

Exercise *E15-15
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Determine the amount of one interest payment:

$$\$200,000 \times 8\% \times 6/12 = \$8,000$$

PV of \$200,000 @ 10% semiannually:

$$\$200,000 \times .61391 = \$122,782.00$$

PV of Interest (one int pmt x factor):

$$\$8,000 \times 7.72173 = \underline{61,773.84}$$

Proceeds from the Sale of Bonds **\$184,555.84**

Make the journal entry for the sale of the bonds.

<u>Date</u>	<u>Account Titles</u>	<u>Debit</u>	<u>Credit</u>
1/1/04	Cash	184,556	
	Discount Bonds Payable	15,444	
	Bonds Payable		200,000

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Determine the amount of one interest payment:

$$\text{\$300,000} \times 11\% \times 6/12 = \text{\$16,500}$$

PV of **\\$300,000 @ 10% semiannually:**

$$\text{\$300,000} \times .37689 = \text{\$113,067}$$

PV of Interest (one int pmt x factor):

$$\text{\$16,500} \times 12.46221 = \text{\underline{205,626}}$$

Proceeds from the Sale of Bonds **\\$318,693**

(a) (1) The journal entry for the sale of the bonds is:

<u>Date</u>	<u>Account Titles</u>	<u>Debit</u>	<u>Credit</u>
1/1	Cash	318,693	
	Premium on Bonds Pay		18,693
	Bonds Payable		300,000

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(a)

<u>Date</u>	<u>Account Titles</u>	<u>Debit</u>	<u>Credit</u>
1/1	Cash	318,693	
	Premium on Bonds Pay		18,693
	Bonds Payable		300,000
(b)			
7/1	Interest Expense	16,500	
	Cash		16,500
7/1	Premium on Bonds Pay	565	
	Interest Expense		565
(c)			
12/31	Interest Expense	16,500	
	Interest Payable		16,500
12/31	Premium on Bonds Pay	594	
	Interest Expense		594

This version records interest and amortization in SEPARATE entries; accrues interest instead of PAID on Dec 31.

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(a)

<u>Date</u>	<u>Account Titles</u>	<u>Debit</u>	<u>Credit</u>
1/1/12	Cash	318,694	
	Premium on Bonds Pay		18,694
	Bonds Payable		300,000
(b)			
7/1	Interest Expense	15,935	
	Premium on Bonds Pay	565	
	Cash		16,500
12/31	Interest Expense	15,935	
	Premium on Bonds Pay	594	
	Interest Payable		16,500
	...and the payment?		
1/1	Interest Payable	16,500	
	Cash		16,500

This version is most like textbook solution: interest payment and amortization in SAME entry; accrues interest at 12/31 but also assumes payment on 1/1

Exercise *E15-17 (continued)

(b)

(Examples of similar “charts” are on text pages 696 and 697)

<u>Pmt</u>	<u>A</u> Interest Paid (5.5% x \$300,000)	<u>B</u> Interest Expense (5% x E)	<u>C</u> Premium Amortization (A - B)	<u>D</u> Unamortized Premium (D - C)	<u>E</u> B. C. A. (\$300,000 + D) (E - C)
				18,693	318,693
1	16,500	15,935	565	18,128	318,128
2	16,500	15,906	594	17,534	317,534
3	16,500	15,877	623	16,911	316,911
4	16,500	15,846	654	16,257	316,257
5	16,500	15,813	687	15,570	315,570

Exercise *E15-16

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Determine the amount of one interest payment:

$$\$600,000 \times 9\% \times 6/12 = \$27,000$$

PV of \$600,000 @ 10% semiannually:

$$\$600,000 \times .37689 = \$226,134$$

PV of Interest (one int pmt x factor):

$$\$27,000 \times 12.46221 = \underline{\underline{336,479}}$$

$$\text{Proceeds from the Sale of Bonds} \quad \underline{\underline{\$562,613}}$$

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(a)

<u>Date</u>	<u>Account Titles</u>	<u>Debit</u>	<u>Credit</u>
1/1/12	Cash	562,613	
	Discount on Bonds Pay	37,387	
	Bonds Payable		600,000
(b)			
7/1	Interest Expense	27,000	
	Cash		27,000
7/1	Bond Interest Expense	1,131	
	Discount on Bonds Pay		1,131
(c)			
12/31	Bond Interest Expense	27,000	
	Bond Interest Payable		27,000
12/31	Bond Interest Expense	1,187	
	Discount on Bonds Pay		1,187

This version records interest and amortization in SEPARATE entries; accrues interest instead of PAID on Dec 31.

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(a)

<u>Date</u>	<u>Account Titles</u>	<u>Debit</u>	<u>Credit</u>
1/1/12	Cash	562,613	
	Discount on Bonds Pay	37,387	
	Bonds Payable		600,000
(b)			
7/1	Bond Interest Expense	28,131	
	Discount on Bonds Pay		1,131
	Cash		27,000
(c)			
12/31	Bond Interest Expense	28,187	
	Discount on Bonds Pay		1,187
	Bond Interest Payable		27,000
	...and the payment?		
1/1/13	Bond Interest Payable	27,000	
	Cash		27,000

This version is most like textbook solution: interest payment and amortization in SAME entry; accrues interest at 12/31 but also assumes payment on 1/1/13.

