Operating Cash Flow - Year 2

Given and Introduction Step

To determine the operating cash flow for the project in year 2, the following inputs are given:

- **Sales price per unit:** $460
- **Sales volume (Year 2):** 900 units
- **Variable costs per unit:** $255
- **Fixed costs per year:** $100,000
- **Depreciation (straight-line over 3 years):** Initial investment ($183,000) / Project life (3 years) = $61,000 per year
- **Tax rate:** 21%

Step 1: Calculate Total Revenue

Total Revenue = Sales Price per Unit × Sales Volume (Year 2)

$$Total Revenue = \$460 \times 900$$

$$Total Revenue = \$414,000$$

Explanation: The total revenue is calculated by multiplying the sales price per unit by the sales volume for year 2. This represents the income generated from selling 900 units at $460 each.

Step 2: Calculate Total Variable Costs

Total Variable Costs = Variable Cost per Unit × Sales Volume (Year 2)

$$Total Variable Costs = \$255 \times 900$$

$$Total Variable Costs = \$229,500$$

Explanation: The total variable costs are found by multiplying the variable cost per unit by the total number of units sold. This shows the cost associated with producing 900 units.

Step 3: Calculate Total Costs

Total Costs = Total Variable Costs + Fixed Costs + Depreciation

$$Total Costs = \$229,500 + \$100,000 + \$61,000$$

$$Total Costs = \$390,500$$

Explanation: The total costs are the sum of total variable costs, fixed costs, and annual depreciation. This represents all the expenses incurred by the project in year 2.

Step 4: Calculate Earnings Before Tax (EBT)

EBT = Total Revenue - Total Costs

$$EBT = \$414,000 - \$390,500$$

$$EBT = \$23,500$$

Explanation: Earnings Before Tax (EBT) are derived by subtracting the total costs from the total revenue. It shows the profit before accounting for taxes.

Step 5: Calculate Taxes

Taxes = EBT × Tax Rate

$$Taxes = \$23,500 \times 0.21$$

$$Taxes = \$4,935$$

Explanation: Taxes are calculated by multiplying the EBT by the tax rate (21%). This gives the amount of tax that needs to be paid for the year.

Step 6: Calculate Net Income

Net Income = EBT - Taxes

$$Net Income = \$23,500 - \$4,935$$

$$Net Income = \$18,565$$

Explanation: The net income is calculated by subtracting the taxes from the EBT. This shows the profit after taxes.

Step 7: Calculate Operating Cash Flow

Operating Cash Flow = Net Income + Depreciation

$$Operating Cash Flow = \$18,565 + \$61,000$$

$$Operating Cash Flow = \$79,565$$

Explanation: The operating cash flow is determined by adding back the non-cash expense (depreciation) to the net income. This provides the actual cash generated from operating activities.

Final Step

The operating cash flow for the project in year 2 is **$79,565**.

Explanation: The final result indicates that the project will generate $79,565 in operating cash flow during the second year. This figure considers all revenues, costs, and tax effects, adjusted for non-cash expenses.

Final Solution

The operating cash flow for the project in year 2 is **$79,565**.