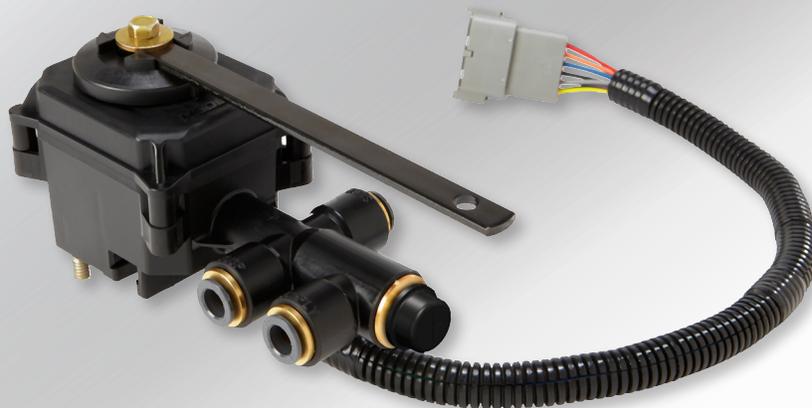


e·lec·tron·ic [ih-lek-tron-ik] **height** [hahyt] **con·trol** [kuh n-trohl] **sys·tem** [sis-tuh m]
noun

1. an embedded **set of devices** to manage, command, direct or regulate the height behavior of other devices.

...until now

INTRODUCING
SmartValve™



HADLEY®

WHAT IS SMARTVALVE?

Until now, electronic height control systems have required several separate components: the valve manifold itself, an external sensor, and the associated electronics. Hadley's SmartValve combines these devices into one simplified, cost-effective and compact solution for you!

Typical Electronic Height Control
Separate Sensor, ECU and Valve Manifold



VS

SmartValve Height Control System
Sensor, Electronics and Valve in one package



The all new SmartValve is based on proven Smart Air Management System (SAMS™) technology used for more than 10 years in rugged specialty vehicle operations. It is extremely versatile, with multiple lever lengths and orientations, along with several valve mounting options. Plus, it's compact; fitting within the same envelope as mechanical height control valves.

Remarkably, the combined benefits of the SmartValve result in

a payback of 6 months or less!

DROP-AND-HOOK MADE FASTER, EASIER, SAFER. THE KEY TO YOUR OPERATIONAL SUCCESS.

SMARTVALVE DOES IT ALL.

Saves Time

SmartValve on the drive axle suspension gets drivers back on the road quickly!

- No need to crank landing gear as often or as far
- Fewer trips out of the cab
- Much less effort required
- Less drop/hook time = more time at home
- Get in. Get out. Road miles = profit

Extensive testing at Bosch Automotive Proving Grounds established that SmartValve enables drivers to perform a variety of coupling operations faster. In high-frequency drop-and-hook, SmartValve **saves each driver a week's worth of time**, every year. That equates to **increased productivity** and **annual savings of \$1,350** for the fleet.

Saves Effort

With a mechanical valve, if your trailer is too high when coupling, you are forced to adjust the landing gear with the weight of the trailer fully resting on the landing gear and suspension. The result is more strenuous cranking and back strain.

With the SmartValve, the driver can couple the tractor and trailer by simply raising the tractor over ride height, thus lifting the trailer and load. This allows for easy final adjustment of the landing gear.

What if the trailer is too low? A driver with SmartValve simply raises the tractor frame over ride height, thus lifting the trailer and reducing the effort needed to crank the gear.



Hours-of-service rules put a premium on drivers' time. Make that time more efficient by installing SmartValve on your tractors.

What Drivers Say

"... had back and shoulder and knee pain before because cranking the trailer up — and even down — is hard on the body. But the SmartValve definitely saves the strain on your body."

"A lot of times during double switches [when one trailer has to be removed from the loading dock before the trailer being carried can be docked] don't even have to leave the cab."

"Sometimes...trailers are parked too close together; with SmartValve I can pull them out 8-10 feet to be able to get to the landing gear instead of waiting around for someone."

