

Prestolite
electric

Leece-Neville
HEAVY DUTY SYSTEMS

2010

BUS APPLICATION

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.

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.

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.

HISTORY OF SCHOOL BUS APPLICATIONS - ALTERNATORS

Year	Typical Usage	Amps
Previous to 1999	2500 Series Alternators	140
1999-2003	2800 Series Alternators	160
2004	4800 Series Alternators	175
2005-2006	4800 Series Alternators	Minimum 185

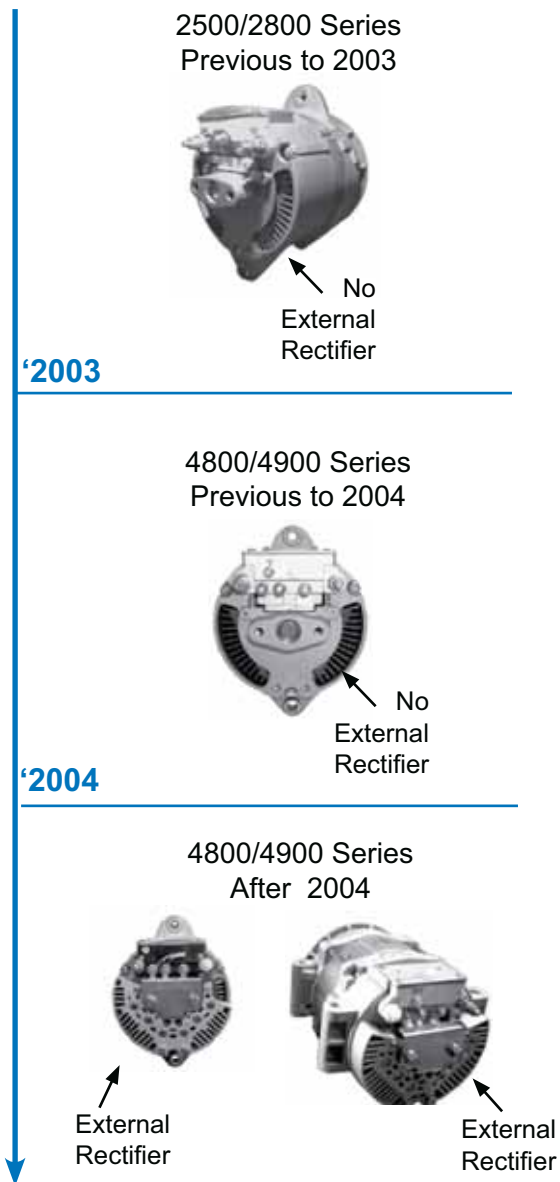
When Leece-Neville Heavy Duty Systems began manufacturing alternators for school bus applications, the standard was 175 amp units (our 2500/2800 Series alternators) able to survive underhood temperatures of 93°C (200°F). Over the years, as EPA emission compliances on engines began raising the temperature of the operating conditions, higher temperature requirements called for alternators that could take the heat.

185 amp output of our 4800/4900 Series alternators is now recommended for all school bus applications. The 185 Amp Severe Duty Alternator is now our standard. But higher amperage to maintain the heavier electrical loads at low RPM's is only the beginning. The higher temperature environment is a foremost concern for any applicaton, and for EPA emission compliant engines it is critical!

Operating temperature conditions for 175 amp units were -40°C to 93°C/200°F. 185 amp units operating temperature is -40°C to 110°C/230°F. The Leece-Neville fan design offers more efficient air flow and cooler operation under high output load conditions.

But we didn't stop there..... We increased the current capacity by utilizing a new 12 diode design. We also use higher temperature wire in our stators and high temperature grease in bearings.

This equates to survival in higher operating temperature conditions, better output, cooler operation and increased current capacity. Combine all this with the versatility of a J180 mount, Pad mount, and new Hex Shaft design and you have the winning combination that puts you ahead of the competition with trouble-free operation and better efficiency.



HISTORY OF SCHOOL BUS APPLICATIONS - STARTER MOTORS

When Leece-Neville began manufacturing starter motors we knew we wanted to provide the best possible product to our customers. Part of that commitment to quality is continually developing the right products to meet your needs.

Our Titan™ Series of In-Line Gear Reduction Starter Motors are the right products for school bus applications. They provide more power in a smaller package, allowing for the greatest installation flexibility.

At 3.5kW and 5kW output, you have power to spare for today's demanding heavy, medium and light duty applications. We also use an integral mag switch relay, which means minimal wiring between the relay and solenoid, and assures a more reliable starting circuit.

But we didn't stop there. Our Titan™ Series starters are a sealed noseless design, and electrical soft start eliminates ring gear milling, as the pinion slowly rotates while engaging to assure full meshing before full power is applied.

And that's not all. Our Titan™ 101's have available OCP, and our Titan™ 105's are oil sealed for wet clutch applications, and come with a rotatable flange for maximum versatility.

