

**Prestolite**  
*electric*



**Leece-Neville**  
HEAVY DUTY SYSTEMS



# 2015

## ALTERNATORS & STARTER MOTORS



### BUYER'S GUIDE

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**DISCLAIMER**

While every care has been taken in compiling the information in this document, Prestolite/Leece-Neville cannot accept legal liability for any inaccuracies, omissions, or consequential damage resulting there from. Prestolite/Leece-Neville has an extensive design and development team which may alter product specifications. Prestolite/Leece-Neville reserves the right to alter specifications without notice and whenever necessary to ensure optimum performance from its product range.

# ALTERNATOR SECTION

## HOW TO USE THIS BUYER'S GUIDE

### **ALTERNATOR SECTION:**

Each section contains the product family and general description for the series. At the top of the page are listed the applications and features of the series.

#### **Application:**

Each general category of applications is identified.

#### **Features:**

Highlights of some of the unique features for the family/series are listed.

#### **On the right side of the page are:**

Specifications - mechanical/electrical general specifications of the family/series.

Regulator Codes - Specific information/functions of the regulator.

Feature Codes - Unique features of a specific model in the family/series.

Alternators are listed by family/series, then by mount type with illustrations of typical models. The mount type charts are listed by volts and amperages, then numerically by part number. Each of the regulator and feature codes are identified in the corresponding column on the model listing charts in the middle section of the page. For an explanation of codes, refer to the Glossary of Alternator Terms.

**Glossary of Alternator Terms**

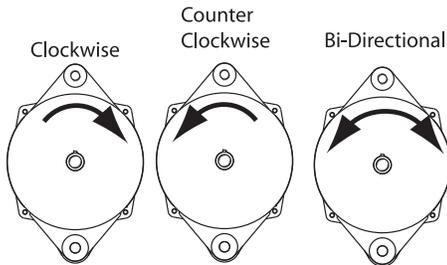
|                |   |
|----------------|---|
| Irridite*      | *Proprietary name of Allied Research Products. A chromate coating applied to provide corrosion resistance.  |
| E-coat         | An epoxy coating that protects the metal from corrosion   |
| Earth polarity | This is the type of electrical system fitted to the vehicle. Generally it means that the negative terminal of the battery is connected to the vehicle frame or "ground" reference   |
| Earth terminal | This is the connection point for the "Ground" or return path of the electrical device   |
| Hex shaft      | Hex shaped indentation milled into the end of the shaft, eliminating the need for a key. (See illustration)   |
| Rotation       | <b>CW</b> – Clockwise direction when viewing the alternator from the drive end<br><b>CCW</b> – Counter Clockwise direction when viewing the alternator from the drive end<br><b>Bi-Dir</b> – Bi Directional – either direction when viewing the alternator from the drive end. (See illustration) |

**Glossary of Regulator Codes**

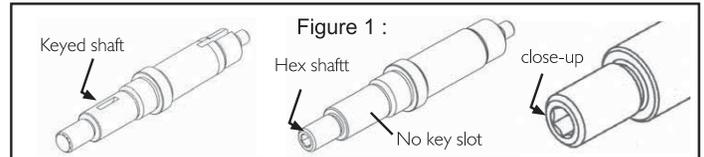
|                   |  |
|-------------------|--|
| External location | Regulator is not mounted directly on alternator  |
| Integral location | Regulator is mounted directly on alternator  |
| External sense    | Voltage sensing lead that is externally connected to alternator, defined as remote sense                           |
| Internal sense    | Voltage sensing lead that is internally connected to alternator  |
| Diode trio        | Emulates the function of the diode trio without a trio being in the alternator                                     |
| External excite   | Turns on by external source. See alternator drawing for power requirements.  |
| Ignition excite   | Needs signal from ignition switch in order to turn on regulator  |
| Self excite       | Turns on by sensing a rotating condition of the alternator   |
| SmartCheck        | Regulator that provides diagnostic signaling by LED of a properly working alternator                               |
| Lamp driver       | Regulator that has a terminal for connecting a dashboard lamp and providing a path to ground (open collector type) |
| Temp compensation | The value of the voltage change per degree C   |
| D+                | The diode trio terminal  |

**Illustrations**

**Rotation**



**Hex Shaft**



To assist in the assembly/disassembly/testing of units, a hex socket-like indentation has been milled into the end of the rotor shaft. This eliminated the need for a key in the assembly. Therefore the hex shaft will not have the key slot milled into the side. (See Fig.1).

**Glossary of Alternator Mounting Terms**

|   |   |
|---|---|
| <p><b>J180</b><br/>Dual foot mounts on bottom, single mounting ear on top</p>                        | <p><b>T-Mount</b><br/>Same as pad mounts, minus one mounting bolt hole (seen in some Ford applications)</p>  |
| <p><b>Pad</b><br/>Four bolt mounts, two connected mounts on top, two connected mounts on bottom</p>  | <p><b>Spool</b><br/>1 to 3 inch long bottom mounting foot with 1 to 3 top mounting hole configurations</p>   |

### INCH TO METRIC QUICK REFERENCE CONVERSION CHART

| SHAFT DIAMETER INCHES | SHAFT DIAMETER METRIC |
|-----------------------|-----------------------|
| .5906                 | 15mm                  |
| .6265-.6272           | 15.9mm                |
| .669                  | 17mm                  |
| .748                  | 19mm                  |
| .8736-.8741           | 22mm                  |
| .8740-.8745           | 22.2mm                |
| 1.25                  | 31.75mm               |

| PULLEY DIAMETER INCHES | PULLEY DIAMETER METRIC |
|------------------------|------------------------|
| 2.559                  | 65mm                   |
| 2.756                  | 70mm                   |
| 3.150                  | 80mm                   |

| FRAME DIAMETER INCHES | FRAME DIAMETER METRIC |
|-----------------------|-----------------------|
| 2.913                 | 74mm                  |
| 3.661                 | 93mm                  |
| 3.937                 | 100mm                 |
| 4.567                 | 116mm                 |
| 4.84                  | 123mm                 |
| 5.039                 | 128mm                 |
| 5.118                 | 130mm                 |
| 5.67                  | 144mm                 |
| 5                     | 127mm                 |
| 6.5 (1/2)             | 165mm                 |
| 6 .5625 (9/16)        | 167mm                 |
| 8.5625 (9/16)         | 217mm                 |

### WIRE SIZING GUIDE

Use the following chart to determine the correct wire sizes for your installation application.

- 'A' Load Circuit
- 'B' AC Circuit
- 'C' Field Circuit

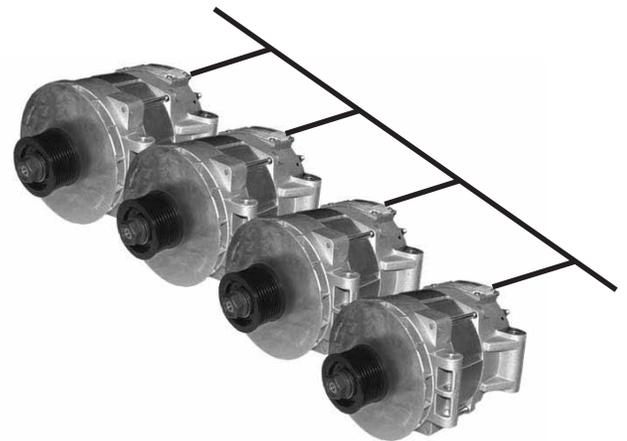
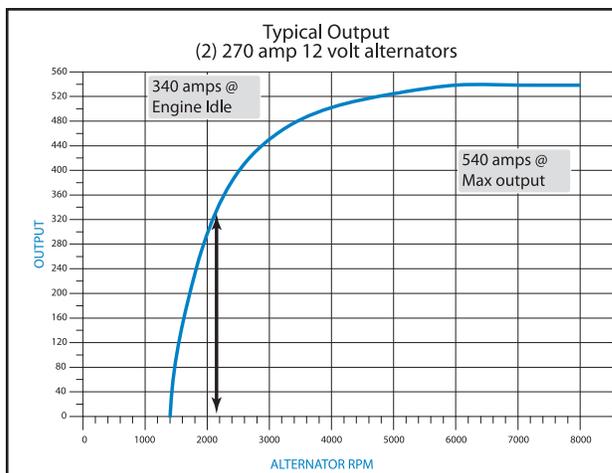
| 14 & 28 Volt Systems | Total Circuit Length | Recommended Minimum Wire Size |     |     |
|----------------------|----------------------|-------------------------------|-----|-----|
|                      |                      | 'A'                           | 'B' | 'C' |
| 60-75 Amps           | 15 Feet or Less      | #6                            | #8  | #16 |
|                      | 16-25 Feet           | #4                            | #6  | #14 |
|                      | 26-40 Feet           | #2                            | #4  | #12 |
| 80-125 Amps          | 15 Feet or Less      | #4                            | #6  | #16 |
|                      | 16-25 Feet           | #2                            | #4  | #14 |
|                      | 26-40 Feet           | #0                            | #2  | #12 |
| 130-250 Amps         | 15 Feet or Less      | #0                            | #4  | #16 |
|                      | 16-25 Feet           | #2/0                          | #2  | #14 |
|                      | 26-40 Feet           | #4/0                          | #0  | #12 |
| 250-325 Amps         | 12 Feet or Less      | #2/0                          | N/A | #16 |
|                      | 13-20 Feet           | #4/0                          | N/A | #16 |

## NEW MULTIPOWER™ TECHNOLOGY

The MultiPower™ system allows for the installation of up to four (4) alternators on a single vehicle, for a possible total of up to 1,080 amps.

The unique feature of the system is the ability of the alternators to communicate through a simple wire connected to a transmit/receive terminal on the integrated regulators. No external control or processing unit is required, greatly simplifying installation and increasing dependability.

This constant, real-time communication by the regulators allows the MultiPower™ system to share the load of the vehicle dynamically and effectively. This alternator unit can be installed in a single application where future expandability may be required, or in any configuration of up to 4 units on a single vehicle. Multiples of a single part number can be used in applications with requirements ranging all the way up to 1080 amps. This single unit capability means you only need to stock one alternator model.



The load sharing capability is integrated into the regulator that is installed on the alternator. No external CPU or CU is required, only a connecting wire between the alternators. The technology used utilizes proven components with long established reliability records.

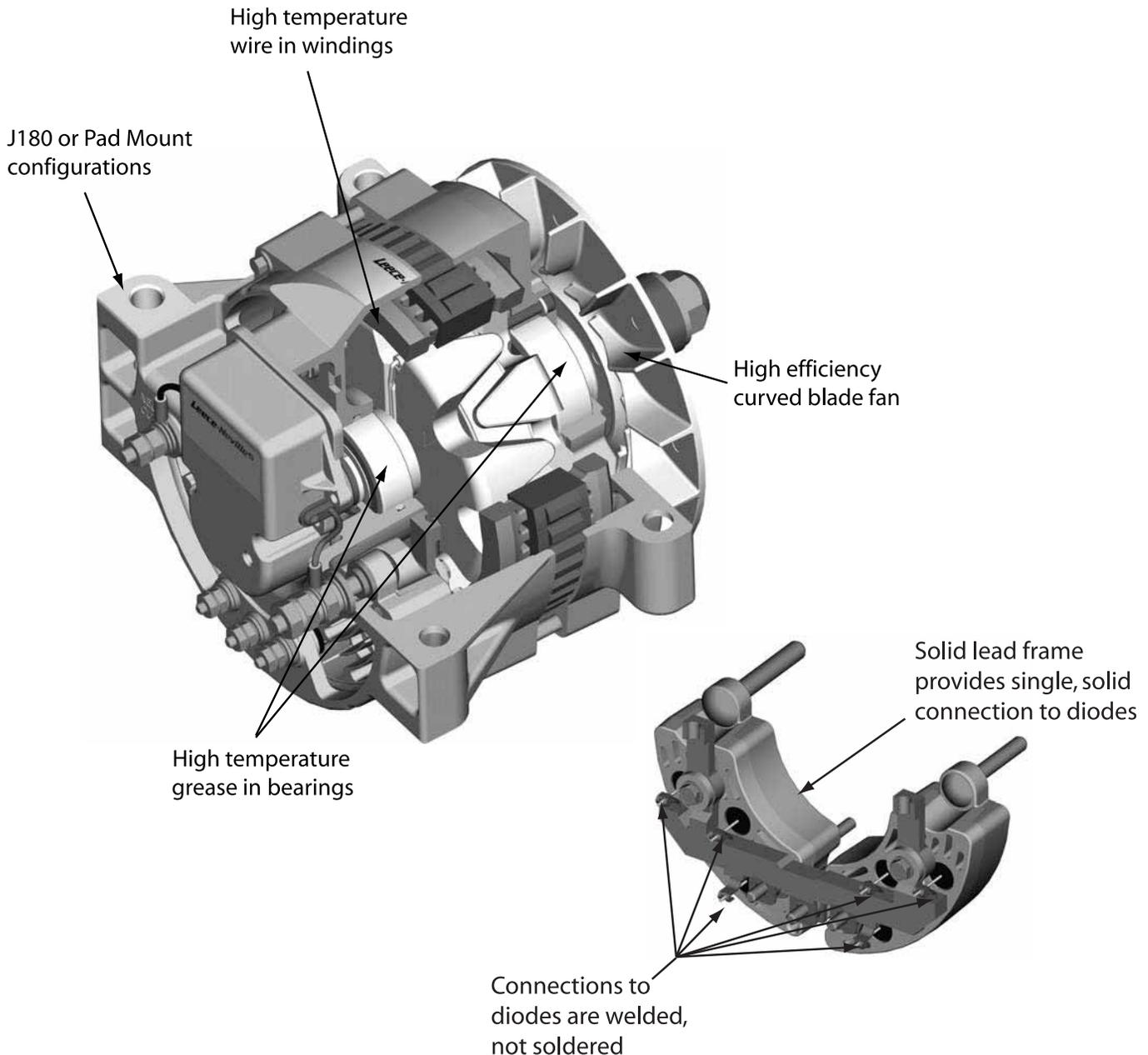
Multiple alternators provide back-up power in the event of a partial system failure, allowing for significant Continue in Use and Limp Home functionality. Very high amperage capabilities allow for large amounts of available power at engine idle. There is no need to operate alternators at high speed to obtain the desired output, extending the life of the units. These units are also high temperature rated at 110°C for installation on new EPA emission compliant engines.

The system will initially be confined to the 270 amp 4000 series alternators, with possible expansion to additional lines in the future.

### ALTERNATOR HIGH TEMPERATURE UPDATE INFORMATION

Under-hood temperatures in today's heavy-duty trucks are exceeding anything the industry has seen before. Low-profile cab designs reduce air circulation, and the new emission standards mean hotter running engines. That's why we have redesigned and upgraded our alternator series so now they can take the heat better.

At Leece-Neville we are aggressively re-engineering our high volume alternators to new high temperature specifications. However, not all alternators in the series listing may have been converted to date. Please contact your Leece-Neville representative for additional details.



# 2000-3000

HIGH OUTPUT FOR HEAVY-DUTY VEHICLES AT ANY SPEED

**APPLICATIONS:**

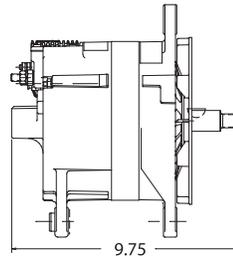
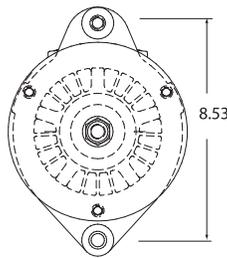
- Heavy Duty Truck
- Marine
- Military

**FEATURES:**

- Designed for high output performance in heavy duty applications
- Better low-speed performance than the competition
- Longer, larger brushes
- Brushes and slip-ring assembly are in a sealed compartment for longer life

- Heavy construction reduces stress and heat for longer life
- Lower cut-in and turn-on speeds
- Larger rear bearing
- New regulator technology

## J180 MOUNT



| PART NO.   | SALES NO. | VOLTS | AMPS | MOUNT | B+      | B-      | ROTATE | REGULATOR | FEATURE |
|------------|-----------|-------|------|-------|---------|---------|--------|-----------|---------|
| A0012302JB | 2302JB    | 32    | 60   |       | 5/16-18 | 1/4-20  | BI-DIR | BDI       | 4, 8    |
| A0012500LC | 2500LC    | 12    | 105  |       | 5/16-18 | 1/4-20  | BI-DIR | BDI       |         |
| A0012511JB | 2511JB    | 24    | 90   |       | 1/4-20  | 5/16-18 | BI-DIR | BDI       |         |
| A0012670LC | 2670LC    | 12    | 130  |       | 5/16-18 | 1/4-20  | BI-DIR | BDI       |         |
| A0012706LC |           | 12    | 130  |       | 1/4-20  | 1/4-20  | CW     | BDI       |         |
| A0012800LC | 2800LC    | 12    | 160  |       | 5/16-18 | 5/16-18 | BI-DIR | BDI       |         |
| A0012808LC | 2828LC    | 12    | 145  |       | 1/4-20  | 1/4-20  | CW     | BDI       |         |
| A0012819LC |           | 12    | 160  |       | 1/4-20  | 1/4-20  | CW     | BDI       |         |
| A0012824LC | 2824LC    | 12    | 160  |       | 5/16-18 | 5/16-18 | BI-DIR | BCG       |         |
| A0012913LC |           | 12    | 160  |       | 5/16-18 | 5/16-18 | BI-DIR | BDI       |         |

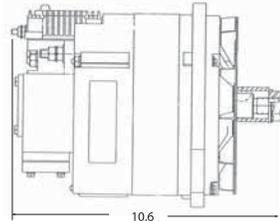
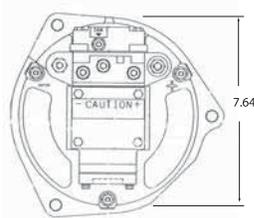
**SPECIFICATIONS:**

- System voltage: 12/24 Volt
- Frame: 6 9/16 / 167mm
- Shaft Diameter: 7/8"

**REGULATOR CODES:**

- A External location
- B Integral location
- C External sense
- D Internal sense
- E Diode trio
- G Ignition excite
- H External excite
- I Self excite
- K Lamp driver
- L Temp compensation
- M D+
- N Multi-power regulator
- O Remote sense

## FLANGE MOUNT



| PART NO.   | SALES NO. | VOLTS | AMPS | MOUNT  | B+      | B-     | ROTATE | REGULATOR | FEATURE |
|------------|-----------|-------|------|--------|---------|--------|--------|-----------|---------|
| A0013426JC | 3426JC    | 24    | 65   | FLANGE | 5/16-18 | 1/4-20 | BI-DIR | BDH       | 4       |
| A0013525JC | 3525JC    | 12    | 90   | FLANGE | 5/16-18 | 1/4-20 | BI-DIR | BDH       | 4       |
| A0013625JC | 3625JC    | 12    | 105  | FLANGE | 5/16-18 | 1/4-20 | BI-DIR | BDH       | 4       |
| A0013627JC | 3627JC    | 24    | 100  | FLANGE | 5/16-18 | 1/4-20 | BI-DIR | BDH       | 4       |
| A0013632JC | 3632JC    | 32    | 115  | FLANGE | 5/16-18 | 1/4-20 | BI-DIR | BDH       | 4       |
| A0013725JC | 3725JC    | 12    | 130  | FLANGE | 5/16-18 | 1/4-20 | BI-DIR | BDH       | 4       |

**FEATURE CODES:**

- 1 UL Listed
- 2 E-coated
- 3 UL Listed / Painted
- 4 Painted
- 5 1.25 Tapered Shaft
- 6 Right angle connector
- 7 Internal ground
- 8 Ignition protect

# 4400-4700

INTERSTATE ALTERNATORS FOR HEAVY DUTY TRUCKS

**APPLICATIONS:**

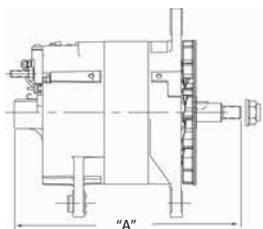
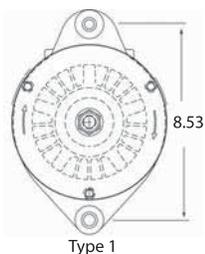
- Heavy Trucks
- Emergency Vehicles
- Ambulances
- Vans
- Light Trucks

**FEATURES:**

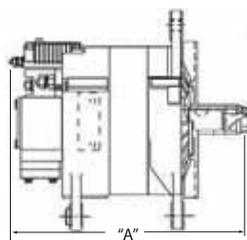
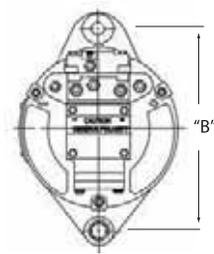
- Designed for reliability in applications where high output at idle is required
- High output with low cut-in
- Mounting- these units are .66 longer than the ambulance alternators, but in most cases they can be mounted using the same brackets and hardware

- Used on all gasoline engines and diesel engines up through 7.3 litres
- These units cut alternator rpm in half and increase the life of wearing parts, such as bearings, brushes and belts
- Permanently greased ball type bearings are sealed for more reliability

## J180 MOUNT



Type 1



Type 2

**SPECIFICATIONS:**

- System voltage: 12/24 Volt
- Frame: 6 9/16 / 167mm
- Shaft Diameter: 7/8"

**REGULATOR CODES:**

- A External location
- B Integral location
- C External sense
- D Internal sense
- E Diode trio
- G Ignition excite
- H External excite
- I Self excite
- K Lamp driver
- L Temp compensation
- M D+
- N Multi-power regulator
- O Remote sense

**FEATURE CODES:**

- 1 Painted
- 2 110°C (230°F)

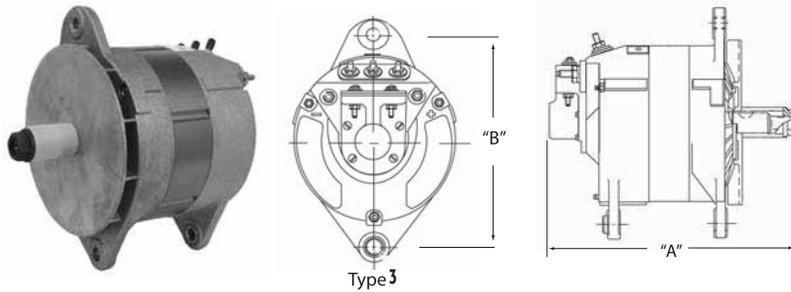
| PART NO.     | SALES NO. | VOLTS | AMPS | MOUNT | TYPE | B+      | B-      | ROTATE | REGULATOR | DIM. A | DIM. B | FEATURE |
|--------------|-----------|-------|------|-------|------|---------|---------|--------|-----------|--------|--------|---------|
| A0014417JB   | 4417JB    | 48    | 90   | J-180 | 2    | 5/16-18 | 5/16-18 | BI-DIR | BCG       | 9.9    | 8.53   |         |
| A0014420JB   | 4420JB    | 56    | 85   | J-180 | 2    | 5/16-18 | 5/16-18 | BI-DIR | BCG       | 9.9    | 8.53   |         |
| A0014625JC   | 4625JC    | 12    | 105  | J-180 | 2    | 5/16-18 | 1/4-20  | BI-DIR | BDH       | 10.43  | 8.53   |         |
| A0014626JC   | 4626JC    | 24    | 100  | J-180 | 2    | 5/16-18 | 1/4-20  | BI-DIR | N/A       | 10.43  | 8.53   |         |
| A0014629JA   | 4629JA    | 24    | 100  | J-180 | 2    | 5/16-18 | 1/4-20  | BI-DIR | BDH       | 10.43  | 8.53   |         |
| A0014729LC   | 4729LC    | 24    | 140  | J-180 | 1    | 5/16-18 | 5/16-18 | CW     | N/A       | 10.67  | 8.53   |         |
| A0014740JB   | 4740JB    | 24    | 200  | J-180 | 2    | 5/16-18 | 3/8-16  | CW     | BDIK      | 11.01  | 8.53   |         |
| A0014742JB*  | 4742JB    | 24    | 200  | J-180 | 2    | 5/16-18 | 3/8-16  | CW     | BCGN      | 11.01  | 8.5    | 2       |
| A0014743JB** | 4743JB    | 24    | 200  | J-180 | 2    | 5/16-18 | 3/8-16  | CW     | BCG       | 11.01  | 8.53   |         |

\* MULTIPOWER ALTERNATOR SYSTEM MODEL \*\* BATTERYLESS

# 4400-4700 (Continued)

INTERSTATE ALTERNATORS FOR  
HEAVY DUTY TRUCKS

## J180 MOUNT



| PART NO.   | SALES NO. | VOLTS | AMPS | MOUNT | TYPE | B+      | B-     | ROTATE | REGULATOR | DIM. A | DIM. B | FEATURE |
|------------|-----------|-------|------|-------|------|---------|--------|--------|-----------|--------|--------|---------|
| A0014425AA | 4425AA    | 12    | 75   | J-180 | 3    | 1/4-20  | 1/4-20 | BI-DIR | N/A       | 10.12  | 8.53   |         |
| A0014625AA | 4625AA    | 12    | 105  | J-180 | 3    | 1/4-20  | 1/4-20 | BI-DIR | N/A       | 10.12  | 8.53   |         |
| A0014626AA | 4626AA    | 24    | 100  | J-180 | 3    | 1/4-20  | 1/4-20 | BI-DIR | N/A       | 10.12  | 8.53   |         |
| A0014632AA | 4632AA    | 32    | 115  | J-180 | 3    | 5/16-18 | 1/4-20 | BI-DIR | N/A       | 10.12  | 8.53   | 1       |
| A0014725AA | 4725AA    | 12    | 130  | J-180 | 3    | 1/4-20  | 1/4-20 | BI-DIR | N/A       | 10.12  | 8.53   |         |

\* MULTIPower ALTERNATOR SYSTEM MODEL \*\* BATTERYLESS

### SPECIFICATIONS:

- System voltage: 12/24 Volt
- Frame: 6 9/16 / 167mm
- Shaft Diameter: 7/8"

### REGULATOR CODES:

- A External location
- B Integral location
- C External sense
- D Internal sense
- E Diode trio
- G Ignition excite
- H External excite
- I Self excite
- K Lamp driver
- L Temp compensation
- M D+
- N Multi-power regulator
- O Remote sense

### FEATURE CODES:

- 1 Painted
- 2 MultiPower

# MULTIPOWER™

HIGH PERFORMANCE / HIGH OUTPUT /  
HIGH TEMPERATURE\*

**APPLICATIONS:**

- Emergency Vehicles
- School Buses
- Shuttle Bus
- Transit Buses
- Military

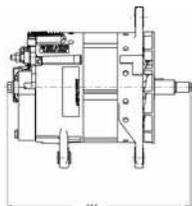
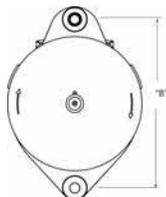
Now 125°C  
High Temperature  
Rated for New EPA Emission  
Compliant Engines!

**FEATURES:**

- Intelligent Regulator provides load sharing capability. No external CPU or CU is required, only a connecting wire between alternators
- Designed for reliable high output for large amounts of available power at engine idle
- Multiple alternators provide back-up power in the event of a partial system failure

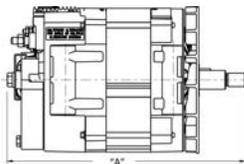
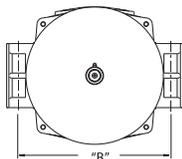
- Brush/slip ring system is enclosed to protect against road dirt
- Fan design offers more efficient air flow and cooler operation under high output load conditions
- Solid rectifier lead frame, advanced avalanche diodes, welded connections
- Uses high temperature grease and seals for longer bearing life

## J180 MOUNT



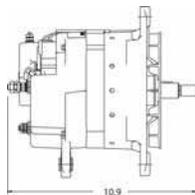
| PART NO.   | SALES NO. | VOLTS | AMPS | MOUNT | B+      | B-     | ROTATE | REGULATOR | DIM. A | DIM. B | FEATURE |
|------------|-----------|-------|------|-------|---------|--------|--------|-----------|--------|--------|---------|
| A0014742JB | 4742JB    | 24    | 200  | J-180 | 5/16-18 | 3/8-16 | CW     | BCGN      | 11.01  | 8.5    | 8.5     |

## PAD MOUNT

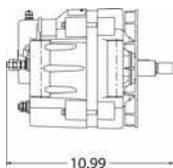
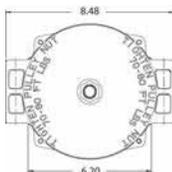


| PART NO.   | SALES NO. | VOLTS | AMPS | MOUNT | B+      | B-     | ROTATE | REGULATOR | DIM. A | DIM. B | FEATURE |
|------------|-----------|-------|------|-------|---------|--------|--------|-----------|--------|--------|---------|
| A0014974PA | 4974PA    | 24    | 200  | PAD   | 5/16-18 | 3/8-16 | CW     | BCGN      | 11.02  | 7.48   | 2, 3, 5 |
| A0014993PA | 4993PA    | 12    | 270  | PAD   | 5/16-18 | 3/8-16 | CW     | BCGN      | 11.02  | 7.48   | 2, 3, 5 |
| A0014994PA | 4994PA    | 12    | 320  | PAD   | 5/16-18 | 3/8-16 | CW     | BDGN      | 11.02  | 7.48   | 2, 3, 5 |

## BRUSHLESS



| PART NO.     | SALES NO.    | VOLTS | AMPS | MOUNT | B+          | B-         | ROTATE | REGULATOR | FEATURE |
|--------------|--------------|-------|------|-------|-------------|------------|--------|-----------|---------|
| BLD3338GH    | BLD3338GH    | 24    | 140  | J-180 | 5/16-24 UNF | 1/4-28 UNF | CW     | N         | 1, 5    |
| BLD3359GH-MP | BLD3359GH-MP | 24    | 100  | J-180 | 5/16-24 UNF | 1/4-28 UNF | CW     | N         | 1, 5, 6 |



| PART NO. | SALES NO. | VOLTS | AMPS | MOUNT | B+          | B-         | ROTATE | REGULATOR | FEATURE |
|----------|-----------|-------|------|-------|-------------|------------|--------|-----------|---------|
| BLP3322  | BLP3322   | 24    | 140  | PAD   | 5/16-24 UNF | 1/4-28 UNF | CW     | N         | 5       |

**SPECIFICATIONS:**

- System voltage: 12/24 Volt
- Frame: 6 9/16 / 167mm
- Shaft Diameter: 7/8"

**REGULATOR CODES:**

- A External location
- B Integral location
- C External sense
- D Internal sense
- E Diode trio
- G Ignition excite
- H External excite
- I Self excite
- K Lamp driver
- L Temp compensation
- M D+
- N Multi-power regulator
- O Remote sense

**FEATURE CODES:**

- 1 Hex shaft
- 2 Ignition terminal
- 3 Multiple alternator system
- 4 Reversed output terminal
- 5 TxRx terminal
- 6 Corrosion protected

\* Leece-Neville is aggressively re-engineering our high volume alternators to the new high temperature specification. However, not all alternators in the series listed may have been converted to date. Please contact your Leece-Neville representative for additional details.

