

# Technical Information

Information Technique Información técnica

## LIMITED WARRANTY

Grote Industries, Inc. ("Grote") warrants its products to be free from defects in material and workmanship under normal use and service as set forth in this Limited Warranty. THIS LIMITED WARRANTY is the final, complete and exclusive expression of warranty to the purchaser and cannot be modified except in writing signed by an authorized officer of Grote.

## GENERAL ONE-YEAR LIMITED WARRANTY

Subject to the following conditions, Grote warrants to the original purchaser only (and not to anyone else) of each new product made by Grote that any part thereof which proves to be defective in material or workmanship within one year from the date of manufacture by Grote will, at Grote's option, be repaired or replaced without charge upon return to Grote of the defective product, provided any defect in the product is brought to the attention of Grote within the warranty period, who alone will be authorized to furnish or arrange for repairs or replacements within the terms of this limited warranty.

The above limited warranty does not apply, and no warranty, either expressed or implied, shall be applicable (a) to damage resulting from accident, alteration, misuse or abuse; (b) if the product is not installed, operated and maintained according to procedures recommended by Grote; (c) if the serial number, date code, or other identifying marks affixed to the product by Grote are removed, obliterated or defaced. In no case shall the warranty be extended to defects in materials, components (which includes but not limited to bulbs), or services furnished by third parties nor to the installation of the product performed by third parties, except those performed by or on behalf of Grote authorized distributors. If any repairs are made, or any other parts are replaced during the warranty period, by any distributor other than a Grote distributor, in accordance with service manuals, parts, accessories, or attachments other than authorized by Grote for use in Grote's products, the purchaser shall pay for such repairs or parts without recourse against Grote, and Grote shall be relieved of responsibility for fulfillment of the warranty with respect to parts or components of all repairs, alterations, or replacements so made.

## INSTALLATION GUIDELINES:

**Grote Systems** - Grote lamp assemblies and harness products are designed to function as a complete system; therefore, this limited warranty shall not extend to failure of any Grote products caused by the use of incompatible lamp assemblies, harness products or other components.

**Heat** - All electronic and lighting products produce heat. The installer is responsible for assurance that the application of the component will not result in contact with flammable material.

**Surface Mount** - The following procedures need to be practiced to assure proper installation: The lamp should be placed on a level unobstructed surface. Number 10 screws should be tightened to 25 in. pounds of torque. Only Grote ULTRA-BLUE-SEAL® pigtails should interface with any Grote lamps. These guidelines will assure the products will function and last as they were designed. Deviations from these guidelines will void any warranty.

**Design Voltage and Current** - Current is provided as an approximate value and is listed for the design voltage of the lamp. The design voltage of the lamp may vary. Customers should contact Grote Industries if detailed information is required.

IN CONSIDERATION OF THE EXPRESS WARRANTY AND OTHER TERMS HEREIN CONTAINED, THE PURCHASER AGREES THAT PURCHASER'S EXCLUSIVE REMEDY AND GROTE'S SOLE LIABILITY ON ANY CLAIM, WHETHER IN TORT, CONTRACT

OR WARRANTY, SHALL BE LIMITED TO, AT GROTE'S OPTION, REPAIR OR REPLACEMENT OF A DEFECTIVE PRODUCT. NO OTHER REMEDY (INCLUDING BUT NOT LIMITED TO INCIDENTAL OR CONSEQUENTIAL DAMAGES FOR THE LOST PROFITS, LOST SALES, INJURY TO PERSON OR PROPERTY; OR ANY OTHER INCIDENTAL LOSS OR DAMAGES) SHALL BE AVAILABLE TO PURCHASER. IN NO EVENT, AND FOR NO CAUSE WHATSOEVER, INCLUDING ANY BREACH OR DEFAULT BY GROTE, SHALL GROTE HAVE ANY MONETARY LIABILITY TO PURCHASER IN EXCESS OF THE PRICE PAID BY PURCHASER FOR THE PRODUCT IN QUESTION.

THIS LIMITED WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER EXPRESSED OR IMPLIED WARRANTIES, INCLUDING THE IMPLIED WARRANTY OF MERCHANTABILITY AND THE IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND OF ALL OTHER OBLIGATIONS OR LIABILITIES ON THE PART OF GROTE. NO DEALER, DISTRIBUTOR OR OTHER REPRESENTATIVE OF THE COMPANY IS AUTHORIZED TO CHANGE THIS WARRANTY IN ANY WAY OR TO GRANT ANY OTHER WARRANTY.

Any affirmation of fact or promise made by Grote shall not be deemed to create an expressed warranty that the products shall conform to the affirmation or promise. Any description of the product is for the sole purpose of identifying such product and shall not be deemed to create an express warranty that the product shall conform to the description. Any sample or product model is for illustrative purposes only and shall not be deemed to create an express warranty that the whole of the products shall conform to the sample or model. Further, no affirmation or promise, or description, sample or model shall be deemed a part of the basis of the bargain between Grote and the purchaser.

Grote assumes no responsibility that title conveyed to the purchaser is good or the transfer of title to the products is rightful, or that the products shall be delivered free from any security interest or other lien or encumbrance of any third party, or free from any rightful claim of any third party by way of infringement or otherwise.

## NON-TRANSFERABLE

THIS WARRANTY SHALL EXTEND ONLY TO THE ORIGINAL PURCHASER AND IS NON-TRANSFERABLE.

## EXCEPTIONS

The general one-year (1) limited warranty shall apply but shall be altered as set forth below for the following products:

- (1) All Grote Sealed Lamps (12 Volt Only) shall be subject to a two-year (2) limited warranty unless otherwise stated.
  - A) Grote Economy sealed lamps shall be subject to a one-year (1) limited warranty.
- (2) Conspicuity Tape shall be subject to a five-year (5) or ten-year (10) limited warranty. Please refer to the Grote catalog and/or Grote web-site for warranty time frame by part number.
- (3) Grote LED Products are subject to the terms set forth below under "Special LED Limited Warranty"
- (4) Grote ULTRA-BLUE-SEAL® Male Pin Wire Harnesses shall be subject to a seven-year (7) limited warranty.
- (5) Grote ULTRA-BLUE-SEAL® Female Pin (Standard) Harnesses shall be subject to a five-year (5) limited warranty.
- (6) Grote makes no warranty whatsoever with respect to bulbs and fluorescent tubes in lamp assemblies.
- (7) Grote makes no warranty whatsoever with respect to any and all devices powered by common household-type batteries.

## SPECIAL LED LIMITED WARRANTY

Grote LED lamps are covered by the Grote Special LED Limited Warranty and are warranted to be free from defects in workmanship and/or material only for the specified time frames listed below. Grote will replace any Grote LED lamp to the original purchaser, if the Grote LED lamp fails due to defects in workmanship and/or materials during the warranty time frame specified below:

THE LED LIMITED WARRANTY DOES NOT APPLY TO SEVERE APPLICATIONS such as off-road vehicles or construction equipment. These applications are examples for the purpose of illustration only; these examples are not intended to, and in fact do not, constitute an exhaustive list of "severe applications".

- (1) Grote LED lamps are to REMAIN INTACT, FREE FROM PHYSICAL ABUSE, SUBJECT TO PROPER INSTALLATION WITHOUT MODIFICATION AND MUST BE USED ONLY WITH GROTE APPROVED WIRING ACCESSORIES. ANY VIOLATION OF THESE CONDITIONS WILL VOID THIS LED LIMITED LAMP WARRANTY. For guidance regarding proper installation, please see above under "Surface Mount Installation Guidelines".
- (2) ANY DAMAGE DUE TO CHEMICALS OR INCOMPATIBLE CLEANERS WILL VOID THIS WARRANTY.
- (3) Grote LED lamps are designed to work in conjunction with the Grote ULTRA-BLUE-SEAL® trailer wiring system including Grote factory molded pigtails for use with the Grote ULTRA-BLUE-SEAL® trailer wiring system. Therefore, Grote LED lamps have a Limited Warranty based on the following criteria:
  - A – Grote SuperNova® high performance LED lamps are covered by a ten-year (10) Limited Warranty when installed with male pin, hard shell or patented double-seal pigtail connectors.

1) Grote SuperNova® high performance LED lamps are covered by a three-year (3) Limited Warranty when installed with hardwire bullet connectors.

2) Grote SuperNova® high performance LED lamps are covered by a two-year (2) Limited Warranty when installed with hardwire termination.

B – Grote Hi Count® LED lamps (part numbers that begin with a G) are covered by a two-year (2) Limited Warranty.

C – Grote WhiteLight™ LED lamps are covered by a three-year (3) Limited Warranty.

D – Grote Select™ high value LED lamps are covered by a two-year (2) Limited Warranty and Grote's exclusive Performance Advantage Plus Extended Warranty Program which is three-year (3) Limited Warranty when installed with Grote ULTRA-BLUE-SEAL® patented double-seal pigtail connectors.

E – Grote LED lamps that are hardwired and use standard bullet terminal/receptacle type connections are covered by a three-year (3) Limited Warranty.

F – Grote Warning & Hazard LED's are covered by a two-year (2) Limited Warranty.

1) Any and all LED Devices powered by common household-type batteries are not covered by Grote's "Special LED Limited Warranty".

G – Other Grote LED lamps for FMVSS applications excluding SuperNova®, MicroNova®, WhiteLight™ and Hi Count® are covered by a two-year (2) Limited Warranty.

H – Other Grote LED lamps (non-FMVSS) are covered by a one-year (1) Limited Warranty.

| LED Brand Category                                                                             | Termination Style |            |            |                              |          |                              |
|------------------------------------------------------------------------------------------------|-------------------|------------|------------|------------------------------|----------|------------------------------|
|                                                                                                | Male Pin          | Hard Shell | Female Pin | Hardwire w/Bullet Connectors | Hardwire | Patented Double-Seal Pigtail |
| Grote SuperNova®                                                                               | 10                | 10         | N/A        | 3                            | 2        | 10                           |
| Grote MicroNova®                                                                               | N/A               | N/A        | N/A        | 3                            | N/A      | N/A                          |
| Grote Hi Count®                                                                                | N/A               | N/A        | 2          | N/A                          | 2        | N/A                          |
| Grote LED WhiteLight™                                                                          | 3                 | 3          | 3          | 3                            | 3        | N/A                          |
| Grote Select™                                                                                  | N/A               | N/A        | 2          | N/A                          | N/A      | 3                            |
| Grote Warning & Hazard LED's                                                                   | 2                 | N/A        | N/A        | 2                            | 2        | N/A                          |
| Grote LED's (FMVSS)                                                                            | 2                 | N/A        | 2          | 2                            | 2        | N/A                          |
| Grote LED's (non-FMVSS)                                                                        | N/A               | N/A        | N/A        | 1                            | 1        | N/A                          |
| N/A - Not Available or None      Number represents the years of warranty from manufacture date |                   |            |            |                              |          |                              |

## QUALITY SYSTEMS:

Product within the catalog may be manufactured under various quality system certifications. If a customer requires particular quality certifications on specific products, they may contact Grote Industries for detailed information.

## END USER RESPONSIBILITY:

Each user bears full responsibility for making their own determination as to the suitability of Grote materials, products, recommendations, or advice for their own particular use. Each user is ultimately responsible to identify and perform tests and analyses necessary to assure that its finished parts incorporating Grote products will be safe and suitable for use under end-user conditions. Nothing in this or any other document, nor any oral recommendation or advice, shall be deemed to alter, vary, supersede, or waive any provision of this Limited Warranty or this Disclaimer, unless any such modification is specifically agreed to in writing signed by a Grote Industries Representative.

## INTELLECTUAL PROPERTY:

No statement contained herein concerning a possible or suggested use of any material, product or design is intended, or should be construed, to grant any license under any patent or other intellectual property right of Grote Industries or any of its subsidiaries or affiliates covering such use or design, or as a recommendation for the use of such material, product or design in the infringement of any patent or other intellectual property right.

The information in this catalog is deemed correct at the time of publication and is provided in good faith. There may be inaccuracies due to legislative changes, competitive part number changes, technological advances or typographical errors. Customers should contact Grote Industries for updated information.

## WARRANTY RETURN AND REPLACEMENT INSTRUCTIONS

To be eligible for limited warranty consideration, either contact your Grote sales representative or call Grote customer service at 800.628.0809 (In Canada call 800.268.5612). Upon issuance of a returned goods authorization number, return the failed product, freight prepaid to: Warranty at Grote Industries, Inc., 2600 Lanier Drive, Madison, Indiana 47250. In Canada, return product, freight prepaid to: Warranty at Grote Industries Co., 230 Travail Road, Markham, Ontario L3S 3J1. Any product covered under the terms of the respective limited warranty will be replaced directly to the original consumer/purchaser only. Items received by Grote will not be returned unless accompanied by a specific written request. The product to be returned will be those items not covered under the warranty and will be returned to sender freight collect.

## CONSUMER RIGHTS IN VARIOUS STATES

This warranty gives you specific legal rights, and you may have other rights that vary from state to state. Some states do not allow limitations on how long an implied warranty lasts, so the above limitations may not apply to you. Further, some states do not allow the exclusion or limitation of incidental or consequential damages so the above limitation or exclusion may not apply to you.

Effective October 1, 2012

## MAXXIMA-TO-GROTE INTERCHANGE

| Maxima PN | Grote Form, Fit and Function | Grote Fit and Function |
|-----------|------------------------------|------------------------|
| M09100R   | 47112                        |                        |
| M09100R   | G3002                        |                        |
| M09100Y   | 47113                        |                        |
| M09100Y   | G3003                        |                        |

## MAXXIMA-TO-GROTE INTERCHANGE

| Maxima PN | Grote Form, Fit and Function | Grote Fit and Function |
|-----------|------------------------------|------------------------|
| M09105R   | 47212                        |                        |
| M09105R   | G3092                        |                        |
| M09105Y   | 47213                        |                        |
| M09105Y   | G3093                        |                        |
| M09250R-X | 47112                        |                        |
| M09250Y-X | 47113                        |                        |
| M09300R   | 49332                        |                        |
| M09300Y   | 49333                        |                        |
| M09320R-X | 49322                        |                        |
| M09320Y-X | 49322                        |                        |
| M09320Y-X | 49333                        |                        |
| M11201R   | 47222                        |                        |
| M11201R   | G1082                        |                        |
| M11201Y   | 47223                        |                        |
| M11201Y   | G1083                        |                        |
| M11256R   | G1032                        |                        |
| M11256R   | G1092                        |                        |
| M11256Y   | G1033                        |                        |
| M11256Y   | G1093                        |                        |
| M11260R   | 46142                        |                        |
| M11260R   | 47122                        |                        |
| M11260Y   | 46143                        |                        |
| M11260Y   | 47123                        |                        |
| M11300R   | G1032                        |                        |
| M11300R   | G1092                        |                        |
| M11300Y   | G1033                        |                        |
| M11300Y   | G1093                        |                        |
| M11303R   |                              | 49162                  |
| M11350R-X | G1032                        |                        |
| M11350R-X | G1092                        |                        |
| M11350Y-X | G1033                        |                        |
| M11350Y-X | G1093                        |                        |
| M16280R   | G1032                        |                        |
| M16280R   | G1092                        |                        |
| M16280Y   | G1033                        |                        |
| M16280Y   | G1093                        |                        |
| M16800R   | 47222                        |                        |
| M16800R   | G1082                        |                        |
| M16800Y   | 47223                        |                        |
| M16800Y   | G1083                        |                        |
| M20311R   | G5052                        |                        |
| M20311Y   | G5053                        |                        |
| M20315R   | G4602                        |                        |
| M20315Y   | G4603                        |                        |
| M20320R   | 47082                        |                        |
| M20320Y   | 47083                        |                        |
| M20323R   |                              | 49182                  |
| M20325    | 94233                        |                        |
| M20326    |                              | 43970                  |
| M20327    | 43970                        |                        |
| M20328    | 43980                        |                        |
| M20330R   | G2102                        |                        |
| M20330Y   | G2103                        |                        |
| M20332R   | 47252                        |                        |
| M20332Y   | 47253                        |                        |
| M20340R   | 49252                        |                        |
| M20340Y   | 49253                        |                        |
| M20343R   |                              | 49122                  |
| M20343R   |                              | 49212-5                |
| M20350R   | G1902                        |                        |
| M20350R/Y |                              | 46740                  |
| M20350Y   | G1903                        |                        |
| M20355    |                              | 43850                  |
| M20356    |                              | 43850                  |
| M20361Y   | 47063                        |                        |
| M20395R   | 46832                        |                        |
| M20395Y   | 46833                        |                        |
| M34100Y   | 47113                        |                        |
| M34100Y   | G3003                        |                        |
| M34260R   | 47112                        |                        |

| Maxima PN   | Grote Form, Fit and Function | Grote Fit and Function |
|-------------|------------------------------|------------------------|
| M34260R     | G3002                        |                        |
| M34260Y     | 47113                        |                        |
| M34260Y     | G3003                        |                        |
| M34600R     | 47212                        |                        |
| M34600Y     | 47213                        |                        |
| M42100R     | G4002                        |                        |
| M42100Y     | G4003                        |                        |
| M42201R     |                              | G4502                  |
| M42201Y     |                              | G4503                  |
| M42213R     | G4502                        |                        |
| M42213Y     | G4503                        |                        |
| M42220      |                              | 50920                  |
| M42220      |                              | G5202                  |
| M42320R     | G4002                        |                        |
| M42322R     |                              | 54342                  |
| M42322Y     |                              | 54343                  |
| M42332R/Y   | G5530                        |                        |
| M42333R/Y   | G5540                        |                        |
| M42339Y     |                              | 54343                  |
| M42339Y     | 54643                        |                        |
| M42341R/Y   |                              | G5300                  |
| M42344R     |                              | 54362                  |
| M42346R     |                              | 54342                  |
| M42347      |                              | 62791                  |
| M42354R     |                              | 54042                  |
| M42354R     | 54572                        |                        |
| M43253      | 43253                        |                        |
| M43253CH    | 92513                        |                        |
| M49700      | 94180                        |                        |
| M50102      | 91410                        |                        |
| M50103      | 43823                        |                        |
| M50300-B    | 92120                        |                        |
| M50303      |                              | 43153                  |
| M50310      | 43673                        |                        |
| M50400-B    | 91740                        |                        |
| M50410      | 93683                        |                        |
| M50410      |                              | 93553                  |
| M50600-B    | 92420                        |                        |
| M63100R     | G6002                        |                        |
| M63100Y     | G6003                        |                        |
| M63120Y     |                              | 54183                  |
| M63120Y     |                              | 54193                  |
| M63120Y     |                              | 54213                  |
| M63121Y     | 52193                        |                        |
| M63253      | 43220                        |                        |
| M63253CH    | 43223                        |                        |
| M63254-OVAL |                              | 42103 + 43723          |
| M63322Y     | 54133                        |                        |
| M63339Y     |                              | 54173                  |
| M63346R     |                              | 54172                  |
| M63420R     |                              | 53962                  |
| M63420R     |                              | 54162                  |
| M63420Y     |                              | 53963                  |
| M63420Y     |                              | 54163                  |
| M84405      |                              | 61171                  |
| M84407-A    |                              | 61871                  |
| M84433      |                              | 61411                  |
| M84435      |                              | 61391                  |
| M90061R     | 53422                        |                        |
| M90081Y     | 55983                        |                        |
| MWL-01      |                              | 63551                  |
| MWL-01HP    | 63861                        |                        |
| MWL-05SP    | 63601                        |                        |
| MWL-06SP    |                              | 63601                  |
| MWL-11HL    |                              | 63861                  |
| MWL-12      | 63971                        |                        |
| MWL-16      | 63981                        |                        |

