

*A Higher Standard of Performance.*SM



STEMCO®

QUICK REFERENCE CATALOG 572-0011 REV. 6/02

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Hudson 10-484-02



STEMCO®

PLATINUM PERFORMANCE SYSTEM™



- Flexible
- Serviceable
- Affordable

The Wheel End System Offering the Most Flexibility and Reduced Maintenance Costs.

Featuring flexible options to fit your installation preferences:

- **Guardian® HP – axle-installed or Discover® – hub-installed Seal**
- **Pro-Torq® Advanced Axle Spindle Nut**
- **Sentinel® or Integrated Sentinel® Hub Cap**
- **Platinum Matched Bearing Sets – An Available Option**

STEMCO's Platinum Performance System™ — an integrated system of product and performance. With the Platinum Performance System,™ you can extend your wheel end to a three-year limited warranty.

Simply the Best

Benefit from unprecedented product performance with STEMCO's exclusive, patented Guardian® HP or Discover® Seal; Pro-Torq® Advanced Axle Spindle Nut; and the tamper-proof Sentinel® or Integrated Sentinel® Hub Cap. Receive extended bearing warranty by adding Platinum Matched Bearing Sets. When spec'd and installed together, STEMCO's Platinum Performance System™ provides a full three-year limited warranty.

Sure to Become the Industry Standard

STEMCO, the leading seal, hub cap, and Hubodometer® manufacturer, sets a new standard of product and performance with the Platinum Performance System™. Gain even greater value by including Platinum Matched Bearing Sets.



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SENTINEL®



☞ **Sentinel® Hub Cap** is the heart of the Platinum Performance System™. The Sentinel® tamper-proof hub cap technology provides an unmatched filtering system for wheel ends to eliminate contamination of the lubricant from grime, dirt, or water.

Or

☞ **Integrated Sentinel® Hub Cap** integrates the Sentinel® Technology directly into the hub cap with fewer components and greater wheel end visibility.

PRO-TORQ®



☞ **Pro-Torq® Advanced Axle Spindle Nut** controls axial motion, holding bearing end play at .001" to .003." That means wheels track truer for longer tire life, extended wheel seal and bearing life and more accurate wheel end sensor monitoring on ABS.

Guardian® HP



☞ **Guardian® HP Seal's** long-life, axle-installed seal features a high performance sealing lip, superior contamination exclusion and self-adjusting thrust pad.

Or

☞ **Discover®** long-life, high performance hub-installed seal features a unitized design using a high temperature elastomeric co-polymer sealing element combined with Teflon.

Combining STEMCO Technology Reduces Maintenance Cost.



☞ **Platinum Matched Bearing Sets**
STEMCO is able to supply your wheel bearing needs by providing matched bearing sets offering safety, reliability and performance from a single source. You can be assured that each STEMCO bearing conforms to our stringent quality and performance standards. Every Platinum Matched set optimizes the performance that fleets expect.

Higher Performance Equals Less Maintenance

☞ When you specify the Platinum Performance System™ with its three-year limited warranty, you are assured of performance which will provide triple protection for your fleet and your maintenance budget. The unprecedented performance of this STEMCO system will lower your maintenance costs by reducing down-time and protecting your wheel end investment.

Dramatic Performance Improvement

☞ Combining the STEMCO technology of the Guardian® HP or Discover® seal, Pro-Torq® axle spindle nut and Sentinel® or Integrated Sentinel® hub cap can dramatically increase wheel end performance. The Guardian® HP and Discover® Seals will outperform all other seals on the market today. The Pro-Torq® axle nut provides accurate bearing adjustment, increasing wheel end life. And the Sentinel® maintenance-free hub cap ensures wheel end lubrication that remains pure and contaminant-free, eliminating a major performance barrier. With the addition of Platinum Matched Bearing Sets you can gain the same three-year limited warranty on the bearings.

- All components available separately.
- Platinum Performance System™ Warranty available on new vehicle spec or aftermarket retrofit.
- Contact your local STEMCO representative for Platinum Performance System™ registration details. Or Call 800-527-8492 for more details.



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QS 9000 & ISO 9001

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Guardian® HP

Hub Seals



Longer Life for the Longest Haul

New Technology for a Higher Standard of Performance

Introducing Guardian® HP, the newest seal technology to improve per mile performance and cost-per-mile profitability. Guardian® HP gives you all the features of STEMCO's exclusive Guardian® seal design with the added benefits of our all-new High Performance sealing element. Guardian® HP's new technologically advanced seal has been developed for extra protection and greater sealing with its high performance sealing lip, superior contamination exclusion and self-lubricating thrust pad.

With new Guardian® HP, you're assured of longer life and easier installation. Installation right on the axle instead of the hub bore assures positive alignment every time with virtually error-proof installation. There's no tool impact on the seal, causing damage or installation related failures. Guardian® HP is easy to remove and service. No more damaged bearings during seal removal.



A Higher Standard of Performance.™

Guardian® HP Application and Reference Guide

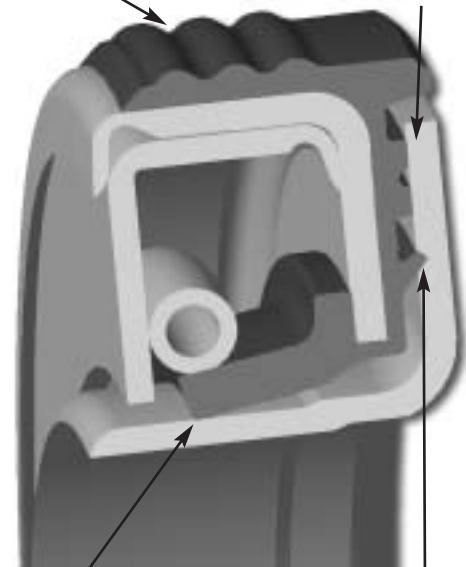
APPLICATION	GUARDIAN® HP	INNER BEARING	UNIVERSAL AXLE TOOL HEADS
19,000# Trailer Axle Standard Forge, Dana, Meritor, Eaton	307-0713	663	555-5100
Pro-Par Trailer Axle, Fruehauf, Eaton P-22, Meritor TP, Dana	307-0723	HM518445	555-5023
22,500# Trailer Axle, Meritor, Standard Forge, Dana, Eaton	307-0743	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 HM516449A	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 Seal

Sealing lip, O.D. beads, self-lubricating thrust pad, and flexible contaminant exclusion lip all molded as a single unit from high performance HNBR-Teflon elastomer for fewer leak paths and better heat resistance.

Three O.D. beads for easier hub docking

Self-lubricating Thrust Pad



High performance sealing lip

Flexible contaminant exclusion lip

Guardian® HP Interchange

GUARDIAN® HP	STEMCO	CR	CR PLUS	CR LONGLIFE	NATIONAL	5 STAR	OUTRUNNER
307-0713	372-7098	40136	40133	40146	370036A	380036A	850
307-0723	372-7099	42623	42623	42631	370065A	380065A	851
307-0743	372-7097	46305	46304	46308	370025A	380025A	859
308-0836	382-8036	35066	35059	35102	370001A	380001A	847
308-0864	382-8064	43764	43763	N/A	370048A	380048A	863
309-0903	392-9094	45099	45097	45108	370022A	380022A	856
309-0904	392-9112 392-9130	42672	42671	N/A	370031A	380031A	852
309-0973	392-9098	47697	47695	47693	370003A	380003A	861

Watch for announcement of additional applications when available.



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Hudson 10-298 • 9/01



STEMCO®

Voyager®

HUB-INSTALLED - UNITIZED DESIGN



**Revolutionary
Hub-Installed
Unitized Seal
that will Minimize
Your Maintenance
Costs.**



A Higher Standard of Performance.™

⊗ **Easier and Faster Installations.** The Voyager® seal features a bonded rubber OD and piloted entry ensuring an easy and square installation. The ribbed rubber OD also forms a superior seal between the seal case and the hub bore.

⊗ **Reduce Premature Failures and Rework.** The Voyager® seal utilizes a 4-zone labyrinth contaminant exclusion system. This technology is incorporated into a fully-unitized hub-installed seal.

⊗ **Avoid Seal Damage Upon Installation.** The Voyager® seal's double steel case construction allows positive hub installation without warping or bending the seal.

⊗ **Increase Reliability through Superior Material and Design.** The temperature-resistant nitrile polymer with hydrodynamic "pumping" features keeps the lubricant where it is intended to be.

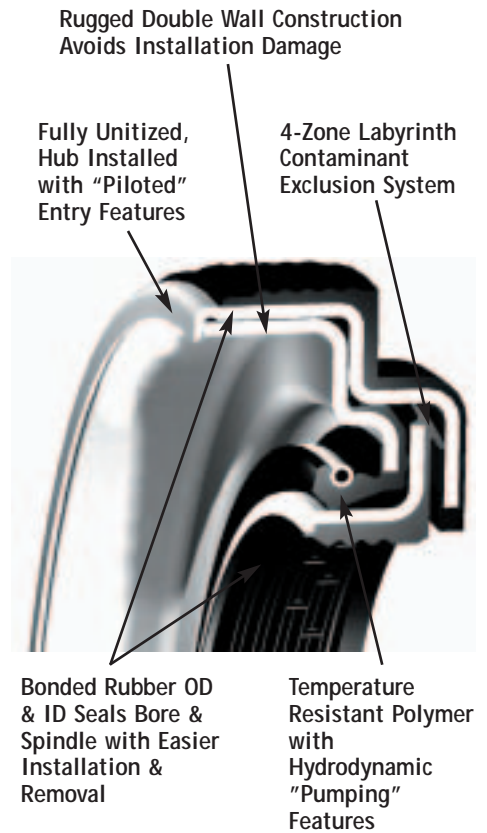
⊗ **Eliminate "Pry-Bar" Removal and Adjacent Component Damage.** The Voyager® seal's bonded rubber ID and OD allow for easier removal, yet STEMCO's patented anti-rotation "SMART" features lock the ID surface in place.

Voyager® Cross Reference Guide

APPLICATION	VOYAGER® P/N	INNER BEARING	HUB TOOL P/N	BEARING GUIDE
19,000# Trailer Axle, Standard Forge, Dana, Meritor, Eaton	*373-0113	663	551-5313	570-0023
Pro-Par Trailer Axle, Fruehauf, Eaton P-22, Meritor TP, Dana	*373-0123	HM518445	551-5401	570-0025
22,500# Trailer Axle, Meritor, Standard Forge, Dana, Eaton	*373-0143	HM218248	551-5412	570-0026
Meritor Front Transit	*383-0101	6386 or 6379	551-5420	570-0020
12,000# Front Axle, Meritor, Eaton, Ford, Freightliner, Kenworth, Western Star, Navistar, Peterbilt, Volvo GM	*383-0136	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	**383-0139	641 or HM212049	551-5413	570-0020
Navistar Front Axle, FA309, FA329	*383-0153	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	641	551-5344	570-0020
16,000# Front Axle, Ford, Navistar, Mack, Meritor, White, Kenworth, Western Star, Peterbilt, Volvo GM	*383-0164	6461A	551-5327	570-0022
6,000#, 7,500#, Front Axle, Navistar	*383-0166	JM207049 or JM205149	551-5423	570-0035
GMC F-120 1985 and up	*383-0171	HM212047	551-5403	570-0019
8,000# Front Axle, GMC Topkick	*383-0175	JM205149	551-5417	570-0033
11,000# Front Axle, GMC Topkick	*383-0176	33212	551-5418	570-0031
34,000#, 38,000# Drive Axle, Mack	*393-0103	580 or 582	551-5415	570-0023
44,000# Drive Axle, Mack	*393-0104	663 or HM516449,-A	551-5414	570-0023
34,000# Drive Axle, Eaton, Ford, Navistar, White	*393-0112	47685 or 47686 47678 or 5760	551-5416 551-5416	570-0023 570-0022
Meritor Drive Transit	*393-0134	6580 or 6559	551-5421 551-5421	570-0025 570-0023
50,000#, 60,000# Drive Axle, Mack	*393-0148	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	594 or 594A 598 or 598A	551-5320 551-5320	570-0028 570-0027

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

Voyager® Seal



Voyager® Interchange

VOYAGER®	CR	CR PLUS	NATIONAL	5 STAR	OUTRUNNER
373-0113	40136	40133	370036A	380036A	850
373-0123	42623	42622	370065A	380065A	851
373-0143	46305	46304	370025A	380025A	859
383-0101	40086	40088	370066A	N/A	N/A
383-0136	35066	35059	370001A	380001A	847
383-0139	39988	39977	370033A	N/A	N/A
383-0153	44922	44919	370124A	N/A	855
383-0156	45103	45102	370131A	380131A	857
383-0164	43764	43763	370048A	380048A	863
383-0166	28758	N/A	370150A	N/A	N/A
383-0171	36358	36357	370011A	N/A	N/A
383-0175	N/A	N/A	370199A	N/A	N/A
383-0176	N/A	N/A	370211A	N/A	N/A
393-0103	45099	45097	370022A	380022A	856
393-0104	42672	42671	370031A	380031A	852
393-0112	38780	38779	370023A	380023A	849
393-0134	48690	N/A	370195A	N/A	N/A
393-0148	52658	N/A	370069A	380069A	N/A
393-0173	47697	47695	370003A	380003A	861



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Hudson 10-330 • 5/02

Discover®

HUB-INSTALLED - UNITIZED DESIGN



**Discover® Seals.
Minimizing
Costs by
Exceeding the
Industry's Best.**



STEMCO®

A Higher Standard of Performance.™

As a pioneer in the hub seal industry, STEMCO proudly offers a technologically advanced high performance seal designed for long-life expectations.