# 4800-4856

## SPECIALTY ALTERNATORS

### APPLICATIONS:

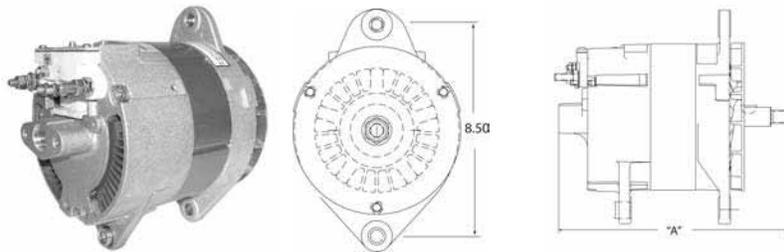
- |                  |                 |
|------------------|-----------------|
| <b>12 Volt:</b>  | <b>24 Volt:</b> |
| ■ Firetruck      | ■ Firetruck     |
| ■ Ambulance      | ■ Ambulance     |
| ■ Shuttle Bus*   | ■ Shuttle Bus*  |
| ■ Utility Trucks | ■ Off-Highway   |
| ■ Motorhomes     | Equipment       |

\* Use only 185 amp and higher for Bus application

### FEATURES:

- Designed for Heavy-duty diesel and gas engine applications
  - Well suited for emergency vehicles, as they feature extended 1/4-20 threaded AC terminals to aid installation of auxiliary equipment
  - High output at all engine speeds/ Superior performance at low engine rpm
  - Integral solid-state regulators on JB style units
  - JB style units are totally encapsulated against moisture and vibration
  - AA style units used with separately mounted solid-state regulator
- Heavy-duty components for long life:
    - Large bearings with large grease capacity
    - Heavy duty, high P.I.V. rated rectifiers mounted in large heat sinks for proper cooling
    - Rotor and stator windings treated with a baked varnish process for superior winding rigidity and added insulation
    - Longer life graphite brushes, fully enclosed for protection against contaminants
  - Low cut-in
  - Compact frame size

### J180 MOUNT



| PART NO.   | SALES NO. | VOLTS | AMPS | MOUNT | B+      | B-      | ROTATE | REGULATOR | DIM A | FEATURE |
|------------|-----------|-------|------|-------|---------|---------|--------|-----------|-------|---------|
| A0014805AA | 4805AA    | 12    | 145  | J-180 | 5/16-18 | 5/16-18 | BI-DIR | N/A       | 10.6  |         |
| A0014818JB | 4818JB    | 12    | 270  | J-180 | M8X1.75 | M10X1.5 | CW     | BDI       | 10.8  |         |
| A0014826JB | 4826JB    | 24    | 105  | J-180 | 5/16-18 | 5/16-18 | BI-DIR | BDH       | 10.7  | 2       |
| A0014850AA | 4850AA    | 12    | 200  | J-180 | N/A     | N/A     | CW     | N/A       | 10.7  |         |
| A0014852AA | 4852AA    | 12    | 240  | J-180 | N/A     | N/A     | CW     | N/A       | 10.7  |         |

### SPECIFICATIONS:

- System voltage: 12/24/48 Volt
- Frame: 6 9/16 / 167mm
- Shaft Diameter: 7/8"

### REGULATOR CODES:

- A External location
- B Integral location
- C External sense
- D Internal sense
- E Diode trio
- G Ignition excite
- H External excite
- I Self excite
- K Lamp driver
- L Temp compensation
- M D+
- N Multi-power regulator
- O Remote sense

### FEATURE CODES:

- 1 Hex shaft
- 2 Ignition terminal
- 3 Dual alternator system
- 4 Reversed output terminal

# 4800-4900

HIGH OUTPUT / HIGH TEMPERATURE\*  
ALTERNATORS

**APPLICATIONS:**

- Medium and Heavy Duty Trucks
- Transit Buses
- School Buses
- Shuttle Bus
- Emergency Vehicles
- Military

*Now 125°C  
High Temperature  
Rated for New EPA Emission  
Compliant Engines!*

**FEATURES:**

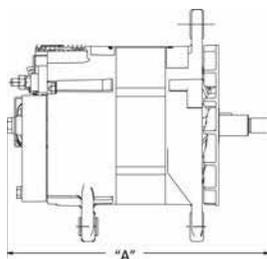
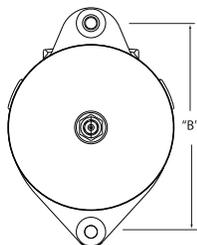
- Designed for reliable high output in applications where power demands are varied over a wide range of operating rpm's
- Solid rectifier lead frame, advanced avalanche diodes, welded connections
- Regulator options include self-excite, ignition excite, remote sense, or adjustable regulator type configurations

- Brush/slip ring system is enclosed to protect against road dirt
- Fan design offers more efficient air flow and cooler operation under high output load conditions
- Large, cartridge width, front ball bearing is used to support high belt loads
- Uses high temperature grease and seals for longer bearing life

## J180 MOUNT



Pulley not included



| PART NO.    | SALES NO. | VOLTS | AMPS | MOUNT | B+      | B-      | ROTATE | REGULATOR | DIM. A | DIM. B | FEATURE |
|-------------|-----------|-------|------|-------|---------|---------|--------|-----------|--------|--------|---------|
| A0014833LGH | 4833LGH   | 12    | 185  | J-180 | 5/16-18 | 5/16-18 | CW     | BDI       | 11.23  | 8.5    | 1       |
| A0014836LGH | 4836LGH   | 12    | 185  | J-180 | 5/16-18 | 5/16-18 | CW     | BDI       | 11.22  | 8.5    | 1,4     |
| A0014846AAH | 4846AAH   | 12    | 185  | J-180 | 5/16-18 | 5/16-18 | CW     | N/A       | 11.22  | 8.5    | 1       |
| A0014860JB  | 4860JB    | 12    | 200  | J-180 | 5/16-18 | 3/8-16  | CW     | BDH       | 11.09  | 8.5    | 2       |
| A0014861JB  | 4861JB    | 12    | 200  | J-180 | 5/16-18 | 3/8-16  | CW     | BDH       | 11.09  | 8.5    | 2,4     |
| A0014863JB  | 4863JB    | 12    | 200  | J-180 | 5/16-18 | 3/8-16  | CW     | BDI       | 11.09  | 8.5    |         |
| A0014863JBH | 4863JBH   | 12    | 200  | J-180 | 5/16-18 | 3/8-16  | CW     | BDI       | 11.09  | 8.5    |         |
| A0014867JB  | 4867JB    | 12    | 270  | J-180 | 5/16-18 | 3/8-16  | CW     | BDI       | 11.01  | 8.5    |         |
| A0014867JBH | 4867JBH   | 12    | 270  | J-180 | 5/16-18 | 3/8-16  | CW     | BDI       | 11.01  | 8.5    |         |
| A0014867JGH | 4867JGH   | 12    | 270  | J-180 | 5/16-18 | 3/8-16  | CW     | BDI       | 11.01  | 8.5    | 1       |
| A0014868JGH | 4868JGH   | 12    | 200  | J-180 | 5/16-18 | 3/8-16  | CW     | BDI       | 11.01  | 8.5    | 1,4     |
| A0014870AA  | 4870AA    | 12    | 270  | J-180 | 5/16-18 | 3/8-16  | CW     | N/A       | 11.01  | 8.5    | 4       |
| A0014870JB  | 4870JB    | 12    | 270  | J-180 | 5/16-18 | 3/8-16  | CW     | BDH       | 11.09  | 8.5    | 2       |
| A0014871JB  | 4871JB    | 12    | 270  | J-180 | 5/16-18 | 3/8-16  | CW     | BDH       | 11.09  | 8.5    | 2,4     |
| A0014873JB  | 4873JB    | 12    | 245  | J-180 | 5/16-18 | 3/8-16  | CW     | BDH       | 11.01  | 8.5    | 2       |
| A0014874JB  | 4874JB    | 12    | 270  | J-180 | 5/16-18 | 3/8-16  | CW     | BCHO      | 11.09  | 8.5    | 2       |
| A0014884JB  | 4884JB    | 12    | 200  | J-180 | 5/16-18 | 3/8-16  | CW     | BCHO      | 11.09  | 8.5    | 2       |
| A0014885JB  | 4885JB    | 12    | 220  | J-180 | 5/16-18 | 3/8-16  | CW     | BCG       | 11.01  | 8.5    | 2       |
| A0014887JB  | 4887JB    | 12    | 220  | J-180 | 5/16-18 | 3/8-16  | CW     | BDI       | 11.01  | 8.5    |         |
| A0014890AA  | 4890AA    | 12    | 320  | J-180 | 5/16-18 | 3/8-16  | CW     | N/A       | 11.01  | 8.5    | 4       |
| A0014890JB  | 4890JB    | 12    | 320  | J-180 | 5/16-18 | 3/8-16  | CW     | BDI       | 11.09  | 8.5    |         |

**SPECIFICATIONS:**

- System voltage: 12/24 Volt
- Frame: 6 9/16 / 167mm
- Shaft Diameter: 7/8"

**REGULATOR CODES:**

- A External location
- B Integral location
- C External sense
- D Internal sense
- E Diode trio
- G Ignition excite
- H External excite
- I Self excite
- K Lamp driver
- L Temp compensation
- M D+
- N Multi-power regulator
- O Remote sense

**FEATURE CODES:**

- 1 Hex shaft
- 2 Ignition terminal
- 3 Dual alternator system
- 4 Reversed output terminal

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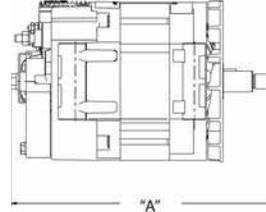
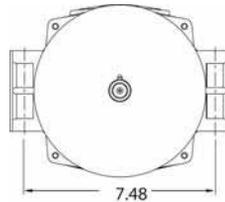
# 4800-4900

(Continued)

HIGH OUTPUT / HIGH TEMPERATURE\*  
ALTERNATORS

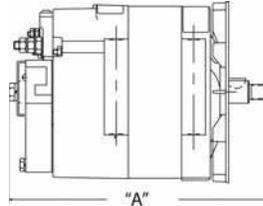
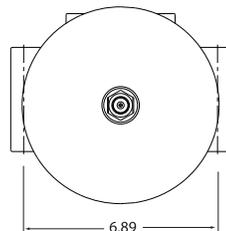
Now 125°C  
High Temperature  
Rated for New EPA Emission  
Compliant Engines!

## PAD MOUNT



| PART NO.    | SALES NO. | VOLTS | AMPS | MOUNT | B+      | B-      | ROTATE | REGULATOR | DIM A | FEATURE |
|-------------|-----------|-------|------|-------|---------|---------|--------|-----------|-------|---------|
| A0014841PAH | 4841PAH   | 52    | 85   | PAD   | N/A     | N/A     | CW     | N/A       | 10.63 | 1       |
| A0014911PA  | 4911PA    | 12    | 245  | PAD   | 5/16-18 | 3/8-16  | CW     | BDI       | 11.02 |         |
| A0014912PGH | 4912PGH   | 12    | 320  | PAD   | M8      | M10     | CW     | BCIK      | 10.72 |         |
| A0014915PA  | 4915PA    | 12    | 320  | PAD   | M8      | M10     | CW     | BDI       | 10.72 |         |
| A0014916PA  | 4916PA    | 12    | 270  | PAD   | M8      | M10     | CW     | BDI       | 10.72 |         |
| A0014939AAH | 4939AAH   | 12    | 185  | PAD   | 5/16-18 | 5/16-18 | CW     | BDI       | 11.23 | 1       |
| A0014939PGH | 4939PGH   | 12    | 185  | PAD   | 5/16-18 | 5/16-18 | CW     | BDI       | 11.23 | 1       |
| A0014940PA  | 4940PA    | 12    | 200  | PAD   | 5/16-18 | 3/8-16  | CW     | BDH       | 10.83 | 2       |
| A0014941PGH | 4941PGH   | 52    | 85   | PAD   | N/A     | N/A     | CW     | N/A       | 10.63 | 1       |
| A0014942PA  | 4942PA    | 12    | 270  | PAD   | 5/16-18 | 3/8-16  | CW     | BCH       | 10.83 | 2       |
| A0014943PGH | 4943PGH   | 12    | 185  | PAD   | 5/16-18 | 5/16-18 | CW     | BDI       | 11.23 | 1, 4    |
| A0014944PA  | 4944PA    | 12    | 270  | PAD   | 5/16-18 | 3/8-16  | CW     | BDI       | 10.83 |         |
| A0014947PA  | 4947PA    | 12    | 270  | PAD   | 5/16-18 | 3/8-16  | CW     | BDH       | 10.83 | 2       |
| A0014948PA  | 4948PA    | 12    | 200  | PAD   | 5/16-18 | 3/8-16  | CW     | BCH       | 11.02 | 2       |
| A0014949PA  | 4949PA    | 12    | 270  | PAD   | 5/16-18 | 3/8-16  | CW     | BDI       | 11.02 |         |
| A0014949PGH | 4949PGH   | 12    | 270  | PAD   | 5/16-18 | 3/8-16  | CW     | BDI       | 11.02 | 1       |
| A0014951PA  | 4951PA    | 12    | 200  | PAD   | 5/16-18 | 3/8-16  | CW     | BDI       | 11.02 |         |
| A0014951PAH |           | 12    | 200  | PAD   | 5/16-18 | 3/8-16  | CW     | BDI       | 11.02 |         |
| A0014951PGH | 4951PGH   | 12    | 200  | PAD   | 5/16-18 | 3/8-16  | CW     | BDI       | 11.02 | 1       |
| A0014958PA  | 4958PA    | 12    | 220  | PAD   | 5/16-18 | 3/8-16  | CW     | BDG       | 11.02 | 2       |
| A0014959PA  | 4959PA    | 12    | 220  | PAD   | 5/16-18 | 3/8-16  | CW     | BDI       | 11.02 |         |
| A0014962PA  | 4962PA    | 12    | 320  | PAD   | 5/16-18 | 3/8-16  | CW     | BDI       | 11.02 |         |
| A0014962PAH | 4962PAH   | 12    | 320  | PAD   | 5/16-18 | 1/4-20  | CW     | BDI       | 11.02 | 1       |
| A0014964PA  | 4964PA    | 24    | 200  | PAD   | 5/16-18 | 3/8-16  | CW     | BDIK      | 11.02 |         |
| A0014966PAA | 4966PAA   | 12    | 320  | PAD   | 5/16-18 | 5/16-18 | CW     | A         |       |         |
| A0014967PGH | 4967PGH   | 12    | 270  | PAD   | 5/16-18 | 5/16-18 | CW     | BCIKO     | 10.59 | 1       |
| A0014975PAA | 4975PAA   | 12    | 270  | PAD   | 5/16-18 | 5/16-18 | CW     | N/A       | 10.59 | 4       |
| A0014977AAH | 4977AAH   | 12    | 185  | PAD   | 5/16-18 | 5/16-18 | CW     | N/A       | 11.00 | 1       |

## T-MOUNT



| PART NO.    | SALES NO. | VOLTS | AMPS | MOUNT   | B+      | B-      | ROTATE | REGULATOR | DIM A | FEATURE |
|-------------|-----------|-------|------|---------|---------|---------|--------|-----------|-------|---------|
| A0014905AAS | 4905AAS   | 12    | 145  | T-MOUNT | 5/16-18 | 5/16-18 | CW     | N/A       | 9.90  |         |
| A0014900JBS | 4900JBS   | 12    | 200  | T-MOUNT | 5/16-18 | 3/8-16  | BI-DIR | BDH       | 10.23 | 2       |
| A0014954AAS | 4954AAS   | 12    | 250  | T-MOUNT | N/A     | N/A     | BI-DIR | N/A       | 9.80  |         |
| A0014970JBS | 4970JBS   | 12    | 270  | T-MOUNT | 5/16-18 | 3/8-16  | BI-DIR | BDH       | 10.23 | 2       |

### SPECIFICATIONS:

- System voltage: 12/24 Volt
- Frame: 6 9/16 / 167mm
- Shaft Diameter: 7/8"

### REGULATOR CODES:

- A External location
- B Integral location
- C External sense
- D Internal sense
- E Diode trio
- G Ignition excite
- H External excite
- I Self excite
- K Lamp driver
- L Temp compensation
- M D+
- N Multi-power regulator
- O Remote sense

### FEATURE CODES:

- 1 Hex shaft
- 2 Ignition terminal
- 3 MultiPower Alternator system
- 4 Reversed output terminal
- 5 TxRx terminal

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# 8AL / 8AR

AGRICULTURAL AND OFF-HIGHWAY  
ALTERNATOR

**APPLICATIONS:**

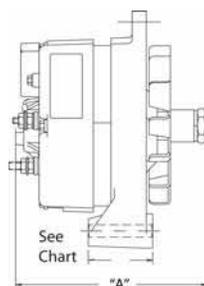
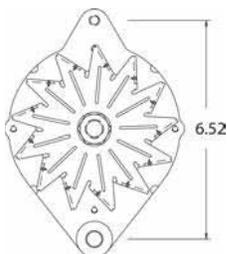
- Off Highway
- General Industrial
- Gen Sets
- Agriculture and Material Handling

**FEATURES:**

- Longer life graphite brushes for extended service life
- Dynamically balanced rotor and shaft assembly
- Permanently lubricated and sealed ball bearings

- Heavy duty copper stator windings for higher output and cooler operation
- Ignition and self excite available

## SPOOL MOUNT 1 HOLE



**SPECIFICATIONS:**

- System voltage: 12/24 Volt
- Frame: 5 Inch
- Shaft Diameter: 5/8"

**REGULATOR CODES:**

- A External location
- B Integral location
- C External sense
- D Internal sense
- E Diode trio
- G Ignition excite
- H External excite
- I Self excite
- K Lamp driver
- L Temp compensation
- M D+
- N Multi-power regulator
- O Remote sense

**FEATURE CODES:**

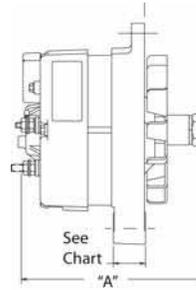
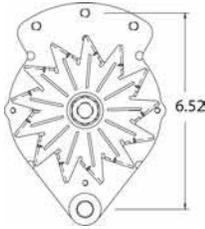
- 1 B- is case ground
- 2 Field terminal

| PART NO.  | SALES NO. | VOLTS | AMPS | MOUNT    | B+     | B-    | ROTATE | REGULATOR | DIM. A | DIM. B | FEATURE |
|-----------|-----------|-------|------|----------|--------|-------|--------|-----------|--------|--------|---------|
| 8AL2046FA | 110-529   | 12    | 37   | 3" SPOOL | 1/4-20 | 10-24 | CW     | AE        | 5.70   | 6.52   | 2       |
| 8AR2013L  | 110-476   | 12    | 65   | 2" SPOOL | 1/4-20 | 10-24 | BI-DIR | BDEG      | 5.85   | 6.52   |         |
| 8AR2014F  | 110-478   | 12    | 37   | 2" SPOOL | 1/4-20 | 10-24 | CW     | BCEGM     | 5.52   | 6.52   |         |
| 8AR2023KA | 110-508   | 12    | 51   | 2" SPOOL | 1/4-20 | 10-24 | CW     | BDEG      | 5.95   | 6.52   |         |
| 8AR2062KA | 110-495   | 12    | 51   | 2" SPOOL | 1/4-20 | 10-24 | CW     | BDEG      | 5.95   | 6.52   |         |
| 8AR2066FA | 110-498   | 12    | 37   | 2" SPOOL | 1/4-20 | 10-24 | CW     | BDEG      | 5.68   | 6.52   |         |
| 8AR2076KS | 110-325   | 12    | 51   | 2" SPOOL | 1/4-20 | 10-24 | CW     | N/A       | 6.66   | 6.52   |         |
| 8AR2160F  | 110-470   | 12    | 37   | 2" SPOOL | 1/4-20 | 10-24 | CW     | BDEG      | 5.35   | 6.52   |         |
| 8AR2163K  | 110-490   | 12    | 51   | 2" SPOOL | 1/4-20 | 10-24 | CW     | BDEG      | 5.71   | 6.52   |         |
| 8AR2200L  | 110-460   | 12    | 65   | 2" SPOOL | M6X1.0 | M5X.8 | NO FAN | BCEG      | 5.97   | 6.52   | 1       |
| 8AR2201L  | 110-461   | 12    | 65   | 2" SPOOL | M6X1.0 | M5X.8 | NO FAN | BCEG      | 5.97   | 6.52   | 1       |
| 8AR2204T  | 110-467   | 12    | 90   | 2" SPOOL | M6X1.0 | M5X.8 | CW     | BDI       | 6.85   | 6.52   |         |
| 8AR2205L  | 110-519   | 12    | 65   | 2" SPOOL | M6X1.0 | M5X.8 | BI-DIR | BDEG      | 6.13   | 6.52   |         |
| 8AR3200G  | 110-462   | 24    | 40   | 2" SPOOL | M6X1.0 | M5X.8 | NO FAN | BCEG      | 5.97   | 6.52   |         |

# 8AL / 8AR (Continued)

AGRICULTURAL AND OFF-HIGHWAY  
ALTERNATOR

## SPOOL MOUNT 3 HOLE



| PART NO.   | SALES NO. | VOLTS | AMPS | MOUNT    | B+     | B-    | ROTATE | REGULATOR | DIM. A | DIM. B | FEATURE | ADJUSTING HOLE |
|------------|-----------|-------|------|----------|--------|-------|--------|-----------|--------|--------|---------|----------------|
| 8AL2055FA  | 110-544   | 12    | 37   | 2" SPOOL | 1/4-20 | 10-24 | CW     | AE        | 5.68   | 6.52   | 2       | 3 HOLE         |
| 8AL2056KA  | 110-536   | 12    | 51   | 2" SPOOL | 1/4-20 | 10-24 | CW     | AE        | 5.93   | 6.52   |         | 3 HOLE         |
| 8AL2106FA  | 110-505   | 12    | 37   | 1" SPOOL | 1/4-20 | 10-24 | CW     | AE        | 5.70   | 6.52   | 2       | 3 HOLE         |
| 8AL2109FA  | 110-492   | 12    | 37   | 1" SPOOL | 1/4-20 | 10-24 | NO FAN | AE        | 5.68   | 6.52   |         | 3 HOLE         |
| 8AL2109FB  | 8AL2109FB | 12    | 37   | 1" SPOOL | 1/4-20 | 10-24 | NO FAN | AE        | 5.68   | 6.52   |         | 3 HOLE         |
| 8AR2018L   | 110-683   | 12    | 65   | 1" SPOOL | 1/4-20 | 10-24 | CW     | BDEG      | 5.96   | 6.52   |         | 3 HOLE         |
| 8AR2065FS  | 110-234   | 12    | 37   | 3" SPOOL | 1/4-20 | 10-24 | CW     | BDEGK     | 6.40   | 6.52   |         | 3 HOLE         |
| 8AR2070KA  | 110-647   | 12    | 51   | 1" SPOOL | 1/4-20 | 10-24 | CW     | BDEG      | 5.95   | 6.52   |         | 3 HOLE         |
| 8AR2073FAS | 110-493   | 12    | 37   | 1" SPOOL | 1/4-20 | 10-24 | BI-DIR | BCEGM     | 5.7    | 6.52   |         | 3 HOLE         |
| 8AR2169F   | 110-629   | 12    | 37   | 1" SPOOL | 1/4-20 | 10-24 | CW     | BDEG      | 5.52   | 6.52   |         | 3 HOLE         |
| 8AR2173F   | 110-477   | 12    | 37   | 1" SPOOL | 1/4-20 | 10-24 | BI-DIR | BCEGM     | 5.52   | 6.52   |         | 3 HOLE         |
| 8AR3080FA  | 110-522   | 24    | 35   | 1" SPOOL | 1/4-20 | 10-24 | CW     | BDEG      | 5.95   | 6.52   |         | 3 HOLE         |

### SPECIFICATIONS:

- System voltage: 12/24 Volt
- Frame: 5 Inch
- Shaft Diameter: 5/8"

### REGULATOR CODES:

- A External location
- B Integral location
- C External sense
- D Internal sense
- E Diode trio
- G Ignition excite
- H External excite
- I Self excite
- K Lamp driver
- L Temp compensation
- M D+
- N Multi-power regulator
- O Remote sense

### FEATURE CODES:

- 1 B- is case ground
- 2 Field terminal

## 8LHA

HEAVY DUTY ALTERNATOR SERIES

### APPLICATIONS:

- Heavy, Medium and Light Duty Truck

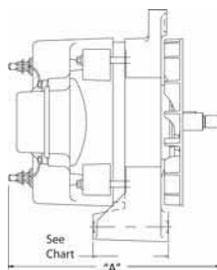
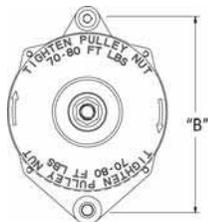
Now 125°C High Temperature Rated for New EPA Emission Compliant Engines!

### FEATURES:

- A standard for both OEM and Aftermarket applications on Heavy Truck and Off-highway vehicles
- Designed for vibration resistance and reliability, featuring conical lock through bolts and various thread lock systems for overall structural integrity
- Heavy-duty aluminum front and rear housings are used for strength and light weight
- Finned aluminum heat sinks are used in the rectifier system to assure proper heat dissipation and cooler operation over the entire operating speed range
- Higher efficiency fan for greater air flow and cooling

- Key structural components such as housings and hardware are interchangeable between similar mounts
- Key functional components such as rotors, stators, regulators and rectifiers are interchangeable between all types, reducing maintenance costs
- Strong low speed performance in applications where engine operating speeds are relatively low
- Large front and rear ball bearings increase operating life, provide better support for higher belt loads
- Sealed brush cavity reduces contamination, providing longer brush life

### SPOOL MOUNT



| PART NO.    | SALES NO. | VOLTS | AMPS | MOUNT    | B+      | B-     | ROTATE | REGULATOR | DIM. A | DIM. B | FEATURE  |
|-------------|-----------|-------|------|----------|---------|--------|--------|-----------|--------|--------|----------|
| 8LHA2050VES | NA        | 12    | 130  | 3" SPOOL | 5/16-24 | 1/4-28 | BI-DIR | BDI       | 9.38   | 8.2    | W/PULLEY |
| 8LHA3161UA  |           | 24    | 110  | 3" SPOOL | 5/16-24 | 1/4-28 | BI-DIR | BDIK      | 9.38   | 8.2    |          |

### SPECIFICATIONS:

- System voltage: 12/24 Volt
- Frame: 6 1/2 / 165mm
- Shaft Diameter: 7/8"

### REGULATOR CODES:

- A External location
- B Integral location
- C External sense
- D Internal sense
- E Diode trio
- G Ignition excite
- H External excite
- I Self excite
- K Lamp driver
- L Temp compensation
- M D+
- N Multi-power regulator
- O Remote sense

### FEATURE CODES:

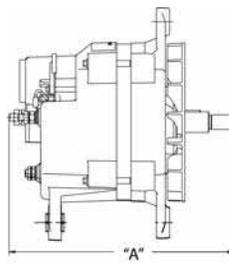
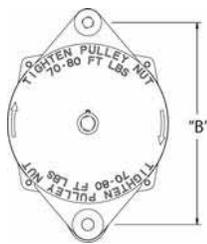
- 1 Hex Shaft
- 2 E-coated
- 3 Reverse output studs
- 4 Reverse terminal for Cummins B engines
- 5 External Filter Capacitor
- 6 Longer brushes

\* Leece-Neville is aggressively re-engineering our high volume alternators to the new high temperature specification. However, not all alternators in the series listed may have been converted to date. Please contact your Leece-Neville representative for additional details.

### J-180 MOUNT



Pulley not included



| PART NO.    | SALES NO.   | VOLTS | AMPS | MOUNT | B+      | B-     | ROTATE | REGULATOR | DIM. A | DIM. B | FEATURE |
|-------------|-------------|-------|------|-------|---------|--------|--------|-----------|--------|--------|---------|
| 8LHA2054UAH | 8LHA2054UAH | 12    | 110  | J180  | 5/16-24 | 1/4-28 | CW     | BDI       | 9.45   | 8.50   | 1       |
| 8LHA2057VA  | 110-450     | 12    | 160  | J180  | 5/16-24 | 1/4-28 | CW     | BDI       | 9.46   | 8.50   |         |
| 8LHA2057VGH | 8LHA2057VGH | 12    | 160  | J180  | 5/16-24 | 1/4-28 | CW     | BDI       | 9.46   | 8.50   |         |
| 8LHA2070VF  | 110-555JHO  | 12    | 160  | J180  | 5/16-24 | 1/4-28 | CW     | BDI       | 9.45   | 8.50   | 6       |
| 8LHA2070VGH | 8LHA2070VGH | 12    | 160  | J180  | 5/16-24 | 1/4-28 | CW     | BDI       | 9.45   | 8.50   | 1       |
| 8LHA2071VA  | 110-555JHO  | 12    | 160  | J180  | 5/16-24 | 1/4-28 | CW     | BDIK      | 9.45   | 8.50   |         |
| 8LHA2097V   | 110-558     | 12    | 160  | J180  | 5/16-24 | 1/4-28 | CW     | BDI       | 9.51   | 8.50   |         |
| 8LHA2098VA  | 8LHA2098VA  | 12    | 140  | J180  | 5/16-24 | 1/4-28 | CW     | BDIK      | 9.45   | 8.50   |         |
| 8LHA2121V   | 110-580     | 12    | 160  | J180  | 1/4-28  | 1/4-28 | CW     | BDI       | 8.96   | 8.50   | 3       |
| 8LHA2241VAH |             | 12    | 130  | J180  | 5/16-24 | 1/4-28 | CW     | BDI       | 9.45   | 8.50   | 1       |
| 8LHA2275V   | 110-775     | 12    | 170  | J180  | 5/16-24 | 1/4-28 | CW     | BDI       | 9.45   | 8.50   |         |
| 8LHA3071P   | 110-446     | 24    | 75   | J180  | 5/16-24 | 1/4-28 | CW     | BDI       | 9.51   | 8.50   |         |
| 8LHA3095R   | 110-466     | 24    | 85   | J180  | M8X1.25 | M6X1.0 | CW     | BDIK      | 9.07   | 8.50   |         |
| 8LHA3096U   | 110-459     | 24    | 110  | J180  | M8X1.25 | M6X1.0 | CW     | BDIK      | 9.49   | 8.50   | 2, 5    |
| 8LHA3096UA  | 110-459     | 24    | 110  | J180  | M8X1.25 | M6X1.0 | CW     | BDIK      | 9.49   | 8.50   | 1, 2, 5 |

# 8LHP

HEAVY DUTY ALTERNATOR SERIES

**APPLICATIONS:**

- Heavy, Medium and Light Duty Truck

Now 125°C  
High Temperature  
Rated for New EPA Emission  
Compliant Engines!

