

AFAM Computer Replacement

Marcus Tuck, Don Incoll

CAUTION: Handling Circuit Boards

1. When not being worked on, circuit boards should be enclosed in shielded bags or boxes.
2. Prior to handling a circuit board wash hands to remove natural body acids and oils.
3. Circuit boards should be handled by the edges, avoid touching tracks or components.
4. The operator must be grounded, to the same potential as the Truck by touching an earth point, bare bolt head, etc . (The metal case of original AFAM box is not earthed)

Installation Instructions

5. Turn off ignition and wait a few minutes for all the systems to shut down.
6. Disconnect the electrical connector from the rear of the AFAM unit.
7. Undo and remove the 4 nuts and spring washers securing the AFAM box to the antivibration mounts (7 mm socket works best).
8. Remove the AFAM case.

Steps 9-11 **do not** apply if preassembled in new die-cast alloy case

9. Remove the 5 screws securing the lid on the AFAM case.
10. Lift out the AFAM circuit board complete with the electrical connector.
11. Insert new circuit board complete with the electrical connector.
12. Reassemble in the reverse order of disassembly.

Operating Features/Instructions

Standard Iveco diff lock engagement / disengagement speeds are retained

Maximum speed at which the CDL can be engaged, 40 kph

Speed at which the CDL will disengage, 80 kph ... Note: Holding button for 3 seconds whilst engaging CDL will now override the standard 80kph disengage.

Maximum speed at which the RDL can be engaged, 20 kph

Speed at which the RDL will disengage, 40 kph

Maximum speed at which the FDL can be engaged, 15 kph

Speed at which the FDL will disengage, 30 kph

When the ignition is turned on, the three differential lock lights, the check light, and the big and little ABS lights will illuminate; the buzzer will sound for approximately half a second. They will then all switch off, except the big ABS light (this will take a few more seconds to go off, as the ABS unit will be performing a self-test). This is the normal self-test of these lights and the buzzer; it will happen every time the ignition is turned on, unless the ignition has been off for less than 5 seconds (in which case the unit is still powered on).

When the ignition is turned on, the unit will check the existing state of the differential locks. If the parameters are still in limits, i.e. vehicle speed and sequence, the lock solenoids will be automatically re-engaged as appropriate. If they are no longer required, they can be deselected in the usual manner.

If the vehicle is stalled, the unit will remain powered for approximately 5 seconds after the ignition is turned off. This should allow enough time to turn the ignition off and on again, so that the engine can be restarted without any of the selected locks disengaging.

To engage more than one differential lock, it is no longer necessary to wait for the previous lock to engage before making the selection. All the required locks can be selected and the unit will engage them in sequence as soon as it is possible.

It is now possible to engage the rear differential lock and centre differential lock by pressing only the rear differential lock button, (below 20kph) the centre differential lock will automatically engage followed by the rear differential lock.

To engage the rear lock only: (without CDL) stop the vehicle and press and hold the rear and front differential locks simultaneously for about 2 seconds. The rear only lock will disengage automatically at about 30 kph. The centre lock can be selected and then the front lock selected if required. To disengage, simply press the rear differential lock switch.

To disengage more than one differential lock, it is not necessary to wait for the previous lock to disengage before making the selection. For example, it is now possible to deselect all the locks by just pressing the centre differential lock button. The unit will disengage them all in sequence as soon as it is possible.

To turn off the ABS, press the front differential lock switch until the small ABS light illuminates. Pressing the front differential lock switch again will turn the ABS back on.

When selecting the centre differential lock, pressing and holding the centre differential lock switch for 3 seconds will engage the centre differential lock but the automatic disengagement at speeds above 80 kph will be disabled. Please note that a short beep may be heard if the lock engages during this process and a long beep will be heard at the 3 second point.

Check Light and Buzzer

The check-light and buzzer are used to warn of lock operation or a problem that has occurred. Below are the indications and their meanings:

1. Single short buzz - lock engaged.
2. Double short buzz - lock disengaged.
3. Single long buzz - a selection was attempted above a limit speed or an out of sequence selection was attempted. It also sounds when selecting RDL only or ABS on/off.
4. Check light flashing – the APU pump has been selected to run for more than 5 seconds. This could be caused by one or more of the following:
 - a. Possible APU pump failure.
 - b. Pressure and/or fluid loss.
 - c. Low fluid level in reservoir.
 - d. Blown APU pump fuse.
 - e. Low pressure - If a lot of lock selections have been made in a short period, it could cause this to happen briefly.
 - f. APU pressure switch failure.