## PETERSON-TO-GROTE INTERCHANGE

| Peterson PN | Grote Form, Fit and Function | Grote Fit and Function |
|-------------|------------------------------|------------------------|
| 45          | 43424                        |                        |
| 46          | 43901                        |                        |
| 320         | 55450                        |                        |
| 321         | 55460                        |                        |
| 326         | 55470                        |                        |
| 335         | 56020                        |                        |
| 337         | 56000                        |                        |
| 367         | 61871                        |                        |
| 400         | 60001                        |                        |
| 413         | 50232                        |                        |
| 413         | 50232-5                      |                        |
| 415         | 62271                        |                        |
| 428         | 50872                        |                        |
| 428         | 50872-5                      |                        |
| 435         | 60151                        |                        |
| 436         |                              | 60011                  |
| 438         | 60101                        |                        |
| 438         | 60101-5                      |                        |
| 440         | 52302-5                      |                        |
| 442         | 50912                        |                        |
| 445         | 50972                        |                        |
| 445         | 50972-5                      |                        |
| 449         | 71422                        |                        |
| 459         |                              | 71152                  |
| 500         | 48072                        |                        |
| 511         | 64340                        |                        |
| 512         |                              | 63F61                  |
| 554         | 44810                        |                        |
| 554         | 44810-5                      |                        |
| 557         | 44820                        |                        |
| 570         | 44530                        |                        |
| 570         | 44530-5                      |                        |
| 571         | 44540                        |                        |
| 571         | 44540-5                      |                        |
| 573         | 44690                        |                        |
| 574         | 44700                        |                        |
| 576         | 44710                        |                        |
| 577         | 44720                        |                        |
| 579         |                              | 44730                  |
| 591         | 18252-5                      |                        |
| 595         | 18103-5                      |                        |
| 598         | 18302-5                      |                        |
| 605         | 28162                        |                        |
| 606         | 12111-5                      |                        |
| 607         | 12272-5                      |                        |
| 608         | 16032                        |                        |
| 609         |                              | 12101                  |
| 615         | 16244                        |                        |
| 616         | 16092                        |                        |
| 617         | 16021                        |                        |
| 654         | 28032                        |                        |
| 655         | 28042                        |                        |
| 666         | 26012-5                      |                        |
| 780         | 73040                        |                        |
| 780         | 73040-5                      |                        |
| 781         | 73090                        |                        |
| 810         | 28323-5                      |                        |
| 815         | 28393-5                      |                        |
| 821         | 28093-5                      |                        |
| 830         | 12073                        |                        |
| 830         | 12073-5                      |                        |
| 831         | 12112-5                      |                        |
| 832         | 12113-5                      |                        |
| 833         | 12263-5                      |                        |
| 907         | 63551                        |                        |
| 1841        | 44134                        |                        |
| 1941        | 44421                        |                        |

| Peterson PN | Grote Form, Fit and Function | Grote Fit and Function |
|-------------|------------------------------|------------------------|
| 2757        | 53833                        |                        |
| 3132        |                              | 50642                  |
| 3132        |                              | 50642-5                |
| 3342        | 53052                        |                        |
| 3352        | 53020                        |                        |
| 3372        | 53000                        |                        |
| 4591        | 71152                        |                        |
| 4651        | 41160                        |                        |
| 7991        |                              | 77263                  |
| 10609       | 43673                        |                        |
| 10609       | 43673-5                      |                        |
| 13918       | 94110                        |                        |
| 14209       |                              | 43690                  |
| 14218       | 91410                        |                        |
| 14249       | 67050                        |                        |
| 14249       | 67050-5                      |                        |
| 14318       | 91400                        |                        |
| 14418       | 92070                        |                        |
| 14618       | 92120                        |                        |
| 15009       | 43970                        |                        |
| 15010       | 43980                        |                        |
| 15410       |                              | 43783                  |
| 16249       | 67001                        |                        |
| 16249       | 67001-5                      |                        |
| 16309       | 43690                        |                        |
| 41021       |                              | 99595                  |
| 41107       | 68170                        |                        |
| 41307       | 68130                        |                        |
| 41748       | 66862                        |                        |
| 41749       | 66861                        |                        |
| 42015       | 91482                        |                        |
| 42109       | 43362                        |                        |
| 42149       | 67014                        |                        |
| 42149       |                              | 67010                  |
| 42409       |                              | 92510                  |
| 42609       | 43572                        |                        |
| 42610       | 43655                        |                        |
| 42618       | 91740                        |                        |
| 42809       | 43272                        |                        |
| 42809       | 43272-5                      |                        |
| 43149       | 67010                        |                        |
| 44015       |                              | 92792                  |
| 44525       |                              | 91302                  |
| 45171       | 43411                        |                        |
| 150091      | 43380                        |                        |
| 160491      |                              | 66931                  |
| 160492      | 66930                        |                        |
| 162491      | 66850                        |                        |
| 162493      | 66851                        |                        |
| 417491      | 66860                        |                        |
| 421491      | 67090                        |                        |
| 421491      | 67090-5                      |                        |
| 421491      |                              | 66843                  |
| 421491      |                              | 66843-5                |
| 431491      | 67000                        |                        |
| 10015A      |                              | 90163                  |
| 10015R      |                              | 90162                  |
| 100A        |                              | 45413                  |
| 100R        |                              | 45412                  |
| 104A        | 45413                        |                        |
| 104A        | 45413-5                      |                        |
| 104R        | 45412                        |                        |
| 104R        | 45412-5                      |                        |
| 106A        | 45933                        |                        |
| 106A        | 45933-5                      |                        |
| 106R        | 45932                        |                        |
| 106R        | 45932-5                      |                        |
| 10715A      |                              | 92433                  |
| 10715R      |                              | 92432                  |
| 1073R       | 49112                        |                        |

| Peterson PN | Grote Form, Fit and Function | Grote Fit and Function |
|-------------|------------------------------|------------------------|
| 1073R       | 49112-5                      |                        |
| 107WA       | 46883                        |                        |
| 107WA       | 46883-5                      |                        |
| 107WR       | 46882                        |                        |
| 107WR       | 46882-5                      |                        |
| 10815A      |                              | 90203                  |
| 10815A      |                              | 90203-5                |
| 10815R      |                              | 90202                  |
| 10815R      |                              | 90202-5                |
| 108WA       | 46713                        |                        |
| 108WA       | 46713-5                      |                        |
| 108WR       | 46712                        |                        |
| 108WR       | 46712-5                      |                        |
| 10915A      |                              | 90133                  |
| 11015A      |                              | 90303                  |
| 111R        | 49002                        |                        |
| 117A        |                              | 45993                  |
| 11815A      | 91683                        |                        |
| 118A        | 46543                        |                        |
| 118A        | 46543-5                      |                        |
| 11915A      | 90053                        |                        |
| 11915R      | 90052                        |                        |
| 119A        |                              | 45173                  |
| 119R        |                              | 45172                  |
| 120A        |                              | 46003                  |
| 122A        |                              | 46283                  |
| 122R        |                              | 46282                  |
| 123A        | 46283                        |                        |
| 123R        | 46282                        |                        |
| 12415A      | 90923                        |                        |
| 12415R      | 90922                        |                        |
| 124A        | 46893                        |                        |
| 124A        | 46893-5                      |                        |
| 124R        | 46892                        |                        |
| 124R        | 46892-5                      |                        |
| 13025A      |                              | 91043                  |
| 13025R      |                              | 91042                  |
| 130A        | 46303                        |                        |
| 130R        | 46302                        |                        |
| 13415A      |                              | 90123                  |
| 13415A      |                              | 90123-5                |
| 13415R      |                              | 90122                  |
| 13415R      |                              | 90122-5                |
| 135A        | 45263                        |                        |
| 135A        | 45263-5                      |                        |
| 135R        | 45262                        |                        |
| 135R        | 45262-5                      |                        |
| 13615A      | 90153                        |                        |
| 13615A      | 90153-5                      |                        |
| 13615R      | 90152                        |                        |
| 13615R      | 90152-5                      |                        |
| 136-3R      | 49062                        |                        |
| 136A        | 45253                        |                        |
| 136A        | 45253-5                      |                        |
| 136R        | 45252                        |                        |
| 13815A      |                              | 91963                  |
| 13815A      |                              | 91963-5                |
| 13815R      |                              | 91962                  |
| 13815R      |                              | 91962-5                |
| 138A        | 46793                        |                        |
| 138A        | 46793-5                      |                        |
| 138R        | 46792                        |                        |
| 14218K      | 94000                        |                        |
| 142A        | 45813                        |                        |
| 142A        | 45813-5                      |                        |
| 142KA       | 45043                        |                        |
| 142KR       | 45042                        |                        |
| 142R        | 45812                        |                        |
| 142R        | 45812-5                      |                        |
| 14318K      | 94010                        |                        |

## PETERSON-TO-GROTE INTERCHANGE

| Peterson PN | Grote Form, Fit and Function | Grote Fit and Function |
|-------------|------------------------------|------------------------|
| 143A        | 45833                        |                        |
| 143FA       | 45833 + 43162                |                        |
| 143FR       | 45832 + 43162                |                        |
| 143R        | 45832                        |                        |
| 145A        | 47013                        |                        |
| 145R        | 47012                        |                        |
| 14618K      | 94100                        |                        |
| 146A        | 45823                        |                        |
| 146A        | 45823-5                      |                        |
| 146FA       | 45823 + 43152                |                        |
| 146FR       | 45822 + 43152                |                        |
| 146R        | 45822                        |                        |
| 146R        | 45822-5                      |                        |
| 1503A       | 49173                        |                        |
| 1503R       | 49172                        |                        |
| 150A        | 46413                        |                        |
| 150A        | 46413-5                      |                        |
| 150R        | 46412                        |                        |
| 150R        | 46412-5                      |                        |
| 153A        | G1503                        |                        |
| 153C-BT2    | 60671                        |                        |
| 153R        | G1502                        |                        |
| 15409K      | 43850                        |                        |
| 154A        | 46743                        |                        |
| 154A        | 46743-5                      |                        |
| 154C        | 60291                        |                        |
| 154C        | 60301                        |                        |
| 154KA       |                              | 45093                  |
| 154KR       |                              | 45092                  |
| 154R        | 46742                        |                        |
| 154R        | 46742-5                      |                        |
| 155A        |                              | 46833                  |
| 155A        |                              | 46833-5                |
| 155R        |                              | 46832                  |
| 155R        |                              | 46832-5                |
| 15625A      |                              | 92163                  |
| 15625R      |                              | 92162                  |
| 156A        |                              | 46803                  |
| 156R        |                              | 46802                  |
| 158A        |                              | 47073 + 66911          |
| 158R        |                              | 47072 + 66911          |
| 160A        | 49253                        |                        |
| 160R        | 49252                        |                        |
| 161A        | 49413                        |                        |
| 161R        | 49412                        |                        |
| 162A        | 47123                        |                        |
| 162R        | 47122                        |                        |
| 164A        | 47113                        |                        |
| 164R        | 47112                        |                        |
| 168C        |                              | 60421                  |
| 176KA       | 49333                        |                        |
| 176KR       | 49322                        |                        |
| 176KR       | 49332                        |                        |
| 187A        | 47163                        |                        |
| 187R        | 47162                        |                        |
| 188A        | G2103                        |                        |
| 188A        | G2103-5                      |                        |
| 188A        | 47073                        |                        |
| 188R        | G2102                        |                        |
| 188R        | G2102-5                      |                        |
| 188R        | 47072                        |                        |
| 2636A       |                              | 46413 + 91380 + 67050  |
| 2636R       |                              | 46412 + 91380 + 67050  |
| 2637A       | 45093                        |                        |
| 2637R       | 45092                        |                        |

| Peterson PN | Grote Form, Fit and Function | Grote Fit and Function |
|-------------|------------------------------|------------------------|
| 2668A       | 55573                        |                        |
| 2668R       | 62171                        |                        |
| 3132RA      | 50630                        |                        |
| 3132RA      | 50630-5                      |                        |
| 313AA       | 55223                        |                        |
| 313AA       | 55223-5                      |                        |
| 32615A      |                              | 91503                  |
| 32615R      |                              | 91502                  |
| 338-15A     |                              | 90233                  |
| 338-15R     |                              | 90232                  |
| 352A        | 52513                        |                        |
| 352R        | 52512                        |                        |
| 393A        |                              | 53133                  |
| 394C        | 60361                        |                        |
| 41015A      |                              | 90013                  |
| 41015C      |                              | 90011                  |
| 41015R      |                              | 90012                  |
| 41015R      |                              | 90012-5                |
| 41415C      | 91311                        |                        |
| 41524V      | 62321                        |                        |
| 415K        | 62331                        |                        |
| 415K24V     | 62321 + 91740 + 67010        |                        |
| 416K        | 62251                        |                        |
| 417KR       |                              | 53312 + 91740 + 66830  |
| 417R        |                              | 53312                  |
| 417TA       |                              | 53413                  |
| 418KR       |                              | 53182 + 66830          |
| 418R        |                              | 53182                  |
| 418SA       |                              | 77353                  |
| 418SR       |                              | 77352                  |
| 420C5P      | 62751                        |                        |
| 420KR       |                              | 53962 + 92420 + 66830  |
| 420R        |                              | 53962                  |
| 421A        | 52183                        |                        |
| 421A        | 52183-5                      |                        |
| 421AEF      | 55773                        |                        |
| 421AER      | 55772                        |                        |
| 421KA       | 52573                        |                        |
| 421KR       | 52572                        |                        |
| 421R        | 52892                        |                        |
| 421R        | 52892-5                      |                        |
| 422R        | 52922 + 64930                |                        |
| 423KR       |                              | 53622 + 66830          |
| 423R        |                              | 53622                  |
| 426A        | 52773                        |                        |
| 426A        | 52923                        |                        |
| 426A24V     | 52153                        |                        |
| 426AEF24V   |                              | 52153                  |
| 426AER      | 55572                        |                        |
| 426AER24V   |                              | 52152                  |
| 426KR       | 52782                        |                        |
| 426R        | 52772                        |                        |
| 426R        | 52922                        |                        |
| 426R        | 52922-5                      |                        |
| 426R24V     | 52152                        |                        |
| 427KR       | 52682                        |                        |
| 428S        | 50862                        |                        |
| 428S        | 50862-5                      |                        |
| 428W        | 50852                        |                        |
| 428W        | 50852-5                      |                        |
| 430L        |                              | 51042                  |
| 436SX       | 60011                        |                        |
| 436SX       | 60011-5                      |                        |
| 440-09      | 43262-5                      |                        |
| 440L        | 52312                        |                        |
| 440L        | 52312-5                      |                        |
| 442L        | 50902                        |                        |

| Peterson PN | Grote Form, Fit and Function | Grote Fit and Function |
|-------------|------------------------------|------------------------|
| 4654K       | 40650-5                      |                        |
| 504HF       | 63151-5                      |                        |
| 504HF       | 63181-5                      |                        |
| 504HT       | 63171-5                      |                        |
| 504HT       | 63201-5                      |                        |
| 505K        | 64261-4                      |                        |
| 507F        | 64931                        |                        |
| 507F        |                              | 64991                  |
| 507LU       | 64930                        |                        |
| 608O        | 12173                        |                        |
| 608X        | 16033                        |                        |
| 616W        | 16091                        |                        |
| 617X        | 16023                        |                        |
| 617XH       | 16053                        |                        |
| 653X        | 28083-5                      |                        |
| 654X        | 28033                        |                        |
| 654X        | 28033-5                      |                        |
| 655X        | 28043                        |                        |
| 666W        | 26001-5                      |                        |
| 717A        | 55993                        |                        |
| 717R        | 55982                        |                        |
| 746A        |                              | 77103                  |
| 746B        |                              | 77105                  |
| 746R        |                              | 77012                  |
| 753A        | 76813                        |                        |
| 753MA       | 76813 + 43090                |                        |
| 754A        |                              | 76223                  |
| 756A        | 76163                        |                        |
| 756MA       | 76183                        |                        |
| 76625A      | 92033                        |                        |
| 766A        | 77101                        |                        |
| 7691C       |                              | 77101                  |
| 7691R       |                              | 77102                  |
| 769MA       |                              | 77203                  |
| 77415A      |                              | 92453                  |
| 789MA       |                              | 77903 + 97750          |
| 793A        | 77123                        |                        |
| 794A1       | 43100                        |                        |
| 799K        |                              | 52010                  |
| 812L        | 28433-5                      |                        |
| 812R        | 28423-5                      |                        |
| 909-MV      | 63981                        |                        |
| 910MV       |                              | 63981-5                |
| 910-MV-PKD  | 63981-5                      |                        |
| 911-MV      |                              | 63861                  |
| 911-MV-PKD  | 63861                        |                        |
| 95A         |                              | 46413 + 43370          |
| 95R         |                              | 46412 + 43370          |
| 96A         |                              | 46413 + 43380          |
| 96R         |                              | 46412 + 43380          |
| B13415C     |                              | 90121                  |
| B13815B     |                              | 91964                  |
| B13815C     |                              | 91961                  |
| B13815G     |                              | 91965                  |
| B150-181    | 91380                        |                        |
| B160492     | 66931                        |                        |
| B33415A     |                              | 91583                  |
| B33415R     |                              | 91582                  |
| B472A       | 40233                        |                        |
| B477A       | 40093                        |                        |
| B477R       | 40092                        |                        |
| B481R       | 40072                        |                        |
| B481R       | 40072-5                      |                        |
| B489A       |                              | 41153                  |
| B489R       |                              | 41152                  |
| B490A       | 41143                        |                        |
| B490R       | 41142                        |                        |
| B490R       | 41142-5                      |                        |
| B491A       | 41153                        |                        |



## PETERSON-TO-GROTE INTERCHANGE

| Peterson PN | Grote Form, Fit and Function | Grote Fit and Function |
|-------------|------------------------------|------------------------|
| B491R       | 41152                        |                        |
| M110C       | 45021-5                      |                        |
| M122A       |                              | 46893                  |
| M122R       |                              | 46892                  |
| M126A       | 47053                        |                        |
| M126C       | 47051                        |                        |
| M126R       | 47052                        |                        |
| M138B       |                              | 46793-3 + 91965        |
| M138C       | 46791                        |                        |
| M138G       |                              | 46793-3 + 91964        |
| M143FA      | 45833 + 43162                |                        |
| M143FR      | 45832 + 43162                |                        |
| M146FA      | 45823 + 43152                |                        |
| M146FR      | 45822 + 43152                |                        |
| M150W       | 60271                        |                        |
| M158A       | 47073 + 66910                |                        |
| M158R       | 47072 + 66910                |                        |
| M163FR      |                              | 47202                  |
| M164C       | 45811                        |                        |
| M164FA      |                              | 47113 + 43152          |
| M164KR      |                              | 47112 + 43152          |
| M165FA      | 47113-3 + 43152-3            |                        |
| M165FR      | 47112-3 + 43152-3            |                        |
| M172A       | G1033                        |                        |
| M172A       | G1033-5                      |                        |
| M172R       | G1032                        |                        |
| M172R       | G1032-5                      |                        |
| M187A-MV    | 47353                        |                        |
| M187R-MV    | 47352                        |                        |
| M306A       | 53133                        |                        |
| M306R       | 53132                        |                        |
| M343A       | 53853                        |                        |
| M352KA      | 52253                        |                        |
| M355A       | 54193                        |                        |
| M355AF      | 54213                        |                        |
| M360        |                              | 61261                  |
| M360-BT2    |                              | 61F61                  |
| M380S       | 61161                        |                        |
| M387S       |                              | 61371                  |
| M389S       | 61091                        |                        |
| M391        |                              | 61491-5                |
| M392C       |                              | 62021                  |
| M392C       |                              | 62021-5                |
| M393C       | 62291                        |                        |
| M395C       |                              | 61821                  |
| M396C       | 61031                        |                        |
| M408        | 64411                        |                        |
| M4102       | 50352                        |                        |
| M411C       | 60311                        |                        |
| M413S       | 52522                        |                        |
| M416        | 62231                        |                        |
| M417C-5AMP  |                              | 62791                  |
| M417TA      |                              | 54643                  |
| M417W-2     | 61G91                        |                        |
| M418R-3AMP  | 54572                        |                        |
| M418R-3P    | 54582                        |                        |
| M418TA      |                              | 54633                  |
| M418W-2     | 61E41                        |                        |
| M421A       | 52893                        |                        |
| M421A       | 52893-5                      |                        |
| M421KA      | 53093                        |                        |
| M421KR      | 53092                        |                        |
| M426KR      | 53012                        |                        |

| Peterson PN | Grote Form, Fit and Function | Grote Fit and Function |
|-------------|------------------------------|------------------------|
| M426KR      | 53012-5                      |                        |
| M427R       | 52672                        |                        |
| M428        | 50882                        |                        |
| M433S       |                              | 61221                  |
| M434        | 61501                        |                        |
| M436B       | 60081                        |                        |
| M437        | 60251                        |                        |
| M437        | 60251-5                      |                        |
| M439        |                              | 60001                  |
| M452        | 52442                        |                        |
| M452L       | 52452                        |                        |
| M456L       | 52482                        |                        |
| M456L       | 52492                        |                        |
| M517S       |                              | 7803                   |
| M526        | 64401-5                      |                        |
| V109A       |                              | 45333                  |
| V110A       | 45023                        |                        |
| V110A       | 45023-5                      |                        |
| V110R       | 45022                        |                        |
| V110R       | 45022-5                      |                        |
| V114A       | 46983-5                      |                        |
| V114R       | 46982-5                      |                        |
| V133XA      |                              | 47263                  |
| V133XR      |                              | 47262                  |
| V139A       | 46783                        |                        |
| V139R       | 46782                        |                        |
| V150KA      | 46422-5                      |                        |
| V150KR      | 46423-5                      |                        |
| V153KA      | 47083 + 43980 + 67001        |                        |
| V153KR      | 47082 + 43980 + 67001        |                        |
| V158KA      | 47073 + 66910                |                        |
| V158KR      | 47072 + 66910                |                        |
| V160KA      | 47243 + 66930                |                        |
| V160KR      | 47242 + 66930                |                        |
| V161KA      | 65203                        |                        |
| V161KR      | 65202                        |                        |
| V162KA      | 47123 + 91400 + 67001        |                        |
| V162KR      | 47122 + 91400 + 67001        |                        |
| V164KA      | 47113 + 92120 + 67001        |                        |
| V164KR      | 47112 + 92120 + 67001        |                        |
| V168A       | 45003-5                      |                        |
| V168R       | 45002-5                      |                        |
| V169-3R     | 49192                        |                        |
| V170A       | 47853-5                      |                        |
| V3392       | 50652                        |                        |
| V366        |                              | 61861                  |
| V379S       | 61171                        |                        |
| V384        | 61641                        |                        |
| V391C       | 61491-5                      |                        |
| V408        |                              | 64411                  |
| V41015R     |                              | 90762                  |
| V417KR      | G4012                        |                        |
| V417KR      | 53312 + 91740 + 66830        |                        |
| V417KR2     | 53252 + 91740 + 66830        |                        |
| V417KTA     | 53413 + 91740 + 66830        |                        |
| V417R       | G4002                        |                        |
| V417R       | G4002-5                      |                        |
| V418KR      | 53182 + 66830                |                        |
| V418KR2     | 53292 + 66830                |                        |
| V418KTA     | G4023 + 66830                |                        |

