







29 ENGINE CLEANING AND CRACK DETECTION

Figure 29-5 A pressure jet washer is similar to a large industrialized dishwasher. Each part is then rinsed with water to remove chemicals or debris that may remain there while it is still in the tank.



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Figure 29-6 A microbial cleaning tank uses microbes to clean grease and oil from parts.



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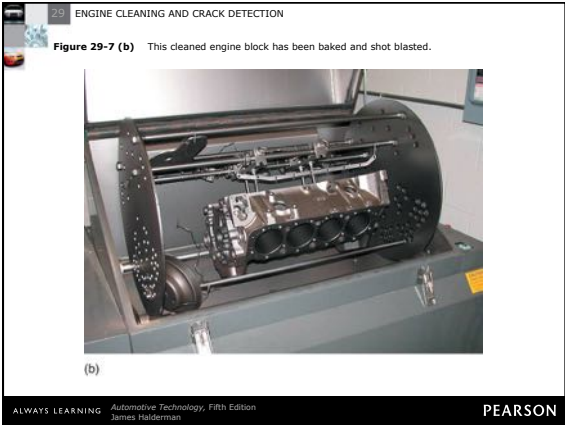
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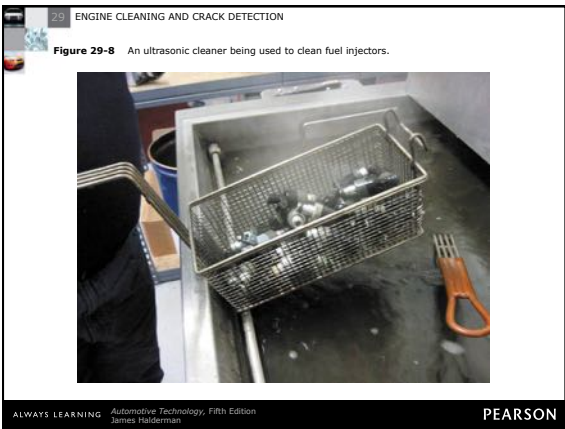
Figure 29-7 (a) A pyrolytic (high-temperature) oven cleans by baking the engine parts. After the parts have been cleaned, they are then placed into an airless blaster. This unit uses a paddle to scoop stainless steel shot from a reservoir and forces it against the engine part. The parts must be free of grease and oil to function correctly.

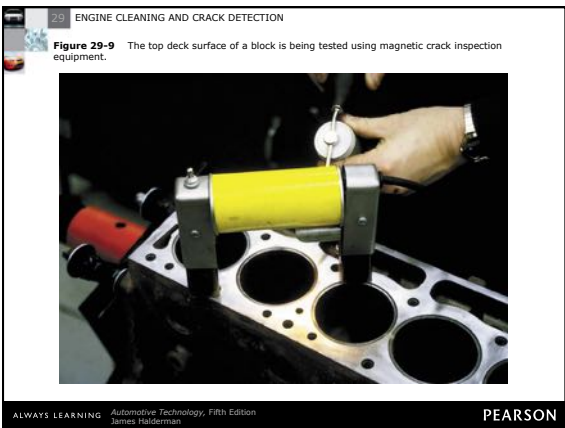


(a)

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Figure 29-10 If the lines of force are interrupted by a break (crack) in the casting, then two magnetic fields are created and the powder will lodge in the crack.

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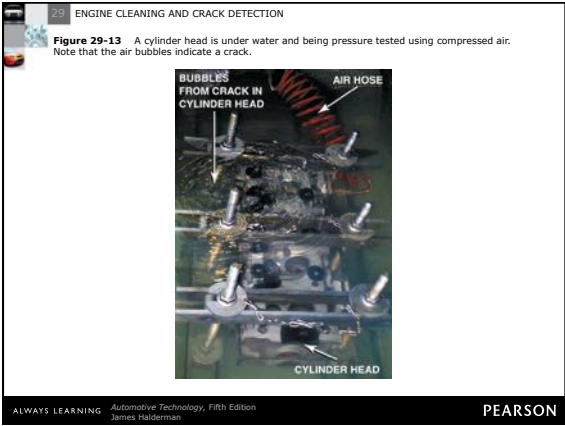
Figure 29-11 This crack in a vintage Ford 289, V-8 block was likely caused by the technician using excessive force trying to remove the plug from the block. The technician should have used heat and wax, not only to make the job easier, but also to prevent damaging the block.

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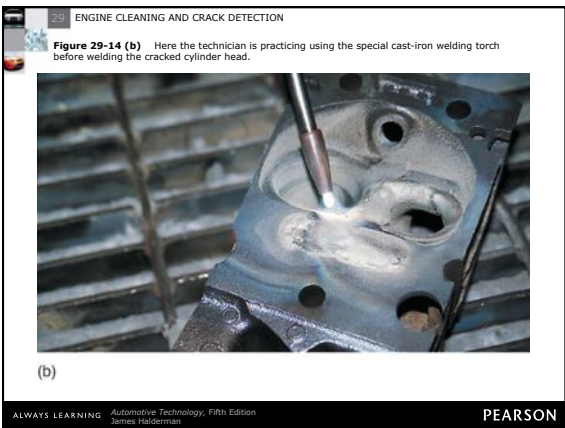
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Figure 29-12 To make sure that the mark observed in the cylinder wall was a crack, compressed air was forced into the water jacket while soapy water was sprayed on the cylinder wall. Bubbles confirmed that the mark was indeed a crack.

