

## Chapter Five Appendix

### DEPRECIATION METHODS

### DEPRECIATION METHODS

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- Straight-Line
- Sum-of-the-Years'-Digits
- Double-Declining-Balance
- Modified ACRS (Accelerated Cost Recovery System)

### EXAMPLE:

A delivery van was purchased for \$40,000. It has a life of five years and a salvage value of \$4,000.

Cost = \$40,000

Life = Five years

Salvage value = \$4,000

### STRAIGHT-LINE METHOD

An equal amount of depreciation taken each period.

Compute depreciable cost

$$\begin{array}{r r r r r} \text{COST} & - & \text{SALVAGE} & = & \text{DEPRECIABLE} \\ & & \text{VALUE} & & \text{COST} \\ \$40,000 & - & \$4,000 & = & \$36,000 \end{array}$$

### STRAIGHT-LINE METHOD

Divide depreciable cost by expected life of asset.

$$\begin{array}{r r r r r} \text{Depreciable Cost} & & = & \text{Depreciation} & \\ \text{Years of Life} & & & \text{Expense per year} & \\ \\ \frac{\$36,000}{5 \text{ years}} & = & & \$7,200 & \\ & & & \text{per year} & \end{array}$$

### STRAIGHT-LINE METHOD

It is often convenient to use a depreciation rate

Depreciation rate per year

20%

20% of the asset's depreciable cost will be recognized as Depreciation Expense each year.

## STRAIGHT-LINE DEPRECIATION SCHEDULE

Year	Depreciable Cost	X Rate	= Depreciation Expense	Accumulated Depreciation (end of year)	Book Value (end of year)
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1	\$36,000				
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**Original Cost minus Salvage Value**  
**\$40,000 - \$4,000**

## STRAIGHT-LINE DEPRECIATION SCHEDULE

Year	Depreciable Cost	X Rate	= Depreciation Expense	Accumulated Depreciation (end of year)	Book Value (end of year)
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1	\$36,000	20%			
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**1 / Years of Life**  
**1 / 5 year life**

## STRAIGHT-LINE DEPRECIATION SCHEDULE

Year	Depreciable Cost	X Rate	= Depreciation Expense	Accumulated Depreciation (end of year)	Book Value (end of year)
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1	\$36,000	20%	\$7,200		
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**Depreciable Cost x Depreciation Rate**  
**\$36,000 x 20%**

## STRAIGHT-LINE DEPRECIATION SCHEDULE

Year	Depreciable Cost	X Rate	= Depreciation Expense	Accumulated Depreciation (end of year)	Book Value (end of year)
------	---------------------	--------	---------------------------	--	-----------------------------

1	\$36,000	20%	\$7,200	\$7,200	
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**Since this is the first year of the  
asset's life, only this year's  
depreciation has accumulated.**

## STRAIGHT-LINE DEPRECIATION SCHEDULE

Year	Depreciable Cost	X Rate	= Depreciation Expense	Accumulated Depreciation (end of year)	Book Value (end of year)
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1	\$36,000	20%	\$7,200	\$7,200	\$32,800
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**Book Value is  
Cost minus Accumulated Depreciation.**  
**\$40,000 - \$7,200**

## STRAIGHT-LINE DEPRECIATION SCHEDULE

Year	Depreciable Cost	X Rate	= Depreciation Expense	Accumulated Depreciation (end of year)	Book Value (end of year)
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1	\$36,000	20%	\$7,200	\$7,200	\$32,800
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2	\$36,000				
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**Depreciable Cost does not change.**

## STRAIGHT-LINE DEPRECIATION SCHEDULE

Year	Depreciable Cost	X Rate	= Depreciation Expense	Accumulated Depreciation (end of year)	Book Value (end of year)
1	\$36,000	20%	\$7,200	\$7,200	\$32,800
2	\$36,000	20%			

Depreciation Rate does not change.

## STRAIGHT-LINE DEPRECIATION SCHEDULE

Year	Depreciable Cost	X Rate	= Depreciation Expense	Accumulated Depreciation (end of year)	Book Value (end of year)
1	\$36,000	20%	\$7,200	\$7,200	\$32,800
2	\$36,000	20%	<b>\$7,200</b>		

Depreciation Expense remains the same each year.

## STRAIGHT-LINE DEPRECIATION SCHEDULE

Year	Depreciable Cost	X Rate	= Depreciation Expense	Accumulated Depreciation (end of year)	Book Value (end of year)
1	\$36,000	20%	\$7,200	\$7,200	\$32,800
2	\$36,000	20%	\$7,200	<b>\$14,400</b>	

Now two years of depreciation has accumulated.  
**\$7,200 + \$7,200**

## STRAIGHT-LINE DEPRECIATION SCHEDULE

Year	Depreciable Cost	X Rate	= Depreciation Expense	Accumulated Depreciation (end of year)	Book Value (end of year)
1	\$36,000	20%	\$7,200	\$7,200	\$32,800
2	\$36,000	20%	\$7,200	\$14,400	<b>\$25,600</b>

Cost - Accumulated Depreciation  
**\$40,000 - \$14,400**

## STRAIGHT-LINE DEPRECIATION SCHEDULE

Year	Depreciable Cost	X Rate	= Depreciation Expense	Accumulated Depreciation (end of year)	Book Value (end of year)
1	\$36,000	20%	\$7,200	\$7,200	\$32,800
2	\$36,000	20%	\$7,200	\$14,400	<b>\$25,600</b>

Book Value declines over the life of the asset.