| Peterson PN | Grote Form, Fit and Function | Grote Fit and Function |
|-------------|------------------------------|------------------------|
| V420KR      | 53962 + 92420 + 66830        |                        |
| V420KR2     | 53962 + 92420 + 66830        |                        |
| V421R       | 52182                        |                        |
| V421R       | 52182-5                      |                        |
| V423KR      | 53622 + 66830                |                        |
| V423KR2     | 53622 + 66830                |                        |
| V426KR      |                              | 52782                  |
| V434        | 61501-5                      |                        |
| V435        | 60151-5                      |                        |
| V452        |                              | 51932                  |
| V452L       |                              | 52452                  |
| V472A       | 40233-5                      |                        |
| V472R       | 40232                        |                        |
| V472R       | 40232-5                      |                        |
| V475A       | 40053                        |                        |
| V475A       | 40053-5                      |                        |
| V475R       | 40052                        |                        |
| V480A       | 41033                        |                        |
| V480A       | 41033-5                      |                        |
| V480R       | 41032                        |                        |
| V480R       | 41032-5                      |                        |
| V483A       |                              | 40303                  |
| V483R       |                              | 40302                  |
| V487A       | 40133                        |                        |
| V487A       | 40133-5                      |                        |
| V487R       | 40132                        |                        |
| V487R       | 40132-5                      |                        |
| V500        |                              | 48072                  |
| V506        |                              | 63981                  |
| V507F       | 64931-5                      |                        |
| V520-40     | 44840-5                      |                        |
| V530        |                              | 64481-5                |
| V531        | 64501-5                      |                        |
| V534-2      | 64371-5                      |                        |
| V540        | 65370-5                      |                        |
| V5425Y      | 68540-5                      |                        |
| V543        | 65312                        |                        |
| V544        | 65440-5                      |                        |
| V547        | 65300-5                      |                        |
| V555        | 65730-5                      |                        |
| V555        |                              | 65402-4                |
| V5671       | 64351-5                      |                        |
| V582-2      | 64481-5                      |                        |
| V599        | 12312-5                      |                        |
| V600        | 12201-5                      |                        |
| V602        | 12164-5                      |                        |
| V603        | 12004                        |                        |
| V603        | 12004-5                      |                        |
| V603L       | 12014                        |                        |
| V603L       | 12014-5                      |                        |
| V766MA      | 77203                        |                        |
| V771A       |                              | 76183                  |
| V773A       |                              | 76083                  |
| V774A       | 76033                        |                        |
| V774B       | 76035                        |                        |
| V774R       | 76032                        |                        |
| V809        |                              | 28032                  |
| V809F       |                              | 28162                  |
| V809X       |                              | 28033                  |
| V911-MV     | 63861-5                      |                        |
| V940        | 65330-5                      |                        |
| V941        | 65320-5                      |                        |
| VH549       | 92701-5                      |                        |
| VH550       | 90861-5                      |                        |
| VH551       | 90971-5                      |                        |

# Technical Information

Information Technique    Información técnica

## TRUCK-LITE-TO-GROTE INTERCHANGE

| Truck-Lite PN | Grote Form, Fit and Function | Grote Fit and Function |
|---------------|------------------------------|------------------------|
| 32            |                              | 40302                  |
| 37            | 41160                        |                        |
| 41            | 40232                        |                        |
| 41            |                              | 40162                  |
| 43            | 40192                        |                        |
| 45            | 41002                        |                        |
| 45            |                              | 40072                  |
| 47            | 40052                        |                        |
| 47            | 40062                        |                        |
| 47            |                              | 40152                  |
| 50            | 43411                        |                        |
| 52            | 41012                        |                        |
| 52            |                              | 40092                  |
| 54            | 41032                        |                        |
| 57            | 40152                        |                        |
| 102           | 44170                        |                        |
| 172           | 44530                        |                        |
| 173           | 44540                        |                        |
| 182           | 44690                        |                        |
| 183           | 44700                        |                        |
| 191           | 44460                        |                        |
| 262           | 44810                        |                        |
| 263           | 44820                        |                        |
| 264           | 44893                        |                        |
| 266           | 44730                        |                        |
| 275           | 44010                        |                        |
| 276           | 44030                        |                        |
| 282           | 44710                        |                        |
| 283           | 44720                        |                        |
| 285           | 44891                        |                        |
| 333           |                              | 76032                  |
| 528           | 52492                        |                        |
| 529           | 52482                        |                        |
| 541           | 50862                        |                        |
| 541           | 50862-5                      |                        |
| 542           | 50852                        |                        |
| 542           | 50852-5                      |                        |
| 542           |                              | 50852                  |
| 544           |                              | 50862                  |
| 548           | 53132                        |                        |
| 790           |                              | 43970                  |
| 791           | 94233                        |                        |
| 793           | 43980                        |                        |
| 797           | 71152                        |                        |
| 798           | 71422                        |                        |
| 801           | 42180                        |                        |
| 802           |                              | 43970 + 67050          |
| 808           |                              | 49172                  |
| 900           | 48072                        |                        |
| 1050          | G1032                        |                        |
| 1050          | G1032-5                      |                        |
| 1051          | G1042                        |                        |
| 1052          | 45832                        |                        |
| 1075          | G1082                        |                        |
| 1150          | 46322                        |                        |
| 1155          | G5052                        |                        |
| 1203          | 46782                        |                        |
| 1204          |                              | 46782 + 43673          |
| 1211          |                              | 46792                  |
| 1213          | 46792                        |                        |
| 1215          | 49082                        |                        |
| 1216          |                              | 49082                  |
| 1222          | 46712                        |                        |
| 1222          | 46712-5                      |                        |
| 1259          | 45262                        |                        |
| 1259          | 45432                        |                        |

| Truck-Lite PN | Grote Form, Fit and Function | Grote Fit and Function |
|---------------|------------------------------|------------------------|
| 1259          | 45262-5                      |                        |
| 1264          | 45932                        |                        |
| 1264          | 45932-5                      |                        |
| 1294          | 45412                        |                        |
| 1294          | 45412-5                      |                        |
| 1507          | 46882                        |                        |
| 1507          | 46882-5                      |                        |
| 1520          | 45512                        |                        |
| 1520          | 45512-5                      |                        |
| 1555          | 45252                        |                        |
| 1555          | 45672                        |                        |
| 1555          |                              | 45382                  |
| 1560          | G1502                        |                        |
| 1570          | 46982-5                      |                        |
| 1571          | 47052                        |                        |
| 1960          | G1902                        |                        |
| 1960          | G1902-5                      |                        |
| 2110          |                              | 50882                  |
| 2112          | 50882                        |                        |
| 2150          | G2102                        |                        |
| 2150          | G2102-5                      |                        |
| 2660          | G4602                        |                        |
| 2660          | G4602-5                      |                        |
| 2673          | 47252                        |                        |
| 2701          | 56052                        |                        |
| 2702          | 53052                        |                        |
| 2750          | G5300                        |                        |
| 2753          | G5530                        |                        |
| 2753          | G5530-5                      |                        |
| 2756          | G5540                        |                        |
| 2756          | G5540-5                      |                        |
| 2756          | G5543-5                      |                        |
| 2801          | 56020                        |                        |
| 2803          | 53020                        |                        |
| 3050          | G3002                        |                        |
| 3050          | G3002-5                      |                        |
| 3075          | G3092                        |                        |
| 3616          | 52612                        |                        |
| 3701          |                              | 56052                  |
| 3702          |                              | 53052                  |
| 3763          | 53032                        |                        |
| 3802          | 56000                        |                        |
| 3812          | 53000                        |                        |
| 3850          |                              | 55220                  |
| 4013          | 50912                        |                        |
| 4014          | 50902                        |                        |
| 4015          | 50952                        |                        |
| 4016          | 50942                        |                        |
| 4023          | 52912                        |                        |
| 4024          | 52902                        |                        |
| 4025          | 52812                        |                        |
| 4026          | 52802                        |                        |
| 4027          | 50972                        |                        |
| 4027          | 50972-5                      |                        |
| 4028          | 50992                        |                        |
| 4050          | G4002                        |                        |
| 4050          | G4002-5                      |                        |
| 4051          | G4022                        |                        |
| 4091          | 52062                        |                        |
| 4091          |                              | 52063                  |
| 4094          |                              | 52062 + 66905          |
| 4095          | 53062                        |                        |
| 4550          | G4502                        |                        |
| 4742          | 55410                        |                        |
| 4754          | 55420                        |                        |
| 4801          | 55280                        |                        |
| 4805          | 55470                        |                        |
| 4854          | 55430                        |                        |
| 4855          | 55440                        |                        |
| 5013          | 53712                        |                        |

| Truck-Lite PN | Grote Form, Fit and Function | Grote Fit and Function |
|---------------|------------------------------|------------------------|
| 5014          | 53702                        |                        |
| 5023          | 53762                        |                        |
| 5060          | G5212                        |                        |
| 5061          | G5202                        |                        |
| 6050          | G6002                        |                        |
| 6050          | G6002-5                      |                        |
| 6051          | G6012                        |                        |
| 6502          | 50132                        |                        |
| 6503          | 56072                        |                        |
| 7038          | 12201-5                      |                        |
| 7039          | 12004                        |                        |
| 7039          | 12004-5                      |                        |
| 7044          | 12014                        |                        |
| 7044          | 12014-5                      |                        |
| 7048          | 12164                        |                        |
| 7518          | 28423-5                      |                        |
| 7519          | 28433-5                      |                        |
| 7555          | 28293-5                      |                        |
| 7619          | 18302-5                      |                        |
| 8160          | 63611                        |                        |
| 8170          |                              | 63611                  |
| 8810          | 92980                        |                        |
| 8820          | 92970                        |                        |
| 9007          | 91962                        |                        |
| 9007          | 91962-5                      |                        |
| 9071          | 91302                        |                        |
| 9093          | 91572                        |                        |
| 9101          | 68110                        |                        |
| 9102          | 68170                        |                        |
| 9160          | 68080                        |                        |
| 9179          | 43673                        |                        |
| 9179          | 43673-5                      |                        |
| 9180          | 94110                        |                        |
| 9199          | 43112                        |                        |
| 9296          |                              | 43112                  |
| 9464          | 68680                        |                        |
| 9465          |                              | 66826                  |
| 9470          |                              | 68680                  |
| 9536          | 51012                        |                        |
| 9537          | 51002                        |                        |
| 10400         |                              | 42180                  |
| 10401         | 94010                        |                        |
| 10403         |                              | 91880                  |
| 10404         | 94000                        |                        |
| 10410         | 43430                        |                        |
| 10412         | 91890 + 67050                |                        |
| 10414         | 93750 + 67050                |                        |
| 10700         | 91400                        |                        |
| 10702         | 92070                        |                        |
| 10704         | 91410                        |                        |
| 10708         | 91880                        |                        |
| 10718         |                              | 92070                  |
| 10722         | 91890                        |                        |
| 10725         | 93750                        |                        |
| 10728         |                              | 42170                  |
| 10728         |                              | 43040                  |
| 10729         | 43512                        |                        |
| 10730         | 43522                        |                        |
| 10732         | 49140                        |                        |
| 10738         | 43760                        |                        |
| 14700         | 93400                        |                        |
| 14701         | 93402                        |                        |
| 15011         | 60460                        |                        |
| 15012         |                              | 60460                  |
| 15040         | 60681                        |                        |
| 15041         | 60701                        |                        |
| 15208         |                              | 60261                  |
| 15227         | 60671                        |                        |
| 15401         | 43380                        |                        |
| 15404         | 43970                        |                        |

## TRUCK-LITE-TO-GROTE INTERCHANGE

| Truck-Lite PN | Grote Form, Fit and Function | Grote Fit and Function |
|---------------|------------------------------|------------------------|
| 15412         | 43370                        |                        |
| 15415         |                              | 46740                  |
| 15416         | 46740                        |                        |
| 15702         | 91380                        |                        |
| 15720         |                              | 43380                  |
| 15727         | 42131                        |                        |
| 15728         | 42141                        |                        |
| 15729         | 43960                        |                        |
| 15729         |                              | 43830                  |
| 15736         | 42162                        |                        |
| 19206         | 60291                        |                        |
| 19206         |                              | 60661                  |
| 19206         |                              | 60711                  |
| 19720         | 43780                        |                        |
| 19721         | 43390                        |                        |
| 19721         | 43850                        |                        |
| 19723         |                              | 43120                  |
| 19724         | 43120                        |                        |
| 19726         |                              | 43850                  |
| 19740         | 43790                        |                        |
| 19748         | 43783                        |                        |
| 26001         | 60251                        |                        |
| 26330         | 60151-5                      |                        |
| 26331         | 60101                        |                        |
| 26331         | 60101-5                      |                        |
| 26336         | 60251-5                      |                        |
| 26380         | 93610                        |                        |
| 30400         |                              | 43150                  |
| 30400         |                              | 43152                  |
| 30400         |                              | 43153                  |
| 30400         |                              | 43160                  |
| 30400         |                              | 43162                  |
| 30400         |                              | 43163                  |
| 30401         | 92120                        |                        |
| 30402         | 92150                        |                        |
| 30404         | 93760                        |                        |
| 30410         |                              | 43690                  |
| 30711         |                              | 92120                  |
| 30721         | 43690                        |                        |
| 30728         | 43532                        |                        |
| 30729         |                              | 93760                  |
| 33710         | 42110                        |                        |
| 33711         | 42112                        |                        |
| 33711         |                              | 42110                  |
| 35720         | 43230                        |                        |
| 40003         | 61431                        |                        |
| 40004         | 62181                        |                        |
| 40012         | 62321 + 91740 + 67010        |                        |
| 40023         | 61461                        |                        |
| 40023         | 61451 + 92511 + 67010        |                        |
| 40044         | 62221                        |                        |
| 40071         | 62221 + 92512 + 67013        |                        |
| 40203         | 61051                        |                        |
| 40203         | 61451                        |                        |
| 40204         | 62271                        |                        |
| 40212         | 62321                        |                        |
| 40223         | 61451 + 92511                |                        |
| 40224         | 62271 + 92511                |                        |
| 40244         | 62171                        |                        |
| 40244         | 62211                        |                        |
| 40260         | 62211 + 92512                |                        |
| 40261         | 62211 + 92511                |                        |
| 40262         | 62271 + 92512                |                        |
| 40403         | 67150                        |                        |

| Truck-Lite PN | Grote Form, Fit and Function | Grote Fit and Function |
|---------------|------------------------------|------------------------|
| 40626         | 51032                        |                        |
| 40627         | 51022                        |                        |
| 40700         | 91740                        |                        |
| 40701         |                              | 91740                  |
| 40719         | 43572                        |                        |
| 40719         |                              | 42052                  |
| 40720         | 43572 + 92512                |                        |
| 40721         |                              | 51052                  |
| 40725         | 51090                        |                        |
| 40726         | 43572 + 92512                |                        |
| 40756         | 51052                        |                        |
| 40850         | 50820                        |                        |
| 42722         | 43022                        |                        |
| 42722         | 43022-5                      |                        |
| 42722         |                              | 43272                  |
| 42722         |                              | 43262-5                |
| 42722         |                              | 43272-5                |
| 44705         | 43343                        |                        |
| 44708         |                              | 43343                  |
| 45004         |                              | 62381                  |
| 45720         |                              | 43212                  |
| 45721         | 43212                        |                        |
| 50385         | 66101                        |                        |
| 50831         | 93190                        |                        |
| 50878         | 87140                        |                        |
| 50879         | 87150                        |                        |
| 60403         | 67151                        |                        |
| 60704         | 92720                        |                        |
| 60709         |                              | 92720                  |
| 60719         | 42103                        |                        |
| 60720         | 43362 + 43222                |                        |
| 60722         | 43362                        |                        |
| 60723         |                              | 43362 + 43222          |
| 60724         |                              | 43362                  |
| 60731         | 43100                        |                        |
| 60733         | 43952                        |                        |
| 70311         | 50630                        |                        |
| 70311         | 50630-5                      |                        |
| 80202         |                              | 64111                  |
| 80203         |                              | 64411                  |
| 80220         |                              | 63971                  |
| 80304         | 62331                        |                        |
| 80340         | 62021                        |                        |
| 80340         | 62021-5                      |                        |
| 80342         |                              | 62151                  |
| 80345         | 62151                        |                        |
| 80350         | 61821                        |                        |
| 80356         | 63061                        |                        |
| 80360         | 64931                        |                        |
| 80364         | 64441                        |                        |
| 80395         |                              | 64891                  |
| 80397         |                              | 63221-5                |
| 80418         | 61511                        |                        |
| 80442         |                              | 61371                  |
| 80444         | 61371                        |                        |
| 80490         | 61031                        |                        |
| 80491         | 64901                        |                        |
| 80513         | 64401-5                      |                        |
| 80514         | 64351-5                      |                        |
| 80520         |                              | 64061-5                |
| 80520         |                              | 63481 (x2) + 68460-5   |
| 80560         | 92701-5                      |                        |
| 80561         | 91051                        |                        |
| 80563         | 90620                        |                        |
| 80563         | 90861-5                      |                        |
| 80720         |                              | 43842                  |
| 80800         |                              | 64261-4                |
| 80805         | 63451-4                      |                        |
| 80805         |                              | 64291-4                |

| Truck-Lite PN | Grote Form, Fit and Function | Grote Fit and Function |
|---------------|------------------------------|------------------------|
| 80810         |                              | 64241                  |
| 80820         |                              | 64251                  |
| 80848         | 63381                        |                        |
| 80848         |                              | 64271                  |
| 80849         | 63391                        |                        |
| 80849         |                              | 64281                  |
| 80888         | 63441-4                      |                        |
| 80893         |                              | 63451-4                |
| 81360         |                              | 63561                  |
| 81360         |                              | 63861                  |
| 81380         | 63551                        |                        |
| 81380         |                              | 63871                  |
| 81712         |                              | 63571                  |
| 81812         |                              | 63671                  |
| 92100         |                              | 01-5444-71             |
| 92560         | 77013                        |                        |
| 92716         | 44740                        |                        |
| 92900         | 73040                        |                        |
| 92902         | 73110                        |                        |
| 92903         |                              | 73030                  |
| 92905         |                              | 73080                  |
| 92907         | 44421                        |                        |
| 92910         |                              | 73040                  |
| 92911         |                              | 73110                  |
| 92916         | 73220                        |                        |
| 92923         | 73080                        |                        |
| 92924         | 73090                        |                        |
| 92927         | 73030                        |                        |
| 94609         | 66930                        |                        |
| 94706         | 66860                        |                        |
| 94707         | 66861                        |                        |
| 94718         |                              | 66931                  |
| 94727         | 66981                        |                        |
| 94736         | 66931                        |                        |
| 94750         | 66810                        |                        |
| 94759         | 66862                        |                        |
| 94782         | 66932                        |                        |
| 94802         | 66811                        |                        |
| 94802         |                              | 67090                  |
| 94850         | 66800                        |                        |
| 94853         | 66820                        |                        |
| 94857         | 66831                        |                        |
| 94882         | 66844                        |                        |
| 94902         | 67001                        |                        |
| 94923         | 66190                        |                        |
| 94925         | 67010                        |                        |
| 94926         | 67000                        |                        |
| 94961         | 67011                        |                        |
| 94962         | 66812                        |                        |
| 94964         | 66840                        |                        |
| 94972         | 66801                        |                        |
| 94991         | 67014                        |                        |
| 94993         | 67090                        |                        |
| 95424         |                              | 66861                  |
| 96106         | 66911                        |                        |
| 96107         | 67002                        |                        |
| 96108         | 66842                        |                        |
| 96930         | 66360                        |                        |
| 96932         |                              | 66360                  |
| 96959         | 66100                        |                        |
| 96960         | 66160                        |                        |
| 96966         | 66170                        |                        |
| 96973         | 66161                        |                        |
| 97002         | 99502                        |                        |
| 97151         | 87110                        |                        |
| 97153         | 87111                        |                        |
| 97160         | 87100                        |                        |
| 97161         | 87101                        |                        |
| 97171         | 00840 + 00841                |                        |
| 97172         | 00840 + 00842                |                        |



