SERVICE BULLETIN No.1169

Addressees: ABC Customer Care and Parts Source, York Consortium

MODEL	**:** T2145, C2045, A330, AG300
BULLETIN TYPE	**:** Field Change Program
SECTION	**:** Electrical system
DATE	**:** August 31, 2005
SUBJECT	**: Cummins 39MT starter motor – Integral Magnetic Switch**
TERMS & CONDITIONS	**:** Parts and labor allowance will be provided as per Warranty Information in this Bulletin

APPLICATION:

The modification subject of this Bulletin is applicable to following units:

Account	Model	VIN	Engine
ABC	T2145	44301 → 44313	Cummins ISM 02
	C2045	45440, 45458 → 45500, 46001 → 46018, 46025 → 46026	
York	A330	63478 → 63493, 63495, 63497 → 63498, 63500, 63503	
	AG300	62511 → 62512, 62514 → 62515, 62517 → 62523	

DESCRIPTION:

Ref. Delco Remy Solutions, Issue 5, 2005 (see attachment).

On the above-mentioned units, it is necessary to install an Integral Magnetic Switch (IMS) on the 39MT starter motor solenoid. This modification reduces the control circuit amperage requirements for MxT starter motors to 4 Amps and ensures proper starting performance.

This Bulletin informs about how to proceed with the OE installation change.

Service personnel: please read, initial and circulate.

Service Manager	Parts Manager	Warranty Administrator	Workshop Foreman	Service Technician

PARTS AND PRODUCTS:

Retrofit parts

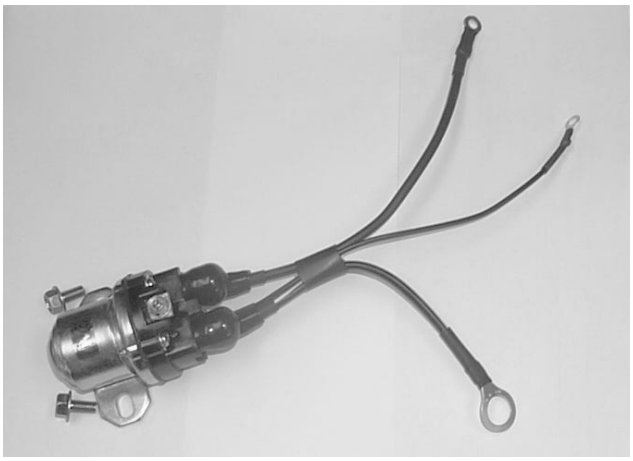


Figure 1: IMS VH 10957201

VH reference	Description	Qty.
VH 10957201	IMS, Delco Remy part 10511415, includes wiring harness and two M6 x 12 mm mounting screws to suit Cummins 39MT starter motor solenoid	1

PROCEDURE:

1. **General**:

   - This job should be executed by an experienced automotive electrician.
   - For more information refer to the Electrical Wiring Diagram Booklet that comes with the vehicle.

2. **Special tools, equipment or services:**

   - No special tools, equipment or services are required.

3. **Preparations**:

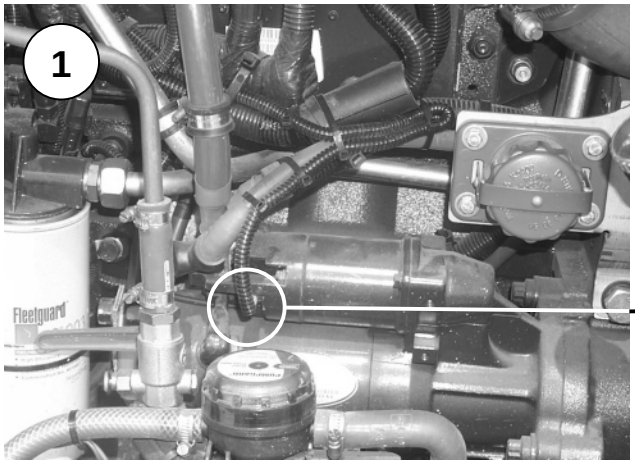
   - Park the vehicle on a level-surfaced service pit with the front wheels straight. If portable post lifts are going to be used, lower the suspension first.
     Apply the parking brake and shut down the engine.
   - Switch off all systems and turn off the battery master switch.
   - Put a “DO NOT OPERATE” tag on the instrument panel.
   - Read the entire procedure before beginning to work.

