Abex

January 12, 1978

SUBJECT: Abex Report - "L" Car Brake

There are two areas of work to report on:

1. Rotor Analysis
2. Dynamometer Temperature/Wear Test

## 1. Rotor Analysis

### 1.1 Brinell Hardness

| | | Rubbing Surface | Internal |
|---|---|---|---|
| Production | X47 | 187 | 170-174 |
| " | X49 | 207 | 179-187 |
| " | X57 | 217 | 196-207 |
| " | Prod. 7018C | 192 | 179-187 |
| Prototype | Unknown | 187 | 170-179 |

All values for the rubbing surface are the average of 4-5 readings. The structures all look normal with 95-99% pearlite. Micros are typical type A graphite. Chemical analysis is being conducted by an outside lab and should be received soon.

1.2 It would be helpful if we knew what lining was tested on the last production and prototype rotors as work is presently being done to study the rotor surface under the SEM.

1.3 We would appreciate knowing what various metallurgical tests Chrysler and Kelsey-Hayes are conducting on their samples. Any suggestions for additional tests would be welcome.

## 2. Dynamometer Temperature/Wear Tests

| Material | Burnish | 250° | 325° | 400° | Rotor |
|---|---|---|---|---|---|
| 7018Cx57 | .0142/.0273 | (O/I) | | | .0035 |
| 7018Cx2 | .009/.0133 | .015/.0255 | .0087/.0128 | .0093/.0125 | .0030 |
| 7018Cx1 | .0096/.0126 | .0182/.0131 | .0091/.0211 | .0099/.0175 | .0034 |
| 7018Cx62 | .0052/.0096 | .0109/.0324 | .0071/.0367 | | .0041 |