## TRUCK-LITE-TO-GROTE INTERCHANGE

| Truck-Lite PN | Grote Form, Fit and Function | Grote Fit and Function |
|---------------|------------------------------|------------------------|
| 97173         | 00840 + 00843                |                        |
| 97174         | 00840 + 00844                |                        |
| 97175         | 00840 + 00845                |                        |
| 97176         | 00840 + 00846                |                        |
| 97283         | 44090                        |                        |
| 97300         | 44040                        |                        |
| 97384         | 28763                        |                        |
| 97602         | 12073                        |                        |
| 97602         | 12073-5                      |                        |
| 97603         | 12072                        |                        |
| 97603         | 12102                        |                        |
| 97609         |                              | 12020                  |
| 97611         | 28032                        |                        |
| 97612         | 28031                        |                        |
| 97614         | 12813                        |                        |
| 97614         |                              | 12283                  |
| 97615         |                              | 12813                  |
| 97618         | 28033                        |                        |
| 97621         | 12053                        |                        |
| 97621         | 28043                        |                        |
| 97622         | 12052                        |                        |
| 97622         | 28042                        |                        |
| 97623         | 28041                        |                        |
| 97624         | 16284                        |                        |
| 97625         | 16294                        |                        |
| 97626         | 16304                        |                        |
| 97627         | 16244                        |                        |
| 97628         | 16021                        |                        |
| 97628         |                              | 16244                  |
| 97631         | 16172                        |                        |
| 97631         | 16173                        |                        |
| 97631         |                              | 16063                  |
| 97632         | 16043                        |                        |
| 97632         |                              | 16041                  |
| 97636         | 16142                        |                        |
| 97637         |                              | 16273                  |
| 97638         | 16273                        |                        |
| 97639         | 16153                        |                        |
| 97649         | 16092                        |                        |
| 97651         | 16102                        |                        |
| 97654         |                              | 12122                  |
| 97655         | 12243-5                      |                        |
| 97656         |                              | 12101                  |
| 97660         | 12111-5                      |                        |
| 97664         |                              | 28481                  |
| 97665         | 28481                        |                        |
| 97667         | 28493                        |                        |
| 97668         |                              | 28453                  |
| 97669         | 28451                        |                        |
| 97672         | 12303                        |                        |
| 97673         | 12301                        |                        |
| 97675         | 12333                        |                        |
| 97676         | 12331                        |                        |
| 97678         |                              | 28091-5                |
| 97678         |                              | 28093-5                |
| 97682         | 28323-5                      |                        |
| 97686         | 28443                        |                        |
| 97686         |                              | 28063                  |
| 97688         | 28491                        |                        |
| 97693         |                              | 26001-5                |
| 97693         |                              | 26012-5                |
| 97693         |                              | 26021-5                |
| 97693         | 16123 + 22013                |                        |
| 97695         |                              | 22013 + 22233          |
| 97718         | 11303                        |                        |
| 97718         |                              | 11133                  |

| Truck-Lite PN | Grote Form, Fit and Function | Grote Fit and Function |
|---------------|------------------------------|------------------------|
| 97719         | 10012                        |                        |
| 97720         | 10002                        |                        |
| 97721         | 10013                        |                        |
| 97721         | 10025                        |                        |
| 97721         |                              | 10012                  |
| 97725         | 22233                        |                        |
| 97726         | 22232                        |                        |
| 97731         | 10045                        |                        |
| 97733         | 11293                        |                        |
| 97748         | 10623                        |                        |
| 97794         | 12193-5                      |                        |
| 97802         | 28152                        |                        |
| 97802         |                              | 28162                  |
| 97803         | 12183                        |                        |
| 97803         | 12293                        |                        |
| 97803         | 16033                        |                        |
| 97803         |                              | 12983                  |
| 97804         | 12182                        |                        |
| 97804         | 16032                        |                        |
| 97805         | 12113-5                      |                        |
| 97805         |                              | 12112-5                |
| 97806         | 16091                        |                        |
| 97806         |                              | 16093                  |
| 97807         | 12071                        |                        |
| 97808         | 16101                        |                        |
| 97809         | 16053                        |                        |
| 97812         | 16023                        |                        |
| 97814         | 12173                        |                        |
| 97814         |                              | 12172                  |
| 97819         | 28663                        |                        |
| 97822         | 16123                        |                        |
| 97823         | 10173                        |                        |
| 97827         | 16223                        |                        |
| 97828         | 10433                        |                        |
| 97829         | 22193                        |                        |
| 97835         | 12020                        |                        |
| 97837         | 28463                        |                        |
| 97837         |                              | 28461                  |
| 97843         | 22013                        |                        |
| 97843         |                              | 22061                  |
| 97843         |                              | 22063                  |
| 97845         | 29060                        |                        |
| 97846         | 28453                        |                        |
| 97852         |                              | 28083-5                |
| 97860         |                              | 16202                  |
| 97863         | 12010                        |                        |
| 97863         | 12272-5                      |                        |
| 97940         | 99180                        |                        |
| 97944         | 99170                        |                        |
| 97960         | 43901                        |                        |
| 97980         | 64930                        |                        |
| 97989         |                              | 64890                  |
| 98100         | 40641                        |                        |
| 98100         |                              | 40701                  |
| 98100         |                              | 41271                  |
| 98101         | 40650                        |                        |
| 98107         | 41080                        |                        |
| 98110         | 41133                        |                        |
| 98127         | 41050                        |                        |
| 98127         | 40650-5                      |                        |
| 98153         | 41121                        |                        |
| 98155         |                              | 41121                  |
| 98168         |                              | 41273                  |
| 10004R        |                              | 42180 + 67050          |
| 10004R3       |                              | 42180 + 67050-3        |
| 10004RP       |                              | 42180 + 67050-3        |
| 10004Y        |                              | 45812 + 42180 + 67050  |
| 10028R        | 45072                        |                        |

| Truck-Lite PN | Grote Form, Fit and Function | Grote Fit and Function      |
|---------------|------------------------------|-----------------------------|
| 10028R1       |                              | 45072                       |
| 10028Y        | 45073                        |                             |
| 10028Y1       |                              | 45073                       |
| 10050R        | 47472                        |                             |
| 10050R1       |                              | 47472                       |
| 10050Y        | 47123                        |                             |
| 10050Y1       |                              | 47473                       |
| 10075R        |                              | G1032 + 91400 + 66850       |
| 10075R3       |                              | G1032-3 + 91400-3 + 66850-3 |
| 10075Y        |                              | G1033 + 91400 + 66850       |
| 10075Y3       |                              | G1033-3 + 91400-3 + 66850-3 |
| 10076R        |                              | 46142 + 91400 + 66850       |
| 10076R1       |                              | 46142 + 91400 + 66850       |
| 10076Y        |                              | 46143 + 91400 + 66850       |
| 10076Y1       |                              | 46143 + 91400 + 66850       |
| 10079R        |                              | 47122 + 43160 + 66850       |
| 10079Y        |                              | 47123 + 43160 + 66850       |
| 10085R        | 47242                        |                             |
| 10085R1       |                              | 47242                       |
| 10085Y        | 47243                        |                             |
| 10085Y1       |                              | 47243                       |
| 10086R        |                              | 46142 + 91400 + 66850       |
| 10086Y        |                              | 46143 + 91400 + 66850       |
| 10089R        |                              | 46142 + 43160 + 66850       |
| 10089Y        |                              | 46143 + 43160 + 66850       |
| 10090R        |                              | 47122 + 43160 + 66850       |
| 10090R1       |                              | 47122 + 43160 + 66850       |
| 10090Y        |                              | 47123 + 43160 + 66850       |
| 10090Y1       |                              | 47123 + 43160 + 66850       |
| 10091R        |                              | 46142 + 43160 + 66850       |
| 10091Y        |                              | 46143 + 43160 + 66850       |
| 10092R        |                              | 46142 + 43160 + 66850       |
| 10092Y        |                              | 46143 + 43160 + 66850       |
| 10202C        | 45811                        |                             |
| 10202R        | 45812                        |                             |
| 10202R        | 45812-5                      |                             |
| 10202Y        | 45813                        |                             |
| 10202Y        | 45813-5                      |                             |
| 10203R        | 45322                        |                             |
| 10203Y        | 45323                        |                             |
| 10204R        | 45182                        |                             |
| 10204Y        | 45183                        |                             |
| 10205R1       |                              | 45832                       |
| 10205Y        | 45833                        |                             |
| 10205Y1       |                              | 45833                       |
| 10212Y        | 78343                        |                             |
| 10250R        | 47122                        |                             |

## TRUCK-LITE-TO-GROTE INTERCHANGE

| Truck-Lite PN | Grote Form, Fit and Function | Grote Fit and Function |
|---------------|------------------------------|------------------------|
| 10251R        | 47122 + 43160                |                        |
| 10251R3       | 47122-3 + 43160-3            |                        |
| 10251Y        | 47123 + 43160                |                        |
| 10251Y3       | 47123-3 + 43160-3            |                        |
| 10276Y        | G1083                        |                        |
| 10279R        | 47372                        |                        |
| 10279Y        | 47373                        |                        |
| 10286R        | G1002                        |                        |
| 10286Y        | G1003                        |                        |
| 10288R        | G1002 + 43162                |                        |
| 10288R3       | G1002-3 + 43162-3            |                        |
| 10288Y        | G1003 + 43162                |                        |
| 10288Y3       | G1003-3 + 43162-3            |                        |
| 10289R        | G1002 + 43160                |                        |
| 10289Y        | G1003 + 43160                |                        |
| 10379R        |                              | 47122 + 43160          |
| 10379Y        |                              | 47123 + 43160          |
| 10385R        | 46142                        |                        |
| 10385Y        | 46143                        |                        |
| 10389R        |                              | 46142 + 43160          |
| 10389Y        |                              | 46143 + 43160          |
| 10391R        |                              | 46142 + 43162          |
| 10391Y        |                              | 46143 + 43162          |
| 1050A         | G1033                        |                        |
| 1050A         | G1033-5                      |                        |
| 1051-3        | G1043                        |                        |
| 10519R        | 45042                        |                        |
| 10519R1       |                              | 45042                  |
| 10519Y        | 45043                        |                        |
| 10519Y1       |                              | 45043                  |
| 10520R        | 45812 + 93750                |                        |
| 10520Y        | 45813 + 93750                |                        |
| 10744R        | 49142                        |                        |
| 1150A         | 46323                        |                        |
| 1155A         | G5053                        |                        |
| 1155A         | G5053-5                      |                        |
| 1203A         | 46783                        |                        |
| 1204A         | 46783 + 43673                |                        |
| 1211A         | 46793                        |                        |
| 1211A         | 46793-5                      |                        |
| 1211W         | 46791                        |                        |
| 12200R        | 46092                        |                        |
| 1222A         | 45933                        |                        |
| 1222A         | 45933-5                      |                        |
| 1259A         | 45263                        |                        |
| 1259A         | 45433                        |                        |
| 1259A         | 45263-5                      |                        |
| 1294A         | 45413                        |                        |
| 1294A         | 45413-5                      |                        |
| 1312A         | 45333                        |                        |
| 1313A         | 46003                        |                        |
| 1350A         |                              | 45333                  |
| 14200R        | 45232                        |                        |
| 14200Y        | 45233                        |                        |
| 15006R        | 46412 + 43370                |                        |
| 15006Y        | 46413 + 43370                |                        |
| 15008R        |                              | 46412 + 43370          |
| 15008Y        |                              | 46413 + 43370          |
| 15011-1       |                              | 60261 + 43960          |
| 15011-3       | 60261-3 + 43960-3            |                        |
| 15013-1       |                              | 60261 + 43960          |
| 15033Y        | G1503                        |                        |

| Truck-Lite PN | Grote Form, Fit and Function | Grote Fit and Function |
|---------------|------------------------------|------------------------|
| 1506A         |                              | 45253                  |
| 1507A         | 46883                        |                        |
| 1507A         | 46883-5                      |                        |
| 1508R         | 49112                        |                        |
| 1508R         | 49112-5                      |                        |
| 15200C        | 60271                        |                        |
| 15200R        | 46412                        |                        |
| 15200R        | 46412-5                      |                        |
| 15200R        | 46422-5                      |                        |
| 15200Y        | 46413                        |                        |
| 15200Y        | 46413-5                      |                        |
| 15200Y        | 46423-5                      |                        |
| 1520A         | 45513                        |                        |
| 1520A         | 45513-5                      |                        |
| 1520AHT       | 45523                        |                        |
| 1520HT        | 45522                        |                        |
| 15250R        | 47082                        |                        |
| 15250Y        | 47083                        |                        |
| 1555A         | 45253                        |                        |
| 1555A         | 45673                        |                        |
| 1555A         | 45253-5                      |                        |
| 1555A         |                              | 45383                  |
| 1570A         | 91113                        |                        |
| 1571A         | 47053                        |                        |
| 1571AD        |                              | 47053                  |
| 15745R        | 49172                        |                        |
| 15745Y        | 49173                        |                        |
| 18050R        | 47732                        |                        |
| 18050Y        | 47733                        |                        |
| 18300R1       |                              | 47732                  |
| 18300Y1       |                              | 47733                  |
| 19002R        | 45092                        |                        |
| 19002R1       |                              | 45092                  |
| 19002Y        | 45093                        |                        |
| 19002Y1       |                              | 45093                  |
| 19006R        | G1902 + 43850                |                        |
| 19006R1       |                              | G1902-5 + 43850        |
| 19006Y        | G1903 + 43850                |                        |
| 19006Y1       |                              | G1903-5 + 43850        |
| 19020Y        | G1903                        |                        |
| 19020Y        | G1903-5                      |                        |
| 19031R        |                              | 65202                  |
| 19031Y        |                              | 65203                  |
| 19032R        | 47092                        |                        |
| 19032Y        | 47093                        |                        |
| 19200C        | 60301                        |                        |
| 19200R        | 46742                        |                        |
| 19200R        | 46742-5                      |                        |
| 19200Y        | 46743                        |                        |
| 19200Y        | 46743-5                      |                        |
| 19205Y        | 78393                        |                        |
| 19275R        |                              | 47492                  |
| 19275R        | 49412                        |                        |
| 19275Y        |                              | 47493                  |
| 19275Y        | 49413                        |                        |
| 19375R        | 47492                        |                        |
| 19375Y        | 47493                        |                        |
| 19680A        | 78473                        |                        |
| 21001R        | 46072                        |                        |
| 21001R1       |                              | 46072                  |
| 21001Y        | 46073                        |                        |
| 21001Y1       |                              | 46073                  |
| 21051R        | 47072                        |                        |
| 21051R1       |                              | 47072                  |
| 21051Y        | 47073                        |                        |
| 21051Y1       |                              | 47073                  |
| 21056R        | 47352                        |                        |
| 21056R        | 47352                        |                        |

| Truck-Lite PN | Grote Form, Fit and Function | Grote Fit and Function |
|---------------|------------------------------|------------------------|
| 21056Y        | 47353                        |                        |
| 21056Y        | 47353                        |                        |
| 21200R        | 46832                        |                        |
| 21200R        | 46832-5                      |                        |
| 21200Y        | 46833                        |                        |
| 21200Y        | 46833-5                      |                        |
| 21201R        | 46872                        |                        |
| 21201R        | 46872-5                      |                        |
| 21201Y        | 46873                        |                        |
| 21201Y        | 46873-5                      |                        |
| 21204C        | 60331                        |                        |
| 21210Y        | 78363                        |                        |
| 21251R        | 47072                        |                        |
| 21251Y        | 47073                        |                        |
| 21271R        | 54002                        |                        |
| 21275R        | 47162                        |                        |
| 21275R        |                              | 47162                  |
| 21275Y        | 47163                        |                        |
| 21275Y        |                              | 47163                  |
| 21506R        | 46832 + 66910                |                        |
| 21506Y        | 46833 + 66910                |                        |
| 21507R        | 46872 + 66910                |                        |
| 21507Y        | 46872 + 66910                |                        |
| 2150A         | G2103                        |                        |
| 2150A         | G2103-5                      |                        |
| 22002Y        | 53063                        |                        |
| 22004Y        |                              | 53063                  |
| 22006R        |                              | 54012                  |
| 22016Y        |                              | 53163                  |
| 25062Y        |                              | 46003                  |
| 25750Y        | 47063                        |                        |
| 25760Y        |                              | 45503                  |
| 25760Y        |                              | 46543                  |
| 25760Y        |                              | 46543-5                |
| 25761Y        |                              | 46433                  |
| 25761Y        |                              | 46493-5                |
| 25765Y        | 46913                        |                        |
| 26250R        | 47262                        |                        |
| 26250Y        | 47263                        |                        |
| 26251R        |                              | 47262                  |
| 26251Y        |                              | 47263                  |
| 262D          |                              | 44810                  |
| 26311R        | 46282                        |                        |
| 26311R        | 46292                        |                        |
| 26311Y        | 46283                        |                        |
| 26311Y        | 46293                        |                        |
| 26313R        |                              | 45172                  |
| 26313Y        |                              | 45173                  |
| 26315R        | 45012                        |                        |
| 26315Y        | 45013                        |                        |
| 26353R        | 46332                        |                        |
| 26353Y        | 46333                        |                        |
| 26393C        | G6261                        |                        |
| 26393C        |                              | 60361                  |
| 2660A         | G4603                        |                        |
| 2660A         | G4603-5                      |                        |
| 2673A         | 47253                        |                        |
| 26741R        | 49002                        |                        |
| 26760Y        | 45993                        |                        |
| 26762Y        | 92773                        |                        |
| 26771Y1       |                              | 46323                  |
| 2701A         | 56053                        |                        |
| 2702A         | 53053                        |                        |
| 2753-3        |                              | G5530                  |
| 2756-3        |                              | G5540                  |
| 29002R        | 46832 + 66910                |                        |
| 29002Y        | 46833 + 66910                |                        |
| 29202R        |                              | 45442                  |
| 29202R        |                              | 45462                  |

## TRUCK-LITE-TO-GROTE INTERCHANGE

| Truck-Lite PN | Grote Form, Fit and Function | Grote Fit and Function |
|---------------|------------------------------|------------------------|
| 29202Y        |                              | 45443                  |
| 29202Y        |                              | 45463                  |
| 29203R        | 46302                        |                        |
| 29203Y        | 46303                        |                        |
| 30001R        | 45822 + 42180                |                        |
| 30001Y        | 45823 + 42180                |                        |
| 30070Y        | 47113 + 92120 + 67050        |                        |
| 30071R        | 47112 + 43690 + 67050        |                        |
| 30071Y        | 47113 + 43690 + 67050        |                        |
| 30075R        |                              | 46132 + 92120 + 67050  |
| 30075Y        |                              | 46133 + 92120 + 67050  |
| 30080R        |                              | 46132 + 43150 + 67050  |
| 30080Y        |                              | 46133 + 43150 + 67050  |
| 30085R        |                              | 46132 + 92120 + 67050  |
| 30085Y        |                              | 47133 + 92120 + 67050  |
| 30086Y        | 47113 + 92120 + 67050        |                        |
| 30090R        | 46132 + 42180 + 67050        |                        |
| 30090R1       |                              | 46132 + 42180 + 67050  |
| 30090Y        | 46133 + 42180 + 67050        |                        |
| 30090Y1       |                              | 46133 + 42180 + 67050  |
| 30091R        | G3002 + 43150 + 67050        |                        |
| 30091Y        | G3003 + 43150 + 67050        |                        |
| 30200C        | 45821                        |                        |
| 30200R        | 45822                        |                        |
| 30200R        | 45822-5                      |                        |
| 30200Y        | 45823                        |                        |
| 30200Y        | 45823-5                      |                        |
| 30201R        | 47102                        |                        |
| 30201Y        | 47103                        |                        |
| 30203Y        |                              | 47102                  |
| 30204R        | 45822 + 43690                |                        |
| 30204Y        | 45823 + 43690                |                        |
| 30206R        | 45202                        |                        |
| 30206Y        | 45203                        |                        |
| 30221R        | 45562                        |                        |
| 30221Y        | 45563                        |                        |
| 30222R        | 45822 + 42180                |                        |
| 30222R3       | 45822-3 + 42180-3            |                        |
| 30222Y        | 45823 + 42180                |                        |
| 30222Y3       | 45823-3 + 42180-3            |                        |
| 30250R        | 47322                        |                        |
| 30250Y        | 47323                        |                        |
| 30257Y        | 78333                        |                        |
| 30264Y        | 78433                        |                        |
| 30269Y        | 78433 + 43150                |                        |
| 30270R        | 47112                        |                        |
| 30270Y        | 47113                        |                        |
| 30272R        | 47112 + 43150                |                        |
| 30272Y        | 47113 + 43150                |                        |

