

# THE LYNX PROJECT

## *MANUAL*

(July 2007)

### **General Introduction: Lynx Production and Display History**

Once the overall outline for the three Lynx prototypes were generally defined in early 1963, it was time for Lincoln-Mercury General Manager Benjamin D. Mills to put those plans into action. In early May 1963, Mills met with Dearborn Steel Tubing (DST) head Andy Hotton to discuss the general scope and detail of the nascent Lincoln-Mercury concept car program, by then underway for about 14 months. Mills talked with Hotton about carrying out the preliminary mechanical and bodywork tasks necessary to modify three V8-powered, pre-production 1964 Comet Caliente convertibles in anticipation of dramatic coach work at the famed Italian carrozzeria, Bertone. DST had a strong reputation for fearless craftsmanship (it had just completed the Thunderbird Italien for the Ford Custom Car Caravan), and was known for its vigorous protection of design studio projects from competitors. The combination of high skill and confidentiality was very attractive to Mills since his project had to be concealed not only from possible competitors, but from inter-Division snooping within Ford as well. Mills correctly decided that DST was the shop to take on the tasks of not only largely disassembling the factory vehicles, but also doing the required initial engineering and basic body reconfiguration on the three Comets prior to shipment to Bertone for special Italian coach work. The revolutionary plan to build three differently-configured versions of the concept cars design within a tight time frame required an experienced, fully-staffed shop to handle the initial work quickly and well.

DST was chosen for another reason as well: the independent shop's had ample experience doing high-performance engine and chassis work, and was called upon to configure the three "program" prototypes. As an example of the adventurousness of the entire Lynx program – which was such a contrast to the public perception of a purveyor of conservative cars - the first prototype took some genuine risks: Mills' plans for the power plant of the first prototype would certainly require those skills. Mills had in mind the construction of a McCullough supercharged version of the inline corporate six cylinder engine (christened the "Super Six") that powered the base models of compact Ford and Mercury-Division cars. Though the small inline, prosaic engine was obviously not intended for a high-power configuration, Mills' vision changed that: The Super Six featured loads of speed equipment, and was tilted on its side to fit it under the dramatically sloping hood featured on the concept car design. The engine was fitted with a supercharger pressurizing an Autolite 4100-series 4-barrel carb sitting atop a custom-built intake manifold to provide plenty of horsepower and torque for enthusiastic driving.

Other changes included building a modified oil pan and pickup, designing and fabricating the brackets to place the McCullough supercharger lower on the passenger side of the engine, fabricating a unique "Super Six"- script valve cover, and constructing all the specially-fabricated brackets and braces for this most-unusual

engine. This experimental “show” engine was planned to give the admiring public the sense that the Lincoln-Mercury Division was thinking of spirited performance by its presentation of a fully-functional, high-performance, small displacement inline engine. To expedite the creation of the special powerplant, Hotton retained Ak Miller, the Ford Division’s performance advisor who was, by then, also well known for his performance work on the corporate small six. Mills retained Miller to design and fabricate the specially-constructed engine that would be coupled to Ford’s version of the Borg-Warner T-10 4-speed. The design drawings were detailed enough (thanks to Miller’s advise and mechanical acumen) to permit Hotton’s crews to correctly anticipate the interference between the dramatically sloping hood of the first prototype and the front of the engine – just where possible interference might occur.

Because of the radical ‘Super Six’ engine, and given the political climate at Ford Motor Company at the time the Lynx prototypes were being built, Mills pressed both Hotton and Miller about the need for absolute confidentiality on the L-M Division project, a point Hotton acknowledged (though it placed DST in an interesting and risky position because of its on-going work for the Ford Division). Hotton and Miller assured the Lincoln-Mercury chief that the work could be done well, in strict confidentiality, and on time; even though the pledge of confidentiality threatened their relationship with the Ford Division. .

During the development of the special engine, other equally-crucial aspects of the project were underway. Bodywork was the most visual and probably the most important aspect of Mills’ Lynx concept car program. Despite the extensive development work on the *Lynx* vehicles, Mills knew in June of 1963 that the preliminary fastback roof design from his design staff was the least satisfying styling aspect of the cars. Though a lot of effort (initially influenced by the roof of the Ford Division’s *Allegro* X-Car) had been directed to create a graceful roof design that would match the adventurous design of the rest of the car, every proposal was ultimately unsatisfactory (and some were truly awful); Mills knew that a breakthrough had to happen, and soon. During one on-site discussion with Hotton about how to plan the preliminary construction work of the three Lynx prototypes, the Lincoln-Mercury Division chief saw, near the door to the shop, an intriguing, still-unfinished fastback fitted with a swept-back, clearly European-influenced roof line. Mills learned that the car was loosely based (very loosely, as it turned out) on a relatively well-finished (from a styling, if not a construction, basis) “proof of concept” in-house styling studio design studies of the proposed Mustang convertible, and to Mills’ surprise had escaped the design studio, and had been transferred to Hotton. The beautiful roof design, successfully influenced by the Ford Division’s *Allegro*, entirely satisfied Mills’ objectives – it was delicate and could be integrated into the finned rear quarter panels of the Lynx design.

The creation of the Vivace, as Hotton called it, was eventful, and was based upon Hotton’s personal interest in the Mustang that developed, at the time he was closely involved with the Ford Division. Interested in restyling the then still-to-be-produced Mustang pony car, Hotton asked about the disposition of that early, metal styling study of the forthcoming Mustang convertible he saw sitting in the studio. As his designs gelled, Hotton sensed an opportunity to fulfill his years-long desire to create a lithe fastback coupe for his personal use that would avoid the production-compromised design elements then emerging from the Ford styling studio. His initial roof design matured as he studied the Ford drawings to the Thunderbird Italien then under construction in the shop at the same time. Aware of the nascent Ford Custom Car Caravan, Hotton came to the realization that his restyled Mustang might find a place in that remarkable Ford promotional campaigns in which Ford-themed, if not explicitly Ford-based, vehicles would be campaigned across the United States as part of the corporate effort to capture the imagination of a young, custom-and-performance minded, audience.

