



Fixed Operations 2 -

Financial Calculations and Formulas

AUDI TACOMA

Dealership

N30

Student

N415

Class #

- Service

Service Department Sales And Gross (Labor Only)

Category	Sales	Gross	Gross as % of Sales	Margin
Customer Pay	\$ 113,940	\$ 97,811	85.8%	14.20%
Customer			0%	0.00%
Customer Other			0%	0.00%
Warranty	\$ 168,213	\$ 132,800	78.95%	21.43%
Warranty/Other			0%	0.00%
Warranty	\$ 45,480	\$ 37,341	82.10%	17.90%
Out / Road Ready / PDI			0%	0.00%
ASB Cost For Labor			0%	0.00%
Total	\$ 327,645	\$ 257,458	78.72%	21.28%

The Picture	
Customer Pay Gross Profit %	77.00%
Total Service Dept. G.P. %	78.72%

Parts To Labor Ratios

Customer Category	Parts Service	Labor Costs	P/L Ratio
Customer Pay	\$ 62,432	\$ 113,390	0.55
Customer	\$	\$	0.00
Customer Other	\$	\$	0.00
Warranty	\$ 108,545	\$ 168,213	0.65
Warranty/Other	\$	\$	0.00
Warranty	\$ 66,396	\$ 46,402	1.43
Total	\$ 237,473	\$ 327,005	0.73

The Picture	
Customer Pay Gross Profit %	77.63%
Total Service Dept. G.P. %	78.72%
Parts / Labor Ratio (Cust. Pay Only)	0.50

Service Department Profit Centering

Expense Category	Amount	% of Gross	Profit
Department Gross	\$ 267,293		
Variable Expense		0.00%	
Selling Expense	\$ 663,242	63.33%	
Personnel Expense	\$ 296,150	11.43%	
Semi-Fixed Expense	\$ 87,000	37.60%	
Fixed Expense	\$ 81,000	31.00%	
Unallocated Expense		0.00%	
Dealer's Salary		0.00%	
Total Expenses	\$ 636,292	247.11%	
Net Profit	\$ 636,292	247.11%	

The Picture	
Customer Play Gross Profit %	77.22%
Total Service Dept. G.P. %	78.72%
Parts / Labor Ratio (Cust. Play Only)	0.92
Total Service Dept. Expenses	\$ 636,292

Fixed Absorption

Parts Department Total Gross	\$ 135,487	% All Outl Exp
Service Department Total Gross	\$ 295,144	63.30%
Body Shop Department Total Gross		0.00%
Total Fixed Gross Profit	\$ 388,611	
Total Dealership Expense	\$ 636,202	

Overhead Expense	\$ 636,202
Total Fixed Gross Profit	\$ 388,611
Total Dealership Expense	\$ 636,202
Fixed Absorption Percentage	61.10%

Guideline: 60%

The Picture	
Customer Pay Gross Profit %	77.63%
Total Service Dept. C.P. %	78.72%
Parts / Labor Ratio (Cust. Pay Only)	0.52
Total Service Dept. Expenses	\$ 636,202

SERVICE INVENTORY ANALYSIS

	Labor Sales / Month		Effective Labor Rates		Hours Billed
Customer Pay	\$ 113,340	÷	160.58	=	705.8
Customer	\$ -	÷		=	0.00
Customer Other	\$ -	÷		=	0.00
Warranty	\$ 168,213	÷	169.60	=	991.8
Internal	\$ 45,492	÷	142.16	=	320.0
New Vehicle Prep	\$ -	÷		=	0.00
Total	\$ 327,045				2017.6

POTENTIAL

$$\boxed{\$ 327,045} \div \boxed{2017.64} = \boxed{\$ 162.09}$$

Total labor sales for month

Total hours billed

Effective Labor Rate

$$\boxed{12.00} \times \boxed{10} \times \boxed{20.0} = \boxed{2,400.0}$$

Service mechanical technicians

Hours/Day

Working Days/Month

Hours Available to Sell

$$\boxed{2,400.0} \times \boxed{\$ 162.09} = \boxed{\$ 389,022} \quad \boxed{\$ 486,277.56}$$