| Truck-Lite PN | Grote Form, Fit and Function | Grote Fit and Function |
|---------------|------------------------------|------------------------|
| 30275R        | 46132                        |                        |
| 30276R        | 47212                        |                        |
| 30276Y        | 47213                        |                        |
| 30279R        | 46142 + 67050                |                        |
| 30279Y        | 46142 + 67050                |                        |
| 30285Y        | G3003                        |                        |
| 30285Y        | G3003-5                      |                        |
| 30288R        | G3002 + 43152 + 67050        |                        |
| 30288Y        | G3003 + 43152 + 67050        |                        |
| 30289R        | G3002 + 43152 + 67050        |                        |
| 30289Y        | G3003 + 43152 + 67050        |                        |
| 30375Y        | 46133                        |                        |
| 30379R        | 46132 + 43150 + 67050        |                        |
| 30379Y        | 46133 + 43150 + 67050        |                        |
| 30386R        | 47112 + 43150 + 67050        |                        |
| 30386Y        | 47113 + 43150 + 67050        |                        |
| 30503R        | 45062                        |                        |
| 30503R1       |                              | 45062                  |
| 30503Y        | 45063                        |                        |
| 30503Y1       |                              | 45063                  |
| 30504R1       |                              | 45562                  |
| 30504Y1       |                              | 45563                  |
| 307A          | 77103                        |                        |
| 313A          | 77203                        |                        |
| 32A           |                              | 40303                  |
| 33050R        |                              | 47962                  |
| 33050R        | 49322                        |                        |
| 33050Y        |                              | 47963                  |
| 33051R        |                              | 47952                  |
| 33051Y        |                              | 47953                  |
| 33075R        | 49332                        |                        |
| 33075Y        | 49333                        |                        |
| 33250R        |                              | 49202                  |
| 333A          | 76033                        |                        |
| 333B          | 76035                        |                        |
| 333G          | 76034                        |                        |
| 35001R        | 65512                        |                        |
| 35001R1       |                              | 65512                  |
| 35001Y        | 65513                        |                        |
| 35001Y1       |                              | 65513                  |
| 35075R        | 47462                        |                        |
| 35075Y        | 47463                        |                        |
| 35720-1       |                              | 43230                  |
| 35740R        | 49212-5                      |                        |
| 35741R        | 49122                        |                        |
| 3613W         | 60311                        |                        |
| 3753AD        |                              | 55243                  |
| 3850AA        | 55223-5                      |                        |
| 3850AA        |                              | 55223                  |
| 40001R        | 52772                        |                        |
| 40001Y        | 52773                        |                        |
| 40002R        | 52782                        |                        |
| 40002R1       |                              | 52782                  |
| 40006R        | 53100 + 91740 + 67002        |                        |
| 40008Y        | 52153 + 91740 + 67000        |                        |
| 40009Y        |                              | 52153 + 91740 + 67000  |
| 40009Y3       |                              | 52153 + 91740 + 67000  |
| 40015R        | 52672                        |                        |

| Truck-Lite PN | Grote Form, Fit and Function | Grote Fit and Function |
|---------------|------------------------------|------------------------|
| 40022R        | 52772 + 92511 + 67000        |                        |
| 40022R3       | 52772-3 + 92511-3 + 67000-3  |                        |
| 40022Y        | 52773-3 + 92511-3 + 67000-3  |                        |
| 40023-3       | 61451 + 92512 + 67000        |                        |
| 40028R        | 53012                        |                        |
| 40028R        | 53012-5                      |                        |
| 40029Y        | 52923 + 91740 + 67000        |                        |
| 40029Y3       | 52923-3 + 91740-3 + 67000-3  |                        |
| 40048R        | 52682                        |                        |
| 40206C        |                              | 61051                  |
| 40206R        | 52770                        |                        |
| 40209R        | 52152                        |                        |
| 40209R3       | 52153                        |                        |
| 40222R        | 52772 + 92511                |                        |
| 40222R3       | 52772-3 + 92511-3            |                        |
| 40222Y        | 52773 + 92511                |                        |
| 40226R        | 52672 + 92511                |                        |
| 40229Y        | 52923 + 92511                |                        |
| 40232R        | 52152 + 43702                |                        |
| 40233R        | 52772 + 92512                |                        |
| 40233R3       | 52772-3 + 92512-3            |                        |
| 40233Y        | 52773 + 92512                |                        |
| 40233Y3       | 52772-3 + 92512-3            |                        |
| 40234R        | 52922 + 92512                |                        |
| 40234R3       | 52922-3 + 92512-3            |                        |
| 40237R        | 52152 + 92511                |                        |
| 40237Y        | 52153 + 92511                |                        |
| 40258R        | 52772 + 92511                |                        |
| 40258R3       | 52772-3 + 92511-3            |                        |
| 40258Y        | 52773 + 92511                |                        |
| 40259R        | 52772 + 92512                |                        |
| 40262-3       | 62271-3 + 92512-3            |                        |
| 40282R        | 52922                        |                        |
| 40282R        | 52922-5                      |                        |
| 40282Y        | 52923                        |                        |
| 4050A         | G4003                        |                        |
| 4050A         | G4003-5                      |                        |
| 4060C         | 62691                        |                        |
| 40720-1       |                              | 43572 + 92512          |
| 40720-3       |                              | 43572-3 + 92512-3      |
| 4091A         | 52063                        |                        |
| 41-3          | 40232-5                      |                        |
| 417TA         | 54643                        |                        |
| 41A           | 40233                        |                        |
| 41A           |                              | 40163                  |
| 41A-3         | 40233-5                      |                        |
| 426W          | 60011                        |                        |
| 426W          | 60011-5                      |                        |
| 433W          | 60151                        |                        |
| 435W          |                              | 60081                  |
| 43A           | 40193                        |                        |
| 43AD          |                              | 40193                  |
| 43D           |                              | 40192                  |

## TRUCK-LITE-TO-GROTE INTERCHANGE

| Truck-Lite PN | Grote Form, Fit and Function | Grote Fit and Function |
|---------------|------------------------------|------------------------|
| 44001Y        | 53413 + 91740 + 66815        |                        |
| 44001Y1       |                              | 53413 + 91740 + 66815  |
| 44001Y3       | 53413-3 + 91740-3 + 66815-3  |                        |
| 44002R        | 53312 + 91740 + 66815        |                        |
| 44002R1       |                              | 53312 + 91740 + 66815  |
| 44002R3       | 53312-3 + 91740-3 + 66815-3  |                        |
| 44003Y        | 53413 + 91740 + 66815        |                        |
| 44003Y1       |                              | 53413 + 91740 + 66815  |
| 44018Y        | 52163 + 91740 + 66815        |                        |
| 44022R        |                              | 54572                  |
| 44026R        | 53182                        |                        |
| 44032R        | 53272                        |                        |
| 44032R1       |                              | 53272                  |
| 44034R        | 53252 + 93683                |                        |
| 44041C        | 62391 + 91740 + 66842        |                        |
| 44042C        | 61141                        |                        |
| 44045C        | 62391 + 43343 + 66842        |                        |
| 44071Y        |                              | 53553                  |
| 44071Y        | 53553 + 91740 + 66815        |                        |
| 44082R        | 53312 + 91740 + 66815        |                        |
| 44092R        | 53552 + 91740 + 66815        |                        |
| 44092R3       | 53552-3 + 91740-3 + 66815-3  |                        |
| 44101R        | 77352                        |                        |
| 44101Y        | 77353                        |                        |
| 44102R        | 77352 + 91740 + 66815        |                        |
| 44102Y        | 77353 + 91740 + 66815        |                        |
| 44103R        | 77352 + 66815                |                        |
| 44103Y        | 77353 + 66815                |                        |
| 44104R        | 77352 + 66815                |                        |
| 44104Y        | 77353 + 66815                |                        |
| 44140C        | 62101 + 91740 + 66861        |                        |
| 44141C        | 62391 + 917400 + 66842       |                        |
| 44144C        | 62671 + 93850                |                        |
| 44145C        | 62391 + 43343 + 66842        |                        |
| 44146C        | 62391 + 92512 + 66842        |                        |
| 44180C        | 62101                        |                        |
| 44181C        |                              | 62101 + 92511 + 66862  |
| 44182C        |                              | 62101 + 92512 + 66862  |
| 44184C        |                              | 62101 + 91740 + 66862  |
| 44201Y        | 53413                        |                        |

| Truck-Lite PN | Grote Form, Fit and Function | Grote Fit and Function |
|---------------|------------------------------|------------------------|
| 44202R        | 53313                        |                        |
| 44203Y        |                              | 54643                  |
| 44216R        | 77192                        |                        |
| 44216Y        | 77193                        |                        |
| 44236C        |                              | 62391                  |
| 44236C        | 62391 + 43343                |                        |
| 44239C        | 62391 + 92510                |                        |
| 44240C        | 62391 + 92512                |                        |
| 44253R        | 52162                        |                        |
| 44266R        | 52162 + 92512                |                        |
| 44273Y        | 52163                        |                        |
| 44276Y        | 52163 + 92512                |                        |
| 44302R        | 53552                        |                        |
| 44308C        | 61G91                        |                        |
| 44308C        |                              | 61E01                  |
| 44308C        |                              | 61H51                  |
| 44334R        | 54042                        |                        |
| 44339C        | 61H01                        |                        |
| 44339C        |                              | 61E41                  |
| 44344C        |                              | 62101 + 92511 + 66862  |
| 44345C        |                              | 62101 + 92510 + 66862  |
| 44346C        |                              | 62101 + 92512 + 66862  |
| 44347C        |                              | 62101 + 67006          |
| 44348C        |                              | 62101 + 66862 + 92512  |
| 44349C        |                              | 62101 + 92510 + 66862  |
| 44350C        |                              | 62101                  |
| 44350R        | 53532                        |                        |
| 44350R        | 54582                        |                        |
| 44351R        | 54342                        |                        |
| 44356R        | 53552 + 92510 + 66862        |                        |
| 44357R        | 54342 + 92510                |                        |
| 44359R        | 53272 + 92510 + 66862        |                        |
| 44360R        | 53532 + 92510                |                        |
| 44361R        | 53552 + 92511 + 66862        |                        |
| 44362R        | 54342 + 92511 + 67090        |                        |
| 44363R        | 53552 + 92511 + 66862        |                        |
| 44390R        | 65432-4                      |                        |
| 44438C        | 61171                        |                        |
| 44877Y        |                              | 53313 + 92511          |
| 44878Y        |                              | 53313 + 92511          |
| 44882R        | 53312                        |                        |
| 44953R        | 53532 + 92512                |                        |
| 44954R        |                              | 53532 + 92511          |
| 44956R        |                              | 53532 + 92511          |
| 44957R        |                              | 53532 + 92511          |
| 44960R        |                              | 53532                  |
| 44974R        | 53252                        |                        |
| 44975R        |                              | 53532 + 92510          |
| 44976R        |                              | 53532 + 92510          |
| 44978R        |                              | 53532 + 92510          |
| 44979R        |                              | 53532 + 92510          |
| 44980R        | 53282                        |                        |
| 44988R        | 53552 + 92510                |                        |
| 44991C        |                              | 62101 + 92511          |
| 44991C        | 62791                        |                        |
| 44992C        |                              | 62101 + 92512          |
| 44992C        |                              | 62791                  |
| 45001R        | 52202 + 94180 + 67000        |                        |

| Truck-Lite PN | Grote Form, Fit and Function | Grote Fit and Function |
|---------------|------------------------------|------------------------|
| 45001Y        | 52203 + 94180 + 67000        |                        |
| 45002R        | 52202 + 94180 + 67000        |                        |
| 45002Y        | 52203 + 94180 + 67000        |                        |
| 45021Y        | 52203 + 94180 + 67000        |                        |
| 45021Y3       | 52203-3 + 94180-3 + 67000-3  |                        |
| 45022R        | 52202 + 94180 + 67000        |                        |
| 45022R3       | 52202-3 + 94180-3 + 67000-3  |                        |
| 45032R        |                              | G4502 + 67000          |
| 45071Y        | G4503                        |                        |
| 45202R        | 52202                        |                        |
| 45202Y        | 52203                        |                        |
| 45-3          |                              | 40072-5                |
| 45A           | 40073                        |                        |
| 45A           | 41003                        |                        |
| 45A-3         |                              | 40073-5                |
| 47-3          | 40052-5                      |                        |
| 47A           | 40053                        |                        |
| 47A           | 40063                        |                        |
| 47A-3         | 40053-5                      |                        |
| 4872AA        | 55450                        |                        |
| 4874AY101     | 55340                        |                        |
| 49202R        | 53102                        |                        |
| 49202R        | 53102-5                      |                        |
| 5015K         | 53722                        |                        |
| 52A           | 41013                        |                        |
| 52A           |                              | 40093                  |
| 530DK         | 65300-5                      |                        |
| 533DK         | 65370-5                      |                        |
| 534-3         | 52312                        |                        |
| 534D          | 52312-5                      |                        |
| 535D          | 52302-5                      |                        |
| 549SWD        | 61491-5                      |                        |
| 54A           | 41033                        |                        |
| 54A           | 41032-5                      |                        |
| 54A           | 41033-5                      |                        |
| 55555-1       | 65312                        |                        |
| 57A           |                              | 40153                  |
| 580DK         | 65402-4                      |                        |
| 60001R        | 53092                        |                        |
| 60001Y        | 53093                        |                        |
| 60002R1       |                              | 53092                  |
| 60004C        | 62231                        |                        |
| 60015R        |                              | 52512 + 92420 + 67000  |
| 60015Y        | 52253                        |                        |
| 60015Y1       |                              | 52253                  |
| 60022Y        | 52573                        |                        |
| 60050R        | 53122                        |                        |
| 60050R1       |                              | 53122                  |
| 60052R        | 53592                        |                        |
| 60052R1       |                              | 53592                  |
| 60056R        | 53622                        |                        |
| 60072Y        | 53593                        |                        |
| 60072Y1       |                              | 53593                  |
| 60075Y        | 53123                        |                        |
| 60075Y1       |                              | 53123                  |
| 60092C        | 62521 + 92420 + 67010        |                        |
| 60097Y        | 53623                        |                        |
| 60115Y        | 54193 + 92400 + 67002        |                        |

# Technical Information

Information Technique Información técnica

## TRUCK-LITE-TO-GROTE INTERCHANGE

| Truck-Lite PN | Grote Form, Fit and Function | Grote Fit and Function |
|---------------|------------------------------|------------------------|
| 60115Y        | 54193                        |                        |
| 60115Y1       |                              | 54193 + 92400 + 67002  |
| 60120R        | 77362 + 92420 + 66815        |                        |
| 60120Y        | 77363 + 92420 + 66815        |                        |
| 60120Y1       |                              | 77363 + 92420 + 66815  |
| 60122R        | 77362 + 92420 + 66815        |                        |
| 60122Y        | 77363 + 92420 + 66815        |                        |
| 60122Y1       |                              | 77363 + 92420 + 66815  |
| 60124R        | 77362 + 66815                |                        |
| 60124Y        | 77363 + 66815                |                        |
| 60124Y1       |                              | 77363 + 66815          |
| 60126R        | 77362 + 66815                |                        |
| 60126Y        | 77363 + 66815                |                        |
| 60126Y1       |                              | 77363 + 66815          |
| 60201R        | 55772                        |                        |
| 60201Y        | 55773                        |                        |
| 60202R        | 52892                        |                        |
| 60202R        | 52892-5                      |                        |
| 60202Y        | 52893                        |                        |
| 60202Y        | 52893-5                      |                        |
| 60215R        | 52512                        |                        |
| 60215Y        | 52193                        |                        |
| 60238R        | 52182-5                      |                        |
| 60250R        | 53962                        |                        |
| 60253R        | 52072                        |                        |
| 60255Y        | 52073                        |                        |
| 60260R        | 54142                        |                        |
| 60275Y        | 53963                        |                        |
| 60283R        | 52182                        |                        |
| 60283Y        | 52183                        |                        |
| 60283Y        | 52183-5                      |                        |
| 60284C        | 62521                        |                        |
| 60298Y        |                              | 52073 + 43220          |
| 60317Y        | 54213                        |                        |
| 60354C        | 61G31                        |                        |
| 60360R        | 77362                        |                        |
| 60360Y        | 77363                        |                        |
| 60364R        | 77362 + 43222                |                        |
| 60364Y        | 77363 + 43222                |                        |
| 60366R        | 77362 + 43222                |                        |
| 60366Y        | 77363 + 43222                |                        |
| 6050A         | G6003                        |                        |
| 6050A         | G6003-5                      |                        |
| 6051A         | G6013                        |                        |
| 6060C         | 62751                        |                        |
| 620V-4        | 64921                        |                        |
| 630W          | 64471                        |                        |
| 630V-4        | 64491                        |                        |
| 632W          | 64941                        |                        |
| 6500A         | 56073                        |                        |
| 6501A         | 56083                        |                        |
| 6600A         |                              | 77693                  |
| 6601A         |                              | 77713                  |
| 66050R        | 54162 + 92420 + 66815        |                        |
| 66050R1       |                              | 54162 + 92420 + 66815  |
| 66052R        | 54162 + 43220 + 66815        |                        |
| 66052R1       |                              | 54162 + 43220 + 66815  |

| Truck-Lite PN | Grote Form, Fit and Function | Grote Fit and Function |
|---------------|------------------------------|------------------------|
| 66054R        |                              | 54162 + 43220 + 66816  |
| 66056R        | 54162 + 43222 + 66815        |                        |
| 66082R        | 54162 + 43220 + 66816        |                        |
| 66085R        | 54162 + 92420 + 66815        |                        |
| 66250R        | 54162                        |                        |
| 66252R        | 54162 + 43220 + 66815        |                        |
| 66254R        |                              | 54162 + 43220 + 66815  |
| 66256R        | 54162 + 43222 + 66815        |                        |
| 66882R        | 54162 + 43220 + 66815        |                        |
| 675W          | 64071                        |                        |
| 6810A         | 77693                        |                        |
| 6811A         | 77713                        |                        |
| 6859A         | 76083                        |                        |
| 69202Y        | 52533                        |                        |
| 69203C        | 62241                        |                        |
| 70300-1       |                              | 56000                  |
| 70310R        | 50642                        |                        |
| 70310R        | 50642-5                      |                        |
| 70330Y        | 55243                        |                        |
| 7048DB        | 12164-5                      |                        |
| 7217/7218     | 28393-5                      |                        |
| 80162C        | 61861                        |                        |
| 80162C        | 61921                        |                        |
| 80164C        |                              | 61921                  |
| 80166C        |                              | 61861                  |
| 80250C        | 61291                        |                        |
| 80250C        | 61881                        |                        |
| 80251C        | 61261                        |                        |
| 80251C        | 61611                        |                        |
| 80253C        |                              | 61611                  |
| 80255C        | 61F61                        |                        |
| 80302R        | 50222                        |                        |
| 80302R1       |                              | 50222                  |
| 80322R        | 50542                        |                        |
| 80322R        | 50542-5                      |                        |
| 80334R        | 50232                        |                        |
| 80334R        | 50232-5                      |                        |
| 80335R        | 52522                        |                        |
| 80339R        | 50502                        |                        |
| 80394-3       |                              | 63231-5                |
| 80396-3       |                              | 63211-5                |
| 80462R        | 50892                        |                        |
| 81312Y        |                              | 55430 + 91513          |
| 8861A         | 99913                        |                        |
| 8933A         | 90203                        |                        |
| 8933A         | 90203-5                      |                        |
| 9004A         | 90303                        |                        |
| 9007A         | 91963                        |                        |
| 9007A         | 91963-5                      |                        |
| 9007B         | 91965                        |                        |
| 9007G         | 91964                        |                        |
| 9007W         | 91961                        |                        |
| 9016A         | 91583                        |                        |
| 9016W         | 91581                        |                        |
| 9029A         | 90013                        |                        |
| 9079A         | 91503                        |                        |
| 9093A         | 90123                        |                        |
| 9093A         | 90123-5                      |                        |
| 9101-3        | 68130                        |                        |
| 91241Y        | 55983                        |                        |
| 91242R        | 55982                        |                        |
| 91243Y        | 55993                        |                        |

| Truck-Lite PN | Grote Form, Fit and Function | Grote Fit and Function |
|---------------|------------------------------|------------------------|
| 91244R        | 55992                        |                        |
| 91272R        | 53422                        |                        |
| 91275R        |                              | 55992                  |
| 91276Y        |                              | 55983                  |
| 92513Y        | 77453                        |                        |
| 92522Y        | 77753                        |                        |
| 92523Y        |                              | 77753                  |
| 92524Y        | 76803                        |                        |
| 92525B        | 76805 + 43420                |                        |
| 92525Y        | 76803 + 43420                |                        |
| 92534Y        | 77123                        |                        |
| 92539Y        |                              | 77123                  |
| 92551Y        | 77263                        |                        |
| 92600Y        | 76223                        |                        |
| 92914-1       |                              | 73220                  |
| 9380SW        | 61161                        |                        |
| 9380W         |                              | 61091                  |
| 9680A         | 78980                        |                        |
| 97944-3       | 99170-1                      |                        |
| 97960-1       |                              | 43901                  |
| 98003R        | 40132                        |                        |
| 98003R3       | 40132-5                      |                        |
| 98003Y        | 40133                        |                        |
| 98003Y3       | 40133-5                      |                        |
| 98006Y        | 40153                        |                        |
| 98031R        | 41042                        |                        |
| 98031Y        | 41043                        |                        |
| 98154R        | 41122                        |                        |
| 98175R        | 41142                        |                        |
| 98175R        | 41142-5                      |                        |
| 98175Y        | 41143                        |                        |
| 98176R        | 41152                        |                        |
| 98176Y        | 41153                        |                        |
| 99007C        | 90761                        |                        |
| 99007R        | 90762                        |                        |
| 99008C        | 91311                        |                        |
| 99008R        | 90012                        |                        |
| 99008R        | 90012-5                      |                        |
| 99009R        | 90232                        |                        |
| 99009Y        | 90233                        |                        |
| 99034R        | 90162                        |                        |
| 99034Y        | 90163                        |                        |
| 99041R        | 90152                        |                        |
| 99041R        | 90152-5                      |                        |
| 99041Y        | 90153                        |                        |
| 99041Y        | 90153-5                      |                        |
| 99063R        | 99912                        |                        |
| 99067Y        | 91683                        |                        |
| 99083R        | 91482                        |                        |
| 99168R        | 99842                        |                        |
| 99168Y        | 99843                        |                        |
| 99169R        | 99832                        |                        |
| 99169Y        | 99833                        |                        |
| 99170R        | 99802                        |                        |
| 99170Y        | 99803                        |                        |

## SPEAKER-TO-GROTE INTERCHANGE

| Speaker PN | Grote Form, Fit and Function | Grote Fit and Function |
|------------|------------------------------|------------------------|
| 410        | 61031                        |                        |
| 419        |                              | 61H01                  |
| 7150       |                              | 63J01                  |
| 6040-12V   | 63821-5                      |                        |
| 6700-12V   | 63861                        |                        |
| 7150-12V   |                              | 63911                  |
| 735-12/24V | 63F81                        |                        |
| 806-12V    | 63610                        |                        |
| 832-12/24V | 63981                        |                        |



# Improve Your CSA Score

## Converting to LED is the Easiest Way to Improve Your CSA Score!

Lighting Violations represent 4 of the top 11 most common CSA Maintenance Infractions

6 Point Infraction per failed Stop Tail and Turn

Make it easy on yourself - invest in quality LED lamps by Grote.