Surprisingly, the Ford studio head (undoubtedly, with the tacit approval of Bordinat) offered the car to Hotton but disclosed to him that the mule was only crudely tacked together and lacked some structural elements in the body that would be necessary to creating a road-worthy car – the connection between the sheetmetal and the Falcon unibody was tenuous at best, and had to be completed. Hotton enthusiastically accepted the offer, and made arrangements to have the vehicle towed

to DST. Upon arrival, Hotton examined the car and started to seriously sketch the car that he wanted to build based on the genuinely crude car that sat before him. And the design chief was right: The car needed a lot of work since it was crudely assembled in the design study to only test out design elements and finishing schemes.

The first thing Hotton did on the Vivace was to weld seams and stabilize the metal body built from Kirksite tooling – low-production metal shaping dies used to create and test out prototype production parts (which were not production quality, but could be used for non-production based concept cars). The body also was also only tenuously attached to the Falcon platform and further work (including completing the inner body structural shapes) was required to stabilize the basic body structure. The lack of a roof made things unstable, but that problem was resolved when Hotton started on the restyling work. Hotton continued his work and restyled the car to satisfy his own objectives with changes that included the design of a lovely fastback roof (loosely based on the pending production Mustang 2+2 Mustang fastback design that was largely finalized in the near final production date in December of 1963, a full-width and integrated front grille-and-headlight set up (where Marchal headlights were placed behind a rotating grille section framed by a front bumper), a wall-to-wall taillight integrated with a dropped rear deck which eliminated the trunk, enlarged and raised wheel wells, restyled doors (entirely different door outline) and other details. To anyone paying attention, Hooton had undertaken and completed an aggressively restyled production Mustang which effort presaged his pending work on the Lynx prototypes. With the basic body integrity achieved, Hotton modified the shock towers to accommodate a Thunderbird 390 tri-power engine (which engineering work would later prove very useful when Ford ordered the construction of the Fairlane Thunderbolt drag cars) that Hotton acquired for a deep discount. Once the bodywork was completed, the Vivace was finished in 1963 Ford Ming Green (spiked with a bit of opalescent powder) with a matching two-bucket seat interior.

The story is a bit sketchy, but the narrative has it that Hooton would occasionally drive the Vivace to Ford headquarters during the promotional [period following the completion] of the Italien. It was during one of those styling studio displays in the fall of 1963 that Mills, visiting the Ford Advanced Styling Studio one afternoon, saw the Vivace parked on the entry ramp to the studio. Rushing to the car, and walking around it with great excitement, the Lincoln-Mercury chief expressed his great enthusiasm for the design while muttering quietly about the shape of the roof. After an hour of enthusiastic conversation with Hooton, a deal was struck and Mills purchased the car for himself with the agreement that Hooton would detail the car before delivery the following morning.

The next day, on October 2, 1963, Hooton drove the car to the L-M studio whereupon it was quickly pushed into one of the design studios by workers who were constantly admonished by Mills to be carefully with “his” new car. Mills’ design staff had been struggling with the roofline of the Lynx and, with the Hooton car neatly tucked in the studio, the designers had fresh inspiration. What remains a mystery is why the L-M design staff, well-aware of the Italien, didn’t draw inspiration from the custom T-Bird. Regardless, the Hooton Mustang had a powerful influence upon the Lynx design.

While waiting for the Lynx to be developed and crafted in Italy, the Lincoln-Mercury chief drove the Vivace discreetly since the Mustang was yet to be announced by the Ford Division. Though the radically different roof line and rear quarter panel design distinguished the car from the production vehicle, there were still enough common styling cues to connect the two vehicles. Once the Mustang was announced on April 30, 1964, however, Mills felt free to drive the car regularly.

Mills really admired the *Vivace* roof and wanted to import that basic design to his personal version of *his* basic Lynx prototype design and use the developing production Mustang fastback roof design for prototypes one and two, with modifications. With that in mind, Mills took the Ford Division Styling Studio manager to lunch one day, with Hotton in tow, in early June 1963 to discuss (without revealing the true purpose behind Mills' visit) the roof styling that Hotton had developed from the pending Mustang 2+2 roof design after which the Lincoln-Mercury chief acquired a copy of the several preliminary design drawings and layout details for the production 2+2 fastback roof design would be used almost without change, on the first prototype. Mills wanted to use the early Mustang drawings and dimensions for the exterior sheet metal shapes, the window reveals, and supporting structures: he worried, in quiet moments, whether his first Lynx prototype roof design would ambush the release of the Mustang fastback later in 1964 which set him to thinking about how to modify that design. Elements of the proposed Mustang fastback roof drawings were quickly incorporated into the Lynx styling by L-M designers (later, the Lincoln-Mercury design prepared roof drawing sets which were sent to Bertone for use in fabricating the roofs for the second prototype, and Mills' fourth *Lynx* version).

On June 25, 1963, Mills delivered to Hotton the fully-developed engineering and body technical illustrations necessary to carry out early conversion work on the three '64 Comet convertibles due at DST in late July. That day, Hotton and Mills spent the afternoon talking about how the first three "official" Lynx prototypes (as well as Mills' car) were to be styled, and through which means and methods the cars were to be built; Hotton was openly pleased by the clear similarities between his *Vivace* roof design and the roof for the fourth Lynx car. The DST chief expressed surprise (and pleasure, given the value of the work) at the scope of the initial work that would need to be done in his shop, and repeated his assurance that the work would be done well and on time.