**FEATURES:**

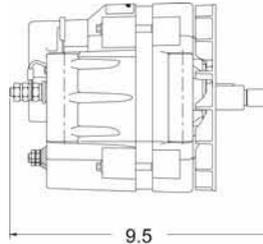
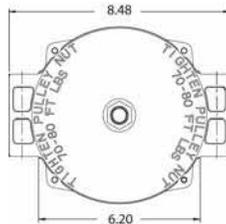
- A standard for both OEM and Aftermarket applications on Heavy Truck and Off-highway vehicles
- Designed for vibration resistance and reliability, featuring conical lock through bolts and various thread lock systems for overall structural integrity
- Heavy-duty aluminum front and rear housings are used for strength and light weight
- Finned aluminum heat sinks are used in the rectifier system to assure proper heat dissipation and cooler operation over the entire operating speed range
- Higher efficiency fan for greater air flow and cooling

- Key structural components such as housings and hardware are interchangeable between similar mounts
- Key functional components such as rotors, stators, regulators and rectifiers are interchangeable between all types, reducing maintenance costs
- Strong low speed performance in applications where engine operating speeds are relatively low
- Large front and rear ball bearings increase operating life, provide better support for higher belt loads
- Sealed brush cavity reduces contamination, providing longer brush life

**PAD MOUNT**



Pulley not included



| PART NO.    | SALES NO.   | VOLTS | AMPS | B+      | B-     | ROTATE | REGULATOR | FEATURE |
|-------------|-------------|-------|------|---------|--------|--------|-----------|---------|
| 8LHP2172VAH | 8LHP2172VAH | 12    | 110  | 5/16-24 | 1/4-28 | CW     | BDI       | 1       |
| 8LHP2170VF  | 110-555PHO  | 12    | 160  | 5/16-24 | 1/4-28 | CW     | BDI       | 6       |
| 8LHP2170VH  | 8LHP2170VH  | 12    | 130  | 5/16-24 | 1/4-28 | CW     | BDI       | 1       |
| 8LHP2172VAH | 8LHP2172VAH | 12    | 110  | 5/16-24 | 1/4-28 | CW     | BDI       | 1       |
| 8LHP2245VGH | 8LHP2245VGH | 12    | 140  | 5/16-24 | 1/4-28 | CW     | BDI       | 1       |
| 8LHP2246VAH | 8LHP2246VAH | 12    | 160  | 5/16-24 | 1/4-28 | CW     | BDI       | 1       |
| 8LHP2253V   | 110-566P    | 12    | 160  | 5/16-24 | 1/4-28 | CW     | BDI       |         |
| 8LHP2276V   | 110-775P    | 12    | 170  | 5/16-24 | 1/4-28 | CW     | BDI       |         |
| 8LHP3172V   | 8LHP3172V   | 24    | 110  | M8X0.8  | M6X1.0 | CW     | BDIK      |         |
| 8LHP3173V   | 8LHP3173V   | 24    | 75   | 5/16-24 | 1/4-28 | CW     | BDI       |         |

**SPECIFICATIONS:**

- System voltage: 12/24 Volt
- Frame: 6 1/2 / 165mm
- Shaft Diameter: 7/8"

**REGULATOR CODES:**

- A External location
- B Integral location
- C External sense
- D Internal sense
- E Diode trio
- G Ignition excite
- H External excite
- I Self excite
- K Lamp driver
- L Temp compensation
- M D+
- N Multi-power regulator
- O Remote sense

**FEATURE CODES:**

- 1 Hex Shaft
- 2 E-coated
- 3 Reverse output studs (Pos/ on left)
- 4 Reverse terminal for Cummins B engines
- 5 External Filter Capacitor
- 6 Longer brushes

\* Leece-Neville is aggressively re-engineering our high volume alternators to the new high temperature specification. However, not all alternators in the series listed may have been converted to date. Please contact your Leece-Neville representative for additional details.

# 8MR

MARINE APPLICATIONS  
SMALL FRAME ALTERNATORS

**APPLICATIONS:**

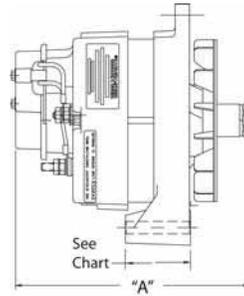
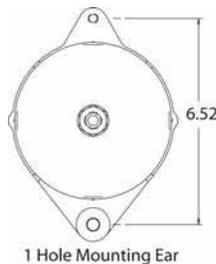
- UL Listed models -  
Marine, Material Handling
- Non-UL Listed models -  
Medium Duty Truck, Air Conditioning, Off Highway, Industrial, Gen Set, Agriculture, Construction, Material handling

**FEATURES:**

- Over thirty years supplying small frame alternators for Marine applications
- Wide range of outputs, regulator features and mounting configurations
- Corrosion protected
- Longer life graphite brushes
- Permanently lubricated and sealed ball bearings

- Adjustable voltage regulators, as well as pre-set
- Noise suppression built-in
- These units are for gas and diesel
- Ignition, self excite and remote battery sense available
- NOTE: Large frame, higher output units are also available for marine diesel applications

**SPOOL MOUNT 1 HOLE**



| PART NO.   | SALES NO. | VOLTS | AMPS | MOUNT    | B+     | B-     | ROTATE | REGULATOR | DIM. A | DIM. B |
|------------|-----------|-------|------|----------|--------|--------|--------|-----------|--------|--------|
| 8MA2003PA  | 110-539   | 12    | 72   | 2" SPOOL | 1/4-20 | 10-24  | CW     | N/A       | 6.85   |        |
| 8MR2030TC  | 110-570   | 12    | 90   | 2" SPOOL | 1/4-20 | 10-24  | CW     | BDEG      | 7.00   | 3      |
| 8MR2033TS  | 110-252   | 12    | 90   | 2" SPOOL | 1/4-20 | 10-24  | CW     | BCEG      | 7.59   | 3      |
| 8MR2035T   | 110-244   | 12    | 90   | 2" SPOOL | 1/4-20 | N/A    | NO FAN | BCEI      | 7.59   | 3      |
| 8MR2049KA  | 110-517   | 12    | 51   | 2" SPOOL | 1/4-20 | 10-24  | BI-DIR | BDEGM     | 7.00   | 1, 4   |
| 8MR2051FA  | 110-515   | 12    | 37   | 2" SPOOL | 1/4-20 | 10-24  | BI-DIR | BDEGM     | 6.74   | 1, 4   |
| 8MR2058PA  | 110-521   | 12    | 72   | 2" SPOOL | 1/4-20 | 10-24  | BI-DIR | BDEGM     | 7.21   | 1, 4   |
| 8MR2069TA  | 110-602   | 12    | 90   | 2" SPOOL | M6X1.0 | M6X1.0 | BI-DIR | BDI       | 7.15   | 1, 4   |
| 8MR2084K   | 110-494   | 12    | 51   | 2" SPOOL | 1/4-20 | 10-24  | BI-DIR | BDEGM     | 7.00   | 1, 4   |
| 8MR2085K   | 110-488   | 12    | 51   | 2" SPOOL | 1/4-20 | 10-24  | BI-DIR | BDEGM     | 7.00   | 1, 4   |
| 8MR2086L   | 110-491   | 12    | 65   | 2" SPOOL | 1/4-20 | 10-24  | BI-DIR | BDEGM     | 7.25   | 1, 4   |
| 8MR2091KSS | 110-686   | 12    | 51   | 2" SPOOL | 1/4-20 | 10-24  | CW     | BCEGM     | 7.00   | 1, 4   |
| 8MR2092L   | 110-483   | 12    | 65   | 2" SPOOL | 1/4-20 | 10-24  | CW     | BCEGM     | 7.24   | 1, 4   |
| 8MR2093L   | 110-484   | 12    | 65   | 2" SPOOL | 1/4-20 | 10-24  | CW     | BCEGM     | 7.24   | 1, 4   |
| 8MR2301LS  | 110-464   | 12    | 65   | 2" SPOOL | M6X1.0 | M5X.8  | CW     | BCEG      | 7.24   | 1      |
| 8MR2302L   | 110-485   | 12    | 65   | 2" SPOOL | M6X1.0 | M5X.8  | BI-DIR | BCEGM     | 7.24   | 1      |
| 8MR2305L   | 110-589   | 12    | 65   | 2" SPOOL | M6X1.0 | M5X.8  | BI-DIR | BDEGM     | 7.24   | 1      |
| 8MR2307U   | 110-560   | 12    | 105  | 2" SPOOL | M6X1.0 | M5X.8  | BI-DIR | BCEGM     | 7.24   | 1      |
| 8MR2314L   | N/A       | 12    | 65   | 2" SPOOL | M6X1.0 | M5X.8  | CW     | BDI       | 7.11   | 1      |
| 8MR3301G   | 110-486   | 24    | 40   | 2" SPOOL | M6X1.0 | M5X.8  | BI-DIR | BCEG      | 7.05   | 1      |

**SPECIFICATIONS:**

- System voltage: 12/24 Volt
- Frame: 5 Inch / 127mm
- Shaft Diameter: 5/8"

**REGULATOR CODES:**

- A External location
- B Integral location
- C External sense
- D Internal sense
- E Diode trio
- G Ignition excite
- H External excite
- I Self excite
- K Lamp driver
- L Temp compensation
- M D+
- N Multi-power regulator
- O Remote sense

**FEATURE CODES:**

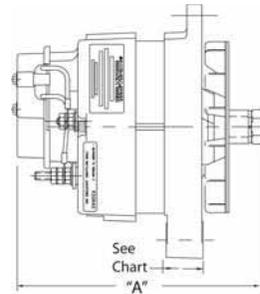
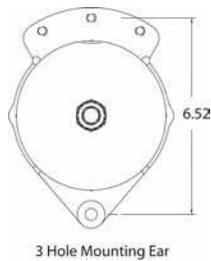
- 1 E-coated
- 2 Irridite Coated
- 3 Dust Shield
- 4 UL Listed

# 8MR

(Continued)

MARINE APPLICATIONS  
SMALL FRAME ALTERNATORS

## SPOOL MOUNT 3 HOLE



| PART NO.  | SALES NO. | VOLTS | AMPS | MOUNT    | B+     | B-     | ROTATE | REGULATOR | DIM. A | FEATURE |
|-----------|-----------|-------|------|----------|--------|--------|--------|-----------|--------|---------|
| 8MA2014PA | 8MA2014PA | 12    | 72   | 2" SPOOL | 1/4-20 | 10-24  | CW     | N/A       | 6.95   | PULLEY  |
| 8MA2019KA | 110-527   | 12    | 51   | 1" SPOOL | 1/4-20 | 10-24  | NO FAN | N/A       | 6.82   |         |
| 8MH2003KS | 110-133   | 12    | 51   | 1" SPOOL | 10-24  | 10-24  | BI-DIR | N/A       | 6.75   | 2       |
| 8MR2013L  | 110-487   | 12    | 65   | 1" SPOOL | 1/4-20 | 10-24  | BI-DIR | BDEGM     | 7.07   | 1, 4    |
| 8MR2026PA | 110-523   | 12    | 72   | 1" SPOOL | 1/4-20 | 10-24  | CW     | BDEG      | 6.38   | 1       |
| 8MR2048KA | 110-512   | 12    | 51   | 1" SPOOL | 1/4-20 | 10-24  | BI-DIR | BDEG      | 6.82   | 1, 4    |
| 8MR2050FA | 110-532   | 12    | 37   | 1" SPOOL | 1/4-20 | 10-24  | BI-DIR | BDEGM     | 6.57   | 1, 4    |
| 8MR2070TA | 110-603   | 12    | 90   | 1" SPOOL | 1/4-20 | 1/4-20 | BI-DIR | BDI       | 7.14   | 1, 4    |
| 8MR2175F  | 110-699   | 12    | 37   | 1" SPOOL | 1/4-20 | 10-24  | CW     | BCEGM     | 6.56   | 1, 4    |
| 8MR2185L  | 110-600   | 12    | 65   | 1" SPOOL | 1/4-20 | 10-24  | CW     | BCEGM     | 7.00   | 1, 4    |
| 8MR2198L  | 8MR2198L  | 12    | 65   | 1" SPOOL | 1/4-20 | 10-24  | BI-DIR | BDEG      | 7.00   |         |
| 8MR2199KS | 110-656   | 12    | 51   | 1" SPOOL | 1/4-20 | 10-24  | BI-DIR | BDEGM     | 7.59   | 1, 4    |
| 8MR2215D  | 110-581   | 12    | 23   | 1" SPOOL | 1/4-20 | 10-24  | BI-DIR | BDEG      | 6.56   | 1       |
| 8MR2313U  | 110-643   | 12    | 105  | 1" SPOOL | 1/4-20 | 1/4-20 | CCW    | BDI       | 7.13   | 1       |
| 8MR2316L  | 110-646   | 12    | 65   | 1" SPOOL | 1/4-20 | 10-24  | CCW    | BDI       | 7.07   | 1       |
| 8MR2325U  | 110-608   | 12    | 105  | 1" SPOOL | 1/4-20 | 1/4-20 | CCW    | BDI       | 7.07   | 1       |
| 8MR2326L  | 110-606   | 12    | 65   | 1" SPOOL | 1/4-20 | 10-24  | CCW    | BDI       | 7.07   | 1       |
| 8MR2327L  | 110-609   | 12    | 65   | 1" SPOOL | 1/4-20 | 10-24  | CW     | BDI       | 7.07   | 1       |
| 8MR2401UA | 110-567   | 12    | 105  | 1" SPOOL | 1/4-20 | 1/4-20 | BI-DIR | BDI       | 7.11   | 1, 4    |
| 8MR2402L  | 110-547   | 12    | 65   | 1" SPOOL | 1/4-20 | 10-24  | BI-DIR | BDI       | 7.11   | 1       |
| 8MR3005CA | 110-518   | 24    | 35   | 1" SPOOL | 1/4-20 | 10-24  | BI-DIR | BDEG      | 7.09   | 1       |
| 8MR3188K  | 110-557   | 24    | 55   | 1" SPOOL | 1/4-20 | 1/4-20 | CW     | BDI       | 7.13   | 1, 4    |
| 8MR3331G  | 8MR3331G  | 24    | 40   | 1" SPOOL | 1/4-20 | 10-24  | BI-DIR | BDEGM     | 7.59   | 1       |
| 8MR3404G  | 110-684   | 24    | 40   | 1" SPOOL | 1/4-20 | 10-24  | BI-DIR | BDEGM     | 7.59   | 1, 4    |

### SPECIFICATIONS:

- System voltage: 12/24 Volt
- Frame: 5 Inch / 127mm
- Shaft Diameter: 5/8"

### REGULATOR CODES:

- A External location
- B Integral location
- C External sense
- D Internal sense
- E Diode trio
- G Ignition excite
- H External excite
- I Self excite
- K Lamp driver
- L Temp compensation
- M D+
- N Multi-power regulator
- O Remote sense

### FEATURE CODES:

- 1 E-coated
- 2 Irridite Coated
- 3 Dust Shield
- 4 UL Listed

# 8SC/SCJ

DESIGNED FOR EXTRA HEAVY ELECTRICAL LOADS AND HIGH CHARGE REQUIREMENTS AT IDLE

**APPLICATIONS:**

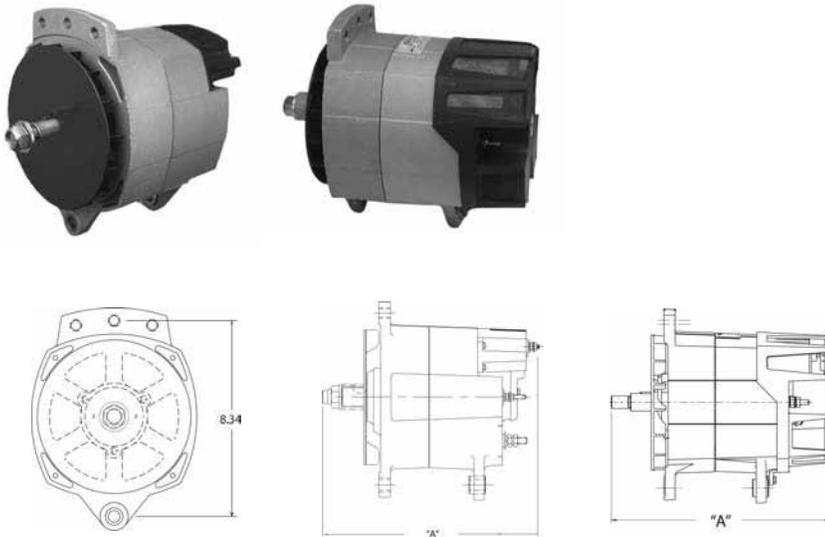
- Heavy Duty Trucks
- Emergency Vehicles
- Off-Highway
- Agricultural

**FEATURES:**

- Integral charging systems that can handle heavy belt loads and extremely high electrical loads on today's large diesel or gas engines
- Solid rectifier lead frame, advanced avalanche diodes, welded connections
- Simplified wiring - insulated three wire system
- Built-in Load Dump protected regulator with solid state circuitry and external adjustment

- SAE double lug mount with adjustable steel bushing and steel insert
- Heavy-duty 5/16 output stud for superior electrical connections
- Special AC terminal for connection of tachometers and other instruments
- R terminal for indicator lamp hook-up
- Long life copper graphite brushes enclosed in a dirt resistant chamber to extend brush life
- Trash screens are available for protection against foreign particles

## J180 MOUNT



**SPECIFICATIONS:**

- System voltage: 12/24 Volt
- Frame: 6 1/2 / 165mm
- Shaft Diameter: 7/8"

**REGULATOR CODES:**

- A External location
- B Integral location
- C External sense
- D Internal sense
- E Diode trio
- G Ignition excite
- H External excite
- I Self excite
- K Lamp driver
- L Temp compensation
- M D+
- N Multi-power regulator
- O Remote sense

**FEATURE CODES:**

- 1 Dust Shield/Trash Screen
- 2 E-coat
- 3 Air Inlet Nozzle
- 4 Secondary D+ Terminal
- 5 High temp rated
- 6 Indicator Light Terminal
- 7 Pulley

| PART NO.     | SALES NO.    | VOLTS | AMPS | MOUNT | B+      | B-     | ROTATE | REGULATOR | DIM. A | FEATURE |
|--------------|--------------|-------|------|-------|---------|--------|--------|-----------|--------|---------|
| 8LHC2010Z    | 110-254      | 12    | 160  | J-180 | 5/16-24 | 1/4-28 | BI-DIR | BDIK      | 9.87   | 2, 5    |
| 8SC2023Z     | 110-565      | 12    | 185  | J-180 | 5/16-24 | 1/4-28 | CW     | BDIK      | 10.35  | 5       |
| 8SC2254VG-MP | 8SC2254VG-MP | 12    | 185  | J-180 | 5/16-24 | 1/4-28 | CW     | BDIKN     | 10.87  | 1       |
| 8SC2261VG-MP | 8SC2261VG-MP | 12    | 160  | J-180 | 5/16-24 | 1/4-28 | CW     | BDIKN     | 10.87  | 1       |
| 8SC2282VG    | 8SC2282VG    | 12    | 185  | J-180 | 5/16-24 | 1/4-28 | CW     | BDIK      | 10.87  | 1, 5    |
| 8SC3019U     | 110-316      | 24    | 100  | J-180 | 5/16-24 | 1/4-28 | CW     | BDH       | 9.41   | 5, 6    |
| 8SC3029Z     | 110-569      | 24    | 175  | J-180 | 5/16-24 | 1/4-28 | CW     | BDG       | 10.41  | 5, 6    |
| 8SC3133U     | 8SC3133U     | 24    | 100  | J-180 | M6      | M8     | CW     | BDG       | 10.87  | 6       |
| 8SC3157V     | 8SC3157V     | 24    | 175  | J-180 | 5/16-24 | 1/4-28 | CW     | BDG       | 10.55  | 6       |
| 8SC3160V     | 8SC3160V     | 24    | 150  | J-180 | 5/16-24 | 1/4-28 | CW     | BDGM      | 10.55  | 6       |
| 8SC3169U     | 8SC3169U     | 24    | 100  | J-180 | 5/16-24 | 1/4-28 | CW     | BDGM      | 10.55  | 1       |
| 8SC3200V     | 8SC3200V     | 24    | 150  | J-180 | 5/16-24 | 1/4-28 | CW     | BDG       | 10.55  |         |
| 8SC3229V     | 8SC3229V     | 24    | 150  | J-180 | 5/16-24 | 1/4-28 | CW     | BCG       | 9.41   |         |
| 8SC5369G     | 8SC5369G     | 72    | 80   | J-180 | 5/16-24 | 1/4-28 | CW     | BDG       | 9.41   |         |
| SCJ2226      | SCJ2226      | 12    | 160  | J-180 | 5/16-24 | 1/4-28 | CW     | BDIK      | 10.87  | 1, 5    |
| SCJ2227      | SCJ2227      | 12    | 185  | J-180 | 5/16-24 | 1/4-28 | CW     | BDIK      | 10.87  | 1       |
| SCJ2231      | SCJ2231      | 12    | 160  | J-180 | 5/16-24 | 1/4-28 | CW     | BCEH      | 10.89  | 1, 4, 5 |
| SCJ3292      | SCJ3292      | 24    | 150  | J-180 | 5/16-24 | 1/4-28 | CW     | BDIK      | 10.55  | 1, 5    |

# 8HA / 8HC

HEAVY DUTY ALTERNATORS

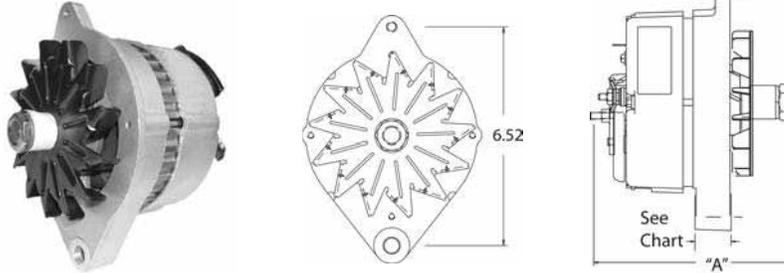
**APPLICATIONS:**

- Heavy Duty Marine
- Off Highway
- Agriculture
- Construction applications
- Marine applications restricted to diesel

**FEATURES:**

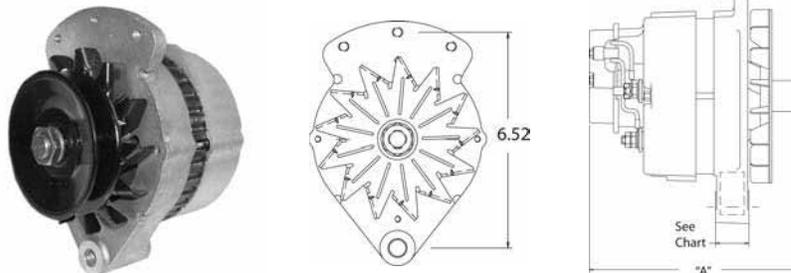
- Longer life graphite brushes for extended service life
- Dynamically balanced rotor and shaft assembly
- Permanently lubricated and sealed ball bearings
- Heavy duty copper stator windings for higher output and cooler operation
- Ignition and self excite available

## SPOOL MOUNT 1 HOLE



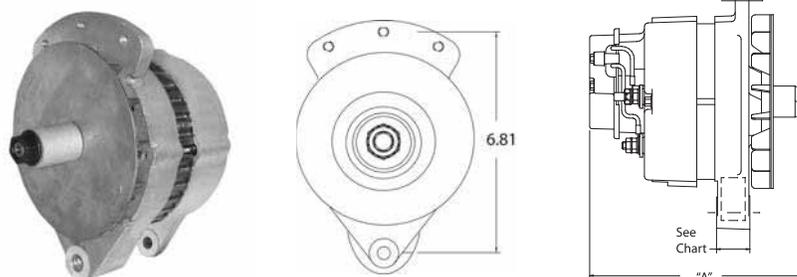
| PART NO.  | SALES NO. | VOLTS | AMPS | MOUNT    | B+     | B-    | ROTATE | REGULATOR | DIM A | FEATURE |
|-----------|-----------|-------|------|----------|--------|-------|--------|-----------|-------|---------|
| 8HA2003FS | 110-159   | 12    | 37   | 1" SPOOL | 1/4-20 | 10-24 | CW     | N/A       | 6.33  |         |
| 8HC3026G  | 110-392   | 24    | 42   | 1" SPOOL | 1/4-20 | 10-24 | BI-DIR | BCEG      | 7.15  | 1, 2    |

## SPOOL MOUNT 3 HOLE



| PART NO.  | SALES NO. | VOLTS | AMPS | MOUNT    | B+     | B-     | ROTATE | REGULATOR | DIM A | FEATURE |
|-----------|-----------|-------|------|----------|--------|--------|--------|-----------|-------|---------|
| 8HC2023KS | 110-284   | 12    | 51   | 1" SPOOL | 1/4/20 | 24-OCT | BI-DIR | BDI       | 7.7   | 1       |

## DUAL FOOT MOUNT 3 HOLE



| PART NO.   | SALES NO. | VOLTS | AMPS | MOUNT     | B+     | B-     | ROTATE | REGULATOR | DIM A | FEATURE |
|------------|-----------|-------|------|-----------|--------|--------|--------|-----------|-------|---------|
| 8HC2027PAS | 110-538   | 12    | 72   | DUAL FOOT | 1/4/20 | 1/4/20 | BI-DIR | BDEG      | 7.2   |         |

**SPECIFICATIONS:**

- System voltage: 12/24 Volt
- Frame: 5 Inch/127mm
- Shaft Diameter: 5/8"

**REGULATOR CODES:**

- A External location
- B Integral location
- C External sense
- D Internal sense
- E Diode trio
- G Ignition excite
- H External excite
- I Self excite
- K Lamp driver
- L Temp compensation
- M D+
- N Multi-power regulator
- O Remote sense

**FEATURE CODES:**

- 1 E-coated
- 2 UL listed

# 8TA

TOTALLY ENCLOSED DESIGN

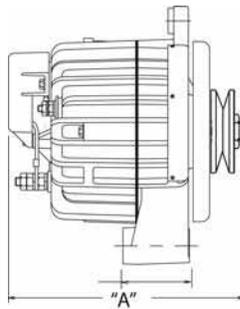
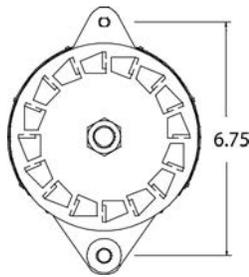
**APPLICATIONS:**

- Off Highway
- Agriculture
- Construction
- Industrial and Gen Sets
- Mining Industry

**FEATURES:**

- Totally enclosed housing design for extremely adverse environments
- Longer life graphite brushes extend service life
- Permanently lubricated and sealed ball bearings for dust protection and longer life
- Bi-directional fans for better cooling
- Ignition and self excite available
- Designed for the Construction and Agricultural environment

**SPOOL MOUNT**



| PART NO.  | SALES NO. | VOLTS | AMPS | MOUNT    | B+       | B-    | ROTATE | REGULATOR | DIM A | FEATURE |
|-----------|-----------|-------|------|----------|----------|-------|--------|-----------|-------|---------|
| 8TA2010ES | 110-190   | 12    | 30   | 2" SPOOL | 1/4-28   | 10-24 | BI-DIR | N/A       | 6.59  | 1, 2, 3 |
| 8TA2028E  | 110-473   | 12    | 30   | 2" SPOOL | 1/4-28   | 10-24 | BI-DIR | BDEGM     | 7.26  | 1, 3    |
| 8TA2029E  | 110-414   | 12    | 30   | 1" SPOOL | 1/4-28   | 10-24 | BI-DIR | BDEG      | 6.58  | 1, 3    |
| 8TA2030G  | 110-458   | 12    | 45   | 2" SPOOL | 1/4-28   | 10-24 | BI-DIR | BDEG      | 7.1   | 1, 3    |
| 8TA2031G  | 110-475   | 12    | 45   | 2" SPOOL | M6 X 1.0 | 10    | BI-DIR | BDEIK     | 7.1   | 1       |
| 8TA2032E  | 110-551   | 12    | 30   | 2" SPOOL | 1/4-28   | 10-24 | BI-DIR | BDEG      | 7.1   | 1, 3    |
| 8TA2034G  | 110-552   | 12    | 45   | 2" SPOOL | 1/4-28   | 10-24 | BI-DIR | BDEG      | 7.1   | 1, 3    |
| 8TA3025CS | 110-221   | 24    | 16   | 2" SPOOL | 1/4-28   | 10-24 | BI-DIR | N/A       | 7.1   | 1       |

**SPECIFICATIONS:**

- System voltage: 12/24 Volt
- Frame: 5 / 127mm
- Shaft Diameter: 5/8"

**REGULATOR CODES:**

- A External location
- B Integral location
- C External sense
- D Internal sense
- E Diode trio
- G Ignition excite
- H External excite
- I Self excite
- K Lamp driver
- L Temp compensation
- M D+
- N Multi-power regulator
- O Remote sense

**FEATURE CODES:**

- 1 Totally Enclosed Brush Area
- 2 Corrosion Protected
- 3 Noise Filter Capacitor

# AC 172RA

BUS & COACH ALTERNATOR

**APPLICATIONS:**

- Motorcoach
- Shuttle Bus

Versions are available which are both mechanically and electrically interchangeable with the Bosch T1

