

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2 Exhibit)

June 2001

BUDGET ACTIVITY

**5 - ENG MANUFACTURING DEV**

PE NUMBER AND TITLE

**0604223A - COMANCHE**

COST (In Thousands)	FY 2000 Actual	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	448702	608410	787866	0	0	0	0	0	0	0
2LT COMANCHE OPER TEST	48	19	166	0	0	0	0	0	0	0
327 COMANCHE	423795	570126	732890	0	0	0	0	0	0	0
C72 T-800 ENGINE ED (LH)	24859	38265	54810	0	0	0	0	0	0	0

## **A. Mission Description and Budget Item Justification:**

**PLEASE NOTE: This administration has not addressed FY2003-2007 requirements. All FY 2003-2007 budget estimates included in this book are notional only and subject to change.**

This program element provides for the development and operational testing and evaluation of the RAH-66 Comanche and the T800-801 growth engine. The Comanche is a multi-mission aircraft optimized for the critical battlefield mission of tactical armed reconnaissance. It provides a globally self-deployable attack platform for light/contingency forces. Comanche provides the solution to reconnaissance deficiencies of no night/adverse weather/high/hot/stand-off capability and is a key component on the digitized battlefield in winning the information war. The Comanche is the Army's technology leader and provides significant horizontal technology transfer within the Army and DoD. Project C72 provides for continued development and qualification of the T800-801 growth engine and air vehicle support for integration into the Comanche aircraft. Project 2LT includes funding for the operational testing of Comanche to include modeling and simulation accreditation for Early User Test, Limited User Test and Initial Operational Test and Evaluation. Project 327 provides for development of the airframe, mission equipment package, integration and qualification of the complete system to include logistic support, training, and training devices.

This system supports the Objective transition path of the Transformation Campaign Plan.

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<b><u>B. Program Change Summary</u></b>	FY 2000	FY 2001	FY 2002	FY 2003
Previous President's Budget (FY2001 PB)	463124	614041	764621	0
Appropriated Value	467069	614041	0	
Adjustments to Appropriated Value		0	0	
a. Congressional General Reductions		0	0	
b. SBIR / STTR	-12322	0	0	
c. Omnibus or Other Above Threshold Reductions	-1887	0	0	
d. Below Threshold Reprogramming	-2100	0	0	
e. Rescissions	-2058	-5631	0	
Adjustments to Budget Years Since FY2001 PB		0	23245	
Current Budget Submit (FY 2002/2003 PB )	448702	608410	787866	0

Adjustments to FY 2002 and FY 2003 are for the hot bench program, and other risk reduction efforts.

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BUDGET ACTIVITY <b>5 - ENG MANUFACTURING DEV</b>				PE NUMBER AND TITLE <b>0604223A - COMANCHE</b>				PROJECT <b>2LT</b>		
COST (In Thousands)	FY 2000 Actual	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
2LT      COMANCHE OPER TEST	48	19	166	0	0	0	0	0	0	0
<p><b><u>A. Mission Description and Budget Item Justification:</u></b> This project provides for progressive test requirements in support of the test and fielding of the RAH-66 Comanche helicopter. Requisite activities include Force Development Test and Experimentation (FDTE) I, II, III and IV dedicated to tactics, techniques and procedures, and Limited User Test (LUT) that provide operational input early in the system's life cycle, the Army Training Evaluation Program (ARTEP) and Initial Operational Test and Evaluation (IOT&amp;E) in support of a Milestone III production decision.</p> <p><b><u>FY 2000 Accomplishments</u></b></p> <ul style="list-style-type: none"> <li>•        29        Independent evaluation at contractor test facility in support of LUT</li> <li>•        9        Support Comanche Portable Cockpit for Customer Test I</li> <li>•        10        Independent evaluation assessment of Mission Equipment Package (MEP)) subcomponents at contractor sites</li> </ul> <p>Total    48</p> <p><b><u>FY 2001 Planned Program</u></b></p> <ul style="list-style-type: none"> <li>•        18        Independent evaluation at contractor test facility in support of LUT</li> <li>•        1        Small Business Innovation Research/Small Business Technology Transfer (SBIR/STTR) programs.</li> </ul> <p>Total    19</p>										

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PROJECT

**2LT**

## FY 2002 Planned Program

- 66 Independent evaluation at contractor test facility in support of LUT
- 50 Validate four crew station simulators (Comanche Portable Cockpits) in support of FDTE II
- 50 Instrumentation and Targets to support FDTE III