☉ **Increase the Performance Expectations of Wheel Ends.** The Discover® seal features a high temperature elastomeric co-polymer sealing element combined with Teflon®. The revolutionary design incorporates hydrodynamic "pumping" features to keep the lubricant where it is intended to be.

☉ **Maintain the Lubricant's Integrity to Lengthen the Life of the Seal.** The premium sealing element is protected by a four-zone labyrinth to provide unmatched contaminant exclusion and performance.

☉ **Have Complete Confidence During the Installation Stage.** The Discover® seal's piloted entry allows an easy and square installation every time. The double steel case is the impact point for the tool head to maintain the internal geometries.

☉ **Reduce Removal Time and Effort Without Special Tools or Adjacent Component Damage.** The Discover® seal consists of a bonded, ribbed rubber OD and ID for easier removals, yet STEMCO's patented "SMART" anti-rotation features insure positive positioning and locking of the seal to the spindle.

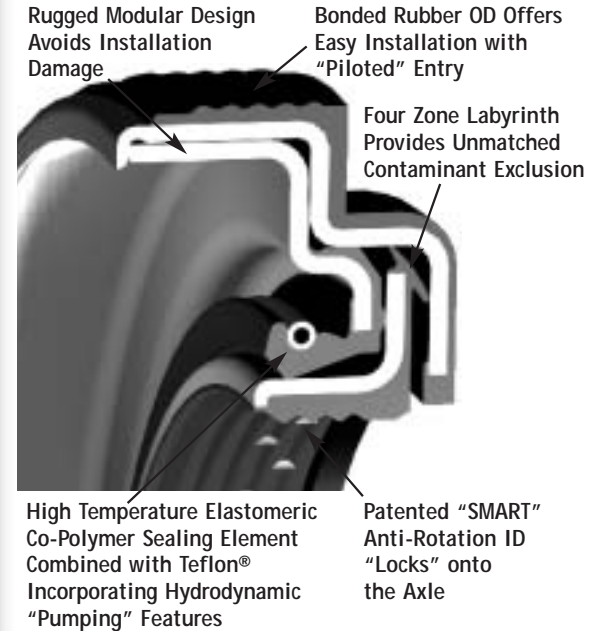
**Experience the difference! STEMCO Discover® Seals.
High Performance. Revolutionary Design.**

Discover® Cross Reference Guide

APPLICATION	DISCOVER® P/N	INNER BEARING	HUB TOOL P/N	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	393-0273	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.

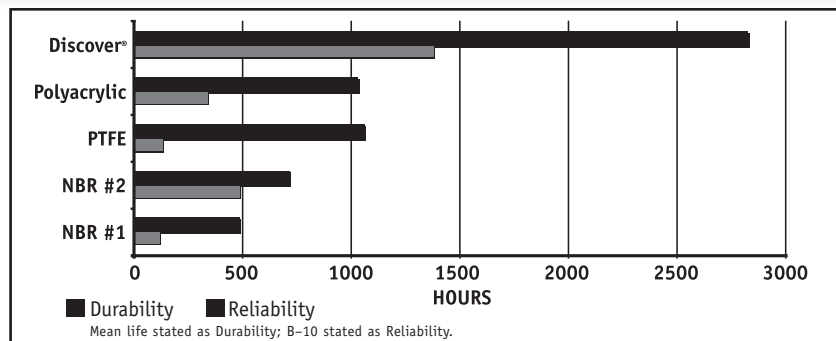
Discover® Seal Design Features



Discover® Interchange

DISCOVER®	CR	CR PLUS	CR LONGLIFE	NATIONAL	5 STAR	OUTRUNNER
373-0213	40136	40133	40146	370036A	380036A	850
373-0223	42623	42622	42631	370065A	380065A	851
373-0243	46305	46304	46308	370025A	380025A	859
383-0236	35066	35059	35102	370001A	380001A	847
383-0239	39988	39977	39990	370033A	N/A	N/A
383-0264	43764	43763	N/A	370048A	380048A	863
393-0203	45099	45097	45108	370022A	380022A	856
393-0204	42672	42671	N/A	370031A	380031A	852
393-0212	38780	38779	38783	370023A	380023A	849
393-0273	47697	47695	47693	370003A	380003A	861

STEMCO Discover® vs. competitor seals (listed by main sealing lip material). Hours shown are accelerated lab life test hours.



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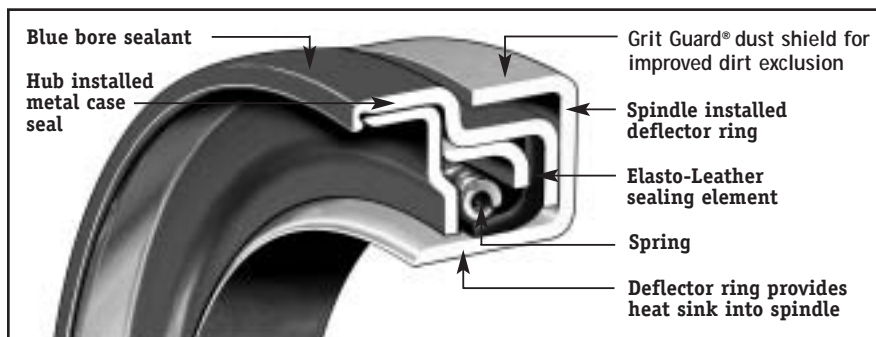
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GRITGUARD®

Two-piece Hub Seal design for improved dirt exclusion



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

Features and Benefits

☉ A two-piece design, the Grit Guard® Seal features a spindle-installed deflector ring. This provides dirt exclusion for extended seal performance and insures a new surface for the sealing lip. The deflector ring can often repair a damaged or worn spindle shoulder.

☉ The hub-installed metal case seal provides a metal-to-metal continuous press fit between the seal and hub. In addition, a blue coating is applied to the seal to prevent minor seepage between the seal and hub.

☉ Grit Guard's® Elasto-Leather sealing lip provides an excellent temperature range from -65°F to +250°F remaining flexible and durable. Also, the lip rotates on the deflector ring for improved heat dissipation and less lip travel per wheel rotation.

☉ Grit Guard® is available for the rugged, severe duty applications that other seals are not available for.



A Higher Standard of Performance.™

Grit Guard® 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	HM518445	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 Axle, 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 555-5071	551-5412 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 555-5074	551-5318 551-5318	570-0023 570-0022
44,000# Drive Axle, Mack	392-9112	2213/1515	663 or HM516449, -C	555-5072	551-5364	570-0023
44,000# Drive Axle, Mack	392-9130	2213/1519	HM516449A	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 555-5071	551-5320 551-5320	570-0028 570-0027
38,000# Drive Axle, Eaton, GMC, Mack, Meritor	392-9132	2104/1018 2115/1530	598A 594A	555-5071 555-5076	551-5356 551-5356	570-0027 570-0028

*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®	CR	CR PLUS	MIDLAND	NATIONAL	OUTRUNNER	TRI SEAL
372-7095	43753	43752	749400	370037A	853	69599
372-7097	46305	46304	755400	370025A (38)	859	69598
372-7098	40136	40133	747400	370036A (38)	850	69597
372-7099	42623	42622	745400	370065A (38)	851	69596
392-9088	45160	45158	772400	370021A	307	69791
392-9089	52664	52658	791400	370069A	N/A	69781
392-9094	45099	45097	785400	370022A (38)	856	70796
392-9096	43860	43861	771400	370019A	854	69797
392-9099	38780	38779	774400	370023A (38)	849	69794
392-9112	42672	42671	789400	370031A (38)	852	69788
392-9130	42672	42671	789400	370031A (38)	852	69788
392-9131	47697	47695	781400	370003A (38)	861	69799
392-9132	47690	N/A	763400	370005A	308	69757

*Refer to STEMCO Wheel End Products Catalog #572-0012 for complete applications and coverage listings.



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Guardian®/Guardian® HP to Standard/Grit Guard® and Voyager®/Discover® Hub Seal Cross Reference

QUICK REFERENCE

Guardian® / Guardian® HP Seal No.	Inner Bearing Cone	Universal Tool Head	Standard/ 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	555-5062	382-8036	383-0136 383-0236
	HM212044, 557A	555-5061		
	HM212049, -X	555-5098		
	HM212047	555-5066		
308-0853	641	555-5060	382-8053	383-0153
	HM212049			
	H715345	555-5070		
308-0855	641	555-5060	N/A	N/A
308-0856	H715345	555-5070	382-8056	383-0156
308-0863	39581	555-5062	382-8063	N/A
	45284	555-5064		
*308-0864	6461A	555-5007	382-8064	383-0164 383-0264
308-0866	JM207049	555-5088	382-8066	383-0166
	JM205149	555-5089		
308-0870	JF7049A	555-5297	N/A	N/A
*309-0903	580	555-5072	392-9094	393-0103 393-0203
	582			
*309-0904	663	555-5072	392-9112	393-0104 393-0204
	HM516449, -C			

Guardian® / Guardian® HP Seal No.	Inner Bearing Cone	Universal Tool Head	Standard/ Grit Guard® Set	Voyager® Discover®
309-0912	47685 47686	555-5031	392-9099	393-0112 393-0212
	47678 5760	555-5074		
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	555-5076	392-9087	N/A
	681A	555-5071		
*309-0973	594 594A 598 598A	555-5076 555-5071	392-9131	393-0173 393-0273

*Guardian® HP

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

Guardian® /Guardian® HP Hub Seal Components

Oil Seal □	Deflector Ring □	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	308-0855
	317-1706	308-0856
327-2711	317-1711	*308-0864
327-2712	317-1712	309-0964

Oil Seal □	Deflector Ring □	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	317-1705	*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

□ 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

Shaded numbers indicate obsolete parts.

Standard and Grit Guard® Hub Seal to Set Cross Reference

Oil Seal	Axle Ring	Hub Seal Set	Inner Bearing #	Universal Tool Head	Hub Tool	Comment
320-2001	310-1095	392-9001	758	555-5069	551-5398	
			760	555-5079	551-5398	
	310-1103	392-9062	760	555-5079	551-5398	
	For trailer applications, use 310-1045 (set was 370-7019).					
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	❑
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 ❑
	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 ❑
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	
	310-1036	372-7009	39250	555-5066	551-5388	
320-2034	310-1034	382-8034	HM212047	555-5066	551-5387	❑
320-2036	310-1036	382-8036	39581	555-5062	551-5346	
			557A or HM212044	555-5061	551-5346	
			HM212047	555-5066	551-5346	
			HM212049	555-5098	551-5346	
			HM212049X	555-5098	551-5346	
320-2039	310-1038	382-8039	641 or HM212049	None	551-5395 551-5413 ❑	Replaced by Voyager® Seal 383-8139 ❑
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	❑
320-2051	310-1047	372-7008	560S	555-5038	551-5388	
320-2056	310-1061	382-8005	3778	555-5001	551-5302	❑
320-2057	310-1062	392-9035	33287	555-5011	551-5353	❑
	310-1063	392-9036	33281	555-5002	551-5353	❑
320-2058	310-1093	392-9033	663, 749A or 6559	555-5072	551-5303	Gaskets Must be Ordered Separately
320-2059	See Catalog 392-9053 and/or 392-9089 Remarks.					

❑ Oil seal installs in bearing cup bore. ❑ Oil seal installs in bearing cup bore on steel hubs. On spoke wheels use seal bore. ❑ Voyager® Seal tool.

Shaded numbers indicate obsolete part numbers, refer to Engineering Changes for more information.

