA specifications for bearing life.

Expanded Bearing Coverage

We offer tapered roller bearings, radial ball bearings, clutch release bearings, individual cups and cones and matched bearing sets.

Long Life Warranty

STEMCO offers a 3-year aftermarket limited warranty when used in conjunction with our Platinum Performance System™ or up to a 7-year OEM warranty with our Platinum Performance System™ +7 (PPS+7).

Trusted Quality

Innovative designs paired with exceptional manufacturing systems and a commitment to roadway safety make STEMCO a trusted, reliable wheel end component supplier.

STEMCO QUALITY BEARING REFERENCE GUIDE

STEMCO MATCHED BEARING SETS

P/N	COMPONENTS
ASET047-011	KHM212047 / KHM212011
ASET049-011	KHM212049 / KHM212011
ASET248-210	KHM218248 / KHM218210
ASET445-410	KHM518445 / KHM518410
ASET449A-410	KHM516449A / KHM516410
ASET555S-52A	K555S / K552A
ASET567-563	K567 / K563
ASET580-72	K580 / K572
ASET582-572	K582 / K572
ASET594A-92A	K594A / K592A
ASET598A-92A	K598A / K592A
ASET663-53	K663 / K653
ASET687-672	K687 / K672
ASET3782-20	K3782 / K3720
ASET6461A-20	K6461A / K6420
ASET45280-20	K45280 / K45220
ASET47679-20	K47679 / K47620

STEMCO "A" LINE BEARINGS (CONT.)

P/N	INDUSTRY STANDARD P/N
ASET47679-20	K47679 / K47620
A47679	K47679
A47620	K47620
ASET567-563	K567 / K563
A567	K567
A563	K563
ASET582-572	K582 / K572
A582	K582
A572	K572
ASET687-672	K687 / K672
A687	K687
A672	K672
ASET598A-92A	K598A / K592A
A598A	K598A
A592A	K592A

HEAVY DUTY TAPERED ROLLER BEARINGS

P/N	DESCRIPTION
382A	Tapered Roller Cup, Truck
387AS	Tapered Roller Cone, Truck
493	Tapered Roller Cup, Truck
552A	Tapered Roller Cup, Front Axle
555S	Tapered Roller Cone, Front Axle
557S	Tapered Roller Cone, Front Axle
563	Tapered Roller Cup, Front Axle
567	Tapered Roller Cone, Front Axle
572	Tapered Roller Cup, Front Axle
580	Tapered Roller Cone, Truck Axle
582	Tapered Roller Cone, Truck Axle
592A	Tapered Roller Cup, Truck/Trailer
594	Tapered Roller Cone, Front Axle
594A	Tapered Roller Cone, Front Axle
598A	Tapered Roller Cone, Front Axle
653	Tapered Roller Cup, Trailer/Truck Axle
663	Tapered Roller Cone, Trailer/Truck Axle
665A	Tapered Roller Cone, Trailer/Truck Axle
742	Tapered Roller Cup, Truck Axle
749	Tapered Roller Cone, Truck Axle
3720	Tapered Roller Cup, Front Axle
3782	Tapered Roller Cone, Front Axle
3920	Tapered Roller Cup, Truck Axle
6420	Tapered Roller Cup, Front Axle
6461A	Tapered Roller Cone, Front Axle
6535	Tapered Roller Cup, Truck Axle
6580	Tapered Roller Cone, Truck Axle
15245	Tapered Roller Cup, Truck Axle
15250	Tapered Roller Cup, Truck Axle
25520	Tapered Roller Cup, Truck Axle
25580	Tapered Roller Cone, Truck Axle
25820	Tapered Roller Cup, Truck Axle
25877	Tapered Roller Cone, Truck Axle
28682	Tapered Roller Cone, Truck Axle
39520	Tapered Roller Cup, Truck Axle
39585	Tapered Roller Cone, Truck Axle
39590	Tapered Roller Cone, Truck Axle
45220	Tapered Roller Cup, Front Axle
45280	Tapered Roller Cone, Front Axle
47620	Tapered Roller Cup, Rear Axle
47679	Tapered Roller Cone, Rear Axle
47686	Tapered Roller Cone, Rear Axle
H715311	Tapered Roller Cup, Truck Axle
H715345	Tapered Roller Cone, Truck Axle
HM212011	Tapered Roller Cup, Trailer/Front Axle
HM212047	Tapered Roller Cone, Front Axle
HM212049	Tapered Roller Cone, Trailer/Front Axle
HM218210	Tapered Roller Cup, Trailer Axle
HM218248	Tapered Roller Cone, Trailer Axle
HM516410	Tapered Roller Cup, Rear Axle
HM516449	Tapered Roller Cone, Rear Axle
HM518410	Tapered Roller Cup, Trailer Axle
HM518445	Tapered Roller Cone, Trailer Axle
JM207010	Tapered Roller Cup, Trailer Axle
JM207049A	Tapered Roller Cone, Truck Axle
LM102949	Tapered Roller Cone, Front Axle

STEMCO "A" LINE BEARINGS

P/N	INDUSTRY STANDARD P/N
ASET049-011	KHM212049 / KHM212011
A212049	KHM212049
A212011	KHM212011
ASET248-210	KHM218248 / KHM248210
A218248	KHM218248
A218210	KHM218210
ASET594A-92A	K594A / K592A
A594A	K594A
A592A	K592A
ASET580-72	K580 / K572
A580	K580
A572	K572
ASET3782-20	K3782 / K3720
A3782	K3782
A3720	K3720
ASET445-410	KHM518445 / KHM518410
A518445	KHM518445
A518410	KHM518410
ASET663-53	K663 / K653
A663	K663
A653	K653
ASET047-011	KHM212047 / KHM212011
A212047	KHM212047
A212011	KHM212011
ASET45280-20	K45280 / K45220
A45280	K45280
A45220	K45220
ASET6461A-20	K6461A / K6420
A6461A	K6461A
A6420	K6420
ASET555S-52A	K555S / K552A
A555S	K555S
A552A	K552A
ASET449A-410	KHM516449A / KHM516410
A516449A	KHM516449A
A516410	KHM516410

MATCHED BEARING SETS

P/N	COMPONENTS
SET047-011	HM212047 / HM212011
SET049-011	HM212049 / HM212011
SET248-210	HM218248 / HM218210
SET445-410	HM518445 / HM518410
SET449-410	HM516449 / HM516410
SET580-72	580 / 572
SET582-72	582 / 572
SET594A-92A	594A / 592A
SET598A-92A	598A / 592A
SET663-53	663 / 653
SET3782-20	3782 / 3720
SET28682-22	28682 / 28622
SET39590-20	39590 / 39520
SET45280-20	45280 / 45220
SET45284-20	45284 / 45220
SET47679-20	47679 / 47620
SET47686-20	47686 / 47620

BALL/CLUTCH RELEASE/TAPERED BEARING SETS

P/N	DESCRIPTION
F-01757-C	N1707
02135	N2135
02256A	N2256-N
A16	LM12749 / LM12711
A34	LM12748 / LM12710
A38	LM104949 / LM104911
105-SS1	Ball Bearing, 2 Shields
205-FF	Ball Bearing, 2 Seals
205-SS	Ball Bearing, 2 Shields
206-FF	Ball Bearing, 2 Seals
206-SS	Ball Bearing, 2 Shields
305-FF	Ball Bearing, 2 Seals
305-SS	Ball Bearing, 2 Shields
306-FF	Ball Bearing, 2 Seals
306-SS	Ball Bearing, 2 Shields
306-SSL	Ball Bearing, 2 Shields, Snap Ring
308-L	Ball Bearing, Snap Ring
1308-L	Ball Bearing, Snap Ring

* Multiply last 2 numbers by 5 to get Bore Size.

BEARINGS TO HUB SEAL SET CROSS REFERENCE

INNER CUP & CONE	OUTER CUP & CONE	GUARDIAN/GUARDIAN HP SEAL #	GRIT GUARD STD. SET	VOYAGER DISCOVER
33212	33208			383-0176
382A/387AS	LM104911/LM104949		392-9063	
493/495AX	3920/3984		392-9018	
493/495AX	33287/33462	309-0957	392-9057	
493/495AX	39520/39590	309-0957	392-9057 392-9045	
552A/559	552/526		382-8011	
553X/557A	3720/3782	308-0836	382-8036	383-0136 383-0236
563/567	522/528		372-7006	
572/575	572/575		392-9032	
572/580	563/567	309-0903	392-9094*	393-0103 393-0203
			392-9032	
572/580	42620/42687	309-0961	392-9095*	
572/582	563/567	309-0903	392-9094*	393-0103 393-0203
572/582	42620/42687	309-0961	392-9095*	
592A/593	65320/65390		372-7022 372-7062	
592A/594	572/580	309-0964 309-0973	392-9088* 392-9131	393-0173 393-0273
592A/594A	572/580	309-0960 309-0964 309-0973	392-9132* 392-9088* 392-9131	393-0173 393-0273
592A/594A	572/582	309-0960	392-9132*	
592A/595	572/580	309-0965	392-9096	
592A/598	572/575	309-0965 309-0973	392-9096* 392-9131	393-0173 393-0273
592A/598A	653/665	309-0965	392-9092*	
592A/598	752/758	309-0965	392-9092*	
592A/598	HM617010/HM617049	309-0965	392-9092*	
592A/598A	572/580	309-0960 309-0973	392-9132 392-9131	393-0173 393-0273
592A/598A	572/582	309-0960	392-9132*	
592A/598	HM617010/ HM617049	309-0960	392-9081 392-9132	
593X/594	593X/594		392-9111	
632/641	3920/3979	308-0853	382-8053	383-0153/N/A
632/641	28622/28682	308-0856	382-8056	383-0156/N/A

INNER CUP & CONE	OUTER CUP & CONE	GUARDIAN/GUARDIAN HP SEAL #	GRIT GUARD STD. SET	VOYAGER DISCOVER
633/641	65320/65385		382-8039	383-8139
652/663	572/575	309-0904	392-9112*	393-0104 393-0204
			392-9007	
653/663	553X560	307-0713	372-7098*	373-0113 373-0213
653/663	HM212011/HM212049	307-0713	372-7098*	373-0113 373-0213
			372-7003	
653/663A	42620/42687	309-0961	392-9095*	
653/665A	HM212011/HM212049	307-0744	372-7095*	
672/681A	572/575	309-0970	392-9087*	
672/683	572/580	309-0970	392-9087*	
672/683XA	572/580	309-0970	392-9087*	
672/687	772/780	309-0948	392-9089*	393-0148 N/A
672/687	52618/52400	309-0948	392-9089*	393-0148 N/A
742/749	632/643		372-7091* 372-7024	
742/749S	632/643		372-7091* 372-7024	
742/749A	653/663		392-9033	
752/756A	HM212011/HM212046		382-8028 382-8045	
752/756A	HM212011/HM212047		382-8028 382-8045	
752/758	663/665		392-9001	
752/759	742/740		372-7015	
752/760	742/749		392-9001	
752/760	742/749		392-9062	
772/780	772/776	309-0948	392-9089*	393-0148 N/A
772/780	854/864	309-0948	392-9089*	393-0148 N/A
772/780	52618/52400	309-0948	392-9089*	393-0148 N/A
772/780	77675/77375	309-0948	392-9089*	393-0148 N/A
772/782	742/749		392-9053	
832/843	632/636		382-8008	
3720/3778	25820/25877		382-8005	
3720/3778	2720/2790		382-8005	
3920/3982	3820/3877		382-8011	
3920/3984	453X/462		392-9038	
4536/4595	414A/418		382-8010	
5735/5760	572/575	309-0912	392-9012	393-0112 393-0212
5735/5760	39520/39590		382-8052	

BEARINGS TO HUB SEAL SET CROSS REFERENCE

INNER CUP & CONE	OUTER CUP & CONE	GUARDIAN/GUARDIAN HP SEAL #	GRIT GUARD STD. SET	VOYAGER DISCOVER
5735/5760	45220/45287		382-8060	
6320/6379	552A/5575		382-8001	383-0101
6320/6386	552A/5575		382-8001	383-0101
6320/6386A	532A/537		382-8052	
6320/6389	552A/5575		382-8001	383-0101
6420/6461	612/621		382-8060	
6420/6461A	552A/5555	308-0864	382-8064	383-0164 383-0264
6420/6461A	3920/3979	308-0864	382-8064	383-0164 383-0264
6535/6559	653/663		392-9033 392-9034	393-0134 393-0134
6535/6580	653/663		392-9033 392-9034	393-0134 393-0134
28920/28995	25523/25580		372-7046	
33462/33281	3920/3982	309-0935	392-9035	
33462/33281	39520/39585		392-9036	
33462/33287	3920/3982	309-0935	392-9035	
33472/33281	3925/3984		392-9045	
33472/33287	3925/3982		392-9045	
33821/33895	3120/3196		382-8016	
39520/39578	25520/25572		382-8010	
39520/39581	3525/3585	308-0836	382-8036	383-0136 383-0236
		308-0863	382-8063 382-8027	
39520/39581	26820/26878		382-8017	
39520/39585	25520/25572		382-8062	
45220/45284	2720/2780		382-8044	
45220/45284	2720/2786		382-8009	
45220/45284	2720/2793		382-8009	
45220/45284	2720/2796		382-8009	
45220/45284	25820/25880		382-8044 382-8063	
45220/45285	2720/2786	308-0863	382-8063	
45220/45285	2720/2793		382-8009	
45220/45285	2720/2796		382-8009	
47620/47678	39520/39585	309-0912	392-9012	393-0112
			392-9099*	393-0212
47620/47685	39520/39590	309-0912	392-9099*	393-0112 393-0212
47620/47686	39520/	309-0912	392-9099*	393-0112 393-0212
	39590	309-0915	392-9012	393-0112 392-9045

INNER CUP & CONE	OUTER CUP & CONE	GUARDIAN/GUARDIAN HP SEAL #	GRIT GUARD STD. SET	VOYAGER DISCOVER
127627/1889311	49521/188933		392-9063	
7451691/7451929	7451813/7451814		392-9063	
H715311/H715345	552A/5555	308-0856	382-8056	383-0156 N/A
H715311/H715345	3920/3979	308-0853	382-8053	383-0153 N/A
HM212010/HM212049	28622/28682	308-0853	382-8053	383-0153 N/A
HM212011/HM212044	3720/3782	308-0836	382-8036	383-0136 383-0236
HM212011/HM212047	3720/3779		382-8034	
HM212011/HM212047	3720/3782	308-0836	382-8036	383-0136 383-0236
HM212011/ HM212047	45220/ 45282		382-8034 382-8071	383-0171
HM212011/ HM212049	3720/3782	308-0836	382-8036	383-0136 383-0236
			382-8032	
HM212011/ HM212049	45220/ 45280		382-8039	383-0139 383-0239
HM212011/ HM212049X	3720/3782	308-0836	382-8036	383-0136 383-0236
HM218210/ HM218248	HM212011/ HM212049	307-0743	372-7097	373-0143 373-0243
JM205110/ JM205149	25820/ 25877	308-0866	382-8066	383-0166 383-0175
JM207010/ JM207049	25820/ 25877	308-0866	382-8066	383-0166
HM516410/HM516449	572/575		392-9007	
HM516410/ HM516449	47620/ 47679	309-0904	392-9112	393-0104 393-0204
			392-9007	
HM516410/ HM516449A	47620/ 47679	309-0904	392-9130*	393-0104 393-0204
HM518410/ HM518445	HM518410/ HM518445	307-0723	372-7099	373-0123 373-0223
JM205149	32207			383-0175
JM205110/ JM204149A	25820/ 25877		382-8066	383-0166
JM511910/JM510946	JM205110/JM205149		372-7049	
JF7049A		308-0870		
33212	33208			383-0176

Blue numbers indicate obsolete parts.

Blue numbers indicate obsolete parts.

UNITIZED PINION SEAL SPECIFICATIONS AND INTERCHANGE

PART #	BORE ID	YOKE SHAFT OD	TOOL #	APPLICATION	OE #	SKF #	NATIONAL #
429-0002	4.500	3.500	551-5360	Mack Front	88AX458	34882 34891	415991N
429-0003	4.562	2.625	551-5001	Eaton 400 Rear	127721 79470	26373 26378	9773
429-0004	3.625	2.625	551-5003	Eaton 400 Front	127592 127720 63910	26220 26209 26239	475003N
429-0005	3.751	3.003	551-5004	Meritor SQ100 Front	A1-1205Y2729 A1205P2590	29865 29867 30007	4810V 100495 415281N
429-0006	4.003	2.937	551-5002	Eaton 402 Front	210737 127719 A1205U1737	29292 29322 29316	416654 475012N
429-0007	4.249	3.253	551-5006	Meritor R145/160 Front	A1-1205X2728 A1205R2592 A1205P1368	32385 32397 32410	4543V 100494 416470N
429-0008	3.537	2.751	551-5007	Mack Front	88AX456 A1205A1925	27295 27558	4874N 475322N
429-0009	3.996	2.751	551-5008	Mack Rear	88AX457	27542 27565	415272N
429-0010	4.935	3.003	551-5009	Meritor SQ100 Rear	A1-1205Z2730 A1205N2588 A1205H2426	30145 30153	3905 4562V 100263
429-0011	5.501	3.253	551-5011	Meritor RT 46-160 180, 380 Series	A1205Q2591	32870	4544V 100557
429-0011	4.564	3.000	551-5012	Eaton 344, 404, 405, 454, Front & Rear	127591	29528	

PINION SEAL SPECIFICATIONS BY SET NUMBER

SET #	BORE ID	YOKE SHAFT OD	WEAR SLEEVE	DUST SEAL	OIL SEAL	SPLINE OD
460-6001	3.625	2.625	419-1946	429-2945	429-2944	1-3/4 1 31/32
460-6002	4.562	2.625	419-1946	1	429-2983	1-3/4 1 31/32
460-6003	3.937	2.937	419-1981	429-2978	429-2977	2
460-6006	4.000	2.937	419-1940	429-2937	429-2938	2 2 5/32
460-6007	4.000	3.000	419-1939	429-2937	429-2938	1-31/32
460-6011	4.250	3.250	419-1941	1	429-2941	2-1/4
460-6012	4.250	3.000	419-1901	1	429-2901	Any
460-6083	4.250	3.250	419-1983	1	429-2941	2-1/4
460-6084	4.000	2.937	419-1984	429-2937	429-2938	2 2 5/32

1 Oil Seal & Dust Seal are an integral unit

Blue numbers indicate obsolete parts.

AXLE RING TO HUB SEAL SET CROSS REFERENCE

AXLE RING	OIL SEAL	HUB SEAL SET	AXLE RING	OIL SEAL	HUB SEAL SET	DEFLECTOR RING	GUARDIAN/ GUARDIAN HP SEAL
310-1007	320-2096	392-9007	310-1062	320-2057	392-9035	317-1710*	308-0855
310-1008	320-2018	372-7046	310-1063	320-2057	392-9036	317-1743*	307-0743
310-1008	320-2105	382-8044	310-1064	320-2136	372-7049	317-1702*	308-0836
310-1008	320-2164	382-8066	310-1064	320-2072	392-9038	317-1703*	309-0973
310-1009	320-2181	382-8052	310-1066	320-2061	392-9034	317-1704*	307-0713
310-1012	320-2012	392-9012	310-1079	320-2009	392-9081	317-1705*	309-0904
310-1013	320-2086	382-8001	310-1088	320-2213	None	317-1705*	307-0723
310-1013	320-2109	None	310-1089	320-2099	392-9053	317-1706*	308-0856
310-1017	320-2017	382-8017	310-1093	320-2199	382-8056	317-1706*	309-0903
310-1018	320-2029	372-7018	310-1093	320-2181	382-8053	317-1707*	309-0912
310-1018	320-2029	392-9018	310-1093	320-2058	392-9033	317-1708*	308-0853
310-1018	320-2104	392-9057	310-1093	320-2113	None	317-1709*	307-0744
310-1022	320-2023	372-7022	310-1095	320-2001	392-9001	317-1710*	308-0855
310-1023	320-2023	None	310-1103	320-2001	392-9062	317-1711*	308-0864
310-1023	320-2173	372-7024	310-1104	320-2077	392-9063	317-1712*	309-0964
310-1026	320-2131	None	310-1107	320-2119	392-9066	317-1713*	309-0965
310-1028	320-2166	382-8069	310-1111	320-2106	None	317-1719*	309-0961
310-1028	320-2028	382-8028	310-1111	320-2115	None	317-1721*	308-0863
310-1028	320-2041	382-8045	310-1111	320-2162	None	317-1724*	309-0957
310-1028	320-2009	None	310-1117		See 392-9045 Remarks	317-1726*	308-0866
310-1032	320-2032	382-8032			See 392-9034 Remarks	317-1728*	309-0935
310-1034	320-2034	382-8034	310-1123			317-1756*	309-0915
310-1034	320-2216	382-8071	310-1130	320-2023	372-7062	317-1761*	309-0970
310-1036	320-2032	372-7009	310-1130	320-2023	372-7062	317-1761*	309-0960
310-1036	320-2046	372-7006	310-1233	320-2233	392-9111	317-1790*	309-0948
310-1036	320-2031	None	315-1501	320-2102	392-9099	317-1724*	308-0870
310-1036	320-2036	382-8036	315-1502	320-2162	392-9087		
310-1036	320-2119	382-8027	315-1503	320-2023	372-7099		
310-1036	320-2133	382-8063	315-1503	320-2173	372-7091		
310-1037	320-2118	None	315-1504	320-2110	372-7097		
310-1037	320-2137	382-8064	315-1504	320-2111	372-7096		
310-1038	320-2039	382-8039	315-1507	320-2109	372-7098		
310-1041	320-2023	382-8060	315-1508	320-2114	392-9096		
310-1043	320-2041	372-7015	315-1508	320-2131	392-9092		
310-1048	320-2110	None	315-1509	320-2117	392-9095		
310-1050	320-2022	382-8010	315-1510	320-2118	372-7095		
310-1051	320-2031	382-8011	315-1511	320-2129	392-9094		
310-1051	320-2125	382-8062	315-1515	320-2213	392-9112		
310-1052	320-2050	382-8009	315-1516	320-2097	392-9089		
310-1053	320-2109	392-9032	315-1517	320-2113	392-9088		
310-1057	320-2109	372-7003	315-1519	320-2213	392-9130		
310-1061	320-2056	382-8005	315-1525	320-2106	392-9131		
			315-1530	320-2115	392-9132		

*317-series deflector rings are component parts for the Guardian Hub Seal. These parts are not sold separately.

