

SCHOOL BUS

**STARTERS & ALTERNATORS** 



## SCHOOL BUS STARTER & ALTERNATOR

#### SCHOOL BUSES PRESENT A UNIQUE SET OF CHALLENGES.

A school bus performs the majority of its workday at slow speeds. At the same time, lighting and equipment associated with safety and passenger mobility add electrical loads that must be met at these same slow speeds.

# TECHNOLOGY SOLUTIONS THAT ADDRESS THE CHALLENGES

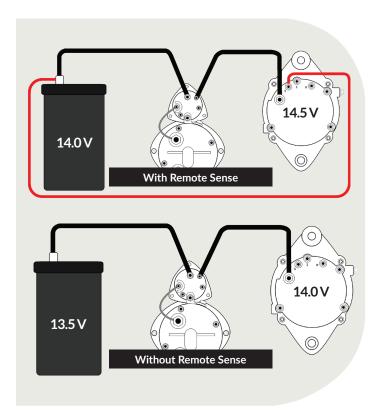
Delco Remy high output alternators are specially designed to contend with the demanding electrical loads of school bus operating routines. Add to that the fuel savings opportunity, high temperature ratings and proven technologies like Remote Sense and you've got alternators in a class by themselves.

Remote Sense Can Reduce Battery Charge Time by 50% The Delco Remy high output alternators are equipped with Remote Sense which utilizes a second wire that reads the actual voltage at the battery. This signals the alternator to boost its output to compensate for the voltage drop, ensuring 14 volts at the battery. The proper voltage at the battery forces more current into the battery bringing the battery up to a full state of charge during the school bus runs between stops.

Designed for Extreme Temperatures & Long Life No other school bus alternator on the market today can perform like the Delco Remy high output alternators. Both the 28SI and 4OSI models withstand extreme underhood temperature demands of up to 257°F – that's over 25°F above the competition – and still keep running.

High-Efficiency Alternators Equals 20% Fuel Savings An efficient alternator on a school bus can more than pay for itself in less than one year. Over the life of the vehicle, these savings can reach in the thousands of dollars.

As the alternator becomes more efficient in the process of converting mechanical power into electrical power, less fuel is consumed. And even though the power demands of the alternator are generally small in comparison to the overall vehicle, the impact on fuel cost is remarkable.



Operating data was collected on school bus applications in order to identify what was actually occurring over the course of the school week and the impact it had on the electrical system. Delco Remy high output alternators were installed and compared to other standard industry models. The results were amazing:

Fuel cost with base efficiency alternator = \$7533\* Fuel cost savings with high efficiency alternator = \$1507\*

Increasing alternator efficiency can, and will, measurably reduce fuel costs.

\* Based on \$4 / gal diesel fuel cost and 250k mi.

ALTERNATOR APPLICATIONS								
School Bus Application	Amps	Part Number	Model	Style	Mount Type	Leece-Neville		
Base bus without AC prior to 2000	160	8600308 8600312	28SI	Brush	J180 - Long J180 - Short	2800LC		
		8600315			Pad			
Base bus without	180	8600311	2851	Brush	J180 - Long	4836LGH, 4833LGH		
AC after 2000		8600223			J180 - Short			
		8600316			Pad	4939PGH, 4943PGH		
Bus with factory AC or an	200	8600307	2851	Brush	J180 - Long			
electromagnetic brake retarder prior		8600313			J180 - Short			
to 2002		8600314			Pad			
Bus with factory AC or an	240	8600390	40SI	Brushless	J180 - Long	4887JB, 4885JB		
electromagnetic		8600339			J180 - Short			
brake retarder after 2002		8600338			Pad	4959PA, 4958PA		
	275	8600280	40SI	Brushless	J180 - Long	4867JB		
Bus with factory AC and additional		8600279			J180 - Short			
add on AC OR bus with factory AC and		8600094			Pad	4949PA		
an electromagnetic brake retarder	320	8600634			J180 - Long			
		8600628			Pad	4962PA		

Note: When replacing some competitive alternators on a Navistar/IC Bus, a different pulley may be required. Please use Navistar pulley part number 3611883C1 for DT and MaxxForce 9&10 engines, 3615037C1 for MaxxForce 7 engines and 3716856C1 for ISB engines.