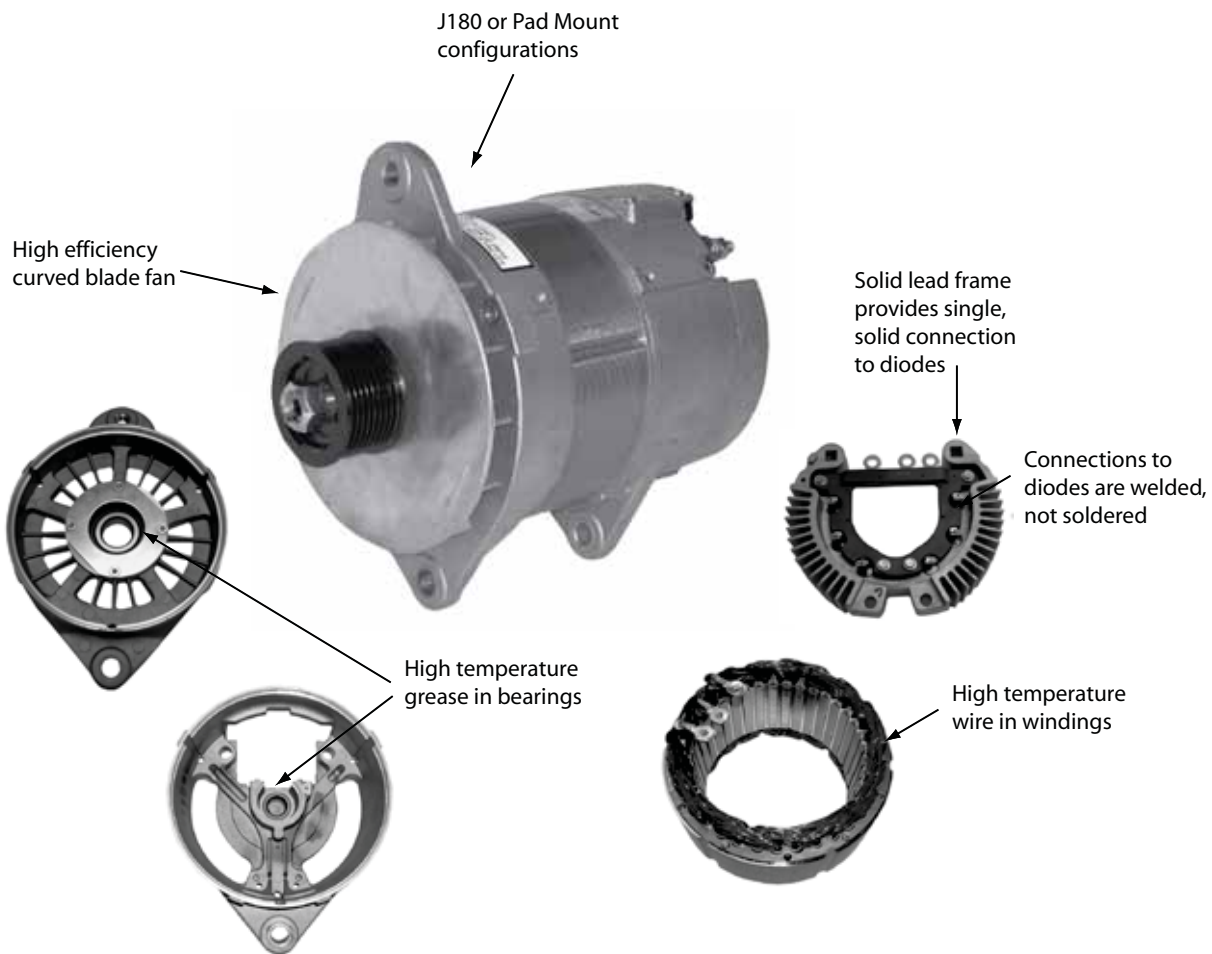
We never stop striving for excellence, because the better we perform the better your vehicles will perform. And that's a win-win partnership for everyone to be proud of!



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 redesigned and upgraded our alternators series so now they can take the heat better.

At Leece-Neville we are aggressively re-engineering our high volume alternators to the 110°C/230°F specification. And now some units up to 125°C. However, not all alternators in the series listing may have been converted to date. Please contact your Leece-Neville representative for additional details.



RECOMMENDED ALTERNATORS FOR SCHOOL BUS APPLICATIONS

The 185 Amp Alternator is now available for purchase in all mounting configurations.

Leece-Neville New	Sales Number	Description	Volts	Amp	Mount
A0014833LGH	4833LGH	Ignition Excite no longer available, positive on right, 5/16" output terminal	12/14	185	J180
A0014836LGH	4836LGH	No R terminal, positive on left, 5/16" output terminal	12/14	185	J180
A0014836AAH	4836AAH	Remote Reg, No R terminal, positive on left	12/14	185	J180
A0014846AAH	4846AAH	Remote Regulator, Positive on right	12/14	185	J180
A0014939PGH	4939PGH	Positive on right	12/14	185	Pad Mount
A0014939AAH	4939AAH	Remote Reg, Positive on left	12/14	185	Pad Mount
A0014943PGH	4943PGH	Positive on left	12/14	185	Pad Mount
A0014945AAH	4945AAH	Remote regulator, positive on right	12/14	185	Pad Mount

Need more amperage? Leece-Neville also offers the models listed below with even more output capacity in all mounting configurations with a two year warranty for school bus applications.