Eliminates Injuries

Insurance industry officials agree that raising and lowering landing gear is one of the top sources of injuries in trucking.¹ Significant non-fatal injuries from this operation cost employers on average \$11,880 per incident.²

With the weight of the trailer fully resting on the landing gear and suspension, the effort used in cranking the landing gear can result in injuries to the driver. When SmartValve is installed on the tractor, drivers won't struggle against the weight of the trailer, even fully loaded. SmartValve helps fleets:

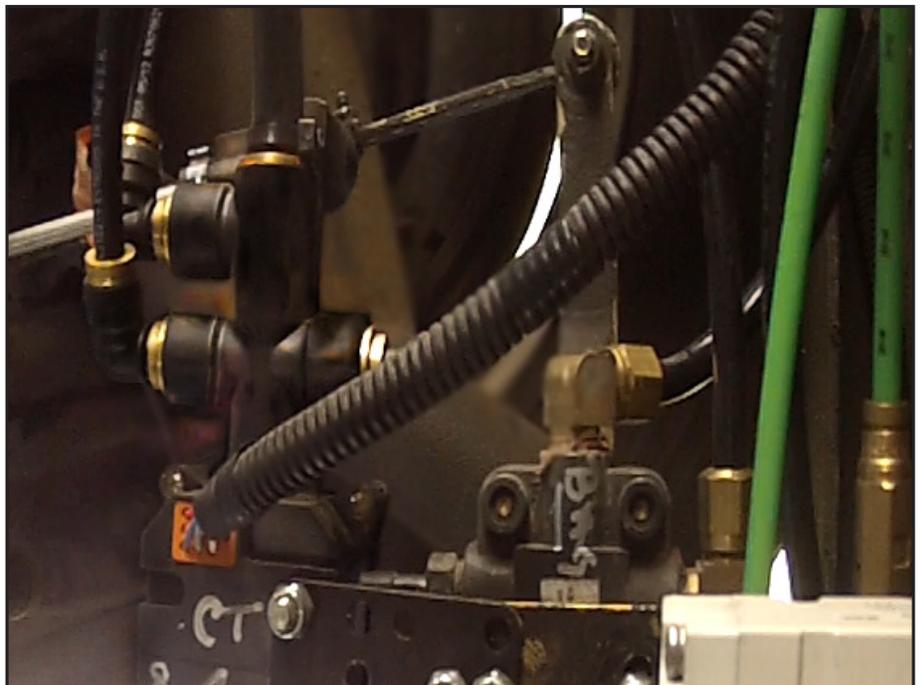
- Reduce back strain
- Operate safer, easier drop/hook
- Eliminate a top source of injuries in trucking
- Reduce workers' compensation premiums



What Drivers Say

“SmartValve easily addresses trailers at many ride heights, removes pressure from landing gear, makes so much easier, and eliminates a safety issue.”

“SmartValve makes the drop and hook process easier. Saves time & saves back and shoulder wear.”



Under-vehicle view of SmartValve during rigorous drop-and-hook and fuel economy testing at the Bosch Automotive Proving Grounds.

¹ The #1 source is climbing in and out of the cab, which is also reduced by SmartValve.

² Estimate based on data from fleets, OSHA, and insurance industry interviews.

Drivers Love It!

Driver shortages and high driver turnover pose major challenges to the trucking industry.. The demand for qualified truck drivers is at an all time high, and one of the industry's leading trade journals has named 2013 "The Year of the Driver". Under these conditions, driver comfort isn't a luxury...it's a necessity.

SmartValve's benefits in saving time and effort, and eliminating injuries, can give your fleet a competitive advantage in recruiting and retaining drivers.

- Less drop-and-hook time = more time at home
- Better working conditions, enhanced comfort/safety
- Easier to recruit. Easier to retain.
- Attracts more diverse applicant pool
- Every 5% reduction in turnover benefits fleet by \$250 annually/driver
- All drivers surveyed enthusiastically prefer SmartValve to mechanical valves!



