



Patrick Enterprises Saves Time With Whitney 3400 XP

Patrick Enterprises is a small metal fabrication company with 42 employees and 6000 square meters. They have a full complement of fabrication, welding and machining equipment that processes material from 0.5 to 150mm thick steel, and can machine weldments up to 9,000 kg. Their metal fabrication processes include a laser cutting machine, plasma cutting machine, oxyfuel cutting machine, shears, CNC punch press, press brakes, welding, and painting. In addition, unlike many other metal fabricators, Patrick also has a large complement of machining equipment including CNC mills, lathes, and boring mills. Patrick's customers include major players in the heavy truck and construction equipment industries, and they compete against both regional metal fabricators, and global fabricators in Mexico and India.

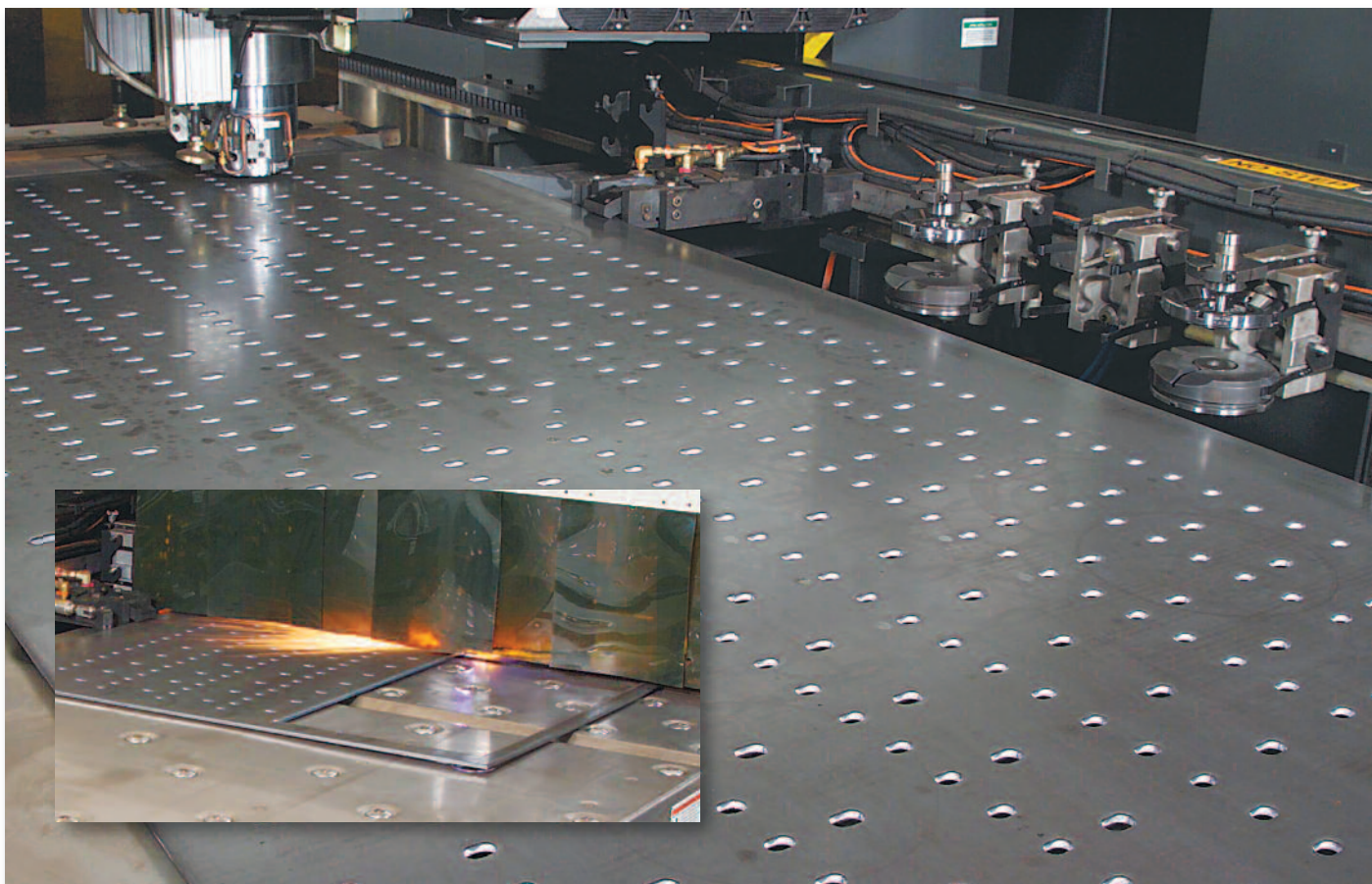
Patrick Enterprises produces fifth wheel angles for the heavy truck industry. These hole-intensive parts are made from 8mm thick high strength steel, and are the mounting

