DPF Control Smart Switch Options

M-364-001

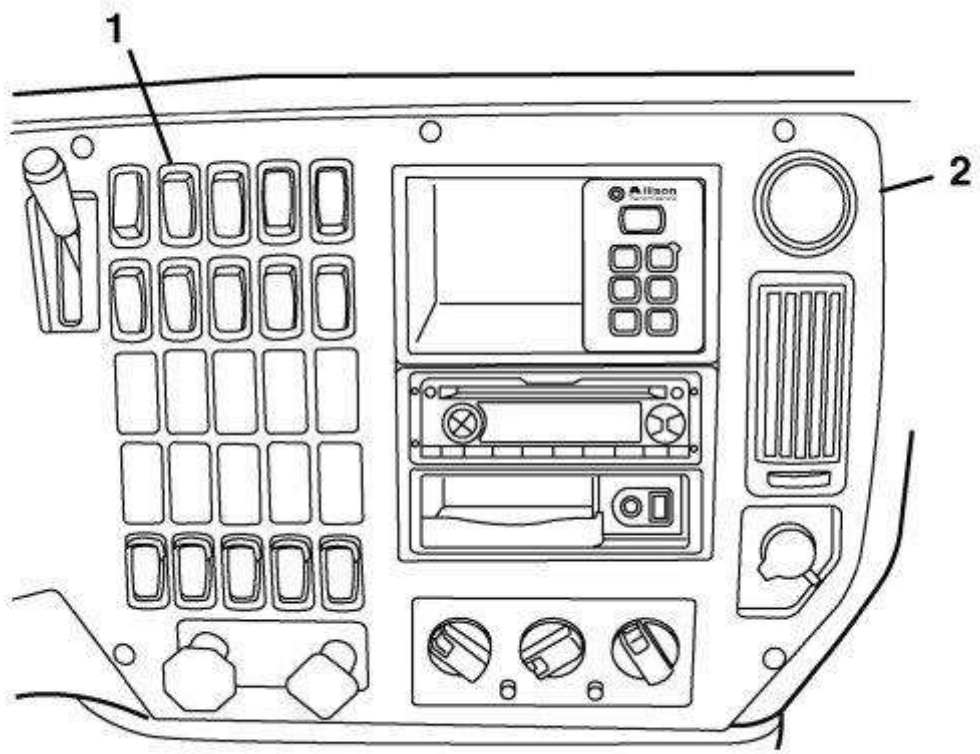
(January 2009)

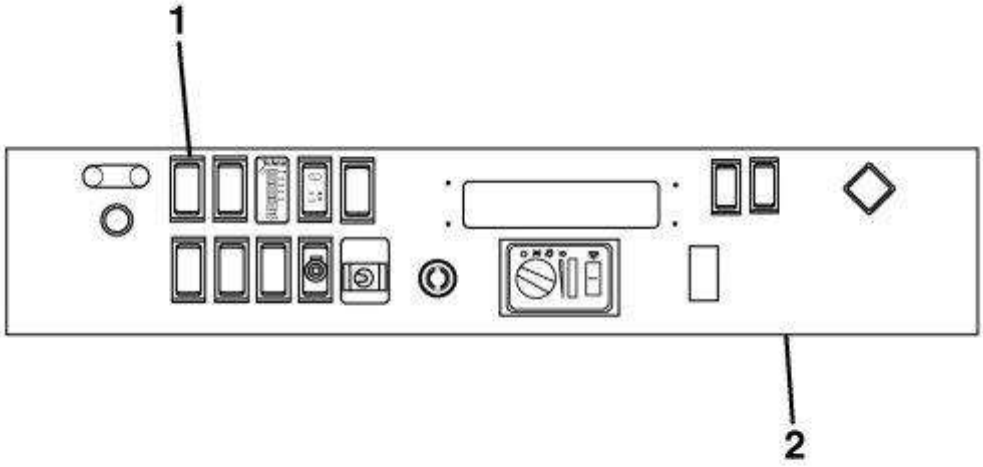
Valid for

All CXU, CHU, GU, TD, MRU, LEU Models with USA 07 Emissions

Case description

All US07 certified MACK vehicles are built with a diesel particulate filter (DPF) which periodically requires the soot accumulation to be oxidized. This oxidation process is known as an active regeneration or simply “regen”. The frequency of these regens depends upon the particular vehicle aftertreatment system and duty cycle. In most cases DPF regens are performed automatically, with no driver involvement. However, there can be situations where an automatic regen will not occur (i.e. light-duty cycles with a catalyzed filter), or when a driver may wish to inhibit a regen to prevent higher than normal exhaust temperatures. To manually initiate or inhibit a DPF regeneration, all US07 compliant MACK vehicles include a DPF control “Smart Switch”. This blue rocker switch is mounted in the dash.

