

# Nevada Small Business Development Center Business Environmental Program

CS-FY9401011

## HIGH VOLUME LOW PRESSURE (HVLP) GUNS AT PARAMOUNT AUTOBODY

### Waste Reduction Case Study

#### PROJECT

Paramount Autobody, a 6 employee firm located in Reno, received grant funding from the Nevada Division of Environmental Protection (NDEP) to switch from conventional paint guns system to a high volume low pressure (HVLP) gun system.

#### BACKGROUND

Prior to the installation of the HVLP system, Paramount Autobody was using conventional guns in their painting operations. These conventional airspray guns use air at 65 to 85 psi pressure to atomize the paint. The pressure in the paint line is usually around 30 to 40 psi, depending on the individual job. This technique produces a fine finish, depending on the operator and can be used on most surfaces. However, the conventional paint guns have a low paint transfer efficiency, and a high bounceback. The HVLP delivers paint at a lower pressure, reducing bounceback and overspray and increasing transfer efficiency.

Paramount was generating about 36 gallons of paint and thinner waste per month. The waste was disposed off-site by a private hazardous waste hauler and cost them \$173 a month.

#### TECHNOLOGY

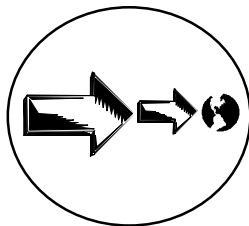
The HVLP spray technology is a proven alternative to conventional spray painting techniques in terms of spray efficiency and reduced overspray. Paramount purchased 6 *Sata Jet HVLP* spray guns. The HVLP spray has a higher paint transfer efficiency, a low bounceback and good atomization of paint. This means more of the paint adheres to the vehicle and less is wasted.

#### WASTE MANAGEMENT

Most of the waste lacquer thinners used in paint equipment wash up are considered hazardous waste due to hazardous constituents listed in Federal and State regulations or because of the flashpoint is below 140°F. Typically, lacquer thinners contain hazardous constituents such as xylene, MEK, acetone and other F listed solvents (40 CFR 261.31). Under the State and Federal regulations, solvents used in degreasing operations containing more than 10% cumulative of the F listed solvents are considered hazardous when they are spent. The majority of businesses contract with an outside management company to haul waste off-site for recycling. In the past, Paramount was generating about 36 gallons of spent solvent and paint waste, which was picked up by an outside hazardous waste hauler.

#### COST SAVINGS

With the new HVLP system on-line, Paramount Autobody has reduced the paint and solvent waste to 32 gallons per month from about 36 gallons a month, saving them \$336 in disposal costs a year. The waste is disposed of through a private hazardous waste hauler. Prior to the purchase of the HVLP guns, Paramount on an average, used 20 gallons of paint for 100 cars



*This case study was developed by the Business Environmental Program of the Nevada Small Business Development Center with funding provided by the Nevada Division of Environmental Protection.*



depending upon the size of the vehicle painted. The installation of the new HVLP system has brought down the paint usage to approximately 15 gallons to paint 100 cars. The paint and thinner material purchase saving is approximately \$400 per month. Paramount is realizing a total saving of \$5,136 per year.

The initial costs associated with switching to the new paint system was \$2,802. NDEP provided half the amount in grant money. With a total savings of \$5,136, it took Paramount about 6.5 months to break even. Each subsequent year Paramount will save an additional \$5,136 in avoided waste management and material purchase costs. Congratulations, Paramount Auto Body; Tim Waldren, owner of Paramount Auto Body can be reached at (702) 329-6691.

**COMMENTS**

Transfer efficiency is dependent on various parameters, some of which are in the control of the operator. Generally, the high efficiency guns are designed to operate at optimum flow rates. Excessive air pressures and flow rates will reduce the efficiency. Proper maintenance of guns is important to maintain a proper paint spray. Operator training is critical for proper use of the HVLP guns.

Not only are purchase costs and waste generation reduced, but the more efficient paint application with HVLP guns also reduces air pollution. Installation of HVLP guns can also increase the life of the paint booth filters by nearly 25%. While HVLP guns provide higher spray efficiency than traditional atomizing, additional efficiency improvements are possible with the use of systems like air assisted and heated air assisted HVLP system. For further information on air assisted or heated air assisted HVLP systems contact the Business Environmental Program, 1-800-882-3233.

**SUPPLIERS OF ALTERNATIVE PAINTS AND PAINT RELATED ACCESSORIES**

**Reno Area**

- Allied Auto Parts (702) 323-2756
- Barretts Paint Supply (702) 329-2756
- Fuller Color Center (702) 329-4478
- ReNeva (702) 331-2886
- Reno Paint Mart (702) 826-2900
- Sierra Filtration (702) 348-7010

**Las Vegas Area**

- B&L Auto Paint (702) 457-8882
- Charleston Auto (702) 642-0616
- Sherwin William (702) 367-1622

*Note: The above listing of vendors and manufacturers is provided for informational purposes only. This list is provided as a service to Nevada businesses in order to assist them with proper waste management. This listing of businesses is not to be construed as actual or implied endorsement of their products or services. Additionally, other businesses which provide similar products and services may not be listed; this omission is not to be construed as an actual or implied denouncement of those businesses.*