Bodybuilder's Bulletin

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Loader Crane Interface Wiring

The Association of Lorry Loader Manufacturers and Importers (ALLMI), the UK's only trade association for the loader crane industry have launched an Engine Management System (EMS) section on their website. The purpose of this is to assist anyone involved with the wiring into, and the subsequent programming of Engine Management Systems for loader crane operation.

For further information with respect to registering with the ALLMI website, please see the following pages for the Registration & User Guide or contact Alan Johnson, ALLMI's Technical Manager on 07538 192586.

NB. The ALLMI website is not an MAN Truck & Bus UK Ltd (MTBUK) website and therefore MTBUK cannot be held liable for the accuracy of its content.

Should you have any queries on the above, please contact Product Engineering on 01793 448170 or email bodybuilder@man.co.uk.

Please circulate and then retain in the Bodybuilder's Manual

Registration & User Guide

ALLMI Engine Management Systems Project

Edition 1: October 2009

Contents

1. Introduction to the principles of the ALLMI EMS Website

About ALLMI

ALLMI is the Association of Lorry Loader Manufacturers & Importers. Formed in 1978 at the request of the Health & Safety Executive, ALLMI is the only trade association in the UK dedicated to Lorry Loaders.

ALLMI represents approximately 90% of companies within the UK who are involved with the Manufacture/Importation, Installation & Service/Repair of Lorry Loaders and has three main defined objectives:

- To promote the safe use of lorry loaders
- To ensure that the Association (ALLMI) is involved in the formulation of any legislation that affects the industry's interests
- To promote compliance with training requirements embodied in current legislation

ALLMI is represented at National, European and International level and plays an active role in the development of legislation and safety in relation to the design, manufacture, installation and operation of Lorry Loaders.

Standards such as BS7121 Part 4 and BS-EN12999 contain much input from ALLMI, including numerous extracts from the ALLMI Code of Practice.

ALLMI is also a training accreditation body and has a range of training courses tailored to encompass current legislation & best practice. These include:

- Lorry Loader Operation (both Novice & Experienced/Refresher)
- Slinger/Signaller
- Thorough Examination of Loader Cranes
- Appointed Person
- ALLMI Instructor Training

ALLMI Training Providers are committed to a program of ongoing improvement and raising standards; and are audited on a periodic basis. The ALLMI Training Committee consists of ALLMI member companies including many key manufacturers, professional trainers and bodies such as the HSE.

ALLMI also has an Operator Forum division. Dedicated exclusively to Operators & Owners of Lorry Loaders, the Forum provides opportunities for discussion on best practice; guidance on matters such as risk assessment/method statement and access to the ALLMI buyers co-operative including services such as tailored insurance.

Introduction (continued) - EMS History

In September 2007, a meeting was hosted by ALLMI which was attended by the majority of Chassis Manufacturers, Loader Crane Manufacturers & Crane Installers/Bodybuilders.

The issue to be discussed was that of finding some solutions to a perennial problem – the wiring into and subsequent programming of Engine Management Systems.

From a crane installer perspective, there was a great deal of frustration caused by trucks being correctly wired, only then to not be programmed properly at PDI stage.

From a truck dealer perspective, there was equal frustration at trucks arriving back for PDI which had been incorrectly wired, or wired in many different ways.

There were also a number of other contributory factors; for example during a period of long manufacturer lead-times, it is not uncommon for a customer to be offered (or request) a "next best" specification chassis without any consideration being given to its suitability for having a Loader Crane installed. This can cause significant additional costs during the build process if the correct engine management system modules or chassis flitching are not present.

As a result of the meeting, it was agreed that a working group would be formed. This consisted of a number of representatives from chassis manufacturers, crane manufacturers, crane installers & PTO manufacturers. This working group then met periodically for the following two years to consider various solutions and their feasibility.

As with many problems, the main issues were repeatedly arising as a result of there being no formal or uniform communication structure in the process whereby the truck goes to various installer points before returning for PDI. All manufacturers and installers have different methods and levels of communication; and all too often, the end result was that the Customer takes delivery of a vehicle which has been incorrectly specified, incorrectly wired, or incorrectly programmed.

The working group concluded that the best solution was to provide a process built around a central information hub, hosted on the ALLMI website. On this hub, all chassis manufacturers would be able to upload the relevant bodybuilder data relevant to at least 80% of all crane installations (nearly 100% of standard installations).

Crane and PTO manufacturers would also be able to upload wiring diagrams and other data relevant to the installation process – so that in all, any installer can access just one website to be able to collate all the data they need to carry out their work in accordance with all relevant manufacturer specifications.