Blue numbers indicate obsolete parts.

SENTINEL®



EXCEPTIONAL PROTECTION FROM THE ELEMENTS, GUARANTEED

Sentinel® Hub Cap technology provides an unmatched filtering system to eliminate contamination from dirt, dust, sand and water, all while making it easy to visually monitor lube levels. Featuring an innovative design and durable construction, Sentinel hub caps help extend equipment life, reduce maintenance and increase profitability.

Sentinel Hub Cap

Provides a tamper-proof hub cap system for maximum protection and maintenance-free performance.

Sentinel ESP (Extended Service Plug)

Allows Sentinel Technology to be retrofitted on existing wheel ends with drive axle plugs or aftermarket plugs.

World Class Innovation

The only water proof hub cap in the industry.

Versatile

Order OEM or retrofit in the aftermarket on a trailer, drive or steer axle.

A Corrosion-Free Option

STEMCO Defender™ hub caps with Sentinel Technology are made from composite materials with stainless steel reinforcement inserts that will not corrode.

SENTINEL® : KEEPING WATCH OVER WHEEL ENDS

- Prevents dirt and water from contaminating the oil, thereby extending seal and bearing life.
- Dramatically reduces contaminant build-up on hub cap windows, allowing for an accurate determination of lube levels.
- Eliminates early oil breakdown by preventing water contamination as a result of submerged axles.
- Provides maximum protection for maintenance-free wheel end systems.
- Improves performance and lowers overall maintenance costs.

SENTINEL HUB CAP

STEMCO BASE PART NO.	OIL CAP	GREASE CAP	BOLT CIRCLE	BOLT SIZE	NO. OF BOLTS	GASKET NUMBER	OIL WINDOW KIT	GREASE WINDOW KIT
4009	348-4009	349-4009	5 1/2"	5/16"	6	330-3009	359-6112	359-6120
4013	348-4013	349-4013	5 1/2"	5/16"	5	330-3013	359-6112	359-6120
4046	348-4046	349-4046	5 1/2"	5/16"	6	330-3009	359-6112	359-6120
4075	348-4075	349-4075		6 1/4" x 8" UN(M)		330-3077	359-6112	359-6120
4095	348-4095	349-4095	5 1/2"	5/16"	6	330-3009	359-6112	359-6120
4195	348-4195	349-4195	6 3/4"	5/16"	6	330-3118	359-6112	359-6120
4281	348-4281	N/A	5 17/32"	3/8"	6	330-3122	359-6112	359-6120

INTEGRATED SENTINEL HUB CAP

STEMCO BASE PART NO.	OIL CAP	GREASE CAP	BOLT CIRCLE	BOLT SIZE	NO. OF BOLTS	GASKET NUMBER	OIL WINDOW KIT	GREASE WINDOW KIT
4009	356-4009	358-4009	5 1/2"	5/16"	6	330-3009	359-6145	359-6146
4009	366-4009	368-4009	5 1/2"	5/16"	6	330-3009		
4013	356-4013	358-4013	5 1/2"	5/16"	5	330-3013	359-6145	359-6146
4024	356-4024	358-4024	4 1/2"	5/16"	6	330-3024	359-6143	359-6144
4024	366-4009	368-4009	5 1/2"	5/16"	6	330-3009		
4025	356-4025	358-4025	5 7/8"	5/16"	6	330-3025	359-6143	359-6144
4046	356-4046	358-4046	5 1/2"	5/16"	6	330-3009	359-6145	359-6146
4075	356-4075	358-4075		6 1/4" x 8" UN(M)		330-3077	359-6145	359-6146
4080	356-4080	358-4080	6	3/8"	6	330-3060	359-6143	359-6144
4095	356-4095	358-4095	5 1/2"	5/16"	6	330-3009	359-6145	359-6146
4119	356-4119	358-4119	7	5/8"	8	330-3090	359-6145	359-6146
4150	356-4150	358-4150	4 1/2"	5/16"	5	330-3150	359-6143	359-6144
4195	356-4195	358-4195	6 3/4"	5/16"	6	330-3118	359-6145	359-6146
4195	360-4195	368-4195	6 3/4"	5/16"	6	330-3118		
4195	366-4195	368-4195	6 3/4"	5/16"	6	330-3118		

SENTINEL ESP

(EXTENDED SERVICE PLUG)

STEMCO PART NO.	DESCRIPTION
359-6124	ESP Plug Blister Pack (2/pk)
359-6125	ESP Plugs (bulk pack of 50)

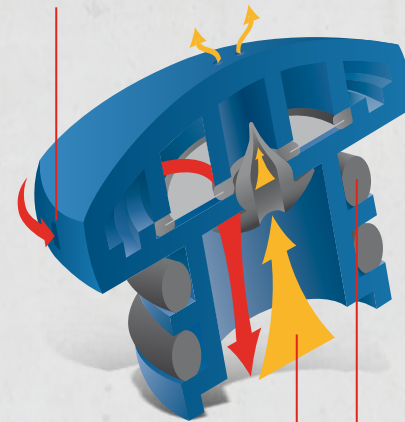
SENTINEL HUB CAP BULK PACK

STEMCO PART NO.	DESCRIPTION
300-5009	340-4009 Hub Cap with ESP Plug Bulk Pack (50/box)
303-5009	343-4009 Hub Cap with ESP Plug Bulk Pack (50/box)

SENTINEL ESP FILTERED VENT

STEMCO PART NO.	DESCRIPTION
359-6137	Drive Axle Vent (3/8" adapter)

To relieve vacuum, the Sentinel interior check valve lifts slightly, drawing air into the wheel end through the water-resistant filter. The duck-bill check valve remains closed, blocking dirt, grime and other contaminants from entering.

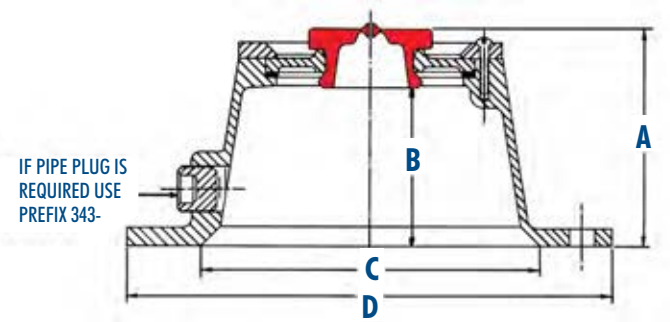


To relieve pressure, the duck-billed pressure relief valve opens, allowing pressure to vent out. The umbrella check valve remains closed, stopping lubricant from leaking out and contaminants from flowing in.

A second O-ring increases plug retention.

HUB CAP SPECIFICATIONS

BOLT-ON HUB CAPS BY BOLT CIRCLE



How to Determine Bolt Circle

Count the number of mounting holes; measure diameter of bolts; measure bolt circle (select 2 holes opposite each other and measure from the center of one bolt to the center of the one opposite). On odd number holes, measure inside diameter of hub and add twice the distance from the bore to the center of bolt hole.

BOLT CIRCLE	BOLT SIZE	NO. OF BOLTS	A HEIGHT	B INSIDE DEPTH	C FLANGE I.D.	D FLANGE O.D.	HUB CAP INCLUDES GASKET	GASKET NUMBER
3-5/8	5/16	4	2-1/4	1-1/2	2-1/2	4-1/2	340-4065	330-3040
3-7/8	5/16	6	2-1/4	1-1/2	2-3/4	4-1/2	340-4198	330-3119
4	1/4	4	2-1/8	1-3/8	3-1/8	4-9/16	340-4157 ¹	330-3102
4-1/16	3/16	6	2-5/8	1-7/8	3-5/16	4-1/2	340-4139 ¹	330-3094
4-1/2	5/16	6	2-5/8	1-7/8	3-1/2	5-1/4	340-4024	330-3024
4-1/2	5/16	6	2-5/8	1-7/8	3-1/2	5-1/4	343-4308	330-3024
4-1/2	6mm	6	2-5/8	1-7/8	3-1/2	5-1/4	340-4263	330-3024
5	1/4	4	3-1/8	2-3/8	4	5-3/4	340-4028	330-3028
5	5/16	4	2-1/8	1-3/8	4	5-3/4	340-4186	330-3120
5-1/8	5/16	6	2-7/8	2-1/8	3-3/4	5-3/4	340-4066	330-3041
5-1/8	5/16	6	1-7/8	1-1/8	4	5-11/16	340-4042	330-3041
5-1/4	3/8	3	2-7/8	2-1/8	4-3/8	6	340-4002	330-3002
5-1/4	3/8	3	3-1/2	2-3/4	4-1/8	Not Round	340-4019	330-3019
5-1/4	5/16	6	2-7/8	2-1/8	4-3/8	6	340-4031	330-3031
5-1/2	5/16	6	1-1/4	1-1/8	4-7/16	6-3/16	340-4098	330-3009
5-1/2	5/16	5	2-11/16	1-15/16	4-3/8	6-1/4	340-4013	330-3013
5-1/2	5/16	6	1-13/16	1-11/16	4-7/16	6-3/16	340-4249 ³	330-3122
5-1/2	5/16	6	1-13/16	1-1/16	4-9/16	6-3/16	340-4095	330-3009
5-1/2	5/16	6	2-5/16	1-9/16	4-9/16	6-3/16	340-4046	330-3009
5-1/2	5/16	6	2-11/16	1-15/16	4-3/8	6-1/4	340-4009	330-3009
5-1/2	5/16	6	2-11/16	1-15/16	4-3/8	6-1/4	343-4122	330-3009
5-1/2	5/16	6	1-13/16	1-1/16	4-9/16	6-3/16	343-4309	330-3009
5-1/2	5/16	6	2-11/16	1-15/16	4-3/8	6-1/4	343-4342	330-3009
5-17/32	3/8	6	1-13/16	1-9/16	4-7/16	6-3/16	343-4250 ²	330-3122
5-17/32	3/8	6	2-5/16	1-9/16	4-9/16	6-3/16	343-4281 ³	330-3122
5-9/16	5/16	6	1-13/16	1-11/16	4-7/16	6-3/16	340-4249 ³	330-3122
5-9/16	5/16	3	2-7/8	2-1/8	3-3/4	6-3/8	340-4049	330-3042
5-9/16	5/16	6	2-7/8	2-1/8	3-11/16	6-3/8	340-4149	330-3097
5-7/8	5/16	6	1-3/8	5/8	4-1/4	6-1/2	343-4025 ²	330-3025
5-7/8	5/16	6	1-5/8	1-7/16	4-1/2	6-37/64	340-4092	330-3025
5-7/8	5/16	6	2-3/8	1-5/8	5-1/8	Not Round	340-4036	330-3035
6	5/16	6	2-5/8	1-7/8	5	6-3/4	340-4059	330-3056

¹ Cannot be made with pipe plug
² Made with pipe plug only
³ Fits 5-1/2 and 5-9/16 bolt circles

HUB CAP SPECIFICATIONS

BOLT-ON HUB CAPS BY BOLT CIRCLE *CONTINUED*

BOLT CIRCLE	BOLT SIZE	NO. OF BOLTS	A HEIGHT	B INSIDE DEPTH	C FLANGE I.D.	D FLANGE O.D.	HUB CAP INCLUDES GASKET	GASKET NUMBER
6	5/16	6	2-1/2	1-3/4	4-15/16	6-7/8	343-4176	330-3060
6	3/8	6	3-3/16	2-3/8	4-15/16	6-7/8	343-4080 ²	330-3060
6-1/8	3/8	3	2-11/16	1-15/16	4-5/16	7	340-4011	330-3011
6-1/8	5/16	6	2-11/16	1-15/16	4-5/16	7	340-4163 ¹	330-3104
6-5/8	1/4	6	2-13/16	2-1/16	5-5/16	7-1/8	340-4034	330-3034
6-3/4	5/16	6	3-11/16	2-15/16	5-7/16	7-1/2	340-4195	330-3118
6-3/4	3/8	6	2-11/16	1-15/16	5	7-3/4	343-4064 ²	330-3079
6-7/8	7/16	7	2-11/16	1-15/16	5	7-3/4	340-4082	330-3062
7	5/8	8	2-1/16	1-5/16	4-5/16	8-1/4	340-4119 ¹	330-3090
7	13/16	8	2-1/16	1-5/16	4-5/16	8-1/4	340-4305 ¹	330-3090
7-1/4	1/4	6	2-7/8	2-1/8	6-1/4	7-7/8	343-4107 ²	330-3084
110/mm	8.5mm	6	67.3mm	47.0mm	88.4mm	133.3mm	343-4295 ²	330-3130

¹ Cannot be made with pipe plug
² Made with pipe plug only

4009 HUB CAP VARIATIONS

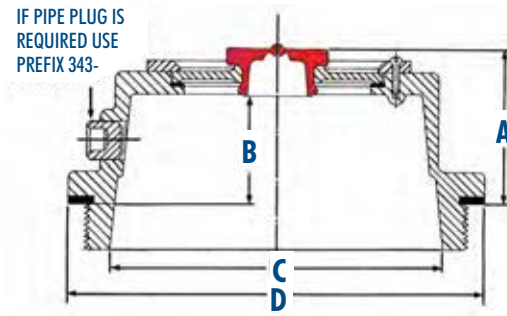
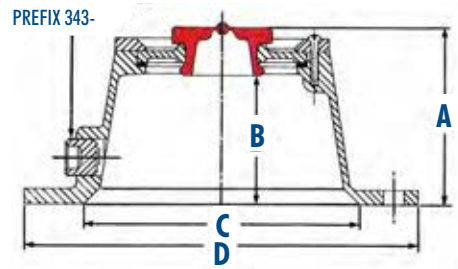
APPLICATION	PART NUMBER	DESCRIPTION
Oil	343-4350	Cast aluminum hub cap with PSI face & side fill plug
Oil	347-4009	Cast aluminum hub cap with hubo window & side fill plug
Oil	348-4009	Cast aluminum hub cap with Sentinel® Technology and side fill plug
Oil	356-4009	Integrated Sentinel®
Grease/Oil	340-4009	Cast aluminum hub cap with large red fill plug & no side fill plug
Grease/Oil	343-4009	Cast aluminum hub cap with large red fill plug & side fill plug
Grease/Oil	300-4009	Cast aluminum hub cap with large red fill plug & no side fill plug in 50 unit bulk pack
Grease/Oil	303-4009	Cast aluminum hub cap with large red fill plug & side fill plug in 50 unit bulk pack
Grease	340-4350	Cast aluminum hub cap with PSI face & no side fill plug
Grease	340-5096	Stamped steel hub cap with vent
Grease	340-5097	Stamped steel hub cap with no vent
Grease	342-4009	Cast aluminum hub cap with dirt exclusion window & no side fill plug
Grease	347-4278	Cast aluminum hub cap with hubo window & no side fill plug
Grease	347-5096	Stamped steel hub cap with hubo mounting hole & vent
Grease	349-4009	Cast aluminum hub cap with Sentinel® Technology and no side fill plug
Grease	352-4009	Cast aluminum hub cap with solid top (duckbill vent) & no side fill plug
Grease	358-4009	Integrated Sentinel®

BULK HUB CAPS

STEMCO PART #	STANDARD PART #	BULK QTY.	GASKET #
300-4009	340-4009	25	330-3009 - Included
303-4009	343-4009	25	330-3009 - Included
300-5097	340-4009	25	330-3009 - Included

HUB CAP SPECIFICATIONS

HUB CAPS BY CAP NUMBER



HUB CAP INCLUDES GASKET	BOLT CIRCLE	BOLT SIZE	NO. OF BOLTS	A HEIGHT	B INSIDE DEPTH	C FLANGE I.D.	D FLANGE O.D.	GASKET NUMBER	WINDOW KIT
340-4002	5-1/4	3/8	3	2-7/8	2-1/8	4-3/8	6	330-3002	359-5999
340-4009 4	5-1/2	5/16	6	2-11/16	1-15/16	4-3/8	6-1/4	330-3009	359-5995
340-4011	6-1/8	3/8	3	2-11/16	1-15/16	4-5/16	7	330-3011	359-5995
340-4013 4	5-1/2	5/16	5	2-11/16	1-15/16	4-3/8	6-1/4	330-3013	359-5995
340-4015	Blank	--	--	2-11/16	1-15/16	4-3/8	6-1/4	330-3015	359-5995
340-4019	5-1/4	3/8	3	3-1/2	2-3/4	4-1/8	Not Round	330-3019	359-5995
340-4024	4-1/2	5/16	6	2-5/8	1-7/8	3-1/2	5-1/4	330-3024	359-5999
343-4025 2	5-7/8	5/16	6	1-3/8	5/8	4-1/4	6-1/2	330-3025	359-5999
340-4028	5	1/4	4	3-1/8	2-3/8	4	5-3/4	330-3028	359-5999
340-4031	5-1/4	5/16	6	2-7/8	2-1/8	4-3/8	6	330-3031	359-5999
340-4034	6-5/8	1/4	6	2-13/16	2-1/16	5-5/16	7-1/8	330-3034	359-5999
340-4036	5-7/8	5/16	6	2-3/8	1-5/8	5-1/8	Not Round	330-3035	359-5995
340-4042	5-1/8	5/16	6	1-7/8	1-1/8	4	5-11/16	330-3041	359-5999
340-4046	5-1/2	5/16	6	2-5/16	1-9/16	4-9/16	6-3/16	330-3009	359-5995
340-4054 1	Blank	None	--	2-1/8	1-3/8	4-1/32	8-5/8	330-3017	359-5995
340-4059	6	5/16	6	2-5/8	1-7/8	5	6-3/4	330-3056	359-5995
343-4064 2	6-3/4	3/8	6	2-11/16	1-15/16	5	7-3/4	330-3079	359-5995
340-4065	3-5/8	5/16	4	2-1/4	1-1/2	2-3/4	4-1/2	330-3040	359-5990
340-4066	5-1/8	5/16	6	2-7/8	2-1/8	3-3/4	5-3/4	330-3041	359-5999
340-4075 4	6-1/4 X 8 UN (M)			2-5/16	1-9/16	5-3/4	6-7/8	330-3077	359-5995
343-4080 2	6	3/8	6	3-3/16	2-3/8	4-15/16	6-7/8	330-3060	359-5999
340-4082	6-7/8	7/16	7	2-11/16	1-15/16	5	7-3/4	330-3062	359-5995
340-4092	5-7/8	5/16	6	1-5/8	1-7/16	4-1/2	6-37/64	330-3025	359-5912
340-4095	5-1/2	5/16	6	1-13/16	1-1/16	4-9/16	6-3/16	330-3009	359-5995
340-4098	5-1/2	5/16	6	1-1/4	1-1/8	4-7/16	6-3/16	330-3009	359-5912
343-4107 2	7-1/4	1/4	6	2-7/8	2-1/8	6-1/4	7-7/8	330-3084	359-5995
340-4119 1	7	5/8	8	2-1/16	1-5/16	4-5/16	8-1/4	330-3090	359-5995
343-4122 5	5-1/2	5/16	6	2-11/16	1-15/16	4-3/8	6-1/4	330-3009	359-5995
340-4139 2	4-1/16	3/16	6	2-5/8	1-7/8	3-5/16	4-1/2	330-3094	359-5999

- 1** Cannot be made with pipe plug
- 2** Made with pipe plug only
- 4** Hub cap available with hubo window, order 347-prefix. Also available 347-4342, which is 4195 hub cap for grease applications and 347-4343 which is 4075 hub cap for grease applications, 347-4278 for 4009 grease hub cap application.
- 5** 4009 hub cap with magnetic pipe plug (359-5984)

CONTINUED ON NEXT PAGE

HUB CAP SPECIFICATIONS

HUB CAPS BY CAP NUMBER CONTINUED

HUB CAP INCLUDES GASKET	BOLT CIRCLE	BOLT SIZE	NO. OF BOLTS	A HEIGHT	B INSIDE DEPTH	C FLANGE I.D.	D FLANGE O.D.	GASKET NUMBER	WINDOW KIT
340-4149	5-9/16	5/16	6	2-7/8	2-1/8	3-11/16	6-3/8	330-3097	359-5999
340-4157 1	4	1/4	4	2-1/8	1-3/8	3-1/8	4-9/16	330-3102	NONE
340-4163 1	6-1/8	5/16	6	2-11/16	1-15/16	4-5/16	7	330-3104	359-5995
343-4176	6	5/16	6	2-1/2	1-3/4	4-15/16	6-7/8	330-3060	359-5999
340-4186	5	5/16	4	2-1/8	1-3/8	4	5-3/4	330-3120	359-5999
340-4195 4	6-3/4	5/16	6	3-11/16	2-15/16	5-7/16	7-1/2	330-3118	359-5995
340-4198	3-7/8	5/16	6	2-1/4	1-1/2	2-3/4	4-1/2	330-3119	NONE
340-4249 3	5-1/2	5/16	6	1-13/16	1-11/16	4-7/16	6-3/16	330-3122	359-5912
343-4250 2, 7	5-17/32	3/8	6	1-13/16	1-9/16	4-7/16	6-3/16	330-3122	NONE
340-4263 1	4-1/2	6mm	6	2-5/8	1-7/8	3-1/2	5-1/4	330-3024	359-5999
343-4281 3	5-17/32	3/8	6	2-5/16	1-9/16	4-9/16	6-3/16	330-3122	359-5995
343-4295 2	110mm	8.5mm	6	67.3mm	47.0mm	88.4mm	133.3mm	330-3130	359-5999
343-4308 2, 10	4-1/2	5/16	6	2-5/8	1-7/8	3-1/2	5-1/4	330-3024	NONE
343-4309 2, 8	5-1/2	5/16	6	1-13/16	1-1/16	4-9/16	6-3/16	330-3009	359-6100
340-4320 1	6-1/4 X 8 UN (M)			2-5/16	1-9/16	5-3/4	6-7/8	330-3077	NONE
343-4342 2, 9	5-1/2	5/16	6	2-11/16	1-15/16	4-3/8	6-1/4	330-3009	359-6100
340-4975 1, 6	6-1/4 X 8 UN (M)			2-5/16	1-9/16	5-3/4	6-7/8	330-3077	NONE
340-4976 1, 6	6-1/4 X 8 UN (M)			2-5/16	1-9/16	5-3/4	6-7/8	330-3077	NONE
340-4977 11	6-1/4 X 8 UN (M)			2-5/16	1-9/16	5-3/4	6-7/8	330-3077	NONE
343-5111	3-5/8	5/16	4	2-1/4	1-1/2	2-3/4	4-1/2	330-3040	NONE

- 1** Cannot be made with pipe plug
- 2** Made with pipe plug only
- 3** Hub cap can be used with 5-1/2 or 5-9/16 bolt circle with 5/16 inch bolts
- 4** Hub cap available with hubo window, order 347-prefix. Also available 347-4342, which is 4195 hub cap for grease applications and 347-4343 which is 4075 hub cap for grease applications, 347-4278 for 4009 grease hub cap applications. Also available with Hubo window when ordered with 347 prefix. See options below.
- 6** Lexan hub caps, order in multiples of 25
- 7** 4249 with recessed vent plug
- 8** 4095 with small vent plug 359-5915
- 9** 4009 with small vent plug 359-5915
- 10** 4024 with small vent plug
- 11** 4975 individually boxed

TORQUE SPECIFICATIONS

HUB CAP MOUNTING BOLTS			
BOLT SIZE	TORQUE	BOLT SIZE	TORQUE
3/16	8-10 ft. lbs.	1/2	20-24 ft. lbs.
1/4	8-12 ft. lbs.	3/4	24-28 ft. lbs.
5/16	12-16 ft. lbs.	7/8	26-30 ft. lbs.
3/8	16-20 ft. lbs.	6 MM	8-12 ft. lbs.
7/16	18-22 ft. lbs.	8.5 MM	12-16 ft. lbs.