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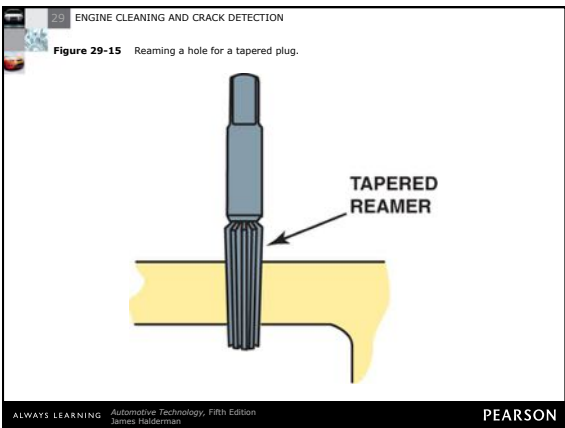


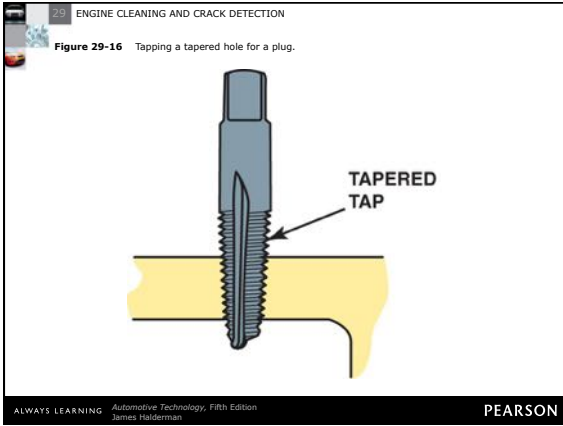


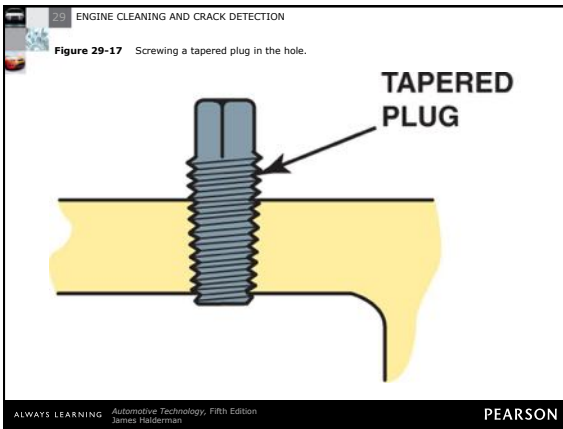


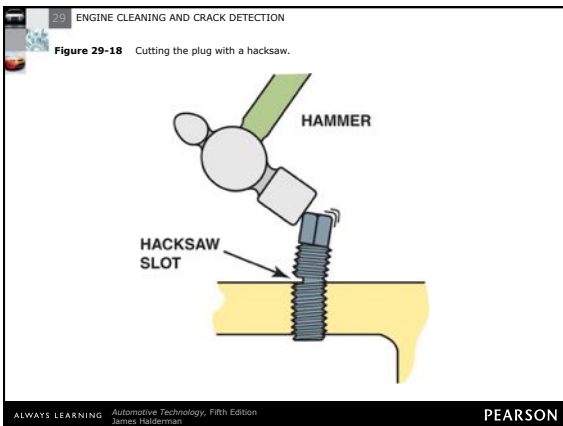


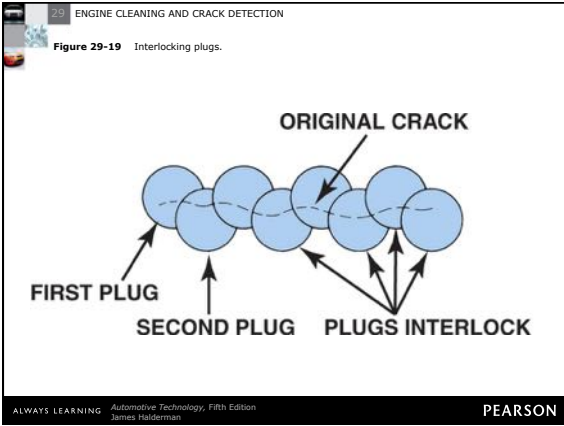




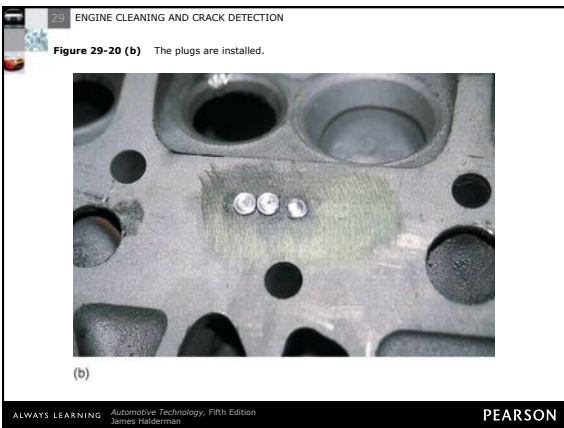












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Figure 29-20 (c) After final machining, the cylinder head can be returned to useful service.



(c)

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