Processes were also put in place to assist in the specifying of a correct chassis for crane application, together with a detailed audit and documentation trail to provide installers and truck dealers with a sound historical record of all work carried out.

Details of each stage of this process are contained within the next section.

2. How it works

Firstly, the Truck Dealer and Customer need to ensure that the chassis they are ordering is going to be suitable for a loader crane to be installed. To assist in this, the working group assembled a guidance note. This guidance note is available to download from the ALLMI website and covers the following main points:

Guide for the Purchase of Chassis Suitable for a Loader Crane
ALLMI Guidance Note 14

This note gives advice to anyone involved with purchasing and specifying a chassis cab to be used with a loader crane. Considerable savings can be achieved by specifying the chassis correctly at the time when the order is placed.

If one-stop shopping through a chassis dealer, be sure to accurately describe the loader crane that you require as the salesman at a truck dealer or bodybuilder may not be an expert on loader crane selection. Ensure that the sales person for the chassis dealer is in communication with your crane sales person. If you have any doubt then contact the loader crane manufacturer, dealer or ALLMI member directly.

See the ALLMI Guidance note 005 "Guidance for Lorry Loader Installers and Operators" and Guidance note 007 "Guide to Lorry Loader Purchase" which will lead you through the selection process for choosing the correct loader crane for your application.

It may be possible for your chosen chassis to be configured to make it more suitable for the installation of a loader crane. Depending on the chassis make and model, the chassis may be ordered;

- **Crane ready.**
  Before placing an order for your chassis, confirm with the loader crane installer that the chassis and the loader crane are compatible. Additional flitching of the chassis frame may be required. This must be specified when the chassis is ordered. The benefits of chassis flitching may be a lighter and lower overall construction.
- **With chassis equipment such as, AdBlue® tanks, Fuel tanks, Exhaust systems, re positioned.**
  This is particularly important if the crane will be mounted behind the chassis cab. It is often very expensive to move Exhaust and AdBlue®/Fuel tanks once the chassis has been delivered to the crane installer. Your chassis supplier should be able to provide a chassis layout drawing.
- **Supplied with factory fitted PTO.**
  If opting for a factory fitted PTO, the chassis dealer will need to know the required flow, pressure and usage (the time the crane will be in use each day verses the amount of time travelling). Your cranes sales person will be able to provide the flow and pressure required for the loader crane. Your chassis supplier should then be able to choose the right PTO. A factory mounted PTO will speed up the crane installation. Chassis manufacturers PTO's are also best suited and matched with the gearbox and Engine management system.
- **Supplied ready for third party PTO.**
  A third party pump and PTO would most likely be supplied as part of the crane installation, with the power and torque requirements being taken care of by the PTO supplier. In this case it would be prudent to ensure that the chassis is supplied PTO ready (i.e. that the appropriate switches and cables are pre installed).
- **With electronic devices.**
  Most, if not all chassis makes and models will require additional control units to be installed to facilitate PTO interlocking, parking brake interlocking, engine stop start, engine speed up and suspension lock out. It may not be possible to retro-fit these items after the chassis has been delivered. Cost of retrofitting is significantly more expensive than having the work completed during chassis build.

- Engine Management System Modules
- Factory Fit PTO vs. Installer-Specified PTO
- Chassis Frame/Flitching
- Positioning of exhaust, air cleaner, batteries etc
- Dashboard Kits

The correct specifying of the chassis at this stage can save significant costs and time during the crane-build process. Further information for truck sales personnel and end-users can be obtained from any ALLMI member.

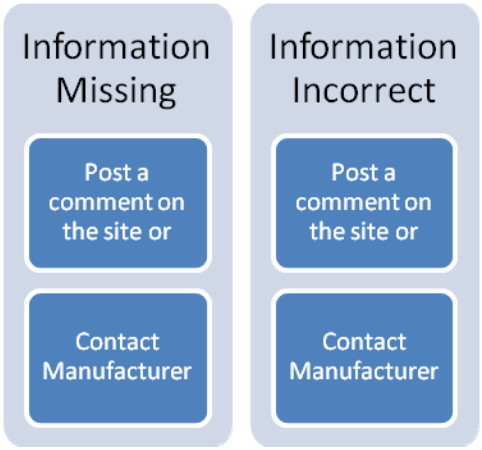
How It Works (Continued)

Once the Installer of the Loader Crane receives the (correctly specified) chassis, they can then refer to the ALLMI website in order to obtain the exact information they need in relation to:

- Chassis
- Crane
- PTO/Pump

All data on each manufacturers section falls within parameters agreed and set by the EMS Working Group as a result of discussing what each party would need in order to carry out the majority of standard crane installations smoothly. An 80/20 rule has been applied: this accepts that there are always going to be circumstances where it is possible that individual consultation between the parties involved in the process may be required. This is therefore also addressed by ensuring that direct contact information is available for the nominated person at each manufacturer.