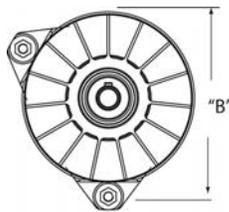
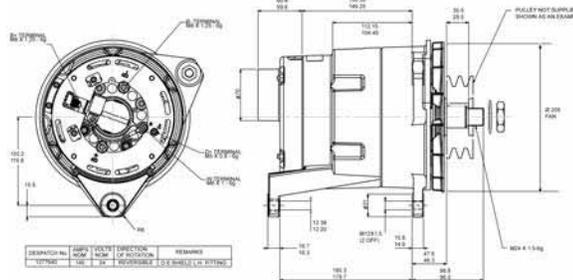
**FEATURES:**

- Originally developed to support the London Bus Fleets, for arduous traffic conditions and heavy system demands
- Now improved to provide an increased performance throughout its operational range
- Brush life has been increased by up to 60%
- Versions are available which are both mechanically and electrically interchangeable with the Bosch T1
- Extremely good low end performance
- Single, double and triple installations are possible
- Sealed for life high-specification bearings
- Regulator provides load dump and surge protection
- Enhanced slip-ring and brush design
- Multiple bracket options
- Reversible rotation
- Facilities for piped air

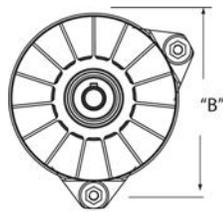
## SWUNG MOUNT



Pulley not supplied



Type 1



Type 2

**SPECIFICATIONS:**

- System voltage: 24/28 Volt
- Frame: 128mm / 5.04

**FEATURE CODES:**

- 1 28 Volt Regulator
- 2 28.5 Volt Regulator
- 3 M12x1.5 front mounting hole
- 4 12.2 front mounting hole
- 5 M12x1.5 rear mounting hole
- 6 12.2 rear mounting hole
- 7 Fixed bush
- 8 Sliding bush
- 9 16.15 front mounting hole
- 10 16.32 rear mounting hole

| PART NO. | SALES NO. | VOLTS | AMPS | MOUNT | TYPE | B+      | B-      | ROTATE | COMMENTS                  | FEATURE     |
|----------|-----------|-------|------|-------|------|---------|---------|--------|---------------------------|-------------|
| 1277A640 | 1277A640  | 24    | 155  | SWUNG | 1    | M8X1.25 | M8X1.25 | BI-DIR | D.E.SHIELD<br>L.H.FITTING | 1, 3, 6, 7  |
| 1277A680 | 1277A680  | 24    | 155  | SWUNG | 1    | M8X1.25 | M8X1.25 | BI-DIR | D.E.SHIELD<br>L.H.FITTING | 2, 4, 6, 8  |
| 1277A690 | 1277A690  | 24    | 155  | SWUNG | 2    | M8X1.25 | M8X1.25 | BI-DIR | D.E.SHIELD<br>R.H.FITTING | 1, 4, 6, 7  |
| 1277A700 | 1277A700  | 24    | 155  | SWUNG | 2    | M8X1.25 | M8X1.25 | BI-DIR | D.E.SHIELD<br>L.H.FITTING | 1, 4, 6, 8  |
| 1277A710 | 1277A710  | 24    | 155  | SWUNG | 1    | M8X1.25 | M8X1.25 | BI-DIR | D.E.SHIELD<br>L.H.FITTING | 2, 4, 6, 7  |
| 1277A720 | 1277A720  | 24    | 155  | SWUNG | 2    | M8X1.25 | M8X1.25 | BI-DIR | D.E.SHIELD<br>R.H.FITTING | 1, 3, 5, 8  |
| 1277A730 | 1277A730  | 24    | 155  | SWUNG | 1    | M8X1.25 | M8X1.25 | BI-DIR | D.E.SHIELD<br>L.H.FITTING | 2, 8, 9, 10 |
| 1277A740 | 1277A740  | 24    | 155  | SWUNG | 2    | M8X1.25 | M8X1.25 | BI-DIR | D.E.SHIELD<br>R.H.FITTING | 2, 8, 9, 11 |
| 1277A810 | 1277A810  | 24    | 155  | SWUNG | 1    | M8X1.25 | M8X1.25 | BI-DIR | D.E.SHIELD<br>L.H.FITTING | 2, 8, 9, 12 |
| 1277A820 | 1277A820  | 24    | 155  | SWUNG | 2    | M8X1.25 | M8X1.25 | BI-DIR | D.E.SHIELD<br>R.H.FITTING | 2, 8, 9, 13 |

# BLD/BLP

BRUSHLESS ALTERNATOR

**APPLICATIONS:**

- Heavy and Medium Duty Truck
- Marine
- Off-Highway
- Construction
- Agricultural

Now 125°C  
High Temperature  
Rated for New EPA Emission  
Compliant Engines!

**FEATURES:**

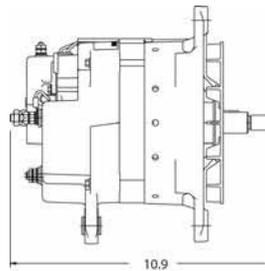
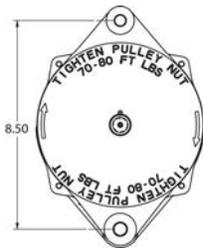
- These Brushless Alternators produce output characteristics typically found only in brush type machines
- Superior performance at low rpm and long life
- Direct replacement for existing 4 Point Pad and 4 J180 mount applications

- No brushes or slip rings to wear out
- Longevity in service means mileage extension and lower maintenance costs
- Large needle bearings, front and rear, to handle high belt loads with high temperature grease
- Rotor and coil mass is evenly distributed to assure balance and eliminate vibration

## J180 MOUNT



Pulley not included

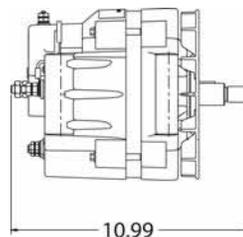
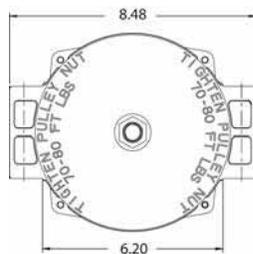


| PART NO.  | SALES NO. | VOLTS | AMPS | MOUNT | B+          | B-         | ROTATE | REGULATOR | FEATURE |
|-----------|-----------|-------|------|-------|-------------|------------|--------|-----------|---------|
| BLD2301GH | BLD2301GH | 12    | 140  | J-180 | 5/16-24 UNF | 1/4-28 UNF | CW     | BDI       | 1       |
| BLD2130GH | BLD2130GH | 12    | 160  | J-180 | 5/16-24 UNC | 1/4-28 UNC | CWDE   | BCIK      | 1       |
| BLD2305GH | BLD2305GH | 12    | 140  | J-180 | 5/16-24     | 1/4-28     | CW     | BDIK      | 1       |
| BLD2307GH | BLD2307GH | 12    | 160  | J-180 | 5/16-24 UNF | 1/4-28 UNF | CW     | BDI       | 1       |
| BLD2308GH | BLD2308GH | 12    | 160  | J-180 | 5/16-24 UNF | 1/4-28 UNF | CW     | BDIK      | 1       |
| BLD2331GH | BLD2331GH | 12    | 185  | J-180 | 5/16-24 UNF | 1/4-28 UNF | CW     | BDI       | 1       |
| BLD2333GH | BLD2333GH | 12    | 185  | J-180 | 5/16-24 UNF | 1/4-28 UNF | CW     | BIKO      | 1       |
| BLD3314GH | BLD3314GH | 24    | 140  | J-180 | 5/16-24 UNF | 1/4-28 UNF | CW     | BDIK      | 1       |
| BLD3365GH | BLD3365GH | 24    | 140  | J-180 | 5/16-24 UNF | 1/4-28 UNF | CW     | BDIK      | 1, 2    |
| BLD3368GH | BLD3368GH | 24    | 140  | J-180 | 5/16-24     | 1/4-28     | CW     | BDIM      | 1       |

## PAD MOUNT



Pulley not included



| PART NO.  | SALES NO. | VOLTS | AMPS | MOUNT | B+          | B-         | ROTATE | REGULATOR | FEATURE |
|-----------|-----------|-------|------|-------|-------------|------------|--------|-----------|---------|
| BLP2131GH | BLP2131GH | 12    | 160  | PAD   | 5/16-24     | 1/4-28     | CW     | BCIKO     | 1       |
| BLP2204GH | BLP2204GH | 12    | 185  | PAD   | 5/16-24 UNF | 1/4-28 UNF | CW     | BDIK      | 1       |
| BLP2303GH | BLP2303GH | 12    | 140  | PAD   | 5/16-24 UNF | 1/4-28 UNF | CW     | BDI       | 1       |
| BLP2306GH | BLP2306GH | 12    | 140  | PAD   | 5/16-24 UNF | 1/4-28 UNF | CW     | BDIK      | 1       |
| BLP2309GH | BLP2309GH | 12    | 160  | PAD   | 5/16-24 UNF | 1/4-28 UNF | CW     | BDI       | 1       |
| BLP2310GH | BLP2310GH | 12    | 160  | PAD   | 5/16-24 UNF | 1/4-28 UNF | CW     | BDIK      | 1       |
| BLP2329GH | BLP2329GH | 12    | 160  | PAD   | 5/16-24 UNF | 1/4-28 UNF | CW     | BIKO      | 1       |
| BLP2332GH | BLP2332GH | 12    | 185  | PAD   | 5/16-24 UNF | 1/4-28 UNF | CW     | BDI       | 1       |
| BLP2333GH | BLP2333GH | 12    | 185  | PAD   | 5/16-24 UNF | 1/4-28 UNF | CW     | BIKO      | 1       |
| BLP2334GH | BLP2334GH | 12    | 185  | PAD   | 5/16-24 UNF | 1/4-28 UNF | CW     | BIKO      | 1       |
| BLP2362GH | BLP2362GH | 12    | 200  | PAD   | 5/16-24 UNF | 1/4-28 UNF | CW     | BCIK      | 1       |
| BLP3300GH | BLP3300GH | 24    | 140  | PAD   | M8          | M6         | CW     | BDIE      | 1       |
| BLP3312   | 110-816   | 24    | 140  | PAD   | 5/16-24 UNF | 1/4-28 UNF | CW     | BDIK      | 1       |
| BLP3317A  | BLP3317A  | 24    | 140  | PAD   | 5/16-24 UNF | 1/4-28 UNF | CW     | BDIK      | 2       |

**SPECIFICATIONS:**

- System voltage: 12/24 Volt
- Frame: 6 1/2 / 165mm
- Shaft Diameter: 7/8"

**REGULATOR CODES:**

- A External location
- B Integral location
- C External sense
- D Internal sense
- E Diode trio
- G Ignition excite
- H External excite
- I Self excite
- K Lamp driver
- L Temp compensation
- M D+
- N Multi-power regulator
- O Remote sense

**FEATURE CODES:**

- 1 Hex shaft
- 2 Corrosion protected

\* Leece-Neville is aggressively re-engineering our high volume alternators to the new high temperature specification. However, not all alternators in the series listed may have been converted to date. Please contact your Leece-Neville representative for additional details.

# BLP4000

HI AMP BRUSHLESS

350 Amp

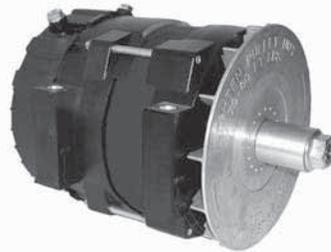
**APPLICATIONS:**

- No Idle Systems
- Class 8
- Shuttle Buses
- Ambulance
- Firetruck
- School Buses

**FEATURES:**

- Remote sense feature is built into every model, so that if required the voltage can be sensed at the battery to eliminate system voltage drop
- Designed with dual cable terminals (B+ and B-), facing both laterally and axially so that cables can be easily connected regardless of the application.

- The BLP4000 alternator is designed with long life and efficiency in mind. Brushless design means there are no brushes to wear down. Hairpin stator technology allows for extreme output and extreme efficiency.



| PART NO.    | SALES NO. | VOLTS | AMPS | MOUNT | B+      | B-      | ROTATE | REGULATOR | FEATURE |
|-------------|-----------|-------|------|-------|---------|---------|--------|-----------|---------|
| BLP4004H    | BLP4000H  | 12    | 350  | PAD   | M8      | M8      | CW     | B,D,E     | 1,2     |
| BLP4005H *  | TBA       | 12    | 220  | PAD   | M8X1.25 | M8X1.25 | CW     | TBA       | 1,2     |
| BLP4007H *  | TBA       | 12    | 240  | PAD   | M8X1.25 | M8X1.25 | CW     | B,D,E     | 1,2     |
| BLP4002H *  | TBA       | 12    | 325  | PAD   | M8X1.25 | M8X1.25 | CW     | B,D,E     | 1,2     |
| BLP4006HN * | TBA       | 12    | 325  | PAD   | M8X1.25 | M8X1.25 | CW     | B,D,E     | 1,2     |

\* MODELS TO BE RELEASED IN 2015.

**SPECIFICATIONS:**

- System voltage: 12 Volt
- Frame: 6 9/16"
- Shaft Diameter: 7/8"
- 10,000 RPM Max
- 73% Efficiency
- 30 lbs (13.6kg)
- -40°C to 125°C

**REGULATOR CODES:**

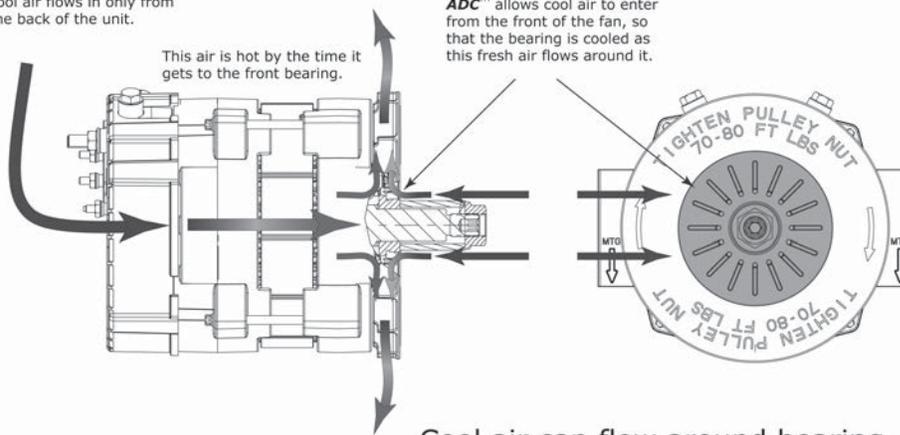
- A Integral location
- B Internal sense
- C Self excite
- D Remote sense

**FEATURE CODES:**

- 1 Hex shaft
- 2 Ecoat

## FEATURING ADC™ BEARING PROTECTION

In traditional alternators, cool air flows in only from the back of the unit.



Cool air can flow around bearing, keeping it cooler for a longer life.

# LBA-LBP

LONG BRUSH ALTERNATORS

**APPLICATIONS:**

- Heavy Duty Truck
- Off-Highway

**Now 125°C  
High Temperature  
Rated for New EPA Emission  
Compliant Engines!**

**FEATURES:**

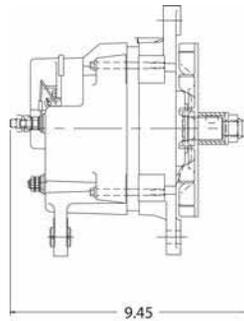
- 60% longer brushes for extended life and a one piece brush holder for enhanced reliability and vibration resistance
- Incorporates features such as conical lock thru bolts, heavier rectifier system, heavy duty aluminum housings and various thread lock systems to assure structural integrity

- Strong low-end performance, where the vehicle power requirements are high but the average engine operating speed is relatively low
- Sealed brush cavity eliminates contamination
- All major components are interchangeable with the 8LHA/8LHP series making upgrades for service parts minimal

## J180 MOUNT



Pulley not included



| PART NO.  | SALES NO. | VOLTS | AMPS | MOUNT | B+      | B-     | ROTATE | REGULATOR | FEATURE |
|-----------|-----------|-------|------|-------|---------|--------|--------|-----------|---------|
| LBA2107GH | LBA2107GH | 12    | 145  | J-180 | 5/16-24 | 1/4-28 | CW     | BDI       | 1, 2    |
| LBA2108GH | LBA2108GH | 12    | 160  | J-180 | 5/16-24 | 1/4-28 | CW     | BDI       | 1, 2    |
| LBA2115   | 110-573   | 12    | 150  | J-180 | 5/16-24 | 1/4-28 | CW     | BDI       | 2       |
| LBA2195   | 110-923   | 12    | 160  | J-180 | 5/16-24 | 1/4-28 | CW     | BDI       | 4       |

**SPECIFICATIONS:**

- System voltage: 12 Volt
- Frame: 6 1/2 / 165mm
- Shaft Diameter: 7/8"

**REGULATOR CODES:**

- A External location
- B Integral location
- C External sense
- D Internal sense
- E Diode trio
- G Ignition excite
- H External excite
- I Self excite
- K Lamp driver
- L Temp compensation
- M D+
- N Multi-power regulator
- O Remote sense

**FEATURE CODES:**

- 1 Hex shaft
- 2 Regulator voltage 14.2
- 3 Regulator voltage 14.4
- 4 Regulator voltage 14.0

\* Leece-Neville is aggressively re-engineering our high volume alternators to the new high temperature specification. However, not all alternators in the series listed may have been converted to date. Please contact your Leece-Neville representative for additional details.

# LBA-LBP (Continued)

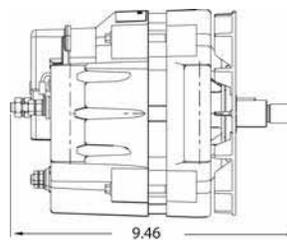
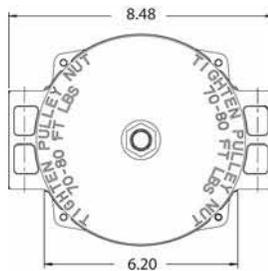
LONG BRUSH ALTERNATORS

Now 125°C  
High Temperature  
Rated for New EPA Emission  
Compliant Engines!

## PAD MOUNT



Pulley not included



| PART NO.  | SALES NO. | VOLTS | AMPS | MOUNT | B+      | B-     | ROTATE | REGULATOR | FEATURE |
|-----------|-----------|-------|------|-------|---------|--------|--------|-----------|---------|
| LBP2132   | 110-573P  | 12    | 150  | PAD   | 5/16-24 | 1/4-28 | CW     | BDI       | 2       |
| LBP2176   | 110-910   | 12    | 135  | PAD   | 5/16-24 | 1/4-28 | CW     | BDI       | 2       |
| LBP2176GH | LBP2176GH | 12    | 135  | PAD   | 5/16-24 | 1/4-28 | CW     | BDI       | 1, 2    |
| LBP2180   | 110-912   | 12    | 160  | PAD   | 5/16-24 | 1/4-28 | CW     | BDI       | 2       |
| LBP2180GH | LBP2180GH | 12    | 160  | PAD   | 5/16-24 | 1/4-28 | CW     | BDI       | 1, 2    |
| LBP2187   | 110-911   | 12    | 145  | PAD   | 5/16-24 | 1/4-28 | CW     | BDI       | 2       |
| LBP2187GH | LBP2187GH | 12    | 145  | PAD   | 5/16-24 | 1/4-28 | CW     | BDI       | 1, 2    |
| LBP2188   | 110-917   | 12    | 145  | PAD   | 5/16-24 | 1/4-28 | CW     | BDIK      | 2       |
| LBP2188GH | LBP2188GH | 12    | 145  | PAD   | 5/16-24 | 1/4-28 | CW     | BDIK      | 1, 2    |
| LBP2188H  | LBP2188H  | 12    | 145  | PAD   | 5/16-24 | 1/4-28 | CW     | BDIK      | 1, 2    |
| LBP2189   | 110-918   | 12    | 160  | PAD   | 5/16-24 | 1/4-28 | CW     | BDIK      | 2       |
| LBP2190   | 110-916   | 12    | 135  | PAD   | 5/16-24 | 1/4-28 | CW     | BDIK      | 2       |
| LBP2190H  | LBP2190H  | 12    | 135  | PAD   | 5/16-24 | 1/4-28 | CW     | BDIK      | 1, 2    |
| LBP2203GH |           | 12    | 160  | PAD   | 5/16-24 | 1/4-28 | CW     | BDI       | 1       |
| LBP2243GH | LBP2243GH | 12    | 160  | PAD   | 5/16-24 | 1/4-28 | CW     | BCIKO     | 1, 2    |
| LBP2354GH | LBP2354GH | 12    | 160  | PAD   | 5/16-24 | 1/4-28 | CW     | BDI       | 1, 2    |

### SPECIFICATIONS:

- System voltage: 12/24 Volt
- Frame: 6 1/2 / 165mm
- Shaft Diameter: 7/8"

### REGULATOR CODES:

- A External location
- B Integral location
- C External sense
- D Internal sense
- E Diode trio
- G Ignition excite
- H External excite
- I Self excite
- K Lamp driver
- L Temp compensation
- M D+
- N Multi-power regulator
- O Remote sense

### FEATURE CODES:

- 1 Hex shaft
- 2 Regulator voltage 14.2
- 3 Regulator voltage 14.4
- 4 Regulator voltage 14.0

\* Leece-Neville is aggressively re-engineering our high volume alternators to the new high temperature specification. However, not all alternators in the series listed may have been converted to date. Please contact your Leece-Neville representative for additional details.

# MDA/110-444

MULTIPLE DUTY ALTERNATOR

**APPLICATIONS:**

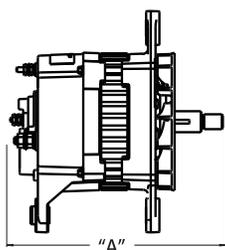
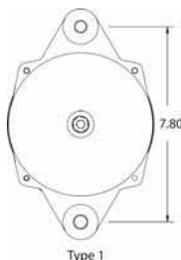
- Suitable for Class 3 through Class 8 Applications

**FEATURES:**

- Designed for Worldwide truck applications where output, compact size and economics are the key selection criteria
- Compact frame design allows easy adaptation to existing vehicle applications
- Strong low-end performance and cool operating temperature over entire output range

- Robust design with end frame structures that offer a wide variety of interchangeable mounting configurations
- Use of proven regulator designs assures reliable operation and allows a variety of features
- New curved blade cooling fan provides increased airflow and assures cooler operating temperatures

## J180 MOUNT



| PART NO. | SALES NO. | VOLTS | AMPS | MOUNT | TYPE | B+      | B-     | ROTATE | REGULATOR | DIM. A | FEATURE |
|----------|-----------|-------|------|-------|------|---------|--------|--------|-----------|--------|---------|
| MDA2932  | 110-444   | 12    | 150  | J180  | 1    | M8X1.25 | M6X1.0 | CW     | B/DIK     | 8.85   | 1,10    |
| MDA3929  | MDA3929   | 24    | 80   | J-180 | 1    | M8X1.25 | M6X1.0 | CW     | BCI       | 8.94   | 1,4,7   |
| MDA3946  | MDA3946   | 24    | 80   | J180  | 1    | M8X1.25 | M6X1.0 | CW     | B/DIK     | 8.85   | 1,7     |

**SPECIFICATIONS:**

- System voltage: 12/24 Volt
- Frame: 144 mm
- Shaft Diameter: 7/8"

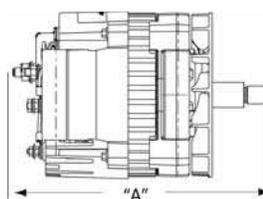
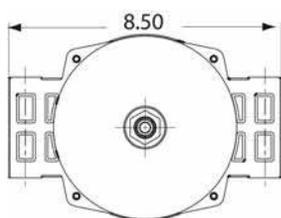
**REGULATOR CODES:**

- A External location
- B Integral location
- C External sense
- D Internal sense
- E Diode trio
- G Ignition excite
- H External excite
- I Self excite
- K Lamp driver
- L Temp compensation
- M D+
- N Multi-power regulator
- O Remote sense

## PAD MOUNT



Pulley not included



| PART NO. | SALES NO. | VOLTS | AMPS | MOUNT | TYPE | B+      | B-     | ROTATE | REGULATOR | DIM. A | FEATURE |
|----------|-----------|-------|------|-------|------|---------|--------|--------|-----------|--------|---------|
| MDP2934  | 110-444P  | 12    | 150  | PAD   | 1    | M8X1.25 | M6X1.0 | CW     | B/DIK     | 8.90   | 1,5     |

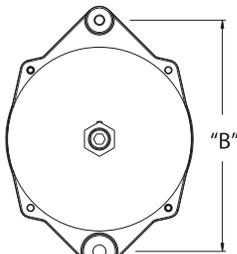
**FEATURE CODES:**

- 1 7/8" shaft
- 2 Remote voltage sense terminal
- 3 Voltage sense terminal
- 4 Trio terminal
- 5 Painted
- 6 Capacitor
- 7 Isolated ground
- 8 High temperature rated 125°C
- 9 Ign. Voltage 12V
- 10 Case ground

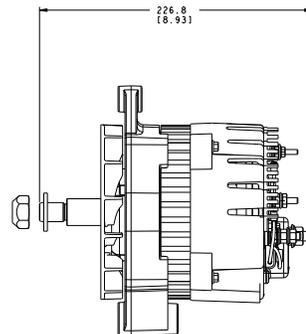
# MDA/110-444 (Continued)

MULTIPLE DUTY ALTERNATOR

## SPOOL MOUNT



Type 1



| PART NO. | SALES NO. | VOLTS | AMPS | MOUNT    | TYPE | B+      | B-     | ROTATE | REGULATOR | DIM. A | DIM. B | FEATURE |
|----------|-----------|-------|------|----------|------|---------|--------|--------|-----------|--------|--------|---------|
| MDA2934  | MDA2934   | 12    | 130  | 2" SPOOL | 1    | M8X1.25 | M6X1.0 | CW     | B DIK     | 8.93   | 7.20   | 1,4     |

### SPECIFICATIONS:

- System voltage: 12/24 Volt
- Frame: 144 mm
- Shaft Diameter: 7/8"

### REGULATOR CODES:

- A External location
- B Integral location
- C External sense
- D Internal sense
- E Diode trio
- G Ignition excite
- H External excite
- I Self excite
- K Lamp driver
- L Temp compensation
- M D+
- N Multi-power regulator
- O Remote sense

### FEATURE CODES:

- 1 7/8" shaft
- 2 Remote voltage sense terminal
- 3 Voltage sense terminal
- 4 Trio terminal
- 5 Painted
- 6 Capacitor
- 7 Isolated ground

# AVI 143



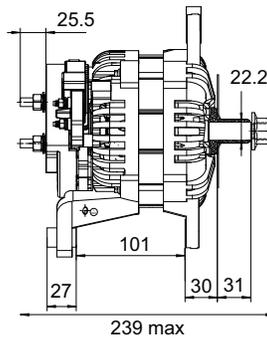
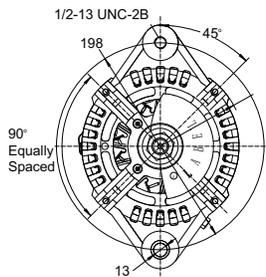
**APPLICATIONS:**

- International Truck & Engine
- Mack Truck
- Volvo

**FEATURES:**

- High Temperature Rated  
Our alternators continue to provide power at their maximum rated temperatures.
- Heavy Duty Front and Rear Bearings
- Heavy Duty Housing Design  
To withstand extreme applications and vibration
- State-of-art Rotor Design

## J180 MOUNT



| PART NO.    | SALES NO. | VOLTS | AMPS | MOUNT | B+ | B-  | ROTATE | REGULATOR |
|-------------|-----------|-------|------|-------|----|-----|--------|-----------|
| AVI143J2001 | AVI555J   | 12    | 170  | J180  | M8 | *M6 | CW     | A, B, D   |

\*Case ground

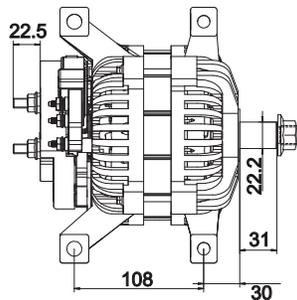
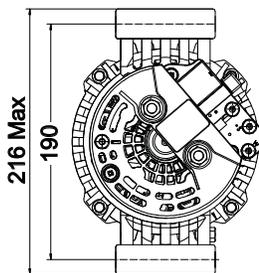
**SPECIFICATIONS:**

- System voltage: 12/14 Volt
- Frame: 143mm
- Shaft Diameter: 7/8"
- 16.3 lbs & 7.4 kg)
- Case ground
- Max RPM 10,000

**REGULATOR CODES:**

- A Integral location
- B Internal sense
- C Self excite
- D Remote sense

## PAD MOUNT



| PART NO.    | SALES NO. | VOLTS | AMPS | MOUNT | B+ | B-  | ROTATE | REGULATOR |
|-------------|-----------|-------|------|-------|----|-----|--------|-----------|
| AVI143P2003 | AVI555P   | 12    | 170  | PAD   | M8 | *M6 | CW     | A, C, D   |

\*Case ground

# AVI 160J/AVI 160P

DUAL INTERNAL FAN ALTERNATOR

**APPLICATIONS:**

- Heavy Duty
- Bus

**Now 125°C  
High Temperature  
Rated for New EPA Emission  
Compliant Engines!**

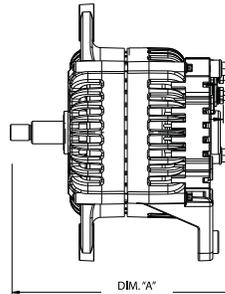
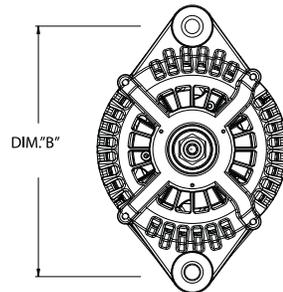
**FEATURES:**

- Diesel and Gasoline Engines
- E-coated for corrosion resistance
- Bi-Directional rotation

## AVI 160J



Pulley not included

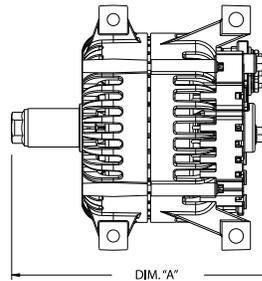
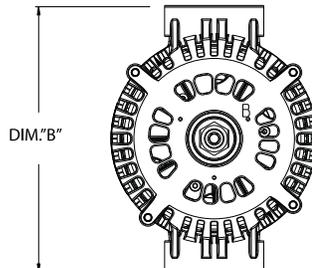


| PART NO.    | SALES NO. | VOLTS | AMPS | MOUNT | B+ | B- | ROTATE | REGULATOR | DIM A | DIM B | FEATURE |
|-------------|-----------|-------|------|-------|----|----|--------|-----------|-------|-------|---------|
| AVI160J2014 | AVI2800J  | 12    | 190  | J-180 | M8 | M8 | BI-DIR | BCIKO     | 227   | 216   | 1       |
| AVI160J2004 | A160204   | 12    | 240  | J-180 | M8 | M8 | BI-DIR | BIKO      | 226   | 216   | 1       |
| AVI160J2008 | A160208   | 12    | 210  | J-180 | M8 | M8 | BI-DIR | BCIKO     | 227   | 216   | 1       |
| AVI160J2011 | A160211   | 12    | 170  | J-180 | M8 | M8 | BI-DIR | BIKO      | 226   | 216   | 1       |

## AVI 160P



Pulley not included



| PART NO.    | SALES NO. | VOLTS | AMPS | MOUNT | B+ | B- | ROTATE | REGULATOR | DIM A | DIM B | FEATURE |
|-------------|-----------|-------|------|-------|----|----|--------|-----------|-------|-------|---------|
| AVI160P2003 | A160203   | 12    | 240  | PAD   | M8 | M8 | BI-DIR | BIKO      | 226   | 215   | 1       |
| AVI160P2007 | A160207   | 12    | 210  | PAD   | M8 | M8 | BI-DIR | BIKO      | 226   | 215   | 1       |
| AVI160P2010 | A160210   | 12    | 170  | PAD   | M8 | M8 | BI-DIR | BIKO      | 226   | 215   | 1       |
| AVI160P2012 | AVI2800P  | 12    | 190  | PAD   | M8 | M8 | BI-DIR | BCIKO     | 226   | 215   | 1       |



**SPECIFICATIONS:**

- System voltage: 12/14 Volt
- Frame: 160mm
- Shaft Diameter: 7/8"

**REGULATOR CODES:**

- A External location
- B Integral location
- C External sense
- D Internal sense
- E Diode trio
- G Ignition excite
- H External excite
- I Self excite
- K Lamp driver
- L Temp compensation
- M D+
- N Multi-power regulator
- O Remote sense

**FEATURE CODES:**

- 1 E-coat

# AVI160T

DUAL INTERNAL FAN ALTERNATOR

**APPLICATIONS:**

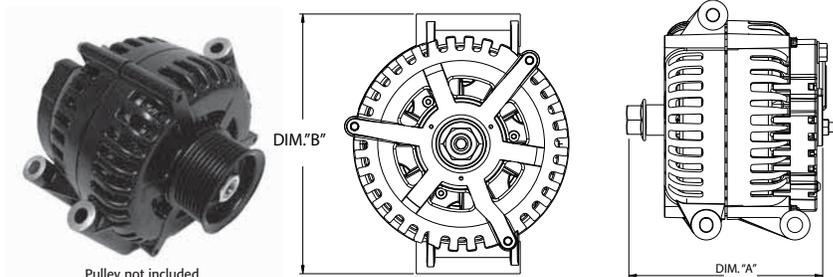
- Ford 6G (2008 F series and newer)
- Ford 3G, 4G, 6G (Pre-2008)
- International Truck LCF

Now 125°C  
High Temperature  
Rated for New EPA Emission  
Compliant Engines!

