## EQUIPMENT REFURBISHING IN PENNSYLVANIA DOT

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Refurbishing in Pennsylvania Department of Transportation (PennDOT) started slowly. In 1984, some construction equipment was converted from standard transmission and gasoline engines to hydrostatic drive and new diesel engines. In 1987, PennDOT began a rather aggressive equipment refurbishment program which is still in progress today.

Some advantages of refurbishing equipment are:
Saves money when compared to purchasing new
equipment,
purchase of new equipment,
Provide the opportunity to bring. updated
technology into the equipment fleet,
Familiar equipment remains in the fleet, and
equipment pride.

In PennDOT, refurbishing candidates must meet four criteria:

- The cost should not exceed $40-50 \%$ of a new unit,
- The completed unit must not only meet todays needs but tomorrows needs as well,
- The refurbished unit must approach the oife expectancy of a new unit, and
- The end user must be satisfied with the refurnished unit.

Since 1987, PennDOT has refurbished over 600 units at a savings of about $\$ 25$ million. Equipment which has been refurbished is listed below:

| Equipment Type | Quantity | Total Savings, \$ |
| :--- | :---: | ---: |
| Single Axle Dump Trucks | 302 | $\$ 12,100,331$ |
| Tandem Dump Trucks | 52 | $1,567,500$ |
| Road Tractors | 14 | 323,704 |
| Belt Loaders | 30 | $2,215,926$ |
| Rubber Tire Rollers | 25 | 953,350 |
| 3 Wheel Rollers | 118 | $5,508,000$ |
| 4-6 Ton Static Rollers | 91 | $2,009,241$ |
| Total |  | $\$ 24,678,052$ |

Some refurbishing projects have been more successful than others and some have been dropped because the cost savings no longer existed. PennDOT remains committed to refurbishing whenever and wherever it is appropriate and we continue to look for new refurbishing projects. As Larry Stewart stated in a recent issue of Construction Equipment, "Equipment managers who measure just the right mix of rebuilt machines that work cheaper and new machines that work smarter should be heroes in the years ahead."
TABLE 1 PENNSYLVANIA DEPARTMENT OF TRANSPORTATION'S EQUIPMENT REFURBISHING PROGRAM

| Equipment Type | M.Y. | F.Y. | Refurbishment Cost Quantity | Refurbishment Cost, \$ (Each) | Retail Price New, \$ (Each) | Savings, \$ <br> Per (Each) | Total Savings, \$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3 Wheel Galion Rollers | 62 \& 64 | 86-87 | $38:$ | \$ 16,800 | \$ 63,000 | \$ 46,000 | \$ 1,748,000 |
|  | 65 \& 67 | 87-88 | 36 | 16,000 | 63,000 | 47,000 | 1,692,000 |
|  | 67 \& 68 | 88-89 | 2 | 16,000 | 63,000 | 47,000 | 1,034,000 |
|  | 70/73/75 | 89-90 | 22 | 16,000 | 63,000 | 47,000 | 1,034,000 |
| International Tandem Dump Trucks | 79 | 89-90 | 22 | 15,000 | 62,500 | 47,500 | 1,045,000 |
|  | 79 | 90-91 | 11 | 15,000 | 6,500 | 47,500 | 522,500 |
|  | 84 | 94-95 | 1.5* | 22,446 | 65,157 | 42,711 | 811,509 |
| International Single Axle Dump Trucks |  | 91-92 | 1.46 | 16,876 | 53,000 | 36,124 | 5,274,100 |
|  |  | 92-93 | 120 | 20,146 | 53,000 | 32,854 | 3,942,480 |
|  |  | 93-94 | 36 | 24,706 | 53,000 | 28,294 | 1,018,584 |
|  |  | 94-95 | 59* | 24,387 | 56,000 | 31,613 | 1,865,167 |
| Athey Belt <br> Loaders | 73 | 88-89 | 1 | 39,500 | 108,000 | 68,500 | 68,500 |
|  | 73 \& 76 | 89-90 | 5 | 33,560 | 108,000 | 74,440 | 372,200 |
|  | 73 \& 76 | 91-92 | 6 | 28,971 | 108,000 | 79,029 | 474,170 |
|  | 73 \& 76 | 92-93 | 8 | 33,288 | 108,000 | 74,712 | 597,696 |
|  | 76 | 93-94 | 3 | 37,880 | 109,000 | 71,120 | 213,360 |
|  | 77/78/80 | 94-95 | 7* |  |  |  |  |
| Galion Rubber Tire Rollers | 70 \& 76 | 91-92 | 25 | 17,866 | 56,000 | 38,134 | 953,350 |
| 4-6 Ton Galion Static Rollers | 76/77/80 | 92-93 | 79 | 8,573 | 30,500 | 21,927 | 1,732,233 |
|  | 78 \& 80 | 93-94 | 12 | 9,916 | 33,000 | 23,084 | 277,008 |
| Road Tractors | 81 | 92-93 | 3 | 25,032 | 53,000 | 27,968 | 83,904 |
|  | 80 \& 81 | 93-94 | 9 | 32,800 | 55,000 | 22,200 | 199,800 |
|  | 81 | 94-95 | $2^{*}$ |  |  |  |  |
|  |  |  | $604+* 87$ units to be refurbished during FY 94-95 |  |  | Total | \$ 24,959,561 |