Total 166

<u>B. Other Program Funding Summary</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>To Compl</u>	<u>Total Cost</u>
A08300 Comanche	0	0	0	0	0	0	0	0	0	0

C. Acquisition Strategy: This project is for test and evaluation effort to support Comanche acquisition.

<u>D. Schedule Profile</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>
Prepare for Customer Test I	2Q			0	0	0	0	0
Conduct Customer Test I	3Q			0	0	0	0	0
Conduct independent evaluation at contractor test facility supporting LUT	1-4Q	1-4Q	1-4Q	0	0	0	0	0
Prepare for LUT			4Q	0	0	0	0	0
Prepare for FDTE II			4Q	0	0	0	0	0
Conduct FDTE II				0	0	0	0	0
Conduct LUT				0	0	0	0	0
Prepare for FDTE III			4Q	0	0	0	0	0
Conduct FDTE III				0	0	0	0	0
Prepare for FDTE IV and ARTEP				0	0	0	0	0
Conduct FDTE IV, ARTEP & IOT&E				0	0	0	0	0

<b>ARMY RDT&amp;E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)</b>								<b>June 2001</b>		
BUDGET ACTIVITY <b>5 - ENG MANUFACTURING DEV</b>				PE NUMBER AND TITLE <b>0604223A - COMANCHE</b>				PROJECT <b>327</b>		
COST (In Thousands)	FY 2000 Actual	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
327      COMANCHE	423795	570126	732890	0	0	0	0	0	0	0
<p><b><u>A. Mission Description and Budget Item Justification:</u></b> The Comanche helicopter is a highly sustainable and operationally flexible armed reconnaissance light helicopter, incorporating significant reductions in personnel and support equipment, capturing the latest combat technologies and capable of accepting upgrades to meet ever-changing threats. It will dominate the battlefield in the close, deep and rear operations and provide a decisive air cavalry capability in day, night, and adverse weather. It will be operationally tailorable to regional conflicts and provide the battle commander with timely, detailed reconnaissance information and an unprecedented level of lethality.</p> <p><b><u>FY 2000 Accomplishments</u></b></p> <ul style="list-style-type: none"> <li>•    169280      Continued Mission Equipment Package (MEP) development</li> <li>•    153241      Completed Program Definition and Risk Reduction (PDDR) and began Engineering and Manufacturing Development (EMD) engineering development</li>   <li>•    73489        Continued development testing and flight test program for prototypes #1 and #2</li> <li>•    27785        Material procurement for EMD MEP upgrades to update aircraft #1 and #2</li> </ul> <p>Total 423795</p> <p><b><u>FY 2001 Planned Program</u></b></p> <ul style="list-style-type: none"> <li>•    215777      Continue MEP development</li> <li>•    206565      Continue EMD engineering development</li> <li>•    78914        Continue component development testing and flight test program for prototypes #1 and #2</li> <li>•    52097        Begin material procurement/manufacture of thirteen EMD aircraft (test articles), five development test, eight operational test aircraft</li>   <li>•    16773        Small Business Innovation Research/Small Business Technology Transfer (SBIR/STTR) programs.</li> </ul> <p>Total 570126</p>										

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PROJECT

**327**

## FY 2002 Planned Program

- 248616 Continue MEP development
- 273245 Continue EMD engineering development
- 107267 Continue component development testing and flight test program for prototypes #1 and #2
- 103762 Continue material procurement/manufacture of 13 EMD aircraft (test articles), 5 development test, 8 operational test aircraft

Total 732890

## B. Other Program Funding Summary

	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Compl	Total Cost
A08300 Comanche	0	0	0	0	0	0	0	0	0	0

C. Acquisition Strategy: Continue work with current contractor leading to production.

## D. Schedule Profile

	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007
Continue MEP development	1-4Q	1-4Q	1-4Q	0	0	0	0	0
Continue EMD Program engineering development	1-4Q	1-4Q	1-4Q	0	0	0	0	0
Continue development testing / update of prototypes 1 & 2 to support flight test	1-4Q	1-4Q	1-4Q	0	0	0	0	0
Material procurement for upgrades to acft #1 & #2	1-4Q			0	0	0	0	0
Begin material procurement/manufacture of EMD aircraft		1-4Q		0	0	0	0	0
Continue manufacturing of EMD aircraft			1-4Q	0	0	0	0	0
Conduct development testing and flight test of acft #3 thru 6				0	0	0	0	0
Delivery of EMD aircraft				0	0	0	0	0
Conduct flight test of acft #7 thru 15 and conduct IOT&E				0	0	0	0	0