**FEATURES:**

- Diesel and Gasoline Engines
- E-coated for corrosion resistance
- Bi-Directional rotation
- I-Line and PCM regulators

**T-MOUNT**



| PART NO.      | SALES NO. | VOLTS | AMPS | MOUNT | B+ | B- | ROTATE | REGULATOR | DIM A | DIM B | FEATURE |
|---------------|-----------|-------|------|-------|----|----|--------|-----------|-------|-------|---------|
| AVI160T2001   | A160201   | 12    | 230  | T     | M8 | M8 | BI-DIR | PCM       | 176.6 | 200.0 | 1,3     |
| AVI160T2001-1 | A160201-1 | 12    | 230  | T     | M8 | M8 | BI-DIR | PCM       | 176.6 | 200.0 | 1,3     |
| AVI160T2002   | A160202   | 12    | 230  | T     | M8 | M8 | BI-DIR | I-LINE    | 176.6 | 200.0 | 2,4     |
| AVI160T2002-2 | A160202-2 | 12    | 230  | T     | M8 | M8 | BI-DIR | I-LINE    | 176.6 | 200.0 | 2,4     |
| AVI160T2002-3 | A160202-3 | 12    | 230  | T     | M8 | M8 | BI-DIR | I-LINE    | 176.6 | 200.0 | 2,4     |

NOTE: THE DASH (-) NUMBER MODELS HAVE EXTRA ITEMS. THE NON-DASH NUMBERS ARE THE ALTERNATOR ONLY.

**AVI160T2001-1 (A160201):  
PCM REGULATOR**

- Ford 6G (2008 F series and newer, except vehicles with 6.0L diesel engines)  
From 2010 on – 6.2L Ford gas engines.

Extended mounting bolts **included** with all AVI160T2001-1



**AVI160T2002-2 (A160202):  
I-LINE REGULATOR**

- Ford 3G, 4G (Pre-2008) and all 6.2L Ford diesel engines

Wiring harness and bolts **included** with all AVI160T2002-2



**AVI160T2002-3 (A160203):  
I-LINE REGULATOR**

- International CityStar or Ford LCF

Extended mounting bolts, spacer, washer **included** with all AVI160T2002-3



**SPECIFICATIONS:**

- System voltage: 12/14 Volt
- Frame: 160mm
- Shaft diameter: 24 Hex

**FEATURE CODES:**

- 1 PCM Regulator
- 2 I-Line Regulator
- 3 Extended mounting bolts
- 4 Extended mounting bolts and wiring harness

# AVi168

DUAL INTERNAL FAN ALTERNATOR

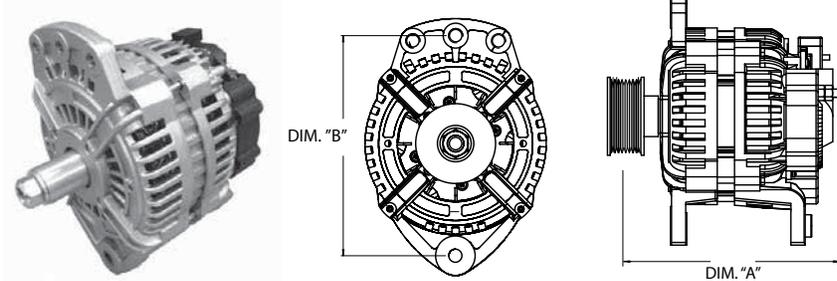
**APPLICATIONS:**

- AVi168W for traditional battery applications
- AVi168WX battery-less alternator for Bus and Bus AC Systems, Construction, Agriculture-Turf Care, Harvesters, Sprayers and Seed Drills

**FEATURES:**

- Best power to weight ratio in its class
- Extreme power at low speed operation
- Twice the output at idle, 75 amps more
- High Temperature Rated
- Vented internal design eliminates the need for a chaff screen
- Direct replacement for 85C

**J-180 MOUNT**



| PART NO. | SALES NO.       | VOLTS | AMPS | MOUNT | B+ | B- | ROTATE | REGULATOR | DIM A | DIM B | FEATURE |
|----------|-----------------|-------|------|-------|----|----|--------|-----------|-------|-------|---------|
| AVi168W  | AVi168W-0000-WX | 24    | 150  | J-180 | M8 | M8 | BI-DIR | BCIKO     | 227   | 216   |         |
| AVi168WX | N/A             | 24    | 150  | J-180 | M8 | M8 | BI-DIR | BIKO      | 226   | 216   |         |

\*MORE MODELS UNDER DEVELOPMENT

**SPECIFICATIONS:**

- System voltage: 24/28 Volt
- Frame: 168mm
- Shaft Diameter: 7/8"

**FEATURE CODES:**

- A External location
- B Integral location
- C External sense
- D Internal sense
- E Diode trio
- G Ignition excite
- H External excite
- I Self excite
- K Lamp driver
- L Temp compensation
- M D+
- N Multi-power regulator
- O Remote sense



# STARTER MOTOR SECTION

## HOW TO USE THIS BUYER'S GUIDE

### **STARTER MOTOR SECTION:**

Each section contains the product family and general description for the series. At the top of the page are listed the applications and features of the series.

#### **Application:**

Each general category of applications is identified.

#### **Features:**

Highlights of some of the unique features for the family/series are listed.

#### **On the right side of the page are:**

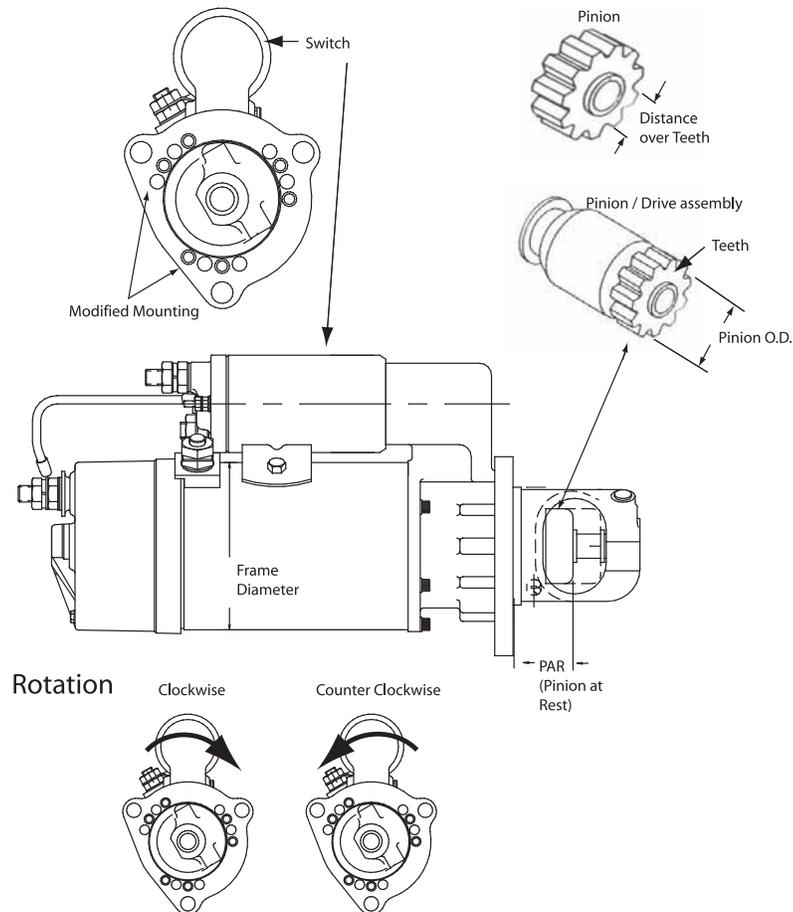
Specifications - mechanical/electrical general specifications of the family/series.

The starter motors are listed by family/series, then numerically by part number with illustrations of typical models. For an explanation of terminology, refer to the Glossary of Starter Motor Terms.

### Glossary of Starter Motor Terms

|                     |   |
|---------------------|---|
| Pinion              | Part of the drive assembly, the teeth on the pinion engage the ring gear of the flywheel  |
| Pinion O.D.         | The outside diameter measurement across the pinion  |
| Teeth               | The part of the pinion that engages the ring gear of the flywheel   |
| Distance over teeth | See illustration- the distance from the outside edge of one tooth to the outside edge of the second tooth   |
| PAR                 | Pinion at rest, the distance from the mounting flange to the end of the pinion when not engaged <b>(See Illustration)</b>                             |
| Pitch               | The number used to determine size and shape of tooth on pinion  |
| Modified mounting   | A standard SAE 1 or 3 that has additional holes for rotatable mounting to the starter frame   |
| Switch              | Solenoid - The part of the starter that activates the engagement/disengagement of the pinion to the flywheel  |
| Rotation            | CW – Clockwise direction when viewing the starter from the drive end<br>CCW – Counter Clockwise direction when viewing the starter from the drive end |

### Glossary Illustrations

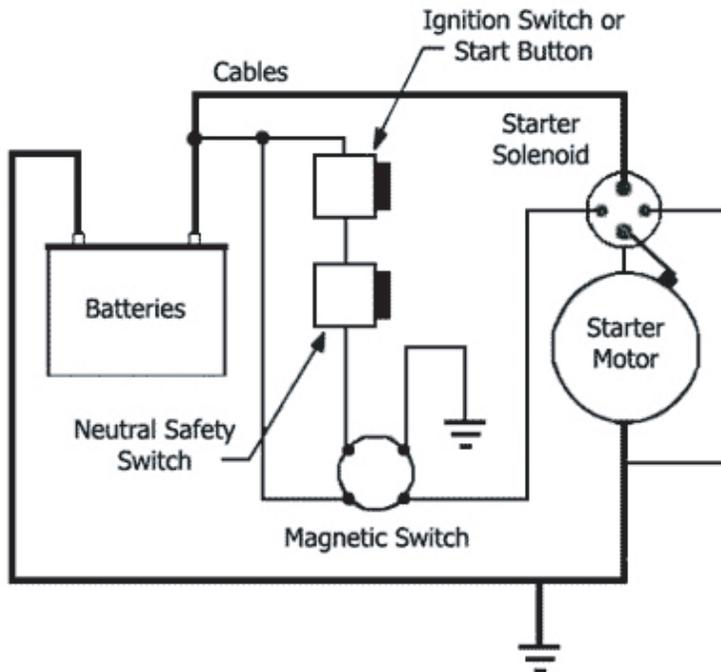


**TECHNICAL REFERENCE INFORMATION**  
**MEDIUM & HEAVY DUTY STARTER MOTOR FAMILY CRANKING SYSTEMS**

Thermal Over-crank Protection

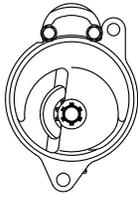
Thermal over-crank protection is provided on some models. A plug is provided in the rear cover of the starter motor, which connects into the vehicle wiring harness. The plug is connected internally to a heat sensitive switch, which opens, causing the starter to stop cranking when excessive temperatures are reached during extended cranking periods. Once the starter cools down, the switch closes, allowing for the normal operation of the starter once again.

Typical Starting Circuit Diagram

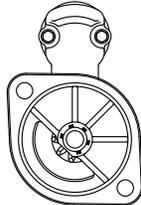


For starting and charging systems training and fault diagnosis, please log onto [www.prestolite.com](http://www.prestolite.com) or contact technical services at 1-866-288-9853.

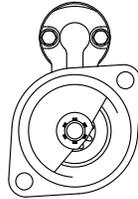
**STARTER MOTOR FLANGE MOUNTS REFERENCE**



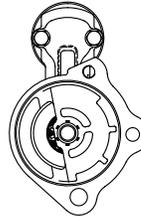
Mount A1



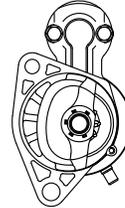
Mount B1



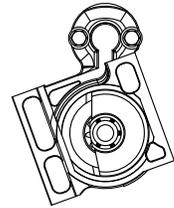
Mount B1A



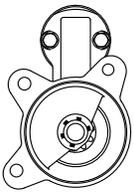
Mount C1



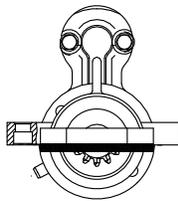
Mount D1



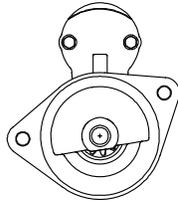
Mount E1



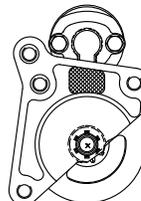
Mount F1



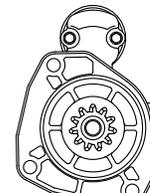
Mount G1



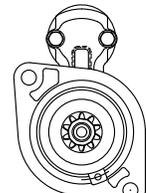
Mount H1



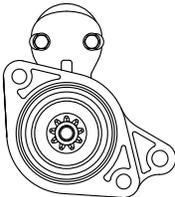
Mount J1



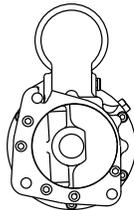
Mount K1



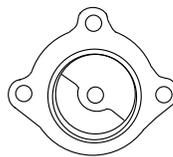
Mount K2



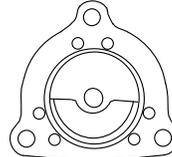
Mount K3



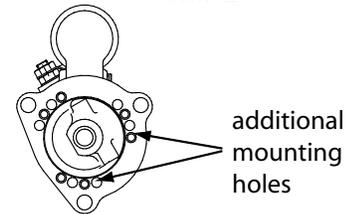
Mount L1



SAE J542 Type 1



SAE J542 Type 3



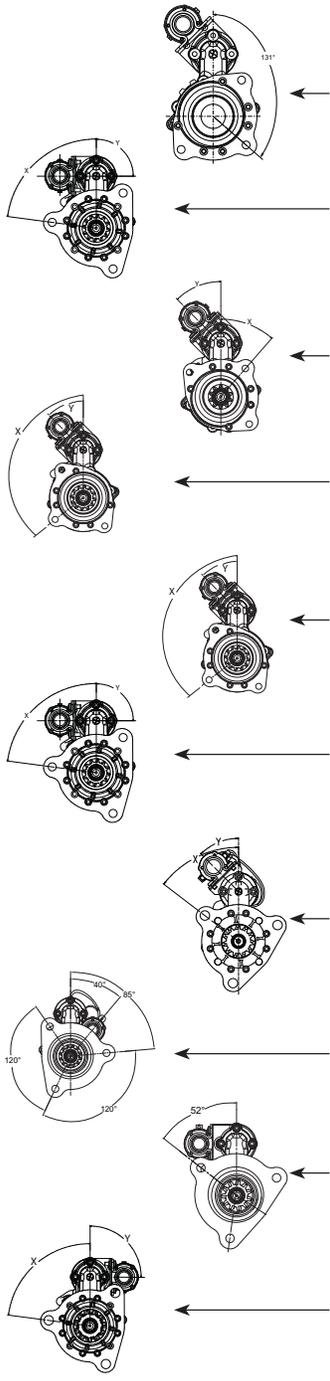
1 Mod - SAE J542 Type 1 mount,  
modified mounting holes  
ex.: Mount L1

3 Mod - SAE J542 Type 3 mount,  
modified mounting holes

**TECHNICAL REFERENCE INFORMATION**  
**GUIDE FOR NOSE HOUSING ROTATION CONVENTION**

Viewing the starter motor from the drive end, the solenoid switch is used as the zero degree position. The mounting hole on the flange opposite the pinion opening is then used as the pointer for the angular rotation of the nose.

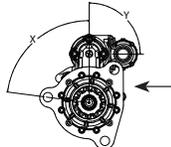
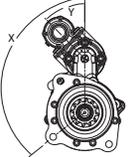
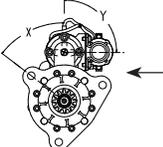
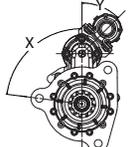
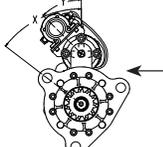
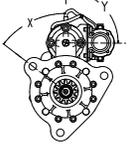
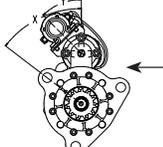
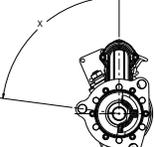
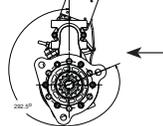
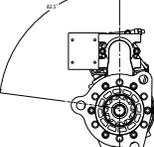
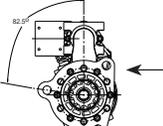
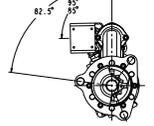
**Rotatable Nose Application Details for Starter Motors**



| Part No     | Sales No | Alternative Mountings |                        |                 |                     |
|-------------|----------|-----------------------|------------------------|-----------------|---------------------|
|             |          | Flange Positions      |                        | Relay Positions |                     |
|             |          | No.                   | Angle "X"              | Pos.            | Angle "Y"           |
| M105R2501SE | M105601  | 1                     | 41° As Supplied        |                 | N/A                 |
|             |          | 2                     | 131° Rotate 90° CW     |                 | N/A                 |
|             |          | 3                     | 139° Rotate 180° CW    |                 | N/A                 |
|             |          | 4                     | 49° Rotate Mirrored    |                 | N/A                 |
| M105R2502SE | M105602  | 1                     | 52.5° Rotate 30° CW    | A               | 90° Rotate 180° CCW |
|             |          | 2                     | 82.5° As Supplied      | B               | 45° Rotate 135° CCW |
|             |          | 3                     | 172.5° Rotate 90° CCW  | C               | 0° Rotate 90° CCW   |
|             |          | 4                     | 202.5° Rotate 120° CCW | D               | -45° Rotate 45° CCW |
|             |          | 5                     | 292.5° Rotate 210° CCW | E               | 90° As Supplied     |
|             |          | 6                     | 322.5° Rotate 240° CCW |                 |                     |
| M105R2510SE | M105610  | 1                     | 41° As Supplied        | A               | 90° Rotate 45° CCW  |
|             |          | 2                     | 131° Rotate 90° CW     | B               | 45° As Supplied     |
|             |          | 3                     | 139° Rotate 180° CW    | C               | 0° Rotate 45° CW    |
|             |          | 4                     | 49° Rotate 90° CCW     | D               | -45° Rotate 90° CW  |
|             |          |                       |                        | E               | -90° Rotate 135° CW |
|             |          |                       |                        |                 |                     |
|             |          |                       |                        |                 |                     |
|             |          |                       |                        |                 |                     |
|             |          |                       |                        |                 |                     |
| M105R2511SE | M105611  | 1                     | 37.5° Rotate 90° CW    | A               | 90° Rotate 45° CCW  |
|             |          | 2                     | 127.5° As Supplied     | B               | 45° As Supplied     |
|             |          | 3                     | 217.5° Rotate 90° CCW  | C               | 0° Rotate 45° CW    |
|             |          | 4                     | 307.5° Rotate 180° CCW | D               | -45° Rotate 90° CW  |
|             |          |                       |                        | E               | -90° Rotate 135° CW |
|             |          |                       |                        |                 |                     |
|             |          |                       |                        |                 |                     |
|             |          |                       |                        |                 |                     |
|             |          |                       |                        |                 |                     |
| M105R2512SE | M105612  | 1                     | 37.5° Rotate 90° CW    | A               | 90° Rotate 45° CCW  |
|             |          | 2                     | 127.5° As Supplied     | B               | 45° As Supplied     |
|             |          | 3                     | 217.5° Rotate 90° CCW  | C               | 0° Rotate 45° CW    |
|             |          | 4                     | 307.5° Rotate 180° CCW | D               | -45° Rotate 90° CW  |
|             |          |                       |                        | E               | -90° Rotate 135° CW |
|             |          |                       |                        |                 |                     |
|             |          |                       |                        |                 |                     |
|             |          |                       |                        |                 |                     |
|             |          |                       |                        |                 |                     |
| M105R2513SE | M105613  | 1                     | 52.5° Rotate 30° CW    | A               | 90° Rotate 180° CCW |
|             |          | 2                     | 82.5° As Supplied      | B               | 45° Rotate 135° CCW |
|             |          | 3                     | 172.5° Rotate 90° CCW  | C               | 0° Rotate 90° CCW   |
|             |          | 4                     | 202.5° Rotate 120° CCW | D               | -45° Rotate 45° CCW |
|             |          | 5                     | 292.5° Rotate 210° CCW | E               | 90° As Supplied     |
|             |          | 6                     | 322.5° Rotate 240° CCW |                 |                     |
| M105R2515SE | M105615  | 1                     | 52.5° As Supplied      | A               | 90° Rotate 45° CCW  |
|             |          | 2                     | 82.5° Rotate 30° CCW   | B               | 45° As Supplied     |
|             |          | 3                     | 172.5° Rotate 120° CCW | C               | 0° Rotate 45° CW    |
|             |          | 4                     | 202.5° Rotate 150° CCW | D               | -45° Rotate 90° CW  |
|             |          | 5                     | 292.5° Rotate 240° CCW | E               | -90° Rotate 135° CW |
|             |          | 6                     | 322.5° Rotate 270° CCW |                 |                     |
| M105R3031SE | M105431  | Fixed                 | 275° As Supplied       | Fixed           | N/A                 |
|             |          |                       |                        |                 |                     |
| M105R3032SE | M105432  | Fixed                 | 52° As Supplied        | Fixed           | 90° As Supplied     |
|             |          |                       |                        |                 |                     |
| M105R3502SE | M105702  | 1                     | 52.5° Rotate 30° CW    | A               | 90° Rotate 180° CCW |
|             |          | 2                     | 82.5° As Supplied      | B               | 45° Rotate 135° CCW |
|             |          | 3                     | 172.5° Rotate 90° CCW  | C               | 0° Rotate 90° CCW   |
|             |          | 4                     | 202.5° Rotate 120° CCW | D               | -45° Rotate 45° CCW |
|             |          | 5                     | 292.5° Rotate 210° CCW | E               | -90° As Supplied    |
|             |          | 6                     | 322.5° Rotate 240° CCW |                 |                     |

The data table shown above can be used to re-clock the nose housing position from one type of starter to another type. Different nose housings will produce a different set of angles achievable within the specific range.

GUIDE FOR NOSE HOUSING ROTATION CONVENTION (CONTINUED)

| Part No   | Sales No | Alternative Mountings |                        |                 |                     |
|---|----------|-----------------------|------------------------|-----------------|---------------------|
|   |          | Flange Positions      |                        | Relay Positions |                     |
|   |          | No.                   | Angle "X"              | Pos.            | Angle "Y"           |
|    | M105703  | 1                     | 52.5° Rotate 30° CW    | A               | 90° Rotate 180° CCW |
|   |          | 2                     | 82.5° As Supplied      | B               | 45° Rotate 135° CCW |
|   |          | 3                     | 172.5° Rotate 90° CCW  | C               | 0° Rotate 90° CCW   |
|   |          | 4                     | 202.5° Rotate 120° CCW | D               | -45° Rotate 45° CCW |
|   |          | 5                     | 292.5° Rotate 210° CCW | E               | -90° As Supplied    |
|   |          | 6                     | 322.5° Rotate 240° CCW |                 |                     |
|    | M105704  | 1                     | 37.5° Rotate 90° CW    | A               | 90° Rotate 45° CCW  |
|   |          | 2                     | 127.5° As Supplied     | B               | 45° As Supplied     |
|   |          | 3                     | 217.5° Rotate 90° CCW  | C               | 0° Rotate 45° CW    |
|   |          | 4                     | 307.5° Rotate 180° CCW | D               | -45° Rotate 90° CW  |
|    | M110601  | 1                     | 52.5° As Supplied      | A               | 90° Rotate 180° CCW |
|   |          | 2                     | 82.5° Rotate 30° CCW   | B               | 45° Rotate 135° CCW |
|   |          | 3                     | 172.5° Rotate 120° CCW | C               | 0° Rotate 90° CCW   |
|   |          | 4                     | 202.5° Rotate 150° CCW | D               | -45° Rotate 45° CCW |
|   |          | 5                     | 292.5° Rotate 240° CCW | E               | -90° As Supplied    |
|   |          | 6                     | 322.5° Rotate 270° CCW |                 |                     |
|    | M110602  | 1                     | 52.5° Rotate 30° CW    | A               | 90° Rotate 135° CCW |
|   |          | 2                     | 82.5° As Supplied      | B               | 45° Rotate 90° CCW  |
|   |          | 3                     | 172.5° Rotate 90° CCW  | C               | 0° Rotate 45° CCW   |
|   |          | 4                     | 202.5° Rotate 120° CCW | D               | -45° As Supplied    |
|   |          | 5                     | 292.5° Rotate 210° CCW | E               | -90° Rotate 45° CW  |
|   |          | 6                     | 322.5° Rotate 240° CCW |                 |                     |
|   | M110603  | 1                     | 52.5° As Supplied      | A               | 90° Rotate 45° CCW  |
|   |          | 2                     | 82.5° Rotate 30° CCW   | B               | 45° As Supplied     |
|   |          | 3                     | 172.5° Rotate 120° CCW | C               | 0° Rotate 45° CW    |
|   |          | 4                     | 202.5° Rotate 150° CCW | D               | -45° Rotate 90° CW  |
|   |          | 5                     | 292.5° Rotate 240° CCW | E               | -90° Rotate 135° CW |
|   |          | 6                     | 322.5° Rotate 270° CCW |                 |                     |
|  | M110604  | 1                     | 52.5° As Supplied      | A               | 90° Rotate 180° CCW |
|   |          | 2                     | 82.5° Rotate 30° CCW   | B               | 45° Rotate 135° CCW |
|   |          | 3                     | 172.5° Rotate 120° CCW | C               | 0° Rotate 90° CCW   |
|   |          | 4                     | 202.5° Rotate 150° CCW | D               | -45° Rotate 45° CCW |
|   |          | 5                     | 292.5° Rotate 240° CCW | E               | -90° As Supplied    |
|   |          | 6                     | 322.5° Rotate 270° CCW |                 |                     |
|  | M110615  | 1                     | 52.5° As Supplied      | A               | 90° Rotate 45° CCW  |
|   |          | 2                     | 82.5° Rotate 30° CCW   | B               | 45° As Supplied     |
|   |          | 3                     | 172.5° Rotate 120° CCW | C               | 0° Rotate 45° CW    |
|   |          | 4                     | 202.5° Rotate 150° CCW | D               | -45° Rotate 90° CW  |
|   |          | 5                     | 292.5° Rotate 240° CCW | E               | -90° Rotate 135° CW |
|   |          | 6                     | 322.5° Rotate 270° CCW |                 |                     |
|  | M125601  | 1                     | 37.5° Rotate 45° CW    | Fixed           | N/A                 |
|   |          | 2                     | 82.5° As Supplied      |                 |                     |
|   |          | 3                     | 277.5° Rotate 195° CCW |                 |                     |
|   |          | 4                     | 307.5° Rotate 225° CCW |                 |                     |
|   |          | 5                     | 322.5° Rotate 240° CCW |                 |                     |
|  | M125600  |                       | 292.5° As Supplied     |                 | 20° As Supplied     |
|  | M125632  |                       | 82.5° As Supplied      |                 | 95° As Supplied     |
|  | M125634  |                       | 323° As Supplied       |                 | 275° As Supplied    |
|  | M125701  |                       | 82.5° As Supplied      |                 | 95° As Supplied     |

