Driver's Handbook

Addendum

Addendum, MACK Conventional (Build Date August 2012)

Foreword

This addendum details the updates for the MACK Conventional Operator's Manual, and applies to vehicles built August 2012 and later. Please keep this addendum in the vehicle at all times.

Note: Illustrations in this manual are used for reference only and may differ slightly from the actual vehicle. However, key components addressed in this document are represented as accurately as possible.

MACK Trucks Inc. should be informed immediately if you believe that the vehicle has a defect that could cause a crash, injury or death.

Mack Trucks, Inc.
Greensboro, NC USA

Order number: PV776-22020928

Contents

Safety Information

IMPORTANT: Before driving this vehicle, be certain that you have read and that you fully understand each and every step of the driving and handling information in this manual. Be certain that you fully understand and follow all safety warnings.

IT IS IMPORTANT THAT THE FOLLOWING INFORMATION BE READ, UNDERSTOOD AND ALWAYS FOLLOWED.

The following types of advisories are used throughout this manual:

⚠ DANGER

Danger indicates an unsafe practice that could result in serious personal injury or death. A danger advisory banner is in **white** type on a **black** background with a **black** border.

⚠ CAUTION

Caution indicates an unsafe practice that could result in damage to the product. A caution advisory is in **black** type on a **white** background with a **black** border.

⚠ WARNING

Warning indicates an unsafe practice that could result in personal injury. A warning advisory banner is in **black** type on a **gray** background with a **black** border.

Note: Note indicates a procedure, practice, or condition that must be followed in order for the vehicle or component to function in the manner intended.

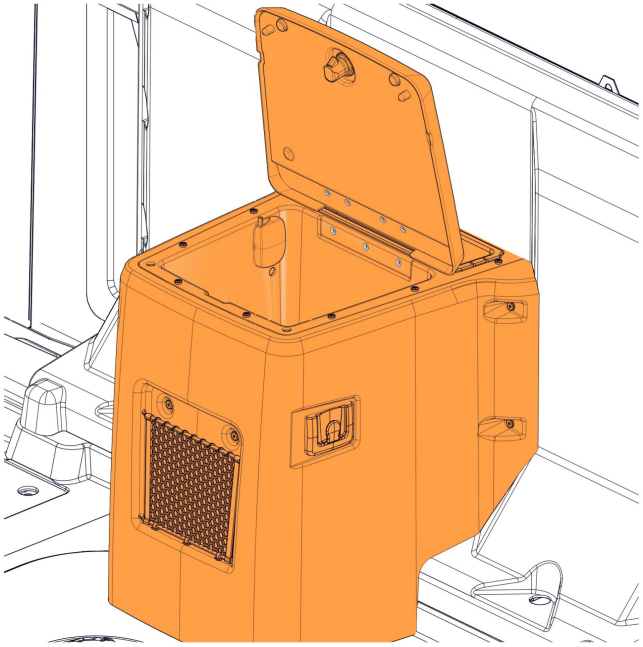
Addendum

Operator's Manual Updates for MACK Conventional (Build Date August 2012)

This addendum details the updates for the MACK Conventional Operator's Manual that applies to vehicles built August 2012 and later. Please keep this addendum in the vehicle at all times.

Center Console (Day Cab Only)

The Center console has several features, a 12 V power supply located at the bottom of the console, a 12 V light inside, map netting on the face, and the hard top that acts as a writing surface with a maximum load capacity of 45 Kg (100 lb) . The console can be removed and replaced with the current rear wall dispatch box.



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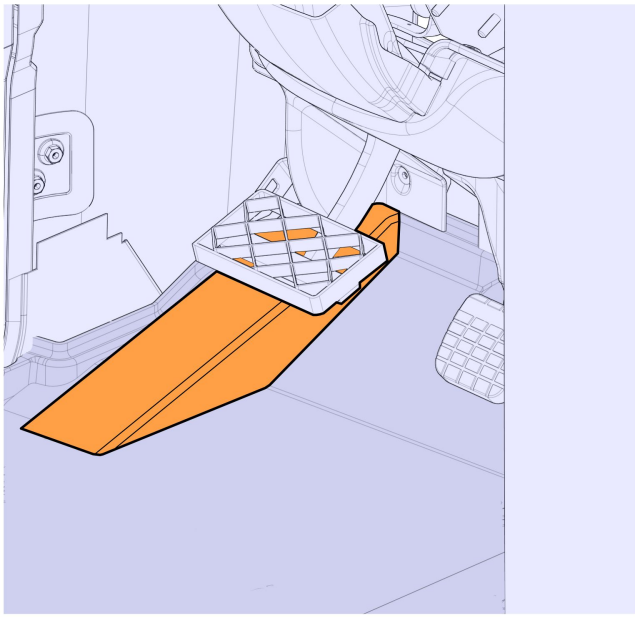
Dead Pedal (Foot Rest)

The dead pedal (foot rest) is located on the left hand side of the floor in the drivers foot well.