THREADED HUB CAPS	
PART #	TORQUE
XXX-4075	100 ft. lbs.
340-4975	50-60 ft. lbs.
340-4976	50-60 ft. lbs.
640-0003	50-60 ft. lbs.

HUBO WINDOW OPTIONS		
STEMCO BASE PART #	GREASE CAP PART #	OIL CAP PART #
4009	347-4278	347-4009
4075	347-4343	347-4075
4195	347-4342	347-4195

HUB CAP COMPONENTS		
PART #	DESCRIPTION	TORQUE
359-6032	#8 Torx Screw	25 in. lbs. Maximum
359-5984	3/8 Mag Plug	5-9 ft. lbs. Maximum
359-5985	3/8 Pipe Plug	5-9 ft. lbs. Maximum

HUB CAP SPECIFICATIONS



SENTINEL® HUB CAPS

STEMCO BASE PART #	OIL CAP	GREASE CAP	BOLT CIRCLE	BOLT SIZE	# OF BOLTS	GASKET #	OIL WINDOW KIT	GREASE WINDOW KIT
4009	348-4009	349-4009	5-1/2	5/16	6	330-3009	359-6112	359-6120
4013	348-4013	349-4013	5-1/2	5/16	5	330-3013	359-6112	359-6120
4046	348-4046	349-4046	5-1/2	5/16	6	330-3009	359-6112	359-6120
4075	348-4075	349-4075	6-1/4 x 8 UN(M)			330-3077	359-6112	359-6120
4095	348-4095	349-4095	5-1/2	5/16	6	330-3009	359-6112	359-6120
4195	348-4195	349-4195	6-3/4	5/16	6	330-3118	359-6112	359-6120
4281	348-4281	n/a	5-17/32	3/8	6	330-3122	359-6112	359-6120

Window kit consists of window, gasket, window ring assembly/gasket and Sentinel Cap Cover P/N 359-6103.



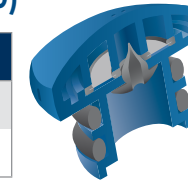
INTEGRATED SENTINEL® HUB CAPS

STEMCO BASE PART #	OIL CAP	GREASE CAP	BOLT CIRCLE	BOLT SIZE	# OF BOLTS	GASKET #	OIL WINDOW KIT	GREASE WINDOW KIT
4009	356-4009	358-4009	5-1/2	5/16	6	330-3009	359-6145	359-6146
4013	356-4013	358-4013	5-1/2	5/16	5	330-3013	359-6145	359-6146
4024	356-4024	358-4024	4-1/2	5/16	6	330-3024	359-6143	359-6144
4025	356-4025	358-4025	5-7/8	5/16	6	330-3025	359-6143	359-6144
4046	356-4046	358-4046	5-1/2	5/16	6	330-3009	359-6145	359-6146
4075	356-4075	358-4075	6-1/4 x 8 UN(M)			330-3077	359-6145	359-6146
4080	356-4080	358-4080	6	3/8	6	330-3060	359-6143	359-6144
4095	356-4095	358-4095	5-1/2	5/16	6	330-3009	359-6145	359-6146
4119	356-4119	358-4119	7	5/8	8	330-3090	359-6145	359-6146
4150	356-4150	358-4150	4-1/2	5/16	5	330-3150	359-6143	359-6144
4195	356-4195	358-4195	6-3/4	5/16	6	330-3118	359-6145	359-6146

HUB CAP SPECIFICATIONS

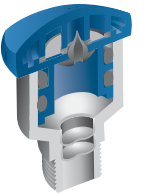
SENTINEL® ESP (EXTENDED SERVICE PLUG)

STEMCO PART #	DESCRIPTION
359-6124	ESP Plug Blister Pack (2/pk)
359-6125	ESP Plugs (bulk pack of 50)



SENTINEL® ESP FILTERED VENT

STEMCO PART #	DESCRIPTION
359-6137	Drive Axle Vent (3/8" adapter)



HUB CAPS WITH SENTINEL® ESP PLUG

SENTINEL ESP PART #	DESCRIPTION	BOLT CIRCLE	BOLT SIZE	# OF BOLTS	GASKET P/N
350-4065*	4065 Cap, no side fill plug	3-5/8	5/16	4	330-3040
353-4065*	4065 Cap, with side fill plug	3-5/8	5/16	4	330-3040



*Cannot use standard 340 or 343-4065 cap with ESP™ Plug. The casting has been modified to accept the ESP™, therefore, the above part numbers must be ordered to use this application with the ESP™ Plug.

BULK PACK HUB CAPS WITH SENTINEL® ESP PLUG

SENTINEL ESP PART #	DESCRIPTION	BOLT CIRCLE	BOLT SIZE	# OF BOLTS	GASKET P/N
300-5009	4009 Cap, no side fill plug Bulk Pack (25/Box)	5-1/2	5/16	6	330-3009
303-5009	4009 Cap, with side fill plug Bulk Pack (25/Box)	5-1/2	5/16	6	330-3009

PSI READY HUB CAP

STEMCO PART #	GREASE CAP	OIL CAP	OIL CAP WITH MAGNETIC PIPE PLUG
4009	340-4370	343-4370	343-4373
4075	340-4371	343-4371	343-4374
4195	340-4372	343-4372	343-4375
4384	340-4384	N/A	N/A
Window Kits	359-6141	359-6140	—



Grease Hub Cap 340 Series



Oil Hub Cap 343 Series

Window kit consists of window, gasket and PSI retainer ring/gasket.

HUBO BRACKET FOR SENTINEL® AND PSI HUB CAPS

STEMCO PART #	STEMCO BASE PART #	PSI HUB CAP PART# (GREASE)	PSI HUB CAP PART# (OIL)	STUD SIZE	HEIGHT
610-0084	4195	340-4372	343-4372	5/16	5
610-0028	4009	340-4370	343-4370	5/16	5
610-0090	4075	340-4371	343-4371	*	1 7/8

*Bracket mounts on top of window ring w/4 replacement screws included w/bracket.

HUB CAP SPECIFICATIONS

POPULAR HUB CAP OPTIONS WITH BOLT SPECIFICATIONS

STEMCO BASE PART #	PREFIX	4009	4013	4024	4046	4075	4095	4195	4249	4281	4370 1	4371 1	4372 1
STANDARD HUB CAP, NO SIDE FILL	340	X	X	X	X	X	X	X	X		X	X	X
DIRT EXCLUSION, GREASE	342	X	X	X		X	X	X	X				
STANDARD HUB CAP, SIDE FILL	343	X	X	X	X	X	X	X	X		X	X	X
STANDARD HUB CAP, HUBO WINDOW	347	X	X			X		X					
SENTINEL® HUB CAP	348	X	X		X	X	X	X		X			
SENTINEL® HUB CAP GREASE	349	X	X		X	X	X	X		X			
SOLID ALUMINUM GREASE / VENTED	352	X					X	X					
INTEGRATED SENTINEL® OIL	356	X	X	X	X	X	X	X					
INTEGRATED SENTINEL® GREASE	358	X	X	X	X	X	X	X					
BOLT CIRCLE		5-1/2	5-1/2	4-1/2	5-1/2	6-1/4 x 8 UN(M)	5-1/2 x 5/16	6-3/4	5-1/2	5-17/32	5-1/2	6-1/4 x 8 UN(M)	6-3/4
BOLT SIZE		5/16	5/16	5/16	5/16			5/16	5/16	3/8	5/16		5/16
# OF BOLTS		6	5	6	6			6	6	6	6		6

1 PSI Hub Cap

HUB CAP CROSSOVER

COMPETITIVE PART #	COMPETITOR'S NAME	STEMCO PART #	COMPETITIVE PART #	COMPETITOR'S NAME	STEMCO PART #	COMPETITIVE PART #	COMPETITOR'S NAME	STEMCO PART #
1282	C/R	340-4975	401911P	Mechanex/Barrier	340-4975	DG-6F4.5	Dual Dynamics	340-4024
1612	C/R	343-4024	506085	Eaton	343-4024	DG-6F4.5P	Dual Dynamics	343-4013
1623	C/R	343-4066	506089	Eaton	343-4249	DG-6F4.5PC	Dual Dynamics	343-4024
1627	C/R	343-4019	64002	TriSeal	343-4019	DG-6F4.5S	Dual Dynamics	347-4075
1642	C/R	343-4013	64009	TriSeal	343-4009	DG-6FL	Dual Dynamics	340-4249
1643	C/R	343-4249	64009H	TriSeal	347-4009	DG-6FP	Dual Dynamics	347-4009
1665	C/R	343-4042	64013	TriSeal	343-4013	DG-6FPC	Dual Dynamics	340-4024
1681	C/R	343-4186	64024	TriSeal	343-4024	DG-6P	Dual Dynamics	340-4009
1682	C/R	343-4075	64029	TriSeal	343-4186	DG-6PS	Dual Dynamics	343-4009
1696	C/R	343-4195	64034	TriSeal	343-4034	DG-6PSC	Dual Dynamics	340-4046
1703	C/R	343-4249	64042	TriSeal	343-4042	DG-7.5P	Dual Dynamics	340-4195
1711	C/R	343-4024	64046	TriSeal	343-4046	DG-7.5PS	Dual Dynamics	343-4195
1723	C/R	343-4066	64046	TriSeal	343-4095	DG-P	Dual Dynamics	340-4075
1727	C/R	343-4019	64046	TriSeal	343-4249	DG-PS	Dual Dynamics	343-4075
1742	C/R	343-4013	64066	TriSeal	343-4066	DG-PSC	Dual Dynamics	343-4249
1743	C/R	343-4009	64075A	TriSeal	343-4075	H075	National	343-4075
1743	C/R	343-4046	64075G	TriSeal	342-4075	H51643	Mechanex/Barrier	343-4249
1743	C/R	343-4095	64075P	TriSeal	340-4975	HU009A	National	343-4009
1753	C/R	343-4249	64249	TriSeal	343-4249	HU009A	National	343-4046
1765	C/R	343-4042	812928	Eaton	343-4095	HU013A	National	343-4013
1770	C/R	343-4034	815214	Eaton	343-4195	HU019A	National	343-4019
1781	C/R	343-4186	821338	Eaton	343-4009	HU024A	National	343-4024
1788	C/R	343-4249	821907	Eaton	343-4009	HU028A	National	343-4186
1800	C/R	347-4009	C40-4009	C/R	340-4009	HU034A	National	343-4034
1801	C/R	347-4013	C40-4009BP	C/R	300-4009	HU042A	National	343-4042
1811	C/R	343-4024	C40-4975	C/R	340-4975	HU066A	National	343-4066
1823	C/R	343-4042	C40-4975BP	C/R	340-4975	HU110A	National	343-4095
1842	C/R	343-4013	C40-5097BP	C/R	340-5097	HU110A	National	343-4249
1843	C/R	343-4009	C43-4009	C/R	343-4009	P411601	Mechanex/Barrier	343-4009
1843	C/R	343-4046	C43-4009BP	C/R	303-4009	P411605	Mechanex/Barrier	343-4095
1843	C/R	343-4095	C43-4013	C/R	343-4013	P411605	Mechanex/Barrier	343-4249
1865	C/R	343-4066	C43-4024	C/R	343-4024	P411608	Mechanex/Barrier	343-4013
1870	C/R	343-4034	C43-4042	C/R	343-4042	P411620	Mechanex/Barrier	343-4066
1890	C/R	343-4249	C43-4075	C/R	343-4075	P411622	Mechanex/Barrier	343-4042
340-009	National	340-4009	C43-4095	C/R	343-4095	P411629	Mechanex/Barrier	343-4186
340-009BK	National	300-4009	C43-4098	C/R	343-4098	P411630	Mechanex/Barrier	343-4024
340-975	National	340-4975	C43-4249	C/R	343-4249	P411640	Mechanex/Barrier	343-4034
340-975BK	National	340-4975	DG-5/6P	Dual Dynamics	340-4013	P411655	Mechanex/Barrier	343-4075
343-009	National	343-4009	DG-5/6PS	Dual Dynamics	343-4013	P411688	Mechanex/Barrier	343-4095
343-009BK	National	303-4009	DG-6F	Dual Dynamics	340-4046	P411967	Mechanex/Barrier	343-4046

HUB CAP SPECIFICATIONS



340-5094



340-5096



340-5097

STAMPED STEEL GREASE HUB CAPS

HUB CAP INCLUDES GASKET	BOLT CIRCLE	BOLT SIZE	NO. OF BOLTS	A HEIGHT	B INSIDE DEPTH	C FLANGE I.D.	D FLANGE O.D.	GASKET #
340-5094	5-1/2	5/16	6	2-1/2	2-13/32	4-3/8	6-1/4	330-3009
340-5096 1	5-1/2	5/16	6	2-1/2	2-13/32	4-3/8	6-1/4	330-3009
340-5097	5-1/2	5/16	6	2-1/2	2-13/32	4-3/8	6-1/4	330-3009
340-0044 2	4-1/2	5/16	6	2	1-15/16	3-5/16	5-3/16	330-3024

1 With Dirt Exclusion vent
2 Painted black

SOLID GREASE HUB CAP/DUCKBILL VENTED

STEMCO PART #	BOLT CIRCLE	BOLT SIZE	# OF BOLTS	GASKET #
352-4009	5-1/2	5/16	6	330-3009
352-4195	6-3/4	5/16	6	330-3118
362-4009*	5-1/2	5/16	6	330-3009
362-4195*	6-3/4	5/16	6	330-3118



352-4195

*No Duckbill Vent

NON-VENTED GREASE HUB CAPS

SENTINEL PART #	APPLICATION	BOLT CIRCLE DIAMETER	BOLT SIZE	# OF BOLTS	GASKET #
340-4321	4009 "N" Series Grease-Trailer	5-1/2	5/16	6	330-3009
340-4322	4195 "P" Series Grease-Trailer	6-3/4	5/16	6	330-3118



340-4321

DIRT EXCLUSION GREASE HUB CAPS

HUB CAP INCLUDES GASKET	BOLT CIRCLE	BOLT SIZE	NO. OF BOLTS	A HEIGHT	B INSIDE DEPTH	C FLANGE I.D.	D FLANGE O.D.	GASKET NUMBER	WINDOW KIT
342-4009	5-1/2	5/16	6	2-11/16	1-15/16	4-3/8	6-1/4	330-3009	359-6095
342-4013	5-1/2	5/16	5	2-11/16	1-15/16	4-3/8	6-1/4	330-3013	359-6095
342-4024	4-1/2	5/16	6	2-5/8	1-7/8	3-1/2	5-1/4	330-3024	359-6094
342-4075	6-1/4 x 8 UN(M)			2-5/16	1-9/16	5-3/4	6-7/8	330-3077	359-6095
342-4095	5-1/2	5/16	6	1-13/16	1-1/6	4-9/16	6-3/16	330-3009	359-6095
342-4195	6-3/4	5/16	6	3-11/16	2-15/16	5-7/16	7-1/2	330-3118	359-6095
342-4249	5-1/2	5/16	6	1-13/16	1-11/16	4-7/16	6-3/16	330-3122	359-6096



342-4009

*Window Kit consists of window, gasket and window ring gasket.

HUB CAP SPECIFICATIONS

COMPONENT SPECIFICATIONS



340-4075



570-7008



340-4975

4075 HUB CAP VARIATIONS

APPLICATION	PART NUMBER	DESCRIPTION
Oil	340-4975	Clear polycarbonate hub cap
Oil	343-4075	Cast aluminum hub cap with side fill plug
Oil	343-4371	Cast aluminum hub cap with PSI face & side fill plug
Oil	347-4075	Cast aluminum hub cap with hubo window and side fill plug
Oil	348-4075	Cast aluminum hub cap with Sentinel® Technology & side fill plug
Oil	353-4075	Cast aluminum hub cap with Sentinel® ESP plug & side fill plug
Oil	356-4075	Integrated Sentinel®
Grease/Oil	340-4075	Cast aluminum hub cap & no side fill plug
Grease	342-4075	Cast aluminum hub cap with dirt exclusion window
Grease	340-4320	Solid cast aluminum hub cap & no side fill plug
Grease	340-4371	Cast aluminum hub cap with PSI face & no side fill plug
Grease	340-4976	Clear polycarbonate hub cap with solid face—no vent
Grease	347-4343	Cast aluminum hub cap with hubo window and no side fill plug
Grease	349-4075	Cast aluminum hub cap with Sentinel® Technology & no side fill plug
Grease	350-4075	Cast aluminum hub cap with Sentinel® ESP & no side fill plug
Grease	358-4075	Integrated Sentinel®

Screw-on Caps must have O-rings (330-3077).
Use 570-7008 tool to tighten pro-par hub caps.

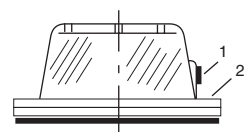
VENTED HUBODOMETER® HUB CAPS

HUB CAP INCLUDES GASKET	GASKET PART #	BOLT CIRCLE DIAMETER	NUMBER OF HOLES	BOLT DIAMETER	ALUMINUM EQUIVALENT
640-0001*	641-0005	5-1/2	6	5/16	347-4009
640-0002*	641-0017	5-1/2	5	5/16	347-4013
640-0003*	330-3077		6-1/4 x 8 UN(M)		347-4075

*Vented

ACCESSORIES

DESCRIPTION	PART #
1-Pipe plug with O-ring	641-0001
2-Magnetic Pipe Plug	359-5984
3-Supporting hub cap flange 6 hole	641-0003



640-0001

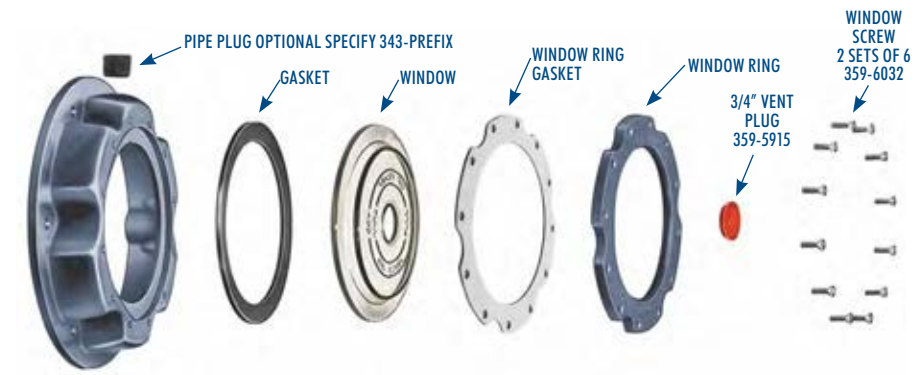


640-0003

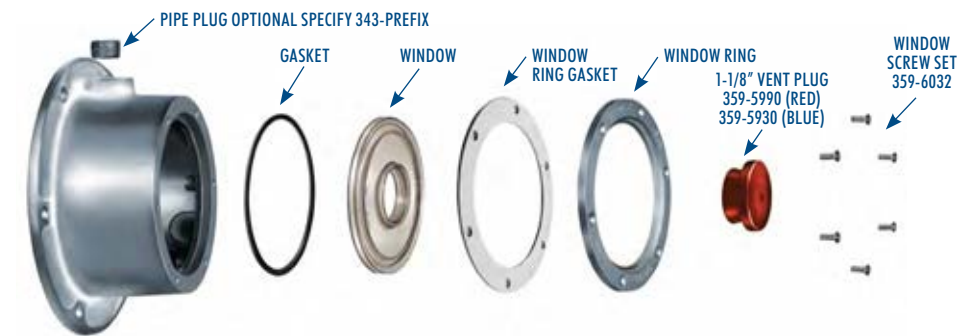
HUB CAP SPECIFICATIONS

COMPONENT SPECIFICATIONS

TYPICAL 4-3/8" WINDOW COMPONENT PARTS



TYPICAL 2-3/4" & 3-1/2" WINDOW COMPONENT PARTS



STANDARD HUB CAP REPLACEMENT COMPONENTS

3/8 PIPE PLUG 2	GASKET	WINDOW DIAMETER	WINDOW	WINDOW RING GASKET	WINDOW RING	VENT PLUG	WINDOW KIT 1	SCREW SET 6/SET
359-5985	359-5996	2-3/4	359-5983	359-3136	359-5997 3	359-5990 4	359-5999	359-6032
359-5985	359-5991	3-1/2	359-5994	359-3127	359-5992	359-5990 4	359-5995	359-6032
359-5985	359-5991	3-1/2	—	359-3127	359-5992	None	359-6117	359-6032
359-5985	359-5968	4-3/8	359-5918	359-3137	359-5970	359-5915	359-5912	359-6032 6
359-5985	359-5991	3-1/2	359-6049 5	359-3127	359-5992	359-5915	359-6100 5	359-6032

- 1 Window kit consists of window, gasket, window ring gasket and vent plug
- 2 Magnetic pipe plug part number 359-5984
- 3 5 hole window ring
- 4 Blue vent plug part number 359-5930
- 5 Window with recessed vent plug
- 6 Two sets required

DIRT EXCLUSION GREASE HUB CAP REPLACEMENT COMPONENTS

WINDOW DIAMETER	WINDOW	GASKET	WINDOW RING	WINDOW RING GASKET	SCREW SET 6/SET	WINDOW KIT
2-3/4	359-6086	359-5996	359-5997	359-3136	359-6032	359-6094
3-1/2	359-6087	359-5991	359-5992	359-3127	359-6032	359-6095
4-3/8	359-6088	359-5968	359-5970	359-3137	359-6032 7	359-6096

7 Two sets required

SENTINEL® HUB CAP REPLACEMENT COMPONENTS

WINDOW DIAMETER	WINDOW KIT 8	GASKET	WINDOW RING GASKET	SCREW SET 6/SET	MAGNETIC PIPE PLUG
3-1/2	359-6112 9	359-5991	359-3127	359-6032	359-5984
3-1/2	359-6120 10	359-5991	359-3127	359-6032	359-5984

- 8 Window kit consists of window, gasket, window ring with gasket and Sentinel red cap cover part number 359-6103.
- 9 Window kit for oil application
- 10 Window kit for grease application

**DataTrac®
PRO**



**PROFITABILITY
THROUGH PRECISION**

Programmable to the exact dimensions of over 2,500 tire models, the DataTrac® Pro hubodometer and programmer set the standard for precise mileage counting, enabling simplified inventory, more timely maintenance and unparalleled billing accuracy.

