

MEMORANDUM

TO: J. Liefeld

May 16, 1966

FROM: J. Benavides

SUBJECT: Mustang GT 350 Program.

During my stay in Dearborn, Michigan, several divisions of Ford Motor Company were visited to obtain technical data, components, and to determine an exact degree of assistance which could be obtained by Shelby American in design and construction of their GT 350 for the 1967 and future programs.

The following descriptive breakdown covers in full the information obtained during this trip.

a) Heavy Duty Suspension

Reference attached Ford Division Product Letter dated March 4, 1966, Ref. No. 67SF-300, which lists proposed package recommended for Job One, but is not mandatory.

In conjunction the following drawings were obtained to assist in suspension evaluation:

Z7ZA-18080-A-Shock Absorber-Rear	
IC15-1	Installation-Reinforcement-Front End.
IC4-14	Installation-Front Suspension 1-3
IC4-14	" " 2-3
IC4-14	" " 3-3
IC5-17	" " Rear Suspension

Additional data regarding the special suspension package is available from Ford Motor Company upon request.

b) Suspension Rework-"Wheel-hop" When Fitted With 7 Liter Engine.

An investigation of conditions indicates a similar problem with the 427 Fairlane currently undergoing redesign at Ford Motor Company. The Fairlane chassis and drive line is similar to the Mustang, therefore the data obtained and/or the changes required will be available to Shelby American, thus eliminating possibly extensive Engineering and test by Shelby American.

The Ford Motor Company program is currently in process under the direction of:

Vern Tinsler
Ford Motor Company
Stock Vehicles Group
Engineering Building 1
Dearborn, Michigan

Similar development programs are being conducted by various divisions of FoMoCo. I would suggest that Shelby American take

advantage of these efforts, thus eliminating excessive Shelby American engineering work loads. This will also produce more productive cooperation between Shelby American and the various FoMoCo Divisions.

c) Cast Iron Exhaust Manifolds--428 C.I.D.

During a visit to E & F Division of Fo Mo Co it was learned that a new "High Performance" exhaust manifold is currently under consideration for the 427 C.I.D. Fairlane for 1967. Further investigation indicates that this system may very well be applicable to the S/A 1967 Mustang 7 liter program. Further discussion with W.A. (Bill) Gelgota, Advanced Concepts, E & F Division indicate FoMoCo would consider slight rework to the headers if they can be used in the S/A Mustang as well as the Fairlane. The reasoning is understandable as increased production requirements will reduce unit costs. Final tooling is currently 80% complete.

Gerry Nuznoff was requested to obtain sample components. A formal letter will be requested from Gordon Goring to confirm this request.

The working part numbers and assigned part numbers are as follows:

XE-131548	Manifold, Exhaust--L.H.
(C70E-9431-B	" "
XE-131549	Manifold, Exhaust--R.H.
(C60E-9430-D	" "

Drawings of the above are available in S/A Engineering.

Serious consideration should be given to cast exhaust headers for 1967, as the "Thermactor Emission" system raises exhaust temperatures which will cause severe problems with fabricated, thin wall, steel exhaust headers.

Notation is made that the exhaust manifolds proposed by Bob Tasca would not be applicable as extensive rework to the existing exhaust system would be required.

d) Engine Packages--1967 Shelby Mustang

Several versions are feasible and with sufficient lead time can be produced by FoMoCo for use in the Shelby Mustang.

The units available for Job One installations are noted below. Alternate packages, the lead times required and E & F Division's recommendations are also noted:

289 C.I.D. HIGH PERFORMANCE ENGINE

The following "Alert Product Letter" was released from E & F Division of FoMoCo on May 12, 1966:

The 289 C.I.D. High Performance Engine is scheduled for 1967 Job One release in 49 states only.

The Thermactor system is NOT scheduled for Job One. This system is to be incorporated POST Job One.

Notation is made that the 289 C.I.D. High Performance package, when fitted to the 1967 Mustang will not accomodate the air conditioning, or power steering packages currently scheduled for production.

428 C.I.D. (SPECIAL BUILD) H.P. ENGINE

This engine package (provided S/A management releases an immediate request for a D.S.O. build) could be available for Job One.

The D.S.O. package must be specified as follows, and presented to E & F Division through Ford Purchasing:

Code Tag Number: To be assigned by FoMoCo.