Standard and Grit Guard® Hub Seal to Set Cross Reference

QUICK REFERENCE

Oil Seal	Axle Ring	Hub Seal Set	Inner Bearing #	Universal Tool Head	Hub Tool	Comment
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	❑
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	
320-2096	310-1007	392-9007	663 or HM516449	555-5072	551-5390	Cast housings use 392-9004
320-2097	315-1516	392-9089	687 or 780	555-5004	551-5400	Grit Guard®
320-2099	310-1089	392-9053	782	555-5016	551-5317	See Set Remarks
320-2102	315-1501	392-9099	47685 or 47686	555-5031	551-5318	Grit Guard® ❑
			47678	555-5074	551-5318	
320-2104	310-1018	392-9057	495AX	555-5074	551-5383	Ford 1970 Up Thru 1969 use 392-9018
320-2105	310-1008	382-8044	45284	555-5064	551-5351	
320-2106	315-1525	392-9131	598 or 598A	555-5071	551-5320	Grit Guard® Used with or without Wabco ABS
			594 or 594A	555-5076	551-5320	
320-2109	310-1053	392-9032	580 575	555-5072 555-5074	551-5313 551-5313	
	310-1057	372-7003	663	555-5031	551-5313	KB-5, KB-6 T-18-W only
	315-1507	372-7098	663	555-5100	551-5313	Grit Guard®
320-2110	315-1504	372-7097	HM218248	555-5039	551-5412	Grit Guard®
320-2111	315-1506	372-7096	787	555-5016	551-5323	Grit Guard®
320-2113	315-1517	392-9088	594 or 594A	555-5076	551-5412	Grit Guard® ❑
320-2114	315-1508	392-9096	595	555-5072	551-5412	Grit Guard® ❑
			598	555-5071	551-5412	
320-2115	310-1113	392-9020	665	555-5068	551-5356	❑
	310-1107	392-9066	592A/594A	555-5076	551-5356	Van Hool Bus Appl ❑
	315-1530	392-9132	592A/594A	555-5076	551-5356	Used with or without Wabco ABS
320-2117	315-1509	392-9095	582 or 663A	555-5072	551-5325	Grit Guard®
			665A	555-5069	551-5321	Grit Guard®
320-2118	315-1510	372-7095	39581	555-5062	551-5353	
320-2119	310-1036	382-8027	39585	None	551-5388	❑
320-2125	310-1051	382-8062	39585	None	551-5388	❑
320-2129	315-1511	392-9094	580 or 582	555-5072	551-5393	Grit Guard®
320-2131	315-1508	392-9092	598	555-5071	551-5363	Grit Guard®

❑ Oil seal installs in bearing cup bore.

(Continued Next Page)

Shaded numbers indicate obsolete part numbers, refer to Engineering Changes for more information.

Standard and Grit Guard® Hub Seal to Set Cross Reference

Oil Seal	Axle Ring	Hub Seal Set	Inner Bearing #	Universal Tool Head	Hub Tool	Comment
320-2133	310-1036	382-8063	39581	555-5062	551-5353	
			45284	555-5064	551-5353	
320-2136	310-1064	372-7049	JM511946	555-5055	551-5381	
320-2137	310-1037	382-8064	6461A	555-5007	551-5327	Replaced by 383-0164
320-2162	315-1502	392-9087	681A	555-5071	551-5333	See Set Remarks
			683	555-5076	551-5333	Grit Guard®
320-2164	310-1008	382-8066	JM207049	555-5088	551-5366	
			JM205149	555-5089	551-5366	
320-2166	310-1028	382-8069	6386	None	551-5340	Volvo Front
320-2173	310-1023	372-7024	749 or 749S	555-5024	551-5401	
	315-1503	372-7091	749 or 749S	555-5024	551-5401	Grit Guard®
320-2181	310-1009	382-8052	6386A	555-5060	551-5349	
	310-1093	382-8053	641 or HM212049	555-5060	551-5349	
320-2199	310-1093	382-8056	H715345	555-5070	551-5349	
			641	555-5060	551-5344	
320-2213	315-1515	392-9112	663 or HM516449,-C	555-5072	551-5364	Grit Guard®
	315-1519	392-9130	HM516449A	555-5073	551-5364	Grit Guard®
320-2216	310-1034	382-8071	HM212011/ HM212047	555-5066	551-5403	
320-2233	310-1233	392-9111	593X/594	555-5076	551-5404	Mack Midliner

QUICK REFERENCE


Shaded numbers indicate obsolete part numbers, refer to Engineering Changes for more information.


HEAVY DUTY BEARINGS


PLATINUM
MATCHED BEARING SET


STEMCO
is the
Performance
and Value
Leader for
Critical
Wheel End
Components.

Features and Benefits

 **Value Added Bearing Program.** Through strategic alliances and strong global procurement, STEMCO Bearings meet the changing needs of today's market. STEMCO Bearings are the right mix of *Performance, Convenience and Value.*

 **Consolidated Wheel End Components Provider.** The same company that provides High Performance STEMCO Wheel Seals, Pro-Torq Precision Adjusting Nuts and Hubcaps, can supply your wheel bearing needs; providing safety, reliability and performance from a single source.

 **STEMCO Quality Bearings.** Our worldwide network of manufacturing plants is held to the highest quality standards by STEMCO and meets the ABMA specifications for bearing life calculations.

 **OEM Quality Bearings from STEMCO.** The world's leading OEM Truck Manufacturers are standard with the bearings from our QS9000 and ISO 9001 Certified factories.



STEMCO®

A Higher Standard of Performance.™

Bearings to Hub Seal Set Cross Reference

Inner Cup & Cone	Outer Cup & Cone	Guardian®/ Guardian® HP Seal No.	Grit Guard®*/ Standard Set	Voyager® Discover®	Inner Cup & Cone	Outer Cup & Cone	Guardian®/ Guardian® HP Seal No.	Grit Guard®*/ Standard Set	Voyager® Discover®
33212	33208			383-0176	633/641	65320/ 65385		382-8039	383-8139
382A/387AS	LM104911/ LM104949		392-9063		652/663	572/575	309-0904	392-9112*	393-0104 393-0204
493/495AX	3920/ 3984		392-9018					392-9007	
493/495AX	33287/ 33462	309-0957	392-9057		653/663	553X560	307-0713	372-7098*	373-0113 373-0213
493/495AX	39520/ 39590	309-0957	392-9057 392-9045		653/663	HM212011/ HM212049	307-0713	372-7098*	373-0113 373-0213
552A/559	552/526		382-8011					372-7003	
553X/557A	3720/3782	308-0836	382-8036	383-0136 383-0236	653/663A	42620/ 42687	309-0961	392-9095*	
563/567	522/528		372-7006		653/665A	HM212011/ HM212049	307-0744	372-7095*	
572/575	572/575		392-9032		672/681A	572/575	309-0970	392-9087*	
572/580	563/567	309-0903	392-9094*	393-0103 393-0203	672/683	572/580	309-0970	392-9087*	
			392-9032		672/683XA	572/580	309-0970	392-9087*	
572/580	42620/ 42687	309-0961	392-9095*		672/687	772/780	309-0948	392-9089*	393-0148 N/A
572/582	563/567	309-0903	392-9094*	393-0103 393-0203	672/687	52618/ 52400	309-0948	392-9089*	393-0148 N/A
572/582	42620/ 42687	309-0961	392-9095*		742/749	632/643		372-7091* 372-7024	
592A/593	65320/ 65390		372-7022 372-7062		742/749S	632/643		372-7091* 372-7024	
592A/594	572/580	309-0964	392-9088*		742/749A	653/663		392-9033	
		309-0973	392-9131	393-0173 393-0273	752/756A	HM212011/ HM212046		382-8028 382-8045	
592A/594A	572/580	309-0960	392-9132*		752/756A	HM212011/ HM212047		382-8028 382-8045	
		309-0964	392-9088*		752/758	663/665		392-9001	
		309-0973	392-9131	393-0173 393-0273	752/759	742/740		372-7015	
592A/594A	572/582	309-0960	392-9132*		752/760	742/749		392-9001	
592A/595	572/580	309-0965	392-9096		752/760	742/749		392-9062	
592A/598	572/575	309-0965	392-9096*		772/780	772/776	309-0948	392-9089*	393-0148 N/A
		309-0973	392-9131	393-0173 393-0273	772/780	854/864	309-0948	392-9089*	393-0148 N/A
592A/598A	653/665	309-0965	392-9092*		772/780	52618/ 52400	309-0948	392-9089*	393-0148 N/A
592A/598	752/758	309-0965	392-9092*		772/780	77675/ 77375	309-0948	392-9089*	393-0148 N/A
592A/598	HM617010/ HM617049	309-0965	392-9092*		772/782	742/749		392-9053	
592A/598A	572/580	309-0960	392-9132		832/843	632/636		382-8008	
		309-0973	392-9131	393-0173 393-0273	3720/3778	25820/ 25877		382-8005	
592A/598A	572/582	309-0960	392-9132*		3720/3778	2720/2790		382-8005	
592A/598	HM617010/ HM617049	309-0960	392-9081 392-9132		3920/3982	3820/3877		382-8011	
593X/594	593X/594		392-9111		3920/3984	453X/462		392-9038	
632/641	3920/3979	308-0853	382-8053	383-0153 N/A	4536/4595	414A/418		382-8010	
632/641	28622/ 28682	308-0856	382-8056	383-0156 N/A	5735/5760	572/575	309-0912	392-9012	393-0112 393-0212

(Continued Next Page)

Shaded numbers indicate obsolete part numbers, refer to Engineering Changes for more information.

Bearings to Hub Seal Set Cross Reference

CROSS REFERENCE

Inner Cup & Cone	Outer Cup & Cone	Guardian®/ Guardian® HP Seal No.	Grit Guard®*/ Standard Set	Voyager® Discover®	Inner Cup & Cone	Outer Cup & Cone	Guardian®/ Guardian® HP Seal No.	Grit Guard®*/ Standard Set	Voyager® Discover®
5735/5760	45220/45287		382-8060		127627/1889311	49521/188933		392-9063	
6320/6379	552A/557S		382-8001	383-0101	7451691/7451929	7451813/7451814		392-9063	
6320/6386	552A/557S		382-8001	383-0101	H715311/H715345	552A/555S	308-0856	382-8056	383-0156
6320/6386A	532A/537		382-8052		H715311/H715345	3920/3979	308-0853	382-8053	383-0153
6320/6389	552A/557S		382-8001	383-0101	HM212010/ HM212049	28622/28682	308-0853	382-8053	383-0153
6420/6461	612/621		382-8060		HM212011/ HM212044	3720/3782	308-0836	382-8036	383-0136
6420/6461A	552A/555S	308-0864	382-8064	383-0164 383-0264	HM212011/ HM212047	3720/3779		382-8034	
6420/6461A	3920/3979	308-0864	382-8064	383-0164 383-0264	HM212011/ HM212047	3720/3782	308-0836	382-8036	383-0136 383-0236
6535/6559	653/663		392-9033		HM212011/ HM212049	45220/45282		382-8034	
			392-9034	393-0134	HM212011/ HM212049	3720/3782	308-0836	382-8036	383-0136 383-0236
6535/6580	653/663		392-9034	393-0134	HM212011/ HM212047	45220/45282		382-8071	383-0171
28920/28995	25523/25580		372-7046		HM212011/ HM212049	3720/3782	308-0836	382-8036	383-0136 383-0236
33462/33281	3920/3982	309-0935	392-9035		HM212011/ HM212049	3720/3782	308-0836	382-8036	383-0136 383-0236
33462/33281	39520/39585		392-9036					382-8032	
33462/33287	3920/3982	309-0935	392-9035		HM212011/ HM212049	45220/45280		382-8039	383-0139 383-0239
33472/33281	3925/3984		392-9045		HM212011/ HM212049	3720/3782	308-0836	382-8036	383-0136 383-0236
33472/33281	3925/3982		392-9045						
33472/33287	3925/3982		392-9045						
33821/33895	3120/3196		382-8016						
39520/39578	25520/25572		382-8010		HM212011/ HM212049X	3720/3782	308-0836	382-8036	383-0136 383-0236
39520/39581	3525/3585	308-0836	382-8036	383-0136 383-0236	HM218210/ HM218248	HM212011/ HM212049	307-0743	372-7097	373-0143 373-0243
		308-0863	382-8063 382-8027		JM205110/ JM205149	25820/25877	308-0866	382-8066	383-0166 383-0175
39520/39581	26820/26878		382-8017		JM207010/ JM207049	25820/25877	308-0866	382-8066	383-0166
39520/39585	25520/25572		382-8062		HM516410/ HM516449	572/575		392-9007	
45220/45284	2720/2780		382-8044		HM516410/ HM516449	47620/47679	309-0904	392-9112	393-0104 393-0204
45220/45284	2720/2786		382-8009					392-9007	
45220/45284	2720/2793		382-8009		HM516410/ HM516449A	47620/47679	309-0904	392-9130*	393-0104 393-0204
45220/45284	2720/2796		382-8009		HM518410/ HM518445	HM518410/ HM518445	307-0723	372-7099	373-0123 373-0223
45220/45284	25820/25880	308-0863	382-8044 382-8063		JM205149	32207			383-0175
45220/45285	2720/2786		382-8009		JM205110/ JM204149A	25820/25877		382-8066	
45220/45285	2720/2793		382-8009		JM511910/ JM510946	JM205110/ JM205149		372-7049	
45220/45285	2720/2796		382-8009		JF7049A		308-0870		
47620/47678	39520/39585	309-0912	392-9012	393-0112	33212	33208			383-0176
			392-9099*	393-0212					
47620/47685	39520/39590	309-0912	392-9099*	393-0112 393-0212					
47620/47685	39520/39590	309-0912	392-9099*	393-0112 393-0212					
47620/47686	39520/39590	309-0912	392-9099*	393-0112 393-0212					
			392-9099*	393-0112					
	39590	309-0915	392-9012 392-9045	393-0112					

Shaded numbers indicate obsolete part numbers, refer to Engineering Changes for more information.