## STRAIGHT-LINE DEPRECIATION SCHEDULE

Year	Depreciable Cost	X Rate	= Depreciation Expense	Accumulated Depreciation (end of year)	Book Value (end of year)
1	\$36,000	20%	\$7,200	\$7,200	\$32,800
2	\$36,000	20%	\$7,200	\$14,400	\$25,600
3	\$36,000	20%	\$7,200	\$21,600	\$18,400
4	\$36,000	20%	\$7,200	\$28,800	\$11,200
5	\$36,000	20%	\$7,200	<b>\$36,000</b>	

The entire Depreciable Cost has now been recognized as Depreciation Expense.

## STRAIGHT-LINE DEPRECIATION SCHEDULE

Year	Depreciable Cost	X	Rate	= Depreciation Expense	Accumulated Depreciation (end of year)	Book Value (end of year)
1	\$36,000		20%	\$7,200	\$7,200	\$32,800
2	\$36,000		20%	\$7,200	\$14,400	\$25,600
3	\$36,000		20%	\$7,200	\$21,600	\$18,400
4	\$36,000		20%	\$7,200	\$28,800	\$11,200
5	\$36,000		20%	\$7,200	\$36,000	\$4,000

**Book Value has fallen to the Salvage Value.**

## MODIFIED ACCELERATED COST RECOVERY SYSTEM

- **Used for Tax Purposes**
- **IRS classifies assets according to useful life and sets rates**
- **Rates are then multiplied by the cost of the asset**
- **Assume no salvage value**
- **Abbreviated MACRS**

**MACRS Depreciation Table**

Class of Property	Items Included
3-year property	Tractor units, racehorses over two years old, and horses over 12 years
5-year property	Automobiles, taxis, buses, trucks, computers and peripheral
7-year property	Office furniture and fixtures, and any property that has not been
10-year property	Vessels, barges, tugs, similar water transportation equipment, single-
15-year property	Depreciable improvements to land such as shrubbery, fences, roads,
20-year property	Farm buildings that are not agricultural or horticultural
27.5-year property	Residential rental property.
39-year property	Nonresidential real estate, including home offices.

## MACRS example

**A delivery van was purchased for \$40,000. It has a five year useful life and salvage value of \$4,000.**

**The IRS would classify this van as 5-year property. MACRS assumes no salvage value.**

## MACRS Depreciation Schedule

Year	Cost	X	Rate	= Depreciation Expense	Accumulated Depreciation (end of year)	Book Value (end of year)
1	\$40,000					

**MACRS sets Salvage Value to \$0**

## MACRS Depreciation Schedule

Year	Cost	X	Rate	= Depreciation Expense	Accumulated Depreciation (end of year)	Book Value (end of year)
1	\$40,000		20%			

**MACRS sets the first year rate at 20%  
Half-year depreciation**

## MACRS Depreciation Schedule

Year	Cost	X	Rate = Expense	Depreciation	Accumulated Depreciation Book Value (end of year)(end of year)
1	\$40,000		20%	\$8,000	

**Cost x Rate**  
**\$40,000 x 20%**

## MACRS Depreciation Schedule

Year	Cost	X	Rate = Expense	Depreciation	Accumulated Depreciation Book Value (end of year)(end of year)
1	\$40,000		20%	\$8,000	\$8,000 \$32,000

**Cost - Accumulated Depreciation**  
**\$40,000 - \$8,000**

## MACRS Depreciation Schedule

Year	Cost	X	Rate = Expense	Depreciation	Accumulated Depreciation Book Value (end of year)(end of year)
1	\$40,000		20%	\$8,000	\$8,000 \$32,000
2	\$40,000		32%		

**MACRS has a larger 2nd year rate**  
**Full year depreciation**

## MACRS Depreciation Schedule

Year	Cost	X	Rate = Expense	Depreciation	Accumulated Depreciation Book Value (end of year)(end of year)
1	\$40,000		20%	\$8,000	\$8,000 \$32,000
2	\$40,000		32%	\$12,800	\$20,800 \$19,200
3	\$40,000		19.20%		

**Each year has a different rate.**

## MACRS Depreciation Schedule

Year	Cost	X	Rate = Expense	Depreciation	Accumulated Depreciation Book Value (end of year)(end of year)
1	\$40,000		20%	\$8,000	\$8,000 \$32,000
2	\$40,000		32%	\$12,800	\$20,800 \$19,200
3	\$40,000		19.20%	\$7,680	\$28,480 \$11,520
4	\$40,000		11.52%	\$4,608	\$33,088 \$6,912
5	\$40,000		11.52%	\$4,608	\$37,696 \$2,304
6	\$40,000		5.76%	\$2,304	\$40,000 \$0
			<b>100%</b>	<b>\$40,000</b>	

**At the end year 6,**  
**all of the asset's**  
**cost will have been**  
**recognized as**  
**Depreciation Expense.**

## MACRS Depreciation Schedule

Year	Cost	X	Rate = Expense	Depreciation	Accumulated Depreciation Book Value (end of year)(end of year)
1	\$40,000		20%	\$8,000	\$8,000 \$32,000
2	\$40,000		32%	\$12,800	\$20,800 \$19,200
3	\$40,000		19.20%	\$7,680	\$28,480 \$11,520
4	\$40,000		11.52%	\$4,608	\$33,088 \$6,912
5	\$40,000		11.52%	\$4,608	\$37,696 \$2,304
6	\$40,000		5.76%	\$2,304	\$40,000 \$0
			<b>100%</b>	<b>\$40,000</b>	

End of Chapter 5 Appendix

