



#### UNQUESTIONABLE QUALITY YOU CAN COUNT ON... DENSO'S REMANUFACTURED STARTERS & ALTERNATORS









#### From an Original Equipment Supplier:

- Precision built and engineered for exact replacement.
- Only supplier who remanufacturers and tests to the strictest original equipment specifications.
- Excellent fill rates and one of the lowest warranty return rates in the industry.
- If the remanufactured component does not meet our stringent specifications, it is replaced with a factory-new component!

## **INDUSTRIAL APPLICATIONS**

| SEQ | PART NUMBER | OE PN          | PART DESCRIPTION | OE                 | ٧  | KW/A | ENGINE                        | APPLICATION |
|-----|-------------|----------------|------------------|--------------------|----|------|-------------------------------|-------------|
| 1   | 280-7002    | 28100-20553-71 | STARTER          | Toyota             | 12 | 1.4  | 5P                            | Lift Truck  |
| 2   | 9742809-093 | 25-39316-00    | STARTER          | Carrier Transicold | 12 | 2.0  | V2203                         | Reefer      |
| 3   | 9722809-106 | 19215-63011    | STARTER          | Carrier Transicold | 12 | 1.4  | ZB600C                        | Reefer      |
| 4   | 280-7020    | 6T-7004        | STARTER          | Caterpillar        | 12 | 1.4  | White 1404                    | Lift Truck  |
| 5   | 210-7000    | 27060-78003-71 | ALTERNATOR       | Toyota             | 12 | 35   | 4Y, 5K                        | Lift Truck  |
| 6   | 210-7007    | 27060-78153-71 | ALTERNATOR       | Toyota             | 12 | 50   | 4Y, 5K                        | Lift Truck  |
| 7   | 9760218-465 | 34070-75601    | ALTERNATOR       | Boss               | 12 | 40   | BGP64MH w/ D905-E Kubota Eng. | Light Tower |
| 8   | 210-7022    | 27060-78158-71 | ALTERNATOR       | Toyota             | 12 | 50   | 4Y,5K                         | Lift Truck  |
| 9   | 280-7023    | 6T-7002        | STARTER          | Caterpillar        | 12 | 1.4  | Peugot (Gas)                  | Lift Truck  |
| 10  | 280-7014    | 28100-31021    | STARTER          | Toyota             | 12 | 0.8  | 4P                            | Lift Truck  |
| 11  | 280-7000    | 28100-20552-71 | STARTER          | Toyota             | 12 | 1.4  | 5P                            | Lift Truck  |
| 12  | 280-7041    | 1383240        | STARTER          | Hyster             | 12 | 2.0  | GM 4.3L                       | Lift Truck  |
| 13  | 9722809-107 | 25-37640       | STARTER          | Carrier Transicold | 12 | 1.4  | CT-4114                       | Reefer      |
| 14  | 280-7043    | 8504305        | STARTER          | Hyster             | 12 | 2.7  | Perkins 1000-4                | Lift Truck  |
| 15  | 280-7013    | 28300-22003-71 | STARTER          | Toyota             | 12 | 1.4  | 4Y, 5K (OIL CLUTCH)           | Lift Truck  |
| 16  | 280-7021    | 7X-1057        | STARTER          | Caterpillar        | 12 | 1.4  | 4-236G Perkins Eng.           | Lift Truck  |
| 17  | 280-9020    | FESE-18-400    | STARTER          | Yale               | 12 | 0.8  | FE, VA, F2                    | Lift Truck  |
| 18  | 280-7065    | 3122813        | STARTER          | Hyster             | 12 | 2.2  | NHR69, 4JG2                   | Lift Truck  |
| 19  | 210-7024    | 27060-78700-71 | ALTERNATOR       | Toyota             | 12 | 60   | 1DZ                           | Lift Truck  |
| 20  | 280-7005    | 28100-40291-71 | STARTER          | Toyota             | 12 | 2.5  | 2J (12UL-D)                   | Lift Truck  |
| 21  | 280-7007    | 28100-23800-71 | STARTER          | Toyota             | 12 | 0.8  | 5K                            | Lift Truck  |
| 22  | 280-7019    | 3T-5649        | STARTER          | Caterpillar        | 12 | 1.4  | V30A w/ 1404 CAT Eng.         | Lift Truck  |
| 23  | 280-7025    | 6T-7003        | STARTER          | Caterpillar        | 12 | 2.0  | Peugot Diesel Eng.            | Lift Truck  |
| 24  | 280-7040    | 323812         | STARTER          | Hyster             | 12 | 2.0  | C201 ISUZU                    | Lift Truck  |
| 25  | 9712809-074 | 124520-77011   | STARTER          | Yanmar             | 12 | 1.0  | 2T80                          | Various     |
| 26  | 280-7070    | TM27M00513     | STARTER          | Teledyne           | 12 | 1.4  | TM27                          | Lift Truck  |
| 27  | 280-9017    | 23300-K9160    | STARTER          | TCM Equipment      | 12 | 1.2  | A15, H20, Z24, H25            | Lift Truck  |
| 28  | 280-7015    | 28100-32850-71 | STARTER          | Toyota             | 12 | 1.4  | 1FZATM                        | Lift Truck  |