Maintenance Scheduling

Perform maintenance based on actual mileage rather than time between services, reducing the potential for unnecessary downtime or component failures.

Simple Data Retrieval

Large, easy-to-read LCD display automatically positions numbers upright for easy mileage verification. Optional trip and life readings.

Compact Size

Easy to mount and dismount tires without removing unit from the wheel.

Durable

No moving parts provides the ultimate in reliability in the most demanding applications. Unique serial numbers provide extra security and data control.

DATATRAC® PRO

- Scheduling maintenance
- Validating guarantees
- Determining lease charges
- Calculating costs-per-mile

TIRE MAKE	TIRE MODEL	TIRE SIZE	STEMCO MECHANICAL HUBO MILES / KM	VEEDER-ROOT P/N MILES / KM	DATATRAC PRO MILES / KM	*DATATRAC PRO REV - MILES / KM
Bridgestone	M726	11R22.5	650-0598 / 650-0537	777717-494 / 777727-306	600-5499 / 600-4310	499 / 310
Bridgestone	M726	11R24.5	650-0584 / 650-0528	777717-475 / 777727-294	600-5476 / 600-4296	476 / 296
Bridgestone	M726	255/70R22.5	650-0622 / 650-0549	777717-572 / 777727-350	600-5564 / 600-4351	564 / 351
Bridgestone	M726	285/75R24.5	650-0595 / 650-0537	777717-494 / 777727-306	600-5499 / 600-4310	499 / 310
Bridgestone	M726	295/75R22.5	650-0605 / 650-0541	777717-510 / 777727-316	600-5514 / 600-4320	514 / 320
Bridgestone	R194	11R22.5	650-0605 / 650-0541	777717-514 / 777727-316	600-5513 / 600-4319	513 / 319
Bridgestone	R194	11R24.5	650-0593 / 650-0534	777717-490 / 777727-306	600-5489 / 600-4304	489 / 304
Bridgestone	R194	255/70R22.5	650-0627 / 650-0552	777717-572 / 777727-359	600-5580 / 600-4361	580 / 361
Bridgestone	R194	285/75R24.5	650-0605 / 650-0541	777717-514 / 777727-316	600-5513 / 600-4319	513 / 319
Bridgestone	R194	295/75R22.5	650-0612 / 650-0545	777717-525 / 777727-326	600-5529 / 600-4328	529 / 328

Goodyear	G104	255/70R22.5	650-0627 / 650-0552	777717-572 / 777727-359	600-5579 / 600-4360	579 / 360
Goodyear	G124	11R22.5	650-0601 / 650-0537	777717-500 / 777727-310	600-5505 / 600-4314	505 / 314
Goodyear	G124	255/70R22.5	650-0626 / 650-0549	777717-572 / 777727-359	600-5572 / 600-4356	572 / 356
Goodyear	G167	11R22.5	650-0598 / 650-0537	777717-500 / 777727-310	600-5501 / 600-4311	501 / 311
Goodyear	G167	295/75R22.5	650-0605 / 650-0541	777717-514 / 777727-326	600-5515 / 600-4320	515 / 320
Goodyear	G314	11R22.5	650-0605 / 650-0541	777717-510 / 777727-312	600-5512 / 600-4318	512 / 318
Goodyear	G314	11R24.5	650-0593 / 650-0534	777717-484 / 777727-300	600-5488 / 600-4303	488 / 303
Goodyear	G314	285/75R24.5	650-0605 / 650-0541	777717-510 / 777727-316	600-5514 / 600-4320	514 / 320
Goodyear	G314	295/75R22.5	650-0613 / 650-0545	777717-520 / 777727-326	600-5529 / 600-4328	529 / 328
Goodyear	G362	11R24.5	650-0584 / 650-0528	777717-475 / 777727-300	600-5478 / 600-4297	478 / 297
Goodyear	G362	285/75R24.5	650-0598 / 650-0537	777717-500 / 777727-310	600-5501 / 600-4311	501 / 311
Goodyear	G362	295/75R22.5	650-0605 / 650-0541	777717-514 / 777727-326	600-5515 / 600-4320	515 / 320
Goodyear	G372	11R24.5	650-0584 / 650-0528	777717-475 / 777727-297	600-5476 / 600-4296	476 / 296
Goodyear	G372	285/75R24.5	650-0598 / 650-0537	777717-494 / 777727-310	600-5497 / 600-4309	497 / 309
Goodyear	G372	295/75R22.5	650-0605 / 650-0541	777717-510 / 777727-316	600-5512 / 600-4318	512 / 318

Michelin	XDA2	11R22.5	650-0598 / 650-0537	777717-500 / 777727-310	600-5502 / 600-4312	502 / 312
Michelin	XDA2	11R24.5	650-0587 / 650-0528	777717-475 / 777727-294	600-5480 / 600-4298	480 / 298
Michelin	XDA2	255/70R22.5	650-0625 / 650-0549	777717-572 / 777727-350	600-5566 / 600-4352	566 / 352
Michelin	XDA2	275/80R22.5	650-0605 / 650-0541	777717-510 / 777727-326	600-5519 / 600-4323	519 / 323
Michelin	XDA2	275/80R24.5	650-0598 / 650-0537	777717-500 / 777727-310	600-5502 / 600-4312	502 / 312
Michelin	XZA2	11R22.5	650-0601 / 650-0539	777717-510 / 777727-316	600-5510 / 600-4317	510 / 317
Michelin	XZA2	11R24.5	650-0591 / 650-0532	777717-484 / 777727-300	600-5485 / 600-4302	485 / 302
Michelin	XZA2	275/80R22.5	650-0610 / 650-0545	777717-520 / 777727-326	600-5526 / 600-4327	526 / 327
Michelin	XZA2	275/80R24.5	650-0601 / 650-0539	777717-510 / 777727-316	600-5509 / 600-4316	509 / 316
Michelin	XZE	255/70R22.5	650-0626 / 650-0549	777717-572 / 777727-359	600-5574 / 600-4357	574 / 357

* Indicates the revolutions per mile or kilometer used to program the DataTrac® Pro from the Program Part screen.
 * DataTrac® p/n 600-1xxx used for miles and 600-0xxx used for kilometers contain trip. Follow conversion from DataTrac® in the table above.
 * Mechanical hubodometers are designated for use in a "range" of RPM or RPK, not a "specific" RPM or RPK. For "exact" revolutions, use DataTrac® Pro.

PRODUCT	PART NO.
DataTrac® Pro	600-9999
Programmer	801-6000

CALIBRATION AND INSTALLATION

STEMCO calibrations are based at the mid-life of the tire tread (not the depth of new tire tread), one more reason we can guarantee +/-2% accuracy over the life of the tire.

All that is needed for proper calibration is the tire make, model and size. Refer to the chart for some of the most popular tires.

Hub caps, hub cap mounts and universal brackets are available for all popular makes and models. For quick and easy installation, use any of three different options: (1) aluminum hub cap with hubo window, (2) Grilamid® Hubodometer hub cap or (3) bracket.

WARRANTY

STEMCO DataTrac® Pro is warranted for 500,000 miles or 4 years when installed in accordance with its specifications.



HUBODOMETER®



**SUCCESSFUL BUSINESSES
RUN ON INFORMATION**

Getting ahead in the trucking industry requires accurate, reliable information, and nothing delivers it like the STEMCO® Hubodometer®. Featuring an innovative design, built with military-grade materials and backed by a confidence-inspiring warranty, the Hubodometer helps ensure productivity and profitability through superior data.

Multiple Uses

Schedule maintenance, determine lease charges, validate guarantees, calculate costs per mile, and more.

Versatile

Hubodometers are calibrated to perform on over 2,500 specific tire models and sizes.

Accurate

Spring-loaded counterweight helps eliminate spin when tires hit bumps and potholes, for greater accuracy.

Preset Options

Hubodometers can be preset to collect customized mileage data.

Durable

High-quality components, rugged construction and innovative design stand up to demanding road and weather conditions.

Maintenance Efficiency

Better tracking enables optimized maintenance scheduling and adherence to best practices.

Mileage Limits

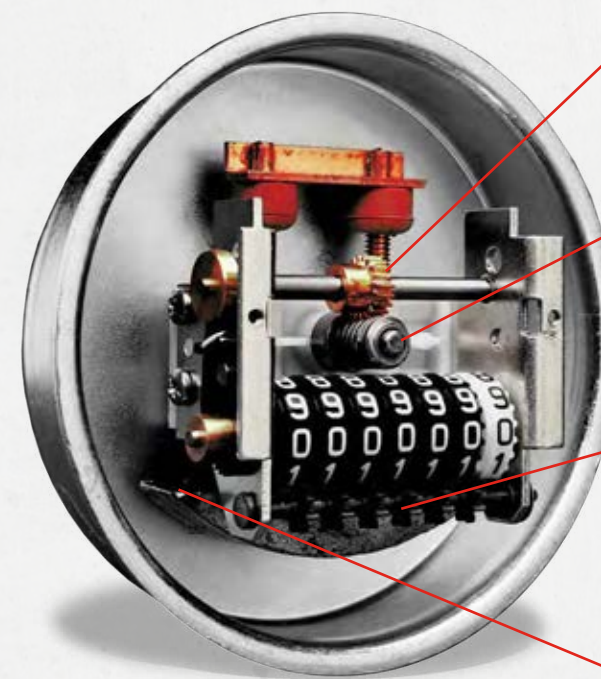
Highly accurate mileage tracking allows rental and lease fleets to operate with complete confidence.

Guaranteed

Backed by warranty, ensuring accuracy for up to 500,000 miles.

CONSTRUCTION AND DESIGN

- Main shaft is independent of front cover, greatly reducing failure caused by frontal impact.
- Unit is sealed in a moisture-controlled environment for added durability.
- Nine permanently lubricated bronze bearings reduce wear and ensure long life.
- Worm drive rotates parts less frequently, reducing wear.
- Rugged construction. Naval brass on steel. No plastic drive components.
- Meets California and New Zealand requirements.



Naval brass-on-steel worm gear

Independent main shaft reduces susceptibility to failure caused by frontal impact

Externally pinioned odometer mechanism with low-friction, molded components

Spring-loaded counterweight effectively reduces spin

CALIBRATION AND INSTALLATION

STEMCO calibrations are based on the mid-life depth of tire tread (not the depth of new tire tread); one more reason we can guarantee ±2% accuracy over the life of the tire.

For proper calibration of any STEMCO Hubodometer, only tire make, model and size are required. With this information and our Tire Classification catalog (which includes radials and low-profile tires), any user can quickly determine the part number for the correct Hubodometer.

STEMCO also offers a preset Hubodometer program at a nominal cost. Preset orders are shipped within 3 working days from our warehouse in Longview, Texas. For more information, contact STEMCO Customer Service.

WARRANTY

The STEMCO Hubodometer is warranted for 500,000 miles when installed in accordance with its specifications. See a STEMCO distributor for details.

PRO-TORQ®
ADVANCED AXLE SPINDLE NUTS



**UNRIVALED PRECISION
AND SERVICE LIFE**

Increase tire life and reduce premature wheel seal failure with the proven performance of the Pro-Torq® axle spindle nut. With back off increments down to 0.001 inch and exacting cup and cone alignment on the spindle, nothing compares to the reliability and precision of Pro-Torq.

Increased Tread Life

Controls axial motion, holding bearing end play near zero for longer tread life.

Precise Bearing Adjustment

Minimizes premature seal failure and improves seal and brake lining programs.

Compensates For Wear

Allows 0.001 inch back off increments to keep bearings aligned, running cooler and lasting longer.

Improves ABS

Helps ensure accurate wheel-speed monitoring on anti-lock braking systems.

Single-Nut Design

Eliminates potential for overtightening the jam nut and pushing the outer bearing cone out of position.

Easy to Install

Only one nut means less time wasted trying to reposition multiple-nut assemblies.

PRO-TORQ® AXLE SPINDLE NUTS

SPINDLE NUT APPLICATIONS	REPLACEMENT KEEPER PART NUMBER	THREAD SIZE	OUTER BEARING CONE / CUP	TOOL SOCKET
TRAILER AXLE				
STEMCO No. 447-4723 Fruehauf Pro-par, Meritor TP *Axle date code post January 1, 2006	450-4723	3.480"-12	HM518445 / HM518410	4 13/16"- 8 point (OTC# 1941)
STEMCO No. 447-4724 22,500-23,000# Eaton, EST 230-P, EST 225-P, P-22	450-4723	3 1/2"-12	HM518445 / HM518410	4 13/16"- 8 point (OTC# 1941)
STEMCO No. 447-4743 17,000-22,500# Meritor, Dana, Eaton, Std Forge, Ingersoll	450-4743	2 5/8"-16	HM212049 / HM212011	3 3/4"- 8 point (OTC# 1925)
STEMCO No. 449-4973 Dana Est-230-P, *P22 Axles or TQ *Axle date code post January 1, 2006	450-4973	3 1/4"-12	HM518445 / HM518410	4 3/8"- 8 point (OTC# 1917)
STEER AXLE				
STEMCO No. 448-4836 12,000# Meritor, Navistar	450-4836	1 1/2"-12	3782 / 3720	2 1/2"- 6 point (OTC# 1921)
STEMCO No. 448-4837 12,000# Eaton, Ford, Meritor	450-4837	1 1/2"-18	3782 / 3720	2 1/2"- 6 point (OTC# 1921)
STEMCO No. 448-4838 Meritor	450-4837	1 1/2"-12	3782 / 3720	2 1/2"- 6 point (OTC# 1921)
STEMCO No. 448-4839 12,000#, 14,300# Mack	450-4839	1 5/8"-12	45280 / 45220	2 5/8"- 6 point (OTC# 1922)
STEMCO No. 448-4864 18,000#, 20,000# Mack	450-4864	2"-12	5555 / 552A	3"- 6 point (OTC# 1906)
STEMCO No. 448-4865 Meritor FL Series	450-4865	1 3/4"-12	5555 / 552A 3720 / 3979	3"- 6 point (OTC# 1906)
DRIVE AXLE				
STEMCO No. 449-4904 34,000#, 38,000#, 44,000# Mack	450-4904	2 7/8"-12	47679 / 47620 575 / 572 567 / 563	4 1/8"- 6 point (OTC# 1915)
STEMCO No. 449-4973 34,000-46,000# Eaton, Meritor, Dana, Navistar, 50,000# Mack	450-4973	3 1/4"-12	580 / 572	4 3/8"- 8 point (OTC# 1917)
STEMCO No. 449-4974 Meritor, Eaton, Ford, Navistar	450-4743	2 5/8"-12	3984 / 3920 39590 / 39520	3 3/4"- 8 point (OTC# 1925)
STEMCO No. 449-4975 19,000# Dana, Navistar, Bluebird	450-4975	2 5/8"-12	3984 / 3920 39590 / 39520	3 3/4"- 8 point (OTC# 1925)

PRO-TORQ ADVANCED AXLE SPINDLE NUT DESIGN FEATURES

Superior Wear Resistance

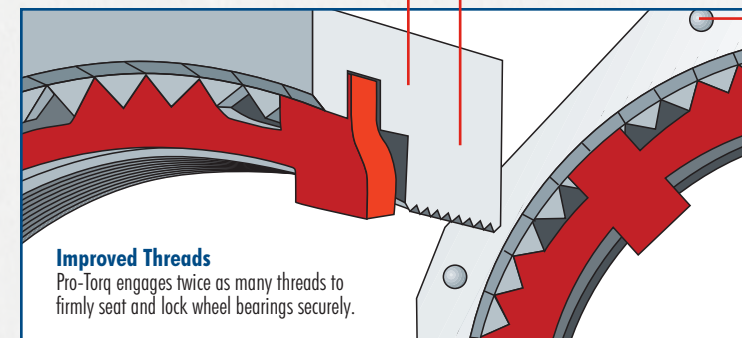
Bearing contact surface is induction-hardened. No washers required.

Flat Contact Surface

Improves wheel bearing cup and cone alignment.

Highly Visible Adjustment Marks

Give technicians precise control of nut back off amount during installation.



Improved Threads

Pro-Torq engages twice as many threads to firmly seat and lock wheel bearings securely.

Infinite Locking Positions

Nut and spring-steel keeper mate and lock at any point on the axle spindle in 0.001" axial increments.

COST-SAVING INSTALLATION

For more than 20 years, leading fleets have chosen Pro-Torq to deliver the longer service life they expect from today's tires, wheel seals and bearings. Pro-Torq minimizes wheel-bearing adjustment variability, providing extended maintenance intervals and trouble-free performance from steer, drive and trailer axle wheel ends.

TIGHT BEARING ADJUSTMENT CONTROL

Pro-Torq gives fleets the ability to standardize wheel end maintenance practices and makes repeatable, close-tolerance bearing adjustment a reality. From technician to technician, when the Pro-Torq 2-1-1 adjustment procedure is followed, wheel-bearing end play adjustment of 0.001-0.003" can be accurately achieved.

Pro-Torq avoids the extremes of preload and excessive bearing end play, giving fleets the tightest adjustment standard in the industry.

FASTER TO INSTALL, EASIER TO LOCK

Pro-Torq assures bearings are precisely and positively locked in position the first time, because with Pro-Torq there is no jamming, juggling, or wasting time working with multiple-nut assemblies. That's because Pro-Torq uses only one nut.

Clearance in the threads of traditional jamming-type nuts can result in a wide range of final settings. Technicians can unintentionally impose preload on a bearing by over-tightening jam nut systems. As a result, the outer bearing cone can be pushed further up the spindle and out of its intended position.

Pro-Torq takes the guesswork out of bearing adjustment!

PRO-TORQ® TRAILER AXLE NUTS

APPLICATION	SPECS
STEMCO Part #	447-4723
Replacement Keeper #	450-4723 TANG
Tool Socket	4 13/16" - 8 point (OTC# 1941)
Thread Size	3.480" - 12
Outer Bearing Part#	HMS18445/HMS18410
Competitor	FRUEHAUF AXLES PROPAR Series HENDRICKSON AXLES HP INGERSOLL AXLES F24H MERITOR AXLES TP Series
STEMCO Part #	447-4724
Replacement Keeper #	450-4723 TANG
Tool Socket	4 13/16" - 8 point (OTC# 1941)
Thread Size	3 1/2" - 12
Outer Bearing Part#	HMS18445/HMS18410
Competitor	EATON AXLES EST 230-P, EST 225-P

APPLICATION	SPECS
STEMCO Part #	447-4743
Replacement Keeper #	450-4743 TANG
Tool Socket	3 3/4" - 8 point (OTC# 1925)
Thread Size	2 5/8" - 16
Outer Bearing Part#	HM212049/HM212011
Competitor	DANA SPICER AXLES D-20, D-21, D-22, DD-21, DD-22, K-21, K-22, K-25, K-30 EATON AXLES C, C2, CD, CD2, CE, ESA-225J, EST, EST-225J, EST-230J, ETA 230C, ETA 225D, ETA 225J, H23L, H25R, HCE, HJ, HJE, J, JE, JH, LA-15, T-18C, 20L-77, 22L, 22R, 23L, 23R, 25R HENDRICKSON AXLES HN INGERSOLL AXLES A22T MERITOR AXLES RL Series, RQ Series, TK Series, TKL Series, TKD Series, TL Series, TLD Series, TN Series, TND Series, TO Series, TQC Series, TOD Series STANDARD FORGE A25, A26, 17,000 and 18,000 lb. Trade

APPLICATION	SPECS
STEMCO Part #	448-4836
Replacement Keeper #	450-4836
Tool Socket	2 1/2" - 6 point (OTC# 1921)
Thread Size	1 1/2" - 12
Outer Bearing Part#	3782/3720
Competitor	DANA SPICER AXLES D10 EATON AXLES X-115 FRUEHAUF AXLES Model 5, TKF MERITOR AXLES T-1100 STANDARD FORGE T 8.5-S

PRO-TORQ® STEER AXLE NUTS

APPLICATION	SPECS
STEMCO Part #	448-4836
Replacement Keeper #	450-4836 D-FLAT
Tool Socket	2 1/2" - 6 point (OTC# 1921)
Thread Size	1 1/2" - 12
Outer Bearing Part#	3782/3720
Competitor	MERITOR AXLES FD 900, FD 901, FE 961, FE 900, FE 903, FF 900, FF 901, FF 921, FF 931, FF 932, FF 933, FF 941, FF 942, FF 943, FF 944, FF 952, FF 961, FG 941 NAVISTAR I100S
STEMCO Part #	448-4837
Replacement Keeper #	450-4837 TANG
Tool Socket	2 1/2" - 6 point (OTC# 1921)
Thread Size	1 1/2" - 18
Outer Bearing Part#	3782/3720
Competitor	EATON AXLES EFA-12F4, EFA-13F5, E-1200L, FE 931, 12K, 13.2K FORD AXLES SIFCO 12,000#, FORD 6,000# MERITOR AXLES FE-931

APPLICATION	SPECS
STEMCO Part #	448-4838
Replacement Keeper #	450-4837 TANG
Tool Socket	2 1/2" - 6 point (OTC# 1921)
Thread Size	1 1/2" - 12
Outer Bearing Part#	3782/3720
Competitor	MERITOR AXLES Steer

*Refer to installation instructions for part number 448-4836.