Hours Available to Sell

Effective Labor Rate

Labor sales potential @100%

Labor sales potential @ 125%

How proficient are your technicians ?

$$\boxed{2,017.6} \div \boxed{2,400.00} = \boxed{84.07\%}$$

Total Hours Billed

Hours Available to Sell

Tech Proficiency

Hours Per RO (RO Analysis)

2.8

Percent of One Item R.O.'s (RO Analysis)

6.00%

Customer Pay Effective Labor Rate (DMS Report)

\$ 160.58

Warranty Labor Rate (DMS Report)

\$ 169.60

Total Overall Effective Labor Rate

\$ 162.09

Overall Technician Proficiency

84.07%

FACILITY POTENTIAL		
Number of Bays	19	
	x	
Number of Days	20	
	x	
Number of Hours	10	
	x	
Effective Labor Rate	\$ 162.09	
	equals	
FACILITY POTENTIAL		\$ 615,952

FACILITY UTILIZATION		
Total Labor Sales	\$ 327,045	
	÷	
Facility Potential	\$ 615,952	
	equals	
FACILITY UTILIZATION		53.10%

Calculating Real Cost of Labor

\$ 327,045

Labor Sales

2,030.0

Divided by Hours Billed

\$ 161.11

= OELR

\$ 327,045

Labor Sales

\$ 257,458

= Labor Gross

\$ 69,587

= Labor Cost

\$ 69,587

Labor Cost

2,030.00

/ Hours Billed

\$ 34.28

= Real Cost

\$34.28

Real Cost

÷

24.00%

=

\$142.83

E.L.R. Needed to earn
76%

OWNER BASE POTENTIAL

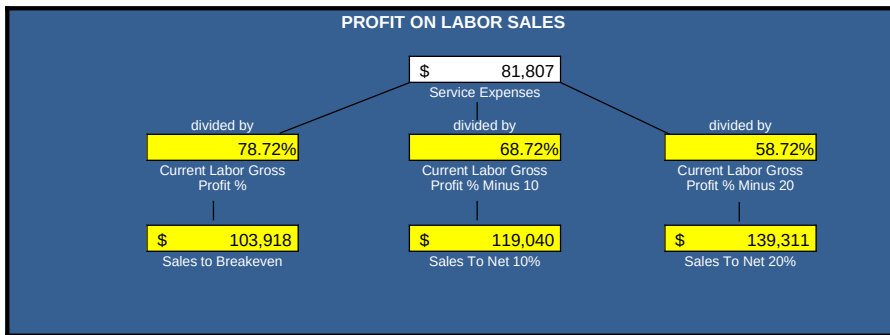
6919	x	8	=	55,352.0
5 Year Owner Base		Annual Hours Purchased		Market Potential / Hours

55,352.0	x	\$ 161.11	=	\$ 8,917,534
Market Potential/ Hours		Effective Labor Rate		5 Yr. O.B Sales Potential

\$ 349,790	x	12	=	\$ 4,197,480
Avg. Mos. Labor Sales (excluding internal, PDI and NVI)		Annualized		Current Labor Sales Trend

\$ 4,197,480	÷	\$ 8,917,534	=	47.07%
Labor Sales Trend		5 Yr. O.B. Sales Potential		Ouch

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



The Picture

Customer Pay Gross Profit %	77.03%	Customer Pay E.L.R.	\$ 160.58
Total Service Dept. G.P.%	78.72%	Total (overall) E.L.R.	\$ 162.09
Parts / Labor Ratio (Cust Pay Only)	0.52	Warranty Labor Rate	\$ 169.60
Total Service Dept Expense	\$ 636,202	Overall Tech Proficiency	84.07%
Hours Per R.O (recap)	2.79		
Percent Of One Item R.O.'s	6.00%		