Patrick Enterprises 公司采用维特尼 3400 XP节省工时

Patrick Enterprises 是一家小型金属加工企业，雇员总数为 42 人，占地面积 6000 平方米。该公司拥有一整套制造、焊接和加工设备，能加工厚度从 0.5 到 150 毫米不等的钢板材料并生产重达 9,000 千克的焊件。其金属加工工序包括激光切割机、等离子切割机、氧燃料切割机、剪床、数控冲床、折弯机及焊接和涂层。此外，与其他金属加工商不同，Patrick 还拥有一系列加工设备，包括数控铣床、车床和镗床。Patrick 的客户包括重型卡车和建筑设备行业的龙头企业，他们能与区域金属加工商及位于墨西哥和印度的全球加工商相抗衡。

Patrick Enterprises 为重卡工业生产第五轮转向角。这类多孔零件采用 8 毫米厚的高强度钢制成，且是位于重型卡车后方的第五轮组件安装面。为了加工这类零件，公司采用钢板作为原材料、将其剪切至一定尺寸（双向）、在数控冲床





surfaces for the fifth wheel assembly are the rear of a heavy truck. In order to fabricate these parts, they took steel plate, sheared it to size, (in two directions), punched the sheared blanks on a CNC press, and deburred the sheared edge and punched holes.

In order to increase volume and reduce costs, they purchased a Whitney 3400 XP in 2004. The 3400 XP now produces fifth wheel angles at a rate of one to two minutes apiece. This saved them 4-1/2 to 5 minutes for each part. Even the deburring operation has been eliminated as they have found out that there is no need to deburr the punched holes or the plasma cut edge as produced on the 3400 XP. This saved the company \$200,000 per year on fifth wheel angles alone. Additional parts such as fifth wheel ramps and cross-members yield additional savings. For example, the 3400 XP produces cross-members in one-half the time of Patrick's production laser, located across the aisle from the 3400 XP.

Patrick has quickly adapted to its new machine. Instead of just punching holes and contouring the parts complete, Patrick, with the help of Whitney's application services, developed a process to use common line cutting. This further improved material utilization and reduced cutting time.

上冲压剪切坯件并去除剪切边缘和冲孔上的毛刺。

为了提高产量并降低成本，Patrick 于 2004 年购买了一台维特尼 3400 XP。如今，这台机器的生产速度为每一至两分钟生产一个第五轮转向角。因此，平均每个零件可节省 4-1/2 到 5 分钟。甚至去毛刺工序也可以免除，因为公司发现采用 3400 XP 机器加工而成的冲孔或等离子切割边缘根本无需去毛刺。因此，公司仅第五轮转向角一项上每年就能节约 200,000 美元的成本。此外，包括第五轮斜道和横梁在内的其它零件还能节约更多时间。例如，采用 3400 XP 生产横梁仅需相当于 Patrick 激光设备一半的时间，而 Patrick 激光设备需占据以 3400 XP 机器为起点的整个过道空间。

Patrick 对工艺进行改造以迅速适应其新购入的机器。通过借助维特尼应用服务，Patrick 开发了一种利用普通线切割的工序，从而使机器不止是用来对整个零件进行冲孔和仿形操作。这进一步提高了材料利用率并缩短了切割时间。

Whitney

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