APPLICATION	SPECS
STEMCO Part #	448-4839
Replacement Keeper #	450-4839 D-FLAT
Tool Socket	2 5/8" - 6 point (OTC# 1922)
Thread Size	1 5/8" - 12
Outer Bearing Part#	45220/45280
Competitor	MACK FRONT AXLES FAW12, FAW12, FAW537, FAW5371, FAW14.3, FAW538, FAW10.5, FAW536, FAW5361

APPLICATION	SPECS
STEMCO Part #	448-4840
Replacement Keeper #	450-4836 D-FLAT
Tool Socket	2 1/2" - 6 point (OTC# 1921)
Thread Size	1 1/2" - 18
Outer Bearing Part#	3782/3720
Competitor	HENDRICKSON AUXILIARY AXLE 13,000# Ultra Axle

APPLICATION	SPECS
STEMCO Part #	448-4863
Replacement Keeper #	450-4863 D-FLAT
Tool Socket	3 1/2" - 6 point (OTC# 1910)
Thread Size	2 1/4" - 12
Outer Bearing Part#	—
Competitor	ARVIN MERITOR® FH AXLE Steering Spindle 16,500 lbs GAW

APPLICATION	SPECS
STEMCO Part #	448-4864
Replacement Keeper #	450-4864 D-FLAT
Tool Socket	3" - 6 point (OTC# 1906)
Thread Size	2" - 12
Outer Bearing Part#	5552A/5555
Competitor	MACK FRONT AXLES FA18, FAW18, FAW616, FA616, FA20, FAW20, FAW617, FA617, FAW16, FAW614

APPLICATION	SPECS
STEMCO Part #	448-4865
Replacement Keeper #	450-4865 D-FLAT
Tool Socket	3" - 6 point (OTC# 1906)
Thread Size	1 3/4" - 12
Outer Bearing Part#	5552A/5555, 3979/3720
Competitor	MERITOR FRONT AXLES FL

PRO-TORQ® DRIVE AXLE NUTS

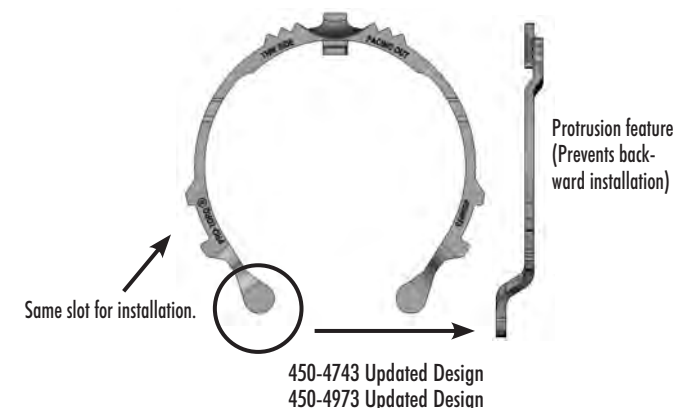
APPLICATION	SPECS
STEMCO Part #	447-4743
Replacement Keeper #	450-4743
Tool Socket	3 3/4" - 8 point (OTC# 1925)
Thread Size	2 5/8" - 16
Outer Bearing Part#	HM212049/HM212011
Competitor	MERITOR AXLES F Series, H Series

APPLICATION	SPECS
STEMCO Part #	449-4904
Replacement Keeper #	450-4904 TANG
Tool Socket	4 1/8" - 8 point (OTC# 1917)
Thread Size	2 7/8" - 12
Outer Bearing Part#	563/567, 572/575, 47620/47679
Competitor	MACK AXLES S-34, S-38, S-44, S-462, SW-56, SW-57, SW-441

APPLICATION	SPECS
STEMCO Part #	449-4973
Replacement Keeper #	450-4973 TANG
Tool Socket	4 3/8" - 8 point (OTC# 1917)
Thread Size	3 1/4" - 12
Outer Bearing Part#	580/572
Competitor	DANA SPICER AXLES W 230-S, W 460-S EATON AXLES D 380, D 381, D 380-P, D 381-P, D 400, D 401, D 400-P, D 440-P, D 401-P, D 402-P, D 451-P, D 460-P, D 480-P, D 485-P, DP 380, DP 381, DP 380-P, DP 381-P, DP 340, DP 341, DP 400-P, DP 401-P, DP 440-P, DP 460-P, DP 480-P, DP 550, DP 580-P, DP 650-P, DS 340, DS 341, DS 344, DS 380, DS 381, DS 380-P, DS 381-P, DS 400-P, DS 401-P, DS 404-P, DS 400-P, DS 460-P, DS 480-P, DS 454-P, DT 340, DT 341, DT 380, DT 381, DT 380-P, DT 381-P, DT 400-P, DT 440-P, DT 460-P, DT 480-P, RS 341, RS 381, RS 402, RS 401, RS 460, RS 461, RT 402, 44, 440P, 480P, 1911, 1919, 2011, 19500, 20500, 20501 MACK AXLES 50,000# MERITOR FRONT AXLES Q Series, QHD, QHR, QT Series, R Series, RL-170, RS Series, RT Series, S Series, S 170, S 280, SQ 100, SQ 100-P, SQDD, SQHD, SQHP, SQHR, SQR, SQW, SR 170, SR 270, SR 280, SRD, SRDD, SRHD, SSHD, SSHP, SP, STD, STDD, STHD, SU 170, SU 270, SU 280, SUHD, NAVISTAR AXLES 14227, 14308, 14309, 14311, 14338, 14342, 14943, 14348, 14364, 14368, 14494

APPLICATION	SPECS
STEMCO Part #	449-4974
Replacement Keeper #	450-4743 TANG
Tool Socket	3 3/4" - 8 point (OTC# 1925)
Thread Size	2 5/8" - 12
Outer Bearing Part#	3984/3920, 39590/39520
Competitor	EATON AXLES D, DT, 32M, 34M, MF, MR, RP, RT, 17800, 17801 FORD AXLES 18,000# Rear MERITOR AXLES H-145, H-162, H-172, H-240, H-262, H-350, H-362, L-172 NAVISTAR AXLES 14044, 14186, 14351, RA44

APPLICATION	SPECS
STEMCO Part #	449-4975
Replacement Keeper #	450-4975 TANG
Tool Socket	3 3/4" - 8 point (OTC# 1925)
Thread Size	2 5/8" - 12
Outer Bearing Part#	3984/3920, 39590/39520
Competitor	DANA AXLES J190S FORD AXLES GMC NAVISTAR AXLES REAR AXLE SCHOOL BUS APPLICATION 19,000#





THE NEW STANDARD IN AXLE FASTENERS

Zip-Torq® is the latest STEMCO innovation designed to make the roadways safer. With its robust single piece design, Zip-Torq takes the guess work out of bearing adjustment.

Simplified & Fully Unitized Design

Single piece design allows installation without special tooling. No clips, keepers, snap rings, or screws to install.

Prevents Back Off

Integrated locking mechanism prevents back off.

Secure Adjustment, Easy Removal

Cannot rotate nut by hand after wheel-end adjustment is complete. After locking mechanism disengages, one can remove by hand.

Consistent Endplay

2-1-1 adjustment provides consistent endplay measurement between .001" – .002" to meet TMC recommendations (.001" – .005").

Highly Compatible

Zip-Torq is compatible with most automated installation equipment, so there's no need to purchase new equipment.

Extend Warranty

Zip-Torq is offered with STEMCO PPS+ programs, to allow one to package wheel end products to get the best warranty in the industry.

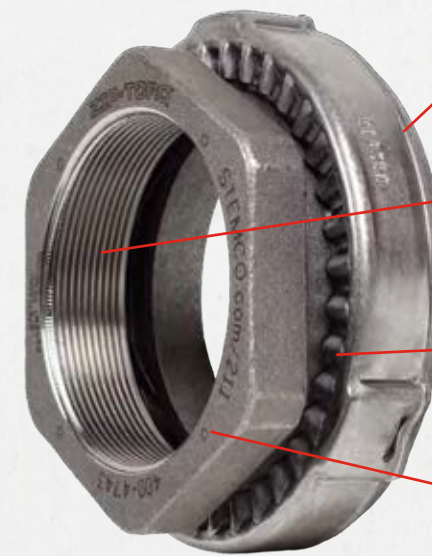
Install With Confidence

STEMCO offers installation videos and manuals online — available in the STEMCO app and on the website.

THE NEW STANDARD IN AXLE FASTENERS

ZIP-TORQ PART NO.	DESCRIPTION	THREAD SIZE	OUTER BEARING CONE/CUP	TOOL SOCKET	PRO-TORQ® CROSS REF.
TRAILER AXLE					
400-4723	"P" Parallel Trailer 22,500#	3.480"-12	HMS18445/ HMS18410 SET415	4-1/8" Six Point (OTC# 1915)	447-4723
400-4743	"N" Tapered Trailer 17,000#-22,500#	2-5/8"-16	HM212049/ HM212011 SET413	3-1/4" Six Point (OTC# 1908)	447-4743
STEER AXLE					
400-4836	"FF" Steer 12,000#	1-1/2"-12	3782/3720 SET406	2-1/8" Six Point (OTC# 1901)	448-4836
400-4837	"FF" Steer 12,000#	1-1/2"-18	3782/3720 SET406	2-1/8" Six Point (OTC# 1901)	448-4837
DRIVE AXLE					
400-4973	"R" Drive 34,000#-46,000#, 50,000#	3-1/4"-12	580/572 SET401	4" Six Point (OTC# 1914)	449-4973

ZIP-TORQ FEATURES



Superior Wear Resistance

Bearing contact surface is induction hardened. No washers required.

Improved Threads

Zip-Torq engages twice as many threads to firmly seat and lock wheel bearings securely.

Infinite Locking Positions

Nut and spring steel keeper mate and lock at any point on the axle spindle in .002" axial increments.

Highly Visible Adjustment Marks

Give mechanics precise control of nut backoff amount during installation.

HOW DOES ZIP-TORQ WORK?

The STEMCO Zip-Torq axle fastener is the latest innovation from STEMCO. Zip-Torq is a unitized spindle nut that uses a patented self-locking ratchet system to secure the wheel end and prevent back off. Zip-Torq consistently delivers accurate endplay between .001"–.005" using the STEMCO 2-1-1 method.

EASY & FAST INSTALL

Installation time of the Zip-Torq is the same or faster than Pro-Torq®, reducing time in the shop.

LEARN MORE ABOUT 2-1-1 INSTALLATION INSTRUCTIONS

See detailed Zip-Torq installation instructions at www.stemco.com/211



STEMCO WHEEL KITS
A TOTAL PACKAGE OF CONFIDENCE

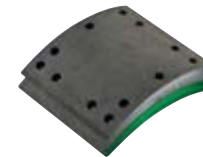


STEMCO

STEMCO BRAKE SHOES ARE A BREAKTHROUGH IN PERFORMANCE AND PROTECTION



HORIZON SP

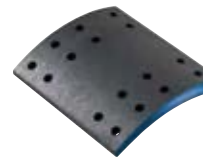


Value & Performance

Horizon SP® is the standard-performance friction formulation for normal-duty cycles, operating environments and loads.

AXLE RATING	APPLICATION(S)
Horizon SP20® 20,000 lbs.	
Horizon SP23® 23,000 lbs.	

CREST XL

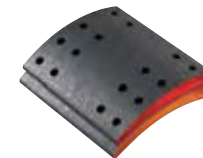


Long-Lasting for the Long Haul

Crest XL® is perfect for moderate- to heavy-duty long-haul applications.

AXLE RATING	APPLICATION(S)
Crest XL® 20,000 lbs.	

VISTA HP

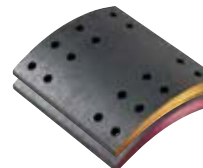


Prepared for Any Challenge

Vista HP® offers smooth, noise-free and stable stopping power over a wide range of temperatures, pressures and speed variations in demanding applications.

AXLE RATING	APPLICATION(S)
Vista HP® 23,000 lbs.	
Vista HP1® 25,000 lbs.	

ULTRA PEAK



Low-Noise & High-Quality

Ultra Peak® has been specially formulated to run quieter and extend lining life and drum life with excellent flexural strength, which eliminates mode-of-friction cracking.

AXLE RATING	APPLICATION(S)
Ultra Peak® BRT 23,000 - 26,000 lbs.	
Ultra Peak® FT 26,000 - 29,000 lbs.	

HIGH-PERFORMANCE BRAKE LININGS

E-COATING

Electrical current deposits (“bonds”) the paint to the shoe, which helps to resist rust jacking. STEMCO Brake Products™ shoes are environmentally tested to withstand 1,000 hours of salt spray.

OEM QUALITY, SAFETY & DEPENDABILITY

Meets TMC specification (RP 605B) for table condition and minimum thickness, avoiding lost braking power, friction cracking, loose rivets and/or rust jacking.

PRE-FORMED “ROLLED” TABLES

STEMCO pre-formed tables provide a flatter mating surface for brake lining and stress-free welds. Competitors form and weld tables in the same step, and then use a process known as “coining” to shape the welded shoe, which may cause weld stress.

*OEM replacement shoes have heat-treated roller ends. Heat-treated roller and anchor ends available on select shoes, which are offered on a special-order basis.

HEAT TREATING*

Heat treating the roller and/or anchor ends hardens the steel and prevents distortion and mushrooming. Such wear—often found on competitor relined and new shoes—can result in slippage and cause excessive wear, shortening the life of brake shoes.

RUST-RESISTANT HARDWARE

STEMCO hardware kits are rust-resistant and include stainless-steel bushings, zinc-chromate-coated rollers and heavy-duty E-coated springs to improve the dependability of brakes.

LOCK IT IN

B-Lock™ is a patented rust-preventative technology that eliminates any possibility of early deterioration of the brake shoe table. STEMCO guarantees our new brake shoes using Rome Steel and B-Lock assembled in Rome, GA, against rust jacking for the life of the original STEMCO lining. If B-Lock should fail, the brake shoe assembly will be replaced at our cost.



B Lock™

PATENTED rust-preventative technology
GUARANTEED to prevent “rust jacking”
 PROVEN to reduce noise and vibration

PLATINUM-LEVEL PERFORMANCE

If STEMCO new or relined brake shoes are used in conjunction with the Platinum Performance System™, lined shoes that have been exposed to oil contamination will be covered or replaced. For STEMCO brakes not covered by PPS, the length of the lining warranty against oil contamination will be the warranty period of the STEMCO seal. Horizon SP® brake linings are excluded from oil contamination coverage.



TOP MOVER REFERENCE

LINED SHOE TOP MOVER REFERENCE		
LINED SHOE PART NO.	STANDARD LINED SHOE PART NO.	DESCRIPTION
HORIZON® SP20 & SP23		
S4515QSP20	LSS4515QSP20	16.5×7 MERITOR Q
LS4707QSP20	LSS4707QSP20	16.5×7 MERITOR Q+
LS4709E2SP20	N/A	16.5×7 EATON ES 2ND GEN
LS4515QSP23	LSS4515QSP23	16.5×7 MERITOR Q
LS4707QSP23	LSS4707QSP23	16.5×7 MERITOR Q+
LS4709E2SP23	N/A	16.5×7 EATON ES 2ND GEN
CREST XL®		
LS4515QOXL	LSS4515QOXL	16.5×7 MERITOR Q
LS4702QOXL	N/A	15×4 MERITOR Q+
LS4707QOXL	LSS4707QOXL	16.5×7 MERITOR Q+
LS4709E2QOXL	N/A	16.5×7 EATON ES 2ND GEN
VISTA HP®		
LS4515QVHP	LSS4515QVHP	16.5×7 MERITOR Q
LS4702QVHP	N/A	15×4 MERITOR Q+
LS4707QVHP	LSS4707QVHP	16.5×7 MERITOR Q+
LS4709E2VHP	N/A	16.5×7 EATON ES 2ND GEN
ULTRA PEAK®		
LS4515QBRT	LSS4515QBRT	16.5×7 MERITOR Q
LS4702QBRT	N/A	15×4 MERITOR Q+
LS4707QBRT	LSS4707QBRT	16.5×7 MERITOR Q+
LS4709E2BRT	N/A	16.5×7 EATON ES 2ND GEN
LS4515QFT	LSS4515QFT	16.5×7 MERITOR Q
LS4702QFT	N/A	15×4 MERITOR Q+
LS4707QFT	LSS4707QFT	16.5×7 MERITOR Q+
LS4709E2FT	N/A	16.5×7 EATON ES 2ND GEN
WHEEL KIT MOVER REFERENCE		
HORIZON® SP20 & SP23		
WK4515QSP20	WKS4515QSP20	16.5×7 MERITOR Q
WK4707QSP20	WKS4707QSP20	16.5×7 MERITOR Q+
WK4709E2SP20	N/A	16.5×7 EATON ES 2ND GEN
WK4515QSP23	WKS4515QSP23	16.5×7 MERITOR Q
WK4707QSP23	WKS4707QSP23	16.5×7 MERITOR Q+
WK4709E2SP23	N/A	16.5×7 EATON ES 2ND GEN
CREST XL®		
WK4515QOXL	WKS4515QOXL	16.5×7 MERITOR Q
WK4702QOXL	N/A	15×4 MERITOR Q+
WK4707QOXL	WKS4707QOXL	16.5×7 MERITOR Q+
WK4709E2QOXL	N/A	16.5×7 EATON ES 2ND GEN
VISTA HP®		
WK4515QVHP	WKS4515QVHP	16.5×7 MERITOR Q
WK4702QVHP	N/A	15×4 MERITOR Q+
WK4707QVHP	WKS4707QVHP	16.5×7 MERITOR Q+
WK4709E2VHP	N/A	16.5×7 EATON ES 2ND GEN
ULTRA PEAK®		
WK4515QBRT	WKS4515QBRT	16.5×7 MERITOR Q
WK4702QBRT	N/A	15×4 MERITOR Q+
WK4707QBRT	WKS4707QBRT	16.5×7 MERITOR Q+
WK4709E2BRT	N/A	16.5×7 EATON ES 2ND GEN
WK4515QFT	WKS4515QFT	16.5×7 MERITOR Q
WK4702QFT	N/A	15×4 MERITOR Q+
WK4707QFT	WKS4707QFT	16.5×7 MERITOR Q+
WK4709E2FT	N/A	16.5×7 EATON ES 2ND GEN

EXAMPLES

[A] PREFIX	[D] TYPE FRICTION
LS = Lined Shoe	SP20 = Horizon® SP20
*LSS = Standard Lined Shoe	SP23 = Horizon® SP23
WK = Wheel Kit	CXL = Crest XL®
*WKS = Standard Wheel Kit	VHP = Vista HP®
HK = Boxed Hardware Kit	VHP1 = Vista HP® 1
BHK = Bagged Hardware Kit	BRT = Ultra Peak® BRT
AHK = Crated Hardware Kit	FT20 = Ultra Peak® FT20
	FT23 = Ultra Peak® FT23
	FT = Ultra Peak® FT
[B] FMSI	[E] B-LOCK
Friction Material Standards Institute Number	

[C] SHOE IDENTIFICATION	
BQ = Bendix Q (FORD Cargo)	E2 = Eaton 2nd Gen
DFC = Dana Fast Change	Q = Q Style or Q+
DP = Dana Closed Ends	QM = Mack Q Style High Mount
DX = Dexter PQ	QR = Steer with Relocated Hole
E = Eaton	SF = Standard Forge
EH = Eaton High Mount	X3 = Fruehauf XEM3

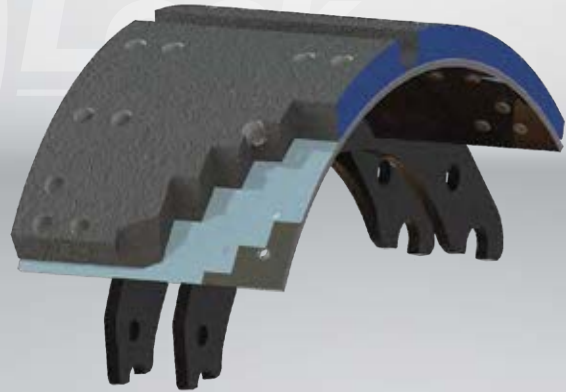
[A]	[B]	[C]	[D]	[E]
WKS	4515	Q	CXL	BL

*Material savings shoe offers the same high quality and performance at a reduced price.