Exercise *E15-16 (continued)

(b)

(Examples of similar “charts” are on text pages 696 and 697)

<u>Pmt</u>	<u>A</u> Interest Paid (4.5% x \$600,000)	<u>B</u> Interest Expense (5% x E)	<u>C</u> Discount Amortization (B - A)	<u>D</u> Unamortized Discount (D - C)	<u>E</u> B. C. A. (\$600,000 - D) (E + C)
				37,387	562,613
1	27,000	28,131	1,131	36,256	563,744
2	27,000	28,187	1,187	35,069	564,931
3	27,000	28,247	1,247	33,822	566,178
4	27,000	28,309	1,309	32,513	567,487
5	27,000	28,374	1,374	31,139	568,861

Exercise E15-3

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(a)

<u>Date</u>	<u>Account Titles</u>	<u>Debit</u>	<u>Credit</u>
1/1	Cash	500,000	
	Bonds Payable		500,000
(b)			
7/1	Interest Expense	25,000	
	Cash		25,000
(c)			
12/31	Interest Expense	25,000	
	Interest Payable		25,000
	...and the payment?		
1/1/x6	Interest Payable	25,000	
	Cash		25,000

This version accrues interest at 12/31 and assumes the payment of interest on 1/1.

NOTE: THE SOLUTION THAT FOLLOWS ON THE NEXT PAGE WAS NOT REQUIRED IN THE PROBLEM BUT IS TO BE USED AT THE REVIEW TO MAKE THE POINT ABOUT THE SALES PRICE OF THE BOND

Exercise E15-3

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Determine the amount of one interest payment:

$$\$500,000 \times 10\% \times 6/12 = \$25,000$$

PV of \$500,000 @ 10% semiannually:

$$\$500,000 \times .37689 = \$188,445.00$$

PV of Interest (one int pmt x factor):

$$\$25,000 \times 12.46221 = \underline{311,555.25}$$

Proceeds from the Sale of Bonds \$500,000.25

Make the journal entry for the sale of the bonds.

<u>Date</u>	<u>Account Titles</u>	<u>Debit</u>	<u>Credit</u>
1/1/04	Cash	500,000	
	Bonds Payable		500,000

Exercise *E15-18 – pages 709

(a)

<u>Date</u>	<u>Account Titles</u>	<u>Debit</u>	<u>Credit</u>
1/1	Cash	412,000	
	Bonds Payable		400,000
	Premium on Bonds Pay		12,000
(b)			
7/1	Interest Expense	18,000	
	Cash		18,000
7/1	Premium on Bonds Pay	300	
	Interest Expense		300
(c)			
12/31	Interest Expense	18,000	
	Interest Payable		18,000
12/31	Premium on Bonds Pay	300	
	Bond Interest Expense		300
(d)			
1/1/32	Bonds Payable	400,000	
	Cash		400,000

Exercise *E15-19 – page 709-710

(a)

<u>Date</u>	<u>Account Titles</u>	<u>Debit</u>	<u>Credit</u>
12/31/11	Cash	730,000	
	Discount on Bonds Pay	70,000	
	Bonds Payable		800,000
(b)			
6/30	Interest Expense	44,000	
	Cash		44,000
	Interest Expense	3,500	
	Discount on Bonds Pay		3,500
(c)			
12/31	Interest Expense	44,000	
	Cash		44,000
12/31	Interest Expense	3,500	
	Discount on Bonds Pay		3,500
(d)			
12/31/21	Bonds Payable	800,000	
	Cash		800,000

Brief Exercise BE15-2
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(a)

<u>Date</u>	<u>Account Titles</u>	<u>Debit</u>	<u>Credit</u>
1/1	Cash	3,000,000	
	Bonds Payable		3,000,000
(b)			
7/1	Interest Expense	120,000	
	Cash		120,000
(c)			
12/31	Interest Expense	120,000	
	Interest Payable		120,000

Brief Exercise BE15-11
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(a)

<u>Date</u>	<u>Account Titles</u>	<u>Debit</u>	<u>Credit</u>
12/31	Cash	4,800,000	
	Discount on Bonds Pay	200,000	
	Bonds Payable		5,000,000
(b)			
7/1	Interest Expense	225,000	
	Cash		225,000
	Interest Expense	10,000	
	Discount on Bonds Pay		10,000

Brief Exercise BE15-12

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(a)

<u>Date</u>	<u>Account Titles</u>	<u>Debit</u>	<u>Credit</u>
1/1	Cash	3,060,000	
	Premium on Bonds Pay		60,000
	Bonds Payable		3,000,000
(b)			
7/1	Interest Expense	150,000	
	Cash		150,000
	Premium on Bonds Pay	6,000	
	Interest Expense		6,000

Brief Exercise BE15-5
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<u>Date</u>	<u>Account Titles</u>	<u>Debit</u>	<u>Credit</u>
7/1/12	Bonds Payable	1,000,000	
	Loss on Redemption	70,000	
	Discount on Bonds Pay		60,000
	Cash		1,010,000

Brief Exercise *BE15-10 – page 705

<u>Date</u>	<u>Account Titles</u>	<u>Debit</u>	<u>Credit</u>
7/1	Interest Expense	45,000	
	Cash		45,000
	Interest Expense	1,884	
	Discount on Bonds Payable		1,884

Exercise E15-8

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(a)

<u>Date</u>	<u>Account Titles</u>	<u>Debit</u>	<u>Credit</u>
	Interest Payable	72,000	
	Cash		72,000
(b)			
	Bond Payable	600,000	
	Loss on Redemption	24,000	
	Cash		624,000
(c)			
7/31	Interest Expense	45,000	
	Cash		45,000