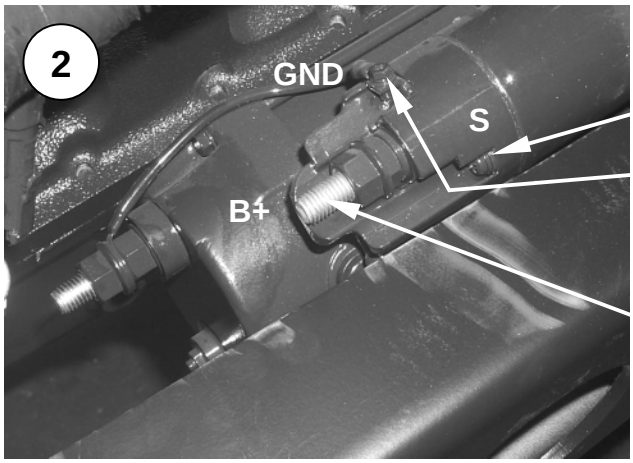
   CAUTION: Observe safe shop practices at all times.

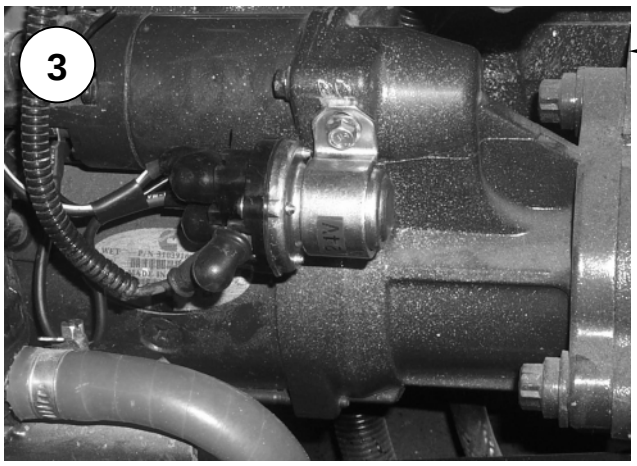
4. **To install IMS VH 10957201:**

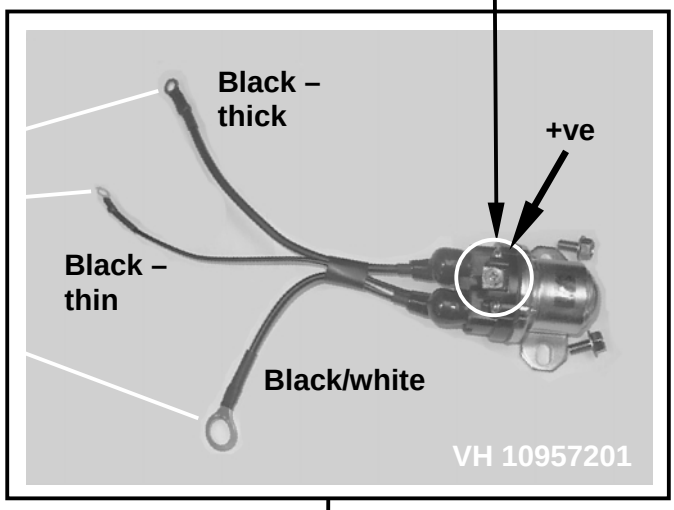
   NOTE: Installation sequence may vary depending on vehicle model and accessibility of starter motor solenoid.

Procedure continued on page 4 of 6.