APPLICATION REFERENCE

AXLE RATING	APPLICATION		
	OVER THE ROAD	BUS, REFUSE, AND/OR TRANSIT	HEAVY HAUL AND/OR SPECIALTY
20,000	HORIZON SP20® CREST XL®		
23,000	HORIZON SP23® VISTA HP®	HORIZON SP23® VISTA HP®	VISTA HP®
25,000			VISTA HP® 1
26,000		ULTRA PEAK® BRT	ULTRA PEAK® BRT ULTRA PEAK® FT
29,000		ULTRA PEAK® FT	ULTRA PEAK® BRT

Note: Table is for reference purposes only. For proper brake lining application, variables such as actual vehicle weight and A/L factor must be considered.



GET THE FULL LIFE OUT OF STEMCO BRAKE LININGS WITH B-BLOCK™

B-Block is a patented rust preventative technology that eliminates any possibility of early deterioration of the brake shoe table. B-Block is applied to the brake shoe table in an adhesive tape form before the shoe is lined. Once the lining is riveted to the B-Block core, a cold bond is formed between the table of the shoe and the lining.

How is B-Block cured?

B-Block forms an epoxy bond and a barrier between the shoe table and the lining with the initial application of the brakes. This eliminates the gap between the two, which prevents elements such as moisture and salt from getting in between the table and lining.

How does B-Block secure the lining?

B-Block along with the riveting of the lining provides total and complete lining security and insures that the integrity of the friction is maintained. B-Block has proven to work well where braking demands are severe and stress on friction is at the greatest. In such applications, it is not uncommon for lining to react to the stress with cracking

in the surface. Because B-Block secures the entire friction area, such cracks will not impair the performance or durability of the lining.

Can B-Block reduce noise?

B-Block has been proven to reduce brake noise and vibration especially in industrial applications. This benefit is a result of the bond between the lining and the table.

Is B-Block guaranteed?

STEMCO LP guarantees our new brake shoes using Rome Steel and B-Block assembled in Rome, GA against 'Rust Jacking' for the life of the original STEMCO lining. If B-Block should fail, the brake shoe assembly will be replaced at our cost.

B-LOCK PART NUMBERS

LINED SHOE TOP MOVER REFERENCE		
LINED SHOE W/ B-LOCK PART NO.	STANDARD LINED SHOE W/ B-LOCK PART NO.	DESCRIPTION
HORIZON® SP20 & SP23		
S45150SP20BL	LSS45150SP20BL	16.5x7 MERITOR Q
LS47070SP20BL	LSS47070SP20BL	16.5x7 MERITOR Q+
LS4709E2SP20BL	N/A	16.5x7 EATON ES 2ND GEN
LS45150SP23BL	LSS45150SP23BL	16.5x7 MERITOR Q
LS47070SP23BL	LSS47070SP23BL	16.5x7 MERITOR Q+
LS4709E2SP23BL	N/A	16.5x7 EATON ES 2ND GEN
CREST XL®		
LS45150CXLBL	LSS45150CXLBL	16.5x7 MERITOR Q
LS47020CXLBL	N/A	15x4 MERITOR Q+
LS47070CXLBL	LSS47070CXLBL	16.5x7 MERITOR Q+
LS4709E2CXLBL	N/A	16.5x7 EATON ES 2ND GEN
VISTA HP®		
LS45150VHPBL	LSS45150VHPBL	16.5x7 MERITOR Q
LS47020VHPBL	N/A	15x4 MERITOR Q+
LS47070VHPBL	LSS47070VHPBL	16.5x7 MERITOR Q+
LS4709E2VHPBL	N/A	16.5x7 EATON ES 2ND GEN
ULTRA PEAK®		
LS45150BRTBL	LSS45150BRTBL	16.5x7 MERITOR Q
LS47020BRTBL	N/A	15x4 MERITOR Q+
LS47070BRTBL	LSS47070BRTBL	16.5x7 MERITOR Q+
LS4709E2BRTBL	N/A	16.5x7 EATON ES 2ND GEN
LS45150FTBL	LSS45150FTBL	16.5x7 MERITOR Q
LS47020FTBL	N/A	15x4 MERITOR Q+
LS47070FTBL	LSS47070FTBL	16.5x7 MERITOR Q+
LS4709E2FTBL	N/A	16.5x7 EATON ES 2ND GEN
WHEEL KIT TOP MOVER REFERENCE		
HORIZON® SP20 & SP23		
WKS45150SP20BL	WKS45150SP20BL	16.5x7 MERITOR Q
WKS47070SP20BL	WKS47070SP20BL	16.5x7 MERITOR Q+
WKS4709E2SP20BL	N/A	16.5x7 EATON ES 2ND GEN
WKS45150SP23BL	WKS45150SP23BL	16.5x7 MERITOR Q
WKS47070SP23BL	WKS47070SP23BL	16.5x7 MERITOR Q+
WKS4709E2SP23	N/A	16.5x7 EATON ES 2ND GEN
CREST XL®		
WKS45150CXLBL	WKS45150CXLBL	16.5x7 MERITOR Q
WKS47020CXLBL	N/A	15x4 MERITOR Q+
WKS47070CXLBL	WKS47070CXLBL	16.5x7 MERITOR Q+
WKS4709E2CXLBL	N/A	16.5x7 EATON ES 2ND GEN
VISTA HP®		
WKS45150VHPBL	WKS45150VHPBL	16.5x7 MERITOR Q
WKS47020VHPBL	N/A	15x4 MERITOR Q+
WKS47070VHPBL	WKS47070VHPBL	16.5x7 MERITOR Q+
WKS4709E2VHPBL	N/A	16.5x7 EATON ES 2ND GEN
ULTRA PEAK®		
WKS45150BRTBL	WKS45150BRTBL	16.5x7 MERITOR Q
WKS47020BRTBL	N/A	15x4 MERITOR Q+
WKS47070BRTBL	WKS47070BRTBL	16.5x7 MERITOR Q+
WKS4709E2BRTBL	N/A	16.5x7 EATON ES 2ND GEN
WKS45150FTBL	WKS45150FTBL	16.5x7 MERITOR Q
WKS47020FTBL	N/A	15x4 MERITOR Q+
WKS47070FTBL	WKS47070FTBL	16.5x7 MERITOR Q+
WKS4709E2FTBL	N/A	16.5x7 EATON ES 2ND GEN

EXAMPLES

[A] PREFIX	[D] TYPE FRICTION
LS = Lined Shoe	SP20 = Horizon® SP20
*LSS = Standard Lined Shoe	SP23 = Horizon® SP23
WK = Wheel Kit	CXL = Crest XL®
*WKS = Standard Wheel Kit	VHP = Vista HP®
HK = Boxed Hardware Kit	VHP1 = Vista HP® 1
BHK = Bagged Hardware Kit	BRT = Ultra Peak® BRT
AHK = Crated Hardware Kit	FT20 = Ultra Peak® FT20
[B] FMSI	FT23 = Ultra Peak® FT23
Friction Material Standards Institute Number	FT = Ultra Peak® FT
	[E] B-BLOCK
	BL = B-Block

[C] SHOE IDENTIFICATION	
BQ = Bendix Q (FORD Cargo)	E2 = Eaton 2nd Gen
DFC = Dana Fast Change	Q = Q Style or Q+
DP = Dana Closed Ends	QM = Mack Q Style High Mount
DX = Dexter PQ	QR = Steer with Relocated Hole
E = Eaton	SF = Standard Forge
EH = Eaton High Mount	X3 = Fruehauf XEM3

[A]	[B]	[C]	[D]	[E]
WKS	4515	Q	CXL	BL

*Material savings shoe offers the same high quality and performance at a reduced price.

PRIVATE LABEL REFERENCE

20,000 LB. AXLE MATERIALS			23,000 LB. AXLE MATERIALS			25,000 – 29,000 LB. AXLE MATERIALS					
PRIVATE LABEL	ECONOMY	STANDARD	PREMIUM	ECONOMY	STANDARD	HEAVY DUTY PREMIUM	HIGH PERFORMANCE LONG LIFE	COMBINATION BLOCK	SEVERE SERVICE	TRANSIT	FILM TRANSFER
STEMCO BRAKE PRODUCTS		HORIZON SP20	CREST XL		HORIZON SP23	VISTA HP	ULTRA PEAK BRT		VISTA HP1 (25K) ULTRA PEAK FT (26K)	ULTRA PEAK BRT (26K) ULTRA PEAK FT (29K)	ULTRA PEAK FT (29K)
ARVIN MERITOR	F520 F540 EG1	F550-1 MG1	MA210 MA212 R201	F523 EG2	F555-1 MG2L MG2	MA310 MA312 R301 F557		F560/F555-1	R403 F587	7871 (28K) F557 (26K) MC 685/687	
BENDIX/SPICER	GREEN	BLUE SILVER	ES310 ES410 ES420 ES440		RED YELLOW GOLD	ES600 ES690		ES1150	ES1050		
BRF/UAP	M20			M23							
HALDEX	2017 (GN) HV77 HV76	2008 (GF)	2015-2 (GR) 2025 (GW) WEDGE	2016 (GD) HV88	2023 (GH)	2020-1 (GG)		2020-2035 (GC)	2035 (GZ) 2040 (GM) 2030 (GP)	TRANS MAX™	
HD AMERICA	H20F	H20		H23F	H23						
MARATHON	MW20	UB	HS20	MW23	FLOE	HS MBS		MBC	TS	HST (25K) KXT (26K) MBST (26K)	

FRICION MANUFACTURERS INTERCHANGE

25,000 – 29,000 LB. AXLE MATERIALS			23,000 LB. AXLE MATERIALS			20,000 LB. AXLE MATERIALS					
MANUFACTURER	ECONOMY	STANDARD	PREMIUM	ECONOMY	STANDARD	HEAVY DUTY PREMIUM	HIGH PERFORMANCE LONG LIFE	COMBINATION BLOCK	SEVERE SERVICE	TRANSIT	FILM TRANSFER
STEMCO BRAKE PRODUCTS		HORIZON SP20	CREST XL		HORIZON SP23	VISTA HP	ULTRA PEAK BRT		VISTA HP1 (25K) ULTRA PEAK FT (26K)	ULTRA PEAK BRT (26K) ULTRA PEAK FT (29K)	ULTRA PEAK FT (29K)
FEDERAL MOGUL ABEX	VL20	AN 6166 XL6014	ENG008-1 EL6011	VL23	AXG149	EX685 SDA6098		SM/6098	ED6028 EH6040	MC 685/697 (26K)	
AFFINIA BRAKE PRO	CM16A	CM19A		CM18A	CM21A		CM22A1	CMB42	CM29	CM22A1 (25K)	CCM2429 (29K) CCM2425
CARLISLE	EC20 NA100	MB20	MB21 CF2000	EC23	MB44	MB23	WT56	MBC62	SD1 MB60	T62 (26K) WT56 (26K)	
COBREQ	NABK334	NABK090	NABK102	NABK091	NABK110				NABK132	NABK142 (26K) NABK110 (26K)	
FRAS-LE	F520 F540-1	F550-1	F555-1	F523	F555-1	F557		F560/F555-1	F587	7871 (28K) F557 (26K)	

STEMCO CREWSON™ AUTOMATIC BRAKE ADJUSTERS

Reduce time spent under trucks and increase safety with STEMCO Crewson™ Brake Adjusters. Designed with safety and convenience in mind, they maintain proper shoe-to-drum clearance in all braking modes and can easily be installed in the field or on the shop floor.



**STEMCO CREWSON
AUTOMATIC BRAKE ADJUSTER**
ELIMINATE GUESSWORK WITH
PATENTED AUTOCHECK™



With STEMCO Crewson Brake Adjusters, making sure trucks are up to code and operate safely is easy. Our brake adjusters have been designed with a variety of patented features including:

- **Auto-Check™:** This patented feature allows for one to check air chamber stroke without crawling under the truck.
- **Cam Guard:** This lubrication system eliminates seizing and corrosion between the S-Cam and ABA.
- **Patented Installation Template:** This handy guide ensures the ABA is installed correctly every time.
- **Patented Clearance-Sensing Adjuster System:** STEMCO Crewson features the only patented reduced-wear clutch in the industry.
- **High-Strength Gearset:** Assures the ABA will stand up to years of service in demanding conditions.
- **Blue Powder Coat:** Protects the ABA from harsh winter conditions.
- **Sealing:** The gear is sealed with a proprietary system that protects it from environmental contamination.
- **Patented Pushrod Cutoff Tool:** For accurate measurements.

INSTALLATION

The STEMCO Crewson Automatic Brake Adjuster comes with our patented, structurally rigid installation guide. This handy and fool-proof guide ensures that even first-time users can install the ABA correctly every time.

AUTO-CHECK

Our patented Auto-Check option is designed to provide a method of checking the air chamber stroke without going under the truck.

- Installed on the ABA facing the center of the vehicle to easily see if brake stroke is in an acceptable range.
- Bright yellow pointer easily indicates set-up position, indicates working stroke and shows if brake stroke is past acceptable limit without crawling under the vehicle.
- Offers an extra quality-control check.



Installation Guide



Detail of Auto-Check™ Feature

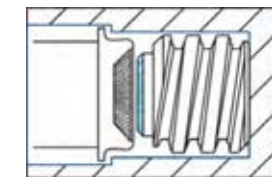


Figure A shows components disengaged to reduce wear (over 90% of the time).

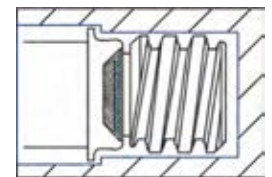


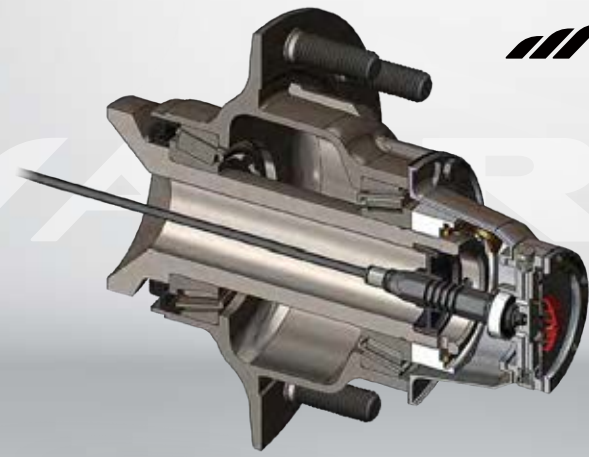
Figure B shows components engaged during brake adjustment (less than 10% of the time).

LONG-LIFE ADJUSTMENT SYSTEM

Heavy-duty internal components with a clearance-sensing clutch enables the brake system to adjust for hot braking conditions. This patented STEMCO Crewson design protects the adjusting components during normal brake applications when brake adjustment is not required. Over 90% of all brake applications do not require adjustment, so why subject the adjusting components to continuous wear?

The STEMCO Crewson Adjustment System operates like the windshield wipers on a car — it is utilized only when needed, not continuously when the car is running.

- A typical highway vehicle makes about two million brake applications in five years.
- This same vehicle will require the ABA to adjust the brake about 3,000 times.



AERIS®



NEVER WORRY ABOUT TIRE PRESSURE AGAIN

Aeris® by STEMCO is a high performance automatic tire inflation system that will keep vehicles on the road while maximizing fuel economy and minimizing tread wear. The patented sealing system is designed for long life and low maintenance, and will not compromise the life of wheel end components by pressurizing the wheel end.

Saves Fuel and Extends Tire Life

Keeping tires at optimum pressure levels reduces friction that shortens tire life, consumes more fuel and puts extra strain on the engine.

Superior Reliability and Durability

Keeps trucks on the road longer. Patented sealing system is designed for long life and low maintenance.

Does Not Pressurize Wheel End

Will not compromise the integrity and life of wheel end components by pressurizing the wheel end.

Fits Single, Tandem and Tri-axle Configurations

Versatile design allows implementation across entire fleet.

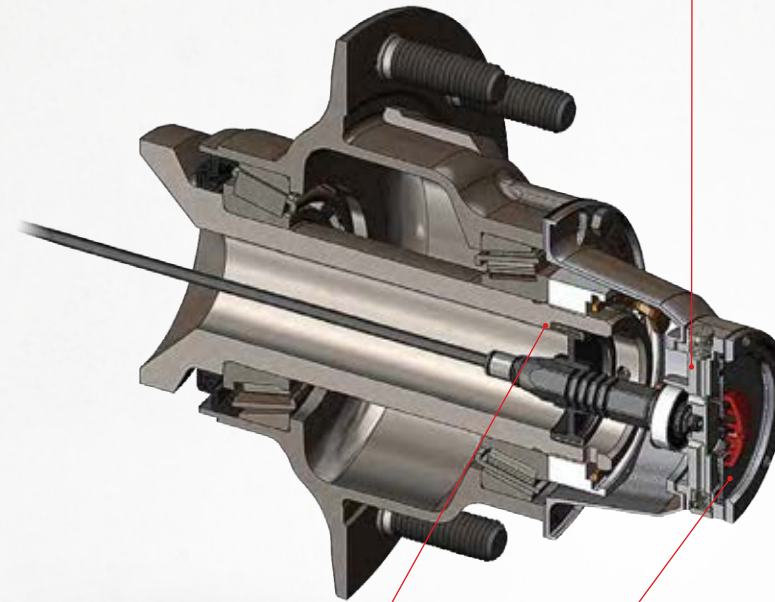
Mechanic- and DOT-friendly

Easy to service and compliant with governmental regulations.

OPTIMAL TIRE PRESSURE. MILE AFTER MILE.

Patented Air Seal

- Rugged and reliable face seal
- Long life
- Low maintenance



Flexible Torque Shaft

- Isolates bearing and air seal from vibration
- Simplifies assembly for routine maintenance

Integrated Sentinel

- Proven technology
- Blocks moisture

SmartSense® Tire Monitoring System

- Reduce time spent identifying low tires
- Identify problem tires to both driver and mechanic – even without power
- Reduce retrofit installation times
- Monitors wheel ends continuously

Upgrade Aeris with the SmartSense tire monitoring system to diagnose problem tires faster with highly visible, real-time feedback to drivers about the condition of their tires. It even monitors and provides feedback when the trailer is parked in the yard and without power.



Service Alert

- Identifies frequent leaks

Post-trip Alert

- Indicates a tire took air
- Resets on power up

Real-time LED Indicators

- Low flow
- High flow
- Highly visible

Platinum Performance Plus System™

- Aeris Automatic Tire Inflation System
- Guardian® HP or Discover® Seal
- Pro-Torq® Axle Fastener
- Sentinel® Hub Cap
- STEMCO® Bearings

Combine Aeris with our Platinum Performance Plus System and get an industry-best, 7-year parts and labor warranty on the entire package. Contact participating trailer dealers or a STEMCO sales manager to find out more about this outstanding package!

VanFastic™ | FLEXAN™



BEFORE REPAIR

AFTER VANFASTIC REPAIR



THE BEST REPAIRS ARE THE ONES THAT NEVER GET NOTICED.

Designed for a range of van and truck trailers, refrigerated trailers and liners, cargo containers and more, STEMCO® VanFastic™ and FLEXAN™ cut repair costs by as much as 90%—and they deliver exceptional end results that look good and last longer. Plus, they form over just about any contour, making repairs quick and easy.

VANFASTIC

Designed for steel and aluminum repairs, VanFastic offers reinforced protection on aluminum applications and high abrasion and corrosion resistance for steel applications.

Applications include:

- Aluminum van type trailers or truck van type bodies
- Refrigerated trailers
- Aluminum roof repairs
- Steel containers
- Soft side or curtain side trailers

Repairs Made Easy

Simple peel-and-stick application eliminates the use of fasteners and requires no special skills or tools.

FLEXAN

Designed to repair everything from FPR panels and refrigerator liners, roof light panels, and see-through cargo containers, FLEXAN highly durable polycarbonate material also shatterproofs windows and repairs any color tarpaulins and truck or bus seats.

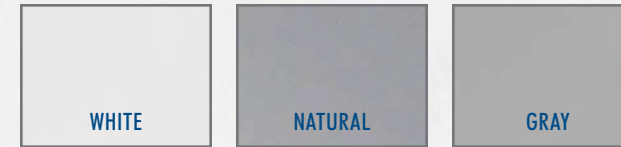
A Better, Stronger Seal

VanFastic and Flexan provide waterproof and airtight seals that offer better, more durable protection.

COLORS AVAILABLE IN VANFASTIC™

ALUMINUM

Repairs trailer panels and roofs. *Ask about special colors.



STEEL

Repairs refrigerated container liners. Provides high abrasion protection and corrosion resistance.



COLORS AVAILABLE IN FLEXAN™



Repairs FPR panels and refrigerator trailer liners. Will also form to corrugated aluminum panels.



Repairs roof light panels.



Repairs see-through cargo containers; reinforces and shatterproof windows.



Repairs any color tarpaulins, side curtains, bus and truck seats. *Ask about special colors.

VANFASTIC AND FLEXAN PART NUMBERS

PRODUCT	PART #	MATERIAL	FINISH	SIZE	PER PACK
VANFASTIC™	V1212N	Aluminum	Natural Bright	12" X 12"	10
	V1224N	Aluminum	Natural Bright	12" X 24"	5
	V1248N	Aluminum	Natural Bright	12" X 48"	3
	V1212W	Aluminum	White	12" X 12"	10
	V1224W	Aluminum	White	12" X 24"	5
	V1248W	Aluminum	White	12" X 48"	3
	V1212G	Aluminum	Gray	12" X 12"	10
	V1224G	Aluminum	Gray	12" X 24"	5
	V1248G	Aluminum	Gray	12" X 48"	3
	VSS1224	Stainless Steel	Semi-Bright	12" X 24"	5
VV 1224M	Vinyl Matte, Heavy Duty		12" X 24"	5	
FLEXAN™	VF1224T	Polycarbonate	Translucent	12" X 24"	5
	VF1224W	Polycarbonate	White	12" X 24"	5
	VF1224C	Polycarbonate	Clear	12" X 24"	5

AERIS® AXLE PREPARATION INSTRUCTIONS

RECOMMENDED TOOL LIST

- 1/2" Drill
- Drill Speed Recommendations (typical 1/2" electric drill is 550 rpm)
 - Drill Speed 7/16" drill...262 rpm to 786 rpm
 - Drill Speed 5/16" drill...367 rpm to 1100 rpm
- Drill Bushings (Type SF) 5/16", 7/16" and 9/16"
- Drill Bits 5/16" and 7/16"
- 1/4-18 NPT Tap

HOSE INSTALLATION

Step 1

Thread the nut, grommet and pass through fitting over the end of the tubing as shown in **FIGURE A** and then place the supplied plastic hose cap (red) over the end of the air tubing to guard against debris entering the tubing as it is being inserted into the axle toward the spindle opening.