<b>ARMY RDT&amp;E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)</b>							<b>June 2001</b>	
BUDGET ACTIVITY <b>5 - ENG MANUFACTURING DEV</b>				PE NUMBER AND TITLE <b>0604223A - COMANCHE</b>			PROJECT <b>327</b>	
<b><u>D. Schedule Profile (continued)</u></b>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>
Milestone III/Initial Operating Capability (IOC)				0	0	0	0	0

ARMY RDT&E COST ANALYSIS(R-3)									June 2001			
BUDGET ACTIVITY 5 - ENG MANUFACTURING DEV					PE NUMBER AND TITLE 0604223A - COMANCHE					PROJECT 327		
I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . DAAJ23-00-C-A001	C/PAF	Boeing Sikorsky, PA	147479	532408	1-2Q	692803	1-2Q	0	0	0	0	0
b . DAAJ09-91-C-A004	C/CPIF	Boeing Sikorsky, PA	2930631	0		0		0	0	0	0	0
c . DAAJ09-87-D-A022	C/FFP	Veridian, VA	61995	6474	1-2Q	6180	1-2Q	0	0	0	0	Continue
d . Other Contracts	C/T&M		2272	1416	1-3Q	2010	1-3Q	0	0	0	0	Continue
e . Completed Contracts			370288	0		0		0	0	0	0	0
f . Gov't Agencies	MIPR		3482	2500	1-4Q	3750	1-4Q	0	0	0	0	Continue
Subtotal:			3516147	542798		704743		0		0	0	Continue

ARMY RDT&E COST ANALYSIS(R-3)									June 2001			
BUDGET ACTIVITY <b>5 - ENG MANUFACTURING DEV</b>					PE NUMBER AND TITLE <b>0604223A - COMANCHE</b>					PROJECT <b>327</b>		
II. Support Cost	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . Other Contracts	C/T&M		38258	906	1-3Q	933	1-3Q	0	0	0	0	Continue
b . Completed Contracts	C/FFP		15556	0		0		0	0	0	0	0
c . Gov't Agencies	MIPR		127230	16645	1-4Q	17144	1-4Q	0	0	0	0	Continue
Subtotal:			181044	17551		18077		0		0	0	Continue
III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . Government Agencies	MIPR		26025	1540	1-4Q	1586	1-4Q	0	0	0	0	Continue
Subtotal:			26025	1540		1586		0		0	0	Continue

ARMY RDT&E COST ANALYSIS(R-3)									June 2001			
BUDGET ACTIVITY 5 - ENG MANUFACTURING DEV					PE NUMBER AND TITLE 0604223A - COMANCHE					PROJECT 327		
IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . Other Contracts	C/T&M		5690	878	1-3Q	904	1-3Q	0	0	0	0	Continue
b . PMO/Gov't Agencies	MIPR		14411	7359	1-4Q	7580	1-4Q	0	0	0	0	Continue
Subtotal:			20101	8237		8484		0		0	0	Continue
Project Total Cost:			3743317	570126		732890		0		0	0	Continue

<b>ARMY RDT&amp;E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)</b>							<b>June 2001</b>			
<b>BUDGET ACTIVITY</b> <b>5 - ENG MANUFACTURING DEV</b>				<b>PE NUMBER AND TITLE</b> <b>0604223A - COMANCHE</b>				<b>PROJECT</b> <b>C72</b>		
COST (In Thousands)	FY 2000 Actual	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
C72      T-800 ENGINE ED (LH)	24859	38265	54810	0	0	0	0	0	0	0
<p><b><u>A. Mission Description and Budget Item Justification:</u></b> This project includes tasks to design, develop and qualify an advanced technology engine. It provides for the continued development and qualification of the T800-801 growth engines and air vehicle support for integration of same into the Comanche aircraft. The growth engine is for the Army's RAH-66 Comanche and other applications.</p> <p><b><u>FY 2000 Accomplishments</u></b></p> <ul style="list-style-type: none"> <li>•      5701      Continue engine program air vehicle support of Comanche EMD</li> <li>•      17974      Continued contractor development/qualification testing</li> <li>•      1184      Completed manufacturing of growth engines for flight test. Seven test articles procured to be delivered (two in FY 00 and five in FY 01)</li> </ul> <p>Total 24859</p> <p><b><u>FY 2001 Planned Program</u></b></p> <ul style="list-style-type: none"> <li>•      4876      Continue engine air vehicle support</li> <li>•      29980      Continue contractor development/qualification testing</li> <li>•      2272      Begin EMD program engine material procurement/manufacturing. Thirty-four engines (test articles) being procured to be delivered in FY 03 and FY 04 for Comanche EMD aircraft</li> <li>•      1137      Small Business Innovation Research/Small Business Technology Transfer (SBIR/STTR) programs</li> </ul> <p>Total 38265</p>										

