

NADA ACADEMY
Financial Operations 2
Financial Calculations and Formulas

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Dealership

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Student

388 (Class 3)

Class #

- Service

Service Department Sales And Gross (Labor Only)

Category	Sales	Gross	Gross as % of Sales	Percent
Customer Pay	\$ 6,111	\$ 2,209	36.1%	42.00%
Customer			0%	0.00%
Customer Sched			0%	0.00%
Warranty	\$ 29,860	\$ 24,040	79.9%	13.50%
Warranty Other			0%	0.00%
Warranty	\$ 34,265	\$ 27,339	79.9%	22.50%
Inv / Road Ready PDI			0%	0.00%
AS Cost Of Labor			0%	0.00%
Total	\$ 149,424	\$ 111,147	74.38%	100.00%

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The Picture	
Customer Pay Gross Profit %	70.36%
Total Service Dept. G.P. %	74.38%

Parts To Labor Ratios

Category	Part Service	Labor Hours	P/L Ratio
Customer Pay	\$ 5,877	19,311	0.37
Customer	\$		0.00
Customer Sched	\$		0.00
Warranty	\$ 21,287	29,801	0.72
Warranty Other	\$		0.00
Warranty	\$ 21,765	35,265	0.64
Total	\$ 135,229	145,424	0.94

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The Picture	
Customer Pay Gross Profit %	70.39%
Total Service Dept. G.P. %	74.38%
Parts / Labor Ratio (Cust. Pay Only)	0.97

Service Department Profit Centering

Account Category	Value Amount	% of Goods	Profit
Account Entry	\$ 111,419		
Variable Expense	\$ 16,155	14.50%	
Selling Expense		0.00%	
Production Expense	\$ 74,447	66.96%	
General Expense	\$ 21,365	19.18%	
Other Expense	\$ 22,100	19.88%	
Unallocated Expense		0.00%	
Sales Salary		0.00%	
Total Expenses	\$ 135,155	121.60%	
Net Profit	\$ 124,100	111.40%	

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The Picture	
Customer Pay Gross Profit %	70.21%
Total Service Dept. G.P. %	74.38%
Parts / Labor Rate (Cost. Pay Only)	0.31
Total Service Dept. Expenses	\$ 135,155

Fixed Absorption

Parts Department Total Gross	\$ 60,183	% All Dept Exp	12.5%
Service Department Total Gross	\$ 211,247		37.5%
Body Shop Department Total Gross			50.0%

Total Fixed Gross Profit	\$ 381,430
Total Dealership Expense	\$ 491,081

Overhead Expense	\$ 491,081
Total Fixed Gross Profit	\$ 381,430
Total Dealership Expense	\$ 491,081
Fixed Absorption Percentage	38.36%

Guideline 60%

The Picture	
Customer Pay Gross Profit %	70.33%
Total Service Dept. G.P. %	74.38%
Parts / Labor Ratio (Cust. Pay Only)	0.97
Total Service Dept. Expenses	\$ 135,154

NADA ACTUAL SERVICE ANALYSIS

	Labor Sales / Month	Effective Labor Rates	Hours Billed
Customer Pay	\$ 85,311	86.85	982.3
Customer	\$ -	=	0.00
Customer Other	\$ -	=	0.00
Warranty	\$ 29,858	123.60	241.6
Internal	\$ 34,255	98.56	347.6
New Vehicle Prep	\$ -	=	0.00
Total	\$ 149,424		1571.4

POTENTIAL

$$\frac{\$ 149,424}{1571.40} = \$ 95.09$$

Total labor sales for month Total hours billed Effective Labor Rate

$$8.00 \times 8 \times 22 = 1,408.0$$

Service mechanical technicians # Hours/Day Working Days/Month Hours Available to Sell

$$1,408.0 \times \$ 95.09 = \$ 133,886 \quad \$ 167,357.48$$

Hours Available to Sell Effective Labor Rate Labor sales potential @100% Labor sales potential @ 125%

How proficient are your technicians ?

$$\frac{1,571.4}{1,408.00} = 111.61\%$$

Total Hours Billed Hours Available to Sell Tech Proficiency

Hours Per RO (RO Analysis)	4.9
Percent of One Item R.O.'s (RO Analysis)	48.00%
Customer Pay Effective Labor Rate (DMS Reoprt)	\$ 86.85
Warranty Labor Rate (DMS Report)	\$ 123.60
Total Overall Effective Labor Rate	\$ 95.09
Overall Technician Proficiency	111.61%