Minimum Amperage	Application	Part Number	Type of Excitation	Type of Mounting
200	Any school bus with ONE A/C. Can be with or without a wheelchair lift. Any school bus without A/C but that does have an electromagnetic brake retarder.	4860JB	Ignition Excite	J180 Mount
		4863JB	Self Excite	J180 Mount
		4940PA	Ignition Excite	Pad Mount
		4860JB	Self Excite	Pad Mount
270	Any school bus with TWO A/C. Can be with or without a wheelchair lift. Any school bus with ONE A/C AND an electromagnetic brake retarder	4867JB	Self Excite	J180 Mount
		4870JB	Ignition Excite	J180 Mount
		4942PA	Ignition Excite	Pad Mount
		4944PA	Self Excite	Pad Mount
		4947PA	Ignition Excite	Pad Mount
		4949PA	Self Excite	Pad Mount
320	Any school bus with TWP A/C units and either a DASH A/C unit or a THIRD A/C unit. Can be with or without a wheelchair lift. Any school bus with TWO A/C units AND an electromagnetic brake retarder	4890JB	Self Excite	J180 Mount
		4962PA	Self Excite	Pad Mount

4800-4900

HIGH OUTPUT / HIGH TEMPERATURE* ALTERNATORS

APPLICATIONS:

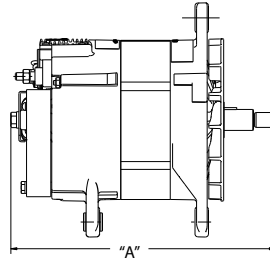
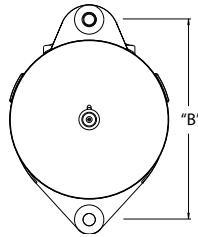
- Transit Buses
- School Buses
- Shuttle Bus
- Emergency Vehicles
- Military

Now 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
- Integral rectifier system has 12 high amp diodes mounted in heavily finned aluminum heat sinks for efficient, cool operation
- 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



SPECIFICATIONS:

- System voltage: 12/24 Volt
- Frame: 6 9/16" / 167mm
- Shaft diameter: .8736-.8741
- Max Ambient Air: 110°C (230°F)*

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+

FEATURE CODES:

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

* Leece-Neville is aggressively re-engineering our high volume alternators to the 110°C / 230°F specification. However, not all alternators in the series listed may have been converted to date. Please contact your Leece-Neville representative for additional details.

Part No	Sales No	Volts	Amps	B+	B-	Rotate	Regulator	Dim. "A"	Dim. "B"	Feature Code
A0014833LGH	4833LGH	12	185	5/16-18	5/16-18	CW	BDI	11.23	8.50	1
A0014836AAH	4836AAH	12	185	5/16-18	5/16-18	CW	N/A	11.22	8.50	1,4
A0014836LGH	4836LGH	12	185	5/16-18	5/16-18	CW	BDI	11.22	8.50	1,4
A0014846AAH	4846AAH	12	185	5/16-18	5/16-18	CW	N/A	11.22	8.50	1
A0014860AA	4860AA	12	200	5/16-18	3/8-16	CW	N/A	11.09	8.50	
A0014860JB	4860JB	12	200	5/16-18	3/8-16	CW	BDH	11.09	8.50	2
A0014861JB	4861JB	12	200	5/16-18	3/8-16	CW	BDH	11.09	8.50	2,4
A0014863JB	4863JB	12	200	5/16-18	3/8-16	CW	BDI	11.09	8.50	
A0014884JB	4884JB	12	200	5/16-18	3/8-16	CW	BCH	11.09	8.50	2,4
A0014867JB	4867JB	12	270	5/16-18	3/8-16	CW	BDI	11.01	8.50	4
A0014867JGH	4867JGH	12	270	5/16-18	3/8-16	CW	BDI	11.01	8.50	1,4
A0014870JB	4870JB	12	270	5/16-18	3/8-16	CW	BDH	11.09	8.50	2
A0014871JB	4871JB	12	270	5/16-18	3/8-16	CW	BDH	11.09	8.50	2,4
A0014872AA	4872AA	12	270	5/16-18	3/8-16	CW	N/A	11.01	8.50	4
A0014874JB	4874JB	12	270	5/16-18	3/8-16	CW	BCH	11.09	8.50	2,4
A0014890JB	4890JB	12	320	5/16-18	3/8-16	CW	BDI	11.09	8.50	4
A0014892AA	4892AA	12	320	N/A	N/A	CW	N/A	10.74	8.50	

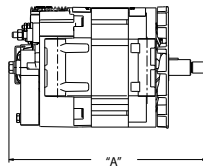
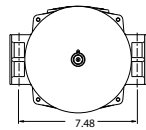
4800-4900

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**HIGH OUTPUT / HIGH TEMPERATURE*
ALTERNATORS**

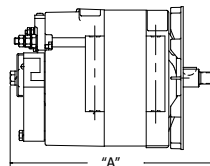
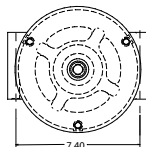
Now High Temperature
Rated for New EPA Emission
Compliant Engines!

