

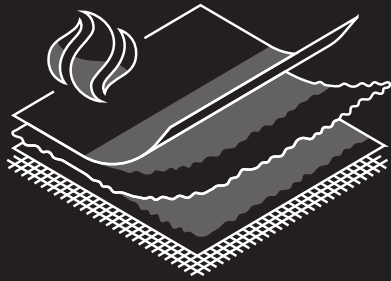


Welcome to Mammoth Equipment

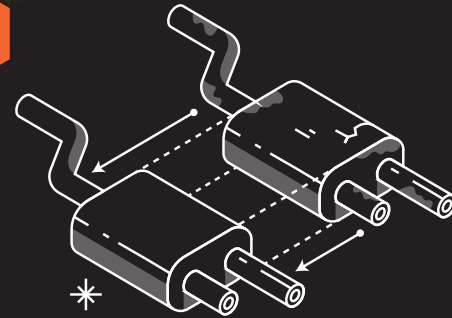
Innovative solutions for mobile mining

Presented by
Pito Mining

Our solutions engineered for you



**Thermal
blankets**



**Exhaust
Systems**



Thermal blankets

Reduce heat, stop fires

- Machine-specific fit
- Fluid resistant
- No exposed fiberglass
- Superior Design
- Superior Materials
- Innovative Features



CASE STUDY



CATERPILLAR 777F HAUL TRUCK

One of our customers had a fire on their 777F haul truck because of a hydraulic line burst open and sprayed all over the exhaust which had no thermal blankets protecting it. They were able to save the truck but the fire damaged a large part of the harnesses and wires in the engine bay costing downtime and a \$50,000 repair.



Solution

Our customer has now ordered 3 sets of thermal blankets to cover their 777F haul truck exhaust.

We recommend installing exhaust blankets to prevent equipment downtime and protect your employees.



After - Blankets installed on 777F

ENGINE BAY BLANKET CASE STUDY

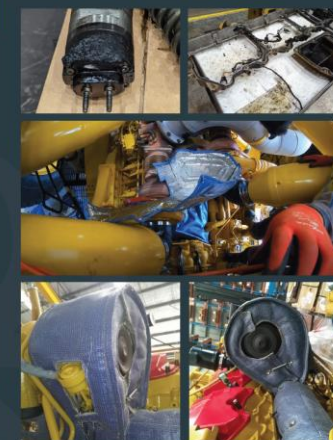


Engine bays can get extremely hot especially when heavy equipment is running hard and long hours. The season can play a part in this as well, if it is summer, the ambient temperatures will add to the already hot engine bay.

We have heard and seen that our customers run into issues with wiring harnesses and hoses melting when the engine bay gets too hot. This can also cause hose failure and increase the risk of combustible fluids spraying on hot exhaust components which is potential fire hazard.

Solution

Mammoth Equipment provides a range of thermal exhaust blankets to cover the turbo and manifolds on your engine. Covering the turbo and manifold (which are the hottest parts of the engine) with blankets will capture the heat and prevent it from spreading out into the engine bay. This will reduce the temperature of hot exhaust components below the flashpoint of oil / hydraulic fluid and mitigate the risk of the fire suppression system being discharged and a thermal incident happening.



CASE STUDY

CUMMINS QSK60

CUMMINS QSK60 (HPI Engine)

Working with OEM's to complete thermography testing of controlled dyno loaded Engines.

OEM Engine Specification

Cummins QSK60 HPI Engine.

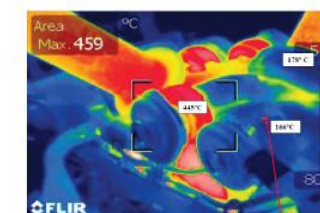
Dyno Parameters

Engine run to rated hp and torque @ 1800rpm / 2500Hp. Dyno Temp 56°C / Fuel Temperature 17°C.

Observations

OEM exhaust sensors indicated Left Bank (Unlagged) internal exhaust temperature of 449°C, Right Bank (Lagged) recording 456°C (7°C temperature differential).