Each Manufacturer is responsible for uploading and maintaining their respective data. Whilst this is predominantly good, it also means there is a possibility of the following scenarios: -



The reason that posting a comment on the site is the preferred option is that all comments posted will initially come to ALLMI. This is to enable collation of statistics and to identify any recurring issues for the Working Group to address when they meet periodically.

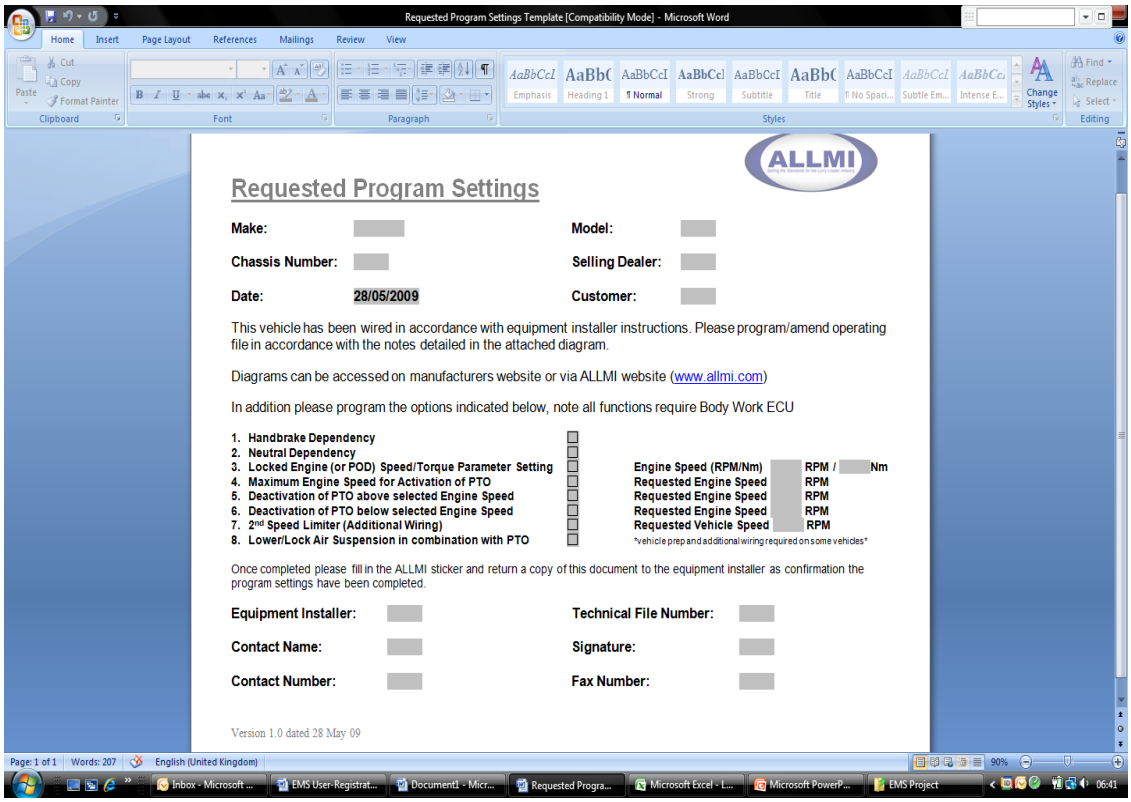
Any urgent comments or requests made by users will be forwarded upon receipt both to ALLMI's own technical staff and manufacturer(s) concerned.

Once the Installer has completed their installation, they are then able to provide a significant amount of detail to the Truck Dealer which is intended to assist in the correct programming/profiling of the Engine Management System on PDI.

Details of this are provided on the following pages....

How It Works (Continued)

The following document is one which will be submitted by the Installer of the Crane to the Truck Dealer:



Requested Program Settings Template [Compatibility Mode] - Microsoft Word

Requested Program Settings

Make: _____ **Model:** _____

Chassis Number: _____ **Selling Dealer:** _____

Date: 28/05/2009 **Customer:** _____

This vehicle has been wired in accordance with equipment installer instructions. Please program/amend operating file in accordance with the notes detailed in the attached diagram.

