CREATIVE SMITHS

Aircraft #1 – 2.0 (3:35) Dawn of flight to WWII
Lockheed-Martin Transformation project
Revision RASmith 09 01 2004

VISUAL	AUDIO
1 CG OVER BLACK: TRANSFORMATION UP ON KEN BURNS-STYLE CAMERA MOVES ON HISTORIC PHOTOS GLENN MARTIN WITH VINTAGE AUTOMOBILES FIELD WITH PLANE SURROUNDED BY ONLOOKERS, HISTORIC PHOTOS OF CG: REMEMBER EVERYTHING YOU SAW. MARTIN AND MEN OUTSIDE AUTO DEALERSHIP, WHICH TRANSFORMS INTO GLENN MARTIN COMPANY CAMERA LINGERS UNTIL MUSIC CHANGES	MUSIC UP ANNCR: Transformation … it doesn't get any more basic than this. The year was 1909. A disabled airplane landed in a southern California farm field. A local automobile dealer and his chief mechanic drove out to examine it . . . and walked away thinking they could build a better plane of their own. "Remember everything you saw" the boss said to his mechanic. In that moment, Glen Martin and Roy Beal began the transformation of their auto repair shop ... into the largest aircraft company in the world. MUSIC CRESCENDOS
2 SINK TESTS FROM THE 20s. CG: "Airplanes will one day sink battleships"	Transformational thinking ignores barriers, boundaries and fences. For Glenn Martin it meant declaring in 1914 that airplanes could sink battleships … and proving it to stunned navy generals seven years later.
3 HISTORIC FOOTAGE AND STILLS OF PARACHUTES AND LANDING INFANTRYMEN	It's the kind of thinking that led to the first free fall-parachutes -- devices that saved countless lives.

4 FOOTAGE OF OCEAN AND SHOTS OF FIRST HYDROPLANES AND THE CLIPPERS. CG: “WHY NOT TAKE OFF FROM THERE?” EARLY STILLS OF LOCKHEED BROTHERS WITH BOAT.	Transformational thinking saw oceans covering three-quarters of the earth, and asked, “why don’t we take off and land from there? It led to hydroplanes, flying boats, and to Glenn and Malcolm Loughead (LAUG-HEED), who launched their careers in 1912 building seaplanes.
5 SEAGULLS LANDING SLOWLY TO PICK UP FOOD SHOT OF LOCKHEED S-1	Like Glenn Martin, the Lougheads were automobile enthusiasts, and unorthodox thinkers. They sought out the different, the unusual, the untested, once dumping bread near San Francisco bay to study how seagulls glided gracefully in low speed flight. The result was a new lower wing design, which first appeared on the Lockheed S-1.
6 SHOW SHAKY OLD FRAGILE PLANE FRAMES FROM PAST SCENES OR STILLS OF LOCKHEED VEGA CONSTRUCTION (LOCKHEED HISTORY BOOK HAS SEVERAL).	Transformational thinking also led the Loughead brothers to new ways of building airplanes. Swept away were cloth covered wood frames. In came a totally new design – an aerodynamic plywood fuselage. A fuselage shaped in concrete molds, using pneumatic bags inflated to 150 tons of pressure. The plane was the Vega. With an outer skin so strong, there was little need for interior bracing. This gave the Vega a streamlined roomy hull, accommodating a variety of wing and cockpit configurations.
7 FINISHED LOCKHEED VEGAS SHOT OF ANTARCTICA FROM AN EARLY PLANE, SNOW, ICEBERGS, ETC.	The Lindberghs flew their Vega all the way to China. George Wilkins used his on historic polar flights, including a minus 48-degree trip that mapped 100,000 miles of Antarctica. A trip so successful, Wilkins even named a mountain range Lockheed.

