



Fixed Operations 2 -

Financial Calculations and Formulas

Dealership

Student

Class #

Service

Service Department Sales And Gross (Labor Only)

Category	Sales	Gross	Gross as % of Sales	Margin
Customer Pay	\$ 48,228	\$ 34,674	71.91%	43.50%
Customer	\$ 6,072	\$ 4,615	75.99%	5.25%
Customer Aerial			0%	-1.00%
Warranty	\$ 22,220	\$ 17,062	76.78%	19.21%
Warranty Other			0%	-0.00%
Internal	\$ 39,214	\$ 30,248	77.14%	31.19%
Inv / Road Ready / PDI			0%	0.00%
PDI Cost/Off Labor	\$ 12,472	\$ 0	0%	-0.00%
Total	\$ 115,728	\$ 77,927	66.99%	100.00%

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The Picture	
Customer Pay Gross Profit %	74.94%
Total Service Dept. G.P. %	66.99%

Parts To Labor Ratio

Customer Category	Parts Service	Labor Service	Ratio
Customer Pay	\$ 43,572	\$ 48,323	0.90
Customer	\$	\$ 6,073	0.00
Customer Agent	\$	\$	0.00
Warranty	\$ 23,146	\$ 22,220	0.95
Warranty Other	\$	\$	0.00
Internal	\$ 38,793	\$ 39,214	1.01
Total	\$ 104,954	\$ 115,728	0.91

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Customer Pay Gross Profit %	74.64%
Total Service Dept. G.P. %	66.99%
Parts / Labor Ratio (Cust. Pay Only)	0.91

Service Department Profit Centering

Revenue Component	Value Amount	% of Gross Profit
Customer Service	\$ 77,293	0.00%
Variable Expense		0.00%
Selling Expense		0.00%
Personnel Expense	\$ 40,507	52.30%
Items Fixed Expense	\$ 14,452	18.64%
Cost Expense	\$ 16,384	21.06%
Unallocated Expense		0.00%
Dealer's Salary		0.00%
Total Expenses	\$ 71,343	91.24%
Net Profit	\$ 6,450	8.28%

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Customer Pay Gross Profit %	74.92%
Total Service Dept. G.P. %	66.99%
Parts / Labor Ratio (Cost. Pay Only)	0.81
Total Service Dept. Expenses	\$ 71,343

Fixed Absorption

Parts Department Total Gross	\$ 52,224	% All Outlet Exp 11.33%
Service Department Total Gross	\$ 84,660	22.63%
Body Shop Department Total Gross		0.00%
Total Fixed Gross Profit	\$ 137,084	
Total Dealership Expense	\$ 374,259	

Overhead Expense	\$ 374,259	
Total Fixed Gross Profit	\$ 137,084	
Total Dealership Expense	\$ 374,259	
Fixed Absorption Percentage	36.87%	Guideline 60%
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The Picture	
Customer Pay Gross Profit %	74.94%
Total Service Dept. C.P. %	56.90%
Parts / Labor Ratio (Cust. Pay Only)	0.31
Total Service Dept. Expenses	\$ 71,123

SERVICE INVENTORY ANALYSIS

	Labor Sales / Month	Effective Labor Rates	Hours Billed
Customer Pay	\$ 48,221	÷ 116.71 =	413.2
Customer	\$ 6,073	÷ 116.71 =	52.0
Customer Other	\$ -	÷ =	0.00
Warranty	\$ 22,228	÷ 125.58 =	177.0
Internal	\$ 39,214	÷ 139.95 =	280.2
New Vehicle Prep	\$ -	÷ =	0.00
Total	\$ 115,736		922.4

POTENTIAL

\$ 115,736	÷	922.41	=	\$ 125.47
Total labor sales for month		Total hours billed		Effective Labor Rate

6.00	x	8	x	24.0	=	1,152.0
# Service mechanical technicians		# Hours/Day		Working Days/Month		Hours Available to Sell

1,152.0	x	\$ 125.47	=	\$ 144,543	=	\$ 180,679.26
Hours Available to Sell		Effective Labor Rate		Labor sales potential @100%		Labor sales potential @ 125%

How proficient are your technicians ?

