

The ball-style hone goes to sea

Servicing the big bore diesel engines on hard-working container ships requires fast response as well as the right training, skills and tools. For American Diesel, one of those tools is the portable but mighty ball-style hone.

Often within minutes of American Diesel getting a call for service, the company's mechanics are on the move from the firm's New Orleans shop or from any number of locations in the field. "We're in the standby mode all the time because our customers, typically container ship owners, need fast service," explains Al Guevera, American Diesel general manager.

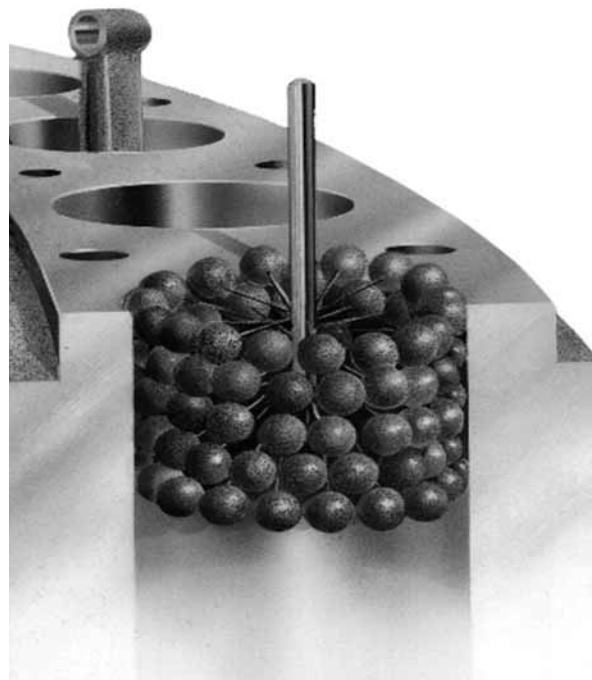
The oceangoing engines that American Diesel services include most of the international big bore models ranging from 980 mm to 480 mm but nothing smaller than 160 mm. These include engines from Wärtsilä-Sulzer, Mitsubishi, Yanmar, Daihatsu, Man B&W and MaK.

When doing overhauls or repairs that involve cylinders, it is predictable that cylinder liners will have to be deglazed and crosshatched. For those jobs Guevera uses a compact, portable and highly efficient tool, the ball-style hone. Widely known by the brand name Flex-Hone, the ball-style hone is a highly specialized abrasive tool featuring small, abrasive globules that are permanently mounted to flexible filaments. The product is a flexible, low-cost tool that is a favorite among mechanics and metal workers due to its deglazing, de-burring, edge blending and crosshatching capabilities.

"The ball hone is available in a range of radius sizes, including the larger ones needed to service cylinders of up to 980 mm," Guevera explains. "It's highly portable and easy to use," he adds. "All you have to do is take spring-loaded compensators, hang it up over the engine and put a good size drill motor on it. Then you attach the ball-style hone and simply move it up and down."

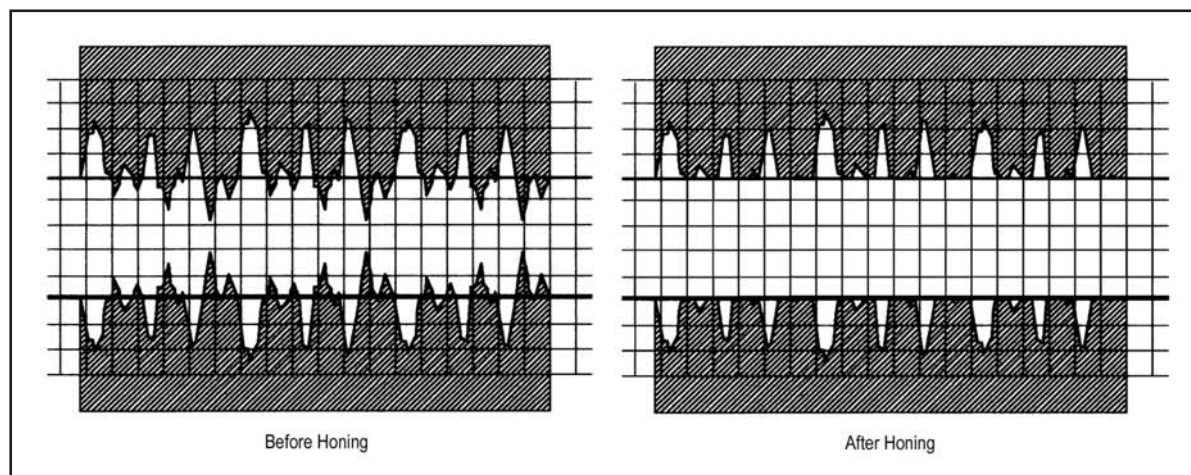
Guevera says the ball-style hone is a highly efficient and inexpensive alternative to air-operated equipment that hones with the stones, where you must line up the machine with the studs on the engine block. Not only does the ball hone set up much more quickly, but just a few passes up and down inside a cylinder liner accomplishes thorough deglazing as well as crosshatching. The Flex-Hone's independently-suspended, abrasive globules both self-center and self-align to the bore as well as compensate for wear, all of which facilitate close-tolerance finishing work.

Another important capability of the ball-style hone is its plateau finishing capabilities, a process by which cylinder walls are subjected to a bore finishing procedure that increases the life of both the cylinders and the piston rings. The purpose of plateauing is to remove loose, cut, torn and folded material within the cylinder, create valleys and remove peaks that would otherwise damage rings or seals. The result is that more lubricant is retained, improving engine startup and performance.



Guevera says he discovered the ball-style hone over 20 years ago when he worked on gasoline engines as a teenager. "I used ball-style hones for those small bore engines," he says. "Years later at American Diesel I contacted Brush Research Manufacturing, Co and asked if they had those same hones for larger bores. Although they didn't have a standard line of bigger sizes, they said they would be happy to supply whatever we needed, and we've been relying on them ever since." Guevera says that some of his cargo ship customers have never seen a ball-style hone before and ask him where to source the tool.

One of the most versatile and easy-to-use tools that is used throughout industry today to perform maintenance on cylinders is the Flex Hone from Brush Research Manufacturing



Build up of wax or other solids may prevent proper valve operations or block lubricants. Proper maintenance tools, like the Flex Hone from Brush Research Manufacturing, leave a super-smooth plateau finish