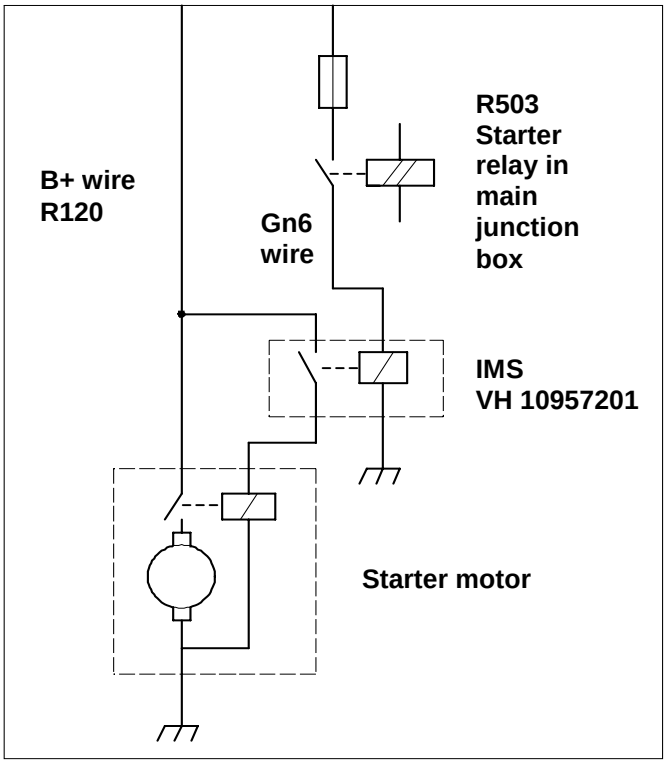


Figure 2.1: OE installation. The green wire coming from the starter relay in the engine junction box needs to be disconnected and hooked-up to the IMS (terminal +ve).

Figure 2.2: Connect IMS wiring harness to solenoid B+, GND and S terminals

Figure 2.3 IMS bolted to solenoid housing with two M6 mounting screws.

1) Disconnect the batteries as described in the vehicle Maintenance Manual.

2) Open/remove the door(s), panel(s), guard(s) giving access to the starter motor.

3) Locate the starter motor at the driving end of the engine.

4) At the S-terminal of the solenoid, disconnect the green wire coming from the starter relay in the engine junction box (see Figure 2.1).

5) Using the mounting screws supplied with the assembly, install the IMS as shown in Figure 2.3 making use of the pre-tapped holes in the solenoid housing (see Figure 3).

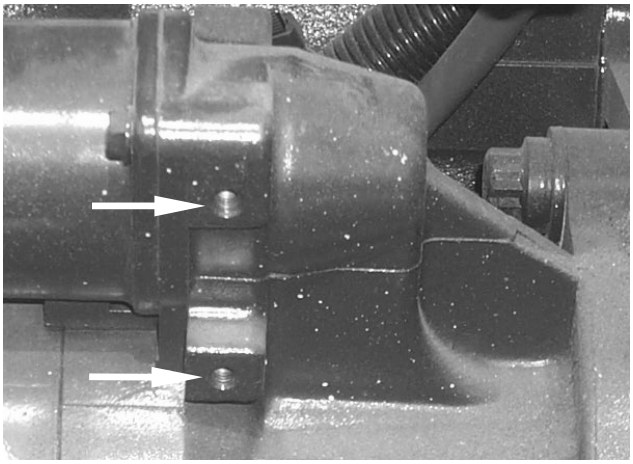


Figure 3: IMS mounting holes

6) Connect the IMS wiring harness to the starter motor solenoid terminals as shown in Figure 2.2.

7) Connect the green wire to the IMS control (+ve) terminal as shown in Figure 2.

8) Reconnect the batteries.

9) Check starter motor operation.

10) Close/reinstall the door(s), panel(s), guard(s) giving access to the starter motor.

Procedure complete.