While Hotton was reviewing the Lynx plans and project descriptions, Mills had to acquire three Comet convertibles quickly. In anticipation of the start of 1964 Comet convertible production at the Los Angeles plant on July 18, 1963, Mills directed his vehicle coordinator, Jim Abrams, to prepare the paperwork to acquire three pre-production 1964 Comet Caliente convertibles using the same administrative procedure through which "pool cars," or evaluation vehicles, were acquired. On Thursday, July 22, 1963, Abrams submitted the documentation to the company using an ICBA (Inter-Company Buying Authority) number citing a line item reference to Mills' budget for "Special Projects." Mills wanted V8 convertibles as the basis for the three program cars since the unibody engine compartment sheet metal was stronger than that of the coupes and hardtops (because of additional bracing to the floor pan), and were built with larger brakes and 5-lug wheels, heavier-duty steering and suspension components, and an 8" rear axle that could handle the extra torque of both the V8 power plants and the supercharged "Super Six" engine that would be installed in the first Lynx prototype. Though the V8 was removed from VIN No. 4J25500021 and replaced with the supercharged *Super Six* engine, it was less trouble and, ultimately, less expensive to order that car with a V8 and a four-speed than to order a six-cylinder car and then be faced with installing the heavier duty V8-related parts. Necessary paperwork was sent to the LA plant where three cars, equipped as specified, were built as part of the early pre-production run.

Mills' specifications weren't hard to satisfy: all three convertibles had to be V-8 equipped with a single four-barrel carburetor; one of the V8 cars was to be equipped with the recently-introduced Ford C-4 automatic transmission (VIN No. 4J255000404), and the remaining two V8 cars were fitted with T-10 four-speed manual transmissions (VIN No. 4J25500022 and VIN No. 4J25500021). Because Mills' order had to fit into the regular production sequences, only two vehicles had sequential VINs. Abrams was advised, on July 26, 1963, that the cars were ready; they were quickly loaded onto a corporate transport truck and left Los Angeles for DST. When Mills called Hotton to let him know the cars were en route, Mills repeated his strong concern about the need for absolute confidentiality -- a point that Hotton again acknowledged.

Time was quickly becoming a real problem because the interval planned for building the three prototypes was limited. Mills was beginning to appreciate the substantial time that would be required to build three complete, differently-configured cars (this was a larger problem than known to Mills because Bertone shop time would have to be further adjusted to build a *fourth* car, Mills' personal Lynx). Mills told Hotton that the three Lynx prototypes would be put to different display purposes – all in the service of proposing to both the public and Ford corporate management that the L-M concept car could be readily adapted to a number of promotional (and later, market-friendly) uses. The first Lynx would be campaigned at the 1964 New York World's Fair and would need to feature plenty of custom paint and chrome as well as the modified production six cylinder engine to satisfy the emerging "sporty car" market; the second Lynx would be presented occasionally at car shows but would spend most of its time at SCCA events where it would occasionally do "exhibition" runs in B production sedan events (but would never be entered in competition thereby permitting Lincoln-Mercury to tap into the essence of the Ford Division's Total Performance program); and the third Lynx would be a highly-styled convertible (with a fold-away soft top and a removable hardtop) aimed at attracting again the young sophisticated buyers whom the company had largely abandoned after the demise of the two-seat original Thunderbird. All the prototypes would be used in various displays - most especially the Lincoln-Mercury Caravan of Stars at the conclusion of the Cavalcade of Custom Cars at the New York World's Fair, with the roadster eventually going to Bordinat for his support of Mills' project. But there was still one more thing to work out with Hotton: In mid-July, 1963, the Lincoln-Mercury chief spoke to Hotton about a fourth prototype – his personal Lynx – and his adventuresome design and mechanical plans for that car. This created a new, and larger, problem for Hotton because his work just increased by twenty-five percent as well as for Bertone's already-tight schedule. And there was one more inevitable effect – Mills knew that the budgets for Bertone and DST would need to be increased to pay for the additional cost plus, undoubtedly, a performance bonus to encourage the best and most timely work.

After arriving as scheduled on the morning of July 29, 1963, the three convertibles were quickly unloaded and driven into the DST shop, where the crew started the first phase of the work by stripping from all of the cars the front clip, the doors (saving the data plates from each but leaving the door hinges/bulkhead in place), the front and rear bumpers, lights, exterior trim, the trunk lid, the windshield glass, the convertible top mechanisms and all of the interior components and trim (except the dashboard). The second general task was to reconfigure the basic unibody structure to accept the fresh coach work: this task required shortening the Comet unibody platform to achieve the Lynx wheelbase of 101", and then relocating the factory firewall and toe board rearward to achieve one of the distinctive design features – long front fenders leading a short-coupled interior compartment and short, finned rear fenders and drop-down deck design. Third, the front unibody/subframe cross member had to be moved rearward a bit to clear the design of the lower front pan and grille. On the platforms for the second and third prototypes (the V-8 cars), the engine and transmission pick up points were also moved rearward just over 8-1/2" from the factory placement, while the I-6 car was moved rearward 9 1/2" to give the cars a much-improved front/rear weight balance. The new mounts the DST crew installed permitted the engine and transmission combination to maintain its factory relationship to the firewall and preserved the factory transmission shifter mechanisms' location. This work on the three cars involved more effort than was at first supposed because the unibody firewall was an integral structural element, and because shortening the wheelbase meant working around the factory convertible transverse unibody strengthening sheetmetal. These substantial changes also meant that the production steering column had to be relocated and extended – aided by the use of a U-joint – because the distance between the firewall and the steering box had increased.

