

PRODUCT PLANNING & DEVELOPMENT STAFF

CHRYSLER
CORPORATION

Via Airmail

Letter #101u-154-393

November 7, 1969

Mr. W. K. McPherson
 Director of Engineering
 Chrysler Australia Ltd.
 G.P.O. Box 1320 F
 Adelaide, South Australia

13 NOV

Subject: PRODUCTION CAR RACING

Dear Walt:

Refs: A69-203-354 of 29/10
 A69-203-327 of 10/11

Thank you for the information regarding Australia's various racetracks. With the available data, we calculated that at Bathurst a VF Pacer equipped with a 340 engine and 4-speed manual transmission should be capable of 2:50 minute laps. Improvements in the engine to 375 horsepower should cut another 5 seconds off the lap time, considering no handling improvements. Also note that on a course like Bathurst, and even more so on the Katoomba Track, roadability characteristics are as important as engine output. Based on the above conclusions, we can say, "Yes, Chrysler Australia can build a competitive race car." Now, what exactly does it take to do the job?

Since Australian racers will lack experience with this automobile, your cars will have to carry a more refined specification than the competition, in order to win your share of races the first year out. There is an old saying that you lose the first year, find out what you did wrong the second year, and win a few the third year. Chart #1 and #2 list the specifications for the cars we would consider minimum and maximum refinements for a limited production car. There is little doubt that the minimum specification car would have been barely competitive in this year's race. As for next year, there can be no doubt that the competition will improve. The maximum specification cars will reflect nearly the maximum road holding ability consistent with standard 'A' body suspension configurations. The engine specification reflects a shrewd choice of components to obtain a sizeable output improvement at a reasonable cost. The ideal specification of your race car will be somewhere between these two extremes. If we were to write the specifications



for a race car without any additional information, it would have to be the #2 car. To avoid an overspecified car and its needlessly high costs, it is necessary to do some actual evaluation of your racing conditions.

I have located in Detroit a 1967 road race prepared Barracuda. It belongs to Product Planning, and since its retirement as a race car, has been used for brake tests. Since it was about to be scrapped, Product Planning will give it to you. It was campaigned in the 1967 Trans-Am Circuit and was quite successful until the Mustangs obtained more power. The car originally ran with a 273 engine. I estimate it will cost about \$1,500 to equip it with a fresh 340 engine, restore the brake system, and any other parts that may not be up to snuff. The car could then be shipped to Australia. The specifications of the car as it would be shipped are on chart #3.

Once in Australia, this car would be the platform for all the race car development work. Your drivers would evaluate the car on the available racetracks, and we would be able to learn the "state of the art" of Australian racing. The best feature of the car (outside the price) is that virtually all its performance and durability characteristics are known. It has competed in several 12 hour races. After some running of this car on your tracks, we should be able to write a first class specification for your racing cars. Obviously, this car will cost infinitely less than any other prototype and would be of tremendous value. We would expect another car to be built in Australia by your people well in advance of the first race of the season.

It is recommended that two people accompany the car to Australia for the tests. Both would be expert racers. One would acquaint your racers in the finer points of the test car, and evaluate these people with respect to the operation of a well coordinated team. The other person would evaluate the performance aspects of the testing project and write the specifications for the production cars. This person would follow special procurement of the parts in the U.S. to assure timely shipment.



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I estimate the test car could be prepared and ready for shipment 4 weeks after receiving your go-ahead. Testing in Australia could commence immediately after Christmas, pending an early favorable reply. Allowing one month for testing, procurement of the special parts would begin in February, which will allow adequate time for an orderly program. Considering the remoteness of this operation, all the time available must be productively utilized.

Sincerely,

J. C. KERBY
Mgr., Int'l. Engrg.
Far East and Africa

HBB/sam
Attachments
cc: D. H. Brown
P. Bruns
S. D. Harvey

Chart #1

Cost Penalty

13N6N

Remarks

Item

Car - PHD 108" w.b. Valiant or
111" w.b. Dart 2 dr. h.t.

Engine - Std. 340 with following:

- Road Runner Holley Carb - Runs in corners
- Special Oil Pan - holds oil press in corners
- 340 left exhaust manifold
- ? right exhaust manifold - 340 won't fit - other alternatives
- mean large power loss
- Racer Brown Hydraulic Cam SSH-14
- Standard Valve Gear

Driveline - 4 speed A833 Transmission
8 3/4 xa. 3.23 or 3.55 ratio Dana Sure-Grip
10 inch rear brakes

- Chassis - Swaybar
- 135 #/in. rear springs
- .87 dia. T/Bars
- Fixed caliper 'A' body disc - special pucks
- Brakes on std. spindle
- H.D. shocks
- 14x6 or 15x7 wheels - Reinforce center section as 4" bolt circle weak
or use mag wheels
- 16:1 strg. gear
- Auxiliary fuel tank
- Battery in trunk
- Minimum Car Weight

\$100-\$50=\$50
+50
Nil
Nil
+ \$35

Nil
Nil
Nil
Nil
Nil
Nil
Nil

\$0 - \$100/wheel

Chart #2

Item

Remarks

Cost Penalty

Engine - Std. 340 short block - possible piston notches required

Racer Brown ST-12 of STX-21 cam

Trans-Am Heads with B engine valve gear

850 CFM Holley Carb - Corvette

Edlebrock Alum Intake

Sheet metal exhaust headers

Special Oil Pan

Nil

\$75

\$50

\$125-50=\$75

\$40

\$100

\$50

Driveline - 4 speed Transmission - Chrysler A833 - 2nd choice

Borg-Warner T-10 4 speed - 70% lighter, better gear ratios, better shifting - will need clutch housing.

\$50

8 3/4 Rear Axle - built up in Detroit with Detroit Automotive

Knatchet Diff - A-100 shot peened axle shafts

10x24 brakes

\$100

Chassis - H.D. Swaybar

165 #/in. rear springs

1.06 dia. T/Bars

H.D. shocks

Possible rear sway bar

Fixed caliper A-body disc brakes - special pucks & on-std. spindle hi-temp seals

Special Rotor - to meet 4" bolt circle

15x7 or 15x8 mag wheels

16:1 steering

Auxiliary fuel tanks - special aluminum made to optimum size

Battery in trunk

Minimum car weight

\$50

\$150

\$300

Nil

\$100

Nil

Nil

Item.Remarks

Car - 1967 Barracuda Fastback - Set up for road racing - entire body-in-white dipped in acid tank for lightening - many selected weight reduction techniques applied. 2680# ready to race.

Engine - Std. 340 short block and heads

Racer Brown ST-12 cam - Special Valve Springs

Road Runner Holley Carburetor

273 C.I. Exhaust Manifold - would be improved before shipping

- sheet metal headers or at least 340 manifolds

Special oil pan

Driveline - Chrysler A-833 transmission - special aluminum case - no longer available

8 3/4 rear axle - AlDO axle shafts 10x2 1/2 brakes

Chassis - H.D. Swaybar

165 #/in. rear springs

1.06 dia. T/bars

H.D. shocks

Car very low - which also requires special modifications to correct ball joint angles and improve steering geometry.

Fixed Caliper A body disc front brakes on standard sized spindle - special rotors for 4 1/2" bolt circle - special puck and seals

15x7 American Mag Wheels

Goodyear Special Racing Tires

16:1 steering

Special fuel tank