FACILITY POTENTIAL	
Number of Bays	<input type="text"/>
	x
Number of Days	<input type="text"/>
	x
Number of Hours	<input type="text"/>
	x
Effective Labor Rate	\$ 95.09
	<i>equals</i>
FACILITY POTENTIAL	\$ -

FACILITY UTILIZATION	
Total Labor Sales	\$ 149,424
	÷
Facility Potential	\$ -
	<i>equals</i>
FACILITY UTILIZATION	0.00%

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Calculating Real Cost of Labor

\$ 149,424

Labor Sales

Divided by Hours Billed

0.00

= OELR

\$ 149,424

Labor Sales

- Labor Gross

\$ 149,424

= Labor Cost

\$ 149,424

Labor Cost

0.00

/ Hours Billed

\$0.00

= Real Cost

Real Cost

÷

24.00%

=

\$0.00

E.L.R. Needed to

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OWNER BASE POTENTIAL

x =
5 Year Owner Base Annual Hours Purchased Market Potential / Hours

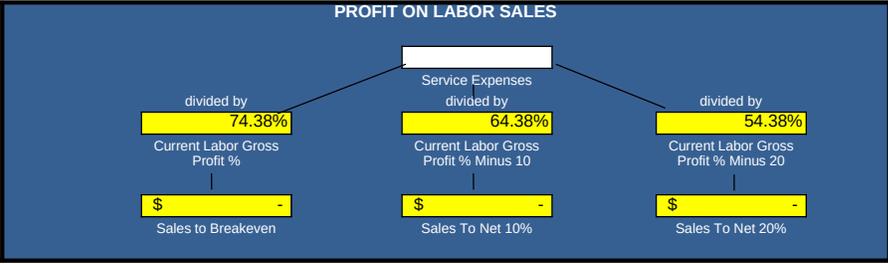
x =
Market Potential/ Hours Effective Labor Rate 5 Yr. O.B Sales Potential

x =
Avg. Mos. Labor Sales Annualized Current Labor Sales Trend
(excluding internal, PDI and

÷ =
Labor Sales Trend 5 Yr. O.B. Sales Potential Ouch

*Note: The industry average of 35% is very poor performance.

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The Picture

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Customer Pay Gross Profit %	70.33%	Customer Pay E.L.R.	\$ 86.85
Total Service Dept. G.P.%	74.38%	Total (overall) E.L.R.	\$ 95.09
Parts / Labor Ratio (Cust Pay Only)	0.97	Warranty Labor Rate	\$ 123.60
Total Service Dept Expense	\$ 135,154	Overall Tech Proficiency	111.61%
Hours Per R.O (recap)	4.87		
Percent Of One Item R.O.'s	48.00%		

Technician Value

Calculate using daily available hours per technician

Hours	x	Days	x	Labor Rate	=	Sales Value
<input type="text"/>		<input type="text"/>		\$ 53.00		<input type="text"/>

Sales Value	x	Gross Margin	=	Profit Value
<input type="text"/>		74.38%		<input type="text"/>

<input type="text"/>	x	70%		<input type="text"/>
<input type="text"/>	x	80%		<input type="text"/>
<input type="text"/>	x	90%		<input type="text"/>
<input type="text"/>	x	100%		<input type="text"/>
<input type="text"/>	x	110%		<input type="text"/>
<input type="text"/>	x	120%		<input type="text"/>
<input type="text"/>	x	<input type="text"/>	=	<input type="text"/>
Profit Value		Your Proficiency #		Adjusted Profit Value

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STAFFING REQUIREMENTS

A. Sales To Break Even

Service Expenses for One Month	+	Current Gross Profit Percent	=	Sales To Break Even
<input type="text" value="0"/>	+	<input text"="" type="text" value="\$ -"/>		

B. Sales To Generate 20% Net

Service Expenses for One Month	+	Current Gross Profit Percent (Minus 20)	=	Sales To Generate 20% Net
<input type="text" value="\$ -"/>	+	<input text"="" type="text" value="\$ -"/>		