Technician Value

Calculate using daily available hours per technician

Hours			Days			Labor Rate		Sales Value
	8	x		20	x	\$ 162.09	=	\$ 25,935

Sales Value			Gross Margin			Profit Value
\$ 25,935	x		78.72%	=		\$ 20,417

\$ 20,417	x	70%		\$ 14,292
\$ 20,417	x	80%		\$ 16,333
\$ 20,417	x	90%		\$ 18,375
\$ 20,417	x	100%		\$ 20,417
\$ 20,417	x	110%		\$ 22,458
\$ 20,417	x	120%		\$ 24,500
\$ 20,417	x	0.0%		\$ -
Profit Value		Your Proficiency #		Adjusted Profit Value

STAFFING REQUIREMENTS

A. Sales To Break Even

Service Expenses for One Month	÷	Current Gross Profit Percent	=	Sales To Break Even
\$ 81,007	÷	78.72%	=	\$ 102,902

B. Sales To Generate 20% Net

Service Expenses for One Month	÷	Current Gross Profit Percent (Minus 20)	=	Sales To Generate 20% Net
\$ 81,007	÷	58.72%	=	\$ 137,949

C. Technician Value

Daily Work Hours	X	Average Proficiency Rate	X	Overall Effective Labor Rate	X	Work Days Per Month	=	Technician Value
8	X	80%	X	\$ 162.09	X	20	=	\$20,748
8	X	90%	X	\$ 162.09	X	20	=	\$23,341
8	X	100%	X	\$ 162.09	X	20	=	\$25,935
8	X	120%	X	\$ 162.09	X	20	=	\$31,122

D. Staffing To Break Even

Sales To Break Even	÷	Technician Value	=	Staffing
\$ 102,902	÷	\$ 20,748 @ 80%	=	5.0
\$ 102,902	÷	\$ 23,341 @ 90%	=	4.4
\$ 102,902	÷	\$ 25,935 @ 100%	=	4.0
\$ 102,902	÷	\$ 31,122 @ 120%	=	3.3

E. Staffing To Generate 20% Net

Sales To Generate 20% Net	÷	Technician Value	=	Staffing
\$ 137,949	÷	\$ 20,748 @ 80%	=	6.6
\$ 137,949	÷	\$ 23,341 @ 90%	=	5.9
\$ 137,949	÷	\$ 25,935 @ 100%	=	5.3
\$ 137,949	÷	\$ 31,122 @ 120%	=	4.4

Service Advisor Performance

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

Break Even

1 Service Department's Monthly Expenses		\$81,007
2 Divide by current labor gross profit % to break even	÷	78.72%
3 Equals New Sales Objective	=	\$ 102,302
4 Number of Advisors	÷	4.0
5 Equals Sales Objective per Advisor	=	\$ 25,725
6 Number of work days per month	÷	24
7 Equals daily sales objective per advisor	=	\$ 1,072
8 Current overall effective labor rate	÷	\$ 162.09
9 Equals daily sales objective per advisor (FRH's)	=	6.6

Net 10 %

1 Service Department's Monthly Expenses		\$81,007
2 Divide by current labor gross profit % minus 10 to net 10%	÷	68.72%
3 Equals New Sales Objective	=	\$ 117,876
4 Number of Advisors	÷	4.0
5 Equals Sales Objective per Advisor	=	\$ 29,469
6 Number of work days per month	÷	24
7 Equals daily sales objective per advisor	=	\$ 1,228
8 Current overall effective labor rate	÷	\$ 162.09
9 Equals daily sales objective per advisor (FRH's)	=	7.6

Net 20 %

1 Service Department's Monthly Expenses		\$81,007
2 Divide by current labor gross profit % minus 20 to net 20%	÷	58.72%
3 Equals New Sales Objective	=	\$ 137,949
4 Number of Advisors	÷	4.0
5 Equals Sales Objective per Advisor	=	\$ 34,487
6 Number of work days per month	÷	24
7 Equals daily sales objective per advisor	=	\$ 1,437
8 Current overall effective labor rate	÷	\$ 162.09
9 Equals daily sales objective per advisor (FRH's)	=	8.9

