



# SERVICE BULLETIN

## SB1216

<b>ADDRESSEES</b>	: Owners and operators of coaches listed under 'Application'
<b>COACH/BUS MODEL</b>	: C2045, T2140, T2145
<b>BULLETIN TYPE</b>	: Product Improvement
<b>SECTION/CHAPTER</b>	: Section 3 – Drive train Chapter 2.2 – Control systems
<b>DATE</b>	: May 01, 2008
<b>SUBJECT</b>	: <b>High idle operation on units with Cummins ISM02 engine and Allison transmission</b>
<b>TERMS &amp; CONDITIONS</b>	: No claims will be accepted with reference to this Bulletin.

### **APPLICATION:**

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

<b>Model</b>	<b>VIN</b>	
C2045	45458 → 45461, 45463 → 45500, 46001 → 46024, 46029 → 46038, 46043 → 46057, 46068 → 46082, 46086 → 46101	

<b>Model</b>	<b>VIN T2140</b>	<b>VIN T2145</b>
T2100	40148 → 40162	44313 → 44315, 44317 → 44340

### **DESCRIPTION:**

1. On the above-mentioned units it is not possible to use the high idle feature with the vehicle in the kneeled position nor with the ADA lift system enabled, as the door brake function does not allow the engine to exceed 600 rpm.
2. When the entrance and/or lift doors are open for a prolonged period of time with the engine running at low rpm, the climate control system has insufficient cooling capacity to keep the interior temperature at the preset level.  
As a result the interior temperature rises.
3. To attend to this matter, Van Hool have cut into production an engine parameter change, which allows high idle and climate control system performance, while retaining all safety features related to kneeling and ADA lift system operation.  
The new parameter settings have been implemented as from VIN 46102, 40163, and 44341.  
For your information, the procedure further in this Bulletin shows how the change is made.
4. Owners and operators who wish to benefit from this comfort feature may contact ABC Customer Care for assistance at 877-427-7278.

## **PARTS:**

### **Retrofit parts (Van Hool)**

<b>VH reference</b>	<b>Description</b>	<b>Qty</b>
VH 10896117	Chart, parameter setting, revision E	1
VH 10983342	Chart, parameter setting, revision B	1

- VH 10896117: Install this chart in the engine electronics/main junction box when using Cummins Insite Pro 5.0 software to reprogram.
- VH 10983342: Install this chart in the engine electronics/main junction box when using Cummins Insite Pro 6.4 software to reprogram.
- Parts may be purchased from your nearest ABC Customer Care & Parts Source service center.
- Parts and products disposition: discard according to applicable environmental regulations.

## **PROCEDURE:**

### **To change the engine parameter settings**

#### **1. General:**

- Job allocation:

<b>Job</b>	<b>Technician's qualifications</b>
Changing engine parameters	Qualified Cummins service technician

- For more information refer to:

the Maintenance Manual,  
the Operating Manual,  
the specimen engine parameter setting charts that have been attached to this Bulletin.

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

<b>VH reference</b>	<b>Description</b>
-	Cummins Data link Adapter Kit
-	Computer with Cummins Insite Pro Software Kit version 5.0 installed* or, Computer with Cummins Insite Pro Software Kit version 6.4 installed*

\* Parameters can be changed with either software

#### **3. Preparations:**

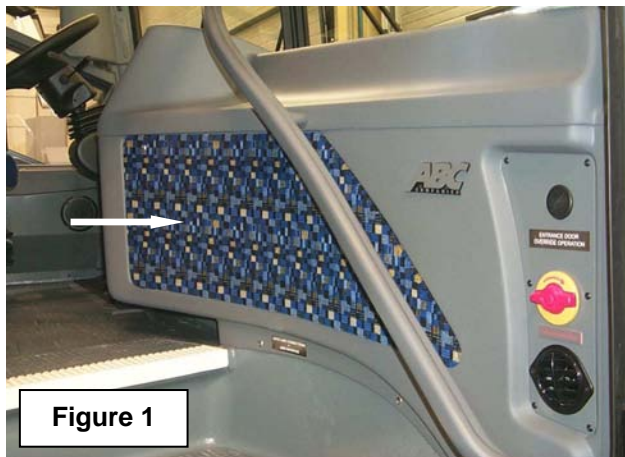
- Park the coach on a level surface with the front wheels straight.  
Apply the parking brake and shut down the engine.
- Switch off all systems and leave the battery master switch on.
- Read the entire procedure before beginning to work.