C. Technician Value

Daily Work Hours	X	Average Proficiency Rate	X	Overall Effective Labor Rate	X	Work Days Per Month	=	Technician Value
<input type="text" value="0"/>	X	<input text"="" type="text" value="\$ 95.09"/>	X	<input type="text" value="0"/>	=	<input type="text" value="\$0"/>		
<input type="text" value="0"/>	X	<input text"="" type="text" value="\$ 95.09"/>	X	<input type="text" value="0"/>	=	<input type="text" value="\$0"/>		
<input type="text" value="0"/>	X	<input text"="" type="text" value="\$ 95.09"/>	X	<input type="text" value="0"/>	=	<input type="text" value="\$0"/>		
<input type="text" value="0"/>	X	<input text"="" type="text" value="\$ 95.09"/>	X	<input type="text" value="0"/>	=	<input type="text" value="\$0"/>		

D. Staffing To Break Even

Sales To Break Even	+	Technician Value	=	Staffing
<input type="text" value="\$ -"/>	+	<input type="text" value="0"/> @ 80%	=	<input type="text" value="0.0"/>
<input type="text" value="\$ -"/>	+	<input type="text" value="0"/> @ 90%	=	<input type="text" value="0.0"/>
<input type="text" value="\$ -"/>	+	<input type="text" value="0"/> @ 100%	=	<input type="text" value="0.0"/>
<input type="text" value="\$ -"/>	+	<input type="text" value="0"/> @ 120%	=	<input type="text" value="0.0"/>

E. Staffing To Generate 20% Net

Sales To Generate 20% Net	+	Technician Value	=	Staffing
<input type="text" value="\$ -"/>	+	<input type="text" value="\$ -"/> @ 80%	=	<input type="text" value="0.0"/>
<input type="text" value="\$ -"/>	+	<input type="text" value="\$ -"/> @ 90%	=	<input type="text" value="0.0"/>
<input type="text" value="\$ -"/>	+	<input type="text" value="\$ -"/> @ 100%	=	<input type="text" value="0.0"/>
<input type="text" value="\$ -"/>	+	<input type="text" value="\$ -"/> @ 120%	=	<input type="text" value="0.0"/>

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Service Advisor Performance

How To Set Advisor Sales Objectives To: Break Even, Net 10%, & Net 20%

Break Even

1 Service Department's Monthly Expenses		<input type="text"/>
	+	
2 Divide by current labor gross profit % to break even		74.38%
	=	
3 Equals New Sales Objective		\$ -
	+	
4 Number of Advisors		<input type="text"/>
	=	
5 Equals Sales Objective per Advisor		\$0.00
	+	
6 Number of work days per month		<input type="text"/>
	=	
7 Equals daily sales objective per advisor		\$0.00
	+	
8 Current overall effective labor rate		\$ 95.09
	=	
9 Equals daily sales objective per advisor (FRH's)		0.0

Net 10 %

1 Service Department's Monthly Expenses		\$0
	+	
2 Divide by current labor gross profit % minus 10 to net 10%		64.38%
	=	
3 Equals New Sales Objective		\$ -
	+	
4 Number of Advisors		0.0
	=	
5 Equals Sales Objective per Advisor		\$0.00
	+	
6 Number of work days per month		0
	=	
7 Equals daily sales objective per advisor		\$0.00
	+	
8 Current overall effective labor rate		\$ 95.09
	=	
9 Equals daily sales objective per advisor (FRH's)		0.0

Net 20 %

1 Service Department's Monthly Expenses		\$0
	+	
2 Divide by current labor gross profit % minus 20 to net 20%		54.38%
	=	
3 Equals New Sales Objective		\$ -
	+	
4 Number of Advisors		0.0
	=	
5 Equals Sales Objective per Advisor		\$0.00
	+	
6 Number of work days per month		0
	=	
7 Equals daily sales objective per advisor		\$0.00
	+	
8 Current overall effective labor rate		\$ 95.09
	=	
9 Equals daily sales objective per advisor (FRH's)		0.0

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Exercise to See What Happens When You Increase Your Hours Per Repair Order

Number of customer R.O.'s for the month	X	<input type="text" value=""/>
Multiply by .3 hours		<input type="text" value="0.3 hours"/>
Additional customer labor hours generated	=	<input type="text" value="0.00"/>
	X	<input type="text" value=""/>
Multiply by Customer Labor Rate		<input type="text" value="\$ 86.85"/>
Equals additional Customer Labor Sales Generated	=	<input type="text" value="\$ -"/>
	X	<input type="text" value=""/>
Multiply by customer Labor Gross Profit %		<input type="text" value="70.33%"/>
Equals additional Labor Gross Profit \$ generated	= (A)	<input type="text" value="\$ -"/>
Divide Parts Sales R.O. by Labor Sales R.O. to calculate \$ parts sales per \$ of Labor Sales	=	<input type="text" value="0.97"/>
	X	<input type="text" value=""/>
Multiply by Customer Labor Sales		<input type="text" value="\$ -"/>
	=	<input type="text" value=""/>
Equals additional Customer Parts Sales generated		<input type="text" value="\$ -"/>
	X	<input type="text" value=""/>
Multiply by Customer Parts Sales Gross Profit %		<input type="text" value=""/>
Equals additional Parts Gross Profit \$ Generated	= (B)	<input type="text" value="\$ -"/>
Add Gross Profit from Labor (A) and Parts (B)	=	<input type="text" value="\$ -"/>