### Roadside Inspections, Vehicle Violations (2011 - Fiscal)

Data Source: FMCSA Motor Carrier Management Information System (MCMIS) data snapshot as of 12/16/2011, including current year-to-date information for 2012. The data presented below are accurate as of this date, but are subject to update as new or additional information may be reported to MCMIS following the snapshot date.

Total number of Vehicle Inspections in FY 2011: 5,251,170

Total number of Vehicle Violations in FY 2011: 4,697,872

Total number of Vehicle Out-of-Service (OOS) Violations in FY 2011: 701,997

| Roadside Inspections, Vehicle Violations (2011 - Fiscal) |                                                                             |                  |                 |                       |                     |
|----------------------------------------------------------|-----------------------------------------------------------------------------|------------------|-----------------|-----------------------|---------------------|
| Violation Code                                           | Violation Description                                                       | # of Inspections | # of Violations | % of Total Violations | # of OOS Violations |
| 393.9A                                                   | Inoperative required lamps                                                  | 543,885          | 400,110         | 10.22%                | 47,720              |
| 393.11                                                   | Nondefective lighting devices/reflexive devices/projected                   | 215,002          | 140,134         | 7.24%                 | 5,653               |
| 393.12                                                   | Inspection/repair and maintenance parts and accessories                     | 190,112          | 219,589         | 5.01%                 | 24,319              |
| 393.13                                                   | Tire - other tread depth less than 2/32 of inch                             | 179,833          | 237,792         | 5.06%                 | 19,848              |
| 393.14                                                   | Oil and/or grease leak                                                      | 167,074          | 222,450         | 4.74%                 | 4,100               |
| 393.15                                                   | Failing to secure brake hose/tubing against mechanical damage               | 145,280          | 218,031         | 4.66%                 | 11,888              |
| 393.16                                                   | Clamp/Photo-Chamber type brake(s) out of alignment                          | 122,281          | 198,120         | 4.17%                 | 361                 |
| 393.17                                                   | Operating a CMV without periodic inspection                                 | 137,686          | 172,059         | 3.66%                 | 129                 |
| 393.18                                                   | Nonfunctioning/uninsured fire extinguisher                                  | 188,627          | 199,904         | 3.02%                 | 20                  |
| 393.19                                                   | Stop lamp violations                                                        | 102,124          | 150,831         | 2.57%                 | 33,762              |
| 393.20                                                   | Inoperative turn signal                                                     | 89,052           | 107,000         | 2.29%                 | 44,105              |
| 393.21                                                   | Inoperative/reduced brakes                                                  | 80,419           | 103,394         | 2.21%                 | 30,003              |
| 393.22                                                   | Automatic brake adjuster CMV manufactured on or after 10/20/1954 - no brake | 55,679           | 94,595          | 2.02%                 | 12                  |
| 393.23                                                   | Worn/unsafe stop/reverse/turn                                               | 77,204           | 81,884          | 1.74%                 | 309                 |
| 393.24                                                   | Damaged or obscured windshield                                              | 1,825            | 81              | 0.11%                 | 0                   |
| 393.25                                                   | Excessively tinted windshield                                               | 1,825            | 81              | 0.11%                 | 0                   |
| 393.26                                                   | Excessively tinted side/rear window                                         | 1,825            | 81              | 0.11%                 | 0                   |
| 393.27                                                   | Excessively tinted front/rear window                                        | 1,825            | 81              | 0.11%                 | 0                   |

### VIOLATION SEVERITY WEIGHT EXAMPLE

Improper Exhaust: ..... 1 point  
Missing wheel stud: ..... 2 points  
No brakes as required: 4 points  
Possession and/or under the influence of alcohol 4 hours prior to duty: ..... 5 points  
Non-functioning tail lamp ..... 6 points



# Technical Information

Information Technique    Información técnica

## Wire Sizes

No matter what the variety, it's critical to choose the correct wire size for the application. The key information required is the length of wire needed, often referred to as the length of run, and the current load that the conductor is expected to carry in use. Knowing the "length and load" characteristics will take the guesswork out of the choice.

Voltage drop, caused by current draw, is the primary consideration when selecting the proper conductor size. Every conductor has a certain amount of resistance per foot. The longer the distance, the greater the resistance in the circuit. The greater the resistance, the higher the voltage drop caused by the same current. This relationship is defined by ohms law (Voltage = Current X Resistance). As distance from the power source

increases, there is less voltage available to "push" the current through the wire. Thus causes the current to drop. There is also heat buildup as the resistance increases, which also lessens the amount of current flow.

In low voltage systems, such as vehicles, even a small drop in voltage can have a serious effect on the amount of light a lamp puts out. But there's a simple solution. As you get further away from the power source, make the conductor larger. A larger conductor means less resistance.

Using the "Wire Size Chart", first find the load in amps on the left-hand edge of the chart. Then find the length of run across the top of the chart. Read down that column until it intersects with the amp load line. The point at which they cross indicates the correct wire size for the job.

| Wire Size Chart |                 |                                     |               |               |               |               |               |               |               |               |               |
|-----------------|-----------------|-------------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| 12V<br>(AMP)    | 6V<br>(AMP)     | Length of Wire (most distant light) |               |               |               |               |               |               |               |               |               |
|                 |                 | 10'                                 | 20'           | 30'           | 40'           | 50'           | 60'           | 70'           | 80'           | 90'           | 100'          |
| Load in<br>Amps | Load in<br>Amps | Wire<br>Gauge                       | Wire<br>Gauge | Wire<br>Gauge | Wire<br>Gauge | Wire<br>Gauge | Wire<br>Gauge | Wire<br>Gauge | Wire<br>Gauge | Wire<br>Gauge | Wire<br>Gauge |
| 1               | 0.5             | 18                                  | 18            | 18            | 18            | 18            | 18            | 18            | 18            | 18            | 18            |
| 1.5             | 0.75            | 18                                  | 18            | 18            | 18            | 18            | 18            | 18            | 18            | 18            | 18            |
| 2               | 1               | 18                                  | 18            | 18            | 18            | 18            | 18            | 18            | 16            | 16            | 16            |
| 3               | 1.5             | 18                                  | 18            | 18            | 18            | 18            | 16            | 16            | 16            | 14            | 14            |
| 4               | 2               | 18                                  | 18            | 18            | 16            | 16            | 16            | 14            | 14            | 14            | 12            |
| 5               | 2.5             | 18                                  | 18            | 18            | 16            | 14            | 14            | 14            | 12            | 12            | 12            |
| 6               | 3               | 18                                  | 18            | 16            | 16            | 14            | 14            | 12            | 12            | 12            | 10            |
| 7               | 3.5             | 18                                  | 18            | 16            | 14            | 14            | 12            | 12            | 12            | 12            | 10            |
| 8               | 4               | 18                                  | 16            | 16            | 14            | 12            | 12            | 12            | 10            | 10            | 10            |
| 10              | 5               | 18                                  | 16            | 14            | 12            | 12            | 12            | 10            | 10            | 10            | 10            |
| 11              | 5.5             | 18                                  | 16            | 14            | 12            | 12            | 10            | 10            | 10            | 10            | 8             |
| 12              | 6               | 18                                  | 16            | 14            | 12            | 12            | 10            | 10            | 10            | 8             | 8             |
| 15              | 7.5             | 18                                  | 14            | 12            | 12            | 10            | 10            | 10            | 8             | 8             | 8             |
| 18              | 9               | 16                                  | 14            | 12            | 10            | 10            | 8             | 8             | 8             | 8             | 8             |
| 20              | 10              | 16                                  | 12            | 12            | 10            | 10            | 8             | 8             | 8             | 8             | 6             |

A) DETERMINE THE TOTAL WIRE LENGTH FROM THE POWER SOURCE TO THE MOST DISTANT POINT IN THE CIRCUIT.  
B) DETERMINE THE TOTAL ELECTRICAL LOAD ON THE CIRCUIT.  
C) FIND THE LOAD ALONG ONE EDGE OF THE CHART (6V OR 12V) DEPENDING ON THE VEHICLE VOLTAGE IN QUESTION, TAKING THE NEXT HIGHER LOAD IF THE INDICATED LOAD FALLS BETWEEN TWO POINTS ON THE CHART.  
D) FIND THE CABLE LENGTH REQUIRED ON THE TOP OF THE CHART, TAKING THE NEXT HIGHER LENGTH (IF EXACT LENGTH IS NOT CITED).  
E) AT THE INTERSECTION OF THE LENGTH AND LOAD COLUMN, READ THE MINIMUM SIZE WIRE REQUIRED FOR THAT PARTICULAR CIRCUIT.





## Wire Gauges

Conductors may be single strand or a group of strands. Stranded conductors are preferred in heavier gauges because they are more flexible and easier to work with than a comparable single strand conductor.

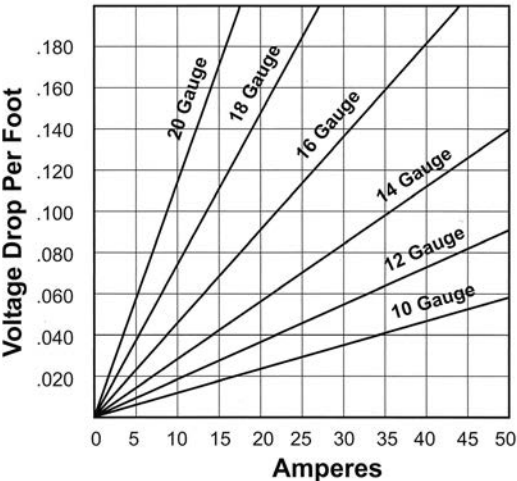
Comparing stranded cable sizes is simple. Stranded cable is compared using a numerical system. For example, 18/24 indicates that the conductor consists of 18 strands of 24-gauge wire. Similarly 12/12 refers to 12 strands of 12-gauge wire.

Gauge refers to the size of the conductor in a wire. The higher the gauge number, the smaller the wire. For example, an 18-gauge wire is smaller than a 12-gauge wire. And a 4-gauge wire has more than twice the diameter of a 10-gauge wire.

When the wire size gets larger, the number reaches #0 gauge or 1/0 (one aught). Additional zeros refer to larger sizes. The next larger size above 1/0 is #00 or 2/0 (two aught).

The capacity of a wire reflects the ability it has to carry electrical current. For example, over a distance of 50 feet, a 12-gauge wire can safely carry 10 amps. Over the same distance a 16-gauge wire can carry 3 amps. Choosing the size wire is made easier using a wire size chart.

Just remember the thicker the wire, the smaller the amperage loss.



## Wire Gauge Chart

| GAUGE | S.W.G. | A.W.G.<br>(inches) | A.W.G.<br>(mm) | Actual<br>Size<br>(A.W.G.) |
|-------|--------|--------------------|----------------|----------------------------|
| 00    | 0.348  | 0.368              | 9,266          |                            |
| 0     | 0.324  | 0.325              | 8,252          |                            |
| 1     | 0.300  | 0.289              | 7,348          |                            |
| 2     | 0.276  | 0.258              | 6,543          |                            |
| 3     | 0.252  | 0.229              | 5,827          |                            |
| 4     | 0.232  | 0.204              | 5,189          |                            |
| 5     | 0.212  | 0.182              | 4,621          |                            |
| 6     | 0.192  | 0.162              | 4,115          |                            |
| 7     | 0.176  | 0.144              | 3,665          |                            |
| 8     | 0.160  | 0.129              | 3,264          |                            |
| 9     | 0.144  | 0.114              | 2,906          |                            |
| 10    | 0.128  | 0.102              | 2,588          |                            |
| 11    | 0.116  | 0.091              | 2,304          |                            |
| 12    | 0.104  | 0.081              | 2,052          |                            |
| 13    | 0.092  | 0.072              | 1,829          |                            |
| 14    | 0.080  | 0.064              | 1,628          |                            |
| 15    | 0.072  | 0.057              | 1,450          |                            |
| 16    | 0.064  | 0.051              | 1,291          |                            |
| 17    | 0.056  | 0.045              | 1,150          |                            |
| 18    | 0.048  | 0.040              | 1,024          |                            |
| 19    | 0.040  | 0.036              | 0,912          |                            |
| 20    | 0.036  | 0.032              | 0,813          |                            |
| 21    | 0.032  | 0.029              | 0,724          |                            |
| 22    | 0.028  | 0.025              | 0,643          |                            |

A.W.G. = American Wire Gauge

S.W.G. = Imperial Standard Wire Gauge

(British legal standard)

# Technical Information

Information Technique Información técnica

**IMPORTANT NOTE:** Every lamp, reflex reflector, and conspicuity treatment must be permanently attached in the location specified below and must comply with all applicable requirements prescribed for it by FMVSS/CMVSS 108. The face of any device on the front/rear and sides should be, respectively perpendicular and parallel to the vehicle's centerline, unless it is photometrically certified at installation angle. No part of the vehicle shall prevent any device from meeting its prescribed requirements unless an auxiliary device meeting all prescribed requirements is installed.

**IN CANADA:** Manufacturers and importers of vehicles must have the proper certification test records demonstrating compliance of lighting components with all prescribed requirements.

## BASIC EQUIPMENT REQUIRED ON ALL TRAILERS

| DESCRIPTION |                                                                             |                       |                                                                                                  | MANDATORY REQUIREMENTS |              |                                                                       |                                                           |
|-------------|-----------------------------------------------------------------------------|-----------------------|--------------------------------------------------------------------------------------------------|------------------------|--------------|-----------------------------------------------------------------------|-----------------------------------------------------------|
| Area        | Equipment                                                                   | SAE Lens Coding       | Functional Purpose                                                                               | Quantity               | Color        | Location                                                              | Height mm(in.) from the ground                            |
| 1           | Tail Lamps                                                                  | (T)                   | Indicate vehicle's presence and width                                                            | Minimum 2              | Red          | On the rear - symmetrical as far apart as practicable                 | 380-1830 (15-72)                                          |
|             | Stop Lamps                                                                  | (S)                   | Indicate braking                                                                                 | Minimum 2              | Red          | On the rear - symmetrical as far apart as practicable                 | 380-1830 (15-72)                                          |
|             | Rear Turn Signal Lamps                                                      | (I)                   | Indicate direction of turn                                                                       | Minimum 2              | Red or Amber | On the rear - symmetrical as far apart as practicable                 | 380-2110 (15-83)                                          |
|             | Rear Reflex Reflectors                                                      | (A)                   | Indicate vehicle's presence and width                                                            | Minimum 2              | Red          | On the rear - symmetrical as far apart as practicable facing rearward | 380-1530 (15-60)                                          |
| 2           | License Plate Lamp(s)                                                       | (L)                   | Illuminates license plate                                                                        | Minimum 1              | White        | On the rear - above or at the sides of license plate                  | No requirement                                            |
| 3           | Rear Side Marker Lamps<br>*photometrically certified at installation angle  | (P2, PC* or P3, PC2*) | Front and rear side marker lamps / side reflex reflectors indicate vehicle's presence and length | Minimum 2              | Red          | Each side at rear as far back as practicable                          | 380-1530 (15-60) no max. for veh. under 2032mm (80") wide |
|             | Rear Side Reflex Reflectors                                                 | (A)                   |                                                                                                  | Minimum 2              | Red          | Each side at rear as far back as practicable facing sideward          | 380-1530 (15-60)                                          |
| 4           | Front Side Marker Lamps<br>*photometrically certified at installation angle | (P2, PC* or P3, PC2*) |                                                                                                  | Minimum 2              | Amber        | Each side at front as far forward as practicable                      | 380 (15) minimum                                          |
|             | Front Side Reflex Reflectors                                                | (A)                   |                                                                                                  | Minimum 2              | Amber        | Each side at front as far forward as practicable facing sideward      | 380-1530 (15-60)                                          |

## ADDITIONAL EQUIPMENT FOR TRAILERS EXCEEDING THE FOLLOWING PARAMETERS

### Length 9.1m (30 ft.) or longer

| DESCRIPTION |                                                                                    |                       |                                     | MANDATORY REQUIREMENTS |       |                                       |                                |
|-------------|------------------------------------------------------------------------------------|-----------------------|-------------------------------------|------------------------|-------|---------------------------------------|--------------------------------|
| Area        | Equipment                                                                          | SAE Lens Coding       | Functional Purpose                  | Quantity               | Color | Location                              | Height mm(in.) from the ground |
| 5           | Intermediate Side Marker Lamps<br>*photometrically certified at installation angle | (P2, P3, PC* or PC2*) | Indicate presence of a long vehicle | Minimum 2              | Amber | Each side near center facing sideward | 380 (15) minimum               |
|             | Intermediate Side Reflex Reflectors                                                | (A)                   | Indicate presence of a long vehicle | Minimum 2              | Amber | Each side near center facing sideward | 380-1530 (15-60)               |

### Width 2032mm (80 in.) or wider

| DESCRIPTION |                                                                           |                       | MANDATORY REQUIREMENTS                                      |           |       |                                                                                                |                                                                     |
|-------------|---------------------------------------------------------------------------|-----------------------|-------------------------------------------------------------|-----------|-------|------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|
| Area        | Equipment                                                                 | SAE Lens Coding       | Functional Purpose                                          | Quantity  | Color | Location                                                                                       | Height                                                              |
| 6           | Rear Clearance Lamps<br>*photometrically certified at installation angle  | (P2, PC* or P3, PC2*) | Show vehicle's width<br>MAY NOT be combined with tail lamps | Minimum 2 | Red   | At widest point - symmetrical on the rear or near the rear facing rearward                     | As high as practicable may be lower only if ID lamps are at the top |
| 7           | Rear Identification (ID) Lamps                                            | (P2 or P3)            | Indicate presence of a wide vehicle                         | Exactly 3 | Red   | On the rear - center horizontally spaced 150mm (6 in.) to 300mm (12 in.) apart facing rearward | At the top - may be lower if door header narrower than 25mm         |
| 8           | Front Clearance Lamps<br>*photometrically certified at installation angle | (P2, PC* or P3, PC2*) | Show vehicle's width                                        | Minimum 2 | Amber | At widest point - symmetrical on the front or near the front facing forward                    | As high as practicable                                              |