What Drivers Say

"It works. Best thing...[I've]ever seen."

"Very fast. Loves lifting off pavement, easy cranking."

"Minimizes the times you have to get out of the cab to look at or check the landing gear to see if more adjustment is required."

Reduce Landing Gear Damage

Hooking up to an off-centered trailer often damages the landing gear. The kingpin and trailer have to shift in order to align with the 5th wheel, which causes the landing gear to move with the weight of the trailer bearing down on it. But with SmartValve on the drive axle suspension, **bent landing gear** from coupling is a **thing of the past**.

- Raise function enables landing gear to swing freely when backing up and centering
- Eliminates repairs costing \$870 per set

CAN YOU AFFORD TO WASTE DIESEL FUEL?

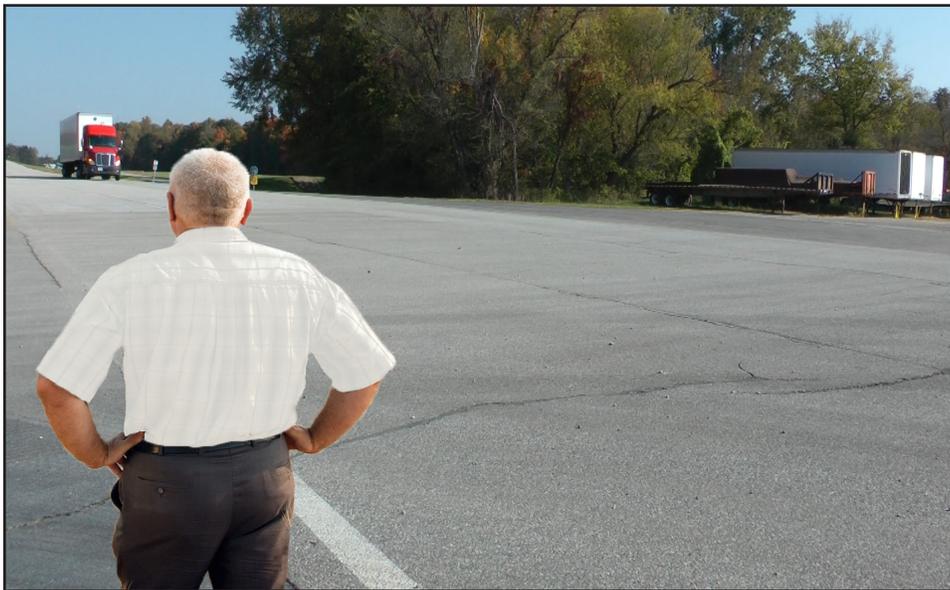
SmartValve can help you improve fuel economy. It provides OEMs with a tool to design more aerodynamic tractors, which automatically lowers vehicle ride heights at highway speeds.

Hadley tested this technology at the Bosch Automotive Proving Grounds. The results show a .70% improvement on the specific tractor model tested at low ride height. With new tractor designs, that could mean savings of \$700 or even more annually for every tractor in your fleet.¹



17,500

gallons of diesel saved every year!²



Fuel Economy Testing of the Hadley SmartValve at Bosch Automotive Proving Grounds

SmartValve also improves fuel economy through greater ride height accuracy:

- Reduces compressor run time
- Avoids unnecessary valve actuations
- Eliminates dead band inaccuracy

¹ \$700 annual savings based on \$100,000 long-haul annual fuel cost (DOE) x .70% (Bosch Automotive Proving Grounds test results with SmartValve on Class 8 tractor and trailer; tractor lowered, trailer at normal ride height).

² Based on 100 tractors in fleet.

Our Promise

You can always feel confident in receiving superior solutions that dependably meet your unique needs at a total system savings.

Be assured of the support from our industry experts who are as focused as you are on getting things done, providing continuous value improvement, and achieving goals important to you and your customer.

YOUR VEHICLE. YOUR COMPANY. YOUR SUCCESS.

HADLEY[®]

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