Step 2

Route the air tubing through the hole in the axle tube and help feed it toward the end of the axle until 6–8" of tubing extends beyond the end of the spindle. Make sure the tubing doesn't have any kinks that would block the flow of air.

Step 3

Now install the pass-through fitting into the outer most tapped (1/4" NPT) hole on the axle and tighten the base fitting into the axle. Now hand-tighten the nut and grommet onto the fittings as shown in **FIGURE B**.

Step 4

Repeat procedure on other end of axle. Make sure when feeding tubing into axle it heads toward the desired end of the axle.

PROTECTIVE SLEEVE INSTALLATION

Step 1

Slide the 18" piece of nylon convoluted sleeve (shown in **FIGURE C**) over the air tube in each end of the axle to protect against sharp edges inside the axle bore.

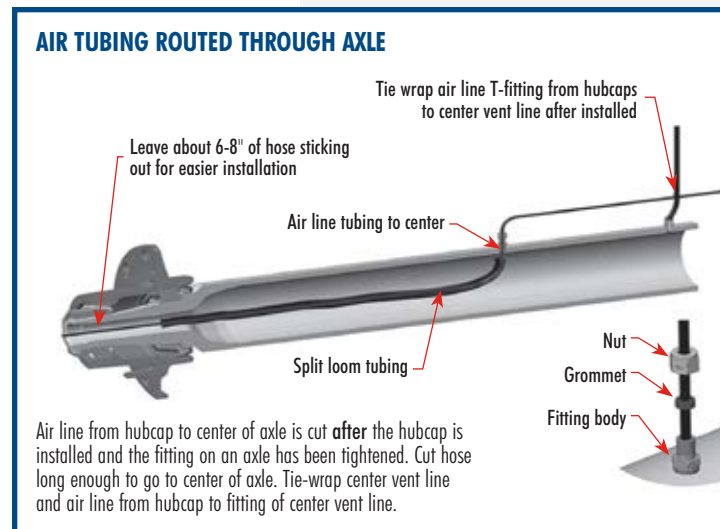
AXLE VENT FITTING INSTALLATION

Step 1

Install the push-connect fitting (1/4" NPT X 3/8" tube) into the tapped hole at the center of the axle and tighten (shown in **FIGURE D**).

Step 2

Install the plastic protective cap over the axle vent fitting (supplied).



This side of the axle faces inward



This side of the axle faces outward. It is referred to as the "metal end" of the plug.

AERIS® AXLE PREPARATION INSTRUCTIONS

AXLE PLUG INSTALLATION

Step 1

The axle plug is installed using the axle plug installation tool supplied by STEMCO. The tube is routed through the center of the axle plug which is then inserted through the slot on the installation tool.

Step 2

Align the axle plug with the axle spindle hole and push the axle plug into the spindle bore.

Step 3

Place the face of the installation tool against the axle plug and hammer gently on the handle of the installation tool and seat the axle plug flush with the spindle end. Be careful to drive the axle plug in as straight and even as possible to prevent misalignment.

Step 4

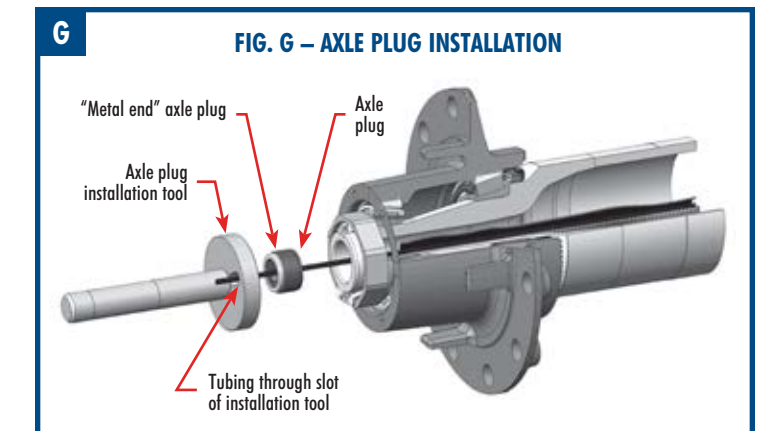
Repeat this step on the other end of the axle. Gear lubricant may be used on the O.D. of the plug to aid installation.

Step 5

Secure the hose end outside of the axle plug to prevent it from retracting into the axle during shipment to the destination OEM. Ensure that the tubing ends are still securely covered with tape (from Step 2) to prevent debris from entering the tube.

PRE-PREP KIT NUMBERS ARE:

- "N" spindle axles use A000030
- "P" spindle axles use A000060



CREWSON™ AUTOMATIC BRAKE ADJUSTER INSTALLATION INSTRUCTIONS

INSTALLATION INSTRUCTIONS

PRIOR TO INSTALLATION

Step 1

Check the vehicle wheels. (Block all the wheels to prevent the vehicle from rolling and avoid injury.)

Step 2

Check all foundation brakes. Brake adjusters cannot compensate for problems with foundation brakes. Replace any worn cam bushing, pins, rollers and brake shoes, or broken return springs.

Step 3

Fully cage the spring brake by following the manufacturer's recommended procedures.

CAUTION: Some mechanical caging devices do not fully cage the spring brake. STEMCO Crewson recommends using air at 90 – 100 psi to fully cage the brake spring.

ABA INSTALLATION

Step 1

Remove the existing brake adjuster and clevis. Keep the existing mounting hardware. Do not remove the clevis jam nut.

Step 2

Thread the STEMCO Crewson clevis on to the push rod and install the 1/2" clevis pin into the clevis. Do not tighten jam nut. (See **FIGURE A**)

NOTE: Do not use the old clevis or a competitor's clevis. In order to guarantee proper set up, one must use the new STEMCO Crewson clevis and template provided in the kit.

Step 3

Slide the installation template over the S-cam spline, swing the template into the clevis until the appropriate slot totally engages the 1/2" clevis pin. (See **FIGURE B**)

Step 4

Once the template has been swung into place, install the 1/4" clevis pin. If the 1/4" clevis pin does not slide freely into the clevis and template, remove the template from the clevis. Follow these instructions: (See **FIGURE C**)

- If the 1/4" template hole sits below the 1/4" clevis hole, rotate the clevis CW until the holes align.
- If the 1/4" template hole sits above the 1/4" clevis hole, rotate the clevis CCW until the holes align.
- If the push rod threads extend through the clevis more than 1/16", remove clevis and cut rod to length.
- A minimum of 1/2" of push rod engagement in the clevis body is required. If this is not the case, install a new push rod and cut rod to length, or use a STEMCO Crewson extended clevis.
- When installing a new chamber or pushrod, use Stemco Crewson's pushrod tool (Part # 195-1001), to accurately cut the pushrod to the correct length. (See **FIGURE D**)
- Remove template and both clevis pins.

INSTALL THE ABA ONTO THE S-CAM

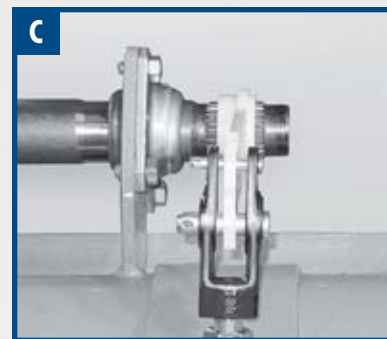
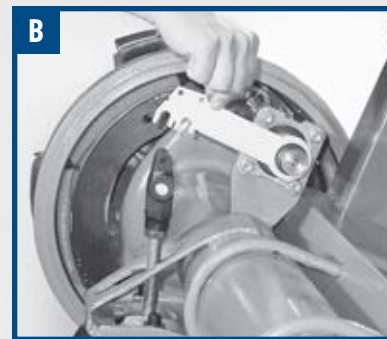
Step 1

Before installing the ABA, apply anti-seize on the S-cam splines. Install the ABA onto the camshaft using the original mounting hardware. Properly shim the ABA.

Place other washers as needed on the end of the camshaft on the outside of the ABA. Re-attach the retaining clip. (See **FIGURE E**)

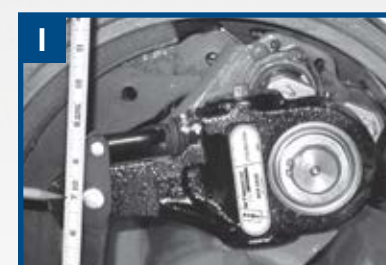
Step 2

Tighten jam nut to 50 ft-lbs torque minimum.



STANDARD STROKE	
CHAMBER SIZE	ADJUSTER STROKE
6	1-1/4 or less
9	1-3/8 or less
12	1-3/8 or less
16	1-3/4 or less
20	1-3/4 or less
24	1-3/4 or less
30	2 or less
36	2-1/4 or less

LONG STROKE	
CHAMBER SIZE	ADJUSTER STROKE
16	2 or less
20	2 or less
24 (below 3" max stroke)	2 or less
24 (3" max stroke version)	2-1/2 or less
30	2-1/2 or less



CREWSON™ AUTOMATIC BRAKE ADJUSTER INSTALLATION INSTRUCTIONS

INSTALLATION INSTRUCTIONS

INSTALL THE ABA ONTO THE S-CAM *CONTINUED*

Step 3

Use a 7/16" wrench, manually rotate the adjuster shaft CW until the ABA arm holes align with the clevis holes.

Step 4

If the adjuster is equipped with "Auto-Check" stroke indicator, do the following:

A. Insert the 1/2" clevis pin into the yellow "Auto-Check" pointer hole. Be sure to use the correct set of holes in the pointer for the ABA being installed. The clevis pin's head should face the front of "Auto-Check". (See **FIGURE F**)

B. "Auto-Check" is non-handed and can be installed on either the right or left side of the ABA. "Auto-Check" is designed to face the center of the vehicle.

C. Now insert the 1/4" clevis pin with the "Auto-Check" pointer into the clevis and install the cotter pins.

Step 5

If the adjuster is not equipped with "Auto-Check" simply install the pins.

Step 6

Use a 7/16" wrench, manually rotate the adjuster CW until the brake linings contact the drum. Now back off 1/2 turn CCW to set the clearance. (See **FIGURE G**)

WARNING: If brakes are applied before this step, it will cause damage to the ABA.

Step 7

Uncage the spring brake.

Step 8

Build up the vehicle air pressure to 90-100 psi.

Step 9

The "Auto-Check" pointer will now point to the "home" location on the housing. (See **FIGURE H**) If it does not point to the home position, remove the ABA and reinstall (see page 1 #3).

Step 10

Measure the distance from the air chamber to the center of the 1/2" pin. Fully apply the brakes with 90-100 psi air pressure and re-measure the distance to the 1/2" pin. (See **FIGURE I**)

Step 11

The stroke (difference of these two measurements) must be less than those in the chart below. (See **FIGURE J**)

Step 12

Fully apply and release the brakes several times to check for adequate clearance to all the adjacent components.

MAINTENANCE: The ABA should be greased every 6 months or 50,000 miles using a quality NLGI #2 Moly EP Multi Purpose grease as part of the regular equipment maintenance schedule.

WARNING: Excessive pushrod stroke or tight running brakes indicates that there is a problem with the foundation brake components, the ABA installation, or the ABA. The proper way of checking an ABA to see if it is working within specs is to measure the pushrod stroke. The only time the ABA should be manually adjusted is during installation or at reline. Constant manual adjustment of the ABA is a dangerous practice and may lead to reduced internal component life, or have other more serious consequences.



DATATRAC® PRO INSTALLATION INSTRUCTIONS

HOW IT WORKS

DataTrac Pro is an advanced mileage counter that relies on Earth's gravity for counting wheel revolutions. The DataTrac Pro unit monitors its orientation to Earth's gravitational pull and uses this reference to recognize and count revolutions.

PROGRAMMING THE UNIT

DISTRIBUTION OR END USER WITH A PROGRAMMER

The unit is shipped from the factory with a Revs/Mile value of zero. Dashes (---) on the display indicate that the unit has **NOT** been programmed. It **MUST** be programmed before it is installed on a wheel end (The DataTrac Pro distributor should have a programmer or can sell a programmer).

THE PROGRAMMER CAN SET THE DATATRAC PROS:

Step 1 The Revolutions/Mile (or per Km)

Use Stemco's catalog to determine the Revolutions/Mile for each Tire Make/Model.

Step 2 Distance Unit of Measure

Miles or Km (Life miles only or including Trip Miles)

Step 3 Mileage Preset

Set the mileage to match the current mileage of the vehicle the unit will be mounted to.

When programming is complete, (as indicated on the programmer screen) immediately lift the DataTrac PRO up and confirm the display shows the correct Tire Revolutions (shown as "REV###" on the screen). If not, repeat the programming.

The DataTrac Pro can be programmed/reprogrammed as many times as desired until there is approximately 2 miles on the unit.

INSTALLING THE UNIT

Install the DataTrac PRO unit using the appropriate STEMCO bracket and hardware. The nut furnished with the unit is a locking nut and must **NOT** be torqued over 15-ft lbs.

READING THE DISPLAY

The display will turn on when the vehicle is at rest. Numbers will automatically orient to read upright. This is also indicated by the icon display, e.g. mile, km, acre. The mileage reading is always in the same direction as the icon.

In order to conserve power the display turns off at any time a vibration is detected. This means that the display will be off while the vehicle is moving. As soon as all vibration or motion stops the display will reactivate in about 5 seconds.

DISPLAY MODES

The DataTrac Pro unit comes equipped with three display modes: **LIFE** and **TRIP** (if programmed), and **REV**. To toggle the display between **LIFE**, **TRIP** and **REV** Modes, cover the round bubble on the face of the unit for at least 1 second, and then uncover it. If the unit is in bright sunlight, the bubble may have to be covered to block more light from reaching the sensor. **TRIP** mode is displayed with tenths resolution and is indicated by display of the **TRIP** icon (only if unit is programmed for **TRIP**).

To reset the **TRIP** display, toggle between **LIFE**, **TRIP** and **REV** Modes 5 times, quickly. Note that the unit cannot toggle faster than every 1.5 seconds. To view the revolutions of the unit simply repeat the process that is used to view trip and then a screen that shows (REV XXX) will show up. The XXX is the number of revolutions per KM or MILE that the unit is programmed for. On units without **TRIP** there are only two screens, all others have three screens (**LIFE**, **TRIP**, and **REV**). As with the **TRIP** mode the unit will return to the mileage after 10 seconds if left in the revolutions screen.

CERTIFICATIONS

This unit complies with European EMI (CE) regulations as noted on front cover by the E11 marking.

PRODUCT LIMITATIONS

This unit should not be used as a rotating shaft counter for machinery, unless the machine shaft rotates slower than 1250 RPM and has a slow acceleration profile similar to a wheel end. At all times the unit should rotate about an axis perpendicular to gravitational forces.

This unit contains a Lithium-Thionyl Chloride battery and should be disposed of according to local regulations. The battery contains less than 1 gram of lithium and is therefore classified as a non-hazardous product. Lithium-Thionyl Chloride batteries contain no poisonous materials and do not present environmental hazards when properly disposed of.



Install DataTrac Pro on wheel end.



Display turns on when the vehicle is at rest.



Display turns off when vibration is detected (vehicle moving) to conserve energy.



LIFE mode shows mileage without tenths.



TRIP mode shows mileage with tenths and TRIP icon.



REV Mode shows RPM or RPK unit Programmed for.

HUB CAP TORQ SPECS

THREADED HUB CAPS	
XXX-4075	100 ft/lbs
340-4975	50-60 ft/lbs
340-4976	50-60 ft/lbs
640-0003	50-60 ft/lbs

HUB CAP COMPONENTS		
359-6032	#8 Torx Screw	18-23 in/lbs
359-5984	3/8" Mag Plug	5-9 ft/lbs
359-5985	3/8" Pipe Plug	5-9 ft/lbs

HUB CAP MOUNTING BOLTS			
1/4"	8-12 ft/lbs	5/8"	22-26 ft/lbs
5/16"	12-16 ft/lbs	3/4"	24-28 ft/lbs
3/8"	16-20 ft/lbs	7/8"	26-30 ft/lbs
7/16"	18-22 ft/lbs	6MM	8-12 ft/lbs
1/2"	20-24 ft/lbs	8.5MM	12-16 ft/lbs

HUB CAP INSTALLATION INSTRUCTIONS

HUB CAP INSTALLATION

Step 1

Check the mounting surface of the hub, making sure to clean off old gaskets and sealant. Also, check for any burrs or imperfections that might prevent a proper gasket seal.

Step 2

Make sure all components are free of any dirt or grit.

Step 3

Always install the hub cap with a new gasket

Step 4

Split washers are recommended to lock the flange bolts in place.

Step 5

Initially hand tighten the hub cap and lastly torque to the recommended specification (refer to chart at left).

Step 6

For oil applications, fill to recommended level and re-check after the lube has had adequate time to establish its final level.

TROUBLESHOOTING GUIDE

PROBLEM	POSSIBLE SOURCES OR CAUSES
Water Contaminated/Milky Oil	High pressure washing, flooded loading docks (Note: See Oil Crackle Test on Page 13).
Bulged/Melted Windows	Check for low lube level, high heat caused from improperly adjusted bearings, high heat caused from improperly adjusted brakes.
Leaking Gaskets	Improper torque of flange bolts, gouged mounting surface (hub cap flange/hub face) no gasket, reuse of gasket.
Leakage from Red Fill Plug	Make sure the oil level is not in an overfilled condition, and check the vent hole to make certain it is not plugged. High heat and resulting pressure may also contribute to leakage.

STANDARD / GRIT GUARD® SEAL INSTALLATION INSTRUCTIONS

Step 1

Remove all burrs and thoroughly clean the spindle. Apply a thin layer of No. 2 sealant to the O.D. of the spindle shoulder. Place the axle ring on the spindle.

Step 2

Using the recommended STEMCO Universal Axle Tool, drive the axle ring on until the tool bottoms against the spindle shoulder. Make certain the axle ring is flush with the shoulder. Wipe away any excess sealant. (See **FIGURE A**)

Step 3

Remove all burrs from the hub bore and thoroughly clean the entire wheel cavity.

Step 4

With the wheel in the horizontal position, pre-lube the inner bearing and place it into the bearing cup. (See **FIGURE B**)

NOTE: When using grease, pre-pack the outer bearing before placement into the hub.

Step 5

Apply a thin layer of No. 2 sealant to the O.D. of the seal and position the seal in the hub. Using the recommended STEMCO Universal Hub Tool, held in a vertical position, drive the seal into the seal bore until it is bottomed out. Check the clearance between the bearing cone and seal (at least 1/32nd is required). (See **FIGURE C**)

Step 6

With the wheel mounted on a dolly, carefully align the bore with the spindle. Gently push the wheel assembly onto the spindle to the proper position. Pre-lube the outer bearing and push it into the bearing cup. (See **FIGURE D**)

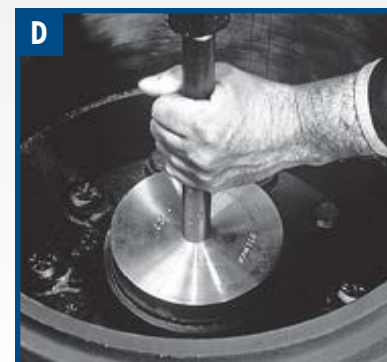
NOTE: When using grease, pre-pack the inner bearing before placement into the hub.

Step 7

Assemble the inner nut and tighten it to 200 ft. lbs. Rotate the wheel several times then back off nut one full turn. Make final bearing adjustment, according to TMC recommended bearing adjustment procedure. Install the appropriate axle fastener.

Step 8

Install the hub cap with the new gasket and fill the cavity with lubricant to the proper level. On drive axles be sure the differential oil is high enough (manufacturer's recommended level) to ensure oil flow through the tube to the wheels. It is recommended to jack one side up and then the other until flow starts. Make certain the breather plug is clear. Recheck steers and trailers to ensure proper fill levels.



GUARDIAN® / GUARDIAN® HP INSTALLATION INSTRUCTIONS

Step 1

Remove all burrs from the hub bore and spindle. Thoroughly clean the entire wheel cavity. Apply a thin layer of No. 2 sealant to the O.D. of the spindle shoulder. Place the seal assembly on the spindle so the words "OIL BEARING SIDE" are exposed to the oil. (See **FIGURE A**)

WARNING: DO NOT INSTALL THE SEAL INTO THE HUB BORE.

Step 2

Using the recommended STEMCO Universal Axle Tool, drive the seal assembly on until the tool bottoms against the shoulder. (See **FIGURE B**) Make sure the ring is flush with the axle shoulder. Ensure seal fully contacts the wear ring flange. Wipe away any excess sealant.

Step 3

Dip the inner bearing in oil and place on the spindle.

NOTE: The O.D. of the seal must be coated with a thin coat of lubricant.

NOTE: When using grease, pre-pack the inner bearing before placement into the hub.

Step 4

With the wheel mounted on a wheel dolly, carefully push the wheel onto the spindle until it contacts the seal. (See **FIGURE C**) Dip the outer bearing in oil and place it on the spindle.

NOTE: When using grease, pre-pack the outer bearing before placement into the hub. Tighten the inner spindle nut hand tight and remove the wheel dolly.

Step 5

Tighten the inner nut to 200 ft. lbs. Rotate the wheel several times then back off nut one full turn. Make final bearing adjustment, according to TMC recommended bearing adjustment procedure. Install the appropriate axle fastener. (See **FIGURE D**)

Step 6

Install the hub cap with a new gasket and fill the cavity with lubricant to the proper level. On drive axles be sure the differential oil level is high enough (manufacturer's recommended level) to ensure oil flow through the tube to the wheels. It is recommended to jack one side up and then the other until flow starts. Make certain the breather plug is clear. Recheck steers and trailers to ensure proper fill levels.