8 GENERAL AIRCRAFT IMAGERY	The 1920s and 30s were the golden years of aviation. Lockheed and Martin aircraft were at the center of the action. With designs so reliable and construction so durable, they were trusted by the world's greatest aviators.
9 PHOTOS OR FILM FOOTAGE OF POST, HUGHES, EARHART AND THE LINDBERGHS WORLDS RECORDS ASSOCIATED WITH LOCKHEED OR MARTIN PLANES SCROLLING ACROSS THE SCREEN	These daring men and women … Wiley Post, Ruth Nichols, Howard Hughes, Amelia Earhart, Anne & Charles Lindbergh … and others … made their greatest flights in Lockheed and Martin planes. Setting one world's record after another. The fastest speeds, the highest altitudes, the first non-stop flights …all were achieved in Lockheed and Martin designs.
10 GENERAL 1930s AIRCRAFT SHOTS SHOW FEATURES AS THEY ARE READ: SLIDING COCKPIT CANOPIES, LANDING GEAR RETRACTING CABIN WITH EARLY PASSENGERS TWIN ENGINES AND TWIN TAILS	And Lockheed and Martin designers, collaborated with these aviators introduced innovations that eventually became standard on all air craft … Sliding canopies to protect pilots from the elements, retractable landing gear for more streamlined flight, pressurized cabins that gave birth to passenger service, and twin engines and twin tails for greater stability and surer handling. Transformational thinking that changed an industry. And made even greater things possible. Like …
CHINA CLIPPER, PLANE CROSSING PACIFIC OCEAN, OR VINTAGE MAP WITH AIR ROUTE ACROSS PACIFIC AIRCRAFT OF WWII.	The China Clipper. Air routes across the Pacific. And air craft that served the allies in the coming war … the planes, fighters and bombers that defended the free world … and brought dictators to their knees.
DISSOLVE TO LOCKHEED MARTIN LOGO	MUSIC UP AND OUT (Finish)

CREATIVE SMITHS

Aircraft #2 – 2.0 (2:48) WWII
Lockheed-Martin Transformation project
Revision RASmith 09 01 2004

VISUAL	AUDIO
1 MONTAGE OF WWII SCENES INCLUDING SOLDIERS LEAVING FOR WAR AND INTERIORS OF BUSY WAR FACTORIES> SHIPYARD CHRISTENINGS, PLANTS MAKING TANKS, JEEPS, MUNITIONS WITH MANY PEOPLE ON THE LINE.	MUSIC UP NARRATOR: Transformational thinking defined World War II. Never before had America sent its troops so far. Never before was the home front more crucial to victory. Planes were needed. So were ships, tanks, jeeps, trucks and guns. Aircraft managers ran shifts round the clock, working as fast as possible to safely assemble 30,000 parts into 8-ton planes.
2 PLANES SITTING ON RUNWAYS WAITING TO GO TO WAR PEOPLE IN FACTORY WAR SCENES WITH PROPOGANDA POSTERS	The industry's achievements were astounding. And were only possible because everyday people were encouraged to think of newer, better, faster ways of doing things. Transformational thinking, like …
4 SCENES DEMONSTRATING PRODUCTION TECHNIQUES BULLETED IN NARRATION TEXT.	• Skipping prototypes to go directly from drawing board to production. • Pre-drilling aircraft wings • Building sub assembly kits • Duplicating blueprints on metal, cloth and other materials for greater distribution to work teams …

5 CLOSE SHOTS OF MARTIN B-26 MARAUDERS SHOTS OF INDIVIDUAL AIRCRAFT FEATURES BULLETED IN TEXT: • AIRPLANE WINGS • B26 MARTIN MARAUDERS WITH TORPEDOES • PLEXIGLAS BOMBARDIER NOSE • MARTIN 250CE TURRETS (USED ON LOCKHEED AND MARTIN PLANES) • LOCKHEED TWIN ENGINE PLANE WITH CONTRA-ROTATING PROPELLERS STARTING	… Innovations that helped Martin build more than 5,000 B26 Marauders in a few short years. Transformational thinking meant inventing new features for aircraft. Like … • Self-sealing fuel tanks • Bombers with torpedoes under their bellies • The Plexiglas bombardier nose • Electrically powered turrets that could swing gunners in a 360-degree arc • And contra-rotating propellers to eliminate the pull effect of twin engines.
6. SHOTS OF MARTIN MARAUDERS, MAULERS, MERCATORS AND LOCKHEED LIGHTNINGS, LODESTARS AND VENTURAS	Transformational ideas … that led to victory in World War Two. And so they flew … the Marauders, Maulers, and Mercators, the Lightnings, Lodestars, and Venturas. Planes by Lockheed and Martin that played major roles at Midway, D-Day, Hiroshima and every battle in between.
7. WORLD WAR TWO SCENES OF PLANES FLYING IN COMBAT, DOGFIGHTS, ETC.	Ironically the most innovative plane … the one that most influenced the future …never saw combat. A super secret plane that the war department asked Lockheed to build.
8 ANY FOOTAGE YOU CAN FIND OF THE EARLY MESSERSCHMITT ME262 OR HEINKEL HE-162 JETS	In May 1943, allied intelligence reported that Germany was flight-testing a new Messerschmitt – a lightning fast, jet-propelled plane. If it became operational the allies had nothing to stop it. So the war department asked the impossible. Build one like it. In six months.