# M105R SERIES

IN-LINE GEAR REDUCED STARTER MOTOR

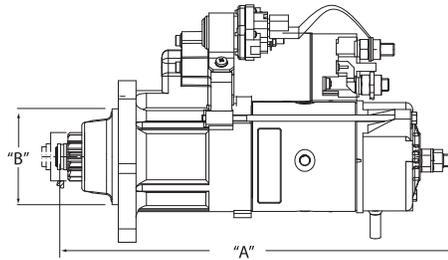
**FEATURES:**

- 5kW Output - power to spare for today's demanding heavy and medium duty applications
- Integral mag switch relay - minimal wiring between relay and solenoid, assures more reliable starting circuit
- Rotatable flange for more versatility and less inventory on most models
- Sealed noseless design – protects against ingress of dust, oil, water and other contaminants and abrasives
- Electrical soft start – eliminates ring gear milling, as pinion slowly rotates while engaging to assure full meshing before full power is applied
- In-line gear reduced – more power in a smaller package, the in-line design allows for the greatest installation flexibility
- Oil sealed for wet clutch applications

**APPLICATIONS:**

- Medium and Heavy Duty Applications
- Approved for diesel engines up to 11 Liters

## M105R



**SPECIFICATIONS:**

- System voltage: 12/14 Volt, 24/28 Volt
- Frame: 105mm / 4.1
- Operating Temperature Range: -40°C to 120°C (-40°F to 248°F)
- Approx. weight: 28.7 lbs/13 kg

| PART NO     | SALES NO | VOLTS | MOUNT | ROTATION | FLANGE POS | OCP | NO. OF TEETH | PINION PITCH | PINION OD mm | PAR mm | IGN TERM | BAT TERM (5) | DIST OVER TEETH | DIM. A | DIM B |
|-------------|----------|-------|-------|----------|------------|-----|--------------|--------------|--------------|--------|----------|--------------|-----------------|--------|-------|
| M105R2022SE | M105322  | 12    | SAE3  | CW       | 82.5°      | NO  | 12           | 8/10         | 46.6         | 47.0   | M4       | M12X1.75     | 15.6            | 397.0  | 92.0  |
| M105R2052SE | M105352  | 12    | SAE 1 | CW       | 240°       | NO  | 11           | 8/10         | 43.37        | 47.5   | M5       | M12X1.75     | 15.6            | 398.8  | 88.8  |
| M105R2501SE | M105601  | 12    | SAE1  | CW       | 319°       | NO  | 12           | 10/12        | 37.2         | 47.0   | M4       | M12X1.75     | 12.5            | 406.0  | 92.0  |
| M105R2502SE | M105602  | 12    | SAE3  | CW       | 82.5°      | NO  | 12           | 8/10         | 46.5         | 47.0   | M5       | M12XX1.75    | 15.6            | 397.0  | 92.0  |
| M105R2503SE | M105603  | 12    | SAE 1 | CW       | 49         | NO  | 11           | 8/10         | 43.37        | 47.5   | M5       | M12X1.75     | 15.6            | 390.0  | 88.8  |
| M105R2510SE | M105610  | 12    | SAE1  | CW       | 319°       | NO  | 10           | 8/10         | 39.9         | 47.0   | M4       | M12X1.75     | 15.5            | 406.0  | 92.0  |
| M105R2511SE | M105611  | 12    | SAE1  | CW       | 127.5°     | NO  | 10           | 8/10         | 39.9         | 47.0   | M4       | M12X1.75     | 15.5            | 406.0  | 92.0  |
| M105R2512SE | M105612  | 12    | SAE1  | CW       | 127.5°     | NO  | 12           | 8/10         | 46.6         | 47.0   | M4       | M12X1.75     | 15.6            | 406.0  | 92.0  |
| M105R2513SE | M105613  | 12    | SAE3  | CW       | 82.5°      | YES | 12           | 8/10         | 46.6         | 47.0   | M4       | M12X1.75     | 15.6            | 397.0  | 92.0  |
| M105R2515SE | M105615  | 12    | SAE3  | CW       | 52.5°      | NO  | 11           | 6/8          | 57.4         | 47.5   | M5       | M12X1.75     | 20.8            | 396.0  | 92.0  |
| M105R2517SE | M105617  | 12    | SAE3  | CW       | 292.5°     | NO  | 10           | 8/10         | 39.8         | 47.5   | M5       | M12X1.75     | 15.5            | 396.0  | 92.0  |
| M105R2518SE | M105618  | 12    | SAE 3 | CW       | 52.5       | YES | 11           | 6/8          | 57.4         | 47.5   | M5       | M12X1.75     | 20.8            | 397.0  | 92.0  |
| M105R3004SE | M105404  | 24    | SAE3  | CW       | 82.5°      | NO  | 12           | 8/10         | 46.5         | 48.5   | M5       | M12X1.75     | 15.6            | 382.0  | 92.0  |
| M105R3031SE | M105431  | 24    | SAE3  | CW       | 85°        | NO  | 12           | M3           | 44.0         | 48.5   | M6       | M12X1.75     | 14.4            | 351.0  | 92.0  |
| M105R3032SE | M105432  | 24    | SAE3  | CW       | 319°       | NO  | 11           | M4           | 53.1         | 46.5   | M5       | M12X1.75     | 19.0            | 374.0  | 92.0  |
| M105R3502SE | M105702  | 24    | SAE3  | CW       | 82.5°      | NO  | 12           | 8/10         | 57.6         | 48.3   | M5       | M12X1.75     | 15.6            | 406.0  | 92.0  |
| M105R3503SE | M105703  | 24    | SAE3  | CW       | 82.5°      | NO  | 11           | 6/8          | 46.7         | 48.3   | M5       | M12X1.75     | 20.8            | 406.0  | 92.0  |
| M105R3504SE | M105704  | 24    | SAE1  | CW       | 127.5°     | NO  | 12           | 8/10         | 46.7         | 48.5   | M5       | M12X1.75     | 15.6            | 395.0  | 92.0  |
| M105R3505SE | M105705  | 24    | SAE3  | CW       | 82.5°      | NO  | 12           | 8/10         | 46.6         | 47.5   | M5       | M12X1.75     | 15.6            | 406.0  | 92.0  |
| M105R3506SE | M105706  | 24    | SAE1  | CW       | 307.5°     | NO  | 10           | 8/10         | 39.9         | 47.5   | M5       | M12X1.75     | 15.5            | 395.0  | 88.8  |
| M105R3507SE | M105707  | 24    | SAE 3 | CW       | 52.5       | NO  | 12           | 8/10         | 46.5         | 47.5   | M6       | M12X1.75     | 15.6            | 406.0  | 92.0  |
| M105R3508SE | M105708  | 24    | SAE 3 | CW       | 277.5      | NO  | 11           | 6/8          | 57.4         | 47.5   | M5       | M12X1.75     | 20.8            | 397.0  | 92.0  |
| M105R3509SE | M105709  | 24    | SAE 3 | CW       | 307.5      | NO  | 12           | 8/10         | 46.5         | 47.5   | M5       | M12X1.75     | 15.6            | 406.0  | 92.0  |
| M105R3510SE | M105710  | 24    | SAE1  | CW       | 319°       | NO  | 10           | 8/10         | 39.9         | 47.5   | M5       | M12X1.75     | 15.5            | 400.0  | 88.8  |
| M105R3514SE | M105714  | 24    | SAE 3 | CW       | 277.5      | NO  | 12           | M3           | 44           | 47.5   | M5       | M12 X1.75    | 14.4            | 406.0  | 92.0  |

# M110R SERIES

IN-LINE GEAR REDUCED STARTER MOTOR  
HEAVY DUTY – UP TO 14 LITER

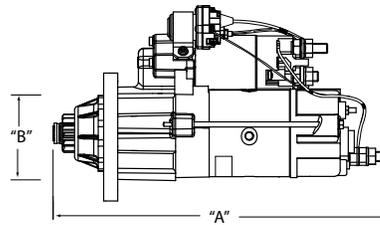
**APPLICATIONS:**

- Heavy Duty Applications
- Approved for diesel engines up to 14 Liters

**FEATURES:**

- 7.0 kW Output – power to spare for today's demanding heavy and medium duty applications
- Integral mag switch relay – minimal wiring between relay and solenoid, assures more reliable starting circuit
- Sealed noseless design – protects against ingress of dust, oil, water and other contaminants and abrasives
- Rotatable flange for more versatility and less inventory
- Electrical soft start – eliminates ring gear milling, as pinion slowly rotates while engaging to assure full meshing before full power is applied
- In-line gear reduced – more power in a small package, the in-line design allows for the greatest installation flexibility
- Oil sealed for wet clutch applications

**M110R**



**SPECIFICATIONS:**

- System voltage: 12/14 Volt
- Frame: 110mm / 4.3
- Operating Temperature Range: -40°C to 120°C (-40°F to 248°F)
- Approx. weight: 28.7 lbs/13 kg

| PART NO     | SALES NO | VOLTS | MOUNT | ROTATION | FLANGE POS | OCP | NO. OF TEETH | PINION PITCH | PINION OD mm | PAR mm | IGN TERM | BAT TERM (S) | DIST OVER TEETH | DIM. A | DIM B |
|-------------|----------|-------|-------|----------|------------|-----|--------------|--------------|--------------|--------|----------|--------------|-----------------|--------|-------|
| M110R2601SE | M110601  | 12    | SAE3  | CW       | 52.5°      | NO  | 12           | 3 MOD        | 43.97        | 47.6   | M5       | M12X1.75     | 14.36           | 396.0  | 92.0  |
| M110R2602SE | M110602  | 12    | SAE3  | CW       | 82.5°      | NO  | 12           | 8/10         | 46.62        | 47.5   | M5       | M12X1.75     | 15.59           | 396.0  | 92.0  |
| M110R2604SE | M110604  | 12    | SAE3  | CW       | 52.5°      | YES | 12           | 3 MOD        | 43.97        | 47.6   | M5       | M12X1.75     | 14.36           | 396.0  | 92.0  |
| M110R2605SE | M110605  | 12    | SAE 3 | CW       | 82.5°      | YES | 12           | 8/10         | 46.62        | 47.5   | M5       | M12X1.75     | 15.59           | 396    | 92    |
| M110R2606SE | M110606  | 12    | SAE 3 | CW       | 292.5°     | NO  | 12           | 8/10         | 46.62        | 47.5   | M5       | M12X1.75     | 15.59           | 397    | 92    |
| M110R2615SE | M110615  | 12    | SAE3  | CW       | 52.5°      | NO  | 11           | 6/8          | 57.4         | 48.5   | M5       | M12X1.75     | 20.75           | 396.0  | 92.0  |

# M125R SERIES

IN-LINE GEAR REDUCED STARTER MOTOR

**FEATURES:**

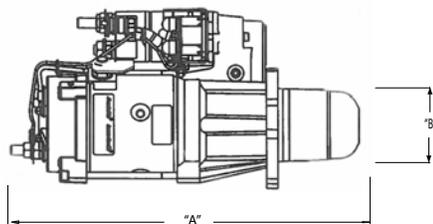
- 8/9kW Output - power to spare for today's demanding heavy and medium duty applications
- Integral mag switch relay - minimal wiring between relay and solenoid, assures more reliable starting circuit
- Electrical soft start - eliminates ring gear milling, as pinion slowly rotates while engaging to assure full meshing before full power is applied

- Sealed noseless design - protects against ingress of dust, oil, water and other contaminants and abrasives
- In-line gear reduced - more power in a smaller package, the in-line design allows for the greatest installation flexibility
- Oil sealed for wet clutch applications
- OCP standard - protects the motor from overheating during high stress situations

**APPLICATIONS:**

- Heavy Duty Big Bore Diesel Applications
- Heavy Duty Applications
- Extreme Conditions

**NOSED**



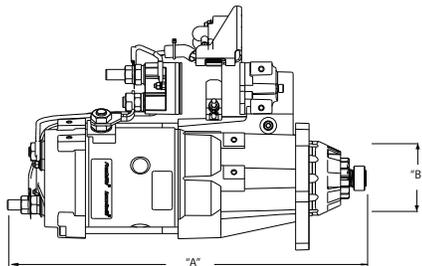
**SPECIFICATIONS:**

- System voltage: 12/14 Volt, 24/28 Volt
- Frame: 125mm / 4.9
- Operating Temperature Range: -40°C to 120°C (-40°F to 248°F)
- Approx. weight: 40.0 lbs/18.1 kg

| PART NO      | SALES NO | VOLTS | MOUNT | ROTATION | FLANGE POS | OCP | NO. OF TEETH | PINION PITCH | PINION OD mm | PAR mm | IGN TERM | BAT TERM (5) | DIST OVER TEETH | DIM. A | DIM B |
|--------------|----------|-------|-------|----------|------------|-----|--------------|--------------|--------------|--------|----------|--------------|-----------------|--------|-------|
| M125R2001SEP | M125601  | 12    | SAE3  | CW       | 82.5°      | YES | 11           | 8/10         | 46.5         | 48.5   | M4       | 1/2-13       | —               | 443.0  | 92.0  |
| M125R2005SEP | M125605  | 12    | SAE3  | CW       | 82.5°      | YES | 12           | 8/10         | 46.5         | 48.5   | M5       | 1/2-13       | 15.62           | 443.0  | 92.0  |
| M125R3001SEP | M125701  | 24    | SAE3  | CW       | 82.5°      | YES | 11           | 6/8          | 56.8         | 48.5   | M4       | 1/2-13       | 20.3            | 443.0  | 92.0  |
| M125R3003SEP | M125703  | 24    | SAE3  | CW       | 82.5°      | YES | 12           | 8/10         | 46.5         | 48.5   | M5       | 1/2-13       | 15.62           | 443.0  | 92.0  |
| M125R3004SEP | M125704  | 24    | SAE3  | CW       | 82.5°      | YES | 11           | 6/8          | 46.5         | 48.5   | M5       | 1/2-13       | 20.3            | 443.0  | 92.0  |
| M125R3030SE* | M125730  | 24    | SAE3  | CW       | 52.5°      | YES | 11           | 6/8          | 46.5         | 48.5   | M5       | 1/2-13       | 20.3            | 443.0  | 92.0  |

\* NEW M125 DUAL STARTER FOR HEAVY DUTY DIESEL EQUIPMENT. CONTACT YOUR LEECE-NEVILLE REPRESENTATIVE FOR DETAILS AND USAGE.

**NOSELESS**



**SPECIFICATIONS:**

- System voltage: 12/14 Volt, 24/28 Volt
- Frame: 125mm / 4.9
- Operating Temperature Range: -40°C to 120°C (-40°F to 248°F)
- Approx. weight: 40.0 lbs/18.1 kg

| PART NO     | SALES NO | VOLTS | MOUNT | ROTATION | FLANGE POS | OCP | NO. OF TEETH | PINION PITCH | PINION OD mm | PAR mm | IGN TERM | BAT TERM (5) | DIST OVER TEETH | DIM. A | DIM B |
|-------------|----------|-------|-------|----------|------------|-----|--------------|--------------|--------------|--------|----------|--------------|-----------------|--------|-------|
| M125R2632SE | M125632  | 12    | SAE3  | CW       | 82.5°      | NO  | 11           | 6/8          | 57.6         | 48.5   | M5       | 1/2-13       | 20.85           | 451.5  | 92.0  |
| M125R2634SE | M125634  | 12    | SAE3  | CW       | 323°       | NO  | 12           | 8/10         | 46.3         | 48.5   | M5       | 1/2-13       | 15.62           | 451.5  | 92.0  |

# M-SERIES

TYPE: DIRECT DRIVE

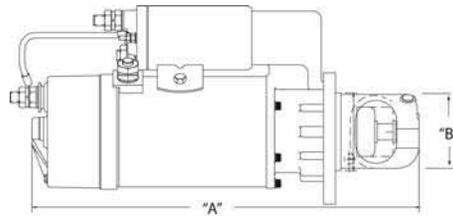
**APPLICATIONS:**

- Class 6, 7 and 8 Trucks
- Off-Road Machinery
- Large Engine Equipment
- Military

**FEATURES:**

- Engineered for reliability, long life and low maintenance
- Heavy Duty and Medium Duty diesel engines up to 18 litres
- Superior engine cranking performance
- Directly interchangeable with competitive units
- Built-in overspeed protection
- Built-in environmental protection
- Compatibility with 12 volt, 24 volt and 32 volt systems
- Oil sealed for wet clutch application
- 2 frame lengths - standard, long
- For engines up to 18.0 liters

**M-SERIES**



**SPECIFICATIONS:**

- System voltage: 12/14, 24/28 Volt
- Frame: 130mm/5.1"
- Operating Temperature Range: Tested to -18°C Engine compartment ambients to 94°C
- Approx. weight: 56.0 lbs/25.4 kg

| PART NO    | SALES NO | VOLTS | MOUNT    | ROTATION | FLANGE POS | OCP | NO. OF TEETH | PINION PITCH | PINION OD mm | PAR mm | IGN TERM | BAT TERM (S) | DIST OVER TEETH | DIM. A | DIM B | FRAME LENGTH |
|------------|----------|-------|----------|----------|------------|-----|--------------|--------------|--------------|--------|----------|--------------|-----------------|--------|-------|--------------|
| M0017267ME | 7267ME   | 12    | 3 MOD    | CW       | 45°        | NO  | 11           | 6/8          | 68.3         | 46.7   | 10-32    | 1/2-13       | 0.81            | 18.13  | 3.62  | STD.         |
| M0017505ME | 7505ME   | 24    | 1 MOD L1 | CW       | 127.5°     | NO  | 12           | 8/10         | 56.7         | 46.7   | 10-32    | 1/2-13       | 0.61            | 19.27  | 3.95  | LONG         |
| M0017072ME | 7072ME   | 24    | 3 MOD    | CW       | 45°        | NO  | 12           | 8/10         | 46.3         | 46.7   | 10-32    | 1/2-13       | 0.61            | 19.02  | 3.62  | STD.         |
| M0017073ME | 7073ME   | 24    | 3 MOD    | CW       | (-37.5°)   | NO  | 12           | 8/10         | 46.3         | 46.7   | 10-32    | 1/2-13       | 0.61            | 19.02  | 3.62  | STD.         |
| M0017074ME | 7074ME   | 24    | 3 MOD    | CW       | 277.5°     | NO  | 12           | 8/10         | 46.3         | 46.7   | 10-32    | 1/2-13       | 0.61            | 19.02  | 3.62  | STD.         |
| M0017075ME | 7075ME   | 24    | 3 MOD    | CW       | 82.5°      | NO  | 12           | 8/10         | 46.3         | 46.7   | 10-32    | 1/2-13       | 0.61            | 19.02  | 3.62  | STD.         |
| M0017260ME | 7260ME   | 24    | 3 MOD    | CW       | 45°        | NO  | 11           | 6/8          | 56.7         | 46.7   | 10-32    | 1/2-13       | 0.81            | 19.27  | 3.62  | STD.         |
| M0017261ME | 7261ME   | 24    | 3 MOD    | CW       | 60°        | NO  | 11           | 6/8          | 56.7         | 46.7   | 10-32    | 1/2-13       | 0.81            | 19.27  | 3.62  | STD.         |
| M0017264ME | 7264ME   | 24    | 3 MOD    | CW       | (-60°)     | NO  | 13           | 8/10         | 49.7         | 47.6   | 10-32    | 1/2-13       | 0.62            | 19.02  | 3.62  | STD.         |
| M0017280ME | 7280ME   | 12    | 3 MOD    | CW       | (-45°)     | NO  | 12           | 8/10         | 46.3         | 46.7   | 10-32    | 1/2-13       | 0.61            | 19.27  | 3.62  | STD.         |
| M0017296ME | 7296ME   | 24    | 3 MOD    | CW       | (-60°)     | NO  | 13           | 8/10         | 56.7         | 46.7   | 10-32    | 1/2-13       | 0.62            | 18.66  | 3.62  | STD.         |
| M0017400ME | 7400ME   | 24/32 | 3 MOD    | CW       | 75°        | NO  | 11           | 6/8          | 56.7         | 46.7   | 10-32    | 1/2-13       | 0.81            | 19.68  | 3.62  | STD.         |
| M0017406ME | 7406ME   | 24    | 3 MOD    | CW       | (-82.5°)   | NO  | 11           | 6/8          | 56.7         | 48.0   | 10-32    | 1/2-13       | 0.81            | 19.27  | 3.62  | STD.         |
| M0017407ME | 7407ME   | 24    | 3 MOD    | CW       | 82.5°      | NO  | 11           | 6/8          | 56.7         | 48.0   | 10-32    | 1/2-13       | 0.81            | 19.27  | 3.62  | STD.         |
| M0017504ME | 7504ME   | 24/32 | 3 MOD    | CW       | (-82.5°)   | NO  | 11           | 6/8          | 67.3         | 46.7   | 10-32    | 1/2-13       | 0.61            | 20.00  | 3.62  | LONG         |
| M0017506ME | 7506ME   | 24    | 3 MOD    | CW       | (-30°)     | NO  | 11           | 6/8          | 56.7         | 46.7   | 10-32    | 1/2-13       | 0.81            | 21.14  | 3.62  | LONG         |
| M0017507ME | 7507ME   | 24    | 3 MOD    | CW       | 87.5°      | NO  | 11           | 6/8          | 56.7         | 46.7   | 10-32    | 1/2-13       | 0.81            | 21.14  | 3.62  | LONG         |
| M0017508ME | 7508ME   | 24    | 3 MOD    | CW       | 82.5°      | NO  | 11           | 6/8          | 56.7         | 46.7   | 10-32    | 1/2-13       | 0.81            | 21.14  | 3.62  | LONG         |
| M0017518ME | 7518ME   | 24/32 | 3 MOD    | CW       | (-37.5°)   | NO  | 12           | 8/10         | 46.3         | 46.7   | 1/4-20   | 1/2-13       | 0.61            | 20.00  | 3.62  | LONG         |
| M0017520ME | 7520ME   | 24/32 | 3 MOD    | CW       | (-322.5°)  | NO  | 12           | 8/10         | 67.3         | 46.7   | 1/4-20   | 1/2-13       | 0.61            | 20.00  | 3.62  | LONG         |
| M0017702ME | 7702ME   | 24    | 1 MOD L1 | CW       | (-52.5°)   | NO  | 12           | 8/10         | 46.3         | 46.7   | 10-32    | 1/2-13       | 0.61            | 18.66  | 3.49  | STD.         |
| M0017703ME | 7703ME   | 24    | 1 MOD L1 | CW       | 127.5°     | NO  | 12           | 8/10         | 46.3         | 46.7   | 10-32    | 1/2-13       | 0.61            | 19.27  | 3.49  | STD.         |
| M0017704ME | 7704ME   | 24    | 3 MOD    | CCW      | (-37.5°)   | NO  | 12           | 8/10         | 46.3         | 46.7   | 10-32    | 1/2-13       | 0.61            | 19.27  | 3.62  | STD.         |
| M0017705ME | 7705ME   | 24    | 1 MOD L1 | CW       | 127.5°     | NO  | 12           | 8/10         | 46.3         | 46.7   | 10-32    | 1/2-13       | 0.61            | 19.27  | 3.62  | STD.         |
| M0017731ME | 7731ME   | 24    | 3 MOD    | CW       | 82.5°      | NO  | 12           | 8/10         | 68.4         | 48.0   | M5       | 1/2-13       | 0.61            | 19.27  | 3.62  | STD.         |

# MS 1

TYPE: HEAVY DUTY PRE-ENGAGED MOTOR

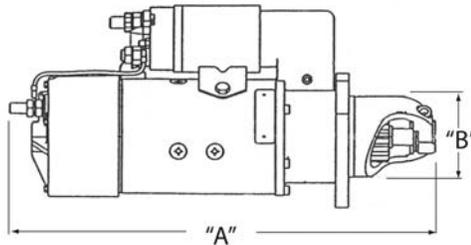
**APPLICATIONS:**

- Automotive
- Industrial
- Marine
- Military

**FEATURES:**

- Proven quality, reliability and durability
- Capable of starting engines of up to 15 litres or 915 cubic inches displacement
- Positork drive provides overspeed protection and helical indexing to prevent abutment
- Environmentally sealed and suitable for wet clutch applications
- Multi-position nose housing means one starter will fit many applications
- Solenoid designed for extended contact life
- Fully-insulated return
- Protected against vibration
- High degree of parts commonality

## MS 1



**SPECIFICATIONS:**

- System voltage: 24/28 Volt
- Frame: 130mm/5.118"
- Operating Temperature Range: -30°C to +94°C
- Approx. weight: 56 lbs/25.4 kg

| PART NO   | SALES NO  | VOLTS | MOUNT | ROTATION | FLANGE POS | OCP | NO. OF TEETH | PINION PITCH | PINION OD mm | PAR mm | IGN TERM | BAT TERM (5) | DIST OVER TEETH | DIM. A   | DIM B  |
|-----------|-----------|-------|-------|----------|------------|-----|--------------|--------------|--------------|--------|----------|--------------|-----------------|----------|--------|
| MS1-307A  | MS1-307A  | 24    | SAE3  | CW       | 202.5°     | NO  | 11           | 6/8          | 57.1         | 47.80  | M6       | M12X1.75     | 14.50           | 19.05    | 3.62   |
| MS1-400A  | MS1-400A  | 24    | SAE3  | CW       | 52.5°      | NO  | 11           | 6/8          | 57.1         | 47.80  | M6       | M12X1.75     | 14.50           | 19.05    | 3.62   |
| MS1-401AS | MS1-401AS | 24    | SAE3  | CW       | 82.5°      | NO  | 11           | 6/8          | 57.1         | 47.80  | M6       | M12X1.75     | 14.50           | 19.05    | 3.62   |
| MS1-403A  | MS1-403A  | 24    | SAE3  | CW       | 62°        | NO  | 11           | 6/8          | 57.1         | 47.80  | M6       | M12X1.75     | 14.50           | 19.05    | 3.62   |
| MS1-408A  | MS1-408A  | 24    | SAE3  | CW       | 45°        | NO  | 11           | 6/8          | 57.1         | 47.83  | M6       | M12X1.75     | 14.50           | 483.87MM | 19.9MM |
| MS1-409A  | MS1-409A  | 24    | SAE3  | CW       | 315°       | NO  | 12           | 8/10         | 46.3         | 47.80  | M6       | M12X1.75     | 14.50           | 19.05    | 3.62   |
| MS1-410A  | MS1-410A  | 24    | SAE3  | CW       | 285°       | NO  | 12           | 8/10         | 46.3         | 47.80  | M6       | M12X1.75     | 14.50           | 483.87MM | 19.9MM |

# MS3

TYPE: HEAVY DUTY PRE-ENGAGED MOTOR

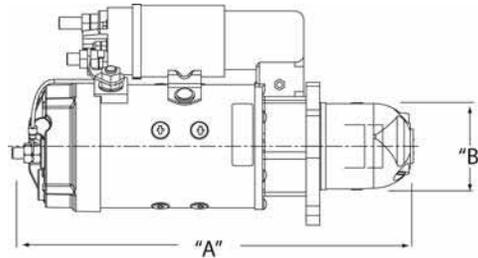
**APPLICATIONS:**

- Automotive
- Industrial
- Marine
- Military

**FEATURES:**

- Proven quality, reliability and durability
- Capable of starting engines of up to 15 litres or 915 cubic inches displacement
- Positork drive provides overspeed protection and helical indexing to prevent abutment
- Environmentally sealed and suitable for wet clutch applications
- Multi-position nose housing means one starter will fit many applications
- Solenoid designed for extended contact life
- Fully-insulated return
- Protected against vibration
- High degree of parts commonality

## MS3



**SPECIFICATIONS:**

- System voltage: 24/28 Volt
- Frame: 130mm/5.118"
- Operating Temperature Range: -30°C to +94°C
- Approx. weight: 54 lbs/24.5 kg

| PART NO | SALES NO | VOLTS | MOUNT | ROTATION | FLANGE POS | OCF | NO. OF TEETH | PINION PITCH | PINION OD mm | PAR mm | IGN TERM | BAT TERM (5) | DIST OVER TEETH | DIM. A | DIM B |
|---------|----------|-------|-------|----------|------------|-----|--------------|--------------|--------------|--------|----------|--------------|-----------------|--------|-------|
| MS3-500 | MS3-500  | 24    | SAE3  | CW       | 322.5°     | NO  | 12           | 8/10         | 1.825        | 1.87   | 10-32    | 1/2-13       | 15.68           | 16.14  | 3.62  |
| MS3-503 | MS3-503  | 24    | SAE3  | CW       | 77°        | NO  | 12           | 8/10         | 1.825        | 1.87   | M6       | M12X1.75     | 15.68           | 17.22  | 3.62  |

# MS4

TYPE: HEAVY DUTY PRE-ENGAGED MOTOR

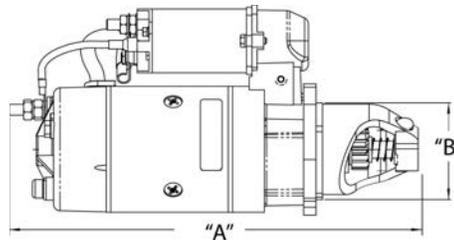
**APPLICATIONS:**

- Automotive
- Industrial
- Marine
- Military

**FEATURES:**

- Capable of starting engines of up to 10 litres or 610 cubic inches displacement
- Positork drive provides overspeed protection and helical indexing to prevent abutment
- Environmentally sealed and suitable for wet clutch applications Multi-position nose housing means one starter will fit many applications

## MS4



**SPECIFICATIONS:**

- System voltage: 24/28 Volt
- Frame: 116mm/4.567"
- Operating Temperature Range: -30°C to +94°C
- Approx. weight: 33.1 lbs/15.0 kg

| PART NO | SALES NO | VOLTS | MOUNT | ROTATION | FLANGE POS | OCF | NO. OF TEETH | PINION PITCH | PINION OD mm | PAR mm | IGN TERM | BAT TERM (5) | DIST OVER TEETH | DIM. A | DIM B |
|---------|----------|-------|-------|----------|------------|-----|--------------|--------------|--------------|--------|----------|--------------|-----------------|--------|-------|
| MS4-400 | MS4-400S | 24    | SAE1  | CW       | 45°        | NO  | 12           | 10/12        | 37.26        | 48.5   | M5       | M10          | 12.59           | 377.20 | 88.8  |
| MS4-404 | MS4-404  | 24    | SAE1  | CW       | 120°       | NO  | 10           | 8/10         | 39.67        | 47.5   | M5       | M10          | 15.43           | 377.20 | 88.8  |
| MS4-406 | MS4-406  | 24    | SAE1  | CW       | 45°        | NO  | 10           | 8/10         | 39.67        | 29.6   | M5       | M10          | 15.43           | 377.20 | 88.8  |
| MS4-408 | MS4-408  | 24    | SAE1  | CW       | 65°        | NO  | 10           | 8/10         | 39.67        | 47.5   | M5       | M10          | 15.43           | 377.20 | 88.8  |