VOYAGER® / DISCOVER® INSTALLATION INSTRUCTIONS

Step 1

Remove all burrs from hub bore and spindle. Thoroughly clean hub cavity and spindle.

NOTE: Do not apply a sealant to the spindle shoulder. Apply a light coat of lubricant to spindle surfaces.

Step 2

With the wheel in horizontal position, pre-lube the inner bearing and place it into the bearing cup. (See **FIGURE A**)

NOTE: When using grease, pre-pack the inner bearing before placement into the hub.

Step 3

Place the seal on the recommended STEMCO Installation Tool, with the correct head, so that the words "Air Side" face into the tool. Place the tool (with the seal correctly mounted in the tool head) over the hub bore. Use a heavy hammer to drive against the end of the tool. Drive seal into bore until complete bottoming is assured. Remove Tool. Apply a thin layer of lubricant on the I.D. surface of the seal. (See **FIGURE B**)

NOTE: Do not apply lubricant to the O.D. of the seal.

Step 4

With the wheel mounted on a dolly, carefully align the bore with the spindle. Gently push the wheel assembly onto the spindle to the proper position. Fill the hub cavity with lubricant until it runs over the outer bearing cup. Coat the outer bearing with lubricant and place it on the spindle and into the bearing cup. (See **FIGURE C**)

NOTE: When using grease, pre-pack the outer bearing before placement into the hub.

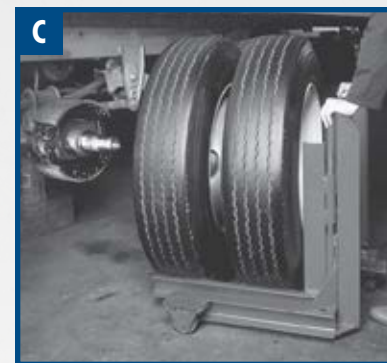
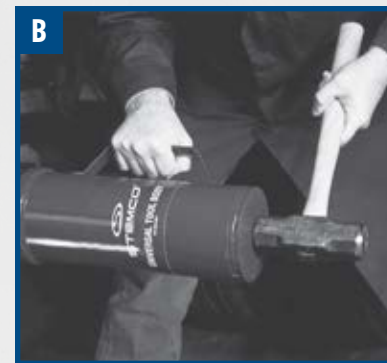
NOTE: Support the hub with the lifting device until the outer bearing and wheel-end fastener have been installed to a hand tight condition to prevent cocking of the hub/seal.

Step 5

Assemble the inner nut and tighten it to 200 ft. lbs. Rotate the wheel several times then back off nut one full turn. Make final bearing adjustment according to TMC recommended bearing adjustment procedure. Install the appropriate axle fastener. (See **FIGURE D**)

Step 6

Install hub cap with new gasket, and fill cavity with the desired lubricant to the proper level. On drive axles be sure the differential oil is high enough (manufacturer's recommended level) to ensure oil flow through the tube to the wheels. It is recommended to jack one side up and then the other until flow starts. Make certain the breather plug is clear. Recheck steers and trailers to ensure proper fill levels.



UNITIZED PINION SEAL INSTALLATION INSTRUCTIONS

Step 1

Remove yoke. (See **FIGURE A**)

Step 2

Remove old seal and wear ring (if applicable). (See **FIGURE B**)

Step 3

Remove all burrs and thoroughly clean cage bore. (See **FIGURE C**)

NOTE: If installing the seal into a worn cage bore, apply a thin layer of No. 2 sealant to the OD of the seal before installation.

Step 4

Align installation tool with the seal and spline as shown. Hand tighten bolt/nut. (See **FIGURE D**)

Step 5

Tighten until the seal flange bottoms into the cage -or- installation tool bottoms into cage (non-flange seals). Take care not to overtighten bolt/nut. (See **FIGURE E**)

Step 6

Remove burrs and thoroughly clean yoke. Lube the seal ID. Install yoke as shown. (See **FIGURE F**)

Step 7

Refer to axle manufacturer for yoke assembly torque requirements. (See **FIGURE G**)

Voyager®

Discover®

Unitized Pinion Seals

TRIFECTA™ PRE-ADJUSTED HUB ASSEMBLY INSTALLATION INSTRUCTIONS

Follow the installation procedure and experience the safety, performance and confidence of having the Trifecta™ Pre-Adjusted Hub Assembly. By combining premiere STEMCO® wheel end technologies with the trusted Webb® hub in a single, pre-adjusted assembly, installation is faster and more secure. Plus, there is no need to purchase, install and adjust separate wheel end components and fasteners.

TOOLS NEEDED FOR INSTALLATION

- Torque wrench
- Sockets for all applications
- Towel and/or emery cloth to clean spindle

Step 1

To begin the Trifecta installation, start by cleaning the spindle and removing all burrs.

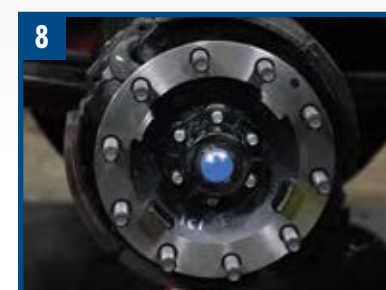
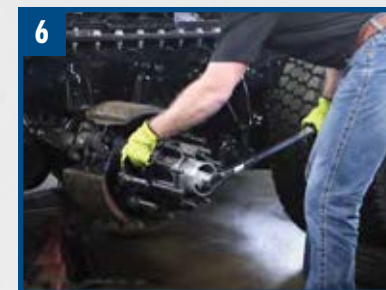
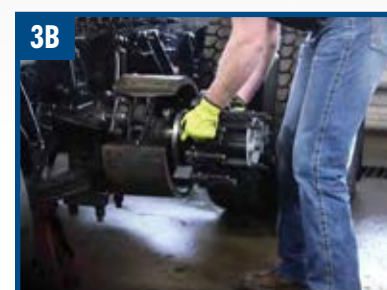
Step 2

Apply a light coat of lubricant to the spindle surfaces.

NOTE: The Discover® XR seal includes STEMCO's patented GlideLock™ technology, eliminating the requirement for seal ID pre-lubrication.

Step 3

Align the Trifecta assembly with the keyway and slide the hub on to the spindle.



TRIFECTA™ PRE-ADJUSTED HUB ASSEMBLY INSTALLATION INSTRUCTIONS

Step 4

Rotate the hub clockwise to engage the Zip-Torq® axle fastener and continue rotating manually until it stops.

Step 5

Unscrew and remove the axle fastener retainer.

Step 6

Use a torque wrench to tighten Zip-Torq to 200 ft./lb. Rotate the hub one full rotation. Repeat this procedure two more times. Torque spec is the same for steer, drive and trailer applications.

FOR APPLICATIONS REQUIRING HUBCAPS

Step 7

To complete installation, install the Defender ESP™ hubcap. Torque the hub cap bolts to 12 to 16-foot pounds using a star pattern sequence. Add oil to the fill line on hub cap window.

Step 8

Reinstall the plug.



PRO-TORQ® INSTALLATION INSTRUCTIONS

Step 1 Remove the Keeper From the Nut

Use a small screwdriver to carefully pry the keeper arm from the undercut groove on each side until the keeper is released.

Step 2 Thread the Nut Onto the Axle

Thread the nut onto the axle until hand tight against the bearing.

Step 3 Seat the Bearing

With wheel hub assembly:

- Using a torque wrench:
 - Tighten the nut to 200 ft-lb. Spin the wheel hub assembly at least one full rotation.
 - Tighten the nut to 200 ft-lb. Spin the wheel hub assembly at least one full rotation.
 - Tighten the nut to 200 ft-lb. Spin the wheel hub assembly at least one full rotation.
- Back the nut off one full rotation.

Step 4 Adjust the Bearing

With wheel hub assembly:

- Using a torque wrench:
 - Tighten the nut to 100 ft-lb. Spin the wheel hub assembly at least one full rotation.
 - Tighten the nut to 100 ft-lb. Spin the wheel hub assembly at least one full rotation.
 - Tighten the nut to 100 ft-lb. Spin the wheel hub assembly at least one full rotation.
- Back the nut off one face mark (according to chart).

Step 5 Install the Keeper

Orange side facing out:

- Insert the keeper tab into the undercut groove of the nut and engage the keyway tang in the axle keyway. Insert keeper tab with the orange side facing out.
- Engage the mating teeth.
- Compress and insert the keeper arms, one at a time, into the undercut groove with a screwdriver.

For Steering Spindle Nut:

- Align the flat of the keeper with the milled flat on the spindle and insert the single keeper tab into the undercut groove of the nut. Insert keeper tab with the orange side facing out.
- Engage the mating teeth.
- Compress and insert the keeper arms, one at a time, into the undercut groove with a screwdriver.

NOTE: Recommended practice is to replace the keeper each time the Pro-Torq nut assembly is removed for maintenance purposes.

Step 6

If the inner tang does not line up with the keyway, back the nut off slightly until it does. Using a small screwdriver, compress and insert the keeper arms, one at a time, into the undercut groove. The orange painted side of the keeper must be facing out.

Step 7 Inspect the Installation

Failure to follow this instruction could cause the wheel to come off and cause bodily injury. Make sure that the keeper tab and keeper arms are fully seated into the undercut groove.



PRO-TORQ® INSTALLATION INSTRUCTIONS

Step 8

Inspect keyway tang to insure it does not contact the bottom of the keyway. If contact exists, immediately notify a STEMCO representative.

This procedure will consistently produce a bearing setting of 0.001" to 0.003" end play.

Step 9 Acceptable End Play

The dial indicator should be attached to the hub or brake drum with its magnetic base. Adjust the dial indicator so that its plunger is against the end of the spindle with its line of action approximately parallel to the axis of the spindle.

Grasp the wheel or hub assembly at the 3 o'clock and 9 o'clock positions. Push and pull the wheel-end assembly in and out while oscillating the wheel approximately 45 degrees. Stop oscillating the hub so that the dial indicator tip is in the same position as it was before oscillation began. Read the bearing end-play as the total indicator movement.

*Acceptable end-play is .001" – .005"

For single nut self-locking systems, consult manufacturers' specifications. STEMCO assumes no responsibility for other manufacturers' bearing warranty.

WARNING

Failure to follow this instruction could cause the wheel to come off and cause bodily injury. STEMCO axle fasteners are sold as an assembly with the keeper in place. DO NOT attempt to place the nut on the spindle or tighten or loosen the nut on the spindle while the keeper is installed inside the nut. Doing so may deform the keeper and allow the nut to unthread during operation. Spindle thread damage could also occur, leaving the axle unusable.

DO NOT bend or manipulate keyway tang in any way. Doing so may cause the tang to break off in service. Failure to back off the axle fasteners on non pre-adjusted systems will cause the bearings to run hot and be damaged.

Final Back Off

PART NUMBER	BACKOFF
TRAILER AXLE NUT	
447-4723	
447-4724	1/8 turn
449-4973	
TRAILER AXLE NUT	
447-4743	1/4 turn
STEERING SPINDLE NUT	
448-4836	
448-4838	
448-4839	1/4 turn
448-4863	
448-4864	
448-4865	
STEERING SPINDLE NUT	
448-4837	
448-4840	1/3 turn
DRIVE AXLE NUT	
449-4904	
449-4973	1/8 turn
449-4974	
449-4975	

PRO-TORQ®

ZIP-TORQ® INSTALLATION INSTRUCTIONS

Tools Required for Installation

ZIP-TORQ® PART NO.	TOOL SOCKET (3/4" DRIVE REQUIRED)	OTC PART NO.
TRAILER AXLE FASTENER		
400-4723	4-1/8" Six Point	1915
400-4743	3-1/4" Six Point	1908
400-4973	4" Six Point	1914
STEERING AXLE FASTENER		
400-4836	2-1/8" Six Point	1976
400-4837		
DRIVE AXLE FASTENER		
400-4973	4" Six Point	1914

NOTE: Ford application 12,000 lbs. SIFCO Steer Axle requires OEM inner washer to be installed prior to installation of Zip-Torq® nut system.

Do not use power or air tools during installation of Zip-Torq.

Step 1 Thread the Nut Onto the Axle

Thread the nut onto the axle until hand tight.

Step 2 Seat the Bearing

With wheel hub assembly:

A. Using a torque wrench:

- (1) Tighten the nut to 200 ft-lb. Spin the wheel hub assembly at least one full rotation.
- (2) Tighten the nut to 200 ft-lb. Spin the wheel hub assembly at least one full rotation.
- (3) Tighten the nut to 200 ft-lb. Spin the wheel hub assembly at least one full rotation.

B. Back the nut off one full rotation.

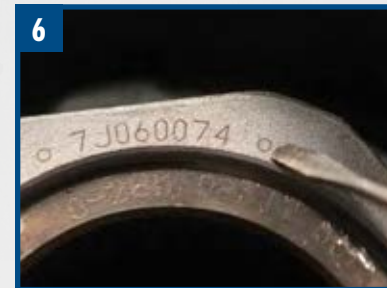
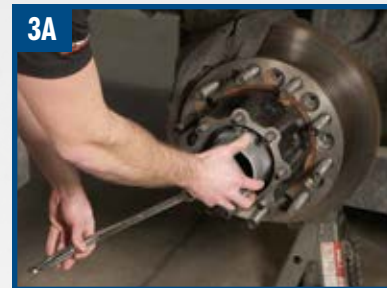
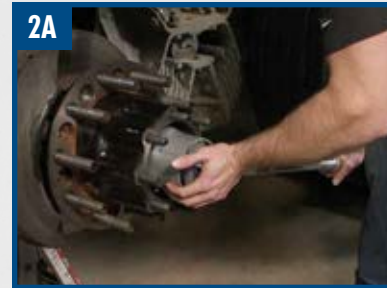
Step 3 Adjust the Bearing

With wheel hub assembly:

A. Using a torque wrench:

- (1) Tighten the nut to 100 ft-lb. Spin the wheel hub assembly at least one full rotation.
- (2) Tighten the nut to 100 ft-lb. Spin the wheel hub assembly at least one full rotation.
- (3) Tighten the nut to 100 ft-lb. Spin the wheel hub assembly at least one full rotation.

B. Back the nut off one face mark (according to chart).



ZIP-TORQ® INSTALLATION INSTRUCTIONS

Final Back Off

PART NUMBER	BACKOFF
TRAILER AXLE NUT	
400-4723	1/8 turn
400-4973	
TRAILER AXLE NUT	
400-4743	1/4 turn
STEERING SPINDLE NUT	
400-4836	1/4 turn
STEERING SPINDLE NUT	
400-4837	1/3 turn
DRIVE AXLE NUT	
400-4973	1/8 turn

Step 4 Inspect the Installation

Failure to follow this instruction could cause the wheel to come off and cause bodily injury.

Step 5 Acceptable End Play

The dial indicator should be attached to the hub or brake drum with its magnetic base. Adjust the dial indicator so that its plunger is against the end of the spindle with its line of action approximately parallel to the axis of the spindle.

Grasp the wheel or hub assembly at the 3 o'clock and 9 o'clock positions. Push and pull the wheel-end assembly in and out while oscillating the wheel approximately 45 degrees. Stop oscillating the hub so that the dial indicator tip is in the same position as it was before oscillation began. Read the bearing end-play as the total indicator movement.

***Acceptable end-play is .001" – .005"**

For single nut self-locking systems, consult manufacturers' specifications. STEMCO assumes no responsibility for other manufacturers' bearing warranty.

WARNING

Failure to follow this instruction could cause the wheel to come off and cause bodily injury. STEMCO axle fasteners are sold as an assembly with the keeper in place. **DO NOT** attempt to place the nut on the spindle or tighten or loosen the nut on the spindle while the keeper is installed inside the nut. Doing so may deform the keeper and allow the nut to unthread during operation. Spindle thread damage could also occur, leaving the axle unusable.

DO NOT bend or manipulate keyway tang in any way. Doing so may cause the tang to break off in service. Failure to back off the axle fasteners on non pre-adjusted systems will cause the bearings to run hot and be damaged.



WHEEL BEARING ADJUSTMENT

TMC'S RECOMMENDED WHEEL BEARING ADJUSTMENT PROCEDURE FOR STANDARD SPINDLE NUTS

Proper wheel bearing adjustment is critical to the performance of wheel seals and other related wheel end products. For that reason, we are proud to be a part of TMC's Wheel End Task Force.

We are happy to bring these standards in the form of this technical guide. Working together in this way, STEMCO® helps keep rigs rolling.

The following RP-618A seven-step bearing adjustment recommendation for standard spindle nuts was developed by TMC's Wheel End Task Force. It represents the combined input of manufacturers of wheel end components.

Step 1 Bearing Lubrication

Lubricate the wheel bearing with clean lubricant of the same type used in the axle sump or hub assembly.

Step 2 Initial Adjusting Nut Torque

Tighten the adjusting nut to a torque of 200 ft-lbs. while rotating the wheel.

Step 3 Initial Back-Off

Back the adjusting nut off one full turn.

Step 4 Re-Torque Adjustment

Re-Torque adjusting nut to 50 ft-lbs while rotating the wheel.

Step 5 Final Back Off

AXLE TYPE	THREADS PER INCH	FINAL BACK OFF
Steer (Single Nut)	12	1/6 Turn*
	18	1/4 Turn*
Steer (Double Nut)	14	1/2 Turn
	18	1/2 Turn
Drive	12	1/4 Turn
	16	1/4 Turn
Trailer	12	1/4 Turn
	16	1/4 Turn

*Install cotter pin to lock axle nut in position.

Step 6 Jam Nut Torque

AXLE TYPE	NUT SIZE/TYPE	TORQUE SPECIFICATIONS
Steer (Double Nut)	Less Than 2 5/8"	200-300 ft-lb
	2 5/8" and Over	300-400 ft-lb
Drive	Dowel-Type Washer	300-400 ft-lb
	Tang-Type Washer	200-275 ft-lb
Trailer	2 5/8" and Larger	200-300 ft-lb
	2 5/8" and Over	300-400 ft-lb

Step 7 Acceptable End Play

The dial indicator should be attached to the hub or brake drum with its magnetic base. Adjust the dial indicator so that its plunger is against the end of the spindle with its line of action approximately parallel to the axis of the spindle.

Grasp the wheel or hub assembly at the 3 o'clock and 9 o'clock positions. Push and pull the wheel end assembly in and out while oscillating the wheel approximately 45 degrees. Stop oscillating the hub so that the dial indicator tip is in the same position as it was before oscillation began. Read the bearing end play as the total indicator movement.

Refer to Page 21 of the STEMCO TQM Catalog for measuring end play.

NOTE: Acceptable end play is 0.001" - 0.005".



BEARING REMOVAL AND INSTALLATION

REMOVAL

Step 1

Remove hub/wheel assembly from vehicle in accordance with recommended practices. (See **FIGURE A**)

Step 2

Remove inboard and outboard bearing cones and set aside for inspection.

Step 3

Using a mild steel drift or cup driver, carefully drive out the bearing cups. (See **FIGURE B**)

NOTE: Caution should be used when driving bearing cups, as drifts and other tools can damage bearings.

NOTE: Drifts can damage hub bearing bores. Be careful not to score bores while removing cups, especially when using aluminum hubs.

INSPECTION

Step 1

Inspect the hub bearing bores and shoulders for damage. The bores should be smooth and free from scoring, burrs, indications of cup spinning, or other forms of damage. Remove any burrs or raised areas using emery cloth, a file, or other appropriate tool. (See **FIGURE C**)

Step 2

Measure the bearing cup bore and compare to manufacturer specifications.

Step 3

Inspect bearing cups and cones for damage. Bearings should be free from chips, contamination, and signs of excessive wear or excessive heat. Refer to bearing damage analysis literature for identifying possible bearing issues.

Step 4

Inspect axle spindle bearing journals for any signs of damage or excessive wear. Remove any raised areas or burrs using emery cloth, a file, or other appropriate tool. (See **FIGURE D**)

Step 5

Journals should be measured and compared with manufacturer specifications.

INSTALLATION

Step 1

Thoroughly clean bearing cups and cones prior to installation. (See **FIGURE E**)

CAUTION: Do not use compressed air to spin bearing rollers as injury may result if cage does not retain the rollers.

Step 2

Lightly coat the outside of bearing cups with oil. (See **FIGURE F**)

Step 3

Using a cup driver, carefully drive bearing cups into hub bearing bores. Be sure to drive cup firmly against cup shoulder in hub. (See **FIGURES G and H**)

If a cup driver is not available, a mild steel drift can be used to install bearing cups.

CAUTION: When driving bearing cups, drifts and other tools can damage bearings.

WARNING: NEVER use a bearing cone to drive a bearing cup. This can damage the bearings and cause premature failure.

Step 4

Use a feeler gauge to check for gaps between cup and shoulder.

Step 5

Inspect the bearing cups to ensure no damage occurred during installation.

Step 6

Lubricate bearing cones according to recommended practices and proceed with installation of wheel assembly.

WARRANTY

STEMCO warrants to Buyer that all components sold will be free from defects in material and workmanship. This warranty is limited to components installed on vehicles licensed for on-highway use under normal use and service. This warranty extends for a period of one year from the date of manufacture.

The Buyer's exclusive remedy under this warranty shall be the repair or replacement of STEMCO components, but not the cost of removal or installation. STEMCO reserves the right to require that all warranty claim components are available and/or returned for review and evaluation. STEMCO shall not be liable for any claim, whether arising from breach of contract or warranty or claims of negligence or negligent manufacture, in excess of the purchase price. In no event shall STEMCO be liable for special, incidental, indirect, or consequential, or collateral, losses or damages of any kind.

This limited warranty is in lieu of all other warranties or conditions, expressed or implied, including any implied warranty of merchantability or fitness for particular purpose.

This is the only warranty offered by STEMCO and no STEMCO employee or representative is authorized to extend additional warranty terms on behalf of STEMCO.





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