

# Undercar Digest

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a Million**





## Training Today's & Tomorrow's Technicians

*Back to the basics*

It seems that because of various economic conditions, less and less training is being offered and fewer and fewer people are attending. Although there are exceptions, the overall number of individuals attending training clinics is definitely down from what it was in its heyday five to seven years ago.

Training today is as important as ever. In fact, perhaps the most-

in and is able to handle high-tech problems, but more than half of the problems that come into a shop daily are not high-tech; they are basic in nature.

In the area of undercar service, perhaps one of the most-often-overlooked areas of training today is rotor service. In many instances rotors have become a discard or replacement item for many shops. The ability to machine a rotor correctly and return it to service is almost a lost art. Rotor training should include the composition of the material, the different quality grades of metal used in rotors, the transfer layer of material, the roughness average (Ra) value of the finish on new and used rotors, runout, parallelism, thickness variation, minimum specifications and a host of other factors.

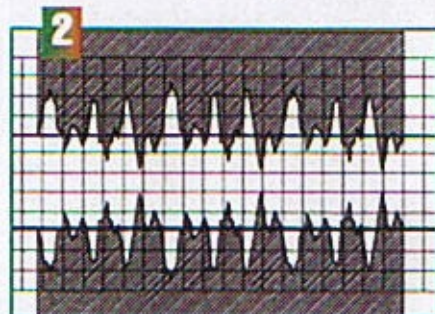
An area that has been virtually abandoned is that of applying a non-directional finish after machining a rotor. **Figure 1** shows a rotor that has been turned, and **Figure 2** illustrates the rotor's surface roughness. A non-directional finish should be applied to rotors after machining, not only to provide a smoother finish than the lathe can achieve but also to establish a finish that allows the pads to seat in quickly and perform efficiently.



important area of training today is back to the basics. There seems to be an entire crop of technicians working in the field whose training has been so high-tech that the basics were never emphasized. Also, because of the glamour of teaching in the areas of electronics, ABS, advanced drivability diagnostics, climate control and other areas, the more-mundane areas have been either de-emphasized or overlooked. It is great that a technician has been trained

close-to-maximum braking ability immediately after a brake job.

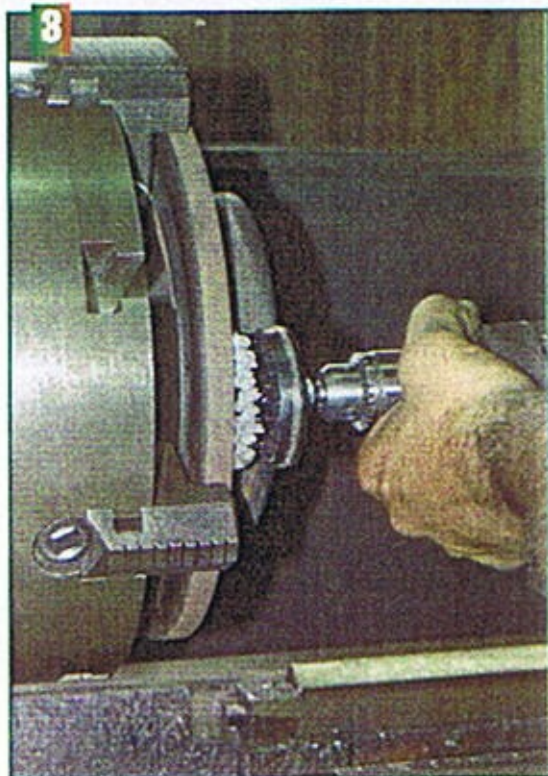
An aftermarket brake manufacturer offers pads with a substance applied to the center that allows the rotors to be smoothed and a non-directional finish to be applied to seat the pads quickly. **Figure 3** shows a honing tool from Brush Research Manufacturing Co. being used to apply a non-directional finish. **Figure 4** illustrates the improvement in surface smoothness after use of the hone. The smoother surface will allow the pads to seat in with a minimal number of stops and provide



close-to-maximum braking ability immediately after a brake job.

Another important training issue is that all rotors, whether new or machined, should be washed before installation. A spray brake cleaner will remove petroleum-based contaminants, but the final cleaning should be done with soap and water to float away microscopic metal particles on the rotor.

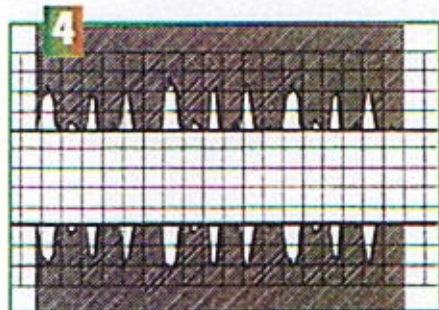
With regard to service tools and equipment, such items as modern wheel-alignment equipment, drive-on brake testers and brake lathes are very high-tech. On-car brake lathes are an excellent choice for machining rotors. Those



on-car lathe is minimal with today's equipment.

The three groups that seem to be supplying most of the training to the after-market are parts manufacturers, equipment manufacturers and major parts-distribution chains. They have been the mainstay of training for many years, and it appears that they will continue to be.

Training instructors and their employers have modernized their presentations and programs and offer training in electronic format along with various animated training aids and handouts that support these functions. In some instances, the attendees receive copies of the training program on discs.



with the automatic compensation feature are easy to set up and operate and achieve excellent results. Training required to operate an

Because of time restraints limiting employees' ability to attend training sessions during working hours, employees' available time outside of work and the expense of offering training, overall attendance at training programs seems to have decreased. Whether this trend will continue remains to be seen, but all indications are that it will.

Today, with vehicles lasting longer, fewer repairs being required and less supportive train-

ing, it would seem logical that technicians would jump at training opportunities in various areas.

Procrastination is also a consideration in the training industry today. Two days before a recent training session on alternative fuels only six people had signed up. On the actual night of presentation 53 people showed up. The training program was offered by a chemist with a Ph.D. and more than 35 years in the area of petroleum and alternate-fuels refining and research. He gave real insight into where we are and where we are going, yet the class was in jeopardy of being canceled because of the lack of enrollment. That would have been a shame.

Perhaps one could safely say that training is an attitude. It must be a positive attitude on the part of both the people who normally would attend the class and those who are sponsoring the training. It seems that obtaining qualified trainers is not the issue, but the scheduling and managing of training sessions may be becoming the most-difficult aspect of training today. **UD**

*The photos accompanying this article were supplied by Brush Research Manufacturing Co. Inc., 4642 Floral Drive, Los Angeles, CA 90022, 323-261-2193, [www.brushresearch.com](http://www.brushresearch.com).*



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