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Determining a Collision Center's Break-even Point

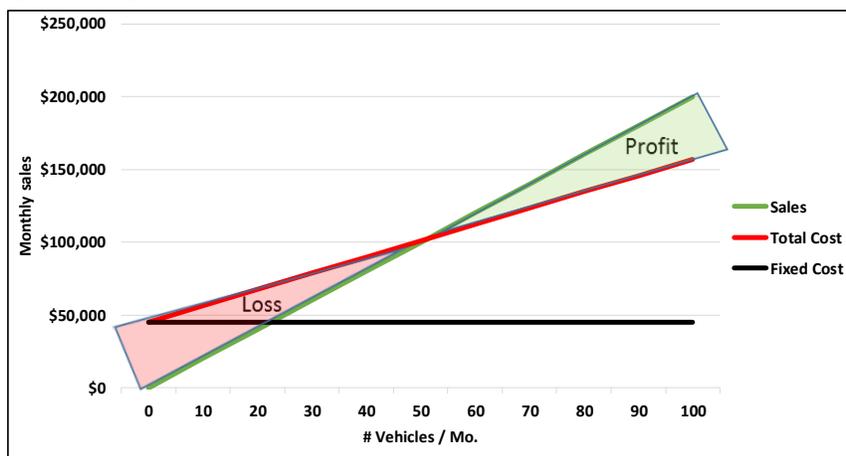
Have you ever asked: "How much sales volume must I generate in order for my shop to break-even?" Or, "How many cars must I repair each month before I begin to earn a profit?"

This is absolutely essential if opening a new location. And, it's equally important for an existing location to understand the level of business it takes to "break-even", or when increases in fixed overhead will begin to pay off. The premise, here, is that every business has certain costs that vary with Sales (Variable Costs) and others that do not (Fixed Costs). For instance, in the collision repair business if a shop buys a part for a repair and bills the customer for that part, its cost is variable. If there was no "sale", there would be no "cost". Facility rent, on the other hand, exists whether or not there is any "sale" occurring, therefore it is a fixed cost.

Variable Costs include: Direct Labor, parts cost, P&M cost, and sublet costs. **Fixed Costs** include: Rent, management wages, benefits, utilities, shop supplies, taxes, interest, and other overhead costs.

Not every cost element is quite that cut and dried, and the definition of what is fixed or variable changes based on the timeframe. In the long term, rent can vary as you can ultimately increase or decrease space. But looking at a business on a month by month basis, it will be fixed.

To "**Break-even**", a business's **Sales \$** must exceed its **Total Cost** (Variable Cost plus its Fixed Cost). In the collision business, to keep things simple and with limited exceptions, we will consider the costs above the Gross Profit line as **Variable**, and all Overhead costs as **Fixed** within a 12 month planning horizon. In the chart below, this shop's fixed cost is represented by the horizontal **black** line crossing the vertical axis at \$45,000. The shop's Total Cost (Fixed plus Variable Cost) is shown by the **red** line and increases with volume. The Total Sales is represented by the **green** line. Where the green line and red line intersect is the shop's "Break-even" point, or the volume where **Total Sales** and **Total Cost** are equal. At higher volumes the shop earns a profit; at lower volumes, it incurs a loss. You can predict profitability by noting the projected "profit" or "loss" at any given target sales level as well as the # of vehicles delivered.





Contribution Margin

Another way to look at “Break-even” is to understand that your sales must first pay for variable costs and then have enough to “contribute” to pay fixed costs.

A simple way to calculate a shop’s break-even point is to divide the shop’s **Fixed Cost** by its Contribution Margin (%). In the example below, we get a break-even Sales number of \$102,273 per month. If this shop has an average repair order value of \$2,000, then they will have to repair 51 cars to reach their break-even point each month.

ABC Body Shop Proforma					
	Annual	Monthly			
Sales	\$1,800,000	\$150,000	Fixed Cost \$	=	$\frac{\$45,000}{44.0\%}$ = \$102,273
Variable Cost	\$1,008,000 #	\$84,000	Contribution Margin Ratio (%)	=	44.0%
Contribution Margin	\$792,000	\$66,000			
CM%	44.0%	44.0%			
Fixed Cost (Overhead)	\$540,000	\$45,000	# of Vehicles required	=	$\frac{\$102,273}{\$2,000}$ = 51.1
Operating Profit	\$252,000	\$21,000			

The objective is to get to that “Break-even” point as early in the month as possible in order to assure profitability each and every month. In the example above, if the shop is targeting Sales of \$150,000 per month (75 RO’s @ \$2,000) they would achieve their break-even point about the 20th of the month. (See the chart on Page 1.) Increasing Contribution Margin % or reducing Fixed Cost \$, or both, will decrease a shop’s break-even point and ultimately increase profitability.

Download our [Profit-Volume Chart](#) to perform your own break-even analysis. (Note: There are two worksheets.)



Tip to Consider

While a “Sales” figure is an input to this calculation, the SELLING and NEGOTIATION process definitely affects the relationship of Sales and Variable Cost. Getting paid more increases contribution margin as do cost-effective pay plans, higher resale margins on parts and sublets, and decreased paint & material usage.