Panel “D” Conventional Models	
	
1. DPF Smart Switch Location	2. Panel D
Panel “E” TerraPro Models	



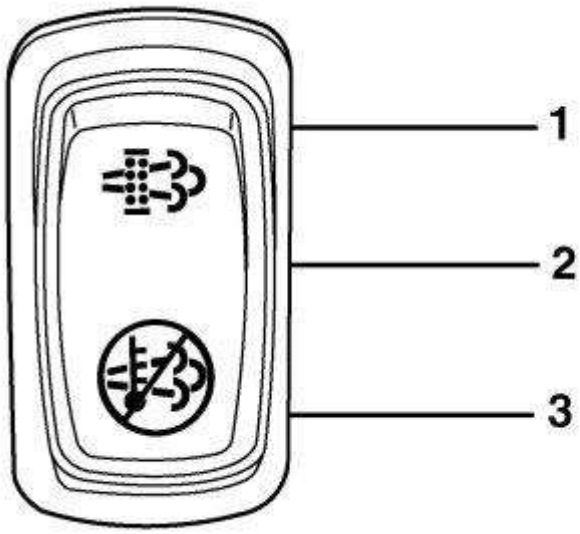
1. DPF Smart Switch Location	2. Panel E

Note: Does not apply to Mack Trucks Australia.

SMART SWITCH

The DPF control “Smart Switch” is fully shrouded to indicate its use is required only if circumstances dictate. In all cases the top portion includes a DPF regen initiate button which illuminates when a DPF regeneration is needed, but cannot be performed automatically. Position in the switch was indicated in the table as 1, 2, and 3. Pressing and releasing the top upper (1) portion of this switch when parked and if illuminated will cause the lamp to go out and initiate a parked DPF regeneration.

DPF control “Smart Switch”



1. Upper Portion — Regen Position	3. Lower Portion — Inhibit Position (If Equipped)
2. Middle Position — Neutral Position	

The lower portion of the DPF switch is used to delay or inhibit a DPF regen. It is available in three options, depending upon vehicle application and specific customer needs:

1. A **“No Inhibit”** switch has a non-functional lower portion and does not allow a DPF regen to be manually inhibited.
2. A **“Temporary Inhibit”** switch, when pressed and released, illuminates the lower portion (3) icon and inhibits automatic DPF regens for 2 hours.
3. A **“Locking Inhibit”** switch lower portion can be latched in to a depressed position, illuminating the lower portion (3) icon and delaying automatic regens indefinitely. In this position, a programmable vehicle speed interlock automatically limits top speed. When an inhibit is no longer needed, the operator must press the upper “initiate” portion of the switch, otherwise DPF filter clogging and servicing will be required.

Detailed description of the three individual DPF regen inhibit switches follows:

1. **“No Inhibit” Switch: Optional on Mack Conventionals, N/A on TerraPro**

   Part No. 1MR4358M3

   Description: “No Inhibit” DPF regeneration switch: Allows the operator to initiate a manual stationary DPF regeneration only. Automatic DPF regens cannot be delayed or inhibited.

   - Upper half: Press and release to initiate a regen if upper portion (1) icon is illuminated.
   - Lower half: Non-functional (cannot press); no icon.

     Availability: Optional on Pinnacle, Titan, Granite (vehicles with catalyzed DPF filters). Not available on TerraPro vehicles (MRU & LEU).

     Application: Recommended for normal highway tractor applications where there are no low speed, high exhaust temperature concerns. This solution provides the least opportunity for driver misuse.

2. **“Temporary Inhibit” Switch: Standard on all Mack Conventionals**

   Part No. 1MR4358M

   Description: “Temporary Inhibit” DPF regeneration switch. Allows the operator to initiate a manual stationary DPF regeneration, or to inhibit automatic DPF regens for 2 hours. When the 2 hour timer expires, the inhibit switch can be depressed again for an additional 2 hours.

   - Upper half: Press and release to initiate a regen if the upper portion (1) icon is illuminated, or to cancel an inhibit.
   - Lower half: Press and release to inhibit automatic regens for 2 hours. Switch icon lower portion (3) illuminates.