922.4	÷	1,152.00	=	80.07%
Total Hours Billed		Hours Available to Sell		Tech Proficiency

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Hours Per RO (RO Analysis)	1.7
Percent of One Item R.O.'s (RO Analysis)	64.00%
Customer Pay Effective Labor Rate (DMS Report)	\$ 116.71
Warranty Labor Rate (DMS Report)	\$ 125.58
Total Overall Effective Labor Rate	\$ 125.47
Overall Technician Proficiency	80.07%

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	\$ 125.47
	<i>equals</i>
FACILITY POTENTIAL	\$ -

FACILITY UTILIZATION	
Total Labor Sales	\$ 115,736
	÷
Facility Potential	\$ -
	<i>equals</i>
FACILITY UTILIZATION	0.00%

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Calculating Real Cost of Labor

\$ 115,736
Labor Sales

Divided by Hours Billed

0.00
= OELR

\$ 115,736
Labor Sales

-Labor Gross

\$ 115,736
=Labor Cost

\$ 115,736
Labor Cost

0.00
/ Hours Billed

\$0.00
=Real Cost

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Real Cost

÷

24.00%

=

\$0.00

E.L.R. Needed to earn
76%

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OWNER BASE POTENTIAL

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

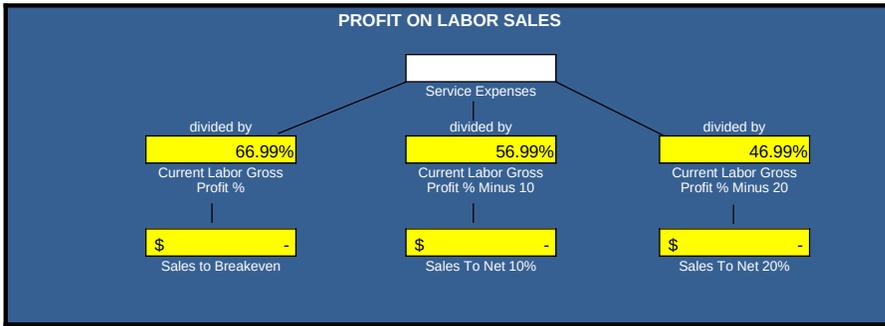
x =
Market Potential/ Hours Effective Labor Rate 5 Yr. O.B Sales Potential

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

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

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

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Customer Pay Gross Profit %	<input type="text" value="74.94%"/>	Customer Pay E.L.R.	<input type="text" value="\$ 116.71"/>
Total Service Dept. G.P.%	<input type="text" value="66.99%"/>	Total (overall) E.L.R.	<input type="text" value="\$ 125.47"/>
Parts / Labor Ratio (Cust Pay Only)	<input type="text" value="0.81"/>	Warranty Labor Rate	<input type="text" value="\$ 125.58"/>
Total Service Dept Expense	<input type="text" value="\$ 71,123"/>	Overall Tech Proficiency	<input type="text" value="80.07%"/>
Hours Per R.O (recap)	<input type="text" value="1.70"/>		
Percent Of One Item R.O.'s	<input type="text" value="64.00%"/>		

Technician Value

Calculate using daily available hours per technician

Hours	x	Days	x	Labor Rate	=	Sales Value
<input type="text"/>		<input type="text"/>		\$ 125.47		\$ -

