

To: B. Waersson

1582A

May 22, 1979

Mr. Ralph Jarrells
Director of Advertising and Communications
National Automotive Parts Association
Suite 1129 Parklane Towers West
Dearborn, Michigan 48126

Dear Ralph:

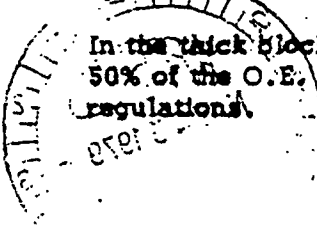
Thank you for your letter of May 18 concerning our product being equal to or better than the original equipment. As you know, we sell to NAPA material for several different applications and I will cover these individually.

First of all, I am attaching our test report #76 CAM-26 which evaluated our first-line disc brake materials and first-line drum brake materials on a 1976 Camaro. The Camaro was selected as the test car because it is a difficult car to brake in that it has low booster runout and relatively small (9 1/2" X 2") rear brakes. The tests verify that the materials meet or exceed the O.E. requirements using the government test procedure FMVSS 105-75.

With regard to hydraulic truck strips, our material 693-551D is used in many of the O.E. applications such as the 3/4 ton Chevrolet and GMC light trucks.

The medium-sized trucks, brake sizes 14" X 2 1/2" through the 16" X 6" sizes, we have many approvals on such vehicles as Chevrolet, GMC, International Harvester, Dodge, and Ford. The materials used were our 693-551F and 693-551D and these materials are also approved for school buses which meet the FMVSS regulation 105-75.

In the truck block field, used on air braked vehicles, we have over 50% of the O.E. market and all our materials meet the FMVSS 121 regulations.



SCF-ABEX-2255

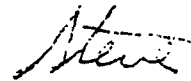
Mr. Ralph Jarrells

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5/22/79

I hope the above information is what you need to prove the validity of your statement. I believe that we are the only friction material supplier that could make the above statements.

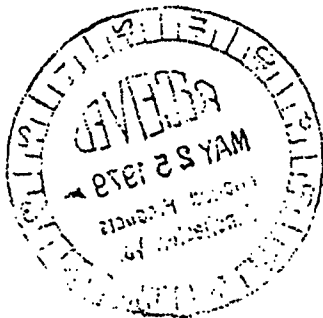
Sincerely,



S. S. Conway

/al

cc: Blwarsson
RLCutler
RENelson



Abex

ENGINEERING TEST CENTER

December 22, 1976

REPORT ON VEHICLE TEST
1976 Camaro 2 Dr. Sedan
Front Material: ABB-912-7X16/17
"Riveted"
Rear Material: ABB-261-1/2
R.O. 2544 Test No.: 76 CAM-26

Objective:

To evaluate ABB-912-7X16/17 disc brake material to verify it will pass FMVSS- 105-75 requirements. This being the first FMVSS-105 test run on this vehicle, there will be no comparison made with other materials at this time.

Material:

ABB-912-7X16/17 made under W/11801.

Procedure:

FMVSS-105A-75 (Abex A-106A).

Preparation:

Front disc pads were installed as received, without insulators. Rear segments were riveted onto shoes, then ground .020 inches under drum diameter. New front brake rotors, and rear brake drums were installed for this evaluation.

Conclusion:

Based on the attached test data, the 912-7X16/17 front disc brake material with 261-1/2 rear material passes and exceeds the FMVSS 105A government regulation. This material is adequate to be presented for O.E. application as a material that is quiet, giving performance that will qualify for FMVSS 105A.

Discussion:

This combination passed all requirements for the FMVSS-105-75 procedure. There were 2 reports of noise, no reports of erratic action. At the conclusion of the test, all material was semi-glazed. Rotors and drums were smooth with some stain and some streaking.

WEAR TABLE:

Average Front Wear	.0337"
Average Front O.B.	.0320"
Average Front I.B.	.0355"
Average Rear Primary	.0061"
Average Rear Secondary	.0131"

Maximum Front O.B.	.044"
Maximum Front I.B.	.060"
Maximum Rear Primary	.013"
Maximum Rear Secondary	.023"

Attached data sheets and graphs give full details.