**CAUTION: Observe safe shop practices at all times.**

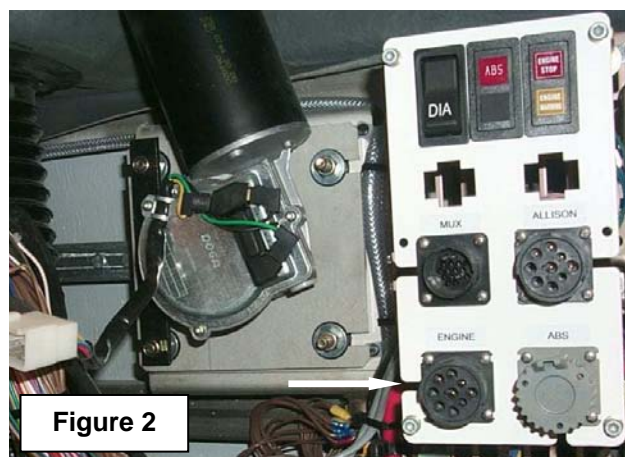
## 5. To change the engine parameter settings on C2045 coaches:

***NOTE:** T2100 Series coaches can be converted in a similar manner. Refer to the Maintenance Manual for the location of the engine diagnostic socket.*

- 1) In the stepwell, undo and remove the fasteners securing the trim panel (Figure 1). Remove the panel.



- 2) Locate the engine diagnostics socket (Figure 2).



- 3) Hook-up the data link and the computer.

Following the programming instructions, change the engine parameter input selections from:

“Service brake override in PTO - Enable”

to:

“Service brake override in PTO - Disable”.

- 4) Disconnect the equipment.
- 5) Reinstall the trim panel.  
Secure the fasteners hand tight.

- 6) In the luggage compartment, undo and remove the fasteners securing the main junction box cover.  
Attach the appropriate new engine parameter setting chart on the inside of the main cover.
- 7) Reinstall the cover.  
Secure the fasteners hand tight.

#### **6. To check high idle operation:**

- 1) Refer to the Operating Manual.
- 2) Start the engine and kneel the vehicle as described in “To operate the kneeling system”.
- 3) Operate the high idle feature as described in “To operate cruise control – To change high idle speed”.
- 4) If applicable, enable the wheel chair lift system as explained in “To deploy wheelchair lift”.  
Operate the high idle feature as in step 3.  
Disable the wheel chair lift system.

*Procedure complete.*

#### **ATTACHMENTS:**

Old Cummins ISM02 engine parameter settings VH 10896117, rev. D (Cummins Insite Pro 5.0)  
Old Cummins ISM02 engine parameter settings VH 10983342, rev. A (Cummins Insite Pro 6.4)  
New Cummins ISM02 engine parameter settings VH 10896117, rev. E (Cummins Insite Pro 5.0)  
New Cummins ISM02 engine parameter settings VH 10983342, rev. B (Cummins Insite Pro 6.4)

