



Introducing the Uptime Diesel Intake System Tester



intake
system
pressure tester



The Uptime Diesel Intake System Tester (UDIST) was specifically designed for workshops and fleet maintenance technicians to quickly and safely pressure test the air intake system of all charge aircooled Cummins, Caterpillar, Detroit Diesel and Mack diesel engines used within the road transport industry. Unlike some, often 'homemade', existing tooling that workshops use to carry out this work, the UDIST is fast and convenient, as well as safe to use. The UDIST incorporates a pressure relief valve and has been designed for ease of use and flexibility as each unit has functionality for an array of engines.

Tip ster has flanges to suit a number of engines.

Think about your next engine purchase, as well as your existing fleet, to ensure you select the best model for your requirements.

Why pressure test the intake system?

Engine performance and fuel economy are the two critical factors of any truck's operating cost. All the advancements in fuel economy in the past 20 years have come from improvements in the air management systems including turbochargers, charge coolers, manifolds. When gaskets, hoses, clamps, coolers, waste gates and pipes leak, the turbo has to work that much harder to compensate for the loss of air pressure into the engine cylinders. This resultant loss of air pressure affects performance and drivability. To combat this loss, the engine is driven harder which results in an increase in fuel usage. Other problems can also occur such as turbo failure (due to over speed) and cracked exhaust manifolds, turbo housings due to excess heat from the increase in fuel burnt trying to maintain horsepower.

What savings can be achieved?

Because the UDIST is so easy to use, significant savings can be achieved by preventative maintenance systems put in place to avoid potential breakdowns. Even minor leaks within systems will generally generate a 2 to 3 % increase in fuel consumption. This figure is even higher on multi-combination vehicles.

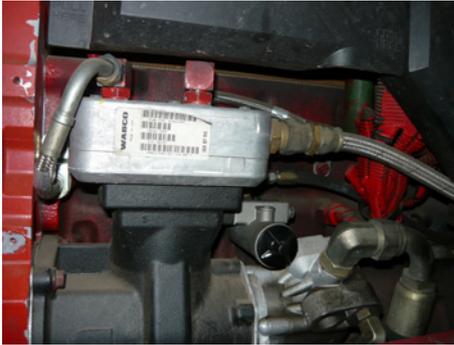
Example

A single trailer truck travelling 100,000 kms at 2.20kpl has a total fuel usage of 45,348 litres. An increase of 2.5% in fuel consumption will increase this figure to 46,511 litres (at 2.15 kpl). That is 1,162 litres of extra fuel used for the same distance!

For a B double truck the increase in fuel usage can be even more dramatic.

The following chart provides a simple quick reference for a variety of fuel usage rates. Note that even a tiny reduction in consumption can result in a saving of hundreds of dollars per month in fuel costs.

Klm per month	klm per litre	Total litres Used	Diesel Price CPL	Diesel Cost	Savings
10000	1.52	6579	\$1.30	\$8,552.00	
10000	1.58	6329	\$1.30	\$8,227.00	\$325
10000	1.62	6173	\$1.30	\$8,024.00	\$528
10000	1.66	6024	\$1.30	\$7,831.00	\$721
10000	1.70	5882	\$1.30	\$7,647.00	\$906



How does it work?

A do's and don'ts list is supplied with each tester. Please read this before operation.

Most of the modern engines use what's commonly called a marmon flange. These come in different sizes depending on the engine make or turbo manufacturer. First, disconnect the V clamp from the marmon flange and separate the turbo outlet from the pipe.

Determine which flange on the tester is the same as the turbo outlet. Open the tap in the centre of the tester FULLY. Now using the V clamp connect the tester to the outlet pipe and tighten securely. Attach the safety chain to something secure like the exhaust manifold. If there is a clamp failure on the pipe or at the charge cooler end the Pipe / Tester cannot become a missile. Now connect the regulator onto the tester and connect workshop air pressure. Set the regulator to zero (There should be NO air supply into the system). Open the tap on the regulator. Slowly adjust the regulator To approximately 10 psi with a couple of turns. Allow the system to absorb the air supply and if there are no major leaks it will create back pressure.

Any major leaks will be heard or felt at this low pressure. If any are found, identify what they are, and close the air supply tap and repair or replace the leaking parts. Once completed turn the air supply on again. Slowly increase to 15 then 20 psi. Spray soapy water on all hoses / clamps / pipes and charge cooler. Foam bubbles will appear where there are leakages. Listen for high pitched noises that can often be heard from smaller leaks. Again release the air pressure from the system and repair or replace parts. Repeat the previous test and increase to approximately 30 psi. This is just a final security test. By this point there should be NO leaks in the system. Turn off the air supply and drain the air pressure from the system before removing the tester from the pipe. Re-attach the pipe onto the turbo outlet and tighten the V clamp. On engines without the marmon flange the hose is disconnected off the turbo outlet pipe directly and clamped around the matching sized knurled surface of the tester. When refitting this hose we suggest double clamping, if possible. This is due to possible clamp failure once the truck is returned to service, as the clamp has been re-stressed when tightened.

pressure tester

UDIST - 1

ENGINE MODELS

CAT

C12
3406 B / C / E
C15
ACERT

CUMMINS

N14
SIGNATURE

DETROIT S60

ALL DDEC 2
DDEC 3
DDEC 4

UDIST - 2

ENGINE MODELS

CAT

C12

CUMMINS
N14
SIGNATURE
ISX
ISM
ISC
ISB
M11
L10

DETROIT S60

LATE DDEC 2
DDEC 3
DDEC 4
DDEC 6

MACK

MP8

ANY ENGINE FITTED WITH THE HOLSET
VARIABLE GEOMETRY TURBO

UDIST - 3

ENGINE MODELS

CAT

C12
3406 B / C / E
C15
ACERT

DETROIT S60

ALLDDEC 2
DDEC 3
DDEC 4
DDEC 6

CUMMINS

N14
SIGNATURE
ISX
ISM
ISC
ISB
M11
L10

MACK

MP8

ANY ENGINE FITTED WITH THE
HOLSET VARIABLE GEOMETRY
TURBO

UDIST - 4

ENGINE MODELS

CAT

C12
3406 B / C / E
C15
ACERT

DETROIT S60

ALL DDEC 3
DDEC 3
DDEC 4
DDEC 6

CUMMINS

N14
SIGNATURE
ISX
ISM
ISC
ISB
M11
L10

MACK

MP8
CCRS
VMAC
ETECH

ANY ENGINE FITTED WITH THE
HOLSET VARIABLE GEOMETRY
TURBO