SERVICE BULLETIN No.1124

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COACH MODEL	**:** T2100 and C2000 Series
BULLETIN TYPE	**:** Service Information
MANUAL & SECTION	**:** Operator's Guide Book: Section 2 – Driver's compartment and controls Spare Parts Manual: Section 783009 - Dashboard
PARTS BOOK REVISION	**:** No
DATE	**:** November 24th, 2003
SUBJECT	**: Speedometer calibration**
TERMS & CONDITIONS	**:** No claims will be accepted with reference to this Bulletin.

APPLICATION:

The service information subject of this Bulletin is applicable to following units:

Model	Engine	VIN
T2140	Cummins	40000 →
	Detroit Diesel	40500 →
T2145	Cummins	43000 →
	Detroit Diesel	43500 →
C2045	Cummins	45000 →
	Detroit Diesel	45500 →
S2145	N/A	42201 →

DESCRIPTION:

1. The purpose of this Bulletin is to explain how the electronic speedometer 'W' value can be set.
2. The 'W' value setting is required for the speedometer to indicate the correct road speed.
3. The 'W' value (in pulses per mile) for a particular coach is calculated using the formula below and data retrieved from its engine parameter settings (see attachment 1).

   Example:

   'W' value = Tire size (in revolutions/mile) x Drive axle ratio x Vehicle Speed Sensor (VSS) teeth.
   = 491 x 4.3 x 16 = 33780 pulses/mile

Service personnel: please read, initial and circulate.

Service Manager	Parts Manager	Warranty Administrator	Workshop Foreman	Service Technician

PARTS AND PRODUCTS:

To adjust the speedometer, no parts or products are required:

PROCEDURE:

1. General:

- For your information only - the time required to adjust the speedometer 'W' value is approximately 0.3 hours.
- This job should be executed by an experienced automotive electrician.
- If you do not have the expertise to perform present procedure, do not hesitate to go to your nearest ABC Customer Care & Parts Source dealership.

2. Special tools, equipment or services:

- No special tools, equipment or services are required.

3. Preparations:

- Park the coach on a level surface with the front wheels straight.
- Apply the parking brake and shut down the engine.
- Switch off all systems and turn off the ignition.
- Read the entire procedure before beginning to work.

4. To read and adjust the speedometer 'W' value:

1) Undo and remove the center dash retaining screws.

2) Withdraw the dash.

3) At the back of the speedometer (see Figure 1), locate the small recessed button, which allows access to the speedometer LCD screen (see Figure 2). Push and hold the button.

Figure 1: Location of speedometer adjuster button

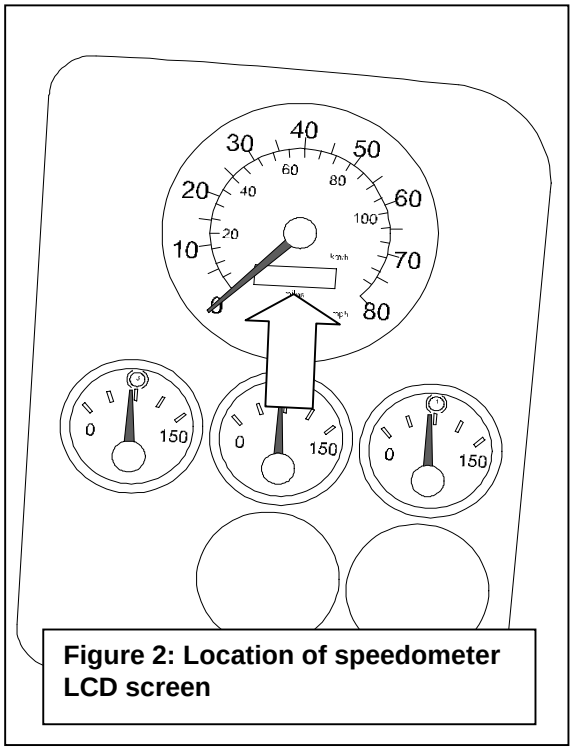

Figure 2: Location of speedometer LCD screen

4) Switch the ignition “on”.