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	310-1123		See 392-9034 Remarks	317-1728*	309-0935
310-1034	320-2034	382-8034	310-1130	320-2023	372-7062	317-1756*	309-0915
310-1034	320-2216	382-8071	310-1233	320-2233	392-9111	317-1761*	309-0970
310-1036	320-2032	372-7009	315-1501	320-2102	392-9099	317-1761*	309-0960
310-1036	320-2046	372-7006	315-1502	320-2162	392-9087	317-1790*	309-0948
310-1036	320-2031	None	315-1503	320-2023	372-7099	317-1724*	308-0870
310-1036	320-2036	382-8036	315-1503	320-2173	372-7091		
310-1036	320-2119	382-8027	315-1504	320-2110	372-7097		
310-1036	320-2133	382-8063	315-1506	320-2111	372-7096		
310-1037	320-2118	None	315-1507	320-2109	372-7098		
310-1037	320-2137	382-8064	315-1508	320-2114	392-9096		
310-1038	320-2039	382-8039	315-1508	320-2131	392-9092		
310-1041	320-2023	382-8060	315-1509	320-2117	392-9095		
310-1043	320-2041	372-7015	315-1510	320-2118	372-7095		
310-1048	320-2110	None	315-1511	320-2129	392-9094		
310-1050	320-2022	382-8010	315-1515	320-2213	392-9112		
310-1051	320-2031	382-8011	315-1516	320-2097	392-9089		
310-1051	320-2125	382-8062	315-1517	320-2113	392-9088		
310-1052	320-2050	382-8009	315-1519	320-2213	392-9130		
310-1053	320-2109	392-9032	315-1525	320-2106	392-9131		
310-1057	320-2109	372-7003	315-1530	320-2115	392-9132		
310-1061	320-2056	382-8005					

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

CROSS REFERENCE

Shaded numbers indicate obsolete part numbers, refer to Engineering Changes for more information.



SENTINEL® TECHNOLOGY

**Extend Seal & Bearing Life
By Preventing
Contamination**

Sentinel® Technology provides an unmatched filtering system to eliminate contamination of lubricant from grime, dirt or water. STEMCO provides four options to put Sentinel® Technology to work for you: the Sentinel® Hub Cap, Sentinel® ESP, the Sentinel® ESP Filtered Vent and Integrated Sentinel® Hub Cap.

Sentinel® Hub Cap

The Sentinel® Hub Cap provides a tamper-proof system for maximum protection and maintenance-free performance.

Sentinel® ESP (Extended Service Plug)

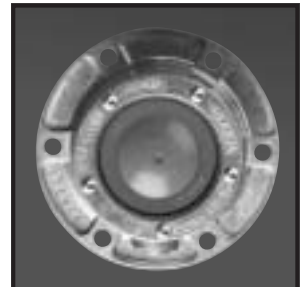
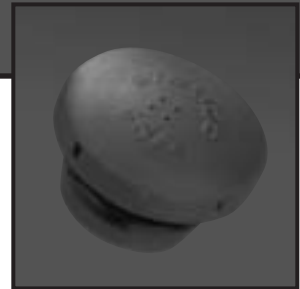
The Sentinel® ESP allows economical retrofitting of wheel ends with the benefits of STEMCO'S exclusive Sentinel® Technology.

Sentinel® ESP Filtered Vent

Drive axles can now be retrofitted to benefit from STEMCO'S exclusive Sentinel® Technology.

Integrated Sentinel® Hub Cap

The newest product in the Sentinel® family, this tamper-proof hub cap integrates the Sentinel® features into the window with fewer components and greater wheel end visibility.



STEMCO®

A Higher Standard of Performance.™

SENTINEL®

☉ Sentinel® Technology prevents dirt and water from contaminating the oil, thereby extending seal and bearing life.

☉ Sentinel® Technology dramatically reduces contaminant build-up on hub cap windows, allowing for an accurate determination of lube levels.

☉ Sentinel® Technology eliminates early oil breakdown by preventing water contamination as a result of submerged axles.

☉ Sentinel® Technology provides maximum protection for maintenance-free wheel end systems.

☉ Sentinel® Technology improves performance and lowers overall maintenance costs.

Sentinel® ESP (Extended Service Plug)

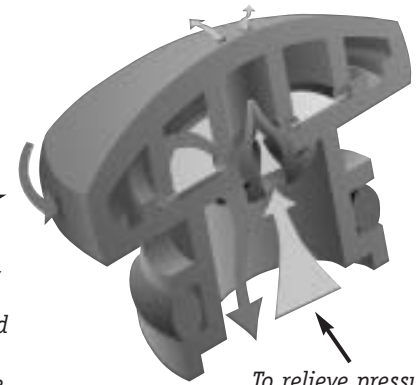
STEMCO PART NO.	DESCRIPTION
359-6124	ESP Plug Blister Pack (2/pk)
359-6125	ESP Plugs (bulk pack of 50)

Sentinel® ESP Filtered Vent

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

Bulk Pack Hub Cap

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)



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

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

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	349-4281	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
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



STEMCO®

A Higher Standard of Performance.™

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www.stemco.com

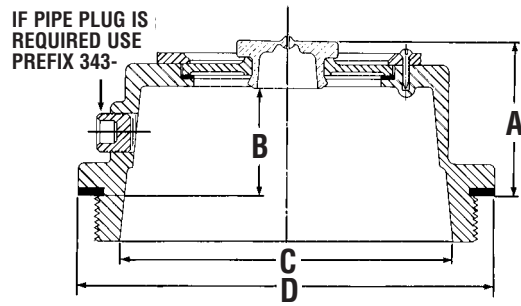
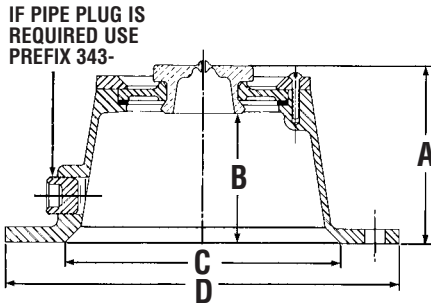
STEMCO - Canada
5900 Ambler Drive, Units 4 & 5 • Mississauga, ON L4W 2N3
(905) 206-9922 • 877-232-9111 • FAX: 877-244-4555

TQM™
TOTAL QUALITY MAINTENANCE™

Printed in the USA
Part No. 571-3038
Hudson-10-483 • Rev. 5/02

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 ☐	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 ☐	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 ☐	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
340-4049	5-9/16	5/16	3	2-7/8	2-1/8	3-3/4	6-3/8	330-3042	359-5999
340-4054 ☐	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 ☐	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 ☐	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 ☐	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 ☐	7-1/4	1/4	6	2-7/8	2-1/8	6-1/4	7-7/8	330-3084	359-5995
340-4119 ☐	7	5/8	8	2-1/16	1-5/16	4-5/16	8-1/4	330-3090	359-5995
343-4122 ☐	5-1/2	5/16	6	2-11/16	1-15/16	4-3/8	6-1/4	330-3009	359-5995
340-4139 ☐	4-1/16	3/16	6	2-5/8	1-7/8	3-5/16	4-1/2	330-3094	359-5999

(Continued Next Page)

- ☐ Cannot be made with pipe plug.
- ☑ Made with pipe plug only.
- ☒ 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.
- ☑ 4009 hub cap with magnetic pipe plug (**359-5984**).

COMPONENT SPECIFICATIONS

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
340-4149	5-9/16	5/16	6	2-7/8	2-1/8	3-11/16	6-3/8	330-3097	359-5999
340-4150	4-1/2	5/16	5	2-5/8	1-7/8	3-1/2	5-1/4	330-3150	359-5999
340-4157	4	1/4	4	2-1/8	1-3/8	3-1/8	4-9/16	330-3102	NONE
340-4163	6-1/8	5/16	6	2-11/16	1-15/16	4-5/16	7	330-3104	359-5995
343-4176	5-1/2	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	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	5-1/2	5/16	6	1-13/16	1-11/16	4-7/16	6-3/16	330-3122	359-5912
343-4250	5-17/32	3/8	6	1-13/16	1-9/16	4-7/16	6-3/16	330-3122	NONE
340-4263	4-1/2	6mm	6	2-5/8	1-7/8	3-1/2	5-1/4	330-3024	359-5999
343-4264	5-1/2	5/16	6	1-5/8	1-1/16	4-9/16	6-3/16	330-3009	359-5995
343-4269	132mm	8.5mm	6	63.5mm	53.4mm	106mm	156mm	330-3128	359-6100
343-4281	5-17/32	3/8	6	2-5/16	1-9/16	4-9/16	6-3/16	330-3122	359-5995
343-4295	110mm	8.5mm	6	67.3mm	47.0mm	88.4mm	133.3mm	330-3130	359-5999
340-4305	7	13/16	8	2-1/16	1-5/16	4-5/16	8-1/4	330-3107	359-5995
343-4308	4-1/2	5/16	6	2-5/8	1-7/8	3-1/2	5-1/4	330-3024	NONE
343-4309	5-1/2	5/16	6	1-13/16	1-1/16	4-9/16	6-3/16	330-3009	359-6100
340-4320	6-1/4 X 8 UN (M)			2-5/16	1-9/16	5-3/4	6-7/8	330-3077	NONE
343-4342	5-1/2	5/16	6	2-11/16	1-15/16	4-3/8	6-1/4	330-3009	359-6100
340-4975	6-1/4 X 8 UN (M)			2-5/16	1-9/16	5-3/4	6-7/8	330-3077	NONE
340-4976	6-1/4 X 8 UN (M)			2-5/16	1-9/16	5-3/4	6-7/8	330-3077	NONE
340-4977	6-1/4 X 8 UN (M)			2-5/16	1-9/16	5-3/4	6-7/8	330-3077	NONE

Cannot be made with pipe plug.

Made with pipe plug only.

Hub cap can be used with 5-1/2 or 5-9/16 bolt circle with 5/16 inch bolts.

Hub cap available with hubo window, order 347-prefix. Also available **347-4342**, which is 4195 hub cap for grease applications, **347-4343** which is 4075 hub cap for grease applications and **347-4278** which is 4009 hub cap for grease applications.

Lexan hub caps, order in multiples of 25.

4249 with recessed vent plug.

4095 with small vent plug **359-5915**.

4009 with small vent plug **359-5915**.

4024 with small vent plug.

4975 individually boxed.

Torque Specifications

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	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 Mounting Bolts			
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.

Hub Cap Specifications

Sentinel® Hub Caps



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

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

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
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
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
4095	356-4095	358-4095	5-1/2	5/16	6	330-3009	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

Sentinel® ESP (Extended Service Plug)



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

Sentinel® ESP Filtered Vent



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

Hub Cap Specifications

Hub Caps with Sentinel® ESP Plug



350-4065

Sentinel® ESP P/N	Description	Bolt Circle	Bolt Size	No. 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 P/N	Description	Bolt Circle	Bolt Size	No. of Bolts	Gasket P/N
300-5009	4009 Cap, no side fill plug Bulk Pack (50/Box)	5-1/2	5/16	6	330-3009
303-5009	4009 Cap, with side fill plug Bulk Pack (50/Box)	5-1/2	5/16	6	330-3009

PSI Ready Hub Cap



Grease
Hub Cap
340 Series

STEMCO Base Part No.	Grease Cap	Oil Cap
4009	340-4350	343-4350
4075	340-4351	343-4351
4195	340-4352	343-4352
Window Kits	359-6131	359-6130



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 No.	STEMCO Base Part No.	PSI Hub Cap Part No. (Grease)	PSI Hub Cap Part No. (Oil)	Stud Size	Height
610-0084	4195	340-4352	343-4352	5/16	5
610-0085	4009	340-4350	343-4350	5/16	4
610-0090	4075	340-4351	343-4351	*	1-7/8

* Bracket mounts on top of window ring with four replacement screws included with bracket. Height is for bracket only.