With the basic unibody and mechanical reconfiguration work finished, it was time to do early body work changes. While production tooling for the sleek Mustang 1965-model year prototype roof wasn't yet ready in August of 1963 (and wouldn't be until the end of the year), the availability of Kirksite tooling enabled Mills (who had carried out what amounted to an unauthorized "raid" on the Mustang prototype sheetmetal supply) to provide Hotton early concept rough-stamped roof sheet metal parts necessary to basically configure the roof for the first prototype. With the removal of the factory Comet sheet metal completed, the initial prototype-specific task for DST was to rough-in the greenhouse on unibody 4J25500021 (the first Lynx prototype) the Kirksite dimensions as a template for assembling the sheet metal bits from the Ford Division. Once received, Hotton's crew welded the several metal stampings together and then fabricated the metal structure to support the roof of the first prototype (which work was informed by the earlier work on the Vivace). In an insightful move that would later be sued (with only slightly different dimensions, but for largely the same reason in the 1966 Shelby Mustang), Hotton "lightened" the greenhouse by installing a side window in the side of the roof. This roof assembly was then mated to the reconfigured Comet unibody. Additional sets of these prototype Kirksite sheet metal stampings were procured and included in the items later shipped to Bertone though, as it turned out, the Italian metal formers preferred to form their own sheet metal parts, especially since the roofs on prototype two – and Mills' car – differed significantly from the largely production roof shape already installed on the first prototype. In this connection,

after DST placed the assembled roof sheet metal on the basic roof/body layout for the first prototype, Mills discovered that the roof shapes for the prototype number Two (and, ultimately, Mills' personal version – the fourth Lynx prototype) could be more easily achieved by the craftsmen at Bertone.

Mechanical changes, too, had to be accomplished. The “Super Six” engine, received in mid-August 1963 from Miller's shop in California where it had been tested and dialed in on Miller's dyno, was installed in the engine bay of the first Lynx prototype after a DST workman finished welding the motor mounts. Show detailing had not been done at this point; Mills understood that aesthetic enhancements could be accomplished after the cars were returned from Bertone because the construction and painting process would compromise any engine detailing. Another task arose concerning the second prototype: to satisfy the goal of entering the that prototype in SCCA B-Production sedan competitive events, Mills requisitioned a single high-performance 289 cubic inch 271-horse engine V8, then available in the '63 Fairlane Sport Coupe, from the assembly line in the Cleveland plant, and directed that it be delivered to DST for use with the factory T-10 4-speed. While working out installation issues with the reconfigured unibody and firewall, DST mechanics replaced the factory 8" rear axle with a narrowed Galaxie heavy duty 9" unit, fitted with 3.70 gears, on what would be the Lynx “racing” prototype. Finally, on the body for the third Lynx prototype, Hotton's crews installed a prototype Mustang convertible windshield frame and glass - the same basic design that would also be used in the Bordinat Cobra that would be built about 18 months later.

After the basic work was finished on August 8, Hotton packed each of the three stripped-down and modified Comets in strong wooden crates. Because the prototypes were expressly designed to make the maximum use of readily-available items from corporate parts bins to reduce the costs of developing the regular production versions of the basic Lynx design and to trigger recognition of productions bit to enhance marketability, several additional crates were filled with supplemental production parts for use on the prototypes. Included in the additional crates were additional prototype wheels, bolts of upholstery materials, switch gear, back up lights, and so forth, as well as two prototype Mercury styling studio Mercury dashboards that were destined, after modification, for use on Prototypes One and Three. The crates of spare parts, and the three crated cars, were loaded into two enclosed Mercury-Division transport trucks and sent to the Detroit Metro airport in Romulus for a flight to New York. Once in New York, the three cars and parts were transferred to an Alitalia cargo jet which left for Italy late on the evening of August 11. The three rolling unibodies and accompanying parts arrived in Italy, passed through customs, and were delivered to Bertone on August 13, 1963. On that same day, Mills had his financial chief wire a substantial deposit to Bertone to facilitate the acquisition of supplies, and to make it clear to Bertone that Mills expected the famed carrozzeria's attention focused on the Lynx project, an effort that would require the full-time efforts of nearly every craftsman working for the Italian coachbuilder.

During the development and initial work at DST, plans for Mills' personalized version of the Lynx concept car were percolating in his mind, and on the drawing board of one close friend in the Lincoln-Mercury styling studio. With the three Comet unibodies and associated parts safely delivered to Bertone, Mills' turned his immediate attention to his private plan to build the fourth car in the series, his personal Lynx prototype. Because his plans for his personal version of the Lynx series wasn't part of the corporate three-car project, Mills would need to personally acquire a “retail” Comet hardtop for his project (convertibles were still in short supply and cost more). The car's mechanical specifications weren't often found in one car: a 260 two-barrel V-8 Caliente hardtop equipped with a four-speed manual transmission (that would be discarded) hooked to a 3.50 Equa-Loc rear axle. However unusual, that array of parts gave Mills what he needed most: enhanced strength of the engine compartment sheet metal, the manual transmission pedal assembly, heavier-duty suspension and a locking rear axle. Because it was unlikely that such a car might have been found sitting in dealer stock that early in the production run, Mills ordered the Caliente hardtop from Bob Desseau Lincoln-Mercury in Birmingham, Michigan on September 10, 1963: Mills paid a \$400 deposit and awaited delivery of the vehicle. However, in a stroke of good luck, the dealer located a Pacific Blue Caliente hardtop with a black interior and the required drive train specifications at a dealership in Chicago, and had it shipped to Birmingham. It was prepped and delivered to Mills' home by an enlightened dealer anxious to please the Lincoln-Mercury chief. On September 18, 1963, and with fewer than eighty miles on the odometer, Mills drove his Caliente to DST where the same work – essentially – performed on the three convertibles was repeated. Removing the steel roof presented a few wrinkles, but the work was done expeditiously. After the V8 had been removed (no new motor mounts were installed), the denuded Comet hardtop was picked up from DST by a Lincoln-Mercury truck and taken to Detroit for shipment to New York, then on to Bertone.