ALTERNATOR COMPETITIVE COMPARISON								
	Delco Remy 28SI	Delco Remy 40SI	Leece-Neville	Bosch				
Remote Sense	Yes	Yes	No	No				
Peak Efficiency	68%	72%	60%	68%				
Output at Temperature Ratings	Full Output 125°C (257°F)	Full Output 240 & 275 Amp: 125°C (257°F) 300 & 320 Amp: 115°C (239°F)	Full Output 110° C (230° F)	No Output 125°C (257°F)*				
All Three Industry Mounting Styles	Yes	Yes	No	No**				

 $<sup>^{\</sup>ast}$  Bosch regulator will shut down before 125°C, resulting in no alternator output

<sup>\*\*</sup> Requires additional purchase of installation kit in order to accommodate the long hinge mount style

ALTERNATOR SPECIFICATIONS							
	28SI	40\$1					
Performance Output	160, 180, 200	240, 275, 300, 320					
Rotation	Clockwise	Clockwise					
Temperature Ratings	Low: -40°C (-40°F) High: 125°C (257°F)	Low: -25°C (-13°F) High: 240 & 275 Amp: 125°C (257°F) High: 300 & 320 Amp: 115°C (239°F)					
Mounting	J180 Short Hinge Mount J180 Long Hinge Mount Pad Mount	J180 Short Hinge Mount* J180 Long Hinge Mount Pad Mount					
Weight	18.7 lbs (8.5 kg)	31 lbs (14.1 kg)					
School Bus Aftermarket Warranty**	2 Years/Unlimited Miles	3 Years/Unlimited Miles					

<sup>\*320</sup> Amp not available in short hinge mount \*\*Applicable to U.S. and Canada only