9 FILE FOOTAGE OF KELLY JOHNSON AND ANY ARCHIVAL SHOTS OF FIRST SKUNK WORKS OPERATION.	And so transformational thinking kicked in. Lockheed's Kelly Johnson hand-picked 23 engineers and 12-hundred craftsmen … and moved them … and their machine shop … into a crude wood and canvas tent slapped together near a wind tunnel. The drafty shack quickly became known as the Skunk Works.
10. STILL PHOTOS AND MOVING PICTURES OF THE P80 SHOOTING STAR.	Working 60-hour weeks, this amazing team conceived and built a brand new flying machine in 144 days -- the Lockheed P80 Shooting Star. America's first jet aircraft.
11, EARLY CRUDE SHOOTING STARS IN FLIGHT RETROSPECTIVE MONTAGE OF THE PLANE AND SKUNK WORKS SCENES FADE TO BLACK	Only four Shooting Stars ever flew in World War Two. Launched to engage German jets, they never encountered the enemy. Even so, the Shooting Star WAS the future. Eventually this revolutionary plane … and the way it was designed and built … would transform aviation forever. MUSIC UP
12 LOCKHEED MARTIN LOGO BUILDS THEN SCREEN FADES TO BLACK	MUSIC FADES OUT (Finish)

CREATIVE SMITHS

Aircraft #3 – 2.0 (2:42) 1950s-70s
Lockheed-Martin Transformation project
RASmith 009 01 2004

VISUAL	AUDIO
1 MONTAGE OF AIRCRAFT FROM PROP PLANES THROUGH JETS THROUGH ROCKETS, MISSILES AND SPACECRAFT	MUSIC UP NARRATION: From 1950 thru the 1970s, Lockheed and Martin underwent incredible transformation from propeller aircraft to jet propulsion, to manned space vehicles.
2 SHOTS OF P80S COMING OFF ASSEMBLY LINES AND FLYING IN THE AIR. KOREAN FOOTAGE FROM DOG FIGHTS OR BATTLE SCENES	It began with t the end of the second world war as P80 Shooting Stars … American's first jet fighters … began rolling off the assembly line. By 1950, 900 were in service … roughly half the jets in the US Air Force inventory. Soon P80s would engage Soviet and Chinese MIGs in Korea, in history's first jet combat.
3. SHOTS OF LOCKHEED CONSTELLATIONS AND MARTIN 404S	But as jets took the military by storm, conventional aircraft ruled civilian skies. Lockheed's Constellation and Martin's 404 became the workhorses of postwar airlines.
4 SCENES OF HOWARD HUGHES, TWA LOGO ON PLANE AND CONSTELLATIONS PRESSED INTO SERVICE AS CARGO PLANES> BERLIN AIRLIFT FOOTAGE, DOUGLAS MACARTHUR AND CONSTELLATION< PRESIDENT EISENHOWER ABOARD AIR FORCE ONE CONSTELLATION	Designed as high-speed passenger planes, Constellations became cargo carriers in WWII. Later, they worked the Berlin Airlift, flew McArthur to Japan, and served as Eisenhower's Air Force One.
5. SCENES OF U-2 AIRPLANE. ANY SHOTS OF CAMERA AND U-2 CRUISING AT HIGH ALTITUDES	While they shuttled civilians cross-country, the military was taking jet propulsion to the next level.