PAD MOUNT



Part No	Sales No	Volts	Amps	B+	B-	Rotate	Regulator	Dim. "A"	Dim. "B"	Feature Code
A0014939AAH	4939AAH	12	185	5/16-18	5/16-18	CW	BDI	11.23	7.48	1, 4
A0014939PGH	4939PGH	12	185	5/16-18	5/16-18	CW	BDI	11.23	7.48	1
A0014943PGH	4943PGH	12	185	5/16-18	5/16-18	CW	BDI	11.23	7.48	1, 4
A0014945AAH	4945AAH	12	185	5/16-18	5/16-18	CW	N/A	11.23	7.48	1
A0014940PA	4940PA	12	200	5/16-18	3/8-16	CW	BDH	10.83	7.48	2
A0014948PA	4948PA	12	200	5/16-18	3/8-16	CW	BCH	11.02	7.48	2, 4
A0014951PGH	4951PGH	12	200	5/16-18	3/8-16	CW	BDI	11.02	7.48	1, 4
A0014942PA	4942PA	12	270	5/16-18	3/8-16	CW	BCH	10.83	7.48	2, 4
A0014944PA	4944PA	12	270	5/16-18	3/8-16	CW	BDI	10.83	7.48	4
A0014947PA	4947PA	12	270	5/16-18	3/8-16	CW	BDH	10.83	7.48	2
A0014949PA	4949PA	12	270	5/16-18	3/8-16	CW	BDI	11.02	7.48	4
A0014949PGH	4949PGH	12	270	5/16-18	3/8-16	CW	BDI	11.02	7.48	1, 4
A0014993PA	4993PA	12	270	5/16-18	3/8-16	CW	BCGN	11.02	7.48	2, 3, 5
A0014962PA	4962PA	12	320	5/16-18	3/8-16	CW	BDI	11.02	7.48	4
A0014962PAH	4962PAH	12	320	5/16-18	1/4-20	CW	BDI	11.02	7.48	1, 4
A0014964PA	4964PA	24	200	5/16-18	3/8-16	CW	BDIK	11.02	7.48	4

T-MOUNT



Part No	Sales No	Volts	Amps	B+	B-	Rotate	Regulator	Dim "A"	Dim. "B"	Feature Code
A0014900JBS	4900JBS	12	200	5/16-18	3/8-16	Bi-Dir	BDH	10.23	6.89	2
A0014954AA	4954AA	12	250	N/A	N/A	Bi-Dir	N/A	9.80	7.40	
A0014970JBS	4970JBS	12	270	5/16-18	3/8-16	Bi-Dir	BDH	10.23	7.40	2

SPECIFICATIONS:

- System voltage: 12/24 Volt
- Frame: 6 9/16" / 167mm
- Shaft diameter: .8736-.8741
- Max Ambient Air: 110°C (230°F)*

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+

FEATURE CODES:

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

* Leece-Neville is aggressively re-engineering our high volume alternators to the 110°C / 230°F specification. However, not all alternators in the series listed may have been converted to date. Please contact your Leece-Neville representative for additional details.

AC172RA

Bus & Coach Alternator

APPLICATIONS:

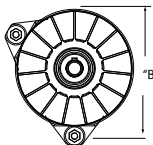
- Motorcoach
- Shuttle Bus

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

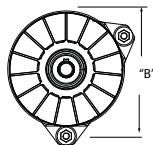
FEATURES:

- 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%
- 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

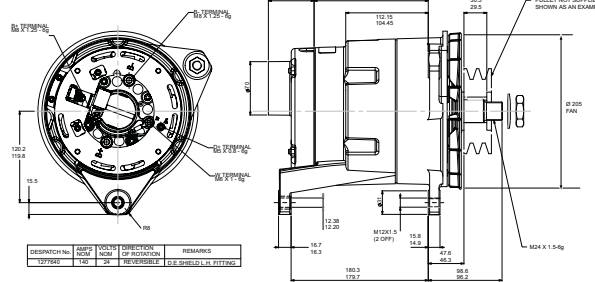


Type 1



Type 2

Pulley not supplied



SPECIFICATIONS:

- System voltage: 24/28
- Frame: 128mm / 5.04"
- Max Operating Ambient: -40°C (-40°F) +100°C (212°F)

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 16.1 front mounting hole
- 10 16.2 rear mounting hole

Part No	Sales No	Volts	Amps	Mount Type	B+	B-	Rotate	Comments	Feature Code
1277640	1277640S	24	140	1	M8x1.25	M8x1.25	Bi-Dir	D.E.Shield L.H.Fitting	1, 3, 6, 7
1277670	1277670S	24	140	1	M8x1.25	M8x1.25	Bi-Dir	D.E.Shield L.H.Fitting	1, 4, 6, 7
1277680	1277680S	24	140	1	M8x1.25	M8x1.25	Bi-Dir	D.E.Shield L.H.Fitting	2, 4, 6, 8
1277690	1277690S	24	140	2	M8x1.25	M8x1.25	Bi-Dir	D.E.Shield R.H.Fitting	1, 4, 6, 7
1277700	1277700S	24	140	2	M8x1.25	M8x1.25	Bi-Dir	D.E.Shield L.H.Fitting	1, 4, 6, 8
1277710	1277710S	24	140	1	M8x1.25	M8x1.25	Bi-Dir	D.E.Shield L.H.Fitting	2, 4, 6, 7
1277720	1277720S	24	140	2	M8x1.25	M8x1.25	Bi-Dir	D.E.Shield R.H.Fitting	1, 3, 5, 8
1277810	1277810S	24	140	1	M8x1.25	M6x1.0	Bi-Dir	D.E.Shield L.H.Fitting	
1277820	1277820S	24	140	2	M8x1.25	M6x1.0	Bi-Dir	D.E.Shield R.H.Fitting	

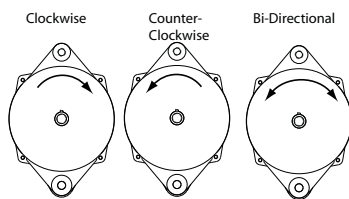
Glossary of Alternator Terms

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	CW – Clockwise direction when viewing the alternator from the drive end CCW – Counter Clockwise direction when viewing the alternator from the drive end Bi-Dir – Bi Directional – either direction when viewing the alternator from the drive end. (See illustration)

