



Dr. Tom Allen makes his living as a "horse dentist" in the Missouri and Illinois area.

Horse Dentist Makes On-Farm Calls

Good dental care can add years of life to a horse, says Dr. Tom Allen, who makes his living as a "horse dentist". He's one of only four registered veterinarians in the Missouri and Illinois area to devote his complete practice to horse dentistry.

He travels the area pulling a horse trailer that was modified to hold one stall and all his equipment. He treats 30 to 50 horses a week, with fees varying from \$100 to \$150 per horse depending on the work needed.

According to Dr. Allen, horse dentistry is a hot topic these days, with many horse magazines publishing articles about it. While there are few full-time horse dentists, the specialty

is gaining acceptance and the importance of proper dental care for horses is making a comeback in veterinary schools, he says. Several books on horse dentistry have been published recently, after nearly a century of neglect on the subject.

"More and more veterinarians and horse folks have learned in the last few years that we can help horses live longer and perform better with regular tooth care every 3 to 12 months," says Dr. Allen. "It's a myth that horses show signs of dental problems before they become serious. The best prevention is competent dental care, as opposed to waiting until the horse is beyond help as is too often the case now."

Horse dentistry equipment is undergoing revolutionary changes, he says, with everything from new solid carbide float blades, high speed power equipment, new and improved devices for holding open the mouth of the patient, to halters for holding the patient's head up or down for easier access to allow the correction of dental problems.

According to Dr. Allen, most horses don't show symptoms of dental problems. However, horses that have gone more than six months since their last dental work almost always have points forming on the outer edge of the upper cheek teeth. "Too much or uneven wear leads to severe problems in a high percentage of horses. Grass, hay, and grain contain silica, a very abrasive substance which causes the teeth to be ground down continually. Since the upper cheek teeth are set wider apart than the lowers, sharp protruberances are left on their outer edges. These points cut into the lining of the mouth. The abrasions allow bacteria and toxins to enter the horse's system, putting stress on the heart and liver, and immune systems, all of which takes its toll on the horse over the years. Performing a 'bite alignment' shortens the incisors, so the cheek teeth can once again chew hay and grain easily."

Dr. Allen received certification through the International Association of Equine Dentistry, an association composed of veterinarians and dental technicians. He's also a member of the American Association of Equine Practitioners (website: www.aaep.org).

He inserts a full-mouth speculum. It holds the horse's mouth open so he can examine the teeth more carefully and then perform the necessary grinding and other work. The head of the horse can either be rested on the edge of the stall or the speculum is hooked to a rope from above. Without the tranquilizer, the horse might harm itself when put in this rig.

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Heartt didn't need to lengthen the frame of his Chevy pickup to add a third axle, but he did add a second transfer case and the back half of another pickup box.

4-WD Pickup Converted To 6-WD

By Jim Ruen, Contributing Editor

Randy Heartt needed a bale feeding truck with lots of pulling power. He also needed a heavy duty tow truck for his fifth wheel trailer. Since his farm shop is equipped with a metal lathe and milling machines, Heartt figured he had what he needed to turn a 1990 Chevrolet 4-WD pickup into a 6-WD, all without lengthening the frame.

"I didn't want to cut the frame in case what I was trying didn't work," explains Heartt. "I took off the box, moved the original rear axle up two feet and then mounted a new rear axle behind it. As it turned out, I didn't have to lengthen the frame at all."

What he did have to do was to cut down the fuel tank to make room to move the axle ahead. Not one to take a chance with a gas tank, Heartt recalls steaming the tank for about an hour and then air drying it before cutting.

Once he had the axles where he wanted them, he reversed the original transfer case that was bolted to the transmission. It had three U-joints on it, two facing forward and one to the rear. He connected a second transfer case for the third axle. It was from an earlier model Chevy and was designed to be driven by a short driveshaft.

"The second transfer case lets me put the third axle in or out of gear from inside the cab," explains Heartt. "I can operate with one, two or all three axles."

For suspension, he relied on a modified walking beam. He used two sets of springs from a 2-ton front axle, mounting them to the frame between the two axles. The walking beams were made from 3/8-in. thick, 4 by 2-in. steel tubing. Each mounts to the springs with rubber bushings that allow them to pivot. The axles in turn mount to the ends

of the walking beams with steel and rubber bushings. The bushings allowed the axles to move up and down and a little side to side.

"The walking beams allow one wheel to go up as much as 8 in. while the other three remain on the ground," explains Heartt.

Given the walking beam design, Heartt had to find a way to secure the axles in place. His solution was to weld 3 by 2-in. rectangular tubing across the frame, centered between the two axles. He then connected the axles to the tube with truck tie rods that keep them in line.

Brake lines, including the emergency brake on the original rear axle, were retained with a third set of brake lines running to the new axle. The original box was also retained, although modified.

"I was going to put a flat deck on the truck," recalls Heartt. "Instead I got another box, cut both and welded them together to get two sets of wheel wells. That was probably more work than the mechanical work, as welding sheet metal takes a long time."

The final stage of major renovation was to put a hoist under the box. Using his lathes, he made a hydraulic cylinder that's modeled after a big truckbox hoist. Because he only had about 19 in. of room in the frame to attach it, he reduced it down by making it into a telescoping shaft that extends to a full 30 in. when raised. The rear end of the box where it pivots and the area where the hoist attaches was reinforced with 2-in. angle iron. A small pump and reservoir mounted on the frame are powered off the pickup battery.

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A 30-in. hoist powered off pickup battery allows truck to dump its contents.

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