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4 Information

Ambient Floor Lighting

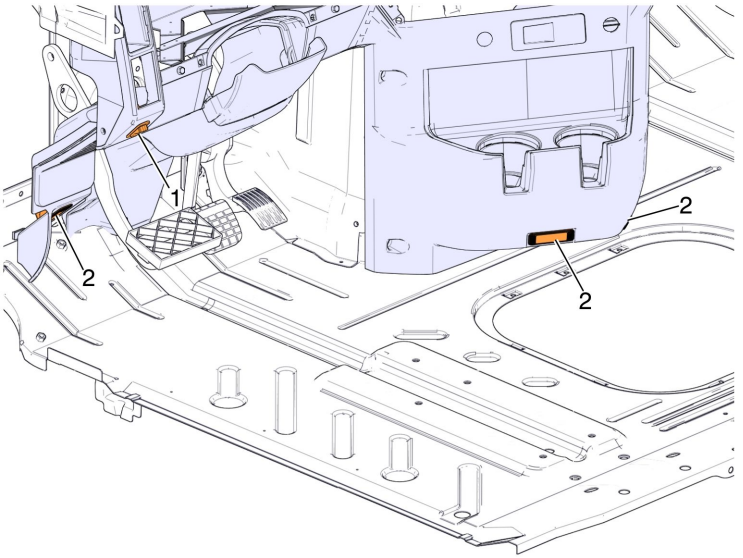
The ambient lighting is in 3 locations, driver foot well, and the center and passenger side of the console. The switch will be located on the lower panel below the main light switch. The switch is a 3 position switch, with the positions listed below:

1st. “OFF” position

2nd. Driver foot well only

3rd. Entire cab floor area

The lighting color for the ambient lighting is soft red to avoid affecting night vision.



W2073628

1 Switch

2 Ambient Lamps

Cab Auxiliary (Sleeper) HVAC Blower Switch

The cab auxiliary (Sleeper) HVAC blower switch is located in panel D of the dash (refer to instrument and controls) in operator's handbook. The switch is in the rocker panel bay above the engine cover. In order for the rear sleeper controls to operate, the cab auxiliary (Sleeper) HVAC blower switch must be turned on at the rocker panel. The function is to interrupt the auxiliary HVAC blower circuit. This allows the sleeper to be pre-warmed or pre-cooled from the cab. So, for example, a driver may preset the sleeper HVAC to activate A/C at medium blower speed. Then he can interrupt the circuit from the driver seat. About 15 min before he wants to pull over to rest, he can activate the sleeper Aux HVAC circuit to pre-cool the sleeper. This switch is standard with all sleepers with aux HVAC (Mack 60" & 70" sleepers). The switch icon is shown below.

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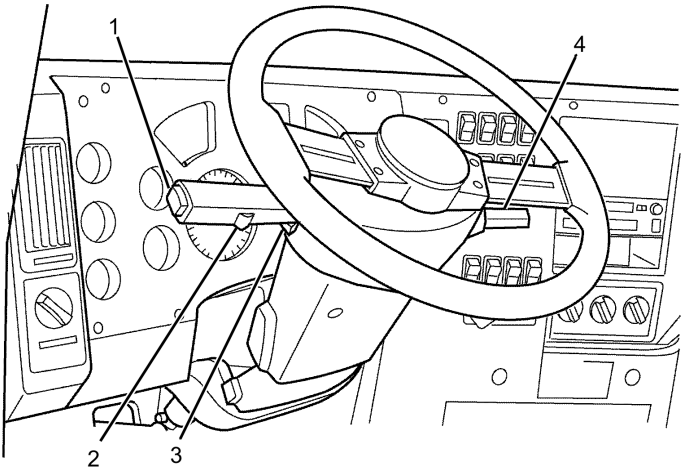
6 Information

Self-Cancelling Turn Signal Lever

The turn signal lever is located on the steering column and is self-cancelling. It performs a number of functions, including switching from high and low beams, turn signal switch and the hazard switch. The turn signal switch can be used for courtesy flashing of marker lights and for the flashing of high beams.