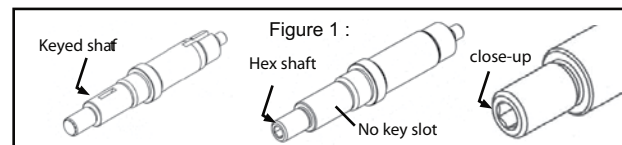
Glossary of Regulator Codes

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

Rotation Illustrations







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

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

MODEL RECOGNITION GUIDE

When replacing an alternator in an older model vehicle you may not readily know what model alternator you are removing. In general, Leece-Neville older style alternators used on bus applications were predominately 2500/2800 series units. Motorola older style alternators for buses were predominately the 8LHA/8LHP series of units.

Other than obvious visual and physical differences, as pictured in the illustration, the thru-bolts on Leece-Neville style alternators are on the inside for the J180 mount units and on the outside for the Pad mount units. Motorola style alternators had the thru-bolts on the outside for both the J180 and the Pad mount units.

If you are still able to read the model number on the label of the unit you are removing, any model number starting with "A001" would be a Leece-Neville model. For example, A0014860JB as the part number or 4860JB as the sales or model number and A0014940PA as the part number and 4940PA as the sales or model number for Pad mount units. Motorola style units were "8LHA" prefix part numbers for J180 mounts and "8LHP" prefix part numbers for Pad mount units. For example, 8LHA2070VB as the part number and either the same number as the sales or model number or a "110-" series number for J180 mount units and 8LHP2253V as the part number and either the same number as the sales or model number or a "110-" series number for the Pad mount units.

Style	Part number	Sales number
Leece-Neville 2500/2800 Series	A0012500LC	2500LC
Leece-Neville 4800 J180 Series	A0014860JB	4860JB
Leece-Neville 4900 Pad Mount	A0014940PA	4940PA
Motorola style series 8LHA J180 Mount	8LHA2070VB	110-555HD
Motorola style series 8LHP Pad Mount	8LHP2253V	110-566P

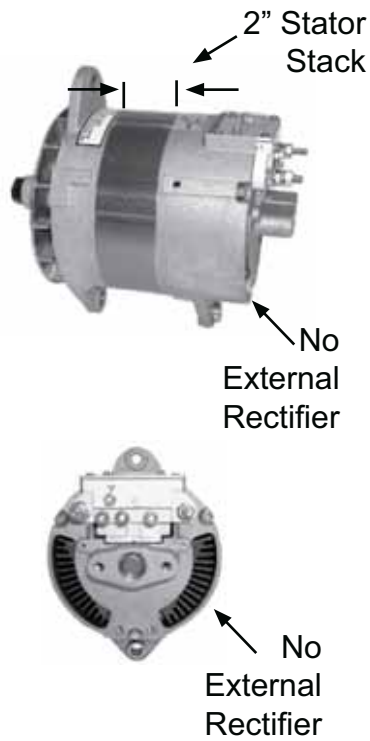
In the event you are no longer able to read the label of the unit you are removing, compare the unit to the photos illustrated to determine the series of alternator you are removing. This will point you in the right direction on what new model unit to replace it with.

HOW TO DIFFERENTIATE BETWEEN MODELS

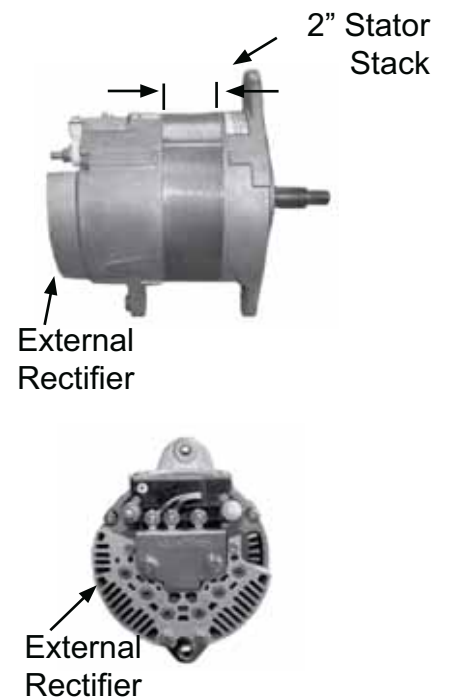
2500/2800 Series
J180 Mount



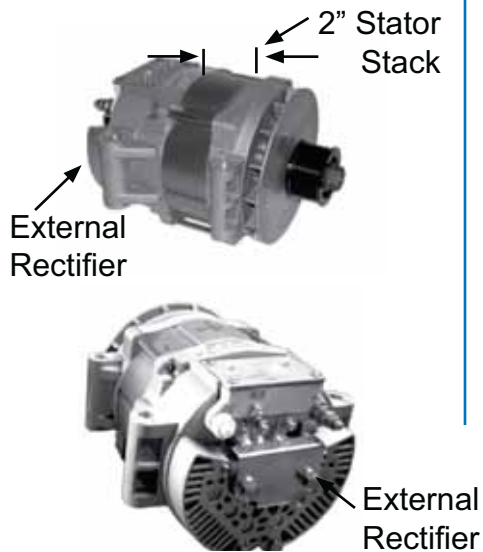
4800 175 Amp Series
J180 Mount



4800 185+ Amp Series
J180 Mount



4900 185+ Amp Series
Pad Mount



8LHA Series
J180 Mount



8LHP Series
Pad Mount



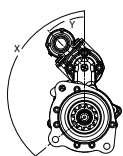
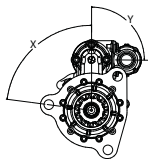
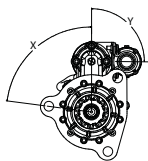
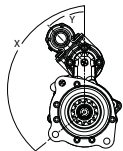
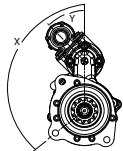
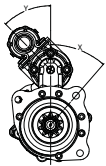
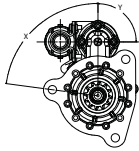
ALTERNATOR MODEL SUPERCEDEANCE GUIDE