Between September 1963 and the completion in April 1964 (the record is incomplete now, leading to speculation about the dates of these trips), Mills flew to Italy several times (commonly over long weekends), and often with a designer and an engineer in tow, to check on construction progress, and to determine conformity of the work on the first three prototypes to the design drawings. Mills became convinced that his visits – along with more frequent visits from the assigned representative of the L-M styling studio who spent protracted periods of time at Bertone – were essential not only to the progress of the three prototypes, but also to insure that the finished work faithfully matched the Lynx design documents and drawings. Mills also understood that the experience building the first three prototypes would be essential to ease – and speed – the construction process of his personal version. Each trip was filled with meetings and careful reviews of the construction progress and the design and mechanical elements as construction progressed over the fall and long winter and into early spring. Inevitable minor problems cropped up that no one had, or maybe could have, anticipated. For instance, the production inner front engine compartment paneling had to be modified because the lower fender and hood line required the top of the shock towers and adjacent panels to be re-configured – essentially, lowered. That problem, and other inevitable fabrication difficulties, slowed construction and led to inevitable growth in the project budget and time line.

Of course, the later visits to Bertone by Mills also included attention paid specifically to his personal Lynx prototype, which was being built separately from the other cars. Unlike the production-orientation of the three “program” prototypes, Mills car was a radical, European-themed “custom” that echoed – unfortunately, as it turned out – the still-hypersensitive, sometimes hyperbolic, history between the Ford Motor Company and Ferrari. Most dramatically, Mills’ Lynx was powered by a Ferrari 250 LM V-12 engine and transmission. Even though it was based upon the essential Lynx design, Mills brought a sense of flare and daring to his car that could not be found on the production-oriented focus of the three prototypes. From its voluptuous swept-back coupe roof line, lowered roof over the windshield, Bertone-style front fender vents, rocker-mounted jacks, two-tone Connolly leather interior that accompanied a large, twin-gauge dashboard and Ferrari-inspired bucket seats, to an exotic deep blue pearl paint job set off by chrome Borraini wire wheels, the car was a stunning departure from the almost prosaic design and finish details of the three Division Lynx concept cars. In every way, the car was difficult (and surprisingly expensive) to build despite the time saved during the body configuration work done at DST. When it became apparent that the concurrent completion of Mills’ personal car would compromise the development and completion of the three “official” Lynx prototypes – which were due back in the United States no later than April of 1964 to hit the show circuit – Mills instructed the workmen at Bertone to defer work, if briefly, on his car so that the finishing work on three other prototypes could be wrapped up. This slight delay was important because the significant modifications to the factory Merc unibody transmission tunnel – to permit the installation of the Ferrari engine – was a time-consuming modification.

Lynx prototypes one, two and three were finished on April 9, 1964 and were delivered one day later to the Torino Caselle airport for loading onto an Alitalia cargo plane to the United States. After a delayed and storm-tossed flight, the cars arrived, largely undamaged, at Idylwild on April 12, 1964. Once through customs, the three cars were loaded onto a cargo plane for delivery to Detroit Metro. Once deplaned late on Wednesday, April 15, the cars were quickly loaded into two Mercury-badged transport trucks and delivered directly to Dearborn Steel Tubing at about 1:15 a.m. on Thursday morning. There, Mills, who could scarcely contain his pleasure and excitement with the appearance of the three prototypes, met Hotton and a few of his key people to unload the trucks, and get the cars and crates safely inside the DST facility. Because there was scarcely a week to clean and detail the three cars, Hotton joined Mills for an early breakfast the next day and they discussed what had to be done to prepare the three prototypes for show and promotional duty. Some inevitable (but minor) damage had occurred in shipping had to be repaired, along with the cosmetic enhancements to the engine compartments of the three prototypes where dust, primer over-spray, and final paint mist had been, inevitably, deposited on components during the construction phase. This untidiness was a particular problem for the first prototype in that it had to be brightly detailed to successfully compare with the custom cars to which it would be inevitably compared to during its presentation in the Lincoln-Mercury Caravan of Stars campaign. Hotton temporarily allocated most of his crew – lead by the shop foreman – to get the work done quickly.

The engines in all three prototypes were removed and treated to a coat of fresh paint – a darker body color applied to the Super Six engine block, and ‘56 Ford Fiesta red on the 289 engine block in the third prototype, and black on the hi-po engine for the second car. The Ford “Total Performance” parts bins were tapped for cosmetic items for the V8 cars: chromed valve covers and round air cleaners, chromed oil filler caps and dipsticks, and fresh wiring. The engine pulleys were sent

out for show chroming to a local plater who did rush (and lucrative) work for DST, and then installed along with new belts and fresh Ford “Autolite”-script batteries. When the engines were out of those cars, a fresh coat of black medium-gloss lacquer was applied to the inner fender panels and firewalls of all three cars. The second prototype was also further modified: Hotton lowered the front suspension of the second prototype by re-drilling the bolts holes for the upper control arms, and added other competition-oriented parts along with SCCA markings to the doors. Unfortunately, curved-spoke Torque-Twist mags weren’t available early on: station wagon wheels with Goodyear Blue Streak tires were installed. The roadster also was show detailed, and fitted with a set of radial-laced wire wheels and thin line whitewall tires.

Mills instructed DST to prepare three stamped (and sequentially numbered) aluminum data plates indicating the day on which the cars were first delivered to Dearborn Steel for the conversion work with the sequence arbitrarily selected. Since the three cars were never intended to be registered for everyday use, and because the prototypes could not be confused with production cars with factory data plates, the DST tagging was essential to identify and track the cars in factory records and on the show circuit: the DST plates identified the vehicles, but could not be used to register them. This “prototype tagging” scheme and procedure had been previously used, in part, on the Thunderbird *Italien* (though the *Italien* was ultimately given to a private owner who registered it in California using the still-present factory dataplate and VIN):

<b>Factory VIN</b>	<b>DST Number</b>	<b>Prototype designation:</b>	<b>Model Designation:</b>	<b>Date</b>	<b>Body Description:</b>
4J25500021	129402	First Prototype	X-7	July 29, 1963	Two door sedan with rear quarter windows
4J25500022	129403	Second Prototype	XR	July 29, 1963	Two door sedan, configured for racing
4J25500043	129404	Third Prototype	GTA	July 29, 1963	Two door convertible with retractable soft top

When this work was finished, Hotton personally riveted the DST data plates to the inner passenger engine compartment front fender wells and then reinstalled the now show-worthy engines and associated parts.