SURVEILLANCE PHOTOS BEING SHOWN AT UNITED NATIONS IN OCTOBER 1962.	In the late 50s, Lockheed's Skunk Works produced the U-2. Essentially a high-tech camera platform for high-altitude reconnaissance the U-2 quickly proved its worth during the Cuban Missile crisis.
6. VARIOUS SHOTS OF HERCULES CARGO PLANE SHOTS OF A GALAXY C5A PLANE WITH NOSE OPEN FOR LOADING	But it wasn't the only transformational aircraft of the post war era. Lockheed also answered the Army's need for global mobility with two extraordinary large planes: The Hercules C130, a go anywhere workhorse that could even be outfitted with skis for polar missions … and, the Galaxy C5A, the largest plane ever built …a craft with unique end-to-end loading capabilities.
6. SKUNK WORKS SCENES. IMAGES OF TEAMS WORKING ON DESIGNS FOR THE SR-71 BLACKBIRD – CONCEPT PAINTINGS, BLUEPRINTS, CAD SCREENS ETC. SHOT OF SR71 ON RUNWAY AND IN ACTION>	Another, more demanding request, was for a high performance reconnaissance plane that could evade radar. Built from scratch, it became the amazing SR-71 Blackbird. A transformational craft whose rounded angles, shielded intakes, and heat absorbing paint gave it a radar signature described as "small as an eagle's eye."
8 ANIMATION OF BLACKBIRD FLYING FROM NEW YORK TO LONDON CG: NEW YORK TO LONDON 1 HR, 56 MIN CG: FIRST TITANIUM AIRPLANE ANIMATION PULLS BACK TO REVEAL RUSSIA AS WORLD'S LEADING PRODUCER OF TITANIUM.	The Blackbird could fly from New York to London in one hour, 56 minutes – at less than full power. And it was transformational in other ways. Strong as stainless steel but half its weight, it was the world's first titanium airplane. Ironically the largest supplier of the metal was the country the Blackbird would spy upon – the Soviet Union. But that didn't stop Lockheed or its customer, the CIA. Employing transformational thinking they used third parties and dummy companies to buy titanium from the U.S.S.R – and the Russians never knew where it went.

9 U.S. AIR FORCE INSIGNIA OR BUILDING, NATO AND USA INSIGNIAS F-16 FIGHTER PLANE	A similar request in 1972 resulted in still another advance. It came from the U.S. Air Force, which needed to transform the aging fleets of NATO fighters. The solution? The F-16. Built by Lockheed-Martin heritage company General Dynamics – this highly maneuverable tactical aircraft, was a milestone in aerial warfare. The first front-line fighter co-produced by American and European industry.
LOCKHEED LOGO FORMS	MUSIC OUT (Finish)

CREATIVE SMITHS

Aircraft #4 – 2.0 (1:44) Stealth, Joint Strike Fighter
Lockheed-Martin Transformation project
Revised RASmith 09 01 2004

VISUAL	AUDIO
1 ANIMATION: TWINKLING NIGHTTIME STAR FILLED SKY CAMERA SLOWLY MOVES ACROSS SKY AS IF LEISURELY SEARCHING FOR SOMETHING AS RUMBLE GROWS, CAMERA SLOWS AND EVENTUALLY STOPS ANIMATION: SUDDENLY, A TRANS-PARENT "WOOSH-LIKE" DISTURBANCE CREATES A TEMPORARILY BLURRED PATH THROUGH THE STAR FIELD. PATH SHIVERS LIKE JELL-O, THEN STAR FIELD RETURNS TO NORMAL.	MUSIC: UP AND UNDER ANNOUNCER: Transformational Thinking. It was just what the military ordered in the late 1970s . . . (SFX: SLOW RUMBLE BEGINS) The assignment: Produce a "silver bullet," aircraft for quick-hits on high-priority heavily defended targets in the dark of night. (SFX: RUMBLE GROWING LOUDER) A plane that could travel at three times the speed of sound (SFX: SUDDENLY A POWERFUL WHOOSH FLIES BY) Leaving little or no radar signature. (MUSIC UP AND PIECE ENDS)
2 DISSOLVE TO AIRCRAFT ENGINEERS WORKING IN THOUGHTFUL POSES IN CONFERENCE ROOMS, AT CAD WORKSTATIONS, ETC. DISSOLVE TO DETAILED SHOTS OF F-117 FIGHTER PLANE	(MUSIC MOOD CHANGE) Again, Lockheed's Skunk Works took up the challenge. Working in secrecy and exploring unconventional materials, it created the F117, a plane whose startling design, smooth surfaces, and radar absorbing paint made it virtually invisible to electronic detection.