DISCLAIMER:

The procedures contained herein are not exclusive. Van Hool cannot possibly know, evaluate, or advise the transportation industry of all conceivable ways in which a procedure may be undertaken or of the possible consequences of each such procedure. Other procedures may be as good, or better, depending upon the particular circumstances involved.
Each carrier who uses the procedures herein must first satisfy itself thoroughly that neither the safety of its employees or agents, nor the safety or usefulness of any products, will be jeopardized by any procedure selected.

SERVICE INFORMATION:

Service Bulletins are issued to supplement or supersede information in the Van Hool manuals. Note Service Bulletin number, date and subject on the register at the end of the relevant chapter(s). File Service Bulletin separately for future reference.

WARRANTY INFORMATION:

1. Claim references:

- Causal part: 39 MT-HD starter motor
- Job code: O06026P

2. Terms and conditions:

Van Hool will accept warranty claims for this repair as follows:

Parts supply: parts will be supplied through regular channels, free of charge.

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Labor allocation: 1.0 (one) hour of labor will be awarded per unit repaired.

Campaign expiration date: Service Bulletin issue date + 6 months

Claim submission: Contact your regular Van Hool warranty administrator for guidance.

Monitoring and performance: The claim records pertaining to this Bulletin will be used to determine that the remedy has been executed in accordance with the manufacturer's instructions and to evaluate the status of the Field Change Program.

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Issue 5

Delco Remy SOLUTIONS





Still Setting the Pace in Starter Technology

Delco Remy 39MT Now Features Powerful New Maximum Torque Technology



Maximum Torque Technology™
MxT
Heavy-Duty Starters

Delco Remy has addressed the rapidly evolving power, weight and space requirements of today's heavy duty engine compartments with a new line of high-output, lightweight starters.

Delco Remy MxT™-equipped 39MT starters are designed to ensure dependable performance and reliability in virtually any operating environment and are spec'd as standard equipment on several OE Class 8 vehicles. The Delco Remy 39MT produces high torque with a lower-mass design – all made possible by Maximum Torque Technology.

"The 39MT MxT Series starter is proof of our commitment to develop customer-focused, technologically brilliant products," said Delco Remy Heavy Duty Marketing Director J. Stanley Saunders. "The new MxT Series offers our fleet customers the best of both worlds: a smaller, more compact design paired with powerful, maximum torque output."

39MT MxT Series starters are offered with optional Overcrank Protection – ideal for any adverse starting condition – to ensure successful starts in even the harshest environments.

Also incorporating a variety of advanced features engineered to ensure unsurpassed reliability, the 39MT features a heavy duty Electrical Soft-Start Engagement System that eliminates milled ring gears and pinions; a contamination resistant sealed noseless configuration for faster, easier installation; a sealed solid-link solenoid, eliminating contact welding in low-voltage situations and providing extra corrosion protection; and a heavy duty bearing/bushing system that extends motor life and improves reliability.

"The 39MT MxT Series is a sure-fire addition to any productive fleet," Saunders said.

Andis Answers

Randy Andis, Delco Remy's director of fleet services, answers your questions about vehicle electrical systems. Contact Randy via e-mail at andis.randy@delcoremy.com.

Q: For the field, can you replace a straight-driver starter like a 42MT with a gear-reduction starter?

A: You can, but there are additional considerations to worry about. A gear-reduction starter like any MxT Series unit will fit in the place of a straight-drive unit, but most magnetic control circuits cannot handle the high current draw required by gear-reduction starters over an extended period of time. The best choice is to install another straight-drive unit.

Q: Are gear-reduction starters built with "soft-start features?"

A: Delco Remy 38MT and 39MT starters – both MxT Series starters – feature an electronic soft-start design that eliminates milled ring gears and pinions by guaranteeing proper engagement before cranking. Occasionally, conventional starters allow a ring-to-pinion abutment that may resulting in early wear.

Q: Do gear-reduction starters weigh less than straight-drive starters?

A: Yes. For example, 38MT and 39MT MxT Series units are at least 45 percent lighter, and are more compact than comparable straight-drive starters.

Technical Toll-Free Hotline: 1-800-372-0222

Is Your Vehicle in Spec?