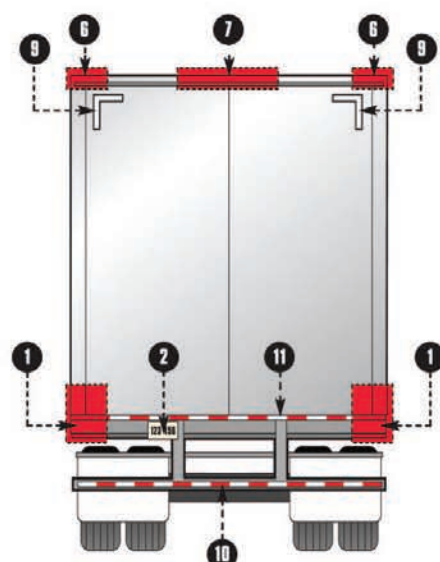
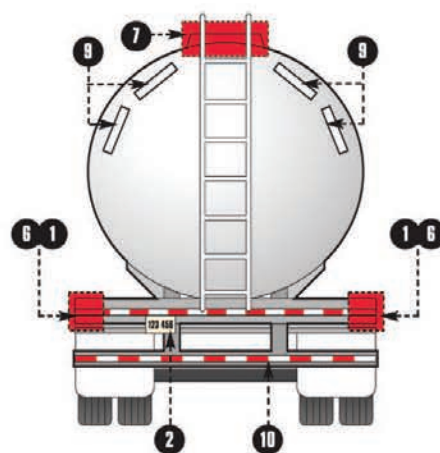
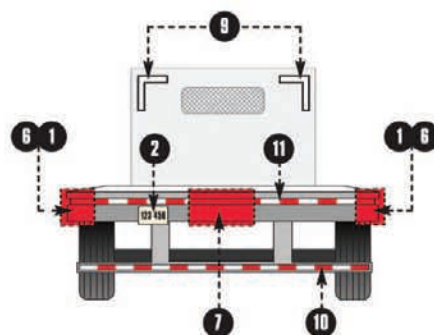
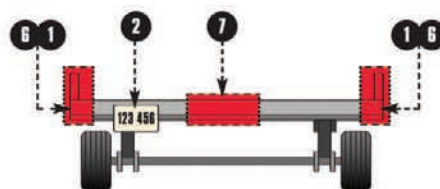
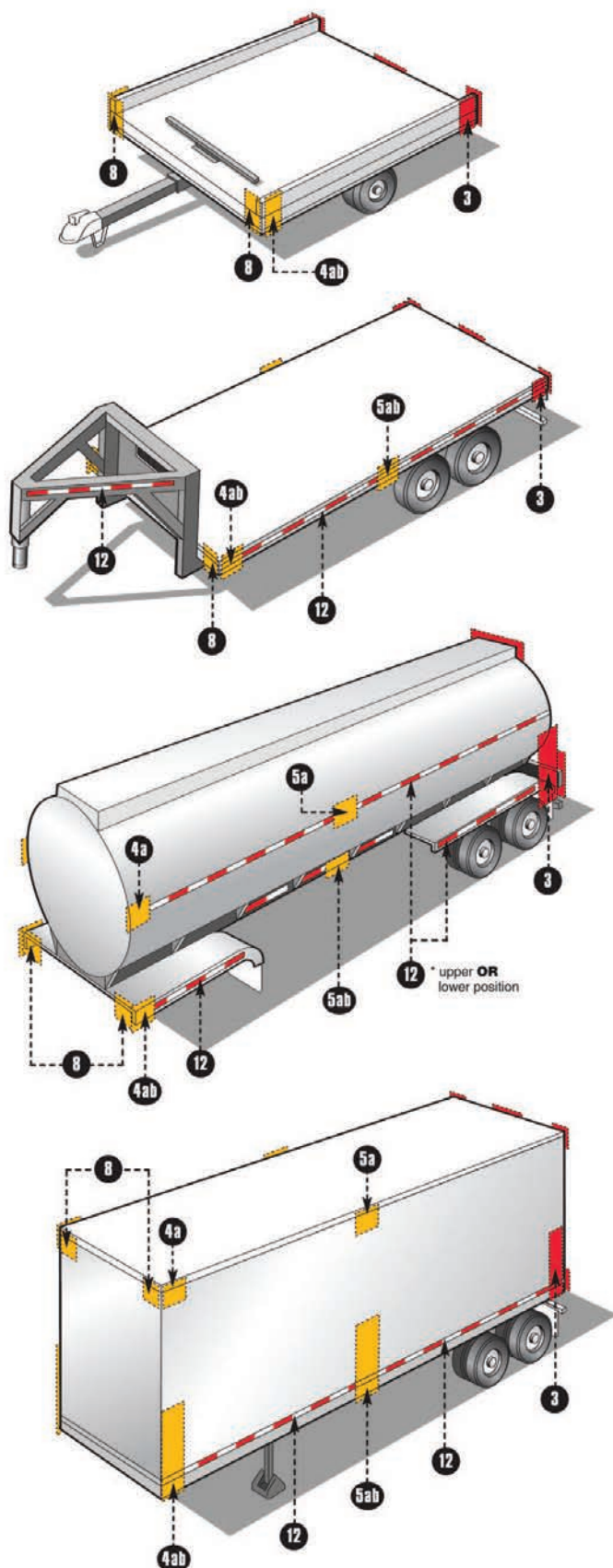
### Width 2032mm (80 in.) or wider AND GVWR 4536 kg (10,000 lb.) or more

| DESCRIPTION |                          | MANDATORY REQUIREMENTS              |                                      |                         |                                                                                                                                                                     |                                                                                                        |                                                                                                                                   |
|-------------|--------------------------|-------------------------------------|--------------------------------------|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| Area        | Conspicuity Treatment    | DOT Coding                          | Quantity                             | Color                   | Location                                                                                                                                                            | Height                                                                                                 | Options                                                                                                                           |
| 9           | Rear Upper Body Markings | DOT-C<br>DOT-C2<br>DOT-C3<br>DOT-C4 | Exactly 2 pairs of 300mm long strips | White                   | On the rear upper corners facing rearward                                                                                                                           | At the top                                                                                             | Reflex reflectors may not be required if they are replaced in their required location with conspicuity treatment.                 |
| 10          | Bumper Bar Marking       |                                     | Continuous                           | Red/White               | On the rear bumper bar's horizontal element full width - facing rearward                                                                                            | No requirement                                                                                         |                                                                                                                                   |
| 11          | Rear Lower Body Marking  |                                     | Continuous                           | Red/White (see options) | On the rear full width of the vehicle facing rearward                                                                                                               | As horizontal as practicable and as close as practicable to the range of 375 to 1525mm from the ground |                                                                                                                                   |
| 12          | Side Marking             |                                     | (see location)                       | Red/White (see options) | Each side - facing sideward continuous, or evenly spaced over minimum of 50% of length starts and ends as close to the front and rear of the vehicle as practicable | As horizontal as practicable and as close as practicable to the range of 375 to 1525mm from the ground | Optional in Canada:<br>Rear lower body and side conspicuity treatment may also be solid white, solid yellow, or white and yellow. |

**NOTE:** The edge of red conspicuity tape shall not be closer than 75 mm to the edge of any amber lamp and the edge of white conspicuity tape shall not be closer than 75 mm to the edge of any lamp

**For more information contact:** Transport Canada: Motor Vehicle Safety Enforcement Branch Attention: Compliance Engineering Fax: 613-998-4831  
National Highway Traffic Safety Administration: Office of Safety Performance Standards Attention: Richard Van Iderstine Fax: 202-366-4329

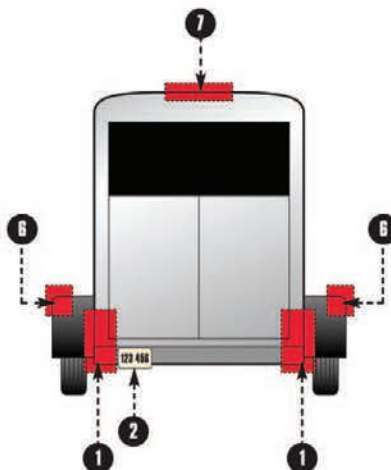
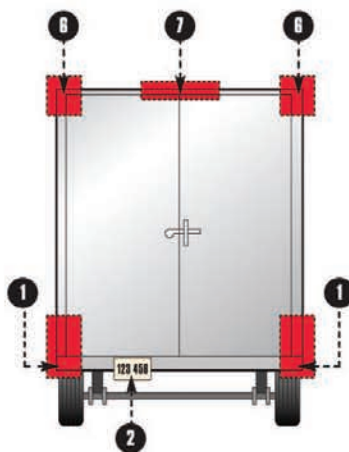
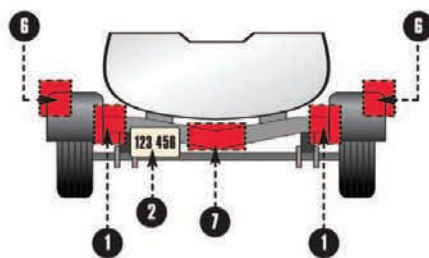
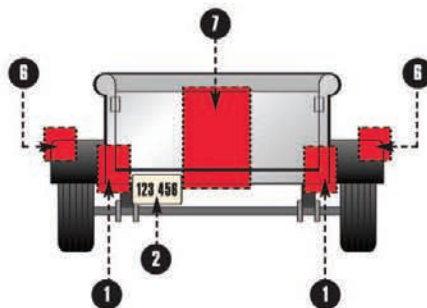
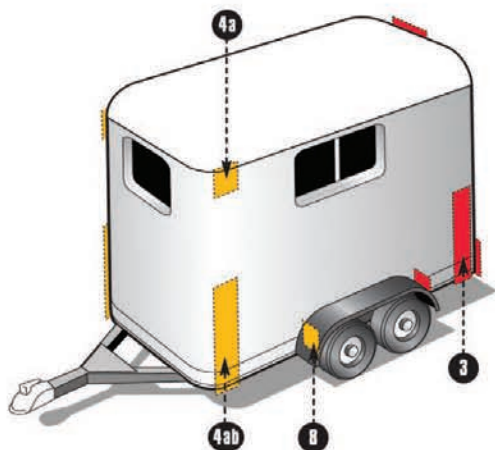
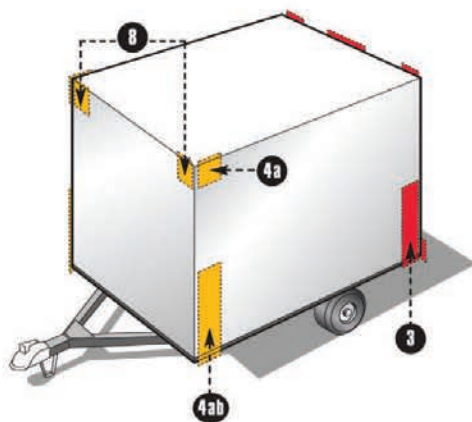
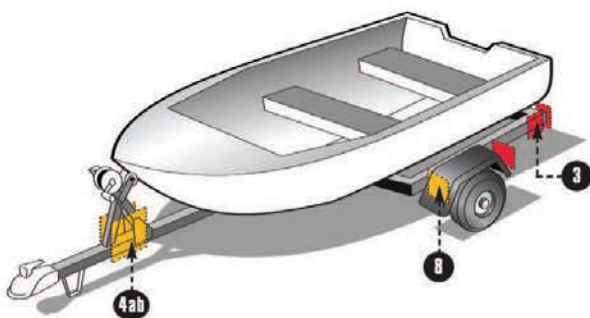
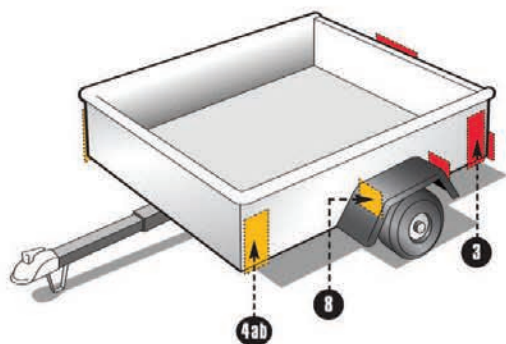






# Technical Information

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**IMPORTANT NOTE:** Every lamp, reflex reflector, and conspicuity treatment must be permanently attached in the location specified below and must comply with all applicable requirements prescribed for it by FMVSS/CMVSS 108. The face of any device on the front/rear and sides should be, respectively perpendicular and parallel to the vehicle's centerline, unless it is photometrically certified at installation angle. No part of the vehicle shall prevent any device from meeting its prescribed requirements unless an auxiliary device meeting all prescribed requirements is installed.

**IN CANADA:** Manufacturers and importers of vehicles must have the proper certification test records demonstrating compliance of lighting components with all prescribed requirements.

## BASIC EQUIPMENT REQUIRED ON ALL TRUCKS, BUSES & MPVs

| DESCRIPTION |                                                                                                                     |                       |                                                                                                  | MANDATORY REQUIREMENTS |                |                                                                                                |                                                                          |
|-------------|---------------------------------------------------------------------------------------------------------------------|-----------------------|--------------------------------------------------------------------------------------------------|------------------------|----------------|------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|
| Area        | Equipment                                                                                                           | SAE Lens Coding       | Functional Purpose                                                                               | Quantity               | Color          | Location                                                                                       | Height mm(in.) from the ground                                           |
| 1           | Headlamps - Lower Beam                                                                                              | (H, HR)               | Forward road illumination                                                                        | Minimum 2              | White          | On the front - symmetrical as far apart as practicable                                         | 560-1370 (22-54)                                                         |
|             | US requires "DOT" lettering on lens<br>US&Canada - light source code required on lens                               |                       |                                                                                                  |                        |                | If 4 lamp system - outboard or above upper beams                                               |                                                                          |
|             | Headlamps - Upper Beam                                                                                              | (H, HR)               | Forward road illumination                                                                        | Minimum 2              | White          | On the front - symmetrical                                                                     | 560-1370 (22-54)                                                         |
|             | US requires "DOT" lettering on lens<br>US&Canada - light source code required on lens                               |                       |                                                                                                  |                        |                | If 4 lamp system - inboard or below lower beams                                                |                                                                          |
|             | Parking Lamps                                                                                                       | (P)                   | Indicate parked vehicle                                                                          | Minimum 2              | White or amber | On the front - symmetrical as far apart as practicable                                         | 380-1830 (15-72)                                                         |
|             | Vehicles less than 2032mm wide                                                                                      |                       |                                                                                                  |                        |                |                                                                                                |                                                                          |
|             | Daytime Running Lamps (DRL)                                                                                         | (Y2)                  | Indicate in use vehicle                                                                          | Minimum 2              | White or amber | On the front - symmetrical as far apart as practicable                                         | 380 (15) min. Max. depends on type of DRL                                |
|             | Canada - required / US - option<br>US requires "DRL" lettering on lens if not headlamp                              |                       |                                                                                                  |                        |                |                                                                                                |                                                                          |
|             | Front Turn Signal/Hazard Warning Lamps                                                                              | (I)                   | Indicate direction of turn/identify disabled vehicle                                             | Minimum 2              | Amber          | On the front - symmetrical as far apart as practicable                                         | 380-2110 (15-83)                                                         |
| 2           | Front Clearance Lamps                                                                                               | (P2, PC* or P3, PC2*) | Show vehicle's width                                                                             | Minimum 2              | Amber          | At widest point - symmetrical on the front or near the front facing forward                    | As high as practicable                                                   |
|             | Vehicles 2032mm wide or wider<br>*photometrically certified at installation angle                                   |                       |                                                                                                  |                        |                |                                                                                                |                                                                          |
| 3           | Front Identification Lamps (ID)                                                                                     | (P2 or P3)            | Indicate presence of a wide vehicle                                                              | Exactly 3              | Amber          | On the front - center horizontally spaced 150 mm (6 in.) to 300 mm (12 in.) apart              | As high as practicable or on top of the cab                              |
|             | Vehicles 2032mm wide or wider                                                                                       |                       |                                                                                                  |                        |                |                                                                                                |                                                                          |
| 4           | a Front Side Marker Lamps                                                                                           | (P2, PC* P3, PC2*)    | Front and rear side marker lamps / side reflex reflectors indicate vehicle's presence and length | Minimum 2              | Amber          | Each side at front as far forward as practicable                                               | 380 (15) minimum                                                         |
|             | b Front Side Reflex Reflectors                                                                                      | (A)                   |                                                                                                  | Minimum 2              | Amber          | Each side at front as far forward as practicable facing sideward                               | 380-1530 (15-60)                                                         |
| 5           | a Rear Side Marker Lamps **                                                                                         | (P2, PC* or P3, PC2*) |                                                                                                  | Minimum 2              | Red            | Each side at rear as far back as practicable                                                   | 380 (15) minimum                                                         |
|             | b Rear Side Reflex Reflectors **                                                                                    | (A)                   |                                                                                                  | Minimum 2              | Red            | Each side at rear as far back as practicable facing sideward                                   | 380-1530 (15-60)                                                         |
|             | **not required on Truck Tractors                                                                                    |                       |                                                                                                  |                        |                |                                                                                                |                                                                          |
| 6           | Rear Clearance Lamps                                                                                                | (P2, PC* or P3, PC2*) | Show vehicle's width MAY NOT be combined with tail lamps                                         | Minimum 2              | Red            | At widest point - symmetrical on the rear or near the rear facing rearward                     | As high as practicable may be lower only if rear ID lamps are at the top |
|             | Vehicles 2032mm wide or wider<br>Not required on Truck Tractors<br>*photometrically certified at installation angle |                       |                                                                                                  |                        |                |                                                                                                |                                                                          |
| 7           | Rear Identification (ID) Lamps                                                                                      | (P2 or P3)            | Indicate presence of a wide vehicle                                                              | Exactly 3              | Red            | On the rear - center horizontally spaced 150mm (6 in.) to 300mm (12 in.) apart facing rearward | At the top may be lower if door header narrower than 25mm                |
|             | Vehicles 2032mm wide or wider<br>Not required on Truck Tractors                                                     |                       |                                                                                                  |                        |                |                                                                                                |                                                                          |
| 8           | Tail Lamps                                                                                                          | (T)                   | Indicate vehicle's presence and width                                                            | Minimum 2              | Red            | On the rear - symmetrical as far apart as practicable                                          | 380-1830 (15-72)                                                         |
|             | Stop Lamps                                                                                                          | (S)                   | Indicate braking                                                                                 | Minimum 2              | Red            | On the rear - symmetrical as far apart as practicable                                          | 380-1830 (15-72)                                                         |
|             | Rear Turn Signal/Hazard Warning Lamps                                                                               | (I)                   | Indicate direction of turn/identify disabled vehicle                                             | Minimum 2              | Red or amber   | On the rear - symmetrical as far apart as practicable                                          | 380-2110 (15-83)                                                         |
|             | Rear Reflex Reflectors                                                                                              | (A)                   | Show vehicle's presence and width                                                                | Minimum 2              | Red            | On the rear - symmetrical as far apart as practicable                                          | 380-1530 (15-60)                                                         |
| 9           | Backup Lamp                                                                                                         | (R)                   | Illuminates ground behind the vehicle and alert road users                                       | Minimum 1              | White          | Rear                                                                                           | No requirement                                                           |
| 10          | License Plate Lamp(s)                                                                                               | (L)                   | Illuminates license plate                                                                        | Minimum 1              | White          | On the rear - above or at the sides of license plate                                           | No requirement                                                           |
| 11          | Center High Mounted Stop Lamp                                                                                       | (U3)                  | Indicates braking                                                                                | 1                      | Red            | On the rear - centerline of the vehicle                                                        | 860 (34) minimum                                                         |
|             | Vehicles less than 2032mm wide and 4536kg                                                                           |                       |                                                                                                  |                        |                |                                                                                                |                                                                          |

## ADDITIONAL EQUIPMENT FOR SPECIFIC VEHICLES VEHICLES 9.1m (30 ft.) LONG OR LONGER

| DESCRIPTION |                                       |                 |                                     | MANDATORY REQUIREMENTS |       |                                       |                                |
|-------------|---------------------------------------|-----------------|-------------------------------------|------------------------|-------|---------------------------------------|--------------------------------|
| Area        | Equipment                             | SAE Lens Coding | Functional Purpose                  | Quantity               | Color | Location                              | Height mm(in.) from the ground |
| 12          | a Intermediate Side Marker Lamps      | (P2 or P3)      | Indicate presence of a long vehicle | Minimum 2              | Amber | Each side near center                 | 380 (15) minimum               |
|             | b Intermediate Side Reflex Reflectors | (A)             | Indicate presence of a long vehicle | Minimum 2              | Amber | Each side near center facing sideward | 380-1530 (15-60)               |

### Truck Tractors

| DESCRIPTION |                          | MANDATORY REQUIREMENTS              |                                       |           |                                                                                                       |                                                                         |                                                              |
|-------------|--------------------------|-------------------------------------|---------------------------------------|-----------|-------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|--------------------------------------------------------------|
| Area        | Conspicuity Treatment    | DOT Coding                          | Quantity                              | Color     | Location                                                                                              | Height                                                                  | Options                                                      |
| 13          | Rear Upper Body Markings | DOT-C<br>DOT-C2<br>DOT-C3<br>DOT-C4 | Exactly 2 pairs of 300mm long strips  | White     | Rear upper corners of cab facing rearward                                                             | As high as practicable excluding fairings                               |                                                              |
| 14          | Rear Marking             |                                     | Exactly 2 sections of min. 600mm each | Red/White | Rear - facing rearward - on fenders, on mud flap brackets, or within 300mm below the top of mud flaps | As horizontal as practicable and not higher than 1525mm from the ground | If mud flaps not used - on the cab or frame mounted brackets |

**NOTE:** The edge of red conspicuity tape shall not be closer than 75 mm to the edge of any amber lamp and the edge of white conspicuity tape shall not be closer than 75 mm to the edge of any lamp

For more information contact:

National Highway Traffic Safety Administration: Office of Safety Performance Standards  
Transport Canada: Motor Vehicle Safety Enforcement Branch