NEW BUS SPECIFICATION CODES

#### **ALTERNATORS**



40SI 275 Amps 4013203 40SI 300 Amps 4013204

### Freightliner/Thomas Built

C2

28SI 160 Amps FL-124-1D6\* 28SI 200 Amps FL-124-1E0 40SI 275 Amps FL-124-1E7

HDX

28SI 200 Amps C1370-00-000

EFX

40SI 275 Amps C1371-00-000

Navistar/IC Bus BE/CE/RE

28SI 200 Amps 08GHV\*

#### **STARTERS**



RE

38MT 08WTK\* 39MT 08WTU 39MT OCP 08WTL

\*Standard Position

					STARTER	APPLICATIO		DTION			
OEM	ENGINE	OEM		29MT	35MT	31MT	38MT/38MT+	39MT	LEECE NEVILLE	MITSUBISHI	DENSO PART#
Thomas Built Bus	Cummins ISB, 5.9L	PART # 1113276 90024059	LH MOUNT: 10465151 10479615 10479638 RH MOUNT: 1113276 10465043	(up to 8L)  LH MOUNT: 19011402 10461771 RH MOUNT: 19011400 19011409 10461770	(up to 8L)	LH MOUNT: 61005264 RH MOUNT: 61005265	(up to 13L) N/A	(up to 16L)	PART#	PART#	428000-1600 228000-1953 228000-7301 428000-8400 228000-3811
	Cummins ISB, 6.7L	8200077	10461481 N/A N/A 10461454 10479648 10479645 10479651	8200571 8300064 8200796	8200959 8200371 8200834 8200375	61006211	8200077		M105610	M009T71779 PC1779	428000-5310 428000-7090 438000-3110
	Cummins ISB, 6.7L No Ground Stud (Low Profile Turbo)	8200796 8200989		8200796 8200989	N/A	61006209	N/A		N/A	N/A	N/A
	Cummins ISC, 8.3L & ISL 8.9L	10478999 10461171 3921012 90027707			8200836 8200958 8200374		8200005	8200433	M105302 M105602	M009T71379 M009T72679 PC1379 PC2679 PC72679	28000-2690 228000-5311
	Cat 3126 7.2L Cat C7, 7.2L, with 3000 Allison	1993994 19026027 10461768 8300021 61230359		N/A		N/A	8200076	N/A	M105611	N/A	228000-5851
	Cat C7, 7.2L with 2000 Allison	8200055 10479207 10461772					8201002		M105612		N/A
	MBE 900, 7.2L MBE 904, 4.3L & MBE 906, 6.4L	19011403 8200570 8200565 61231341 A0061515001		8200103		61006208	N/A		N/A		428000-8470 428000-1881
	MBE 926, 7.2L	19026035 8300026	N/A	N/A	8200394	N/A	8200075		N/A		N/A
	MaxxForce 7, 6.4L VT365, 6.0L	8200271 19011407 10461764 3591688C91 3804470C92	1113285 10461450	8200972	N/A	61005266	N/A		N/A	N/A	428000-0071
	Cummins ISB, 6.7L	8200077 8201039 4041862C91	N/A	8200571 8300064 8200796	8200959 8200371 8200834 8200375	61006210	8200077	N/A	M105610	M009T71779 PC1779	428000-7090 438000-3110
IC Bus	T444E, 7.3L	10478890 10461170 1688615C91 2508912C91 3520840C91		N/A	N/A	N/A	8200007		M105617	N/A	228000-7371
	MaxxForce DT, 7.6L	8200217 10478999 10461171 8200251 8200252 8300005 3804471C91					8200005	8200433	M110610 M110606 M105302 M105602	MITIN3179 IN3179 MITIN1378 IN1378 MITIN2178 IN2178	428000-8370 228000-8510
	Cummins ISB, 5.9L	1113276 90024059 90022947 2585095C91	LH MOUNT: 10465151 10479615 RH MOUNT: 1113276 10465043 10461481	LH MOUNT: 19011402 10461771 RH MOUNT: 19011400 19011409 10461770	N/A	LH MOUNT: 61005264 RH MOUNT: 61005265	N/A	N/A	N/A	N/A	428000-1600 228000-1953 228000-7301 428000-8400 228000-3811
	Cummins ISB, 6.7L	8200077 90032414	N/A	8200571 8300064 8200796	8200959 8200371 8200834 8200375	61006211	8200077		M105610	M009T71779 PC1779	428000-5120 428000-7090 438000-3110
Blue Bird Bus	Cummins ISC 8.3L	10478999 10461171 8300005			8200836 8200958 8200374		8200005	8200433	M105302 M105602	M009T71379 M009T72679 PC1379 PC2679 PC72679	228000-5311 428000-7870
	Cat 3126 7.2L Cat C7, 7.2L,	1993994 19026027 10461768 8300021		N/A	NI/A	N/A	8200076	N/A	M105611		228000-5851
	with 3000 Allison Cat C7, 7.2L,	1454651 90022950 8200055			N/A		8201002		M105612	N/A	N/A
	with 2000 Allison	10479207			STARTER	SPECIFICATI					
Tursius Circ				29MT		31MT	01	38M <sup>-</sup>			9MT
Engine Size Performan				12V up to 6.6L 3.3 kW		12V up to 4.1 kW		12V up to			up to 15L 2 kW
Weight				17.6 lbs (8 kg)		18.5 lbs (8.4	4 kg)	27.6 lbs (1	2.5 kg)	30.21 II	os (13.7 kg)
Pinions	Mounting		1	SAE #1 9-tooth/Module 3 10-tooth/8-10 pitch 10-tooth/10-12 pitch		SAE #1 10-tooth/10-12 pitch 10-tooth/8-10 pitch		SAE #1, SAE #3 10-tooth/8-10 pitch 12-tooth/8-10 pitch		SAE #1, SAE #3 11-tooth/6-8 pitch 12-tooth/8-10 pitch	
Supports V	Vet & Dry Clutch App			11-tooth/Module		9 -tooth/Moo	aule 3	11-tooth/M	odule 3	12-toot	h/Module 3



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