Same AS: Code Tag Number E404-S
Part Number: DHADM429

EXCEPT:

Delete:

- | | |
|------------------|----------------------|
| 1. C6AF-9510-J | Carburetor Assy. |
| 2. C3AE-6250-M | Camshaft |
| 3. C6AF-12127-AH | Distributor Assy. |
| 4. C6AE-9430-A | Man. Assy. Exh. R.H. |
| 5. C3SE-9431-B | Man. Assy. Exh. L.H. |

Add:

- | | |
|----------------|----------------------|
| 1. S2MS-9510-A | Carburetor Assy. |
| 2. C6AE-6250-D | Camshaft Assy. |
| *3. | Ign. Dual Breaker |
| *4. | Man. Assy. Exh. R.H. |
| *5. | Man. Assy. Exh. L.H. |

* The applicable part numbers must be obtained One, E & F Division for the dual breaker Distributor, and Two, the 1967 Mustang build for the correct exhaust manifolds prior to the release of the D.S. O. build request.

The above noted engine package was originally proposed for the 427 Cobra, and should prove to be a successful package when fitted in the 1967 Shelby Mustang.

This package should also aid in sales as compared with the 289 C.I.D. engine in competition against the proposed 390 C.I.D. Mustang, and the Chevrolet package which most likely will offer the 327 C.I.D. engine option. This engine as specified above includes Thermactor Exhaust Emission Control.

427 C.I.D. (REDUCED COST) ENGINE

E & F Division of FoMoCo is currently evaluating the feasibility of producing the following package in order to reduce the initial high cost of the current production 427 C.I.D. engine, without eliminating its conversion into a competition package.

It is proposed that the basic "side-oiler" block, competition cylinder heads, large port intake manifold and dual breaker distributor be used with a cast crankshaft, High Performance hydraulic-lifter camshaft, and standard valves to produce an O.E.M. package priced in the \$450.00 to \$500.00 range.

As proposed, this package will be available mid-year 1967.

A conversion kit consisting of forged steel crankshaft, special 7000 RPM High Performance solid lifter camshaft kit with special valves, and shim head gaskets, will be available for conversion of the basic High Performance 427 C.I.D. engine into a full competition package.

Provided enthusiasm is shown by S/A. the High Performance Fairlane Group, Lincoln Mercury Division, and Divisions concerned with performance, this package will become a reality.

** 428 C.I.D. (ENLARGED DISPLACEMENT) ENGINE

Through the use of .030 to .040 oversized pistons.

** 427 C.I.D. (ENLARGED DISPLACEMENT) ENGINE

Through the use of the 428 C.I.D. crankshaft.

** The engines illustrated with two asterisks were proposed to E & F Division with little response. The sales do not allow for development expenses, and they feel that the recommended low cost 427 C.I.D. package would offer considerably more flexibility.

e) Prototype "Static Test Body" Fastback Mustang.

It was possible to obtain a steel prototype steel body from Harrold G. Kaine, Ford Motor Company Body Engineering Division. This body will be available for pick-up in a closed van at the Body Engineering Division June 1, 1966. The body will not include front end, or dash, which must be removed for test. The floor pan will be damaged beyond use due to seat belt securement tests, but will be excellent for side scoop, and rear end development.

f) Fiber Glass 1967 Mustang Fastbacks.

A request for removal of tooling from Ford Styling to Dearborn Steel Tubing Company for production of two (2) prototype fiber glass bodies was authorized. The two (2) bodies will be available for pick-up by a closed van June 1, 1966.

Confirmation paperwork requesting these packages should be forwarded to Gerry Nuznoff, FoMoCo by S/A Purchasing

g) Outside Sourced Components--1967 Mustang

A complete list required to assist S/A in sourcing and deliveries of 1967 Mustang outside sourced components was obtained by Gerry Nuznoff. This list will be available for review in S/A Engineering.

h) Body Engineering & Weld Manual--1967 Mustang

A copy of the FoMoCo "Body Engineering & Weld Manual" is currently being reproduced for use at S/A to reduce and/or simplify component rework or installation. Upon receipt this manual will be available in S/A Engineering.

i) Clock Lense and Back Cover--1967 Mustang

Two (2) each of the components requested were obtained, and are available for review in S/A Engineering.

j) 8000 RPM Tachometer--1967 Mustang

The 8000 RPM tachometer for the Mustang will be available for Job One. A drawing of the proposed unit is available in S/A Engineering.

RE: C7ZF-17360-A

k) Deck Lid--1967 Mustang

Delivery of the required deck lid at S/A is currently scheduled for shipment from the source May 25, 1966.

J.M. Benavides
Project Manager--427 Cobra

cc: C. Shelby Ford Motor Company
 J. McLean
 F. Martin R. Geddes
 J. Khoury G. Nuznoff
 C. Cantwell