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# Abort Last Car Brake Test

# General:

The idea is to show the driver that Last Car Brake Test in progress and Driver can have option to abort the test in progress. Driver shall confirm to abort the test and move to ATP Mode Registration.

# Requirements:

AOS\_BHPB **3317**

* If the configured locomotive type is EMD AND the brake system in use is Pneumatic AND the Train setup defines that TIMS shall be supervised AND the received pressure value in the latest OBRD Status Report is above a PSB, the AOS shall:
* Store the Train Setup AND
* Apply SB

The AOS shall allow the driver to abort the test of last car brakes while waiting for OBRD Status Report.

AOS\_BHPB **5082**If the configured locomotive type is EMD AND the brake system in use is Pneumatic AND the Train setup defines that TIMS shall be supervised AND the received pressure value in the latest OBRD Status Report is NOT above a configured value PSB OR no OBRD Status Report has been received, the AOS shall:

* Inform the driver that brake test of last car is pending AND
* Wait for an OBRD Status Report with a pressure value above a configured value PSB.

Allow the driver to abort the test of last car brakes

AOS\_BHPB **5084**If the Driver aborts the test of last car brakes, this shall be confirmed by using an **ACP procedure.**

AOS\_BHPB **5085**If the Driver aborts the test of last car brake test the AOS shall:

* Generate a Log event.
* Release SB if applied.
* Request the driver to confirm that "Pre-departure Tests" are performed.
* After that the driver has confirmed the "Pre-departure Tests" AOS shall enter ATP mode Registration.

# Summary of changes in DMI-ATP IF spec to support this function change:

**ATP – DMI:**To Indicate that Last Car Brake Pressure in Progress.

* Data 12, bit 2 ($4) = Last car brake test in progress
* Data 21, bit 3 ($8) = Confirm «Abort last car brake test«

**DMI-ATP:**   
The message from DMI to ATP - Message Type= 34

* Data 0 bit 20 – Abort Last Car Brake Pressure Test.
* Data 0 bit 37 – Confirm “Abort Last Car Brake Pressure Test”
* Data 0 bit 38 – Cancel “Abort Last Car Brake Pressure Test”.

The major change is in ATP **Configuration Mode**, before driver confirms the “**Pre-Departure Tests**”. In configuration Mode, during last car brake tests is in progress, Driver shall be shown with the form to **ABORT** the last car brake pressure in Progress. The Driver shall be allowed to abort the last car brake test. If aborted, the Driver shall Acknowledge the option selected.  
This shall be followed by confirming the “**Pre-Departure Tests**”. This allows ATP to continue to ATP Mode Registration.

ATP Mode configuration  
1. Receive TSetup from TCC  
2. Driver shall have option to “Abort Last Car Brake Test”  
3. Driver shall Acknowledge the option selected  
4. Driver shall confirm “Pre-Departure Tests”  
5. ATP is in ATP Mode Registration.

## ATP Changes :

In train\_config\_mode\_bhp.cpp

In method runTrainConfigPreDepartureBrakeTest(), we reach PressureDrop>Psb and ATP sets the bit additionallastCarBrkTestinProgress. In modeControl, we check for

( modeState = trainConfigPreDepartureBrakeTest || modestate= trainConfigCheckValidBrkPrFeedBack ) AND mode configuration, THEN   
set the additionalbit **additionallastCarBrkTestinProgress**

The bit **additionalLastCarBrkTestinProgress** to DMI shows the form   
FormAbortlastCarBrakeTest.

On ABORT, DMI sends the bit **DMIButtonAbortlastCarBrakeTest** to ATP.

DMI receives the bit **activateAbortLastCarBrakeTestInProgress** to show **FormConfirmAbortLastCarBrakeTest.**

On OK, DMI sends the bit **DMIButtonConfirmAbortLastCarBrakeTest**, Log Event is created and Trainsetup is accepted.

On Cancel, DMI sends the bit **DMIButtonCancelAbortLastCarBrakeTest ,**  ATP sets the bit **DMIButtonAbortlastCarBrakeTest** that shows the form.

During these checks, if the Last Car Brake Pressure is increased above configured, then   
modeState= trainConfigTSetupAccepted.

### Changes in the Configuration sequence in Mode Control

ATP-DMI  
In DMI Message Out ATP Modes and States BHP, check for config Modestates  
**trainConfigPreDepartureBrakeTest ||trainConfigCheckValidBrkPrFeedBack,**  
Send data 12 bit 2 additionalLastCarBrkTestinProgress.

This shows the Form ABORT last Car Brake Pressure Test.

This dialog box lasts as long, Brake Test is in Progress.

IF ABORT Selected, ATP receives DMI button Status - Abort Last Car Brake Pressure Test.

This enables the abortBrakeTestButtonPressed to true and starts the timer of manualStartTimetoConfirmAbort.

ATP sends the bit activateAbortLastCarBrakeTestInProgress to display the ACK form to confirm the abort of brake test in progress.

Either on exceeding the **Maximum ACP time** – **manualStartTimetoConfirmAbort** or CANCEL is selected by the Driver, the form Form ABORT last Car Brake Pressure Test.

On selecting ABORT, the sequence is moved to trainConfigTSetupAccepted modeState. DMI shows

Form confirm Departure Test for driver.

DMI Changes:  
The below two new forms are shown to the Driver to confirm before “Pre-Departure Tests”.

CONFIRM\_ABORT\_LAST\_CAR\_BRAKE\_TEST : Byte = $08;  
AS2\_LastCarBrakeTestInProgress: Byte = $04;

### New Forms:

1. Unit Abort Last Car Brake Test
2. Unit Confirm Last Car Brake Test

These forms are shown in the ATP Mode Configuration before “ Pre-Departure Tests” are confirmed by the Driver.

### Form Abort Last Car Brake Test

This form shall offer the Driver to select the option to ABORT the last Car Brake Test.  
It shall be shown when ATP sends the Data 12 bit 2 ($4).  
On ABORT option, It send Message Type 34, Data 0 Bit 20 to ATP.

### Form Confirm Abort Last Car Brake Test

This form shall acknowledge the Driver option to Abort Last Car Brake Test.

On confirm, DMI sends Message Type 34, Data 0 bit 37 – Confirm “Abort Last Car Brake Pressure Test”  
On Cancel, DMI sends Message Type 34, Data 0 bit 38 – Confirm “Abort Last Car Brake Pressure Test”

DMI-ATP

DMIButtonSpare20 = DMIButtonAbortlastCarBrakeTest;  
DMIButtonSpare37 = DMIButtonConfirmAbortLastCarBrakeTest  
DMIButtonSpare38 = DMIButtonCancelAbortLastCarBrakeTest

ATP-DMI

Data 12 bit 2 -> additionalLastCarBrkTestinProgress = 0x04U; - ABORT FORM  
Data 21 bit 3 -> activateAbortLastCarBrakeTestInProgress = 0x08U; - ACP FORM