5) As soon as “PULSE” appears on the LCD screen, release the button.

6) The ‘W’ value will appear on the screen. The correct *factory* ‘W’ values are as follows:

Tire size	Drive axle ratio	Transmission	‘W’ value
315/80 R22.5	4.30	Allison B500	08380*
315/80 R22.5	4.30	Allison B500	33780
11 R24.5	4.30	Allison B500	32890
315/80 R22.5	3.417	Astronic w/ Intarder	13660
315/80 R22.5	3.417	Astronic w/o Intarder	13420

* Prior to VIN 40035 and 43038

7) The digits (tens, hundreds, thousands) of the ‘W’ value will start flashing one after another. Each digit can be adjusted separately by pushing the button while that digit is flashing. Adjustment should be done quickly to keep up with the flashing sequence.

8) When the last digit stops flashing, the set value is memorized in the speedometer.

9) Wait until the vehicle mileage reappears on the screen.

10) Switch the ignition ‘off’.

11) Reinstall the center dash.

Procedure complete.

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.

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.

ATTACHMENT 1 ENGINE PARAMETER SETTINGS (TYPICAL)

CAUTION: The chart below provides an example of a vehicle's parameter settings only. Do not use this chart as a reference for your coach. Refer to your coach's particular VIN related Engine Parameter Settings instead.

CUSTOMER's COPY

ENGINE PARAMETER SETTING

	VIN :			PROG. DATE :	
				Settings list	DV060900
	Detroit Diesel S60 430Hp			Ref VH	**10 657 836/3/D**
Vehicle				VSS Type	J1939
	Idle Adjust RPM	0		VSS Signal	Switched
	LSG Droop RPM	125		Tire Size (Rev/mile)	315/80R22,5 (491)
	Engine/Service Brake	N/A		VSS Teeth	16
	Half Engine Mode	Disabled		Top Gear Ratio	0.64
				Axle Ratio	4,3
Shift					
	Enable Progressive Shift	Disabled	Speed Limit		
				Set Speed Limit	Enabled
Protection				Speed Limit (mph)	71 mph
	Oil Pressure	Shutdown		Overspeed Limit (mph)	72 mph
	Oil Temperature	Shutdown		Overspeed No Fuel (mph)	75 mph
	Oil Level	N/A			
	Coolant Pressure	N/A	Econ & ESS		
	Coolant Temperature	Shutdown		Calculation Type	Filtered
	Coolant Level	Shutdown		Conversion Factor (mph/mpg)	10.0
				Min Economy (mpg)	7.0
ISD & VSG				Max Speed (mph)	5.0
	Enable Idle Shutdown	Disabled		ESS Trans	N/A
	Override Temperature Disable	Disabled		Top 2	N/A
	VSG Droop RPM	0			
	VSG Min RPM	600	Misc.		
	VSG Max RPM	1400		Levels	flash at startup
				Filters	flash at startup
Cruise Control				J1922 ABS enabled	enabled
	Enable Vehicle Speed Sensor	Enabled		J1922 Transmission enabled	enabled
	Enable Cruise Control	Enabled		J1939 enabled	enabled
	Enable Cruise Switch VSG	Enabled		governors	disabled
	Initial RPM	1000		DDEC Data	enabled
	RPM Increment	25		Blocks	enable all data
	Enable Engine Brake	Disabled			
	Minimum Cruise Speed	20 mph	Limits		
	Maximum Cruise Speed	71 mph		Rated RPM	2110
	Enable Dynamic Braking	Disabled		Idle RPM	600
	Auto Resume	Disabled		Max Idle Offset	100
				Min Idle Offset	-25
VSS				MAX LSG Droop	150
	Enable Vehicle Speed Sensor	Enabled		Trans Type	Auto/J1939
	Enable Anti-Tamper	Disabled			