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PE NUMBER AND TITLE

**0604223A - COMANCHE**

PROJECT

**C72**

## FY 2002 Planned Program

- 4952 Continue engine air vehicle support
- 35090 Continue contractor development/qualification testing
- 14768 Continue EMD program engine manufacturing. Thirty-four engines (test articles) to be delivered in FY 03 and FY 04 for Comanche EMD aircraft

Total 54810

<u>B. Other Program Funding Summary</u>	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Compl	Total Cost
A08300 Comanche	0	0	0	0	0	0	0	0	0	0

C. Acquisition Strategy: Continue work with current contractor leading to FAA certification, military qualification and production.

<u>D. Schedule Profile</u>	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007
Complete mfg of growth engines for flight test	4Q	1Q		0	0	0	0	0
Continue contractor development/qualification of T801 engine design	1-4Q	1-4Q	1-4Q	0	0	0	0	0
Continue engine air vehicle support of Comanche EMD	1-4Q	1-4Q	1-4Q	0	0	0	0	0
Begin EMD engine material procurement/manufacturing		3-4Q		0	0	0	0	0
Continue EMD engine manufacturing			1-4Q	0	0	0	0	0
Deliveries of EMD engines				0	0	0	0	0

ARMY RDT&E COST ANALYSIS(R-3)									June 2001			
BUDGET ACTIVITY <b>5 - ENG MANUFACTURING DEV</b>					PE NUMBER AND TITLE <b>0604223A - COMANCHE</b>					PROJECT <b>C72</b>		
I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . DAAH23-01-C0021	C/CPAF	LHTEC, Indiana	0	32572	3Q	54510	1-2Q	0	0	0	0	Continue
b . DAAJ09-92-C-0453	C/CPFF	LHTEC, Indiana	327802	5318	1Q	0		0	0	0	0	0
c . DAAJ09-85-C-B017	C/FFP	LHTEC, Indiana	276821	0		0		0	0	0	0	0
d . DAAJ09-93-C-0518	C/CPFF	LHTEC, Indiana	460	0		0		0	0	0	0	0
e . DAAJ09-85-C-B019	C/FFP	AVCO/PW, Connecticut	128526	0		0		0	0	0	0	0
f . Gov't Agencies	MIPR		14227	225	1-4Q	200	1-4Q	0	0	0	0	0
Subtotal:			747836	38115		54710		0		0	0	Continue

ARMY RDT&E COST ANALYSIS(R-3)									June 2001			
BUDGET ACTIVITY <b>5 - ENG MANUFACTURING DEV</b>					PE NUMBER AND TITLE <b>0604223A - COMANCHE</b>					PROJECT <b>C72</b>		
II. Support Cost	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . PATS contracts	C/FFP		96	0		0		0	0	0	0	0
b . Rail	C/FFP		2806	0		0		0	0	0	0	0
c . Other Contracts	Agreement		400	0		0		0	0	0	0	0
Subtotal:			3302	0		0		0		0	0	0
III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . Government Agencies	MIPR		23681	150	1-4Q	100	1-4Q	0	0	0	0	Continue
b . Contracts			2	0		0		0	0	0	0	0
Subtotal:			23683	150		100		0		0	0	Continue

ARMY RDT&E COST ANALYSIS(R-3)										June 2001		
BUDGET ACTIVITY 5 - ENG MANUFACTURING DEV					PE NUMBER AND TITLE 0604223A - COMANCHE						PROJECT C72	
IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
			0	0		0		0		0	0	0
Subtotal:												
Remarks: None												
Project Total Cost:			774821	38265		54810		0		0	0	Continue