Diagrams can be accessed on manufacturers website or via ALLMI website (www.allmi.com)

In addition please program the options indicated below, note all functions require Body Work ECU

1. Handbrake Dependency	☐	
2. Neutral Dependency	☐	
3. Locked Engine (or POD) Speed/Torque Parameter Setting	☐	Engine Speed (RPM/Nm) ____ RPM / ____ Nm
4. Maximum Engine Speed for Activation of PTO	☐	Requested Engine Speed ____ RPM
5. Deactivation of PTO above selected Engine Speed	☐	Requested Engine Speed ____ RPM
6. Deactivation of PTO below selected Engine Speed	☐	Requested Engine Speed ____ RPM
7. 2nd Speed Limiter (Additional Wiring)	☐	Requested Vehicle Speed ____ RPM
8. Lower/Lock Air Suspension in combination with PTO	☐	*vehicle prep and additional wiring required on some vehicles*

Once completed please fill in the ALLMI sticker and return a copy of this document to the equipment installer as confirmation the program settings have been completed.

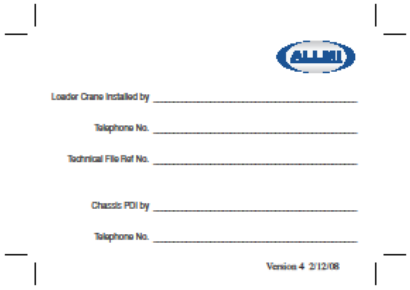
Equipment Installer: _____ **Technical File Number:** _____

Contact Name: _____ **Signature:** _____

Contact Number: _____ **Fax Number:** _____

Version 1.0 dated 28 May 09

Coupled with this, will be a diagram of how the installation has been wired. The Installer will also mount the following sticker in a prominent position i.e. vehicle fuse box or door jamb:



Loader Crane Installed by _____

Telephone No. _____

Technical File Ref No. _____

Chassis PDI by _____

Telephone No. _____

Version 4 2/12/08

This provides audit trail to both the Truck Dealer carrying out the PDI, any subsequent equipment installers in the build process, and future repairers of the equipment, telling them who to contact in the event of a query or how to gain information from the original technical file relating to the installation.

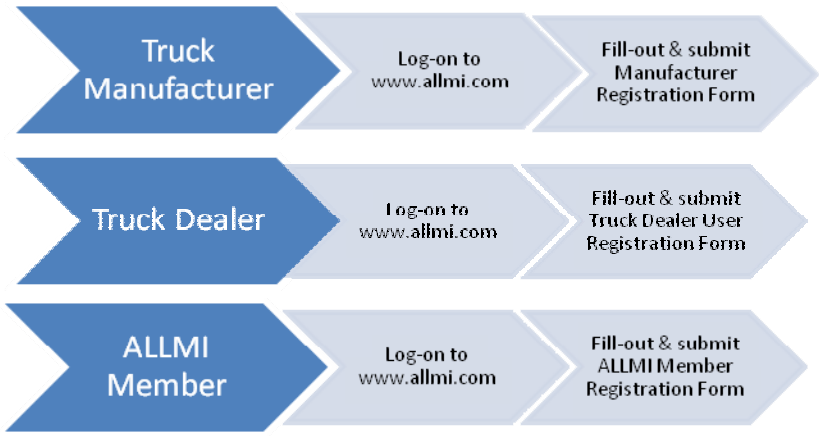
Finally, the Truck Dealer will be asked to confirm back to the Installer in writing that this information has been received. The installer will place this confirmation in their technical file.

3. Registering as an ALLMI Website User

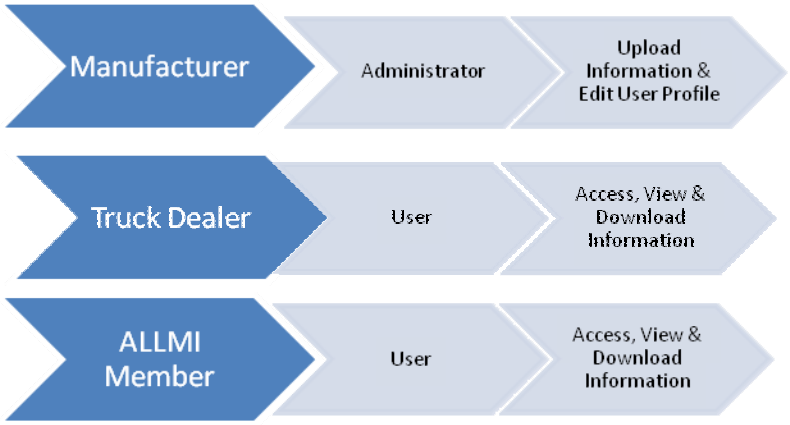
Access to the EMS area of the ALLMI website is restricted to the following parties: -

- Truck chassis Manufacturers who wish to upload their data and participate in the site.
- Officially appointed Truck Dealers of Manufacturers who are participants in the site.
- ALLMI Members.