#### **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.

# ENGINE PARAMETER SETTING

VIN :		PROG. DATE :	
Cummins ISM02 450 Hp (Allison)		Settings list DV080405	
		Ref VH 10 896 117/D	
Accelerator interlock	Enable	Low engine speed breakpoint	2500 rpm
Accel. Interlock sw. Setup	Active open	Maintenance monitor	Disable
Adaptive cruise	Disable	Powertrain protection	Disable
Adjustable high idle governor speed		PTO / remote PTO	
High idle Governor Speed	2	Max vehicle speed in PTO	0 mph
OEM maximum HIGS	2	Service brake override in PTO	Enable
OEM minimum HIGS	2	PTO / remote PTO	Enable
Adjustable low idle speed		Alternate PTO	Enable
Low idle speed	600 rpm	Clutch override in PTO	Disable
Low idle speed adjustment sw.	Disable	Max engine load in PTO	1350 lb-ft
Battery voltage monitor	Disable	Max PTO speed	1400 rpm
Centinel oil system	Disable	Minimum PTO speed	600 rpm
Cruise Control	Enable	Nr of remote PTO set speeds	1
Cruise control auto-resume	Disable	PTO additional switch speed	1000 rpm
Cruise control lower droop	0 mph	PTO ramp rate	250 rpm/sec
Cruise control save set speed	Enable	PTO resume switch speed	1200 rpm
Cruise control upper droop	0 mph	PTO set switch speed	900 rpm
Max cruise control speed	71 mph	PTO zero VSS limit	Enable
Cruise control switch setup	Enable	Remote set speed 1	1400 rpm
Cruise switch setup	Set/Coast	Accelerator override in PTO	Disable
Driver reward	Disable	Multiple PTO Trip Information	N/A
Engine brake control	Enable	Remote accelerator	Disable
Cruise control activation	Enable	Road speed governor	Enable
Engine brake delay time	0.0 sec	Max accelerator vehicle speed	71 mph
Engine brake min. Veh. Speed	0 mph	Maximum vehicle speed	71 mph
Engine brake type	Engine brake	Road speed gov lower droop	0 mph
Service brake activation	Disable	Road speed gov upper droop	0 mph
Start max eng braking in cc	4 mph	Smart road speed governor	Disable
Start min eng braking in cc	2 mph	SAE J1939 multiplexing	Disable
Engine coolant level sensor	Installed	Starter lockout	Disable
Engine protection	Enable	Switched max eng. operating speed	Disable
Eng. protection limited restart	Enable	Tire wear adjustment	Disable
Engine protection shutdown	Enable	Transmission setup	
EPS manual override	Enable	Clutch pedal position switch	Not installed
Fan control	Enable	Gear down transmission ratio	0.74
Fan control logic	0V ON	Top gear transmission ratio	0.64
Fan control switch	Disable	Transmission type	Automatic
Fan on with engine braking	Disable	Trip information	Enable
Vehicle speed interaction	Disable	Engine distance offset	0 mi
Air conditioner press sw input	Disable	Engine time offset	0 hrs
Fan type	On/Off	Vehicle overspeed 1	80 mph
Gear-down protection	Disable	Vehicle overspeed 2	80 mph
Generic tool permissions		Vehicle electrical system voltage	Enable
J1939 service reset	Disable	Vehicle electr. system voltage	24 volt
J1939 stop broadcast allowed	Disable	Vehicle Speed Sensor anti-tampering	Disable
J1939 trip reset	Disable	Vehicle speed source	
Governor type		Max engine speed w/o VSS	1600 rpm
Governor type	Automotive	Number of transm gear teeth	16

Old: VH 10896117 revision D (Cummins Insite Pro 5.0)

# ENGINE PARAMETER SETTING

VIN :		PROG. DATE :	
Cummins ISM02 450 Hp (Allison)		Settings list DV090106	
		Ref VH 10 983 342/A	
Accelerator Interlock	Enable	Maintenance monitor	Disable
Accel. Interlock sw. Setup	Active closed	Powertrain protection	Disable
Adaptive cruise	Disable	PTO / remote PTO	Enable
Adjustable high idle governor speed		Max vehicle speed in PTO	0 mph
High idle Governor Speed		Service brake override in PTO	Enable
OEM maximum HIGS		Alternate PTO	Enable
OEM minimum HIGS	2100 rpm	Clutch override in PTO	Disable
Adjustable low idle speed		Max engine load in PTO	1350 lb-ft
Low idle speed	600 rpm	Max PTO speed	1400 rpm
Low idle speed adjustment sw.	Disable	Minimum PTO speed	600 rpm
Battery voltage monitor	Disable	Nr of remote PTO set speeds	1
Centinel oil system	Disable	PTO additional switch speed	1000 rpm
Cruise Control	Enable	PTO ramp rate	250 rpm/sec
Cruise control auto-resume	Disable	PTO resume switch speed	1200 rpm
Cruise control lower droop	0 mph	PTO set switch speed	900 rpm
Cruise control save set speed	Enable	PTO zero VSS limit	Enable
Cruise control upper droop	0 mph	Remote set speed 1	1400 rpm
Max cruise control speed	71 mph	Accelerator override in PTO	Disable
Cruise control switch setup	Enable	Multiple PTO Trip Information	N/A
Cruise switch setup	Set/Coast	Remote accelerator	Disable
Driver reward	Disable	Road speed governor	Enable
Engine brake control	Enable	RSG feature enable	Enable
Cruise control activation	Enable	Max accelerator vehicle speed	71 mph
Discrete Eng. Brake Light Output	Disable	Maximum vehicle speed	71 mph
Engine brake delay time	0.0 sec	Road speed gov lower droop	0 mph
Engine brake min. Veh. Speed	0 mph	Road speed gov upper droop	0 mph
Engine brake type	Engine brake	Smart road speed governor	Disable
Service brake activation	Disable	SAE J1939 multiplexing	Disable
Start max eng braking in cc	4 mph	Starter lockout	Disable
Start min eng braking in cc	2 mph	Switched max eng. operating speed	Disable
Engine coolant level sensor	Installed	Tire wear adjustment	Disable
Engine protection	Enable	Transmission setup	
Eng. protection limited restart	Enable	Clutch pedal position switch	Not installed
Engine protection shutdown	Enable	Gear down transmission ratio	0.74
EPS manual override	Enable	Top gear transmission ratio	0.64
Fan control	Enable	Transmission type	Automatic
Fan control logic	0V ON	Trip information	Enable
Fan control switch	Disable	Trip information feature enable	Enable
Fan on with engine braking	Disable	Engine distance offset	0 mi
Fan on with remote throttle	Disable	Engine time offset	0 hrs
Vehicle speed interaction	Disable	Vehicle overspeed 1	80 mph
Air conditioner press sw input	Disable	Vehicle overspeed 2	80 mph
Fan type	On/Off	Vehicle acceleration management	Disable
Gear-down protection	Disable	Vehicle electrical system voltage	Enable
Governor type		Vehicle electr. system voltage	24 volt
Governor type	Automotive	Vehicle Speed Sensor anti-tampering	Disable
Governor type switch	Disable	Vehicle speed source	
Idle shutdown	Disable	Max engine speed droop option	NOT added to eng.sp.
J1939 Controls		Max engine speed w/o VSS	1600 rpm
J1939 service reset	Disable	Number of transm gear teeth	16
J1939 stop broadcast allowed	Disable	Rear axle ratio	4.3