W3075524

1. Clearance Flash	3. Pull for Hazard (Red)
2. Headlamp Flash	4. Cluster Display Control

ON THE ROAD WITH THE MACK POWERLEASH™ ENGINE BRAKE

If you are not familiar with the use and operation of a heavy-duty diesel engine brake, it is essential that you read the following section carefully. It is very important that you take the time to gain experience with your MACK PowerLeash™ Engine Brake in good driving conditions, before using it in difficult or hazardous driving conditions, such as steep descents or slippery roads. Of course, there is no substitute for driver training by a qualified specialist.

The following information is intended as a guideline to safe and appropriate use of the MACK PowerLeash™ Engine Brake. It is difficult to describe every possible driving condition. Certain circumstances may require a more conservative approach than will be described. When encountering any new driving route or situation, err on the side of caution.

MACK POWERLEASH™ ENGINE BRAKE

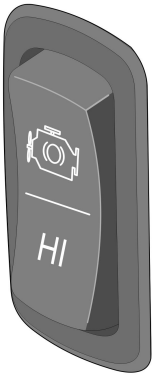
MACK MP7, MP8 and MP10 engines may be equipped with PowerLeash. These engines are identified on the engine information sticker.

If your vehicle is equipped with the MACK PowerLeash™ Engine Brake, it is important that you take the time to become familiar with your engine brake before putting it into operation.

WARNING

Operation of any vehicle on wet or slippery roads requires extreme caution. Because the MACK PowerLeash™ Engine Brake converts the engine to a retarding device, it should NOT be used on wet or slippery roads if the vehicle has a single driving axle or if it has tandem driving axles that are lightly loaded. Use of an engine brake under these conditions can cause the vehicle to skid or a combination vehicle to jackknife.

Engine Brake Switch



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Control Switch

Engine Brake Switch

1 OFF: No engine braking power

2 Medium: Half engine braking power

3 High: Full engine braking power

To operate the vehicle without MACK PowerLeash™ Engine Brake active, leave the dash-mounted switch in the OFF position.

The Mack 3 position (Off-Med-Hi) is used to turn the engine brake function on or off, and to set maximum braking effort (50% or 100%). If the Control Switch is on, the engine brake will activate automatically when the throttle pedal is released and/or at 0%.

⚠ CAUTION

The V-MAC® system prevents engine brake activation if the oil temperature is below 55°C (131°F). The driver should be alert to the fact that the engine brake will not function until sufficient warm-up time has elapsed, regardless of the dash switch setting.

How the Engine Brake is Activated

When the MACK PowerLeash™ Engine Brake is "enabled" (switch in either Medium or HIGH position), your engine V-MAC® electronic control system commands engine brake power (MACK PowerLeash™ Engine Brake "active") only when the following conditions are true:

- The foot-operated engine accelerator pedal is not depressed.
- The clutch pedal is not depressed (manual shift transmissions only).
- The engine speed is at least 900 rpm.
- Vehicle must be in gear.
- Vehicle speed should be greater than 8 km/h (5 mph)

If the MACK PowerLeash™ Engine Brake is active, the engine brake will automatically be deactivated by depressing either the accelerator or the clutch, or if the engine speed drops below 900 rpm. As soon as all of the MACK PowerLeash™ Engine Brake "active" conditions are again true (taking your foot off the accelerator, for example), the MACK PowerLeash™ Engine Brake will again be activated. In order to disable the MACK PowerLeash™ Engine Brake, simply return the dash-mounted control switch to the OFF position.

⚠ DANGER

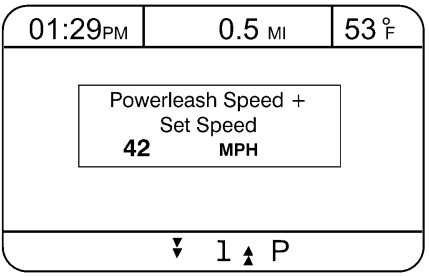
The MACK PowerLeash™ Engine Brake should never be considered a substitute for the vehicle service brakes. The service brakes should always be maintained in good working order, and should always be viewed as the primary vehicle slowing system. Service brakes are always used to bring the vehicle to a complete stop.

