EXERCISE 20-1 (15-20 minutes)

(a) Pretax financial income for 2002 $300,000
Temporary difference resulting in future taxable amounts in 2003 (55,000)
in 2004 (60,000)
in 2005 (65,000)
Taxable income for 2002 $120,000

(b) Future Years

<table>
<thead>
<tr>
<th></th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Future taxable (deductible) amounts $55,000</td>
<td>$60,000</td>
<td>$65,000</td>
<td>$180,000</td>
<td></td>
</tr>
<tr>
<td>Tax rate 30%</td>
<td>30%</td>
<td>30%</td>
<td>30%</td>
<td>30%</td>
</tr>
<tr>
<td>Deferred tax liability (asset) $16,500</td>
<td>$18,000</td>
<td>$19,500</td>
<td>$54,000</td>
<td></td>
</tr>
</tbody>
</table>

Deferred tax liability at the end of 2002 $54,000
Deferred tax liability at the beginning of 2002 0
Deferred tax expense for 2002 (increase in deferred tax asset) 54,000
Current tax expense for 2002 36,000
Income tax expense for 2002 $90,000

Income Tax Expense .................................................. 90,000
Income Tax Payable ........................................... 36,000
Deferred Tax Liability ......................................... 54,000

(c) Income before income taxes $300,000
Income tax expense
  Current $36,000
  Deferred 54,000 90,000
Net income $210,000

EXERCISE 20-2 (15-20 minutes)

(a) Pretax financial income for 2001 $300,000
Excess of tax depreciation over book depreciation (40,000)
Rent received in advance 20,000
Taxable income $280,000

(b) Income Tax Expense ($300,000 X .40).................... 120,000
Deferred Tax Asset.................................................... 8,000
Income Tax Payable ($280,000 X .40)............. 112,000
Deferred Tax Liability........................................ 16,000

<table>
<thead>
<tr>
<th>Temporary Difference</th>
<th>Future Taxable Amounts</th>
<th>Tax Rate</th>
<th>Deferred Tax Asset</th>
<th>Deferred Tax Liability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depreciation</td>
<td>$40,000</td>
<td>40%</td>
<td>$16,000</td>
<td>($8,000)</td>
</tr>
<tr>
<td>Unearned rent</td>
<td>(20,000)</td>
<td>40%</td>
<td>($8,000)</td>
<td>$16,000</td>
</tr>
</tbody>
</table>

(c) Income Tax Expense................................................. 134,000*
Deferred Tax Liability ($10,000 X .40).................... 4,000
Income Tax Payable ($325,000 X .40)..................... 130,000
Deferred Tax Asset................................................... 8,000

*(130,000 – 4,000 + 8,000)

EXERCISE 20-5 (15-20 minutes)

(a) Taxable income $95,000
Enacted tax rate 40%
Income tax payable $38,000

(b) Income Tax Expense.................................................. 80,000
Deferred Tax Asset.................................................... 14,000
### Income Tax Payable and Deferred Tax Liability

<table>
<thead>
<tr>
<th></th>
<th>38,000</th>
<th>56,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Future Taxable Amounts</td>
<td>40%</td>
<td>40%</td>
</tr>
<tr>
<td>(Deductible)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tax Rate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deferred Tax (Asset)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Liability</td>
<td></td>
<td></td>
</tr>
<tr>
<td>First one</td>
<td>$240,000</td>
<td></td>
</tr>
<tr>
<td>Second one</td>
<td>(35,000)</td>
<td>(14,000)</td>
</tr>
<tr>
<td>Totals</td>
<td>$205,000</td>
<td>(14,000)</td>
</tr>
</tbody>
</table>

*Because of a flat tax rate, these totals can be reconciled: $205,000 \times 40\% = (14,000) + 96,000."

