

## Chapter 5

# The Units Of Production Method of Depreciation

The units of production method depreciates an asset's cost by how many units it produces or how many hours it is used, rather than by the number of years it is in service.

For example, if your company purchases a plastic extruder, it might estimate the asset's useful life as 20,800 units rather than, say, 10 years. This means that if the machine produces all 20,800 units in the first year, it will be fully depreciated. Or it may produce the 20,800 units over 15 or 20 years. The point is that under the units of production (UOP) method, depreciation is not measured by the number of years that the asset is used.

### Computing Depreciation Under the Units of Production Method

For most assets, units of production are measured in a number of ways, including:

- Units produced
- Miles driven (usually only for vehicles)
- Labor or machine hours (hours used)

Management must select the appropriate category to use throughout the asset's life.

The computation for units of production depreciation is simple:

$$\frac{\text{Depreciable base}}{\text{Estimated life (in units, miles, hours, etc.)}} = \text{depreciation rate} \times \text{output for year} = \text{annual depreciation}$$

**Problem 1:** On January 1, FiFi Co. which uses the units of production method, purchases a delivery van for \$10,000. Before deciding on which unit of production to use for depreciation, management estimates the vehicle's useful life in several ways:

- 30,000 hours
- 200,000 miles
- 10,000 deliveries

At the end of its useful life, FiFi Co. expects the vehicle to have a residual value of \$1,000. What is the depreciation rate for the delivery van using hours? miles? deliveries?

**Solution 1:** First compute the depreciable base: \$10,000 acquisition cost - \$1,000 residual value = \$9,000 depreciable base.