Item No	Sales No	Replaced By	Description	Sales No	Comments
1269720		1268520S	ALT	1268520S	
A0012505JB		A0012505LC	ALT 12V 105A		
8LHA2054U	110-455	8LHA2054UAH	ALT 12V 110A		
8LHA2054UA	110-579	8LHA2054UAH	ALT 12V 110A		
A0012706JB		A0012706LC	ALT 12V 130A		
BLD2301H	BLD2301H	BLD2301	ALT 12V 140A	110-801	
A0012805JB	2805JB	A0012805LC	ALT 12V 145A	2805LC	
A0012805JC	2805JC	A0012805LC	ALT 12V 145A	2805LC	
A0012808JB		A0012808LC	ALT 12V 145A		
8LHA2057V		8LHA2057VA	ALT 12V 160A	110-450	
8LHA2070V		8LHA2070VE	ALT 12V 160A	110-555JHO	
8LHA2070VA		8LHA2070VE	ALT 12V 160A	110-555JHO	
8LHA2070VB	110-555HD	8LHA2070VE	ALT 12V 160A	110-555JHO	
8LHA2070VBH		8LHA2070VE	ALT 12V 160A	110-555JHO	
A0012800JB	2800JB	A0012800LC	ALT 12V 160A	2800LC	
A0012800JC	2800JC	A0012800LC	ALT 12V 160A	2800LC	
A0012802JB	2802JB	A0012802LC	ALT 12V 160A	2802LC	
A0012802JC	2802JC	A0012802LC	ALT 12V 160A	2802LC	
A0012819JB		A0012819LC	ALT 12V 160A		
A0014800AA	4800AA	A0014846AAH	ALT 12V 185A	4846AAH	
A0014800JB	4800JB	A0014833LGH	ALT 12V 185A	4833LGH	
A0014834AA	4834AA	A0014836AAH	ALT 12V 185A	4836AAH	
A0014835PGH	4835PGH	A0014939PGH	ALT 12V 185A	4939PGH	
A0014864JB	4864JB	A0014867JB	ALT 12V 170A	4867JB	
A0014930PA	4930PA	A0014939PGH	ALT 12V 185A	4939PGH	
A0014934PA	4934PA	A0014936PA	ALT 12V 175A	4936PA	
A0014936PA	4936PA	A0014943PGH	ALT 12V 185A	4943PGH	
A0019800JB	9800JB	A0014830LC	ALT 12V 175A	4830LC	Replaced by 4833LGH
A0019800LC	9800LC	A0014830LC	ALT 12V 175A	4830LC	Replaced by 4833LGH
A0019802LC	9802LC	A0014833LGH	ALT 12V 185A	4833LGH	
A0019804LC	9804LC	A0014834LC	ALT 12V 175A	4834LC	Replaced by 4836LGH
A0014850A	4850A	A0014850AA	ALT 12V 200A	4850AA	
A0014951PA	4951PA	A0014951PGH	ALT 12V 200A	4951PGH	
12N72		8MA2003PA	ALT 12V 72A	110-539	
12NP72		8MH2002P	ALT 12V 72A	110-134	
1279318	1279318	1277640	ALT 24V 140A		
1290318		1277640	ALT 24V 140A		
1290318S	1290318S	1277640S	ALT 24V 140A	1277640S	
8SC3018V	110-306	8SC3018VA	ALT 24V 150A	110-576	
1268410		66021507	ALT 24V 55A		
1268430		66021507	ALT 24V 55A		
1268450		66021507	ALT 24V 55A		
1268470		66021507	ALT 24V 55A		
1268520		66021507	ALT 24V 55A		
1268560		66021507	ALT 24V 55A		
1268580		66021507	ALT 24V 55A		
1268590		66021507	ALT 24V 55A		
1268610		66021507	ALT 24V 55A		
1268670		66021507	ALT 24V 55A		
1268720		66021507	ALT 24V 55A		
1268730		66021507	ALT 24V 55A		
1268740		66021507	ALT 24V 55A		

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"
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
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		
M105R3503SE	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		
M105R3504SE	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
				E	-90° Rotate 135° CW

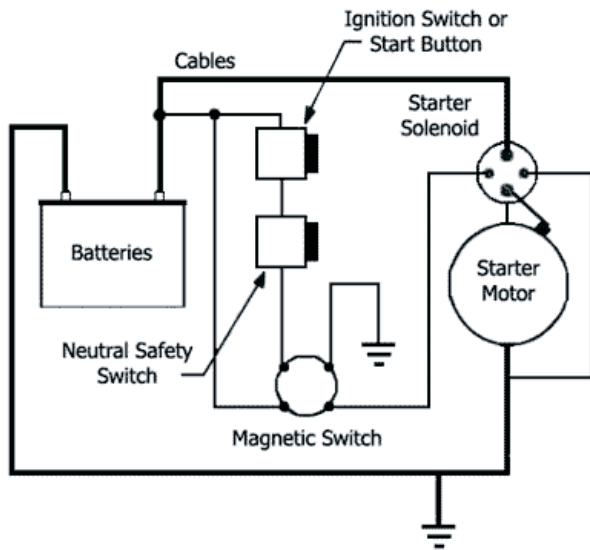
The data table shown above can be used to re-clock the nose housing position from one type of starter to another type. Different nose housings will produce a different set of angles achievable within the specific range.