Hub Cap Specifications

Stamped Steel Grease Hub Caps



340-5096



340-5097

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
340-5094	5-1/2	5/16	6	2-1/2	2-13/32	4-3/8	6-1/4	330-3009
340-5096 <input type="checkbox"/>	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 <input type="checkbox"/>	4-1/2	5/16	6	2	1-15/16	3-5/16	5-3/16	330-3024

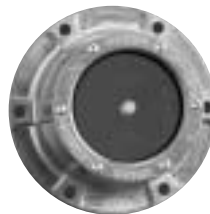
- With Dirt Exclusion vent
- Painted black

Solid Grease Hub Cap/Duckbill Vented

STEMCO Part No.	Bolt Circle	Bolt Size	No. of Bolts	Gasket Number
352-4009	5-1/2	5/16	6	330-3009
352-4195	6-3/4	5/16	6	330-3118



Dirt Exclusion Grease Hub Caps

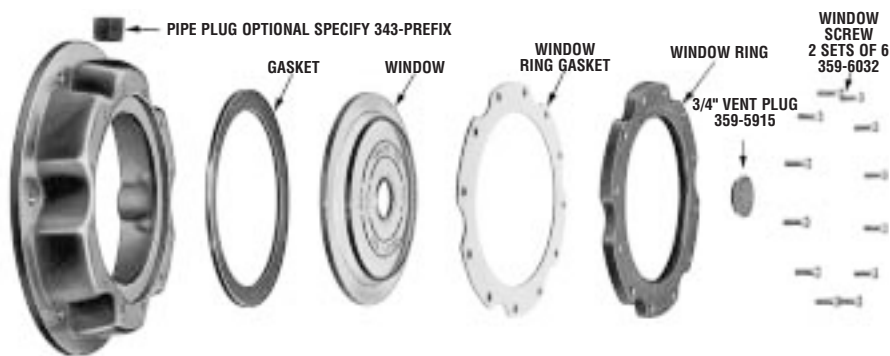


Hub Cap Includes Gasket	Bolt Circle	Bolt Size	No. of Bolts	A Height	B Inside Depth	C Flange I.D.	D Flange O.D.	Gasket Number	* Window Kit
342-4009	5-1/2	5/16	6	2-11/16	1-15/16	4-3/8	6-1/4	330-3009	359-6095
342-4013	5-1/2	5/16	5	2-11/16	1-15/16	4-3/8	6-1/4	330-3013	359-6095
342-4024	4-1/2	5/16	6	2-5/8	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

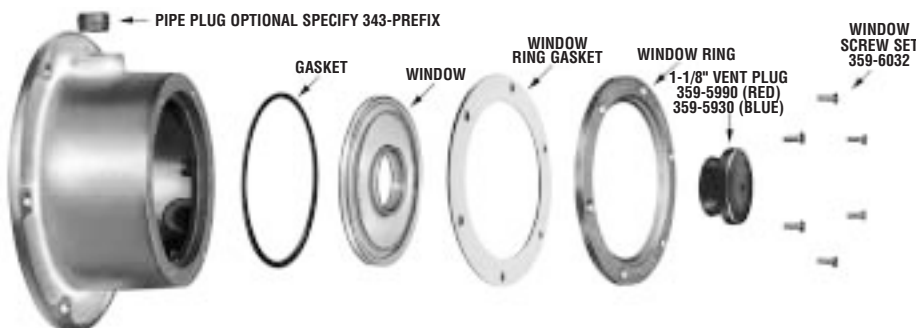
* Window Kit consists of window, gasket and window ring gasket.

Hub Cap Specifications

Typical 4-3/8" Window Component Parts



Typical 2-3/4" & 3-1/2" Window Component Parts



Standard Hub Cap Replacement Components

Window Diameter	Window	Gasket	Window Ring	Window Ring Gasket	Vent Plug	Screw Set 6/Set	Window Kit ☐	3/8 Pipe Plug ☒
2-3/4"	359-5983	359-5996	359-5997 ☐	359-3136	359-5990 ☐	359-6032	359-5999	359-5985
3-1/2"	359-5994	359-5991	359-5992	359-3127	359-5990 ☐	359-6032	359-5995	359-5985
3-1/2"	359-5981 ☐	359-5991	359-5992	359-3127	None	359-6032	359-6117	359-5985
4-3/8"	359-5918	359-5968	359-5970	359-3137	359-5915	359-6032 ☐	359-5912	359-5985
3-1/2"	359-6049 ☐	359-5991	359-5992	359-3127	359-5915	359-6032	359-6100 ☐	359-5985

☐ Window kit consists of window, gasket, window ring gasket and vent plug.

☒ Magnetic pipe plug part number 359-5984.

☐ 5 hole window ring.

☐ Blue vent plug part number 359-5930.

☐ Window for mounting Argo, STEMCO, and Veeder-Root hubodometers (17/32" dia. hole). Be sure hub cap has pipe plug filler before mounting.

☐ Window with recessed vent plug.

☐ 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 ☐	359-6096

☐ Two sets required.

Sentinel® Hub Cap Replacement Components

Window Diameter	Window Kit ☐	Gasket	Window Ring Gasket	Screw Set 6/Set	Magnetic Pipe Plug
3-1/2"	359-6112 ☐	359-5991	359-3127	359-6032	359-5984
3-1/2"	359-6120 ☐☐	359-5991	359-3127	359-6032	359-5984

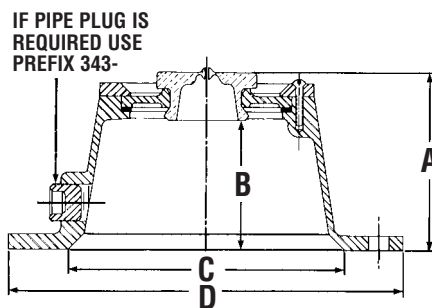
☐ Window kit consists of window, gasket, window ring with gasket and Sentinel® red cap cover part number 359-6103.

☐ Window kit for oil application.

☐☐ Window kit for grease application.

Hub Cap Specifications

Blank 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
340-4054	None	Blank	None	2-1/8	1-3/8	4-1/32	8-5/8	330-3017

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 No.	Standard Part No.	Bulk Qty.	Gasket Number
300-4009	340-4009	50	330-3009-Included
303-4009	343-4009	50	330-3009-Included
300-5097	340-4009	25	330-3009-Included

Hub Cap Specifications

4075 Hub Cap Variations



340-4075



570-7008



340-4975

Application	Part Number	Description
Oil	340-4975	Clear polycarbonate hub cap
Oil	343-4075	Cast aluminum hub cap with side fill plug
Oil	343-4351	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	340-4351	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.

Hubodometer® Hub Caps



640-0001



640-0003

Hub Cap Includes Gasket	Gasket Part No.	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.

Hub Cap Specifications

Popular Hub Cap Options

	<i>Standard Hub Cap No Side Fill</i>	<i>Dirt Exclusion Grease</i>	<i>Standard Hub Cap Side Fill</i>	<i>Standard Hub Cap Hubo Window</i>	<i>Sentinel® Hub Cap Oil</i>	<i>Sentinel® Hub Cap Grease</i>	<i>Solid Aluminum Grease/Vented</i>	<i>Integrated Sentinel® Oil</i>	<i>Integrated Sentinel® Grease</i>
	340	342	343	347	348	349	352	356	358
4009	X	X	X	X	X	X	X	X	X
4013	X	X	X	X	X	X		X	X
4024	X	X	X					X	X
4046	X		X		X	X		X	X
4075	X	X	X	X	X	X		X	X
4095	X	X	X		X	X	X	X	X
4195	X	X	X	X	X	X	X	X	X
4249	X	X	X						
4281					X	X			

Hub Cap Crossover

Competitive Part No.	Competitor's Name	STEMCO Part No.	Competitive Part No.	Competitor's Name	STEMCO Part No.	Competitive Part No.	Competitor's Name	STEMCO Part No.
1282	C/R	340-4975	401911P	Mechanex/Barrier	340-4975	DG-6PS	Dual Dynamics	343-4009
1612	C/R	343-4024	506085	Eaton	343-4024	DG-6PSC	Dual Dynamics	340-4046
1623	C/R	343-4066	506089	Eaton	343-4249	DG-7.5P	Dual Dynamics	340-4195
1627	C/R	343-4019	64002	TriSeal	343-4019	DG-7.5PS	Dual Dynamics	343-4195
1642	C/R	343-4013	64009	TriSeal	343-4009	DG-P	Dual Dynamics	340-4075
1643	C/R	343-4249	64009H	TriSeal	347-4009	DG-PS	Dual Dynamics	343-4075
1665	C/R	343-4042	64013	TriSeal	343-4013	DG-PSC	Dual Dynamics	343-4249
1681	C/R	343-4186	64024	TriSeal	343-4024	H075	National	343-4075
1682	C/R	343-4075	64029	TriSeal	343-4186	HS1643	Mechanex/Barrier	343-4249
1696	C/R	343-4195	64034	TriSeal	343-4034	HU009A	National	343-4009
1703	C/R	343-4249	64042	TriSeal	343-4042	HU009A	National	343-4046
1711	C/R	343-4024	64046	TriSeal	343-4046	HU013A	National	343-4013
1723	C/R	343-4066	64046	TriSeal	343-4095	HU019A	National	343-4019
1727	C/R	343-4019	64046	TriSeal	343-4249	HU024A	National	343-4024
1742	C/R	343-4013	64066	TriSeal	343-4066	HU028A	National	343-4186
1743	C/R	343-4009	64075A	TriSeal	343-4075	HU034A	National	343-4034
1743	C/R	343-4046	64075G	TriSeal	342-4075	HU042A	National	343-4042
1743	C/R	343-4095	64075P	TriSeal	340-4975	HU066A	National	343-4066
1753	C/R	343-4249	64249	TriSeal	343-4249	HU110A	National	343-4095
1765	C/R	343-4042	812928	Eaton	343-4095	HU110A	National	343-4249
1770	C/R	343-4034	815214	Eaton	343-4195	P411601	Mechanex/Barrier	343-4009
1781	C/R	343-4186	821338	Eaton	343-4009	P411605	Mechanex/Barrier	343-4095
1788	C/R	343-4249	821907	Eaton	343-4009	P411605	Mechanex/Barrier	343-4249
1800	C/R	347-4009	DG-5/6P	Dual Dynamics	340-4013	P411608	Mechanex/Barrier	343-4013
1801	C/R	347-4013	DG-5/6PS	Dual Dynamics	343-4013	P411620	Mechanex/Barrier	343-4066
1811	C/R	343-4024	DG-6F	Dual Dynamics	340-4046	P411622	Mechanex/Barrier	343-4042
1823	C/R	343-4042	DG-6F4.5	Dual Dynamics	340-4024	P411629	Mechanex/Barrier	343-4186
1842	C/R	343-4013	DG-6F4.5P	Dual Dynamics	343-4013	P411630	Mechanex/Barrier	343-4024
1843	C/R	343-4009	DG-6F4.5PC	Dual Dynamics	343-4024	P411640	Mechanex/Barrier	343-4034
1843	C/R	343-4046	DG-6F4.5S	Dual Dynamics	347-4075	P411655	Mechanex/Barrier	343-4075
1843	C/R	343-4095	DG-6FL	Dual Dynamics	340-4249	P411688	Mechanex/Barrier	343-4095
1865	C/R	343-4066	DG-6FP	Dual Dynamics	347-4009	P411967	Mechanex/Barrier	343-4046
1870	C/R	343-4034	DG-6FPC	Dual Dynamics	340-4024			
1890	C/R	343-4249	DG-6P	Dual Dynamics	340-4009			

DataTrac™

*With more than
1 million miles
of testing, the
DataTrac™ shows
unparalleled
accuracy.*



Product shown actual size.

DataTrac™

**Large, Easy-To-Read
Display.**

**Compact Size
Simplifies
Tire Service.**

**Years of Reliable
Service with
No Moving Parts.**



A Higher Standard of Performance.™

Features and Benefits

Large, easy-to-read LCD display makes data retrieval simple and accurate. Additional flexibility of trip and life readings for precise data collection and management.

Numbers automatically position upright for easy verification of mileage.

Compact size makes it easy to mount and dismount tires without removing the DataTrac™ from the wheel.

No moving parts, provides improved reliability and durability for the most demanding vocational applications. Each unit is marked with a unique serial number providing additional security and data control.

Long-life battery allows for 4 year, 500,000 mile warranty.

