

NO.: 04 TS – 30 (REVISED)
July 22, 2004

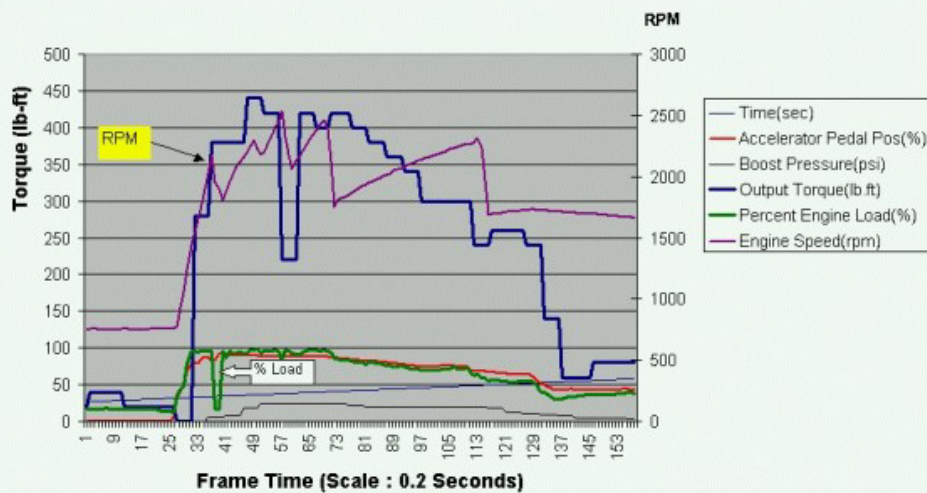
TO: All Distributors/Dealers and Their Branches
ATTN.: Service Managers
FROM: David J. Mester
SUBJECT: **MBE 900 - Allison Transmission Shift Delay**

(This letter replaces the 04 TS – 30 version released June 10, 2004.)

The Technical Service Department has documented several field concerns from our distributor/dealer network regarding the one - two up-shift with the Allison 1000, 2000, & 3000 Series Transmissions used in the Thomas Bus and Freightliner Truck Application. The MBE 900 engine coupled with the Allison Transmission is associated with software version 60 of the Electronic Control Module (ECM) and software version 14.19 of the Vehicle Control Unit (VCU).

The symptoms experienced by the driver are an engine hesitation and loss of power during the one – two up-shift, (Figure below). In addition, the transmission up-shift point going from two to three is influenced, but lacks the severity of power loss as recorded between the one - two up-shift.

MBE Engine Torque Dropout



The snapshot data in the above figure was extracted from a Thomas Bus with the 3DL electronic tool. It identifies a momentary loss of requested engine torque, followed by the significant loss of engine speed during the one - two up-shift for a period of approximately 0.5 seconds.

DDC Electronic Engineers discovered a critical calculation was omitted after the release of VCU software version 14.19, which caused the requested torque to drop approximately to zero therefore creating the up-shift concern.

The field concern can be resolved by using either the Mini-Diag or the DRS station and changing the following Vehicle Control Unit (VCU) parameter group:

1. Group 23 \ Limiter II
2. Click: Parameter # 35 \ Acceleration Limiter During Shift
3. Change setting from 1 to zero

This parameter setting is used with the Allison 4000 Heavy Duty Transmission equipped with the acceleration limiter. The above procedure will deactivate the feature and allow the Allison 1000, 2000, and 3000 Transmission to shift properly without harm to the MBE 900 Engine or Allison Transmission. The software calculation has been corrected by DDC Electronic Engineers and will be released to VCU software version 14.20.

Detroit Diesel Distributors Dealers should submit an Application For Adjustment with Labor Operation No. 02.19 -01 \ Reprogram Parameter Change, and charge 0.3 hour labor time to complete the operation.

David J. Mester
MBE 900 Technical Support