Mammoth Pyrogard product significant reduction in surface temperature, maximum value of 178°C (Thermal reduction of 262°C).



OEM Cummins QSK60 (HPI Engine)

(Rated operating temperature)

Engine Component	Unlagged	Lagged
	Temperature (°C)	Temperature (°C)
Turbo Inlet	445	166
Muffler Inlet	440	178





Thermal blankets

- CAT 785 C
- EH 3500 AC 2
- EH 4000 AC 3
- EX 5600

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RT No:	204261	DESCRIPTION	HITACHI EH4000AC-3 (16V4000) TRUCK - INSULATION PARTS SCHEDULE	Serial No:	16V4000
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SUP NO	PART NO	DESCRIPTION	QTY
03080	-	ENGINE GARD GROUP	-
03085	-	EXHAUST PIPE LHS GARD GROUP	-
	203858	FLANGE GARD	1
	203859	EXHAUST PIPE GARD	1
	203860	EXHAUST PIPE GARD	1
	203861	EXHAUST PIPE GARD	1
	203862	EXHAUST PIPE GARD	1
	203863	EXHAUST PIPE GARD	1
	203864	EXHAUST PIPE GARD	1
	203865	EXHAUST PIPE GARD	1
	235176	EXHAUST PIPE GARD	1
	236279	FLANGE GARD	2
	236230	FLANGE GARD	1
03086	-	EXHAUST PIPE RHS GARD GROUP	-
	203878	FLANGE GARD	1
	203884	EXHAUST PIPE GARD	1
	203886	EXHAUST PIPE GARD	1
	203888	EXHAUST PIPE GARD	1
	203889	EXHAUST PIPE GARD	1
	235177	EXHAUST PIPE GARD	1
	235178	EXHAUST PIPE GARD	1
	235179	EXHAUST PIPE GARD	1
	235120	EXHAUST PIPE GARD	1
	235121	EXHAUST PIPE GARD	1
	236279	FLANGE GARD	2
	236230	FLANGE GARD	1
03087	-	MUFFLER GARD GROUP	-
	203870	MUFFLER GARD	1
	203871	MUFFLER GARD	1
	203872	MUFFLER GARD	1
	203873	MUFFLER GARD	1
	203874	MUFFLER GARD	1
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	203876	MUFFLER GARD	1
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	203879	MUFFLER GARD	1

*****SEE RIB LIST		REVISIONS		DATE	BY	REASON	DATE	BY	REASON	DATE	BY	REASON
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INSULATION PARTS
EXHAUST 780608
210182

HTACHI
EH3500AC-2

OSKTTA50



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Replacement Exhaust

Reduce machine downtime

- Upgraded OEM parts
- High-quality materials
- Factory direct price



CASE STUDY

793F FLEX BELLOWS

CATERPILLAR 793F

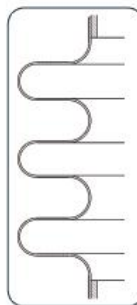
The Brief: Customer looking to increase service life of standard 793F Flex Bellows.

Standard Flex Bellows = Strip Wound Flex with insulation and rubber external easily fatigued and worn.

Mammoth Flex Bellows = heavy duty multi-ply stainless steel specifically designed for maximum life and ease of fitment in mining applications.

Mammoth Flex Bellows

- Made from corrosion resistant heavy duty multi-ply stainless steel
- Innovative U-shaped convolutions which offer greater flexibility to withstand axial, lateral and angular forces.
- Proven to increase service life by 300-400%



Improved Flex Bellows have been tested and proven on 793F haul trucks across mine sites globally

- More durable
- Easy to install
- Cost effective

Our site has completely switched over to using the Mammoth 793F flex bellows, installed them 3 years ago – no issues.