Before releasing the three cars to Mills, Hotton and one highly-trusted shop foreman test drove the three cars to determine that the cars functioned properly; this effort led to brake adjustments and a little more tuning especially on the temperamental first prototype (integrating the blower and carb with the throttle linkage caused no end of difficulties). Finally, all the cars were washed again, treated to two coats of wax, and the final details were addressed to prepare them for the shows. The first prototype was shipped to the Cavalcade of Custom Cars at the 1964 New York World’s Fair where it joined the Mustang Vivace already on display; the second car was sent to Lime Rock and other road course racing venues for exhibition runs, and the convertible was consigned to the nascent Lincoln-Mercury Caravan of Stars for display across the United States.

During the interval between the completion of the early work on the three Lynx prototype bodies and their redelivery to DST, Hotton decided that he needed his own restyled Mustang (about which he would not repeat his earlier mistake and sell the same to Mills or anyone else). Through connections, he acquired a pre-production coupe and promptly set about to restyle it. Using a spare set of roof Kirksite stampings, he created another roof ( more conventional than he had installed on the Vivace but with the same voluptuous curve on the radius of the roof) with a more prominent taillight design because he believed that the Vivace taillight was too small.

When Mills' personal Lynx was finished in late May 1964, he first displayed his version at the several European auto shows under the Bertone banner, even though the Lincoln-Mercury/project name was prominently displayed on a show card. That surprising appearance of an Italian-flavored L-M concept car caused the editor of road and Track to feature a small piece of text and a photo. Following the Continental show season, the car was delivered to a freight forwarder at the Charles De Gaulle airport and airfreighted back to the United States for delivery to Mills. Whose staff touched up and detailed the car.

Though the record is a bit spotty, Mills' personal, "fourth" prototype never had a DST plate, but apparently always retained the factory data plate placed on the rear jamb of the driver's door: so far as the Michigan auto registration bureaucrats were concerned, Mills' car was just a wildly customized '64 Comet.

The fourth Lynx prototype, funded exclusively by Mills, wasn't modified by DST. (It was eventually licensed for street use using the original VIN and data plate information which, of course, didn't match the modified car at all).

<b>Factory VIN</b>	<b>DST Number</b>	<b>Prototype designation:</b>	<b>Model Designation:</b>	<b>Date:</b>	<b>Body Description:</b>
4J234503511	(None)	Fourth Prototype	XR-7	September 18, 1963	Two door coupe

The debut of Mills' personal Lynx in European auto shows came as a major shock to not only the Lincoln-Mercury Division, but to the general corporate headquarters. Disturbed not only by the "official" three-car concept program that was significantly over budget, and deeply exasperated -if not outraged – that a corporate-themed vehicle presented under a Division banner was running a drivetrain sourced from the then-despised Italian manufacturer, a decision was made at the corporate level to effectively suppress the Lynx project and destroy the cars. Bordinat called Mills, in late 1964, to warn the Division Chief of the pending order to scrap the three Lynx prototype vehicles and all associated parts. In fact, things turned bad within a few months as the popularity of the three prototypes grew rapidly and gained media attention, especially Mills' car with the forbidden powerplant. That pending destruction edict led Mills and two trusted associates to locate a storage area in a secluded Detroit warehouse where the three "official" vehicles were sequestered along with the by-then terminated IMC hobby kit project, the Bertone body buck for the second prototype, the *Vivace* Mustang (that Mills' had purchased from Hotton, and for which there was no room at his home), and other items.

## SECTION FOUR.

### Books

**Lynx: The Loss and Rediscovery of the Legendary Lincoln-Mercury Dream Cars** by Mark S. Gustavson (This is a working title only). This book will tell the story of the *Lynx* prototypes, the many additional vehicles that played a role in the story, and will feature dozens of photographs, as well as extensive appendix and footnote sections. A copy of this book will be available with the Project presentation at GSL-XXIII (2011); one copy will be placed near the project layout in the room where the Lynx project will be unveiled and displayed. A copy will be given to each *Lynx* Project participant, and may also offered for sale. The book will be laid out by Anagnostopoulos, and will be printed in Salt Lake by Championship Publishing, a division of Custom Styling Studio, LLC. (<http://www.Championship-Publishing.com>)

The book will feature photographs of all of the dioramas, the four *Lynx* prototypes, and all auto models, and other elements/ephemera: each project element must be finished early in order to be ready for the book. Yu and Benton to digitalize photos.

#### **Sources:**

- Text by Gustavson, reviewed by Wick and Anagnostopoulos, proofread by Helm and Wick.
- Digitized photos from Yu and Gustavson/Benton.
- Layout by Anagnostopoulos.
- Printing by Championship Publishing, (Salt Lake).

#### **Correlation:**

- Book presented at GSL.
- Each project participant gets a complimentary book.

#### **Status:**

- The book text has been recently revised after receiving additional information from our confidential Ford participant, together with additional information developed from the book on FoMoCo concept cars: Ford Design Depart Concept and Show Cars by Jim and Cheryl Farrell.

**Project Book** by Mark S. Gustavson. This “how-to”book will focus on the project participants and each model, diorama artifact and other elements of the project. This book will be published sometime after the presentation at GSL-XXIII (2011). Each project participant will receive a copy *gratis*, and additional copies will be sold to recoup costs of the project.

#### **Sources:**

- Text by Gustavson, reviewed by Wick, proofread by Helm and Wick;
- Digitized photos from Yu and Gustavson/Benton;
- Layout by Anagnostopoulos; and
- Printing by Championship Publishing, LLC (Salt Lake).

#### **Correlation:**

- Book available after GSL-XII;

#### **Status:**

- No work started. Each project participant urged to take “in process” photos and narrative log.