# MS7

TYPE: HEAVY DUTY PRE-ENGAGED MOTOR

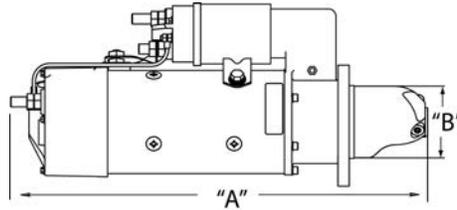
**APPLICATIONS:**

- Automotive
- Industrial
- Marine
- Military

**FEATURES:**

- Designed for High Displacement Diesel Engines
- Fits most popular heavy duty diesel applications and replaces the 50MT in the Aftermarket
- Capable of starting engines of up to 25 litres or 1525 cubic inches displacement
- Environmentally sealed and suitable for wet clutch applications
- Positork drive provides overspeed protection and helical indexing to prevent abutment
- Robust, heavy duty design
- Multi-position nose housing means one starter will fit many applications
- Diameter shaft with optional spring cleaning device
- Extra solenoid brackets provide superior vibration resistance

**MS7**



**SPECIFICATIONS:**

- System voltage: 24/28 Volt
- Frame: 130mm/5.118"
- Operating Temperature Range: -30°C to +94°C
- Approx. weight: 65 lbs/29.5 kg

| PART NO  | SALES NO | VOLTS | MOUNT | ROTATION | FLANGE POS | OCP | NO. OF TEETH | PINION PITCH | PINION OD mm | PAR mm | IGN TERM | BAT TERM (5) | DIST OVER TEETH | DIM. A | DIM B |
|----------|----------|-------|-------|----------|------------|-----|--------------|--------------|--------------|--------|----------|--------------|-----------------|--------|-------|
| MS7-300A | MS7-300A | 24    | SAE3  | CW       | 37.5°      | NO  | 11           | 6/8          | 2.25         | 1.833  | M6       | M12X1.75     | 14.50           | 20.93  | 3.62  |
| MS7-301A | MS7-301A | 24    | SAE3  | CW       | 322.5°     | NO  | 11           | 6/8          | 2.25         | 1.833  | M6       | M12X1.75     | 14.50           | 20.93  | 3.62  |
| MS7-312A | MS7-312A | 24    | SAE3  | CW       | 307.5°     | NO  | 11           | 6/8          | 2.25         | 1.833  | M6       | M12X1.75     | 14.50           | 20.93  | 3.62  |
| MS7-400S | MS7-400S | 24    | SAE3  | CW       | 37.5°      | YES | 11           | 6/8          | 2.25         | 1.833  | 10-32    | 1/2-13       | 14.50           | 20.93  | 3.62  |
| MS7-403  | MS7-403  | 24    | SAE3  | CW       | 37.5°      | NO  | 11           | 6/8          | 2.25         | 1.833  | 10-32    | 1/2-13       | 14.50           | 21.07  | 3.62  |
| MS7-403S | MS7-403S | 24    | SAE3  | CW       | 37.5°      | NO  | 11           | 6/8          | 2.25         | 1.833  | 10-32    | 1/2-13       | 14.50           | 21.07  | 3.62  |
| MS7-415A | MS7-415A | 24    | SAE3  | CW       | 82.5°      | NO  | 11           | 6/8          | 2.25         | 1.833  | 10-32    | 1/2-13       | 14.50           | 21.07  | 3.62  |
| MS7-501A | MS7-501A | 24    | SAE3  | CW       | -37.5°     | NO  | 11           | 6/8          | 2.25         | 1.833  | M5       | M12X1.75     | 14.50           | 20.96  | 3.62  |
| MS7-502S | MS7-502S | 24    | SAE3  | CW       | 37.5°      | NO  | 11           | 6/8          | 2.25         | 1.833  | M5       | M12X1.75     | 14.50           | 20.96  | 3.62  |
| MS7-505A | MS7-505A | 24    | SAE3  | CW       | 37.5°      | NO  | 11           | 6/8          | 2.25         | 1.833  | M5       | M12X1.75     | 14.50           | 20.96  | 3.62  |
| MS7-506A | MS7-506A | 24    | SAE3  | CW       | -37.5°     | NO  | 11           | 6/8          | 2.25         | 1.833  | M5       | M12X1.75     | 14.50           | 20.96  | 3.62  |
| MS7-507  | MS7-507  | 24    | SAE3  | CW       | 37.5°      | NO  | 11           | 6/8          | 2.25         | 1.833  | M5       | M12X1.75     | 14.50           | 20.96  | 3.62  |

## MODEL SUPERCEDEENCE CHART

| PART NO    | SALES NO | REPLACED BY | REMARKS      |
|------------|----------|-------------|--------------|
| 7705A      |          | A0017705AA  | REPL DISC    |
| 7705J      |          | A0017705JA  | REPL DISC    |
| 7706A      |          | A0017706AA  | REPL DISC    |
| 7706J      |          | A0017706JA  | REPL DISC    |
| 8AL2024L   |          | 8AR2018L    |              |
| 8AL2037F   |          | 8AL2108FA   | REPL DISC    |
| 8AL2062L   | 110-731  |             | DISC NO REPL |
| 8AL2071K   | 110-771  | 12N51       |              |
| 8AL2074FA  | 110-500  |             | DISC NO REPL |
| 8AL2080K   | 110-249  | 8AL2080KA   | REPL DISC    |
| 8AL2080KA  | 110-497  |             | DISC NO REPL |
| 8AL2105L   | 110-770  |             | DISC NO REPL |
| 8AL2107K   | 110-300  | 8AL2107KA   | REPL DISC    |
| 8AL2107KA  | 110-503  |             | DISC NO REPL |
| 8AL2108F   | 110-314  | 8AL2108FA   | REPL DISC    |
| 8AL2108FA  | 110-504  |             | DISC NO REPL |
| 8AL2109F   | 110-317  | 8AL2109FA   |              |
| 8AL2109FB  |          |             | DISC NO REPL |
| 8AL2171K   | 110-480  |             | DISC NO REPL |
| 8AR2007    | 110-192  | 8AR2070KA   | REPL DISC    |
| 8AR2015F   | 110-474  |             | DISC NO REPL |
| 8AR2021K   | 110-178  | 8AR2076KA   | REPL DISC    |
| 8AR2023K   | 110-448  | 8AR2023KA   |              |
| 8AR2050F   | 110-241  | 8AR2160F    |              |
| 8AR2051KS  | 110-240  |             | DISC NO REPL |
| 8AR2062K   | 110-263  | 8AR2062KA   |              |
| 8AR2066F   | 110-261  | 8AR2066FA   |              |
| 8AR2067L   | 110-291  |             | DISC NO REPL |
| 8AR2069F   | 110-273  | 8AR2169F    |              |
| 8AR2070K   | 110-274  | 8AR2070KA   | REPL DISC    |
| 8AR2070KA  | 110-647  |             | DISC NO REPL |
| 8AR2072F   | 110-288  | 8EA2011NA   | REPL DISC    |
| 8AR2073FA  | 110-511  | 8AR2173F    | REPL DISC    |
| 8AR2073FAS | 110-493  |             | DISC NO REPL |
| 8AR2074F   | 110-479  |             | DISC NO REPL |
| 8AR2075F   | 110-283  |             | DISC NO REPL |
| 8AR2076KA  | 110-509  |             | DISC NO REPL |
| 8AR2079K   | 110-496  |             | DISC NO REPL |
| 8AR2081F   | 110-315  |             | DISC NO REPL |
| 8AR2111L   | 110-422  |             | DISC NO REPL |
| 8AR2112T   | 110-423  | 8AR2112TA   | REPL DISC    |
| 8AR2112TA  | 110-520  |             | DISC NO REPL |
| 8AR2115T   | 110-426  |             | DISC NO REPL |
| 8AR2116U   | 110-441  | 8AR2116UA   | REPL DISC    |
| 8AR2116UA  | 110-510  |             | DISC NO REPL |
| 8AR2162L   | 110-507  |             | DISC NO REPL |
| 8AR2173F   | 110-477  |             | DISC NO REPL |
| 8AR2177L   | 110-499  |             | DISC NO REPL |
| 8AR2200LB  | 110-524  |             | DISC NO REPL |
| 8AR2202L   | 110-463  |             | DISC NO REPL |
| 8AR2203L   | 110-526  |             | DISC NO REPL |
| 8AR2204T   | 110-467  |             | DISC NO REPL |
| 8AR3005G   | 110-501  |             | DISC NO REPL |
| 8AR3080F   | 110-301  | 8AR3080FA   |              |
| 8AR3113K   | 110-424  | 8AR3113KA   | REPL DISC    |
| 8AR3113KA  | 110-516  |             | DISC NO REPL |

| PART NO     | SALES NO  | REPLACED BY | REMARKS      |
|-------------|-----------|-------------|--------------|
| 8AR3114KA   | 110-506   |             | DISC NO REPL |
| 8AR37N12    |           |             | DISC NO REPL |
| 8AR65N12    |           |             | DISC NO REPL |
| 8HA2005K    | 110-253   |             | DISC NO REPL |
| 8HA2006F    | 110-225   |             | DISC NO REPL |
| 8HA2008F    | 110-303   | 8HA2008FA   |              |
| 8HA2009K    | 110-304   | 8HA2009KA   |              |
| 8HC2001L    | 110-109   |             | DISC NO REPL |
| 8HC2008F    | 110-239   |             | DISC NO REPL |
| 8HC2009P    |           | 8HC2009PS   | REPL DISC    |
| 8HC2009PS   | 110-205   |             | DISC NO REPL |
| 8HC2015LS   | 110-212   |             | DISC NO REPL |
| 8HC2024K    | 110-312   | 8HC2023KS   |              |
| 8HC2027PS   | 110-404   | 8HC2027PAS  |              |
| 8HC3010GS   | 110-196   |             | DISC NO REPL |
| 8HC3025F    | 110-313   | 8HC3022FS   |              |
| 8HR2003F    | 110-530   |             | DISC NO REPL |
| 8HR2005K    | 110-531   |             | DISC NO REPL |
| 8LHA2011R   | 310-137   |             | DISC NO REPL |
| 8LHA2022R   | 110-250   |             | DISC NO REPL |
| 8LHA2023V   | 110-255   | 8LHA2070VF  |              |
| 8LHA2024R   | 110-251   |             | PEND DISC    |
| 8LHA2026V   | 110-277   | 8LHA2026VBS | REPL DISC    |
| 8LHA2026VAS | 110-277A  | 8LHA2026VBS | REPL DISC    |
| 8LHA2026VBS |           |             | DISC NO REPL |
| 8LHA2027R   | 110-278   |             | DISC NO REPL |
| 8LHA2028VAS | 110-279   | 8LHA2032VBS | REPL DISC    |
| 8LHA2030R   | 110-281   |             | DISC NO REPL |
| 8LHA2032V   |           | 8LHA2032VBS | REPL DISC    |
| 8LHA2032VAS | 110-309   | 8LHA2032VBS | REPL DISC    |
| 8LHA2032VBS |           |             | DISC NO REPL |
| 8LHA2050VAS |           | 8LHA2050VES |              |
| 8LHA2050VBS | 110-454   | 8LHA2050VES |              |
| 8LHA2051V   |           | 8LHA2051VA  | REPL DISC    |
| 8LHA2051VA  | 110-472   |             | DISC NO REPL |
| 8LHA2054U   | 110-455   | 8LHA2054UAH |              |
| 8LHA2054UA  | 110-579   | 8LHA2054UAH |              |
| 8LHA2055R   | 110-429   |             | DISC NO REPL |
| 8LHA2057V   |           | 8LHA2057VA  |              |
| 8LHA2063R   | 110-407   |             | DISC NO REPL |
| 8LHA2070V   |           | 8LHA2070VF  |              |
| 8LHA2070VA  |           | 8LHA2070VF  |              |
| 8LHA2070VB  | 110-555HD | 8LHA2070VF  |              |
| 8LHA2070VBH |           | 8LHA2070VF  |              |
| 8LHA2070VE  |           | 8LHA2070VF  |              |
| 8LHA2071V   | 110-555I  | 8LHA2071VA  |              |
| 8LHA2072    |           |             | DISC NO REPL |
| 8LHA2072V   | 110-650   |             | DISC NO REPL |
| 8LHA2073V   | 110-434   |             | DISC NO REPL |
| 8LHA2077VA  | 110-777   |             | DISC NO REPL |
| 8LHA2077VGH |           |             | DISC NO REPL |
| 8LHA2078V   | 110-449   |             | DISC NO REPL |
| 8LHA2079V   | 110-436   |             | DISC NO REPL |
| 8LHA2096VA  | 110-555N  |             | DISC NO REPL |
| 8LHA2098V   | 110-559   | 8LHA2098VA  |              |
| 8LHA2099V   | 110-553   |             | DISC NO REPL |

**MODEL SUPERCEDEENCE CHART**

| PART NO     | SALES NO  | REPLACED BY | REMARKS      |
|-------------|-----------|-------------|--------------|
| 8LHA2134V   | 110-583   |             | DISC NO REPL |
| 8LHA2197MDH |           | 8LHA2197MD  |              |
| 8LHA3025P   | 110-296   | 8LHA3071P   |              |
| 8LHA3056R   | 110-428   |             | DISC NO REPL |
| 8LHA3064PAC |           |             | DISC NO REPL |
| 8LHA3065PAC |           |             | DISC NO REPL |
| 8LHA3072P   | 110-433   |             | DISC NO REPL |
| 8LHA3076R   | 110-435   |             | DISC NO REPL |
| 8LHA3086U   |           | 8LHA3208U   |              |
| 8LHA3087U   | 110-564   | 8LHA3208U   |              |
| 8LHA3089U   |           |             | DISC NO REPL |
| 8LHA3090U   |           |             | DISC NO REPL |
| 8LHA3158R   | 859371    | 8LHA3159R   |              |
| 8LHA3161U   | 110-550   | 8LHA3161UA  |              |
| 8LHP2170V   | 110-555P  | 8LHP2170VF  |              |
| 8LHP2170VE  |           | 8LHP2170VF  |              |
| 8LHP2177V   | 110-777P  |             | DISC NO REPL |
| 8LHP2247V   |           |             | DISC NO REPL |
| 8MA2003P    | 110-141   | 8MA2003PA   |              |
| 8MA2015G    | 110-257   |             | DISC NO REPL |
| 8MA2021KA   | 110-540   |             | DISC NO REPL |
| 8MH2002P    | 110-134   |             | DISC NO REPL |
| 8MH2003K    |           | 8MH2003KS   |              |
| 8MH2007PS   | 110-200   |             | DISC NO REPL |
| 8MH2008PS   | 110-211   |             | DISC NO REPL |
| 8MH3005FSS  | 110-131   |             | DISC NO REPL |
| 8MR2003     | 110-173   |             | DISC NO REPL |
| 8MR2009P    | 110-266   |             | DISC NO REPL |
| 8MR2012PS   | 110-115   | 8MR2009P    | REPL DISC    |
| 8MR2026P    | 110-259   | 8MR2026PA   |              |
| 8MR2030K    | 110-502   |             | DISC NO REPL |
| 8MR2030TA   |           | 8MR2030TC   |              |
| 8MR2030TB   | 110-537   | 8MR2030TC   |              |
| 8MR2030TS   | 110-242   | 8MR2030TC   |              |
| 8MR2048K    | 110-272   | 8MR2048KA   |              |
| 8MR2049K    | 110-271   | 8MR2049KA   |              |
| 8MR2050F    | 110-270   | 8MR2050FA   |              |
| 8MR2051F    | 110-269   | 8MR2051FA   |              |
| 8MR2058P    | 110-307   | 8MR2058PA   |              |
| 8MR2069T    | 110-402   | 8MR2069TA   |              |
| 8MR2070T    | 110-403   | 8MR2070TA   |              |
| 8MR2071T    | 110-411   |             | DISC NO REPL |
| 8MR2072LA   |           |             | DISC NO REPL |
| 8MR2072LAS  | 110-535   |             | DISC NO REPL |
| 8MR2072LS   | 110-430   | 8MR2072LAS  | REPL DISC    |
| 8MR2090K    | 110-482   |             | DISC NO REPL |
| 8MR2131F    |           |             | DISC NO REPL |
| 8MR2160P    | 110-541   |             | DISC NO REPL |
| 8MR2198LS   | 110-679   | 8MR2198L    |              |
| 8MR2324L    | 110-607   |             | DISC NO REPL |
| 8MR2340     | 110-630RM | 8MR2215D    |              |
| 8MR2401U    | 110-534   | 8MR2401UA   |              |
| 8MR2403F    | 110-525   |             | DISC NO REPL |
| 8MR2406K    | 110-604   |             | DISC NO REPL |
| 8MR3115K    | 110-451   | 8MR3115KA   | REPL DISC    |
| 8MR3115KA   | 110-533   |             | DISC NO REPL |

| PART NO      | SALES NO | REPLACED BY | REMARKS      |
|--------------|----------|-------------|--------------|
| 8MR3300G     | 110-465  | 8MR3301G    |              |
| 8MR3331G     |          |             | DISC NO REPL |
| 8MR3405G     | 110-546  |             | DISC NO REPL |
| 8MR37N12     |          |             | DISC NO REPL |
| 8MR42N24     |          |             | DISC NO REPL |
| 8MR65N12     |          |             | DISC NO REPL |
| 8SA2035V     |          | 8SA2035VAS  | REPL DISC    |
| 8SA2035VAS   | 110-320  |             | DISC NO REPL |
| 8SA3006P     | 110-128  | 8LHA3065PAC | REPL DISC    |
| 8SA3008P     | 110-126  | 8LHA3064PAC | REPL DISC    |
| 8SA3064P     | 110-408  | 8LHA3064PAC | REPL DISC    |
| 8SA3064PC    | 110-413  | 8LHA3064PAC | REPL DISC    |
| 8SA3065P     | 110-409  | 8LHA3065PAC | REPL DISC    |
| 8SA3065PC    | 110-412  | 8LHA3065PAC | REPL DISC    |
| 8SC2007ZR    | 110-228  |             | DISC NO REPL |
| 8SC2023Z-NHK |          | 8SC2282V    | REPL PRIVATE |
| 8SC2206V     |          |             | DISC NO REPL |
| 8SC2209Z     |          |             | DISC NO REPL |
| 8SC3009Z     | 110-258A | 8SC3157V    |              |
| 8SC3009ZA    | 110-258  | 8SC3157V    |              |
| 8SC3014U     | 110-298  | 8SC3133U    |              |
| 8SC3014US    | 110-574  |             | DISC NO REPL |
| 8SC3015U     | 110-302  | 8SC3169U    |              |
| 8SC3017V     | 110-308  | 8SC3200V    |              |
| 8SC3017VA    | 110-575  | 8SC3200V    |              |
| 8SC3018V     | 110-306  | 8SC3200V    |              |
| 8SC3018VA    | 110-576  | 8SC3200V    |              |
| 8SC3110V     | 110-568  | 8SC3200V    |              |
| 8SC3110VC-SZ |          |             | DISC NO REPL |
| 8SC3207V     |          | 8SC3200V    |              |
| 8SC3238VC    |          |             | DISC NO REPL |
| 8SC3248V     |          |             | DISC NO REPL |
| 8SC4020U     | 110-324  |             | DISC NO REPL |
| 8SC4042Z     | 110-445  |             | DISC NO REPL |
| 8SC5251V     |          | 8SC5369G    |              |
| A001090451   | 90451    |             | DISC NO REPL |
| A001090466   | 90466    |             | DISC NO REPL |
| A001090514   | 90514    |             | DISC NO REPL |
| A001090515   | 90515    | A0012500LC  |              |
| A001090516   | 90516    |             | DISC NO REPL |
| A001090521   | 90521    | A0012500LC  |              |
| A001090522   | 90522    | A001090821  | REPL DISC    |
| A001090523   | 90523    | A0012500LC  |              |
| A001090524   | 90524    |             | DISC NO REPL |
| A001090550   | 90550    |             | DISC NO REPL |
| A001090552   | 90552    |             | DISC NO REPL |
| A001090556   | 90556    |             | DISC NO REPL |
| A001090569   | 90569    | A0012360JC  | REPL DISC    |
| A001090575   | 90575    |             | DISC NO REPL |
| A001090577   | 90577    |             | DISC NO REPL |
| A001090599   | 90599    |             | DISC NO REPL |
| A001090600   | 90600    |             | DISC NO REPL |
| A001090601   | 90601    |             | DISC NO REPL |
| A001090609   | 90609    |             | DISC NO REPL |
| A001090610   | 90610    |             | DISC NO REPL |
| A001090611   | 90611    |             | DISC NO REPL |

## MODEL SUPERCEDEENCE CHART

| PART NO    | SALES NO | REPLACED BY | REMARKS      |
|------------|----------|-------------|--------------|
| A001090613 | 90613    |             | DISC NO REPL |
| A001090625 | 90625    |             | DISC NO REPL |
| A001090633 | 90633    |             | DISC NO REPL |
| A001090634 | 90634    |             | DISC NO REPL |
| A001090637 | 90637    |             | DISC NO REPL |
| A001090641 | 90641    |             | DISC NO REPL |
| A001090656 | 90656    |             | DISC NO REPL |
| A001090657 | 90657    |             | DISC NO REPL |
| A001090660 | 90660    |             | DISC NO REPL |
| A001090684 | 90684    |             | DISC NO REPL |
| A001090685 | 90685    |             | DISC NO REPL |
| A001090691 | 90691    |             | DISC NO REPL |
| A001090695 | 90695    |             | DISC NO REPL |
| A001090696 | 90696    |             | DISC NO REPL |
| A001090697 | 90697    |             | DISC NO REPL |
| A001090710 | 90710    |             | DISC NO REPL |
| A001090718 | 90718    |             | DISC NO REPL |
| A001090719 | 90719    |             | DISC NO REPL |
| A001090720 | 90720    |             | DISC NO REPL |
| A001090725 | 90725    |             | DISC NO REPL |
| A001090727 | 90727    | A0012670LC  |              |
| A001090743 | 90743    | A001090819  | REPL DISC    |
| A001090749 | 90749    | A001090806  |              |
| A001090750 | 90750    |             | DISC NO REPL |
| A001090758 | 90758    |             | DISC NO REPL |
| A001090770 | 90770    |             | DISC NO REPL |
| A001090774 | 90774    |             | DISC NO REPL |
| A001090810 | 90810    | A0012670LC  |              |
| A001090811 | 90811    | A001090821  | REPL DISC    |
| A001090813 | 90813    | A001090819  | REPL DISC    |
| A001090819 | 90819    |             | DISC NO REPL |
| A001090821 | 90821    |             | DISC NO REPL |
| A001090822 | 90822    | A0012670LC  |              |
| A001090823 | 90823    |             | DISC NO REPL |
| A0012000AB | 2000A    |             | DISC NO REPL |
| A0012002AA | 2002A    |             | DISC NO REPL |
| A0012014AB | 2014A    | A0018051AB  | REPL DISC    |
| A0012032AB | 2032A    |             | DISC NO REPL |
| A0012034AA | 2034A    | A0012036AA  | REPL DISC    |
| A0012036AA | 2036A    |             | DISC NO REPL |
| A0012042AB | 2042A    |             | DISC NO REPL |
| A0012056AA | 2056A    | A0018053AA  | REPL DISC    |
| A0012062AA | 2062A    | A0012086AA  | REPL DISC    |
| A0012064AA | 2064A    | A0012234AA  | REPL DISC    |
| A0012068AP | 2068AP   |             | DISC NO REPL |
| A0012074AB | 2074A    | A0012178AB  | REPL DISC    |
| A0012082AA | 2082A    |             | DISC NO REPL |
| A0012086AA | 2086A    |             | DISC NO REPL |
| A0012092AA | 2092A    | A0012036AA  | REPL DISC    |
| A0012096AA | 2096A    |             | DISC NO REPL |
| A0012104AB | 2104A    | A0012178AB  | REPL DISC    |
| A0012124AA | 2124A    |             | DISC NO REPL |
| A0012126AA | 2126A    | A0012302AAS | REPL DISC    |
| A0012144AA | 2144A    | A0018053AA  | REPL DISC    |
| A0012148AB | 2148AB   |             | DISC NO REPL |
| A0012152AC | 2152A    |             | DISC NO REPL |

| PART NO     | SALES NO | REPLACED BY | REMARKS      |
|-------------|----------|-------------|--------------|
| A0012154AA  | 2154A    |             | DISC NO REPL |
| A0012158AA  | 2158A    |             | DISC NO REPL |
| A0012174AA  | 2174A    |             | DISC NO REPL |
| A0012178AB  | 2178A    |             | DISC NO REPL |
| A0012184AC  | 2184AC   | A0012184AD  | REPL DISC    |
| A0012184AD  | 2184AD   |             | DISC NO REPL |
| A0012220AA  | 2220AA   |             | DISC NO REPL |
| A0012234AA  | 2234AA   |             | DISC NO REPL |
| A0012254AA  | 2254A    |             | DISC NO REPL |
| A0012256AA  | 2256A    |             | DISC NO REPL |
| A0012258AC  | 2258AC   |             | DISC NO REPL |
| A0012260AC  | 2260AC   | A0012260AE  | REPL DISC    |
| A0012260AD  | 2260AD   | A0012260AE  | REPL DISC    |
| A0012260AE  | 2260AE   |             | DISC NO REPL |
| A0012264AA  | 2264AA   |             | DISC NO REPL |
| A0012266AC  | 2266AC   |             | DISC NO REPL |
| A0012270AA  | 2270AA   | VLF2274     | REPL DISC    |
| A0012272AA  | 2272AA   |             | DISC NO REPL |
| A0012300JB  | 2300JB   | A0012500LC  |              |
| A0012300JC  | 2300JC   | A0012500LC  |              |
| A0012301JB  | 2301JB   | A0012303JB  | REPL DISC    |
| A0012302AA  | 2302AA   |             | DISC NO REPL |
| A0012302AAS | 2302AAS  |             | DISC NO REPL |
| A0012303JB  | 2303JB   |             | DISC NO REPL |
| A0012304JB  | 2304JB   |             | DISC NO REPL |
| A0012360JB  | 2360JB   | A0012360JC  | REPL DISC    |
| A0012360JC  | 2360JC   |             | DISC NO REPL |
| A0012402LC  | 2402LC   |             | DISC NO REPL |
| A0012500JB  | 2500JB   | A0012500LC  |              |
| A0012502LC  | 2502LC   |             | DISC NO REPL |
| A0012505LC  | 2505LC   |             | PEND DISC    |
| A0012509JB  | 2509JB   |             | DISC NO REPL |
| A0012511AA  | 2511AA   |             | DISC NO REPL |
| A0012513LC  |          |             | DISC NO REPL |
| A0012514AA  | 2514AA   |             | DISC NO REPL |
| A0012524JB  | 2524JB   |             | DISC NO REPL |
| A0012526JB  | 2526JB   | A0012526LC  | REPL DISC    |
| A0012526JC  | 2526JC   | A0012526LC  | REPL DISC    |
| A0012526LC  | 2526LC   |             | DISC NO REPL |
| A0012540JB  | 2540J    |             | DISC NO REPL |
| A0012550JB  | 2550J    |             | DISC NO REPL |
| A0012552LC  | 2552LC   |             | DISC NO REPL |
| A0012554JB  | 2554JB   |             | DISC NO REPL |
| A0012600JB  | 2600JB   | A0012500LC  |              |
| A0012600JC  | 2600JC   | A0012500LC  |              |
| A0012624JB  | 2624J    |             | DISC NO REPL |
| A0012670JB  | 2670JB   | A0012670LC  |              |
| A0012670JC  | 2670JC   | A0012670LC  |              |
| A0012671LC  | 2671LC   |             | DISC NO REPL |
| A0012674JB  | 2674J    |             | DISC NO REPL |
| A0012676LC  | 2676LC   |             | DISC NO REPL |
| A0012680JI  | 2680JI   | A0012681LCF | REPL DISC    |
| A0012683LC  | 2683LC   |             | DISC NO REPL |
| A0012700JB  | 2700JB   | A0012670LC  |              |
| A0012700JC  | 2700JC   | A0012670LC  |              |
| A0012700LC  | 2700LC   | A0012670LC  |              |

