Programming Manual

PH5 POWERHALT
AIR INTAKE EMERGENCY SHUT-OFF VALVE

POWERGUARD
SMART OVERSPEED LIMITER

L6448 • ECN 1-1941

PLEASE NOTE:
Store this document in your vehicle glove box or with your important engine documents for future reference.

800.663.0096 www.powerhalt.com

1 Operation

- When the controller is unprogrammed, both lights will flash alternatingly
- When the engine is not running, neither light will flash on the controller
- When the engine is running, the green light should flash every 5 seconds to indicate the system is active and the engine speed is being monitored
- When the valve is closed, the red light will become lit and remain lit for 30 seconds
- When an emergency condition arises and an engine shutdown is needed, activate the toggle switch and the valve will close
- In an overspeed runaway condition, the PowerGuard controller will automatically close the valve and shut down the engine
- Once 30 seconds elapses, the red light will extinguish and the valve will be safe to reset

⚠ Do NOT activate the toggle switch for more than 5 seconds

2 Maintenance

To ensure a trouble-free long life of your PowerHalt Shut-Off Valve, a scheduled monthly maintenance procedure is mandatory:

- Inspect all fasteners, clamps, and support brackets for tightness and the required torque
- Inspect all wiring / cable runs for corrosion, vibration wear, and loose connections
- Inspect all hoses for cracks, damage, and leaks
- Inspect the PowerGuard controller for damage, dirt, and poor connections
- Confirm the green light flashes every 5 seconds when the engine is running
- Activate the valve to ensure it remains functional and free moving

⚠ Seizing due to lack of use is the #1 failure mode of any shut-off valve in the market. As this is a safety device, activation testing must be employed at a minimum of once per month.

3 PowerGuard Controller Set-Up Procedure (Programmable Kits ONLY)

Set-up is required for emergency shut-off system to function. Controller uses input engine speed and user defined safety margin to program system trip speed.

3.1 For On-Highway Vehicles with Variable Engine Speed

1. Determine desired Trip Speed
   - Pacbrake recommends 30% above Rated Engine RPM
2. With engine running at idle, enter SET Mode:
   - Hold SET & TEST until both lights begin to flash, then press & release SET
3. **GRADUALLY** raise engine speed to Input Speed – **half of desired Trip Speed** – and return to idle
4. Press & release SET 4 times to set Trip Speed to double Input Speed
5. If successful, the red light will blink 4 times. Green light should then flash every 5 seconds.
6. Document Trip Speed for future reference

3.2 For Stationary Engines with Constant Operating Speed

1. With engine running at constant operating speed, enter SET Mode:
   - Hold SET & TEST until both lights begin to flash, then press and release SET
2. Choose a desired Overspeed Margin from below to set your Trip Speed:
   - Press & release SET 1 time – Operating Speed + 10%
   - Press & release SET 2 times – Operating Speed + 20%
   - Press & release SET 3 times – Operating Speed + 30%
3. If successful, red light will blink the same number of times SET was pressed. Green light should then flash every 5 seconds.
4. Document Trip Speed for future reference.

NOTE: Table below demonstrates a simple example of programming your system.

Input Speed	SET Presses	Overspeed Margin		Trip Speed
		Margin	RPM	
1000	1	+ 10%	+ 100	1100
1000	2	+ 20%	+ 200	1200
1000	3	+ 30%	+ 300	1300
1000	4	Double	+ 1000	2000

4 PowerGuard Controller Test Procedure

After following Set-Up Procedure, system must be tested to ensure Trip Speed was programmed correctly. Entering TEST Mode causes system to trip at 'Input Speed' from Set-Up Procedure – raising engine speed to actual 'Trip Speed' is unsafe and unnecessary.

1. With engine running at idle, enter TEST Mode:
   - Hold SET & TEST until both lights begin to flash and then press & release TEST
   - Pre-Set Controllers: Hold TEST for 3 seconds
2. Increase engine speed to 'Input Speed.'
3. Valve will close and red light will illuminate until 0 RPM is detected and 30 seconds elapses
   - Pressing TEST will bypass 30 second timer
4. When red light extinguishes valve will be safe to re-open manually
5. If valve did not close, controller was not successfully programmed. Confirm installation and re-follow Set-Up Procedure.

5 Additional Functions

5.1 Factory Reset

This function clears any existing programming and restores controller to its original factory condition. When performed, both lights will begin to flash alternatingly. To perform Factory Reset:

- Hold SET & TEST until both lights begin to flash and then press & hold SET

5.2 Manual Trip

This function closes PowerHalt valve and causes engine (if running) to shut down. To perform Manual Trip:

- Activate and release toggle switch