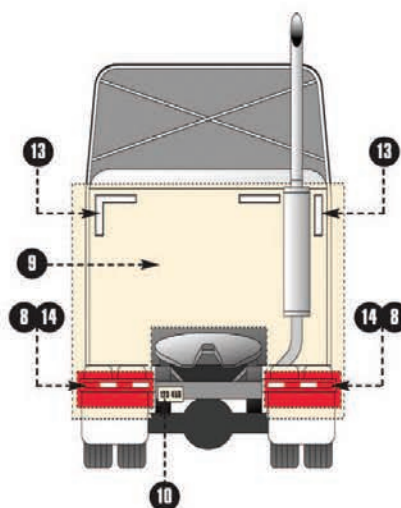
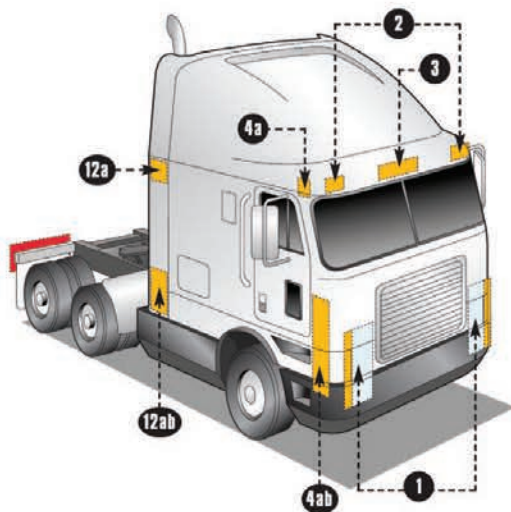
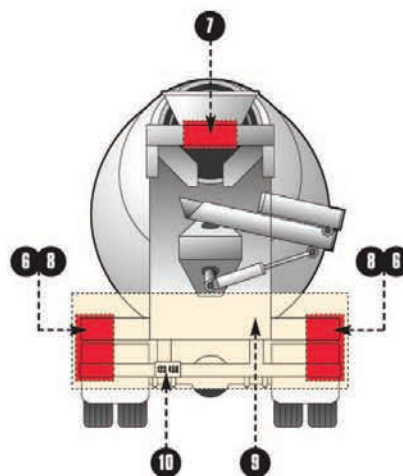
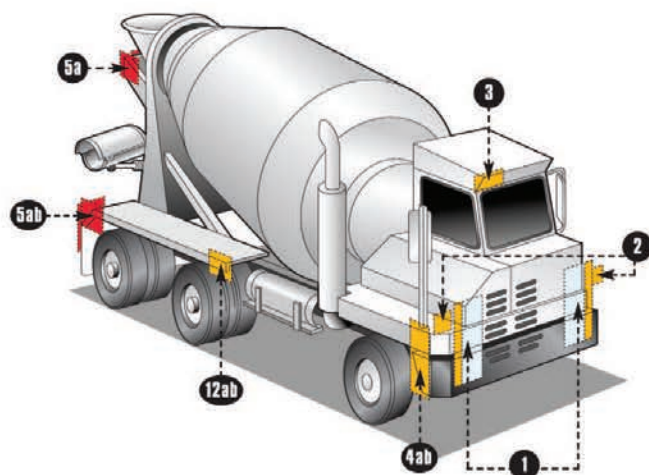
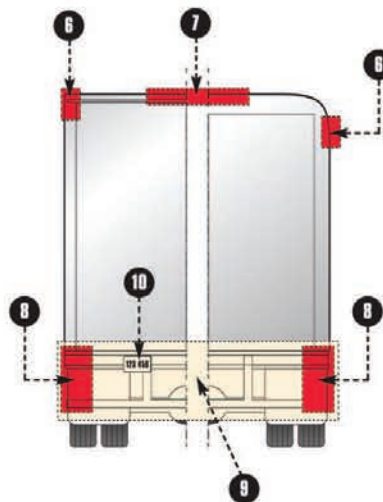
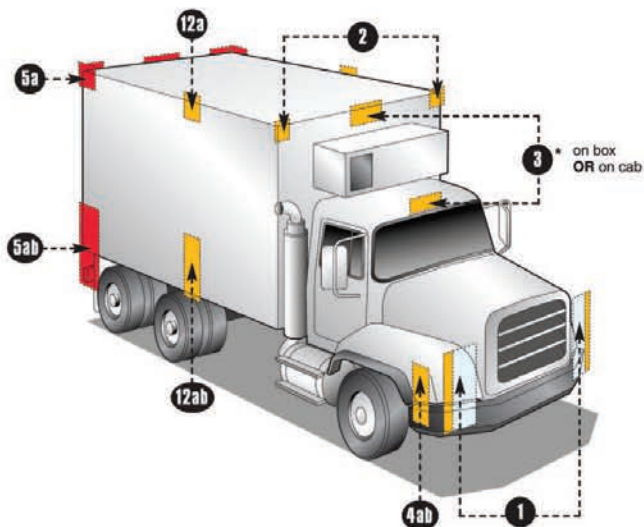
Attention: Richard Van Iderstine  
Attention: Compliance Engineering

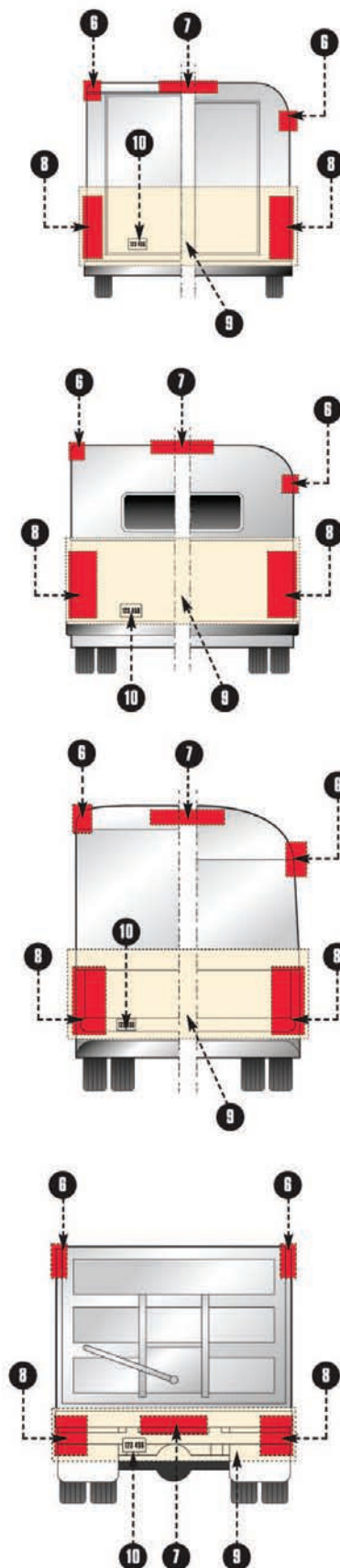
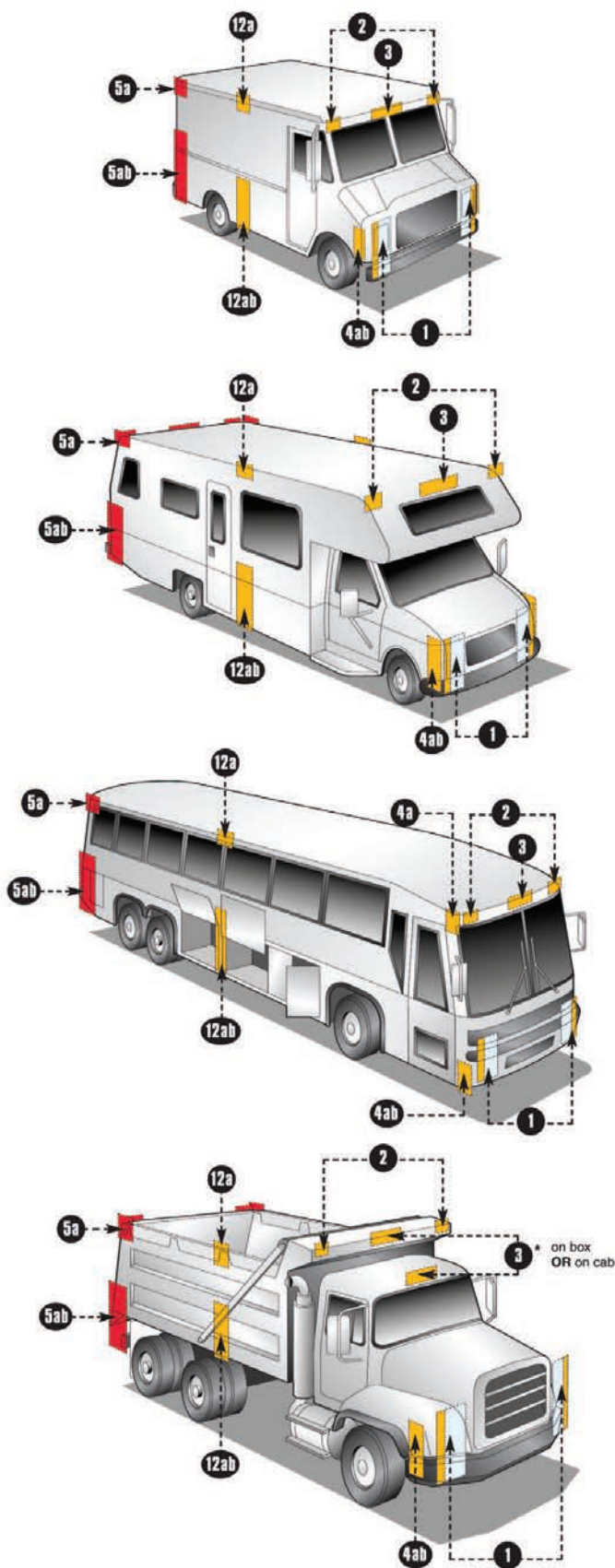
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# Technical Information

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# Trilliant® Series of LED Work Lamps

THERE'S A RUGGED GROTE TRILLIANT® LAMP FOR ANY WORKPLACE APPLICATION.

Want more information for a specific lamp?

Scan or go to:  
<http://www.grote.com/TrilliantProducts/>



Long-lasting, cool running, high output LED work lamp

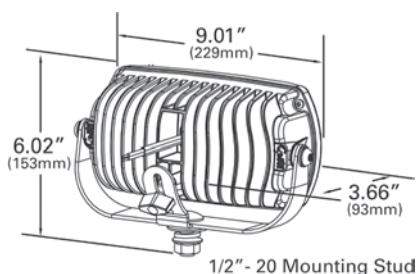
Field tested to survive in brutal off-road conditions

Color temperature provides a natural contrast most like sunlight, reducing eye fatigue



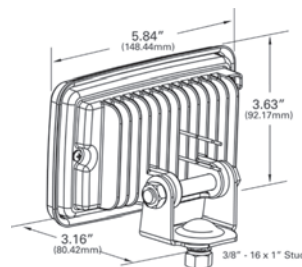
## Trilliant®

- Available in 1300 - 2700 Lumens
- Easily mountable with a durable 1/2" stud mounting bracket, also features Aim-N-Go technology
- Trilliant's durable stud mounting bracket allows it to be mounted almost anywhere.



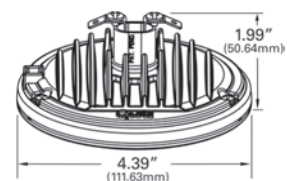
## Trilliant® Mini

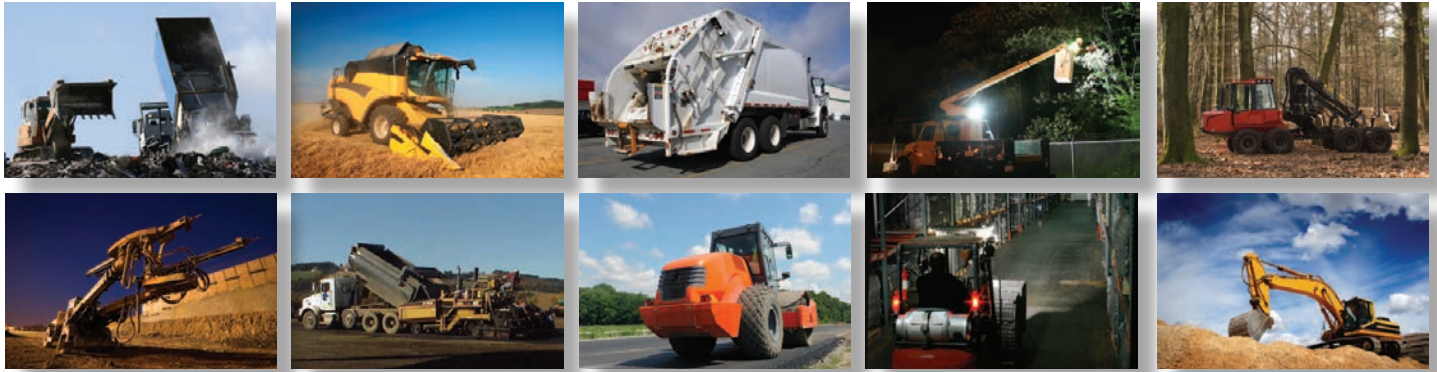
- Available in 600 Lumens
- Greater lumen output with lower power consumption than leading competitors' versions
- Leak proof sealed lamp is certified IP69K; stands up to scratches, pressure washing, and harsh weather



## Trilliant® T36 LED Bulb

- Available in 900 Lumens
- LED replacement for PAR36 lamps
- Leak proof sealed lamp is certified IP69K; stands up to scratches, pressure washing, and harsh weather





Superior performance for mining,  
construction, off-road, agriculture,  
utility, emergency, and military vehicles

Integrated circuit  
protection

ECE R10, Dir.72/245/  
EEC, Amended by  
2006/28/EC



### Trilliant® T36

- Available in 900 Lumens
- Leak proof sealed lamp is certified IP69K; stands up to scratches, pressure washing, and harsh weather



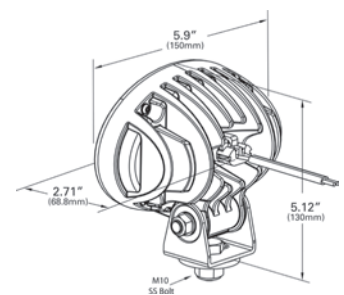
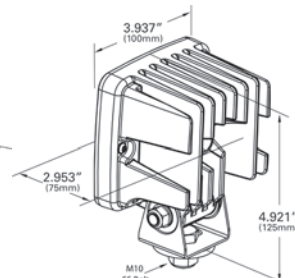
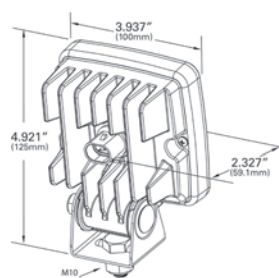
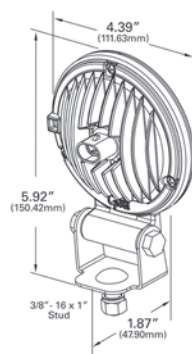
### Trilliant® Cube

- Available in 1200 - 2500 usable Lumens
- Leak proof sealed lamp is certified IP69K; stands up to scratches, pressure washing, and harsh weather



### Trilliant® Oval

- Available in 1200 - 2500 usable Lumens
- Leak proof sealed lamp is certified IP69K; stands up to scratches, pressure washing, and harsh weather





# 9 Common Causes of Failure



## VIBRATION

Broken lamp filaments are one of the most common problems caused by vibration, but they also can lead to the abrasion of mating surfaces, which cause connectors and splices to fail.

To minimize vibration problems, make certain that all wires and connectors are secured appropriately. Always secure the wiring as it exits the connector. Use cushioned mountings for lamps in applications where vibration is excessive.

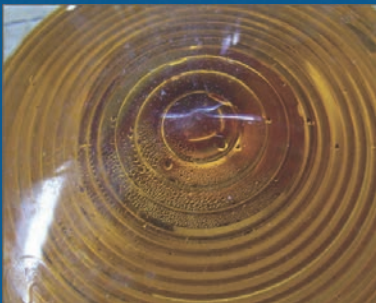


## MOISTURE AND CORROSION

Condensed water droplets inside a lens or corrosion around a lamp socket are sure signs that moisture has penetrated the system.

Water can enter the system through ineffective wire seals, unprotected splices, unsealed crimps and connectors and non-mating seals.

When making repairs, don't replace a sealed system with unsealed components. Make certain that connector seals are in place and undamaged. Inspect them carefully for cuts, tears and punctures.



## CHEMICAL DAMAGE

Continuous exposure to many of the common chemicals found in and around trucks can cause plastics to swell, crack, soften or otherwise become degraded. Diesel fuel and hot engine oil are the main culprits.

To minimize the effects of chemicals, inspect the wiring for signs of degradation. If it is occurring in an area that is generally free of contamination, check for leaky hoses, gaskets or fittings and repair if damaged or leaking.

To avoid damage from chemicals, don't run wiring in areas where the chance for continuous exposure is likely, such as under fuel lines and filters.



## ABRASION

Abrasion occurs when wires or wire wraps are allowed to run against frame members or other abrasive surfaces. Once the insulation is worn away, bare conductors may contact a ground surface and create a grounded circuit. Or, it could cause wear to the point of fracture resulting in an open circuit.

Using the proper routing and coverings will help to prevent wear areas and abrasive damage.

Worn coverings such as loom, convoluted tubing or spiral wrap should be replaced if they are no longer providing sufficient protection for the wires inside.



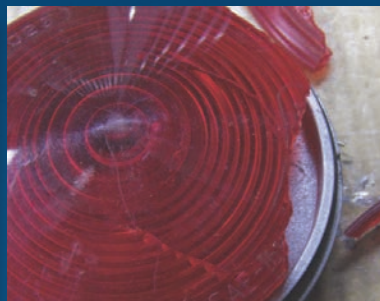
## EXTREME TEMP

A variety of conditions lead to extreme temperature build-up that can damage lighting and wiring. These include leaving a trailer's tail lights on when the trailer is backed up to a dock and airflow around the lights is prohibited.

When lights have been damaged from heat buildup, the lenses are often bubbled and misshapen. Where extreme temperatures can't be avoided, special heat-resistant wires and materials should be used.



# in Truck Wiring and Lighting



## IMPACT

Lighting and wiring must be protected from the impact of rocks, gravel and other road debris. A major impact can cause enough damage to require extensive repairs. Smaller, more frequent impacts over time may deliver equally extensive damage. Damage from impacts can cause problems although the wires are contained in a loom or other covering. During inspection, always check for damage from impacts and replace any wiring or lights that appear to be damaged. Make certain that the replacement parts are equivalent to or better than the original.



## FLEXING

Wiring in a truck often must make sharp turns around corners, as well as subjected to constant flexing where doors or hoods are opened and closed repeatedly.

To prevent wire damage from repeated flexing, avoid tight radius turns. Make sure that the wire is not snagged or stressed at its maximum extension. Also, make certain that the wire moves smoothly through its flexing cycle and doesn't rub or scrape against adjacent components.



## TENSILE LOADS

Wiring should not be considered an appropriate load-bearing component. It's easy to exceed the designed load limit by inadvertently installing wires under tension or snagging a section of wire on one of the moving parts. Using a wire bundle as a handhold or step can destroy the integrity of the conductor and its connections. So can the weight of accumulated ice, snow, mud and other materials.

Each of these points must be considered carefully when routing wires in a wiring harness.



## GRIT AND SAND

Accumulation of abrasive materials can lead to damage, especially when combined with vibration. If gritty materials enter connections, they can accelerate the wear on contact points causing interruption of the circuit and failure of devices. Sand and grit also can attract and hold moisture, creating conditions conducive to corrosion. In some cases, sand and grit may work their way inside protective coverings and abrade the insulation of wires running through them if there is relative motion between the covering and the wire.

One of the ways of reducing sand and grit buildup is to eliminate abrasive materials in the areas where wiring is present. Another way is to seal openings on protective coverings to keep gritty materials from entering.

For more information, visit [www.grote.com](http://www.grote.com)

**Grote**

The first name in vehicle  
safety systems®

## A family's commitment to the vehicle and transportation lighting industry, spanning more than four generations



**William D. Grote, Founder  
Grote Industries 1901**

Just like many of the distributors, fleets and OEM's Grote Industries serves, we're a family-owned business. Like a number of our customers, we're proud of our family's multi-generational commitment to the transportation industry, reaching back more than a century. If you know the Grote family, you also know that the vehicle lighting business is not just a job to us, it's something that's folded into our family's culture – part of our very DNA. We're fond of saying that "lighting is in our blood" and we're only half kidding.

Unlike many institutionally-owned companies, we're able to draw on our family's time-honored values, built upon our tradition of service to the industry and our fierce entrepreneurial spirit. We're thankful for the visionary legacy of our predecessors and because

of it, we can't help but to see the past, present and future of the lighting industry in a different context from those who simply find themselves working in the lighting business.

Founded on the principles of solid customer relationships, continuous innovation and exceptional product performance, Grote is committed to propelling itself and its industry forward, with inventive products and challenging ideas.

As a corporation, our family's culture extends to our entire organization, around the globe and particularly to our customer-facing staff. Grote is not sales oriented, we're not engineering oriented – we're relationship oriented and we're working hard every day to uphold our reputation and continue to earn your trust.

The Grote family has played a prominent role in shaping the vehicle lighting industry. We are deeply and personally engaged today, as we will be in the future, to make the kind of brave choices and bold decisions that will help move the vehicle lighting industry ahead and into an even brighter tomorrow.

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