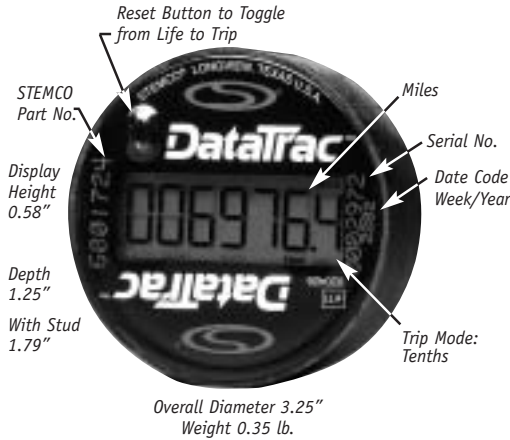
Calibrated to perform on more than 2,500 specific tire models and sizes to ensure reliable mileage information.

The STEMCO DataTrac™ is an indispensable tool for scheduling maintenance, determining lease charges, validating guarantees, and calculating costs per mile.

STEMCO will preset your DataTrac™ with the mileage data you require for a nominal charge.

Uses existing STEMCO mounting brackets or Hubodometer® hub caps.

DataTrac™



Calibration and Installation

To ensure accurate calibration, we've worked with the engineering staffs of all major tire manufacturers. We have compiled fleet data on more than 2,500 tire models and sizes.

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

For proper calibration of any STEMCO DataTrac™, all you need to know is tire make, model and size. Refer to the chart below for some of the most popular tires and the corresponding DataTrac™ part numbers. Contact STEMCO Customer Service or refer to

the STEMCO website to quickly determine the correct part number.

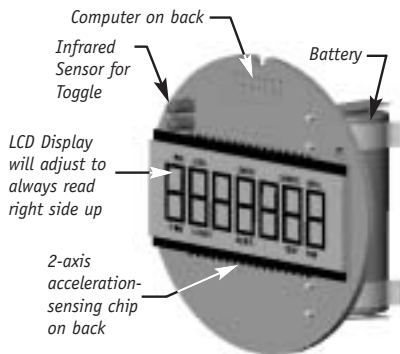
STEMCO offers a pre-set DataTrac™ program at a nominal cost.

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

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

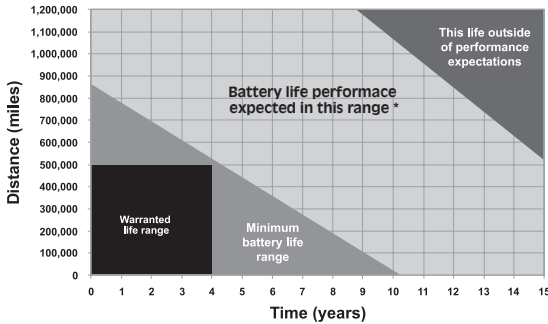
Layout of Main Components



DataTrac™ Applications

TIRE MAKE	TIRE MODEL	TIRE SIZE	MILE	KILOMETER
BRIDGESTONE	M726	11R22.5	600-1499	600-0310
	M726	11R24.5	600-1476	600-0296
	M726	255/70R22.5	600-1564	600-0351
	M726	285/75R24.5	600-1499	600-0310
	M726	295/75R22.5	600-1514	600-0320
	R194	11R22.5	600-1513	600-0319
	R194	11R24.5	600-1489	600-0304
	R194	255/70R22.5	600-1580	600-0361
	R194	285/75R24.5	600-1513	600-0319
	R194	295/75R22.5	600-1529	600-0328
GOODYEAR	G104	255/70R22.5	600-1579	600-0360
	G124	11R22.5	600-1505	600-0314
	G124	255/70R22.5	600-1572	600-0356
	G167	11R22.5	600-1501	600-0311
	G167	295/75R22.5	600-1515	600-0320
	G314	11R22.5	600-1512	600-0318
	G314	11R24.5	600-1488	600-0303
	G314	285/75R24.5	600-1514	600-0320
	G314	295/75R22.5	600-1529	600-0328
	G362	11R24.5	600-1478	600-0297
MICHELIN	XDA2	11R22.5	600-1502	600-0312
	XDA2	11R24.5	600-1480	600-0298
	XDA2	255/70R22.5	600-1566	600-0352
	XDA2	275/80R22.5	600-1519	600-0323
	XDA2	275/80R24.5	600-1502	600-0312
	XZA2	11R22.5	600-1510	600-0317
	XZA2	11R24.5	600-1485	600-0302
	XZA2	275/80R22.5	600-1526	600-0327
	XZA2	275/80R24.5	600-1509	600-0316
	XZE	255/70R22.5	600-1574	600-0357

DataTrac™ Battery Life Chart



* Battery life performance is dependent on a number of factors, including mileage per year, tire size, vehicle speed, temperature, sitting time, light level, etc.



STEMCO®

A Higher Standard of Performance.™

QS 9000 & ISO 9001

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Part No. 571-3058
Hudson 10-488

HUBODOMETER®

**Guaranteed
Over-Life-of-Tire
Accuracy Backed
by 500,000-Mile
Warranty**



STEMCO's drive-less Hubodometer® offers road-proven accuracy backed by a 500,000 mile warranty.

Whether for maintenance purposes or logging miles, accuracy is critical.

So, if your Hubodometer® doesn't give you an honest, accurate calculation of miles traveled, you're losing money and profits.

At STEMCO, we build a drive-less Hubodometer® guaranteed to deliver mileage accuracy within ±2% (based on the life of the tire). With construction so durable, we back it with a 500,000-mile warranty.

Features and Benefits

Spring-loaded counterweight virtually eliminates spin when tires hit bumps and potholes, your assurance of greater accuracy.

Hubodometers® are calibrated to perform on over 2,500 specific tire models and sizes to further ensure reliable mileage information.

The STEMCO Hubodometer® is an indispensable tool for scheduling maintenance, determining lease charges, validating guarantees, and calculating costs per mile.

STEMCO will preset your Hubodometer® with the mileage data you require for a nominal charge. Allow 3 days for shipping.

Hubodometers® with "blank tenths" are also available.



A Higher Standard of Performance.™

Hubodometer®

Guaranteed Over-Life-of-Tire Accuracy Backed by 500,000-Mile Warranty

Construction and Design

- ☞ Main shaft is independent of front cover, greatly reducing failure caused by frontal impact.
- ☞ Unit is sealed for added durability in a moisture-controlled environment of polycarbonate and steel.
- ☞ Externally pinioned odometer mechanism utilizes low-friction molded components. These features, plus nine permanently lubricated bronze bearings, eliminate wear and ensure long life.
- ☞ Worm drive rotates parts less frequently, reducing wear.
- ☞ Rugged construction. Naval brass on steel. No plastic drive components.

Calibration and Installation

To ensure accurate calibration, we've worked with the engineering staffs of all major tire manufacturers. We have compiled fleet data on more than 2,500 tire models and sizes. In addition, STEMCO calibrations are based at the mid-life of tire tread (not the depth of new tire tread), one more reason we can guarantee $\pm 2\%$ accuracy over the life of the tire.

For proper calibration of any STEMCO Hubodometer®, all you need to know is tire make, model and size. With this information and our Tire Classification catalog (which includes radials and low-profile tires), you can quickly determine the part number for the correct Hubodometer®.

STEMCO offers a pre-set Hubodometer® program at a nominal cost. Pre-set orders are shipped within 3 working days from the Longview, Texas warehouse. For more information, contact STEMCO Customer Service at 1-800-527-8492 or your local STEMCO distributor.

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

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



347-Series
Aluminum Hub Cap with Hubo Window



640-Series
Grilamid Hubodometer® Hub Cap



610-Series
Bracket Installation



STEMCO®

A Higher Standard of Performance.™

QS 9000 & ISO 9001

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STEMCO - Canada
5900 Ambler Drive, Units 4 & 5 • Mississauga, ON L4W 2N3
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TQM™
TOTAL QUALITY MAINTENANCE™

Printed in the USA
Part No. 571-2905
Hudson 10-182 • Rev. 9/99

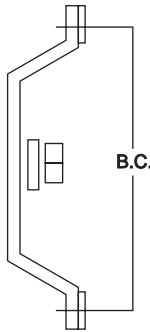
Hubodometer® Mounts

Popular Hubodometers® (in popularity order)

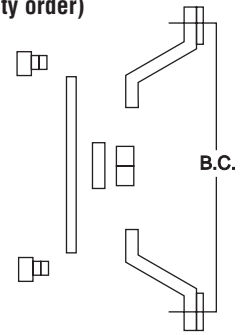


Part Number	RPM	Blank Tenths Part Number	Part Number	KPM
650-0610	522	650-0611	650-0537	310
650-0598	500	650-0600	650-0532	300
650-0613	532	650-0614	650-0539	315
650-0601	504	650-0602	650-0545	324
650-0605	513	650-0606	650-0541	320
650-0587	480	650-0588	650-0549	357

Popular Hubodometer® Brackets (in popularity order)



Part Number	Bolt Circle Diameter	Stud Size	Height
610-0065 □	5-1/2	5/16	3-1/2
610-0006	7	5/8	1-11/16
610-0007	7	3/4	1-11/16
610-0011 ▣	5-1/2 - 7-1/2	1/2	1-3/4
610-0024	5-1/2	5/16 - 18 Thrd.	4-1/2
610-0002	5-1/2	5/8	1-11/16
610-0003	6-3/8 - 6-1/2	1/2 - 9/16	1-11/16
610-0005	7-1/4	9/16	1-11/16



□ Fits 4009 hubcap ▣ Universal Mount

Hubo Bracket for Sentinel® and PSI Hub Caps

STEMCO Part No.	Bolt Circle Diameter	Stud Size	Height	Hub Cap Part No.
610-0084	6-3/4	5/16	5	4195
610-0085	5-1/2	5/16	4	4009
610-0090	—	*	1-7/8	4351

* Bracket mounts on top of window ring with four replacement screws included with bracket. Height is for bracket only.

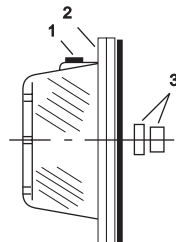
Hubodometer® Hub Caps - For Trailer Installations



Hub cap Includes Gasket	Gasket Part No.	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 No.
1-Pipe plug with O-ring	641-0001
2-Supporting hub cap flange	
5 hole	641-0002
6 hole	641-0003
3-Hubodometer® mounting washer & nut	641-0004

For additional Hubodometer® information, refer to Hubodometer® catalog 572-0007.



**Constantly
Equalizing the
Tire Forces on
Every Revolution,
Every Tire,
Every Wheel
Position,
Every Mile.**

**Start Reducing
Your Costs
Today!**



A Higher Standard of Performance.™

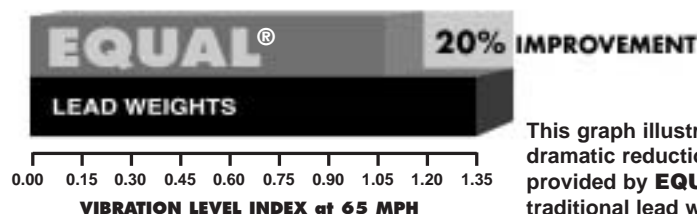
◉ **EQUAL®** is a dry polymer that is placed inside the tire to reduce vibration levels of the tire/wheel assembly as it rolls under load.

◉ **EQUAL® Benefits**

- **Smoother Ride.** A safer, more stable footprint. This results in improved driver comfort and reduced wear on vehicle components.
- **Longer Overall Tread Life and Reduced Irregular Wear.** More even tread wear over the life of the tire.
- **Reduced Cost-Per-Mile.** Less wear and tear on tires and components.
- **Performs Over the Life of the Tire.** No need to “re-balance.”
- **Helps Diagnose Mechanical Problems.** Such as worn or loose components.
- **Eliminates the Use of Lead.** With EQUAL®, lead weight balancing becomes a thing of the past.

◉ **EQUAL® Beats Lead Weights**

EQUAL® was found to reduce vibration in truck tires an average of 20% better than lead weight balancing in a comparative vibration study performed at the Transportation Research Center test track in East Liberty, Ohio.



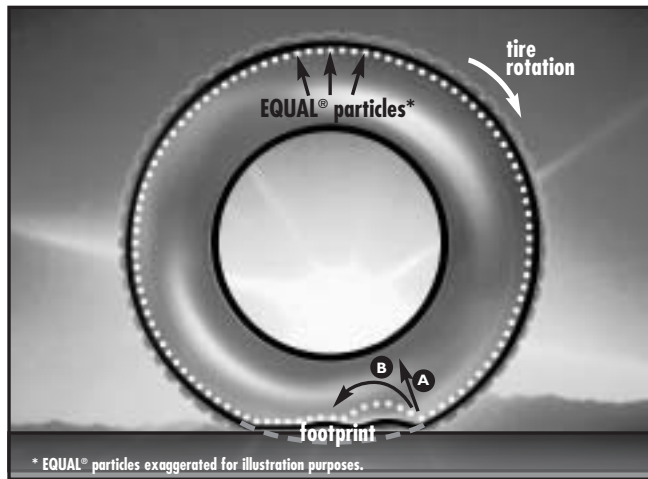
This graph illustrates the dramatic reduction in vibration provided by EQUAL® versus traditional lead weights.