     Availability: All models. Standard on Pinnacle, Titan, Granite; optional on TerraPro.

     Application: Generally recommended for applications where high exhaust gas temperatures cannot be tolerated in a specific area or for a specific period of time.

3. **Locking Inhibit Switch: Available on All Models**

   Part No. 1MR4358M2

   Description: “Locking Inhibit” or ”Latching Inhibit” DPF regen switch. Allows the operator to initiate a manual stationary DPF regeneration, or to inhibit regens for an operator defined period of time.

   Note: Inhibiting regens over an extended period may result in an electronic fault, power derate, and/or unscheduled filter servicing.

   Note: Use of the Locking Inhibit function while driving will result in an immediate reduction in vehicle speed. This feature is programmable using VCADS service support software. Current default settings enable this feature, reduce current vehicle speed by 10 mph, and sets a lower limit of 10 mph (i.e. if the vehicle is moving at only 15 mph and the switch is used, the MPH limit cannot go below 10 mph).

   - Upper half: Press and release to initiate a regen if the upper portion (1) icon is illuminated, or to cancel an inhibit.
   - Lower half: Press and latch switch to inhibit automatic regens Switch icon lower portion (3) illuminates.

Availability: All models. Standard on TerraPro (MRU & LEU); optional on Pinnacle, Titan, Granite.

Application: Recommended for applications where DPF regens must be manually controlled by the driver. An example might include restricted or regulated areas.

CO-PILOT MESSAGING

Enhanced Co-Pilot pop-up DPF alert messaging and digital gauges are being introduced at the same time as the previously described DPF switches. Co-Pilot is a non-standard graphic display option available on Pinnacle, Granite and Titan vehicles only. Pop-up alert messages are as follows:

Condition	Message	Driver Acknowledge
When a DPF regen has started	DPF REGEN IN PROGRESS	5 second automatic pop-up expiration
If the driver inhibits DPF regeneration w/ switch	DPF REGEN DRIVER INHIBITED	Press stalk switch ENTER button to acknowledge;
When a regen is first needed (switch on) but hasn't been initiated	MANUAL REGEN ALLOWED When parked, press lower portion (1) switch.	Press stalk switch ENTER button to acknowledge;
When a regen is still needed and the regen icon begins to flash	REGEN REQUIRED Park soon and press lower portion (1) switch.	Press stalk switch ENTER button to acknowledge;
When a regen is desperately needed and the fault lamp activates	MANUAL REGEN REQUIRED Park now and press lower portion (1) switch.	Press stalk switch ENTER button to acknowledge;
When the particulate filter is clogged and requires servicing	DPF SERVICE REQUIRED	Press stalk switch ENTER button to acknowledge;
When DPF regens are no longer driverswitch inhibited	DPF REGEN IN AUTO MODE	5 sec automatic pop-up expiration
When a DPF regen is complete	DPF REGEN COMPLETE	5 sec automatic pop-up expiration
If a after-treatment system fault prevents a regen from occurring	ALERT: DPF SYSTEM FAULT DPF System Service Required	Press stalk switch ENTER button to acknowledge;
If the DPF switch itself is logging a fault	REGEN SWITCH MALFUNCTION	Press stalk switch ENTER button to acknowledge;

DPF soot and ash load status have been added to the Co-Pilot "Digital Gauges" menu (no illustrations available).

On the Co-Pilot stationary Maintenance Menu screen, the "Inhibit Status" screen has been updated and will show the status of all items (switches, pedals, conditions, etc) impacting automatic regenerations. For example, if the clutch is depressed, an automatic stationary regen cannot be initiated.

SPN Inhibited	Menu Item Text
SPN 3703	Inhibit Switch - Inhibited
SPN 3704	Clutch Pedal - Depressed
SPN 3706	PTO - Active
SPN 3707	Accel Pedal - Depressed
SPN 3708	Gear Status - In Gear
SPN 3709	Vehicle Speed - Moving
SPN 3710	Parking Brake - Released
SPN 3712	System Fault - Active

SPN 3714	Temporary System Lockout - Active
SPN 3715	“Service Regen Only” - Active
SPN 3716	Engine Temperature - Not warmed up

Issued by

Technical Service

Mack Trucks, Inc. engages in a continuous program of testing and evaluating to provide the best possible product. Mack Trucks, Inc., however, is not committed to, or liable for updating existing chassis.