## SECTION FIVE

### Photos and Miscellaneous Items.

Associated elements for inclusion in book/free standing exhibits:

the **A. Full-size Amended Ford corporate *X-Car* three-panel promotional brochure.** This will be an amended version of the original Ford *X-Car* brochure that featured *Allegro*, *Cougar II* and *Mustang II*; a *Lynx* photo will be added plus text, requiring an expansion of the pamphlet into 4 panels reconfigured as a more general program.

**Sources:**

- Benton has roughed in the brochure, submitted to Yu for completion. Gustavson has provided text, and will supply a photo of *Lynx* prototype #3 for brochure.

**Correlation:**

- 1/625 scale version to be included in the Cobo Hall (placed after completion of diorama) and warehouse dioramas;
- Stacked copies in box in Detroit warehouse (just a few in the top of a box);
- Scanned version included in book; and
- Full-size version presented at GSL-XXIII (2011).

**Status:**

- Yu has translated the Benton paste-up to a digital format. Gustavson to send the final photos of the prototypes.

**B. Single *Lynx* Promotional Sheets for all of the *Lynx* prototypes (in the style of Ford *X-Car* promo sheets).** Single-sheet photo/data sheet, in the style of the individual *X-Car* sheets, which will feature all three cars on one sheet. Yu advises that the critical “realism” element will be the interior shots which will be required to “pick up” on the established *X-Car* promo sheets.

**Sources:**

- Gustavson to provide text and photos to Yu.
- Yu to do layout, submit CD
- Printing done in Salt Lake

**Correlation:**

- Photo will be included in the book. Original item presented at GSL-XXIII (2011).

**Status:**

- No work started so far. Detailed models of *Lynx* prototypes 1-3 must be finished first.

**C. *Lynx* advertisement from Look magazine.** Famous Mustang-introduction/*X-Car* two-page ad will be amended by replacing the Ford Aurora station wagon ad with a photo of *Lynx* prototype No. 1.

**Sources:**

- Photos by Gustavson, production by Yu.

**Correlation:**

- Copy in book. Original printed and placed in special display at **GSL-XXIII (2011)**.

**Status:**

- Gustavson needs to send the original advert to Yu who wants to scan the ad on his end to control values. Further progress can't occur until *Lynx* prototype #3 is finished.

**D. Faux IMC kit advertisement.** Based on an established ad for Industro-Motive Corporation (IMC) in the October 1964 issue of *Car Model* magazine. The reprinted pages will be replace the original pages in these magazines, and the magazine will be presented at GSL-XXIII (2011).

**Sources:**

- Original style mimicked from *Car Model* magazine.
- Gustavson to provide text;
- Photo of kit by Gustavson, send to Yu to create *Car Modeler* page;

**Correlation:**

- Article and advertisement will discuss how IMC came to do a kit of the *Lynx*; the book will reveal how the car and kit were then quickly squelched.
- Advert to be used in book. Reconstructed magazines will be presented at GSL-XXIII (2011).

**Status:**

- Yu has completed basic work, waiting only for photo of *Lynx* Prototype #1

**E. Budd Andersen column** that appeared in the October 1964 issues of *Car Model*, and the February 1965 issue of *Rod & Custom Models*. This column will discuss and describe the IMC *Lynx* kit. This will be present as a 'galley sheet' rather than being integrated into this issue of *Car Model* – note that this is the same issue as the one in which the IMC advert will be presented.

**Sources:**

- Gustavson to write text (Wick to check). Yu to lay out the page.

**Correlation:**

- Page on which column appeared will be featured in book. Original sheet will be presented at GSL-XXIII (2011).

**Status:**

- Yu has completed basic work, waiting only for photo of Prototype #1

**F. Ford performance/racing advertisements (several).** The purpose here is to show that parent company intended the use the SCCA-version of *Lynx* prototype #2 in its "Total Performance" ad campaign. (Note that the original Total Performance adverts covered both L-M and Ford competitive vehicles).

**Sources:**

- Original adverts from Gustavson already sent to Yu;
- Photo of prototype #2 to be taken by Bave, digitalized by Yu. Yu and Bave to discuss the specific requirements to reproduce these very important advertisements. Scale miniature to be shot in natural light.

**Correlation:**

- Photo of adverts to be used in book, with original adverts presented at GSL-XXIII (2011).

**Status:**

- Yu has original single-page adverts. Further work awaits completion of Prototype #2.

**G. Prototype corporate “patent plate” information sheets.** Ford sales/dealers brochure sheets need to be created referencing the assembly details for the three prototypes. Benton produces chart.

**Sources:**

- Use original Ford Mustang document, amend as necessary;
- Benton creates chart; and
- Printed in Salt Lake.

**Correlation:**

- Copies of sheet will be in book, and original presented at GSL-XXIII (2011).

**Status:**

- Benton has roughed in the document.

**H. Recreation of one-page color sheet in October 1964 issue of *Customs Illustrated*** that covered the Ford Division display at the 1964 New York World Fair.

**Sources:**

- Yu to do production work; and
- Gustavson to send pictures of *Lynx* prototype three, submit profile shot to Yu along with other needed photos. Gustavson also to send this issue to Yu.

**Correlation:**

- We’ll scan photo of *Lynx* prototype #3 and replace image of *Alexa* custom car. Yu to do production work;
- Photo to appear in book, and again full size at GSL-XXIII (2011).

**Status:**

- Magazine sent to Yu.

**I. Ford routing slip to move Prototype #2 to New York World’s Fair.** Thanks to Randy Vandraiss (whose father worked for Ford), we have an official Ford ‘routing slip’ that authorized and tracked the movement of the Ford Aurora station wagon to the 1964 World’s Fair.

**Sources:**

- We have the original sheet; it will be modified to reflect the transportation of the *Lynx* cars.
- Gustavson to write text. Benton to create document. Printed in Salt Lake.

**Correlation:**

- Photo of document to be used in book, displayed at GSL-XXIII (2011).

**Status:**

- Work not started.