How EQUAL® Works

EQUAL® has the ability to adapt, respond and dampen vibrations at the tire footprint. It compensates for irregularities found in both the tire/wheel assembly and the tire/road surface contact.

Because EQUAL® is free to move inside the tire, it is able to continuously adapt to changing speeds, acceleration, deceleration, cornering forces, and other typical road conditions.

EQUAL® reduces vibrations in two ways: it acts as a vibration dampener, absorbing vibration at all points on the tire's circumference; and it serves as a force downward on the tire as it moves through the footprint. In both cases, vibration producing forces are reduced before they are transmitted to the vehicle suspension system.



- A** In the footprint, dampening occurs through vertical acceleration when the particles are forced to follow the deformed non-circular path of the footprint.
- B** When EQUAL® particles are accelerated from the tire surface, they follow a path returning to the footprint area to dampen and reduce vibration forces.

EQUAL® Installation is Simple!

With unmounted tires, simply drop the self-opening bag containing a specified amount of product inside the tire. On mounted tires, EQUAL® can be quickly and easily installed through the valve stem with the EQUALIZER application tool.



A Higher Standard of Performance.™

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EQUAL® Customers Speak Out

EQUAL® is currently used by thousands of satisfied vehicle owners who have documented improved ride and performance results, including but not limited to, less vibration, improved ride comfort, improved overall tire wear, and reduced irregular tire wear.

PEPSI TOOK THE EQUAL® CHALLENGE AND PEPSI WON.

"We use EQUAL® for serious maintenance reasons. We've been getting better wear and mileage out of our steer, drive and trailer tires ever since we started using EQUAL®. And EQUAL® reduces premature wear that can drive up parts' replacement costs. EQUAL® is Dayton Pepsi's choice."

Doug Griffin, Fleet Manager
Dayton Pepsi



WE CARRY JUST ABOUT ANY LOAD, BUT TIRE/WHEEL VIBRATION WAS MORE THAN WE COULD BEAR.

"The static balance method we were using was way too time consuming ... with EQUAL®, the tires ride smoothly for the life of the tread. EQUAL® has decreased driver complaints, eliminated tandem hop, reduced labor costs and increased our average tire mileage — now that's a product that bears its weight."

Chris Folweiler, Tire Shop Foreman
Wilson Trucking Corporation



OUR TRUCKS TRAVEL OFF-ROAD WITH HEAVY LOADS. EQUAL® STANDS UP TO THE ABUSE.

"We have over 1,000 tires on the road and every single tire has EQUAL® in it. EQUAL® pays for itself because it helps us save our tires. We're getting real good mileage — an increase of 15% since we started using EQUAL®. And in the five years I have been here, I've never seen one report saying a tire is out of balance or the front end is bouncing. That speaks for itself."

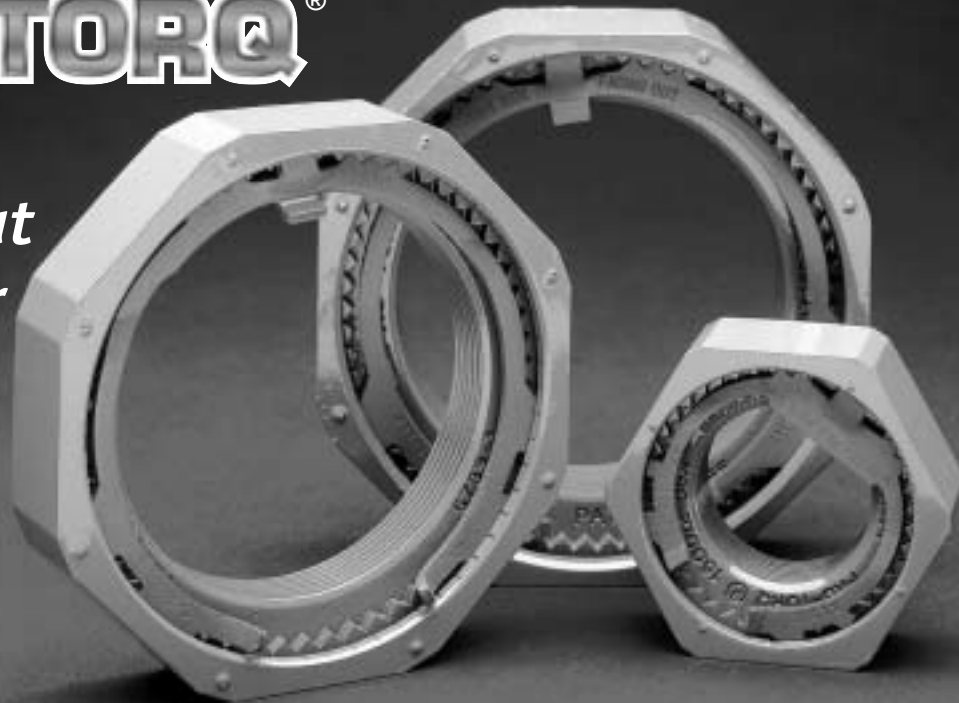
Tim Anderson, Director of Maintenance
Rumco, Inc.



Printed in the USA
Part No. 571-3054
Hudson 10-479 • 3/02

PRO-TORQ®

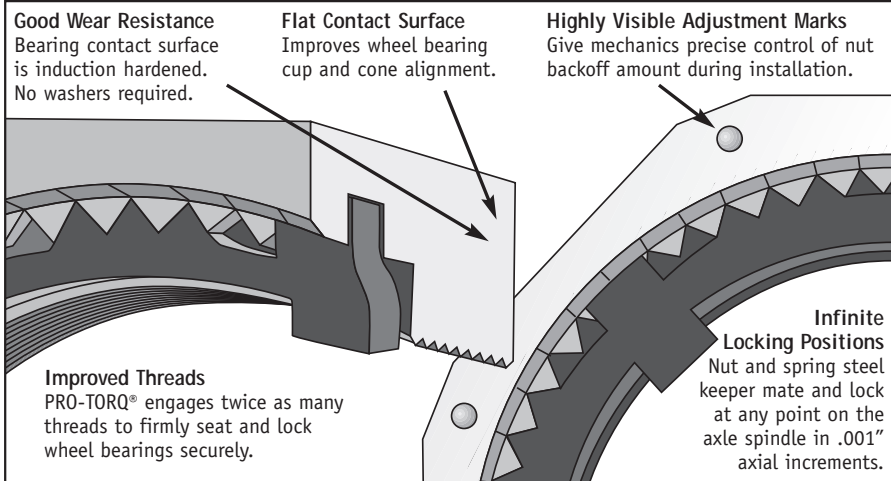
An Axle Spindle Nut System for Today's Fleets



Features and Benefits

Longer Tread Life. Fleets save tires, wheels track truer. PRO-TORQ® controls axial motion, holding bearing end play near zero while maintaining exact cup and cone alignment on the spindle. This is good news for radial tires. PRO-TORQ® delivers the adjustment precision which experts agree is needed to maximize radial tire life.

Extended Wheel Seal and Bearing Service. PRO-TORQ® supports seal, bearing and axle manufacturers' specifications. With PRO-TORQ®'s tight control on wheel bearing adjustment, fleets minimize premature seal failure and improve extended seal and brake lining programs. PRO-TORQ® is also your choice when using new semi-fluid and synthetic grease lubricants to precisely set bearings for lubed-for-life wheel ends.



PRO-TORQ® compensates for normal bearing wear, permitting precise .001" takeup increments at scheduled preventative maintenance intervals. This keeps bearings properly aligned, running cooler and lasting longer.

Improves ABS. PRO-TORQ®'s reliable low end play bearing adjustment and axial motion control helps assure accurate wheel end sensor monitoring of wheel speeds on antilock braking systems.



STEMCO®

A Higher Standard of Performance.™

PRO-TORQ[®] ADVANCED AXLE SPINDLE NUTS

Cost Saving Installation

For more than 10 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 variability in wheel bearing adjustment, which means extended maintenance intervals and trouble-free performance from steer, drive and trailer axle wheel ends.

Tight Control on Bearing Adjustment

PRO-TORQ[®] gives fleets the ability to standardize wheel end maintenance practices and makes repeatable, close tolerance bearing adjustment a reality. From mechanic to mechanic, PRO-TORQ[®] single nut systems and adjustment procedure will consistently secure the nut with wheel bearing adjustment accuracy in the range of .001-.003" end play.

PRO-TORQ[®] avoids the extremes of both preload and excessive bearing end play. It gives fleets the tightest adjustment standard in the industry.

Faster to Install, Easier to Lock

PRO-TORQ[®] assures that bearings are "positive" locked in precise position the first time. That's because PRO-TORQ[®] uses only one nut — no jamming, juggling or time wasted while repositioning multiple nut assemblies.

Clearance in the threads of traditional "jamming" type nuts can result in a wide range of final settings. A mechanic can unintentionally impose preload on a bearing by overtightening the jam nut. 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, and no dial indicator is required.

SPINDLE NUT APPLICATIONS	Thread Size	Outer Bearing Part Number	Tool Socket
TRAILER AXLE STEMCO No. 447-4723 Fruehauf Pro-par, Meritor TP	3.480"-12	HM518410/ HM518455	4 13/16" - 8 point (OTC# 1941)
STEMCO No. 447-4724 22,500#-23,000# Eaton	3 1/2"-12	HM518410/ HM518445	4 13/16" - 8 point (OTC# 1941)
STEMCO No. 447-4743 17,000#-22,500# Meritor, Dana, Eaton, Std Forge, Ingersoll	2 5/8"-16	HM212011/ HM212049	3 3/4" - 8 point (OTC# 1925)
STEER AXLE STEMCO No. 448-4836 12,000# Meritor, Navistar	1 1/2"-12	3720/3782	2 1/2" - 6 point (OTC# 1921)
STEMCO No. 448-4837 12,000# Eaton, Ford, Meritor	1 1/2"-18	3720/3782	2 1/2" - 6 point (OTC# 1921)
STEMCO No. 448-4839 12,000#, 14,300# Mack	1 5/8"-12	45220/45280	2 5/8" - 6 point (OTC# 1922)
STEMCO No. 448-4864 18,000#, 20,000# Mack	2"-12	552A/555S	3" - 6 point (OTC# 1906)
DRIVE AXLE STEMCO No. 449-4904 34,000#, 38,000#, 44,000# Mack	2 7/8"-12	47620/47679 572/575 563/567	4 1/8" - 6 point (OTC# 1915)
STEMCO No. 449-4973 34,000#-46,000# Eaton, Meritor, Dana, Navistar, 50,000# Mack	3 1/4"-12	572/580	4 3/8" - 8 point (OTC# 1917)
STEMCO No. 449-4974 Meritor, Eaton, Ford, Navistar	2 5/8"-12	3920/3984 39520/39590	3 3/4" - 8 point (OTC# 1925)
STEMCO No. 449-4975 19,000# Dana, Navistar, Bluebird	2 5/8"-12	3920/3984 39520/39590	3 3/4" - 8 point (OTC# 1925)



STEMCO[®]

A Higher Standard of Performance.SM

QS 9000 & ISO 9001

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Pro-Torq® Trailer Axle Nuts

Applications and Specifications

STEMCO Part Number

447-4723

Replacement Keeper No.: 450-4723
Tool Socket: 4 13/16" - 8 point (OTC# 1941)
Thread Size: 3.480" - 12
Outer Bearing Part No.: HM518445/HM518410

FRUEHAUF AXLES

PROPAR Series

HENDRICKSON AXLES

HP

INGERSOLL AXLES

F24H

MERITOR AXLES

TP Series

STEMCO Part Number

447-4724

Replacement Keeper No.: 450-4723
Tool Socket: 4 13/16" - 8 point (OTC# 1941)
Thread Size: 3 1/2" - 12
Outer Bearing Part No.: HM518445/HM518410

EATON AXLES

EST 230-P, EST 225-P

STEMCO Part Number

447-4743

Replacement Keeper No.: 450-4743
Tool Socket: 3 3/4" - 8 point (OTC# 1925)
Thread Size: 2 5/8" - 16
Outer Bearing Part No.: HM212049/HM212011

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, TKLD Series, TL Series, TLD Series, TN Series, TND Series, TQ Series, TQC Series, TOD Series

