The transport magazine for players in mining, quarrying & construction

TRANSPORT FREIGHT LOGISTICS

FEBRUARY 2008

Ram hood from Donaldson Filtration improves engine air intakes

MAN trucks & buses for Africa

capital equipment news

Published monthly with Capital Equipment News

Donaldson's total air intake system

Donaldson's Intake Systems enhance performance and reduces fuel consumption while minimising the amount of service parts on transport vehicles.

Donaldson's Intake Systems Technology features a total systems approach to engine air intake design. The advantages of the approach include improved filtration, simplified design, and the benefit of fewer service parts for transport vehicle owners.

Donaldson sales director Rob Simpson explains: "Donaldson's technology addresses the engine air intake system as a whole, including intake plenum, dirty air ducting, air cleaner, intake accessories, clean air ducting to the turbo-charger, as well as extras such as pre-cleaners and moisture eliminators."

Intake accessories

"They may be called accessories, but these add-ons are more than just for show - most are designed to solve specific problems such as moisture ingestion, leaves or debris clogging the air inlet, air intake noise and water problems, and so on," explains Simpson.

Mounting bands, filter service indicators, inlet hoods, stack pipes, pre-cleaners, rubber sleeves and connectors, replacement dust cups – a wide variety of performance-enhancing accessories are available for the intake system, finished in durable chrome, black rust-resistant paint, or black polymer.

Intake system piping & attachments

Piping features and attachments for the intake system comprise mounting bands, clamps, straight pipe, rubber elbows and reducers, rubber humps hoses and reducers, as well as charge air connectors.

TYPICAL SYSTEM LAYOUT: The ram hood is located at the top, with the rubber bellow vertically below it. The moisture skimmer is located in the centre to the left of the filter assembly, which includes hoses, clamps and an indicator. To the left of the moisture skimmer is the vacuator valve.

The ram hood showed correctly installed, facing forward. Clearance of at least 250 mm above the cab is required.

Problem solvers

The following problem-solving equipment can be used to pre-clean or protect the air inlet from debris:

- The air ram;
- The in-line separator;
- Inlet hoods;
- Donaspin™ pre-cleaners; and
- The full-view pre-cleaner.

And for air intake water problems, these are also available to solve the problem:

- The air ram;
- The in-line moisture skimmer; and
- The in-line separator.

Consider the ram hood

Donaldson's Air Ram inlet™ hood is suitable primarily for on-highway use. According to Simpson, as vehicles travel faster, the air is forced into the ram hood which lowers restriction in the system. When travelling at cruising speed on-highway, the air being forced into the engine ultimately results in the saving of fuel.

Simpson says: "The Ram Hood™ eliminates as much as 90 % of water from the air intake system and improves intake system airflow and fuel economy by reducing restriction as you travel."

The hood must be installed with the screen facing forward to ensure best performance. As the vehicle's speed increases, air is forced into the ram hood – assisting air flow to the engine whilst the design expels water and large debris. Note: separation and performance is severely affected when the unit is positioned facing backwards.

The hood is easily installed by means of clamps onto the back pipe and can accommodate 50 - 250 mm air intake pipe sizes.

For more details, go to;
www.donaldson.com
or phone (011) 997 6000.

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How the air ram works

As moisture (rain)-filled air is forced into the ram hood, air is naturally forced against the rear wall. Moisture is then forced onto the outer wall and separated from the air. Moisture collects on the air ram wall and drains out of the rear aperture. Virtually moisture-free air passes into the air cleaner.