Medium & Heavy Duty Starter Motor Family Cranking Systems

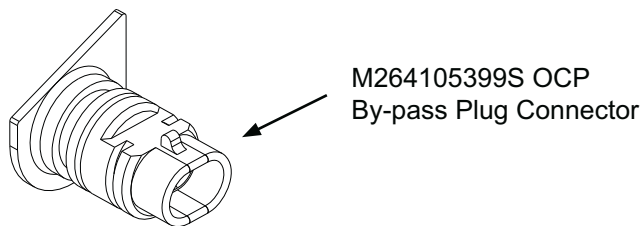
Thermal Over-crank Protection

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



If the starter being removed incorporates an OCP connection, and you are using a starter motor without the OCP feature, we have a by-pass plug available that would by-pass the vehicle's OCP circuit. This is done by simply snapping the by-pass plug into the vehicle's connector/plug. This plug is currently available as part number M264105399S.



For starting and charging systems training and fault diagnosis, please log onto www.prestolite.com or contact technical services at 1-866-288-9853.

TITAN™ 101

Type: In-Line Gear Reduced

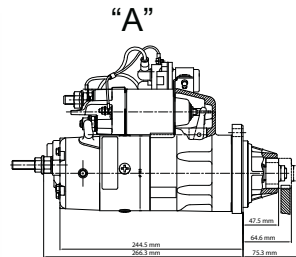
APPLICATIONS:

- Medium and Light Truck
- Approved for Diesel Engines Up To 1 Liter Per Cylinder

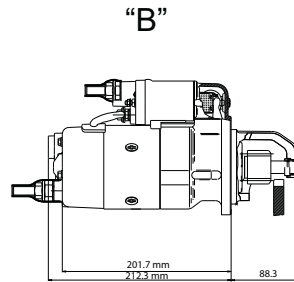
FEATURES:

- Designed for Medium and Light Duty Diesel applications, engine size up to 1 liter per cylinder
- 3.5kW Output- Power to spare for today's demanding medium and light 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
- Electrical soft start - eliminates ring gear milling, as pinion slowly rotates while engage to assure full meshing before full power is applied
- OCP available

TITAN™ 101



SAE1



SAE3



SPECIFICATIONS:

- System voltage: 12/14 Volt
- Frame: 101mm
- Operating Temperature Range: -40°C (-40°F) to 120°C (248°F)
- Approx. weight: 29 lbs/13.2 kg

PART NO.	SALES NO.	VOLTS	MOUNT	ROTA-TION	SWITCH POS.	OCP	NO. OF TEETH	PINION PITCH	PINION OD mm	PAR mm	IGN TERM.	BAT TERM.	IM-AGE	DIST. OVER TEETH
35261215	35261215	12	SAE1	CW	122°	No	11	8/10	40.5	45.5	M4	M12X1.75	A	14.5
35262160	35262160	12	SAE3	CW	82.5°	No	12	8/10	46.35	37.5	M4	M12X1.75	B	15.7
35262430	35262430S	12	SAE1	CW	50°	Yes	11	8/10	40.5	47.5	M5	M12X1.75	A	14.5
35262470	35262470S	12	SAE1	CW	50°	Yes	11	8/10	40.5	47.5	M5	M12X1.75	A	14.5
35262530	35262530S	12	SAE1	CW	30°	Yes	10	10/12	32.0	47.5	M5	M12X1.75	A	12.3

TITAN™ 105

Type: In-Line Gear Reduced

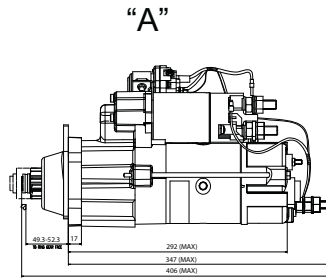
APPLICATIONS:

- Medium and Heavy Duty Applications
- Approved for Diesel Engines up to 11.0 Liters
- 5.0kW Output for 12/14Volt
7.5kW Output for 24/28 Volt

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
- 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

TITAN™ 105



SAE1



SAE3



SPECIFICATIONS:

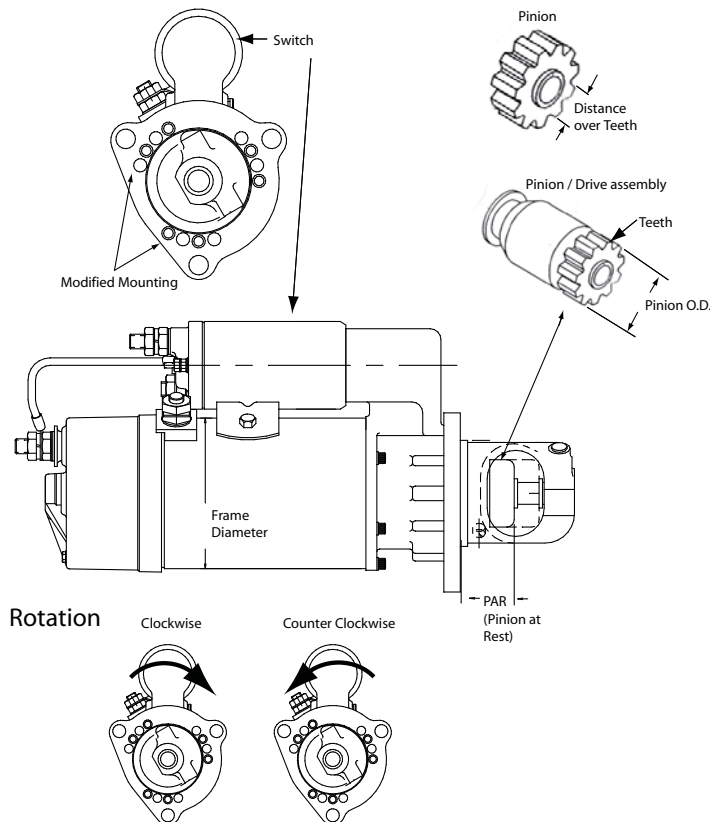
- System voltage: 12/14 Volt
- Frame: 101mm
- Operating Temperature Range: -40°C (-40°F) to 120°C (248°F)
- Approx. weight: 29 lbs/13.2 kg

PART NO.	SALES NO.	VOLTS	MOUNT	ROTA-TION	SWITCH POS.	OCP	NO. OF TEETH	PINION PITCH	PINION OD mm	PAR mm	IGN TERM.	BAT TERM.	IM-AGE	DIST. OVER TEETH
M105R2501SE	M105601	12	SAE1	CW	319°	No	12	10/12	37.2	47.5	M4	M12X1.75	A	12.5
M105R2510SE	M105610	12	SAE1	CW	319°	No	10	8/10	39.9	47.5	M4	M12X1.75	A	15.5
M105R2511SE	M105611	12	SAE1	CW	127.5°	No	10	8/10	39.9	47.5	M4	M12X1.75	A	15.5
M105R2512SE	M105612	12	SAE1	CW	127.5°	No	12	8/10	46.6	47.5	M4	M12X1.75	A	15.6
M105R3031SE	M105431	24	SAE3	CW	85°	No	12	M3	43.95	48.5	M6	M12X1.75	A	14.4
M105R3032SE	M105432	24	SAE3	CW	319°	No	11	M4	53.1	46.5	M5	M12X1.75	A	19.0
M105R3502SE	M105702	24	SAE3	CW	82.5°	No	11	8/10	57.6	48.3	M5	M12X1.75	A	15.6
M105R3503SE	M105703	24	SAE3	CW	82.5°	No	12	6/8	46.7	48.3	M5	M12X1.75	A	20.8

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
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	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 CCW – Counter Clockwise direction when viewing the starter from the drive end

Glossary Illustrations



STARTER MOTOR MODEL SUPERCEDEANCE GUIDE

Item No	Sales No	Super By	Super Sales No	Comments
35259500		35261680		
35259500S		35262430S		
35259820		35261690		
35259820S		35262470S		
35260990		35261185		
35260990S		35261185S		
35261680S		35262430S		
35261690S		35262470S		
35262210		35262430		
35262220		35262470		
858778Z		35261130		
3516125		35262430		
3526199		35262470		
35262430E	EDN-S910	35262430		
35262470E	EDN-S911	35262470		
35262530E	EDN-S909	35262530		
M105R2001SE		M105R2501SE	M105601	
M105R2002SE	M105302	M105R2502SE	M105602	
M105R2010SE	M105310	M105R2510SE	M105610	
M105R2011SE	M105311	M105R2511SE	M105611	
M105R2012SE	M105312	M105R2512SE	M105612	
MS2-500	MS2-500			OBSOLETE
MS2-501	MS2-501			OBSOLETE
MS2-502	MS2-502			OBSOLETE
MS2-503	MS2-503	M125R2001SEP & SEPN	M125601	
MS2-504	MS2-504	M125R2001SEP & SEPN	M125601	
MS2-505	MS2-505			OBSOLETE
MS2-506	MS2-506			OBSOLETE
MS2-507	MS2-507			OBSOLETE
MS2-508	MS2-508			OBSOLETE
MS2-509	MS2-509			OBSOLETE
MS2-510	MS2-510	M125R2001SEP	M125601	
MS2-511	MS2-511	M125R2001SEP	M125601	
MS2-512	MS2-512			OBSOLETE
MS2-513	MS2-513			OBSOLETE
MS2-514	MS2-514			OBSOLETE
MS2-520	MS2-520			OBSOLETE
MS2-521	MS2-521			OBSOLETE
MS2-522	MS2-522	M105R2002SE	M105302	
MS2-530	MS2-530	M105R2022SE	M105322	
MS2-531	MS2-531	M105R2022SE	M105322	
MS2-570	MS2-570	M105R2022SE	M105322	
MS2-571	MS2-571	M105R2002SE	M105302	
M130D2001	M130D2001	M105R2022SE	M105322	
M130D2002	M130D2002	M105R2022SE	M105322	
M130D2004	M130D2004	M105R2022SE	M105322	
M130D2005	M130D2005	M105R2022SE	M105322	

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