Chris
Maintenance Supervisor, North America

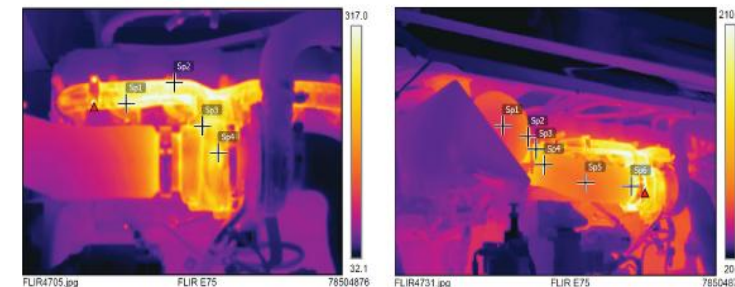



CASE STUDY

M322D CERAMIC COATING VS DUAL SKIN

CATERPILLAR M322D

Customer sought to compare the existing solution (ceramic coating) against Mammoth's dual skinned exhaust in lieu of reducing the touch surface temperature to below the flashpoint of hydraulic oil (204°C)

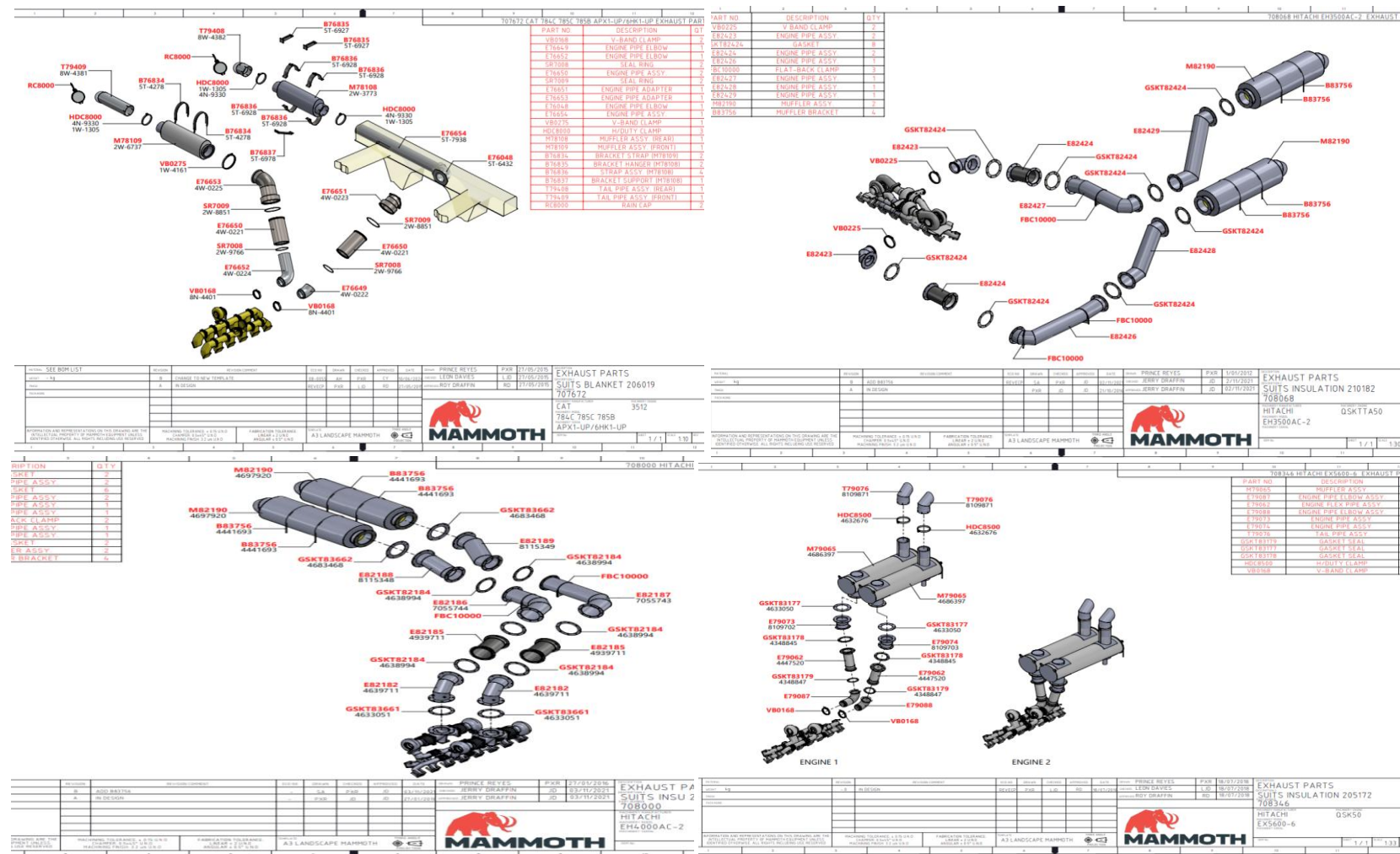


Make	Model	Type	Components
CAT	M322D	Rock Breaker Excavator	Turbo / Manifold Tubes
Product Type / Control	Ceramic Coated	Dual Skinned System	% Reduction
Temperature	339.8°C	189.7°C	44%



Replacement Exhaust

- CAT 785 C
- EH 3500 AC 2
- EH 4000 AC 3
- EX 5600





Air Intake

Direct fit Air Intake solutions

- Airboxes, pre cleaners & pipework
- Quality made parts
- Custom upgrades
- Improved product lifetime
- Polyurethane & Stainless-Steel options

CASE STUDY

AIR CLEANERS

CORROSION RESISTANT - LONGER LASTING AIR CLEANERS

A high salinity mine site (20x above standard levels) chose Mammoth Air Cleaners with galvanised steel and PU coating to increase their service life from 4,000 to 14,000 hours. Mammoth Air Cleaners are proven to last 10,000 hours longer than standard.

Key Features

- Mammoth air cleaners are made from galvanized steel (over against standard mild steel)
- Mammoth air cleaners are highly resistant to sun, wind and precipitation
- High gloss finish improves self cleaning – dirt and dust washes off during rain or water blasting
- Prevents corrosion from moisture and dust ingress
- Can be internally and externally PU coated for further corrosion resistance
- Widely supplied to mine sites globally and OEM dealers

Standard Air Cleaner

Mammoth Air Cleaner

Standard Air Cleaner

Mammoth Air Cleaner

CASE STUDY