3 IF AVAILABLE: SCENES OF F-117 IN OPERATION DESERT STORM. SHOTS FROM COCKPIT AND OUTSIDE PLANE. PLANE ON RUNWAY AFTER MISSION	The F-117 was more than a new plane. It literally transformed the nature of warfare. First proven in Desert Storm, it ushered in a new era … an era where stealth – an aircraft's ability to "hide" from radar – became essential to success. (MUSIC TRANSITIONS TO NEW PIECE)
4 TRANSITION TO TEAM OF ENGINEERS WORK INTENTLY ON F-25 JOINT STRIKE FIGHTER	(MUSIC MOOD CHANGE) As the 20th century neared its end, Lockheed Martin engineers joined an international design team to create yet another exceptional aircraft. The F-35 …better known as the Joint Strike Fighter …the epitome of transformational thinking.
5 WIPES OR RAPID DISSOLVES REVEAL PLANE TAKING DESCRIBED ACTIONS: (CG BULLETS) - SHORT TAKE OFF - SUPERSONIC DASH - VERTICAL LANDING FADE TO GLAMOUR SHOTS OF F-35 PLANE IN ACTION SHOW AIR FORCE, NAVY, MARINE CORPS AND BRITISH ROYAL NAVY INSIGNIA OR PLANES	It was the first aircraft in history to Perform . . . A short takeoff . . . A level supersonic dash . . . And a vertical landing -- in a single flight. In fact, when awarded the Collier trophy, presenters hailed it as “the greatest achievement in aeronautics or astronautics in America.” The Joint Strike Fighter has also transformed military procurement …
6 LOCKHEED MARTIN STAR LOGO FORMS AND COMPLETE	Becoming the first plane to serve multiple service branches with the same design. Today the Joint Strike Fighter serves the U.S. Air Force, the U.S. Navy and the U.S Marine Corps and the British Royal Navy. (MUSIC UP AND OUT - Finish)

CREATIVE SMITHS

Space #7 – 3.0 (4:08) 1948-2004
Lockheed-Martin Transformation project
RASmith 09 01 2004

VISUAL	AUDIO
1 CG: NIGHT SKY, A SPARKLING SEA OF STARS FADE TO BLACK	MUSIC UP ANNCR: From the dawn of time, man reached for the stars . . . For ages it seemed an impossible dream . . . then in the latter 20th century, travel *beyond* earth, to planets, to other galaxies, took its first infant steps.
2 UP ON RETROSPECTIVE P-80 FOOT-AGE, FOLLOWED BY JET FIGHTERS IN ACTION BUSINESS WITH BRIEFCASES BOARDING PLAN, FAMILY IN PLANE CABIN DRESSED FOR VACATION DESTINATION (HAWAII OR DISNEY)	It began with the P80 Shooting Star, the plane that introduced jet propulsion to the free world. Ultimately its success transformed and changed the way nations went to war … the way people went to work … the way families lived their lives.
3 LOCKHEED MARTIN WINGLESS BOMBER EARLY ROCKETRY SCENES OF PERSHING, PEACEKEEPER AND PATRIOT MISSLES LAUNCHING MISSILES FOOTAGE OF PINPOINT HELLFIRE STRIKES ON TANKS BUIDLNGS AND ARMAMENTS.	Soon, keen minds paid to think “out of the box” invented bombers without pilots, rockets with multiple stages, self-contained guidance systems, and solar cells for auxiliary power. These advances spawned defensive weapons systems capable of responding faster, deadlier and more accurately than any before: Intercontinental Ballistic Missiles …*Guided* weapons . . . that by their very existence deterred nations from aggression . . . and give the world new eyes it never had before.