#### EXERCISE 20-5 (Continued)

- Deferred tax liability at the end of 2002: $96,000
- Deferred tax liability at the beginning of 2002: 40,000
- Deferred tax expense for 2002 (increase required in deferred tax liability): $56,000
- Deferred tax asset at the end of 2002: 14,000
- Deferred tax asset at the beginning of 2002: 0
- Deferred tax benefit for 2002 (increase required in deferred tax asset): $(14,000)
- Deferred tax expense for 2002: 56,000
- Deferred tax benefit for 2002: (14,000)
- Net deferred tax benefit for 2002: 42,000
- Current tax expense for 2002: 38,000
- Income tax expense for 2002: 80,000
  
(c) Income before income taxes: $200,000

<table>
<thead>
<tr>
<th>Income tax expense</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Current</td>
<td>$38,000</td>
</tr>
<tr>
<td>Deferred</td>
<td>42,000</td>
</tr>
<tr>
<td>Net income</td>
<td>$120,000</td>
</tr>
</tbody>
</table>
Note to instructor: Because of the flat tax rate for all years, the amount of cumulative temporary difference existing at the beginning of the year can be calculated by dividing the $40,000 balance in Deferred Tax Liability by 40%, which equals $100,000. This information may now be combined with the other facts given in the exercise to reconcile pretax financial income with taxable income as follows:

Pretax financial income $200,000
Net originating temporary difference giving rise to future taxable amounts
($240,000 – $100,000) (140,000)
Originating temporary differences giving rise to future deductible amounts 35,000
Taxable income $ 95,000

EXERCISE 20-9 (15-20 minutes)

1999
Income Tax Expense ......................................................... 32,000
Income Tax Payable ($80,000 X 40%) .............................. 32,000

2000
Income Tax Refund Receivable ........................................ 72,000
($160,000 X 45%)
Benefit Due to Loss Carryback (Income Tax Expense) .......... 72,000

2001
Income Tax Refund Receivable ........................................ 32,000
Benefit Due to Loss Carryback (Income Tax Expense) .......... 32,000
($80,000 X 40%)

2001
Deferred Tax Asset ............................................................ 120,000
Benefit Due to Loss Carryforward (Income Tax Expense) ...... 120,000
[40% X ($380,000 – $80,000)]
EXERCISE 20-9 (Continued)

2002
Income Tax Expense ............................................................ 48,000
Deferred Tax Asset (40% X $120,000) ........................ 48,000

2003
Income Tax Expense ............................................................ 40,000
Deferred Tax Asset ($100,000 X 40%) ......................... 40,000

Note: Benefit Due to Loss Carryback and Benefit Due to Loss Carryforward amounts are negative components of income tax expense.

EXERCISE 20-17 (30-35 minutes)

Journal entry at December 31, 2001:
Income Tax Expense ............................................................ 67,900
Deferred Tax Asset .......................................................... 4,500
Income Tax Payable .......................................................... 65,200
Deferred Tax Liability ..................................................... 7,200

Taxable income for 2001 $163,000
Enacted tax rate 40%
Income tax payable for 2001 $ 65,200

The deferred tax account balances at December 31, 2001, are determined as follows:

<table>
<thead>
<tr>
<th>Temporary Difference</th>
<th>Future Taxable (Deductible) Amounts</th>
<th>Rate</th>
<th>Deferred Tax (Asset) Liability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Installment sales</td>
<td>$16,000</td>
<td>45%</td>
<td>$7,200</td>
</tr>
<tr>
<td>Warranty costs</td>
<td>(10,000)</td>
<td>45%</td>
<td>$(4,500)</td>
</tr>
<tr>
<td>Totals</td>
<td>$ 6,000</td>
<td></td>
<td>$(4,500) $7,200*</td>
</tr>
</tbody>
</table>
*Because all deferred taxes were computed at the same rate, these totals can be reconciled as follows: $6,000 \times 45\% = $(4,500) + $7,200.