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Labor Rate Calculations

1 Calculate the **Labor Rate** for the following operation.

A/C Charge and Check

Labor Price \$144.00
 Units 1.2

$$\frac{\text{Price}}{\text{Units}} = \text{Labor Rate} = \$0.00$$

2 Calculate the **Effective Labor Rate** for the following "Repair" operations.

Labor Operations	Labor Price		Labor Units		Labor Rate
Clean Fuel Injectors	\$ 117.60	÷	1.20	=	<input type="text"/>
R&R Rear Hub Bearing.	\$ 96.00	÷	0.80	=	<input type="text"/>
Replace Trans. Pan gasket	\$ 107.80	÷	1.10	=	<input type="text"/>
R&R Headlight unit (1)	\$ 108.00	÷	0.90	=	<input type="text"/>
	Total Price	÷	Total Units	=	\$0.00 Effective Labor Rate (For This R.O.)

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Calculating Mark-Up

3 Using the following formula, mark-up a part costing \$6.72 to attain a 35% gross profit (round to the nearest cent)

$$\begin{array}{rcccl}
 \boxed{100\%} & \xrightarrow{\quad} & \boxed{} & = & \boxed{0.00} \\
 100\% & & \text{Desired Gross} & & \text{Mark-Up} \\
 & & \text{Profit percent} & & \text{Factor} \\
 \\
 \boxed{} & \times & \boxed{0.00} & = & \boxed{\$0.00} \\
 \text{Part Cost} & & \text{Mark-Up Factor} & & \text{Retail Price}
 \end{array}$$

4 Calculate the "Weighted Average" price at a 40% Gross Profit for the following parts (round to the nearest cent)

Item	Cost	Annual Turnover	Total Cost
Filter #1	\$4.36	X 112	= <input type="text"/>
Filter #2	\$4.01	X 56	= <input type="text"/>
Filter #3	\$3.56	X 85	= <input type="text"/>
Filter #4	\$3.86	X 202	= <input type="text"/>
Filter #5	\$3.51	X 36	= <input type="text"/>
Total Items		<input type="text" value="491"/>	Total Cost <input type="text" value="\$0.00"/>

$$\begin{array}{rcccl}
 \boxed{\$ -} & \div & \boxed{491} & = & \boxed{\$ -} \\
 \text{Total Cost} & & \text{Total Items} & & \text{Average Cost}
 \end{array}$$

$$\begin{array}{rcccl}
 \boxed{\$ -} & \times & \boxed{} & = & \boxed{\$ -} \\
 \text{Cost} & & \text{Factor} & & \text{Average Price}
 \end{array}$$

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Cost Of A Come-Back

Lost Customer Opportunity			<input type="text"/>
Average Hours per R.O.	X		<input type="text"/>
	=		<input type="text" value="0.0"/>
Effective Labor Rate	X		<input type="text" value="\$ 95.09"/>
Lost Labor Sales	=		<input type="text" value="\$ -"/> (A)
<hr/>			
Service Department Gross Profit % (Excluding Sublet)	X		<input type="text" value="74.38%"/>
Lost Labor Gross	=		<input type="text" value="\$ -"/> (B)
<hr/>			
Lost Labor Sales			<input type="text" value="\$ -"/> (A)
Parts / Labor Ratio	X		<input type="text" value="0.97"/>
	=		<input type="text" value="\$ -"/>
Parts Dept Gross Profit % R.O.Sales	X		<input type="text"/>
Lost Parts Gross	=		<input type="text" value="\$ -"/> (C)
<hr/>			
Lost Labor Gross			<input type="text" value="\$ -"/> (B)
Lost Parts Gross	+		<input type="text" value="\$ -"/> (C)
Total Lost Gross	=		<input type="text" value="\$ -"/>

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