4 SHOTS TAKEN FROM THE EDGE OF EARTH'S ATMOSPHERE. DISSOLVE TO VIKING'S FIRST PHOTOS FROM 1955	Transformational thinkers realized that rockets "going where no one had ever gone," could see things "no one had ever seen." In 1955 their Viking high altitude rocket gave the world a gift – its first photos of itself from space.
5. SPUTNIK MARTIN VANGUARD LAUNCHING SATELLITE MARTIN TIROS WEATHER SATELLITE NASA'S LOCKHEED-MARTIN TERRAL SATELLITE	Soon engineering minds were sending payloads of all kinds into orbit. Vanguard answered the challenge of Sputnik by launching America's first satellite. . the first of hundreds pressed into tireless service – not just to watch over enemies, but also to track tropical storms, safeguard the atmosphere, extend communications and reveal scientific discoveries.
6. SHOT OF MISSILE BEING PREPARED FOR LAUNCH OF ASTRONAUTS AMERICAN ASTRONAUTS AND TITANS LAUNCHING MERCURY AND GEMINI CAPSULES. SPACE WALKS, IN-CAPSULE SHOTS AND TWO SPACECRFT DOCKING	When transformational thinkers saw these advances and thought, "why don't we go along for the ride," the people of Lockheed Martin stepped forward, joining forces across our businesses to serve every aspect of the space program. A total of more than 300 launches -- manned and unmanned We conceived the Titan workhorses that launched Mercury & Gemini astronauts. We helped them dock their spacecraft. And provided navigational and communications subsystems to ensure Apollo's success . . .
7. NEIL ARMSTRONG ON THE MOON, LEM LUNAR ROVER RIDING ACROSS MOON SURFACE SPACE SHUTTLE ON LAUNCH PAD DISSOLVE TO ANIMATION OF SHUTTLE LYING ON ITS SIDE. SUPERIMPOSE EARLY FOOTAGE OF LOCKHEED, MARTIN OR AN UNIDENTIFIED AVIATOR FLYING HIS PLANE INSIDE. (OR USE ANIMATION)	One was the communication system that carried Neil Armstrong's first words from the moon. (SFX: WORDS) Another was the Apollo astronaut's dune buggy – the Lunar Excursion Module, known as LEM Transformational thinking made possible the very backbone of the Space Shuttle program – the massive 154-foot tall fuel tank. A tank so large that Glen Martin and the Loughead brothers could have made their original airplane flights within its steel walls.

	And Lockheed Martin conceived and built the Multiple Docking Adapter for Skylab, the world's first orbiting space laboratory.
8 GLOBAL POSITIONING SYSTEM DEVICE VIKING PHOTOS FROM MARS	Today, Lockheed Martin's transformational thinking continues to advance civilization in ways unthinkable a century ago. It led to ground control for the ubiquitous Global Positioning Satellite System. To the Viking Lander, which traveled 460 million miles to gently touch down on Mars.
9 MAGELLAN	To Magellan, which journeyed 788 million miles to orbit Venus.
10. VARIOUS SHOTS OF HUBBLE IN DESIGN, PRODUCTION AND IN ORBIT MONTAGE OF HUBBLE PHOTOGRAPHS WITH KEN BURNS LIKE ZOOMS INTO E DETAIL. GLAMOUR SHOT OF HUBBLE	And transformational thinking conceived Hubble, a telescope that sees further than any other in history, focusing on objects 14 billion light years from earth. Objects so distant, Hubble's deep field images are literally a photographic record of the Universe's past.
11 GLAMOUR SHOTS OF LOCKHEED ENGINEERS, SCIENTISTS AND CRAFTSMEN AT WORK, TAKEN FROM LOCKHEED FILMS AND VIDEOS	Whether responding to government needs, or conceiving advances of their own, the men and women of Lockheed Martin and the companies from whence they came exemplify the concept of transformation. (MUSIC MOOD CHANGE)
12 CLOSE UP SHOTS OF GLENN MARTIN, ALLAN & MALCOLM LOCKWELL AND KELLY JOHNSON MORE SHOTS OF PEOPLE MELTING INTO SHOT OF LOCKHEED STAR WHICH MORPHS INTO LOCKEED LOGO	Transformational thinking is in our past . . . In our blood . . . In our future. Touching everything we do. Influencing every action we take. Carrying us forward – as always – in our journey to worlds beyond.
13. TO BLACK	MUSIC UP AND OUT (Finish)