Sales Value	x	Gross Margin	=	Profit Value
\$ -		66.99%		\$ -

\$ -	x	70%		\$ -
\$ -	x	80%		\$ -
\$ -	x	90%		\$ -
\$ -	x	100%		\$ -
\$ -	x	110%		\$ -
\$ -	x	120%		\$ -
\$ -	x	<input type="text"/> 0.0%	=	\$ -
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=""/>	÷	<input type="text" value="66.99%"/>	=	<input 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 type="text" value="46.99%"/>	=	<input 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 type="text" value="80%"/>	X	<input type="text" value="\$ 125.47"/>	X	<input type="text" value="0"/>	=	<input type="text" value="\$0"/>
<input type="text" value="0"/>	X	<input type="text" value="90%"/>	X	<input type="text" value="\$ 125.47"/>	X	<input type="text" value="0"/>	=	<input type="text" value="\$0"/>
<input type="text" value="0"/>	X	<input type="text" value="100%"/>	X	<input type="text" value="\$ 125.47"/>	X	<input type="text" value="0"/>	=	<input type="text" value="\$0"/>
<input type="text" value="0"/>	X	<input type="text" value="120%"/>	X	<input type="text" value="\$ 125.47"/>	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	÷ <input type="text" value="66.99%"/>
3 Equals New Sales Objective	= \$ <input type="text" value="0"/>
4 Number of Advisors	÷ <input type="text"/>
5 Equals Sales Objective per Advisor	= <input type="text" value="\$0.00"/>
6 Number of work days per month	÷ <input type="text"/>
7 Equals daily sales objective per advisor	= <input type="text" value="\$0.00"/>
8 Current overall effective labor rate	÷ \$ <input type="text" value="125.47"/>
9 Equals daily sales objective per advisor (FRH's)	= <input type="text" value="0.0"/>

Net 10 %	
1 Service Department's Monthly Expenses	<input type="text" value="0"/>
2 Divide by current labor gross profit % minus 10 to net 10%	÷ <input type="text" value="56.99%"/>
3 Equals New Sales Objective	= \$ <input type="text" value="0"/>
4 Number of Advisors	÷ <input type="text" value="0.0"/>
5 Equals Sales Objective per Advisor	= <input type="text" value="\$0.00"/>
6 Number of work days per month	÷ <input type="text" value="0"/>
7 Equals daily sales objective per advisor	= <input type="text" value="\$0.00"/>
8 Current overall effective labor rate	÷ \$ <input type="text" value="125.47"/>
9 Equals daily sales objective per advisor (FRH's)	= <input type="text" value="0.0"/>

Net 20 %	
1 Service Department's Monthly Expenses	<input type="text" value="0"/>
2 Divide by current labor gross profit % minus 20 to net 20%	÷ <input type="text" value="46.99%"/>
3 Equals New Sales Objective	= \$ <input type="text" value="0"/>
4 Number of Advisors	÷ <input type="text" value="0.0"/>
5 Equals Sales Objective per Advisor	= <input type="text" value="\$0.00"/>
6 Number of work days per month	÷ <input type="text" value="0"/>
7 Equals daily sales objective per advisor	= <input type="text" value="\$0.00"/>
8 Current overall effective labor rate	÷ \$ <input type="text" value="125.47"/>
9 Equals daily sales objective per advisor (FRH's)	= <input type="text" value="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="\$ 116.71"/>
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="74.94%"/>
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 1\$ of Labor Sales	=	<input type="text" value="0.81"/>
	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		
Hours	1.2		

_____	÷	_____	=	\$0.00
Price		Hours		Labor Rate

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

Labor Operations	Labor Price		Labor Hours		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"/>
	_____	÷	_____	=	\$0.00
	Total Price		Total Hours		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	112	<input type="text"/>
Filter #2	\$4.01	56	<input type="text"/>
Filter #3	\$3.56	85	<input type="text"/>
Filter #4	\$3.86	202	<input type="text"/>
Filter #5	\$3.51	36	<input type="text"/>
Total Items		<input type="text" value="491"/>	<input type="text" value="\$0.00"/>

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

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

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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="\$ 125.47"/>
Lost Labor Sales	=	<input type="text" value="\$ -"/> (A)
<hr/>		
Service Department Gross Profit % (Excluding Sublet)	X	<input type="text" value="66.99%"/>
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="0.91"/>
	=	<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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