Cruise Control with the MACK PowerLeash™ Engine Brake

When the MACK PowerLeash™ Engine Brake is enabled at the same time your V-MAC® cruise control is in use, the MACK PowerLeash™ Engine Brake automatically activates engage and disengage above the cruise control set speed when necessary to slow the vehicle to the cruise set point speed.

If the Set Switch is not depressed, this is the same functionality as today's non-mDRIVE or mDRIVE Auto Mode vehicles, or a 3 mph over default.

Using the SET+ and SET- buttons, the default engagement speed can now be raised or lowered to suit individual driver needs. The range limitation on this parameter is 1 to 10 mph over the cruise control set MPH.



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The MACK PowerLeash™ Engine Brake‘s ability to control maximum vehicle speed is limited to the selected retarding power of the engine brake. If the engine brake dash-mounted control switch is set to the Medium position, only half of the available braking power is used. If the dash-mounted control switch is set to the HIGH position, the cruise control invokes full engine brake power.

Note: When the MACK® PowerLeash+™ Engine Brake is active and the transmission is shifting gears, there will be a momentary interruption of the braking torque. This may result in a temporary increase of vehicle speed if travelling downhill. The operator will experience the same momentary loss of engine braking as is experienced when downshifting a conventional manual transmission.

Note: Deactivating the cruise control function does not disable the MACK PowerLeash™ Engine Brake.

The MACK PowerLeash™ Engine Brake may be activated or deactivated by other vehicle systems such as ABS and Headway control systems. Refer to the literature concerning these systems for additional information.

Note: An exception exists if the vehicle is equipped with a Bendix Active Cruise Control & Collision Warning system. If the vehicle is equipped with these features the Bendix system will assume fueling and braking control when in active cruise control mode regardless of the powerleash control switch setting to maintain following interval.

MACK PowerLeash™ Engine Brake without Cruise Control

This is a simplified 2 switch PowerLeash+ engine brake control. The standard Mack 3 position 'Off-Med-Hi' CONTROL Switch, located to the left, is carried over from non-mDRIVE vehicles and is used to turn the engine brake function on or off, and to set maximum braking effort (50% or 100%).

If the Control Switch is on, the engine brake will activate automatically when the throttle pedal is released and/or at 0%. This then functions identically to the current Mack non-mDRIVE system.

The second (to the right) switch is the SET Switch. The SET Switch is a momentary (press and release) switch with SET+ in the upper portion and SET- in the lower part of the switch. When depressed, the Set Switch sets a target downhill set speed, and braking effort will then vary from 0% to 100% to hold that set speed. Again, no fueling input, no throttle input. If for example the current vehicle speed goes above the set speed, the PowerLeash+ will be full on.

If current vehicle speed goes below the set MPH, the PowerLeash output will be 0%, At the set speed, the braking output will be variable (0-100%). Press SET+ to further raise the target downhill speed, and SET- to lower it, and Co-Pilot will display the current settings.

Note: The set speed is retained in memory even if the throttle is reapplied. It can only be erased by turning the engine brake CONTROL Switch off, cycling the ignition key, or automatically when vehicle speed drops below 30 mph. Once erased, the engine brake will then automatically activate whenever throttle input is 0% (throttle released).

If the Set Switch is not used at all, there is no change in engine brake function vs traditional Mack vehicles. If the Set Switch is used, PowerLeash+ functions like a downhill cruise control, letting the driver set his downhill speed. Typically the driver wants the set speed retained until it is reset or until highway driving ends, hence the 30 mph “off ramp” reset.

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Control Switch

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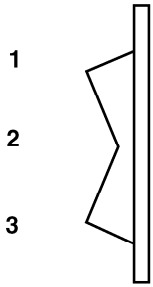
Set Switch

Over Flat Terrain

The **LOW** power position is likely adequate to control vehicle speed in situations where the roadway is relatively flat or has modestly graded rolling hills, and if total vehicle weight is light.



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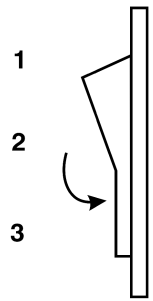
1. Off 2. Low	3. High

As grades and vehicle weight increase, it will be necessary to use the **HIGH** position.