STANDARD FORGE

A25, A26, 17,000 and 18,000 lb. Trade

STEMCO Part Number

448-4836

Replacement Keeper No.: 450-4836, (Ceromet No. K1501)
Tool Socket: 2 1/2" - 6 point (OTC# 1921)
Thread Size: 1 1/2" - 12
Outer Bearing Part No.: 3782/3720

DANA SPICER AXLES

D10

EATON AXLES

X-115

FRUEHAUF AXLES

Model 5, TKF

MERITOR AXLES

T-1100

STANDARD FORGE

T 8.5-S

STEMCO Part Number

449-4973

Replacement Keeper No.: 450-4973
Tool Socket: 4 3/8" - 8 point (OTC# 1917)
Thread Size: 3 1/4" - 12
Outer Bearing Part No.: 580/572

DANA SPICER AXLES

EST-230-P

EATON AXLES

P-22

MERITOR AXLES

TR

Pro-Torq® Steer Axle Nuts

Applications and Specifications

STEMCO Part Number

448-4836

Replacement Keeper No.: 450-4836
Tool Socket: 2 1/2" - 6 point (OTC# 1921)
Thread Size: 1 1/2" - 12
Outer Bearing Part No.: 3782/3720

MERITOR AXLES

FD 900, FD 901, FD 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 Number

448-4837

Replacement Keeper No.: 450-4837
Tool Socket: 2 1/2" - 6 point (OTC# 1921)
Thread Size: 1 1/2" - 18
Outer Bearing Part No.: 3782/3720

EATON AXLES

EFA-12F4, EFA-13F5, E-1200I, FE 931, 12K, 13.2K

FORD AXLES

SIFCO 12,000#, FORD 6,000#

MERITOR AXLES

FE-931

STEMCO Part Number

448-4838

Replacement Keeper No.: 450-4837
Tool Socket: 2 1/2" - 6 point (OTC# 1921)
Thread Size: 1 1/2" - 12
Outer Bearing Part No.: 3782/3720

MERITOR AXLES

Steer

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

STEMCO Part Number

448-4839

Replacement Keeper No.: 450-4839
Tool Socket: 2 5/8" - 6 point (OTC# 1922)
Thread Size: 1 5/8" - 12
Outer Bearing Part No.: 45220/45280

MACK FRONT AXLES

FAW12, FAW12, FAW537, FAW5371, FAW14.3, FAW538, FAW10.5, FAW536, FAW5361

STEMCO Part Number

448-4840

Replacement Keeper No.: 450-4836
Tool Socket: 2 1/2" - 6 point (OTC# 1921)
Thread Size: 1 1/2" - 18
Outer Bearing Part No.: 3782/3720

HENDRICKSON AUXILIARY AXLE

13,000# Ultra Axle

STEMCO Part Number

448-4864

Replacement Keeper No.: 450-4864
Tool Socket: 3" - 6 point (OTC# 1906)
Thread Size: 2" - 12
Outer Bearing Part No.: 5552A/5555

MACK FRONT AXLES

FA18, FAW18, FAW616, FA616, FA20, FAW20, FAW617, FA617, FAW16, FAW614

Pro-Torq® Drive Axle Nuts

Applications and Specifications

STEMCO Part Number

447-4743

Replacement Keeper No.: 450-4743

Tool Socket: 3 3/4" - 8 point (OTC# 1925)

Thread Size: 2 5/8" - 16

Outer Bearing Part No.: HM212049/HM212011

MERITOR AXLES

F Series, H Series

STEMCO Part Number

449-4904

Replacement Keeper No.: 450-4904

Tool Socket: 4 1/8" - 8 point (OTC# 1917)

Thread Size: 2 7/8" - 12

Outer Bearing Part No.: 563/567, 572/575, 47620/47679

MACK AXLES

S-34, S-38, S-44, S-462, SW-56, SW-57, SW-441

STEMCO Part Number

449-4973

Replacement Keeper No.: 450-4973

Tool Socket: 4 3/8" - 8 point (OTC# 1917)

Thread Size: 3 1/4" - 12

Outer Bearing Part No.: 580/572

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 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, SQD, 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, SW 170, SW 270, SW 280, T Series, U Series, 58000 Series, 59000 Series, 200

NAVISTAR AXLES

14227, 14308, 14309, 14311, 14338, 14342, 14943, 14348, 14364, 14368, 14494

STEMCO Part Number

449-4974

Replacement Keeper No.: 450-4743

Tool Socket: 3 3/4" - 8 point (OTC# 1925)

Thread Size: 2 5/8" - 12

Outer Bearing Part No.: 3984/3920, 39590/39520

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

STEMCO Part Number

449-4975

Replacement Keeper No.: 450-4975

Tool Socket: 3 3/4" - 8 point (OTC# 1925)

Thread Size: 2 5/8" - 12

Outer Bearing Part No.: 3984/3920, 39590/39520

DANA AXLES

J190S

FORD AXLES

GMC

NAVISTAR AXLES

REAR AXLE SCHOOL BUS APPLICATION

19,000#



Voyager®/Discover® Hub Seal Installation

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.**

STEP 2

With the wheel in horizontal position, pre-lube the inner bearing and place it into the bearing cup. **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 3 to 5 pound 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. **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. **NOTE: When using grease, pre-pack the outer bearing before placement into the hub.**



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.



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.

Guardian®/Guardian® HP Installation

HUB SEAL INSTALLATION

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. **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. Make sure the ring is flush with the shoulder. 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 oil.

STEP 4

With the wheel mounted on a wheel dolly, carefully push the wheel onto the spindle



until it contacts the seal. Dip the outer bearing in oil and place in on the spindle. Tighten the inner spindle nut hand tight and remove the wheel dolly.

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.



STEP 6

Install the hub cap with a new gasket and fill the cavity with oil until the proper oil level is indicated on the window. 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.

Standard/Grit Guard® Seal Installation

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.



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.



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).



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.



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 to the proper oil level as indicated on the window. 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.

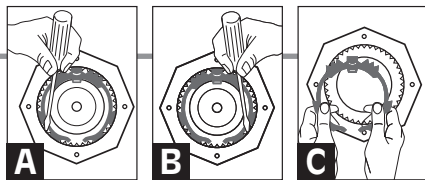
PRO-TORQ® Installation Procedure & Wheel Bearing Adjustment

STEP 1.

Remove the Keeper from the Nut:

A, B, C

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



STEP 2.

Seat the Bearing:

With hub or hub/drum only:

Using a torque wrench:

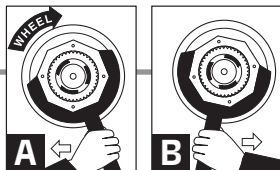
- A (1) Tighten the nut to 200 ft-lbs. Spin the wheel at least one full rotation.
- (2) Tighten the nut to 200 ft-lbs. Spin the wheel at least one full rotation.
- (3) Tighten the nut to 200 ft-lbs.

B Back the nut off until it is loose.

With hub/drum/wheels:

A Tighten the nut to 200 ft-lbs while the wheel is rotating.

B Back the nut off until it is loose.



STEP 4.

Install the Keeper:

ORANGE SIDE FACING OUT

A Insert the keeper tab into the undercut groove of the nut and engage the keyway tang in the axle keyway. Insert keeper tab with bent legs facing out.

B Engage the mating teeth.

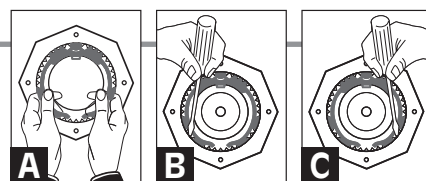
C Compress and insert the keeper arms, one at a time, into the undercut groove with a screwdriver.

For Steering Spindle Nut 448-4836, 448-4839 and 448-4864:

A 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 bent legs facing out.

B Engage the mating teeth.

C Compress and insert the keeper arms, one at a time, into the undercut groove with a screwdriver.



TOOLS REQUIRED FOR INSTALLATION			
Part Numbers	(3/4" Drive) Socket Req'd	Owatonna Co. Ref. Part No.	Euclid Int'l Ref. Part No.
Trailer Axle Nut 447-4723 447-4724	4 13/16" 8 point	1941	E-1597
Trailer Axle Nut 447-4743	3 3/4" 8 point	1925	E-1925
Steering Spindle Nut 448-4836 448-4837	2 1/2" 6 point	1921	E-1921
448-4839 448-4864	2 5/8" 6 point 3" 6 point	1922 1906	E-1922 E-1906
Drive Axle Nut 449-4904	4 1/8" 6 point	1915	E-1915
449-4973	4 3/8" 8 point	1917	E-1917
449-4974	3 3/4" 8 point	1925	E-1925
449-4975	3 3/4" 8 point	1925	E-1925

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

STEP 3.

Adjust the Bearing:

With hub or hub/drum only:

Using a torque wrench:

A (1) Tighten the nut to the adjusting torque. Spin the wheel at least one full rotation.

(2) Tighten the nut to the adjusting torque. Spin the wheel at least one full rotation.

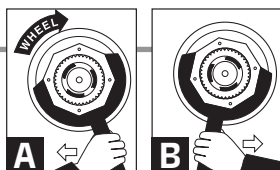
(3) Tighten the nut to the adjusting torque.

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

With hub/drum/wheels:

A Tighten the nut to the adjusting torque while the wheel is rotating.

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

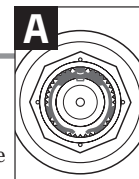


ADJUSTING TORQUE AND BACKOFF		
Part Numbers	Adjusting Torque	Backoff
Trailer Axle Nut 447-4723 447-4724	100 ft-lbs	1/8 turn
Trailer Axle Nut 447-4743	100 ft-lbs	1/4 turn
Steering Spindle Nut 448-4836 448-4839 448-4864	100 ft-lbs	1/4 turn
Steering Spindle Nut 448-4837	100 ft-lbs	1/3 turn
Drive Axle Nut 449-4904 449-4973 449-4974 449-4975	100 ft-lbs	1/8 turn

STEP 5.

Inspect the Installation:

A 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. Inspect keyway tang to insure it does not contact the bottom of the keyway. If contact exists, immediately notify your PRO-TORQ® representative.



THIS PROCEDURE WILL CONSISTENTLY PRODUCE A BEARING SETTING OF .001" TO .003" END PLAY.

WARNING

Failure to follow this instruction could cause the wheel to come off and cause bodily injury. The PRO-TORQ® Spindle Nut is 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 locked inside the nut. Doing so may deform the keeper and allow the nut to unthread during operation. **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 nut will cause the bearings to run hot and be damaged.

PRO-TORQ®

ADVANCED AXLE SPINDLE NUTS

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Part No. 571-2902
Hudson 10-245 • 4/02

Bearing Removal and Installation

Removal



Step 1 Remove hub/wheel assembly from vehicle in accordance with recommended practices.

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.

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

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.

Step 5 Journals should be measured and compared with manufacturer specifications.

Installation



Step 1 Thoroughly clean bearing cups and cones prior to installation.

- 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.

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.

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

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

- 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.

STEMCO Endorses TMC's Recommended Wheel Bearing Adjustment Procedure

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 to you in the form of this technical guide. Working together, in this way, STEMCO helps keep your rigs rolling.

The following bearing adjustment recommendation 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.

Final Adjusting Nut Torque:

Tighten the adjusting nut to a final torque of 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	TORQUE SPECIFICATIONS
Steer (Double Nut)	Less Than 2 ⁵ / ₈ "	200-300 ft-lbs
	2 ⁵ / ₈ " And Over	300-400 ft-lbs
Drive	Dowel Type Washer	300-400 ft-lbs
	Tang Type Washer	200-275 ft-lbs
Trailer	Less Than 2 ⁵ / ₈ "	200-300 ft-lbs
	2 ⁵ / ₈ " And Over	300-400 ft-lbs

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.

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

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



STEMCO®

A Higher Standard of Performance.™

QS 9000 & ISO 9001

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WARRANTY

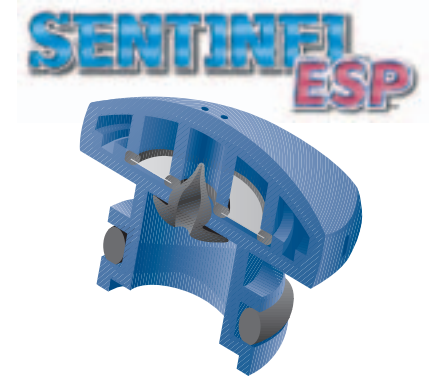
STEMCO warrants to Buyer that all components sold will be free from defects in material and workmanship. This warranty is limited to components installed on vehicles licensed for on-highway use under normal use and service. This warranty extends for a period of one year from the date of manufacture.

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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