789 C-D AIR BOX UPGRADE

CATERPILLAR 789C

CAT 789C Series truck uses a smaller air box than the newer 789Ds. Mammoth developed an air box upgrade solution to utilise the larger 789D size air boxes with the 789C trucks. Extending service and replacement intervals.

789C Air Box Specifications

Upper Housing Volume	0.12287	m3
Pre-Cleaner Section Volume	0.10044	m3
Primary / Secondary (Safety) Filter Volume	0.00021	m3

789D Air Box Specifications

Upper Housing Volume	0.17982	m3	46.3%
Pre-Cleaner Section Volume	0.13258	m3	32%
Primary / Secondary (Safety) Filter Volume	0.000238	m3	14%

Supporting your success

Common Hurdles



Unexpected
part failure



Lengthy
lead times



Complex
installations



Expensive
OEM parts



Regulatory
fines



OEM
monopoly

Mammoth Solution

Reduce Machine Downtime



Superior quality
& design



Inventory
stocked locally



Direct-fit
to OEM



Factory direct
savings



Reliable safety
products



Vendor
diversity



Providing factory direct savings straight to you

Standard industry model



Mammoth Business Model





Supporting you every step of the way



On-site audit & assessment

Comprehensive pre &
post-sale reports



Sureship program

Guaranteed inventory
when you need it



Field technician team

On-site to ensure your
needs are met



Next steps & milestones to success

Phase 1

Understanding
your needs

- **Mammoth introduction**
- Provide fleet information to Mammoth

Phase 2

Tailoring the
right solution

- Presenting areas of opportunity
- Formal project proposal & quote

Phase 3

Delivering
results

- Purchase order
- Approve vendor application (as needed)
- Delivery, install & confirm fitment

Phase 4

Ongoing
success

- 90-Day quality review
- Further implementations



Let's get started!