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1. Off 2. Low	3. High

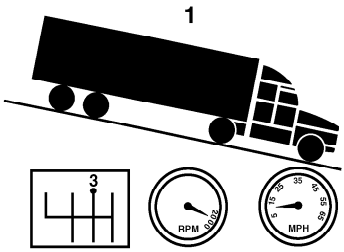
Descending a Grade

DANGER

The MACK PowerLeash™ Engine Brake assists you in establishing faster downhill descent speeds than in a similarly configured and loaded vehicle without an engine brake; nevertheless, even with an engine brake, there are limits to the maximum vehicle speed at which you can travel on downhill grades and still keep your vehicle safely under control. Always approach these situations with caution, and gain the experience necessary for each grade and driving condition to determine the appropriate downhill descent speed.

For a certain vehicle and load condition, a "control speed" may be established for a given descent. The control speed is the vehicle speed at which the retarding forces of air drag, rolling resistance and engine brake power are equally balanced by the natural force of gravity that causes the vehicle to accelerate down the hill, resulting in a steady, controlled vehicle speed. The additional vehicle slowing power offered by the MACK PowerLeash™ Engine Brake allows the driver to descend the hill in a higher gear than normal (at a faster control speed), without overspeeding the engine.

For example, consider that you are descending a grade with a specific vehicle and an assumed total vehicle weight. You will find that without an MACK PowerLeash™ Engine Brake, you must descend this grade in third gear to maintain a steady 10 mph at 2,000 engine rpm, without the need to apply the service brakes.



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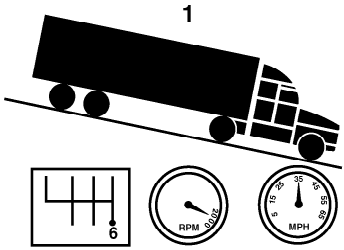
1. Descent Speed without MACK PowerLeash™ Engine Brake

Switch the MACK PowerLeash™ Engine Brake to the HIGH position, and now it is possible to descend the same grade in sixth gear to maintain a steady 35 mph at 2,000 engine rpm.

CAUTION

The maximum allowable engine speed is listed on the warning label on the sun visor. Do NOT exceed 2,300 rpm.



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1. Descent Speed with MACK PowerLeash™ Engine Brake

In any gear selection higher than sixth gear (in this example), it would be necessary to occasionally apply the service brakes to maintain a safe vehicle speed and to avoid overspeeding the engine.

DANGER

As with any vehicle, regular and excessive application of the service brakes during a downhill descent can lead to a brake lining overheat condition, resulting in a very dangerous loss of service brake retarding capability.

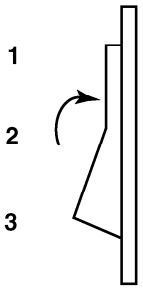
Note: The previous figures apply only to this hypothetical example. Specific vehicle control speeds and engine speeds for a given descent are dependent upon the actual vehicle and engine configurations, the gross weight of the vehicle, and the percent grade of the road.

On Slippery Road Surfaces

As with many aspects of operating a heavy-duty vehicle, special care should be taken when using the MACK PowerLeash™ Engine Brake on slippery road surfaces. The potential for unpredictable loss of vehicle traction is a serious concern; in some situations the engine brake should not be used at all.

As always, approach untested driving conditions with caution. Avoid use of the MACK PowerLeash™ Engine Brake in these situations until you have gained some experience under normal driving conditions.

As a rule, make sure that the vehicle is demonstrating good tractability with the engine brake off before checking for tractability with the engine brake enabled. Then, provided traffic conditions are safe for "testing" tractability, switch the MACK PowerLeash™ Engine Brake to the LOW position. If the vehicle shows any signs of loss of control (ABS activation or vehicle swerving, for example), immediately switch the engine brake back to the **OFF** position.



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1. Off 2. Low	3. High

Only if the vehicle demonstrates good control in the LOW position (again, only in safe driving conditions) should you test in the HIGH position, if desired. Return to the LOW position and proceed with caution if there is any sign of loss vehicle control.

Note: Always monitor vehicle tractability in slippery road conditions, and make adjustments to the MACK PowerLeash™ Engine Brake switch position and vehicle speed as necessary. Always test the LOW power position setting before moving to the HIGH position.

Your MACK PowerLeash™ Engine Brake and ABS control systems are designed to work together for optimized vehicle control. The engine brake function will be interrupted briefly in the event of a wheel lock.

CAUTION

Do not enable the MACK PowerLeash™ Engine Brake during bobtail operations, or when operating on slippery roads with an empty or lightly loaded trailer.

Mack Trucks, Inc.
http://www.macktrucks.com

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