**J. Recreation of a road test article in the October 1964 issue of *Road and Track*.** This issue already has an article on Carrozzeria Bertone, and we’ll be replacing a two-page article on the high performance Mustang which appeared in this issue. This will feature *Lynx* prototype #2 in an article focusing on Lincoln-Mercury’s expansion into the SCCA venue.

**Sources:**

- Use personal original magazine, printed on original/“aged” paper.
- Profile artwork by Yu.

**Correlation:**

- We'll do some line drawings and rewrite the article, then slip the new text into a reassembled issue. Gustavson to do text, Yu to do production work;
- Photo of article to be used in book. Article to be presented at GSL-XXIII (2011).

**Status:**

- Yu has found, and is "aging" near-correct paper.

**K. Revised Ford Promotional Film**

**Sources:**

- Use DVD transfiguration of scratchy early-Sixties 35mm movie film. Replace some elements of the film with still shots of *Lynx* prototypes No. 1 and No. 3, create a turntable on which to place a proto, include that film in the overall presentation. Mimic voice over (re-record all voice over?). Havican to create the amended film and "back-engineer" to 16 mm. film.

**Correlation:**

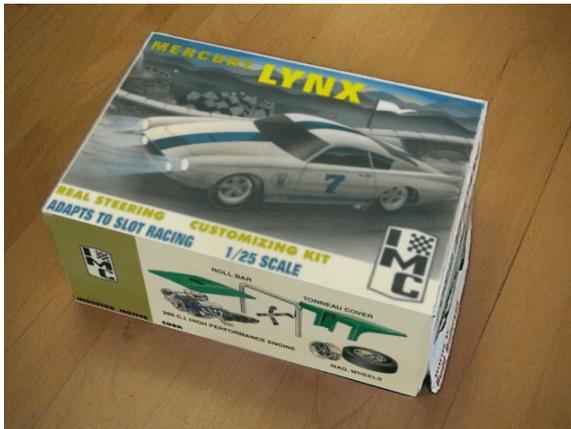
- Present the revised DVD at GSL-XXIII (2011). This will be the introduction to the seminar.

**Status:**

- Acquisition, no other work yet.

7). **Photos.** Still unfinished, but list in under development.

8). **Lynx GT-X7 Kit.**



A single faux **IMC** kit will be displayed with models of the three *Lynx* prototypes, consisting of the various parts on trees, and will feature artwork of Jairus Watson on the cover of the box (as revised to reflect contemporary production detail). Yu and Gustavson to work on 1/625-scale box for the Detroit warehouse (details to follow).

**Correlation:**

- Photo of kit to be used in book. "Original" kit with a bit of wear on display at GSL-XXIII (2011).

**Status:**

- Yu will create the instruction sheet for this kit. Yu will also amend the box art to enhance work already done by Benton. Once box art (all panels) is finished, then Wick will assemble the box.
- We will only need to produce the top of the instruction sheet, along with *Lynx* body/associated parts dropped into a vintage IMC *Mustang II* kit.
- Gustavson will send IMC box to Yu, and Benton will send the digital file for the *Lynx* box.

## 9. **Presentation at GSL-XXIII (2011).**

Our basic approach will be to present an entirely separate “Lynx” seminar track, leading off with the back-engineered Ford promo film.

### ***Presentation at GSL-XXIII (2011).***

- ▶ Set up dedicated room in advance (single room throughout Championship). Project items are set up:
- ▶ All scale vehicles placed in dioramas;
- ▶ Other items (artifacts) set up in titled venue;
- ▶ Book set up separately;
- ▶ Signage recognizing all project participants (not just model builders will be on display; also, see if Ford personnel want to be publically recognized;
- ▶ Drape all project elements;
  - ▶ Banner/signage at front of room, maybe a Lincoln-Mercury “Caravan of Stars” banner?;
  - ▶ 16mm file projector set up, cued to go;
  - ▶ Individual display stands for each scale vehicle with signage, brief description of vehicle, credit to builder

Present project to audience in this sequence:

- ▶ Brief verbal introduction, first-person narrative by Gustavson:
  - MSG discovered tantalizing bits of history of “lost” concept car. Started as the replication of a rare, factory-produced/authorized concept car built to the rules of the GSL Replica Stock class. That required comprehensive research which, once undertaken, continued to reveal additional layers of details. As the research continued and more (and conflicting) elements of the story became unveiled, the project is discovered by more and more builders, who join the project;
  - Focus of presentation is that small initial discoveries lead to more discoveries and information, which lead to more revelations which, ultimately, lead to the project to portray the history in scale. Project grew into larger and larger elements.
  - Turned to other participants in the ORSD team (Hamilton and Wick), to start with, and the project ultimately grew to include 38+ participants.
  - Project soon grew beyond its original scope, and these additional people volunteered as the “real” story continued to unfold. This was a highly-motivated group of builders looking for a big, “out of the box” project. Each builder participated in his area of interest/expertise;
  - All agreed to keep the nature of the project confidential, to allow this unveiling;
  - Modelers group had to decide what “could” be done, and what had to be done, in order to tell the full range of the story as it developed;
  - Long term of the project was necessary as the history of the car continued to unfold/be discovered and revised;
- ▶ Play film;
- ▶ Narrative following film;
- ▶ Central presentation focus is that the historical photos are presented in book, and that the scale models attempt to replicate those scenes;
- ***General:***
- ▶ Proctor is in the room entire time to answer questions and to protect items;
- ▶ Artifacts are behind clear plexy covers.
- Historical elements for artifacts and models (vehicles and dioramas):
- ▶ Lynx mug in warehouse and Bertone carrozzeria;
- ▶ Correct wall/power outlets (different than American);
- ▶ Letters from Bertone (din style/size paper)
- ▶ Bertone: Italian calendars, several kinds, cheesecake with Sixties Italian actresses and Pirelli calendars;
- Recognition for project participants:
- ▶ Each participant gets a Lynx book and, later, a book on the model projects;
- ▶ Lynx cufflinks;