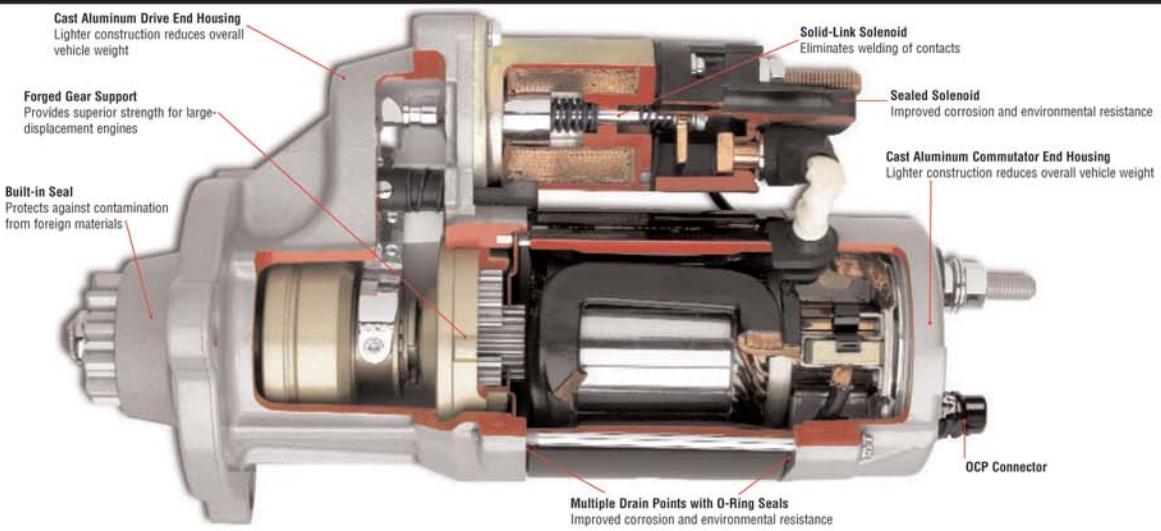
The Delco Remy IMS Solution

Starting performance can be adversely affected by electrical system voltage drop.

Delco Remy has engineered an OEM-approved Integral Magnetic Switch (IMS) that ensures the highest quality starter control circuit. Designed to replace OEM magnetic "relay" switches that may not successfully handle the amperage requirements of MxT starters. Utilization of an IMS switch reduces the control circuit amperage requirement for MxT starters from 300 Amps to 4 Amps and ensures proper starting performance.



The MxT Series Starter



Delco Remy® MxT Heavy Duty Starters

Series	OE Model	New Service	Reman	Engine	Application
39MT -12V	19011500	19011531	10461334	Mack E7	Mack
39MT -12V	19011505	19011531	10461334	Mack E7	Mack
39MT -12V	19011506	19011518	10461753	Cummins ISX	Various Heavy Duty
39MT -24V	19011507	19011522	10461754	Cummins ISX	Various Heavy Duty
39MT -12V	19011508	N/A	10461755	Cummins	Various off road
39MT -24V	19011509	19011523	10461756	Cummins	Various off road
39MT -12V	19011510	N/A	10461757	Cummins	Various off road
39MT -24V	19011511	19011524	10461758	Cummins	Various off road
39MT -24V	19011512	N/A	10461759	Cummins	Various off road
39MT -12V	19011513	N/A	10461760	Cummins	Various off road
39MT -12V	19011514	19011514	10461773	Mercedes MB4000	Freightliner Century Class
39MT -12V	19011516	19011516	10461777	Cummins ISX	Various Heavy Duty
39MT -12V	19011517	19011517	10461757	Cummins ISC/ISL	Freightliner Business Class/Sterling Condor
39MT -12V	19011518	19011518	10461753	FL - ISX/DD 60/C15	Freightliner Century Class
39MT -12V	19011531	19011531	10461334	Mack E7	Mack

www.delcoremy.com