To access the EMS area of the ALLMI website, a User Name & Password is required. This can be obtained in the following ways:



Upon receipt of your User Name & Password you will have the following rights of access:



4. Basic Terms & Conditions

All persons registering to use the EMS area of the ALLMI website will be asked to acknowledge they have read and accepted the Terms and Conditions of Use.

The full terms & conditions can be viewed on the ALLMI website and the list below is an abbreviated summary of some of the key points/conditions of use:-

- It is implicitly agreed that in making an application for registration to the EMS area of the ALLMI website the User will maintain the spirit and principles of the project and adopt/adhere to the procedures concerned.

- The employing organisation of the person applying for User Registration bears full responsibility for determining (and being able to demonstrate if requested) that the User has sufficient technical knowledge to interpret and use the information contained within the site.

- Whilst ALLMI acknowledges that Users may find it convenient to allow colleagues from within their own company to share their log-in details, ALLMI strongly recommends that each User applies for and receives their own ID. This notwithstanding, Users accept and agree that they will not divulge their User Name and Password to any person outside their own company. In the event of ALLMI becoming aware of an unauthorised party having access to the site, ALLMI reserves the right to a) suspend or withdraw the Users account, or b) reset the account which may include the issuing of various new Users Names and Passwords. In such an event, the User in breach of the Terms & Conditions will be billed by ALLMI for administrative costs.

- The information contained within the EMS area of the ALLMI website is uploaded and updated by each of the manufacturers concerned. Whilst every effort is made to ensure the accuracy of the information provided, neither ALLMI nor the manufacturers in question bear any liability for errors or omissions, or the consequences thereof. In the event of a concern regarding the validity of information, Users are required to submit a comment via the Website. Upon qualification of the issue, ALLMI will then withdraw the information and notify the Manufacturer concerned.

- All logos, corporate identities and information contained on the site are the intellectual property and copyright of ALLMI and/or the respective Manufacturers. Extraction, reproduction and forwarding to 3rd parties of any of the information contained are expressly forbidden without first gaining written consent from ALLMI and the respective Manufacturer.

The above list is non-exhaustive and is intended to provide an overview of some of the key terms and conditions only.

5. Useful Contacts

The ALLMI EMS Project Working Group

Organisation	Name	Phone	E-Mail
ALLMI	Alan Johnson	07538 192586	alan@allmi.com
ALLMI	Tom Wakefield	07775 777855	tom@allmi.com
Cargotec (Hiab)	Peter Ellison	01691 623100	peter.ellison@cargotec.com
Daimler	Ian Knight	01908 245890	ian.knight@daimler.com
Dennis Eagle	Carl Worthington	07900 946925	carl.worthington@dennis-eagle.co.uk
Iveco	Paul Williams	07969 079587	paul.williams@iveco.com
MTE	Ian Roberts	01142 483751	ian.roberts@masseytruckengineering.co.uk
Scania GB	Phil Rootham	01908 329296	philip.rootham@scania.com
Stallion Hydrocar	Julian Sharp	01732 440055	julian.sharp@stallion-hydrocar.com
Terex (Atlas)	Richard Wood	08444 996688	richard.wood@terex.com
TH White (Palfinger)	Les Drage	01380 722381	lrd@thwhite.co.uk
Transloader Services	Bob Oakes	07802 475225	robert.oakes@transloaderservices.co.uk

Other Participating Manufacturers

Organisation	Name	Phone	E-Mail
DAF	Bob Ford		bob.ford@daftrucks.co.uk
Fassi (UK) Limited	Steve Weavers	01926 889779	technical@fassi.co.uk
HMF (UK) Limited	Bernie Wogan	01733 558145	bernie.wogan@hnfcranes.co.uk
MAN	Nick Handy	01793 448170	nick.handy@man.eu
Renault	Colin Hope	07764 164795	colin.hope@renault-trucks.com
Volvo	John Reilly	01926 414244	john.reilly@volvo.com