



## Fine Tuning on Major Projects

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Working closely with vendor representatives, we received, sorted, routed disassembled, and assembled thousands of pieces of new and relocated equipment. Lab equipment was relocated and set up, requiring gantries, heavy duty forklifts, chain falls and come alongs. Baker crews were entrusted with disconnecting and reconnecting electrical, compressed air, control panels, hydraulics, specialty gases, and sensitive lab equipment, to name a few. Owners further expanded our role by putting R. Baker & Son in charge of other trades, and we even got involved in moving and setting small equipment and furniture so that the new facility was one hundred percent up and running on moving day.

Part of the R. Baker & Son culture is to take pride in everything we do, down to the smallest detail, and we strive to always go above and beyond. Customers recognize this exceptional care, which is why we are entrusted with such a diverse scope of work on every project.

## Heavy Equipment Goes Green

*By: Art Sferlazzo*

**Heavy construction machinery has long had a reputation for guzzling diesel fuel and belching black smoke into the air.**

Now, as the federal government tightens restrictions and consumers demand more eco-friendly equipment, manufacturers have been steadily rolling out machinery with improved engines and reduced-emissions systems.

The EPA enacted a four-tiered emissions standard for nonroad vehicles in 1996 as part of the Clean Air Act. As regulations phased through Tier 3 in 2008, particulate matter (PM) emissions were reduced by 65% and nitrogen oxide (NOx) was reduced by 60%. Tier 4 Interim took effect in 2011, mandating a further 90% reduction in PM and a 50% decrease in NOx. Tier 4 Final, which will be fully implemented by 2015, requires an addition 80% reduction in NOx, putting PM and NOx emissions at near-zero levels.

With the clock ticking down to the 2015 emissions deadline and new and retrofitted Tier 4 Interim equipment in use, a number of manufacturers have begun introducing Tier 4 Final-compliant construction vehicles and cranes to the market. Caterpillar and Komatsu have made advances on the cutting edge of hybrid technology with the release of their Tier 4 Interim-compliant hybrid excavators. The hybrids use 25% less fuel than their non-hybrid counterparts, and Komatsu estimates that their hybrid excavator releases 16.8 fewer tons of CO<sub>2</sub> per year, the equivalent of 407 tanker trucks. Though hybrids cost about 20% more than standard equipment, there are no performance drawbacks, and manufacturers claim that the equipment will pay for itself within one to two years.

As more stringent emissions regulations are phased in, incentives are offered, and ordinances for greener construction sites are passed, consumer demand for cleaner equipment continues to grow. R. Baker & Son is firmly committed to doing our part to reduce our carbon footprint and ensuring a greener future. Please contact us to find out more.



**RESPIRATORS** Demolition work can often generate dust that may contain hazardous substances. Some of these contaminants can cause significant health problems, or even deadly diseases, if inhaled or ingested, so workers must use personal protective equipment that includes the appropriate respirator.

Strict procedures must first be followed before demolition work can commence to properly contain dust and prevent contaminants from becoming airborne. At minimum, this can include filtration, ventilation, and water misting to suppress dust. In combination with respirators and other appropriate PPE, these measures will help protect workers and reduce their exposure to lowest possible levels.

Selection of the appropriate NIOSH-approved respirator depends on the contaminants and the protection factor (PF) required. Workers should conduct a seal check each time a respirator is worn. OSHA has outlined the various types of respirators and the conditions for which they should be used:

**Approved filtering facepieces or dust masks** (not to be confused with single-strap dust masks, which should never be used in construction and demolition) can be used for dust, mists, welding fumes, etc. They do not provide protection from gases or vapors. **DO NOT USE FOR ASBESTOS OR LEAD**; instead, select from the respirators below.

**Half-face respirators** can be used for protection against most vapors, acid gases, dust or welding fumes. Cartridges/filters must match contaminant(s) and be changed periodically.

**Full-face respirators** are more protective than half-face respirators. They can also be used for protection against most vapors, acid gases, dust or welding fumes. The face-shield protects face and eyes from irritants and contaminants. Cartridges/filters must match contaminant(s) and be changed periodically.

**Loose-fitting powered-air-purifying respirators (PAPR)** offer breathing comfort from a battery-powered fan which pulls air through filters and circulates air throughout helmet/hood. They can be worn by most workers who have beards. Cartridges/filters must match contaminant(s) and be changed periodically.

**A Self-Contained Breathing Apparatus (SCBA)** is used for entry and escape from atmospheres that are considered immediately dangerous to life and health (IDLH) or oxygen deficient. They use their own air tank.

## A Scary Surprise... Scorpions!



**Back in September, workers at a New Jersey jobsite where R. Baker & Son was performing rigging work received a scary surprise.** While uncrating electronic equipment shipped from Mexico, they came across a scorpion and her young (called scorplings, in case you were wondering) lurking inside. Fortunately, the workers recovered quickly from their initial shock and safely captured the stowaways, which were then turned over to a Dept. of Agriculture representative.

Other small creatures commonly found dwelling on construction sites (sometimes scaring even the bravest and brawniest of construction workers to great comic effect) include bees, raccoons, snakes, rats, mice, birds, cockroaches, termites, opossums, and more. No matter how small and seemingly harmless they be, all have been known to disrupt even the largest of projects.