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

Number of customer R.O.'s for the month		224
Multiply by .3 hours	X	0.3 hours
Additional customer labor hours generated	=	67.20
	X	
Multiply by Customer Labor Rate		\$ 160.58
Equals additional Customer Labor Sales Generated	=	\$ 10,791
	X	
Multiply by customer Labor Gross Profit %		77.03%
Equals additional Labor Gross Profit \$ generated	= (A)	\$ 8,313
Divide Parts Sales R.O. by Labor Sales R.O. to calculate \$ parts sales per \$ of Labor Sales	=	0.52
	X	
Multiply by Customer Labor Sales		\$ 10,791
	=	
Equals additional Customer Parts Sales generated		\$ 5,582
	X	
Multiply by Customer Parts Sales Gross Profit %		77.03%
Equals additional Parts Gross Profit \$ Generated	= (B)	\$ 4,300
Add Gross Profit from Labor (A) and Parts (B)	=	\$ 12,613

Labor Rate Calculations

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

A/C Charge and Check

	Labor Price	\$144.00	
	Hours	1.2	
<u>Price</u>	<u>\$399.95</u>	÷	<u>2.0</u>
		=	\$199.98
	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	=	\$ 98.00
R&R Rear Hub Bearing.	\$ 96.00	÷	0.80	=	\$ 120.00
Replace Trans. Pan gasket	\$ 107.80	÷	1.10	=	\$ 98.00
R&R Headlight unit (1)	\$ 108.00	÷	0.90	=	\$ 120.00
	<u>\$ 429.40</u>	÷	<u>4.0</u>	=	\$ 107.35
			Total Hours		Effective Labor Rate
					(For This R.O.)

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)

$$\begin{array}{rclcl}
 \boxed{100\%} & \longrightarrow & \boxed{35\%} & = & \boxed{1.54} \\
 100\% & & \text{Desired Gross} & & \text{Mark-Up} \\
 & & \text{Profit percent} & & \text{Factor} \\
 \\
 \boxed{\$6.72} & \times & \boxed{1.54} & = & \boxed{\$10.34} \\
 \text{Part Cost} & & \text{Mark-Up Factor} & & \text{Retail Price}
 \end{array}$$

- 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	=	\$488.32
Filter #2	\$4.01	X	56	=	\$224.56
Filter #3	\$3.56	X	85	=	\$302.60
Filter #4	\$3.86	X	202	=	\$779.72
Filter #5	\$3.51	X	36	=	\$126.36
		Total Items	491	Total Cost	\$1,921.56

$$\begin{array}{rclcl}
 \$ \boxed{1,921.56} & \div & \boxed{491} & = & \$ \boxed{3.91} \\
 \text{Total Cost} & & \text{Total Items} & & \text{Weighted} \\
 & & & & \text{Average Cost}
 \end{array}$$

$$\begin{array}{rclcl}
 \$ \boxed{3.91} & \times & \boxed{35.00} & = & \$ \boxed{136.97} \\
 \text{Weighted Average} & & \text{Mark-Up} & & \text{Weighted} \\
 \text{Cost} & & \text{Factor} & & \text{Average Price}
 \end{array}$$

Cost Of A Come-Back

Lost Customer Opportunity		137.0	
Average Hours per R.O.	X	2.8	
	=	382.2	
Effective Labor Rate	X	\$ 162.09	
Lost Labor Sales	=	\$ 61,957	(A)
Service Department Gross Profit % (Excluding Sublet)	X	78.72%	
Lost Labor Gross	=	\$ 48,774	(B)
Lost Labor Sales		\$ 61,957	(A)
Parts / Labor Ratio	X	0.52	
	=	\$ 32,051	
Parts Dept Gross Profit % R.O.Sales	X	39.96%	
Lost Parts Gross	=	\$ 12,808	(C)
Lost Labor Gross		\$ 48,774	(B)
Lost Parts Gross	+	\$ 12,808	(C)
Total Lost Gross	=	\$ 61,581	