## MODEL SUPERCEDEENCE CHART

| PART NO    | SALES NO | REPLACED BY | REMARKS        |
|------------|----------|-------------|----------------|
| A0012702LC | 2702LC   |             | DISC NO REPL   |
| A0012713LC | 2713LC   |             | PEND DISC      |
| A0012724JB | 2724J    |             | DISC NO REPL   |
| A0012800JB | 2800JB   | A0012800LC  |                |
| A0012800JC | 2800JC   | A0012800LC  |                |
| A0012801LC | 2801LC   |             | DISC NO REPL   |
| A0012802JB | 2802JB   | A0012802LC  | REPL DISC      |
| A0012802JC | 2802JC   | A0012802LC  | REPL DISC      |
| A0012802LC | 2802LC   |             | DISC NO REPL   |
| A0012803JB | 2803J    |             | DISC NO REPL   |
| A0012805JB | 2805JB   | A0012805LC  | REPL PEND DISC |
| A0012805JC | 2805JC   | A0012805LC  | REPL PEND DISC |
| A0012805LC | 2805LC   |             | PEND DISC      |
| A0012807LC | 2807LC   |             | DISC NO REPL   |
| A0012813LC |          |             | DISC NO REPL   |
| A0012815JB | 2815JB   | A0012815LCF | REPL DISC      |
| A0012824JB | 2824JB   | A0012824LC  |                |
| A0012825LC | 2825LC   |             | DISC NO REPL   |
| A0012828LC | 2828LC   | A0012824LC  |                |
| A0012829JB | 2829J    |             | DISC NO REPL   |
| A0013002AF | 3002A    | AMA-5104UT  | REPL DISC      |
| A0013028AA | 3028A    |             | DISC NO REPL   |
| A0013030AA | 3030A    |             | DISC NO REPL   |
| A0013032AB | 3032A    |             | DISC NO REPL   |
| A0013034AA | 3034A    |             | DISC NO REPL   |
| A0013036AA | 3036A    |             | DISC NO REPL   |
| A0013425JC | 3425JC   |             | DISC NO REPL   |
| A0013427JA | 3427JA   |             | DISC NO REPL   |
| A0013427JC |          | A0013427JA  | REPL DISC      |
| A0013429JC | 3429JC   |             | DISC NO REPL   |
| A0013632AA | 3632A    |             | DISC NO REPL   |
| A0014400AA | 4400A    |             | DISC NO REPL   |
| A0014400JA | 4400J    |             | DISC NO REPL   |
| A0014401AD | 4401D    | A0014404AA  | REPL DISC      |
| A0014401AE | 4401E    | A0014405AA  | REPL DISC      |
| A0014403AA | 4403A    |             | DISC NO REPL   |
| A0014403JA | 4403J    |             | DISC NO REPL   |
| A0014404AA | 4404AA   |             | DISC NO REPL   |
| A0014405AA | 4405AA   |             | DISC NO REPL   |
| A0014407AA | 4407AA   |             | DISC NO REPL   |
| A0014425JC | 4425J    |             | DISC NO REPL   |
| A0014426AA | 4426A    |             | DISC NO REPL   |
| A0014426JC | 4426JC   | 8LHA3071P   |                |
| A0014452AA | 4452AA   | A0014452AB  | REPL DISC      |
| A0014452AB | 4452AB   |             | DISC NO REPL   |
| A0014600AA | 4600AA   |             | DISC NO REPL   |
| A0014600JA | 4600J    |             | DISC NO REPL   |
| A0014601AA | 4601A    |             | DISC NO REPL   |
| A0014601JA | 4601J    |             | DISC NO REPL   |
| A0014627JA | 4627J    | A0014826JB  |                |
| A0014628JA | 4628JA   |             | DISC NO REPL   |
| A0014631JA | 4631J    |             | DISC NO REPL   |
| A0014632JA | 4632JA   |             | DISC NO REPL   |
| A0014633JA | 4633J    |             | DISC NO REPL   |
| A0014652AA | 4652AA   |             | DISC NO REPL   |
| A0014654AA | 4654AA   |             | DISC NO REPL   |

| PART NO       | SALES NO  | REPLACED BY | REMARKS      |
|---------------|-----------|-------------|--------------|
| A0014654AB    | 4654AB    |             | PEND DISC    |
| A0014700AA    | 4700AA    |             | DISC NO REPL |
| A0014700JA    | 4700J     |             | DISC NO REPL |
| A0014725JA    | 4725JA    | A0014725JC  |              |
| A0014725JB    | 4725JB    | A0014725JC  |              |
| A0014727AB    | 4727AB    |             | DISC NO REPL |
| A0014727JB    | 4727JB    | A0014729LC  |              |
| A0014728JB    | 4728JB    |             | DISC NO REPL |
| A0014754AA    | 4754AA    |             | DISC NO REPL |
| A0014754AB    | 4754AB    |             | DISC NO REPL |
| A0014754JA    | 4754JA    |             | DISC NO REPL |
| A0014800AA    | 4800AA    | A0014846AAH |              |
| A0014800JB    | 4800JB    | A0014833LGH |              |
| A0014817JB    | 4817JB    |             | DISC NO REPL |
| A0014822JB    |           |             | PEND DISC    |
| A0014824JB    | 4824JB    |             | DISC NO REPL |
| A0014830LC    | 4830LC    | A0014833LGH |              |
| A0014832LCH   | 4832LCH   | A0014833LCH |              |
| A0014834AA    | 4834AA    | A0014836AAH |              |
| A0014834LC    | 4834LC    | A0014836LGH |              |
| A0014835PGH   | 4835PGH   | A0014939PGH |              |
| A0014856AA    | 4856AA    |             | PEND DISC    |
| A0014864JB    | 4864JB    | A0014867JB  |              |
| A0014872JB    | 4872JB    | A0014871JB  |              |
| A0014908PGH   |           |             | DISC NO REPL |
| A0014919PA-MP | 4919PA-MP |             | DISC NO REPL |
| A0014930PA    | 4930PA    | A0014939PGH |              |
| A0014934PA    | 4934PA    | A0014943PGH |              |
| A0014936PA    | 4936PA    | A0014943PGH |              |
| A0014939AAH-B | 4939AAH-B |             | DISC NO REPL |
| A0014940PAH   |           |             | DISC NO REPL |
| A0014943PGH-B | 4943PGH-B |             | DISC NO REPL |
| A0014949PA-B  | 4949PA-B  |             | DISC NO REPL |
| A0014951PA    | 4951PA    | A0014951PGH |              |
| A0014962PA-B  | 4962PA-B  |             | DISC NO REPL |
| A0014966PAA-B | 4966PAA-B |             | DISC NO REPL |
| A0014975PAA-B | 4975PAA-B |             | DISC NO REPL |
| A0014978PAH   |           |             | PEND DISC    |
| A0014979PAH   |           |             | PEND DISC    |
| A0014980PGH   | 4980PGH   |             | DISC NO REPL |
| A0014991PA    | 4991PA    | A0014993PA  |              |
| A0014992PA    | 4992PA    | A0014993PA  |              |
| A0015300GP    | 5300GP    |             | DISC NO REPL |
| A0015504AC    | 5504AC    |             | DISC NO REPL |
| A0015510AA    | 5510A     |             | DISC NO REPL |
| A0015516AA    | 5516A     |             | DISC NO REPL |
| A0015519AA    | 5519A     |             | DISC NO REPL |
| A0015520AB    | 5520AB    |             | DISC NO REPL |
| A0015522AA    | 5522AA    |             | PEND DISC    |
| A0015523AA    | 5523AA    |             | DISC NO REPL |
| A0015526AA    | 5526A     |             | DISC NO REPL |
| A0015527AA    | 5527AA    |             | DISC NO REPL |
| A0015528AA    | 5528AA    |             | DISC NO REPL |
| A0016214AA    | 6214A     |             | DISC NO REPL |
| A0016262AA    | 6262A     |             | DISC NO REPL |
| A0017000AB    | 7000AB    |             | DISC NO REPL |

## MODEL SUPERCEDEENCE CHART

| PART NO     | SALES NO | REPLACED BY | REMARKS      |
|-------------|----------|-------------|--------------|
| A0017000JA  | 7000JA   |             | DISC NO REPL |
| A0017014AA  | 7014AA   |             | DISC NO REPL |
| A0017020AA  | 7020A    |             | DISC NO REPL |
| A0017024AA  | 7024AA   |             | DISC NO REPL |
| A0017040JA  | 7040J    |             | DISC NO REPL |
| A0017042AA  | 7042A    |             | DISC NO REPL |
| A0017044AA  | 7044A    |             | DISC NO REPL |
| A0017048AA  | 7048A    |             | DISC NO REPL |
| A0017052AA  | 7052A    |             | DISC NO REPL |
| A0017056AA  | 7056A    |             | DISC NO REPL |
| A0017064AA  | 7064A    |             | DISC NO REPL |
| A0017070AA  | 7070AA   |             | DISC NO REPL |
| A0017074AA  | 7074A    |             | DISC NO REPL |
| A0017500AA  | 7500A    |             | DISC NO REPL |
| A0017501AA  | 7501A    | A0017601AA  | REPL DISC    |
| A0017504JA  | 7504J    |             | DISC NO REPL |
| A0017509AA  | 7509A    |             | DISC NO REPL |
| A0017509JA  | 7509J    |             | DISC NO REPL |
| A0017510JA  | 7510J    |             | DISC NO REPL |
| A0017511AA  | 7511AA   |             | DISC NO REPL |
| A0017511JA  | 7511J    |             | DISC NO REPL |
| A0017512AA  | 7512A    |             | DISC NO REPL |
| A0017512JA  | 7512J    |             | DISC NO REPL |
| A0017518JB  | 7518JB   |             | DISC NO REPL |
| A0017519JB  | 7519J    |             | DISC NO REPL |
| A0017600AA  | 7600AA   |             | DISC NO REPL |
| A0017600JA  | 7600JA   |             | DISC NO REPL |
| A0017601AA  | 7601AA   |             | DISC NO REPL |
| A0017602JA  | 7602J    |             | DISC NO REPL |
| A0017603AA  | 7603AA   | A0017604AA  | REPL DISC    |
| A0017604AA  | 7604A    |             | DISC NO REPL |
| A0017604JA  | 7604JA   |             | DISC NO REPL |
| A0017605AA  | 7605A    |             | DISC NO REPL |
| A0017605JA  | 7605J    |             | DISC NO REPL |
| A0017606AA  | 7606AA   |             | DISC NO REPL |
| A0017606JA  | 7606JA   |             | DISC NO REPL |
| A0017608JA  | 7608JA   | A0017608JB  | REPL DISC    |
| A0017608JB  | 7608JB   |             | DISC NO REPL |
| A0017609AA  | 7609A    |             | DISC NO REPL |
| A0017609JA  | 7609J    |             | DISC NO REPL |
| A0017700AA  | 7700A    |             | DISC NO REPL |
| A0017701AA  | 7701A    |             | DISC NO REPL |
| A0017701JA  | 7701J    |             | DISC NO REPL |
| A0017702AA  | 7702AA   |             | DISC NO REPL |
| A0017704JA  | 7704J    |             | DISC NO REPL |
| A0017705AA  | 7705AA   |             | DISC NO REPL |
| A0017705JA  | 7705JA   |             | DISC NO REPL |
| A0017706AA  | 7706AA   |             | DISC NO REPL |
| A0017706JA  | 7706JA   |             | DISC NO REPL |
| A0017706JAS | 7706JAS  |             | DISC NO REPL |
| A0017709AA  | 7709A    |             | DISC NO REPL |
| A0017709JA  | 7709J    |             | DISC NO REPL |
| A0017710AA  | 7710A    |             | DISC NO REPL |
| A0017710JA  | 7710J    |             | DISC NO REPL |
| A0017711AA  | 7711A    |             | DISC NO REPL |
| A0017711JA  | 7711JA   |             | DISC NO REPL |

| PART NO       | SALES NO      | REPLACED BY   | REMARKS      |
|---------------|---------------|---------------|--------------|
| A0017715JA    | 7715JA        |               | DISC NO REPL |
| A0017716JA    | 7716JA        | A0017706JA    | REPL DISC    |
| A0017717JA    | 7717JA        |               | DISC NO REPL |
| A0017726JA    | 7726JA        |               | DISC NO REPL |
| A0017727JA    | 7727JA        |               | DISC NO REPL |
| A0017804JB    | 7804J         |               | DISC NO REPL |
| A0017806JB    | 7806J         |               | DISC NO REPL |
| A0017808JB    | 7808J         |               | DISC NO REPL |
| A0017870AA    | 7870AA        |               | DISC NO REPL |
| A0017870JA    | 7870JA        |               | DISC NO REPL |
| A0017875AA    | 7875AA        |               | DISC NO REPL |
| A0017875JA    | 7875JA        |               | DISC NO REPL |
| A0018014AA    | 8014A         |               | DISC NO REPL |
| A0018050AB    | 8050A         |               | DISC NO REPL |
| A0018051AB    | 8051A         |               | DISC NO REPL |
| A0018053AA    | 8053A         |               | DISC NO REPL |
| A0018054AA    | 8054A         |               | DISC NO REPL |
| A0018055AA    | 8055A         |               | DISC NO REPL |
| A0018680LC    | 8680LC        | A0018680LCF   | REPL DISC    |
| A0018680LCF   | 8680LCF       |               | DISC NO REPL |
| A0018815LC    | 8815LC        | A0018815LCF   | REPL DISC    |
| A0018815LCF   | 8815LCF       |               | DISC NO REPL |
| A0019800JB    | 9800JB        | A0014833LGH   |              |
| A0019800LC    | 9800LC        | A0014833LGH   |              |
| A0019802LC    | 9802LC        | A0014833LGH   |              |
| A0019804LC    | 9804LC        | A0014836LGH   |              |
| A12NFT600     | 110-195       |               | DISC NO REPL |
| AVI144C3001   |               | AVI147E3001   |              |
| AVI144S3001K  |               |               | DISC NO REPL |
| AVI147S3021HD | AVI147S3021HD | AVI147S3103HD |              |
| BCA2923S      |               | MDA2932       |              |
| BCA2924       |               | MDA2932       |              |
| BCA2924S      |               | MDA2932       |              |
| BCA3920       |               | 860559        | REPL DISC    |
| BCA3921       |               |               | DISC NO REPL |
| BCA3922       |               | MDA3946       |              |
| BCA3922S      |               | MDA3946       |              |
| BCA3925       |               | MDA3925       | REPL DISC    |
| BLD2301       | 110-801       | BLD2301GH     |              |
| BLD2302       | 110-802       | BLD2301GH     |              |
| BLD2302GH     |               | BLD2301GH     |              |
| BLD2305       | 110-800       | BLD2305GH     |              |
| BLD2307       | 110-803       | BLD2307GH     |              |
| BLD2321GH     |               | BLD2307GH     |              |
| BLD3313       | 110-805       | BLD3314GH     |              |
| BLD3314       | 110-806       | BLD3314GH     |              |
| BLD3315       |               | BLD3365GH     |              |
| BLD3315GH     | BLD3315GH     | BLD3365GH     |              |
| BLD3320       | BLD3320       |               | DISC NO REPL |
| BLP2303       | 110-811       | BLP2303GH     |              |
| BLP2304       | 110-812       | BLP2303GH     |              |
| BLP2304GH     |               | BLP2303GH     |              |
| BLP2309       | 110-813       | BLP2309GH     |              |
| BLP2310       | 110-814       | BLP2310GH     |              |
| BLP2318       | BLP2318       |               | PEND DISC    |
| BLP2319       | BLP2319       |               | DISC NO REPL |

## MODEL SUPERCEDEENCE CHART

| PART NO     | SALES NO | REPLACED BY | REMARKS        |
|-------------|----------|-------------|----------------|
| BLP2323GH   |          | BLP2309GH   |                |
| BLP2403GH   |          |             | DISC NO REPL   |
| BLP2406GH   |          |             | DISC NO REPL   |
| BLP2409GH   |          |             | DISC NO REPL   |
| BLP2410GH   |          |             | DISC NO REPL   |
| BLP2418     |          |             | DISC NO REPL   |
| BLP2419     |          |             | DISC NO REPL   |
| BLP3250H-MP |          | BLP3384H-MP |                |
| BLP3299H    |          |             | DISC NO REPL   |
| BLP3317     | BLP3317  | BLP3317A    |                |
| BLP3372H-MP |          | BLP3384H-MP |                |
| BLP3412     |          |             | DISC NO REPL   |
| BLP3417     |          |             | DISC NO REPL   |
| LBA2117     | 110-908  |             | DISC NO REPL   |
| LBA2118     | 110-903  | LBA2106     |                |
| LBA2118GH   |          | LBA2106GH   |                |
| LBA2119     | 110-904  | LBA2107     |                |
| LBA2119GH   |          | LBA2107GH   |                |
| LBA2120     | 110-905  | LBA2108     |                |
| LBA2120GH   |          | LBA2108GH   |                |
| LBP2184     | 110-913  | LBP2176     |                |
| LBP2184GH   |          | LBP2176GH   |                |
| LBP2185     | 110-914  | LBP2187     |                |
| LBP2185GH   |          | LBP2187GH   |                |
| LBP2186     | 110-915  | LBP2180     |                |
| LBP2186GH   |          | LBP2180GH   |                |
| LBP2191     |          |             | DISC NO REPL   |
| M001094064  | 94064    |             | DISC NO REPL   |
| M001094083  | 94083    |             | DISC NO REPL   |
| M001094090  | 94090    |             | DISC NO REPL   |
| M001094097  | 94097    |             | DISC NO REPL   |
| M001094107  | 94107    | M0017289ME  | REPL DISC      |
| M001094118  | 94118    |             | DISC NO REPL   |
| M001094125  | 94125    | M0017407ME  |                |
| M001094134  | 94134    | M0017505ME  |                |
| M001094136  | 94136    | M0017325ME  | REPL PEND DISC |
| M001094137  | 94137    |             | DISC NO REPL   |
| M001094141  | 94141    |             | DISC NO REPL   |
| M001094145  | 94145    | M0017264ME  |                |
| M001094149  | 94149    |             | DISC NO REPL   |
| M001094153  | 94153    |             | DISC NO REPL   |
| M001094159  | 94159    |             | DISC NO REPL   |
| M001094160  | 94160    |             | DISC NO REPL   |
| M001094168  | 94168    | M0017295ME  | REPL DISC      |
| M001094177  | 94177    | M0017073ME  |                |
| M001094186  | 94186    |             | DISC NO REPL   |
| M001094187  | 94187    | M0017507ME  |                |
| M001094194  | 94194    |             | DISC NO REPL   |
| M001094199  | 94199    |             | DISC NO REPL   |
| M001094201  | 94201    |             | DISC NO REPL   |
| M001094202  | 94202    | M0017261ME  |                |
| M001094203  | 94203    | M0017266ME  | REPL DISC      |
| M001094204  | 94204    |             | DISC NO REPL   |
| M001094205  | 94205    |             | DISC NO REPL   |
| M001094206  | 94206    |             | DISC NO REPL   |
| M001094207  | 94207    |             | DISC NO REPL   |

| PART NO    | SALES NO | REPLACED BY  | REMARKS      |
|------------|----------|--------------|--------------|
| M001094208 | 94208    |              | DISC NO REPL |
| M001094209 | 94209    |              | DISC NO REPL |
| M001094210 | 94210    | M0017262ME   | REPL DISC    |
| M001094211 | 94211    | M0017297ME   | REPL DISC    |
| M0014500ME | 4500M    |              | DISC NO REPL |
| M0014501ME | 4501M    |              | DISC NO REPL |
| M0014502ME | 4502M    | 35259290     | REPL DISC    |
| M0014503ME | 4503M    | 35259550     | REPL DISC    |
| M0014504ME | 4504M    |              | DISC NO REPL |
| M0014505ME | 4505M    |              | DISC NO REPL |
| M0017060MP | 7060MP   |              | DISC NO REPL |
| M0017072MD | 7072M    | M0017072ME   |              |
| M0017236MD | 7236M    |              | DISC NO REPL |
| M0017260MD | 7260M    | M0017260ME   |              |
| M0017262ME | 7262ME   |              | DISC NO REPL |
| M0017264MD | 7264M    | M0017264ME   |              |
| M0017266ME | 7266ME   |              | DISC NO REPL |
| M0017268ME | 7268ME   | M125R2001SEP |              |
| M0017281ME | 7281ME   |              | DISC NO REPL |
| M0017282MC | 7282M    | M0017282ME   | REPL DISC    |
| M0017282ME | 7282ME   |              | DISC NO REPL |
| M0017284ME | 7284M    |              | DISC NO REPL |
| M0017288ME | 7288ME   |              | DISC NO REPL |
| M0017289ME | 7289ME   |              | DISC NO REPL |
| M0017294ME | 7294M    |              | DISC NO REPL |
| M0017295ME | 7295ME   |              | DISC NO REPL |
| M0017296MD | 7296M    | M0017296ME   |              |
| M0017297ME | 7297ME   |              | DISC NO REPL |
| M0017318ME | 7318ME   |              | DISC NO REPL |
| M0017324ME | 7324ME   |              | DISC NO REPL |
| M0017325ME | 7325ME   |              | PEND DISC    |
| M0017328ME | 7328M    |              | DISC NO REPL |
| M0017400MC | 7400M    | M0017400ME   |              |
| M0017404MC | 7404M    |              | DISC NO REPL |
| M0017406MC | 7406M    | M0017406ME   |              |
| M0017408MC | 7408M    |              | DISC NO REPL |
| M0017414MC | 7414M    | M0017414MD   | REPL PRIVATE |
| M0017422MC | 7422M    | M0017422ME   |              |
| M0017424MC | 7424M    | M0017424ME   | REPL DISC    |
| M0017424ME | 7424ME   |              | DISC NO REPL |
| M0017500MC | 7500M    | M0017500ME   |              |
| M0017506MC | 7506M    | M0017506ME   |              |
| M0017510MC | 7510M    |              | DISC NO REPL |
| M0017511ME | 7511ME   |              | DISC NO REPL |
| M0017514ME | 7514ME   |              | DISC NO REPL |
| M0017600ME | 7600ME   |              | DISC NO REPL |
| M0017601ME | 7601ME   |              | DISC NO REPL |
| M0017602ME | 7602M    |              | DISC NO REPL |
| M0017604ME | 7604M    |              | DISC NO REPL |
| M0017606ME | 7606M    |              | DISC NO REPL |
| M0017608MC | 7608M    | M0017608ME   | REPL DISC    |
| M0017608ME | 7608ME   |              | DISC NO REPL |
| M0017702MD | 7702MD   | M0017702ME   |              |
| M0017703MD | 7703MD   | M0017703ME   |              |
| M0018268MC | 8268M    |              | DISC NO REPL |
| M0018268TP | 8268TP   |              | DISC NO REPL |

## MODEL SUPERCEDEENCE CHART

| PART NO      | SALES NO | REPLACED BY   | REMARKS      |
|--------------|----------|---------------|--------------|
| M0018276MC   | 8276M    |               | DISC NO REPL |
| M0018280MC   | 8280M    |               | DISC NO REPL |
| M0018282MC   | 8282M    |               | DISC NO REPL |
| M0018288MC   | 8288M    |               | DISC NO REPL |
| M0018318MC   | 8318M    |               | DISC NO REPL |
| M0018324PA   | 8324PA   |               | DISC NO REPL |
| M0018600MC   | 8600M    |               | DISC NO REPL |
| M0018608PA   | 8608PA   |               | DISC NO REPL |
| M105R2001SE  |          | M105R2501SE   |              |
| M105R2002SE  | M105302  | M105R2502SE   |              |
| M105R2010SE  | M105310  | M105R2510SE   | PEND SUP     |
| M105R2011SE  | M105311  | M105R2511SE   |              |
| M105R2012SE  | M105312  | M105R2512SE   |              |
| M105R2022SE  | M105322  | M105R2502SE   |              |
| M110R2603SE  | M110603  |               | PEND SUP     |
| M110R2615SE  | M110615  | M110R2615SE2D | PEND SUP     |
| M124R2001SEP | M124R100 |               | DISC NO REPL |
| M125R2001SE  |          | M125R2001SEP  |              |
| M125R2600SE  | M125600  |               | DISC NO REPL |
| M130D2001H   |          | M105R2502SE   |              |
| M130D2002HP  |          | M105R2513SE   |              |
| M130D2004H   |          | M105R2502SE   |              |
| M130D2005HP  |          | M105R2513SE   |              |
| MDA2905      | MDA2905  |               | DISC NO REPL |
| MDA2919      |          |               | DISC NO REPL |
| MDA2923      | 110-874  | MDA2932       |              |
| MDA2923OR    |          |               | DISC NO REPL |
| MDA2924      | 110-875  | MDA2932       |              |
| MDA3920      | 110-872  | 860559        | REPL DISC    |
| MDA3921      | 110-873  |               | DISC NO REPL |
| MDA3922      | 110-876  | MDA3946       |              |
| MDA3925      | 110-877  |               | DISC NO REPL |
| MDA3928      | MDA3928  |               | DISC NO REPL |
| MDA5909      |          |               | DISC NO REPL |
| MDP2933      |          | MDP2934       |              |
| MDP2942      |          |               | DISC NO REPL |
| MDP2943      |          |               | DISC NO REPL |
| MDP3939H     |          |               | DISC NO REPL |
| MDP3941      |          |               | DISC NO REPL |
| MFY-6501EUT  | 46-2156  |               | DISC NO REPL |
| MFY-6701UT   | 46-2591  | MFY-6714UT    |              |
| MFY-6704UT   | 46-3760  | MFY-6711UT    | REPL DISC    |
| MFY-6705UT   | 46-4005  |               | DISC NO REPL |
| MFY-6711UT   |          |               | DISC NO REPL |
| MMO-6701UT   | 46-3767  | MMO-6715UT    |              |
| MS1-300A     |          | MS1-400A      | PEND SUP     |
| MS1-300S     |          |               | DISC NO REPL |
| MS1-302A     |          |               | DISC NO REPL |
| MS1-327A     |          | MS1-453       | REPL DISC    |
| MS1-330S     |          |               | DISC NO REPL |
| MS1-400S     |          | MS1-400A      |              |
| MS1-401S     |          |               | DISC NO REPL |
| MS1-403      |          | MS1-403A      |              |
| MS1-403S     |          | MS1-403A      |              |
| MS1-417S     | MS1-417  |               | DISC NO REPL |
| MS1-419A     |          |               | OE ONLY      |

| PART NO   | SALES NO | REPLACED BY   | REMARKS      |
|-----------|----------|---------------|--------------|
| MS1-419AS |          | MS1-458S      | REPL DISC    |
| MS1-445S  |          |               | DISC NO REPL |
| MS1-447S  |          |               | DISC NO REPL |
| MS1-448S  |          |               | DISC NO REPL |
| MS1-451S  |          |               | DISC NO REPL |
| MS1-453S  |          | MS1-401AS     |              |
| MS1-456S  |          |               | DISC NO REPL |
| MS1-458S  |          |               | DISC NO REPL |
| MS1-459   |          |               | PEND DISC    |
| MS1-459S  |          |               | DISC NO REPL |
| MS2-444   |          | MS2-513       | REPL DISC    |
| MS2-444S  |          | MS2-513S      | REPL DISC    |
| MS2-445S  |          |               | DISC NO REPL |
| MS2-446S  |          | M125R2001SEP  |              |
| MS2-447S  |          | MS2-506DS     | REPL DISC    |
| MS2-448S  |          | M125R2001SEP  |              |
| MS2-450S  |          | M125R2001SEP  |              |
| MS2-451S  |          | MS2-505S      | REPL DISC    |
| MS2-452S  |          | M125R2001SEP  |              |
| MS2-453S  |          |               | DISC NO REPL |
| MS2-454S  |          |               | DISC NO REPL |
| MS2-455S  |          | MS2-502DS     | REPL DISC    |
| MS2-456S  |          | MS2-507S      | REPL DISC    |
| MS2-457S  |          | MS2-509DS     | REPL DISC    |
| MS2-458S  |          | MS2-508DS     | REPL DISC    |
| MS2-500   |          | MS2-500D      | REPL DISC    |
| MS2-500DS |          |               | DISC NO REPL |
| MS2-500ND |          |               | DISC NO REPL |
| MS2-500S  |          | MS2-500DS     | REPL DISC    |
| MS2-501   |          | MS2-501D      | REPL DISC    |
| MS2-501DS |          |               | DISC NO REPL |
| MS2-501S  |          | MS2-501DS     | REPL DISC    |
| MS2-502   |          | MS2-502D      | REPL DISC    |
| MS2-502DS |          |               | DISC NO REPL |
| MS2-502S  |          | MS2-502DS     | REPL DISC    |
| MS2-503   |          | M125R2001SEP  |              |
| MS2-503DS |          | M125R2001SEP  |              |
| MS2-503S  |          | M125R2001SEP  |              |
| MS2-504DS |          | M125R2001SEP  |              |
| MS2-504ND |          | M125R2001SEPN | REPL PRIVATE |
| MS2-504S  |          | M125R2001SEP  |              |
| MS2-505S  |          |               | DISC NO REPL |
| MS2-506   |          | MS2-506D      | REPL DISC    |
| MS2-506DS |          |               | DISC NO REPL |
| MS2-506S  |          | MS2-506DS     | REPL DISC    |
| MS2-507S  |          |               | DISC NO REPL |
| MS2-508DS |          |               | DISC NO REPL |
| MS2-508S  |          | MS2-508DS     | REPL DISC    |
| MS2-509DS |          |               | DISC NO REPL |
| MS2-509S  |          | MS2-509DS     | REPL DISC    |
| MS2-510DS |          | M125R2001SEP  |              |
| MS2-510S  |          | M125R2001SEP  |              |
| MS2-511DS |          | M125R2001SEP  |              |
| MS2-511S  |          | M125R2001SEP  |              |
| MS2-512S  |          |               | DISC NO REPL |
| MS2-513S  |          |               | DISC NO REPL |

## MODEL SUPERCEDEENCE CHART

| PART NO   | SALES NO | REPLACED BY | REMARKS      |
|-----------|----------|-------------|--------------|
| MS2-514   |          | MS2-514D    | REPL DISC    |
| MS2-514DS |          |             | DISC NO REPL |
| MS2-514S  |          | MS2-514DS   | REPL DISC    |
| MS2-520S  |          | M105R2511SE |              |
| MS2-521S  |          | M105R2512SE |              |
| MS2-531S  |          | M105R2513SE |              |
| MS2-570DS |          | M105R2502SE |              |
| MS2-570S  |          | M105R2502SE |              |
| MS2-571DS |          | M105R2502SE |              |
| MS2-571S  |          | M105R2502SE |              |
| MS3-351AS |          | MS3-503S    |              |
| MS3-451A  |          | MS3-503     | REPL OE ONLY |
| MS7-300CS |          |             | DISC NO REPL |
| MS7-300S  |          |             | DISC NO REPL |
| MS7-301S  |          | MS7-301A    |              |
| MS7-302A  |          |             | DISC NO REPL |
| MS7-302S  |          |             | DISC NO REPL |
| MS7-312S  |          |             | DISC NO REPL |
| MS7-400   |          | MS7-403     |              |
| MS7-401S  |          |             | DISC NO REPL |
| MS7-402S  |          |             | DISC NO REPL |
| MS7-405S  |          |             | DISC NO REPL |
| MS7-406S  |          |             | DISC NO REPL |
| MS7-407S  |          |             | DISC NO REPL |
| MS7-408S  |          |             | DISC NO REPL |
| MS7-409S  |          |             | DISC NO REPL |
| MS7-413S  |          |             | DISC NO REPL |
| MS7-414S  |          |             | DISC NO REPL |
| MS7-501S  |          | MS7-501A    |              |
| MS9-400S  |          |             | DISC NO REPL |
| MS9-401S  |          |             | DISC NO REPL |
| SCJ2215   |          |             | DISC NO REPL |
| SCJ2216   |          | SCJ2226     |              |
| SCJ2217   |          | SCJ2227     |              |
| SCJ2221   |          | SCJ2231     |              |



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