## **MEDIUM DUTY APPLICATIONS**

| SEQ | PART NUMBER | OE PN          | PART DESCRIPTION | OE    | V  | KW/A | ENGINE    | MARKET      | APPLICATION |
|-----|-------------|----------------|------------------|-------|----|------|-----------|-------------|-------------|
| 1   | 9712809-049 | 94039465       | STARTER          | GMC   | 12 | 3.0  | 6BD1      | Medium Duty | Truck       |
| 2   | 9761219-800 | 27040-1970A    | ALTERNATOR       | Hino  | 12 | 80   | H06C-TI   | Medium Duty | Truck       |
| 3   | 9722809-818 | 8-97207786-Up0 | STARTER          | lsuzu | 12 | 3.0  | 4HE1-T    | Medium Duty | Truck       |
| 4   | 9722809-638 | 28100-2541A    | STARTER          | Hino  | 12 | 2.5  | J05C-T1   | Medium Duty | Truck       |
| 5   | 9760218-172 | 97038565       | ALTERNATOR       | GMC   | 12 | 65   | 6BD1      | Medium Duty | Truck       |
| 6   | 9712809-591 | 28100-2052B    | STARTER          | Hino  | 12 | 4.0  | H07C      | Medium Duty | Truck       |
| 7   | 9761219-781 | 8-97500342-0   | ALTERNATOR       | lsuzu | 12 | 110  | 7.8L      | Medium Duty | Truck       |
| 8   | 9722809-280 | 8-97500231-0   | STARTER          | lsuzu | 12 | 3.0  | 6HE1-T    | Medium Duty | Truck       |
| 9   | 9760218-299 | 27040-1320A    | ALTERNATOR       | Hino  | 12 | 80   | H06C-T    | Medium Duty | Truck       |
| 10  | 280-8009    | 2585289C91     | STARTER          | Ford  | 12 | 1.8  | Ford 4.9L | Medium Duty | Truck       |
| 11  | 9722809-626 | 28100-2521A    | STARTER          | Hino  | 12 | 4.8  | J08C-T1   | Medium Duty | Truck       |
| 12  | 9742809-251 | 28100-2920     | STARTER          | Hino  | 12 | 4.0  | J08       | Medium Duty | Truck       |