Deferred tax liability at the end of 2001 $7,200
Deferred tax liability at the beginning of 2001 0
Deferred tax expense for 2001 (net increase required in deferred tax liability) $7,200

EXERCISE 20-17 (Continued)

Deferred tax asset at the end of 2001 $4,500
Deferred tax asset at the beginning of 2001 0
Deferred tax expense (benefit) for 2001 (net increase required in deferred tax asset) $(4,500)

Deferred tax expense for 2001 $7,200
Deferred tax benefit for 2001 $(4,500)
Net deferred tax expense for 2001 2,700
Current tax expense for 2001 65,200
Income tax expense for 2001 $67,900

Journal entry at December 31, 2002:
Income Tax Expense ................................................... 94,500
Deferred Tax Liability .................................................. 3,600
Income Tax Payable ................................................... 95,850
Deferred Tax Asset ................................................... 2,250

Taxable income $213,000
Enacted tax rate 45\%
Income tax payable for 2002 $95,850

The deferred tax account balances at December 31, 2002, are determined as follows:

<table>
<thead>
<tr>
<th>Future Taxable (Deductible)</th>
<th>Tax</th>
<th>Deferred Tax</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temporary Difference</td>
<td>Amounts</td>
<td>Rate</td>
</tr>
<tr>
<td>----------------------------</td>
<td>---------</td>
<td>------</td>
</tr>
<tr>
<td>Installment sales</td>
<td>$8,000</td>
<td>45%</td>
</tr>
<tr>
<td>Warranty costs</td>
<td>(5,000)</td>
<td>45%</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td>$3,000</td>
<td></td>
</tr>
</tbody>
</table>

*Because all deferred taxes were computed at the same rate, these totals can be reconciled as follows: $3,000 X 45% = $(2,250) + $3,600.

Deferred tax liability at the end of 2002 $3,600
Deferred tax liability at the beginning of 2002 7,200
Deferred tax benefit for 2002 (decrease required in deferred tax liability) $(3,600)

EXERCISE 20-17 (Continued)

Deferred tax asset at the end of 2002 $2,250
Deferred tax asset at the beginning of 2002 4,500
Deferred tax expense for 2002 (decrease required in deferred tax asset) $2,250

Deferred tax benefit for 2002 $(3,600)
Deferred tax expense for 2002 2,250
Net deferred tax benefit for 2002 (1,350)
Current tax expense for 2002 95,850
Income tax expense for 2002 $94,500

Journal entry at December 31, 2003:
Income Tax Expense............................................ 40,500
Deferred Tax Liability........................................ 3,600
Income Tax Payable........................................... 41,850
Deferred Tax Asset........................................... 2,250

Taxable income for 2003 $93,000
Enacted tax rate 45%
Income tax payable for 2003 $41,850
<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deferred tax liability at the end of 2003</td>
<td>$0</td>
</tr>
<tr>
<td>Deferred tax liability at the beginning of 2003</td>
<td>$3,600</td>
</tr>
<tr>
<td>Deferred tax benefit for 2003 (decrease required in deferred tax liability)</td>
<td>$(3,600)</td>
</tr>
<tr>
<td>Deferred tax asset at the end of 2003</td>
<td>$0</td>
</tr>
<tr>
<td>Deferred tax asset at the beginning of 2003</td>
<td>$2,250</td>
</tr>
<tr>
<td>Deferred tax expense for 2003 (decrease required in deferred tax asset)</td>
<td>$2,250</td>
</tr>
<tr>
<td>Deferred tax benefit for 2003</td>
<td>$(3,600)</td>
</tr>
<tr>
<td>Deferred tax expense for 2003</td>
<td>$2,250</td>
</tr>
<tr>
<td>Net deferred tax benefit for 2003</td>
<td>$(1,350)</td>
</tr>
<tr>
<td>Current tax expense for 2003</td>
<td>$41,850</td>
</tr>
<tr>
<td>Income tax expense for 2003</td>
<td>$40,500</td>
</tr>
</tbody>
</table>