Old: VH 10983342 revision A (Cummins Insite Pro 6.4)



**ENGINE PARAMETER SETTING**

VIN :		PROG. DATE :	
		Settings list	JB130307
Cummins ISM02 450 Hp (Allison)		Ref VH	10 896 117/E
Accelerator interlock	Enable	Low engine speed breakpoint	2500 rpm
Accel. Interlock sw. Setup	Active open	Maintenance monitor	Disable
Adaptive cruise	Disable	Powertrain protection	Disable
Adjustable high idle governor speed		PTO / remote PTO	
High Idle Governor Speed	2	Max vehicle speed in PTO	0 mph
OEM maximum HIGS	2	Service brake override in PTO	Disable
OEM minimum HIGS	2	PTO / remote PTO	Enable
Adjustable low idle speed		Alternate PTO	Enable
Low idle speed	600 rpm	Clutch override in PTO	Disable
Low idle speed adjustment sw.	Disable	Max engine load in PTO	1350 lb-ft
Battery voltage monitor	Disable	Max PTO speed	1400 rpm
Centinel oil system	Disable	Minimum PTO speed	600 rpm
Cruise Control	Enable	Nr of remote PTO set speeds	1
Cruise control auto-resume	Disable	PTO additional switch speed	1000 rpm
Cruise control lower droop	0 mph	PTO ramp rate	250 rpm/sec
Cruise control save set speed	Enable	PTO resume switch speed	1200 rpm
Cruise control upper droop	0 mph	PTO set switch speed	900 rpm
Max cruise control speed	71 mph	PTO zero VSS limit	Enable
Cruise control switch setup	Enable	Remote set speed 1	1400 rpm
Cruise switch setup	Set/Coast	Accelerator override in PTO	Disable
Driver reward	Disable	Multiple PTO Trip Information	N/A
Engine brake control	Enable	Remote accelerator	Disable
Cruise control activation	Enable	Road speed governor	Enable
Engine brake delay time	0.0 sec	Max accelerator vehicle speed	71 mph
Engine brake min. Veh. Speed	0 mph	Maximum vehicle speed	71 mph
Engine brake type	Engine brake	Road speed gov lower droop	0 mph
Service brake activation	Disable	Road speed gov upper droop	0 mph
Start max eng braking in cc	4 mph	Smart road speed governor	Disable
Start min eng braking in cc	2 mph	SAE J1939 multiplexing	Disable
Engine coolant level sensor	Installed	Starter lockout	Disable
Engine protection	Enable	Switched max eng. operating speed	Disable
Eng. protection limited restart	Enable	Tire wear adjustment	Disable
Engine protection shutdown	Enable	Transmission setup	
EPS manual override	Enable	Clutch pedal position switch	Not installed
Fan control	Enable	Gear down transmission ratio	0.74
Fan control logic	0V ON	Top gear transmission ratio	0.64
Fan control switch	Disable	Transmission type	Automatic
Fan on with engine braking	Disable	Trip information	Enable
Vehicle speed interaction	Disable	Engine distance offset	0 mi
Air conditioner press sw input	Disable	Engine time offset	0 hrs
Fan type	On/Off	Vehicle overspeed 1	80 mph
Gear-down protection	Disable	Vehicle overspeed 2	80 mph
Generic tool permissions		Vehicle electrical system voltage	Enable
J1939 service reset	Disable	Vehicle electr. system voltage	24 volt
J1939 stop broadcast allowed	Disable	Vehicle Speed Sensor anti-tampering	Disable
J1939 trip reset	Disable	Vehicle speed source	
Governor type		Max engine speed w/o VSS	1600 rpm
Governor type	Automotive	Number of transm gear teeth	16
New: VH 10896117 revision E (Cummins Insite Pro 5.0)			
High engine speed breakpoint	2500 rpm	Water in fuel sensor	Installed