## **CONSTRUCTION APPLICATIONS**

| SEQ | PART NUMBER | OE PN          | PART DESCRIPTION | OE          | ۷  | KW/A | ENGINE                       | APPLICATION |
|-----|-------------|----------------|------------------|-------------|----|------|------------------------------|-------------|
| 1   | 9712809-021 | 3904466        | STARTER          | Cummins     | 12 | 2.5  | 4BT1 3.9L                    | Various     |
| 2   | 9722809-066 | 16661-63013    | STARTER          | Kubota      | 12 | 1.4  | V2203-B                      | Various     |
| 3   | 9761219-610 | 5S-9088        | ALTERNATOR       | Caterpillar | 24 | 50   | 245D w/ 3406 Eng.            | Excavator   |
| 4   | 9702809-588 | 116930A1       | STARTER          | J.I. Case   | 12 | 2.5  | 188D                         | Various     |
| 5   | 9722809-695 | 19460-63013    | STARTER          | Kubota      | 12 | 2.0  | V2203                        | Various     |
| 6   | 9761219-796 | 600-861-6410-2 | ALTERNATOR       | Komatsu     | 24 | 60   | 3VX-E                        | Tractor     |
| 7   | 9761219-224 | 105-2811       | ALTERNATOR       | Caterpillar | 12 | 55   | 3046                         | Dozer       |
| 8   | 9760218-167 | 16241-64011    | ALTERNATOR       | Kubota      | 12 | 40   | V1200N                       | Various     |
| 9   | 9760218-680 | 17356-64012    | ALTERNATOR       | Kubota      | 12 | 45   | V1702                        | Various     |
| 10  | 9760218-452 | 16231-64011    | ALTERNATOR       | Kubota      | 12 | 30   | 10CC061                      | Various     |
| 11  | 9702809-840 | RE54092        | STARTER          | Atlas Copco | 12 | 2.5  | XAS90 w/ 4039D J. Deere Eng. | Loader      |
| 12  | 9702809-832 | 15504-63011    | STARTER          | Kubota      | 12 | 1.0  | DM1102                       | Various     |

# AGRICULTURAL APPLICATIONS

| SEQ | PART NUMBER | OE PN       | PART DESCRIPTION | OE           | v  | KW/A | ENGINE        | APPLICATION   |
|-----|-------------|-------------|------------------|--------------|----|------|---------------|---------------|
| JEQ |             |             |                  |              | -  |      |               |               |
| 1   | 9712809-071 | CH12741     | STARTER          | John Deere   | 12 | 1.4  | 3T80J         | Tractor       |
| 2   | 9722809-098 | 37560-63011 | STARTER          | Kohler       | 12 | 1.2  | V1505         | Lawn & Garden |
| 3   | 9700211-029 | AR93448     | ALTERNATOR       | John Deere   | 12 | 90   | 6466          | Various       |
| 4   | 9760218-605 | RE37201     | ALTERNATOR       | John Deere   | 12 | 120  | 6076          | Tractor       |
| 5   | 9722809-079 | 16612-63012 | STARTER          | Kohler       | 12 | 1.0  | D1005         | Lawn & Garden |
| 6   | 9702800-329 | RE13722     | STARTER          | John Deere   | 12 | 4.0  | 6329          | Tractor       |
| 7   | 9761219-117 | TY25243     | ALTERNATOR       | John Deere   | 12 | 40   | Yanmar Diesel | Tractor       |
| 8   | 9722809-025 | TY25233     | STARTER          | John Deere   | 12 | 1.2  | 3TN84         | Tractor       |
| 9   | 5702100-728 | CH10493     | ALTERNATOR       | John Deere   | 12 | 25   | 3T80J         | Various       |
| 10  | 9712800-048 | RE15718     | STARTER          | John Deere   | 24 | 7.5  | 4239T         | Various       |
| 11  | 9702800-525 | RE15663     | STARTER          | John Deere   | 24 | 7.5  | 6414          | Various       |
| 12  | 9722809-512 | 18508-6530  | STARTER          | Ishikawajima | 12 | 2.0  | N844          | Tractor       |





