

# Shocker PASS<sup>®</sup>

POSITIVE AIR SHUTOFF SYSTEM

## SHOCKER POSITIVE AIR SHUTOFF SYSTEMS Diesel Engines

Protection for All Diesel Engines

### WHY BUY OUR VALVE ?

#### **Our first prototype was a motor driven unit.**

We built test units, and found some troubling problems:

- The electric motors are brush type and generate sparks (open ignition source) when valve is activated. The electric motor is slow to close causing engine to backfire...another open ignition source.

We considered this concept after being approached by some of our clients to build a testable auto reset system that was not susceptible to altitude or temperature.

#### **We found 75% wear on the driven gear in a very short time.**

- The gear drives available have a metal pinion gear and plastic/nylon driven gears. Due to engine harmonics(vibration) the pinion gear wears out the four teeth on the driven gear where they contact each other.
- Once this happens, the butterfly plate will not close all the way, resulting in air leakage and engine will not shut down.
- Carbon contamination from brush wear on the motor contributed to the excessive wear (carbon is an abrasive material) as well as coating the contacts on the lid causing poor conductivity.

#### **WE QUICKLY DISCOUNTED THIS METHOD FOR OUR VALVES!**

Some of the other manufacturers are still pursuing this method and some are even using the OEM throttle body valve and attempting to turn it into a positive air shutoff valve.

#### **This is not what this valve was designed for!**

It is not a positive air shutoff valve and is only to be used at high idle (approximately 1200 rpm) not at full throttle or over speed situations.

**By interrupting the OEM factory harness and re-purposing the factory throttle valve, the OEM has the right to refuse any computer controlled device warranty.**

This valve has the same problems that our prototypes had, compounded by using it as a dual purpose valve!

**AMERICAN DISTRIBUTION CENTER LOCATED IN HASTINGS NEBRASKA**

**Manufactured by:**  
Headwind Solutions  
4331 - 41 Street  
Camrose, Alberta, Canada  
T4V 3V8



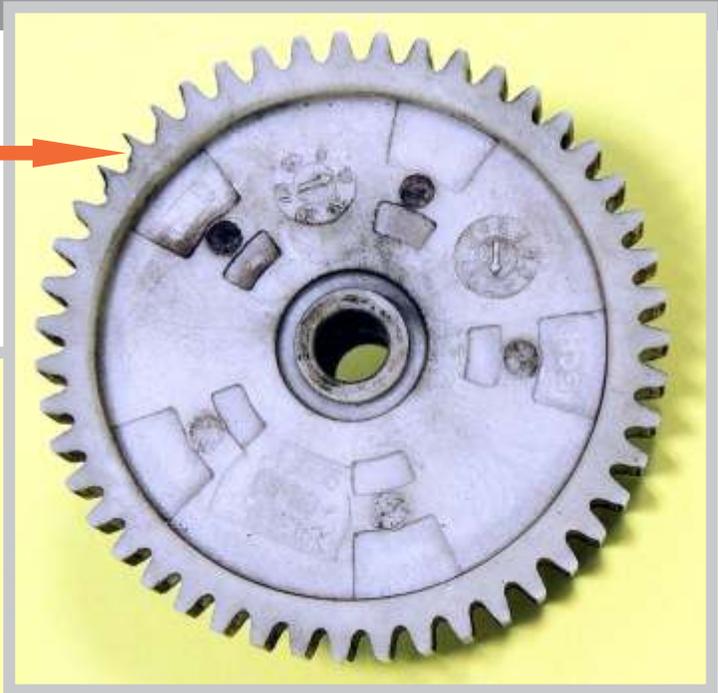
# Headwind Solutions

**www.headwindsolutions.ca**  
sales@headwindsolutions.ca  
Office: 1.780.672.2775  
Toll Free: 1.844.304.7277 (PASS)  
Fax: 1.780.672.6411

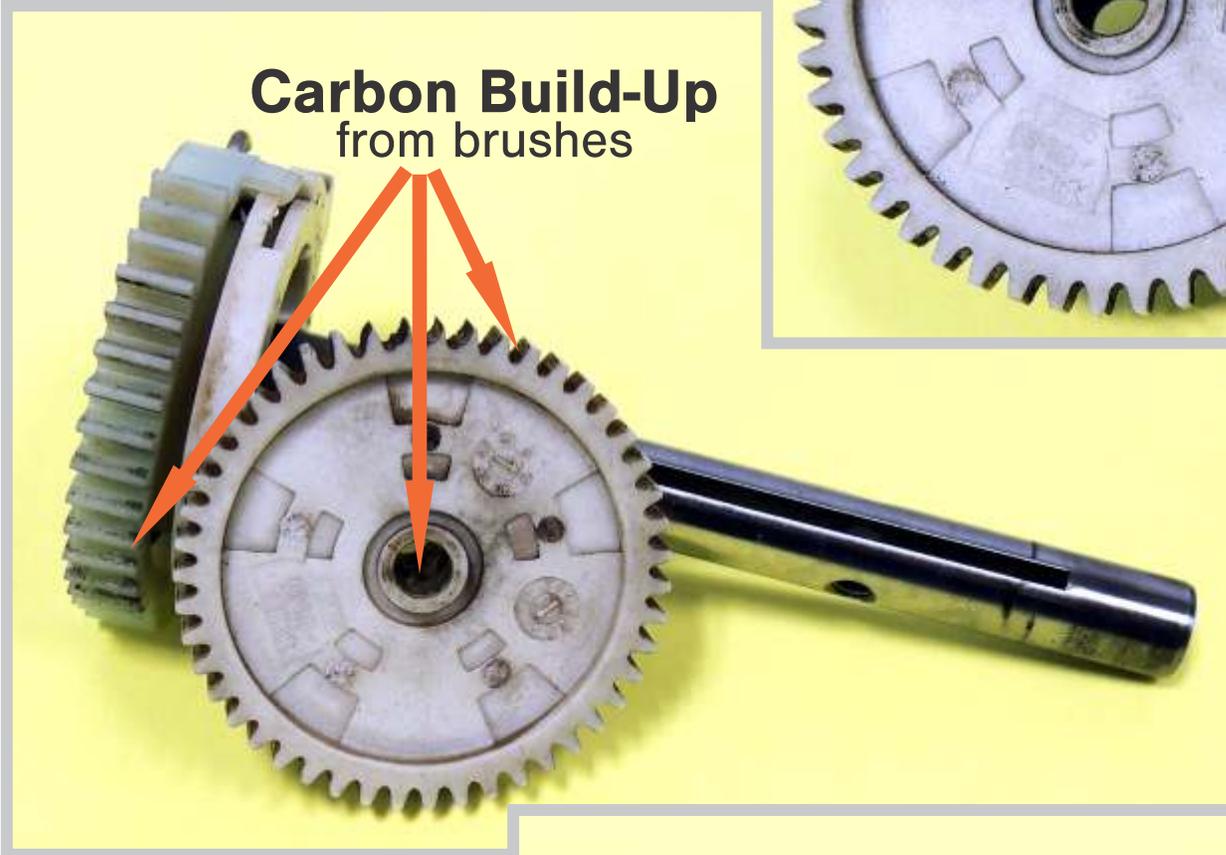
**MADE IN NORTH AMERICA**

**TWO YEAR PARTS WARRANTY**

**Worn Gears**  
Over 75% worn  
from pinion  
contact (vibration).



**Carbon Build-Up**  
from brushes



**Plate**  
**Will Not**  
**Seal**  
due to  
internal wear