**ENGINE PARAMETER SETTING**

VIN :		PROG. DATE :	
		Settings list	JB130307
Cummins ISM02 450 Hp (Allison)		Ref VH	10 883 342/B
Accelerator Interlock	Enable	Maintenance monitor	Disable
Accel. Interlock sw. Setup	Active closed	Powertrain protection	Disable
Adaptive cruise	Disable	PTO / remote PTO	Enable
Adjustable high idle governor speed		Max vehicle speed in PTO	0 mph
High Idle Governor Speed		Service brake override in PTO	Disable
OEM maximum HIGS		Alternate PTO	Enable
OEM minimum HIGS	2100 rpm	Clutch override in PTO	Disable
Adjustable low idle speed		Max engine load in PTO	1350 lb-ft
Low idle speed	600 rpm	Max PTO speed	1400 rpm
Low idle speed adjustment sw.	Disable	Minimum PTO speed	600 rpm
Battery voltage monitor	Disable	Nr of remote PTO set speeds	1
Centinel oil system	Disable	PTO additional switch speed	1000 rpm
Cruise Control	Enable	PTO ramp rate	250 rpm/sec
Cruise control auto-resume	Disable	PTO resume switch speed	1200 rpm
Cruise control lower droop	0 mph	PTO set switch speed	900 rpm
Cruise control save set speed	Enable	PTO zero VSS limit	Enable
Cruise control upper droop	0 mph	Remote set speed 1	1400 rpm
Max cruise control speed	71 mph	Accelerator override in PTO	Disable
Cruise control switch setup	Enable	Multiple PTO Trip Information	N/A
Cruise switch setup	Set/Coast	Remote accelerator	Disable
Driver reward	Disable	Road speed governor	Enable
Engine brake control	Enable	RSG feature enable	Enable
Cruise control activation	Enable	Max accelerator vehicle speed	71 mph
Discrete Eng. Brake Light Output	Disable	Maximum vehicle speed	71 mph
Engine brake delay time	0.0 sec	Road speed gov lower droop	0 mph
Engine brake min. Veh. Speed	0 mph	Road speed gov upper droop	0 mph
Engine brake type	Engine brake	Smart road speed governor	Disable
Service brake activation	Disable	SAE J1939 multiplexing	Disable
Start max eng braking in cc	4 mph	Starter lockout	Disable
Start min eng braking in cc	2 mph	Switched max eng. operating speed	Disable
Engine coolant level sensor	Installed	Tire wear adjustment	Disable
Engine protection	Enable	Transmission setup	
Eng. protection limited restart	Enable	Clutch pedal position switch	Not installed
Engine protection shutdown	Enable	Gear down transmission ratio	0.74
EPS manual override	Enable	Top gear transmission ratio	0.64
Fan control	Enable	Transmission type	Automatic
Fan control logic	0V ON	Trip information	Enable
Fan control switch	Disable	Trip information feature enable	Enable
Fan on with engine braking	Disable	Engine distance offset	0 mi
Fan on with remote throttle	Disable	Engine time offset	0 hrs
Vehicle speed interaction	Disable	Vehicle overspeed 1	80 mph
Air conditioner press sw input	Disable	Vehicle overspeed 2	80 mph
Fan type	On/Off	Vehicle acceleration management	Disable
Gear-down protection	Disable	Vehicle electrical system voltage	Enable
Governor type		Vehicle electr. system voltage	24 volt
Governor type	Automotive	Vehicle Speed Sensor anti-tampering	Disable
Governor type switch	Disable	Vehicle speed source	
Idle shutdown	Disable	Max engine speed droop option	NOT added to eng.sp.
J1939 Controls		Max engine speed w/o VSS	1600 rpm
J1939 service reset	Disable	Number of transm gear teeth	16
J1939 stop broadcast allowed	Disable	Rear axle ratio	4.3
New: VH 10983342 revision B (Cummins Insite Pro 6.4)			
High engine speed breakpoint	2500 rpm	Water in fuel sensor	Installed