#### **FEATURES / BENEFITS**

- Remanufactured using the latest technological advances and product upgrades
- Every core goes through a rigorous quality control process prior to being accepted for remanufacturing
- Highest quality replacement components and OE-standard lubricants creating one of the best values in the market
- All units are subjected to rigorous safety and performance tests
- All starters are 100% load tested. All Alternators are 100% load and no-load tested

| STARTERS                        |   |  |  |  |  |  |
|---------------------------------|---|--|--|--|--|--|
| Hardware                        | Replaced if worn or damaged. 100% Re-plated (Trivalent Chromate finish).  |  |  |  |  |  |
| Yoke/Field Coil                 | Replaced if worn or damaged. Inspected and performance tested and yoke is repainted.                                |  |  |  |  |  |
| Front Housing                   | Replaced if worn or damaged with new components as needed. Cleaned inspected and re-tapped to OE specifications.    |  |  |  |  |  |
| Armature                        | Replaced if worn or damaged. Commutator 100% polished, gauged and performance tested.                               |  |  |  |  |  |
| Clutch Assembly                 | Replaced if worn or damaged. Cleaned, torque tested and re-lubricated to OEM grease specifications.                 |  |  |  |  |  |
| Solenoid Housing                | Replaced if worn or damaged. Cleaned, inspected and re-tapped to OE specifications. Bearing seat gauged.            |  |  |  |  |  |
| Solenoid Coil                   | Replaced if worn or damaged. Inspected and performance tested.  |  |  |  |  |  |
| Brush Holder                    | Replaced if worn or damaged. Cleaned and inspected.   |  |  |  |  |  |
| Brushes                         | Replaced if worn or damaged.  |  |  |  |  |  |
| Rear Cover                      | Replaced if worn or damaged. 100% re-plated (Trivalent Chromate finish).  |  |  |  |  |  |
| Gaskets                         | Replaced if worn or damaged.  |  |  |  |  |  |
| Plunger Assembly                | Contact replaced if worn or damaged. Cleaned and re-finished.   |  |  |  |  |  |
| Contact Plates                  | 100% new and updated to current specifications.   |  |  |  |  |  |
| Terminal Bolts                  | Inspected and replaced if worn or damaged. 100% copper plated.  |  |  |  |  |  |
| Bearings                        | Checked and re-greased to OEM spec or replaced if worn or damaged.  |  |  |  |  |  |
| Testing                         | Load & no-load testing performed based on OE performance curves.  |  |  |  |  |  |
|                                 | ALTERNATORS   |  |  |  |  |  |
| Hardware                        | Replaced if worn or damaged. 100% Re-plated (Trivalent Chromate finish).  |  |  |  |  |  |
| Housing                         | Replaced if worn or damaged with new component as needed. Cleaned, inspected, and re-tapped to OEM specifications.  |  |  |  |  |  |
| Rotor                           | Replaced if worn or damaged with component as needed. Continuity performance tested and 600 volt insulation tested. |  |  |  |  |  |
| Rotor Slip Ring                 | 100% Re-machined & controlled to OE specifications to control brush wear.   |  |  |  |  |  |
| Pulley                          | Replaced if worn or damaged. Checked for damage and is repainted.   |  |  |  |  |  |
| Bearing                         | Tested and replaced as necessary.   |  |  |  |  |  |
| Stator                          | Replaced if worn or damaged with new component as needed. 600 volt insulator tested.                                |  |  |  |  |  |
| Terminal Insulator              | Replaced if worn or damaged with new component as needed.   |  |  |  |  |  |
| Brushes, Springs & Brush Holder | 100% new and updated to current specifications. Replaced with new components.                                       |  |  |  |  |  |
| Voltage Regulator               | 100% performance tested replaced if damaged.  |  |  |  |  |  |
| Rectifiers/Diodes               | Replaced if worn or damaged. 300 volt performance tested to OEM specifications.                                     |  |  |  |  |  |
| Rear Cover                      | Replaced if worn or damaged. Repainted to OEM specifications.   |  |  |  |  |  |
| Testing                         | Load testing performed based on OE performance curves.  |  |  |  |  |  |
|                                 |   |  |  |  |  |  |

All replacement component parts are genuine DENSO components. Karam A.L. Authorized DENSO Distributor

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