Harry E. Zibell

/kcl

Alex

SUMMARY - TEST DATA F.M.V.S.S. 105/75 PASSENGER CARS - SHEET 1 OF 2

TEST PHASE	DESCRIPTION	REQUIREMENT	NO. OF STOPS REQ.	L I M T	SHORT-EST STOP DIST.	(NOTE) MAX. BRAKE PRESSURE	DECEL. OF SHORT-EST STOP.	F A S L	Y A S L	VEHICLE DATA
										TEST NO. 76 CAM-26
SS. 1.1.1 (S7.3) FIRST EFFECTIVENESS TEST	6 Stops from 30 MPH	57 ft. max. (15-150 lbs)	6	3	44.5	71	29.0	X		MODEL: CAMARO 2DR
	6 Stops from 60 MPH	216 ft. max. (15-150 lbs)	6	-	174.4	61	29.4	X		CAR NO. 1 1976 GM
SS. 1.1.2 (S7.5) SECOND EFFECTIVENESS TEST	6 Stops from 30 MPH	34 ft. max. (15-150 lbs)	6	3	37.7	150	31.5	X		FRONT BRAKE TYPE:
	6 Stops from 60 MPH	204 ft. max. (15-150 lbs)	6	-	155.6	113	31.0	X		SIZE:
	4 Stops from 30 MPH	383 ft. max. (15-150 lbs)	4	-	294.2	147	32.7	X		WHEEL CYL. DIAMETER:
SS. 2 (S7.7) PARKING BRAKE TEST	Hold on 30% + 10% Grade - MCWV for 5 Minutes	125 lbs.								LINING:
	Hold on 30% + 10% Grade - 2Pass. for 5 Min.	125 lbs.								REAR BRAKE TYPE:
SS. 1.1.3 (S7.8) THIRD EFF. TEST	6 Stops from 60 MPH (Curb Wt. + 300 lbs)	194 ft. max. (15-150 lbs)	6	2	158.9	134	30.6	X		SIZE:
SS. 1.2 (S7.9) PARTIAL SYSTEM FAILURE TEST	Fail Prim. System (Tuxa Light ON)	25 lbs. Power; 50 lbs. Max								WHEEL CYLINDER DIA.:
	4 Stops from 60 MPH Rear Only	438 ft. max. (150 lbs. Max)	4	-	317.0	68	13.3	X		LINING:
	Fail Sec. System (Turn Light ON)	25 lbs. Power; 50 lbs. Max								TEST WEIGHT TOTAL: 5145
	4 Stops from 60 MPH Front Only	456 ft. max. (150 lbs. Max)	4	-	201.5	150	22.5	X		(Front: 2585 Rear: 2560)
	4 Stops from 60 MPH Front Only - MCWV	456 ft. max. (150 lbs. Max)	4	-	167.0	148	27.1	X		2 PASSENGER TOTAL: 4620
SS. 1.3 (S7.10) INOPERATIVE POWER ASSIST UNIT	4 Stops from 60 MPH Rear Only - MCWV	456 ft. max. (150 lbs. Max)	4	-	28.1	150	14.2	X		(Front: 2510 Rear: 2110)
	4 Stops from 60 MPH	456 ft. max. (150 lbs. Max)	4	-	320.3	155	13.2	X		POWER TYPE:
SS. 1.4 (S7.11) FIRST FADE AND RECOVERY TEST	3 Check Stops from 30 MPH - 10 FPSPS	15-60 lbs. in 3 Stop Avg.	3	-		31		X		PEDAL RATIO:
	10 Fade Stops from 60 MPH - 15 FPSPS	Max. P.E. 150 lbs.	10	-		144		X		MASTER CYLINDER DIA.:
	5 Recovery Stops from 30 MPH - 10 FPSPS	Stops 1-4 150 lbs. Max.	4	-		53		X		TIRE SIZE:
		Stops 5-20 lbs. Max-40% - 10 lbs	1	-		26		X		DRIVER:
SS. 1.4 (S7.13) SECOND FADE AND RECOVERY TEST	3 Check Stops from 30 MPH - 10 FPSPS	15-60 lbs. in 3 Stop Avg.	3	-		28		X		OBSERVER:
	15 Fade Stops from 60 MPH - 15 FPSPS	Max. P.E. 150 lbs.	15	-		150		X		TEST DATES:
	5 Recovery Stops from 30 MPH - 10 FPSPS	Stops 1-4 150 lbs. Max.	4	-		40		X		COMMENTS:
		Stops 5-20 lbs. Max-40% - 10 lbs	1	-		31		X		
SS. 1.1.4 (S7.15) FINAL EFFECTIVENESS TEST	6 Stops from 30 MPH	57 ft. max. (15-150 lbs)	6	-	38.5	150	30.8	X		
	6 Stops from 60 MPH	216 ft. max. (15-150 lbs)	6	2+3	177.8	64	26.3	X		
	3 Stops from 80 MPH	405 ft. max. (15-150 lbs)	4	2	278.1	78	28.3	X		
	4 Stops from Max. MPH	607 ft. 95 MPH-673 100 MPH	4	2	411.1	78	27.5	X		
										LIMITATIONS
SS. 1.5 (S7.16) WATER RECOVERY TEST	3 Baseline Stops from 30 MPH - 10 FPSPS	15-60 lbs. in 3 Stop Avg.								(1) 4 Wheel Slide
	5 Stops from 30 MPH - 10 FPSPS	Stops 1-4 150 lbs. Max.								(2) Front Slide
		Stop 5 + 30 lbs - 40% - 10 lbs								(3) Rear Slide
SS. 1.6 (S7.17) SPIKE STOP TEST	10 Stops from 30 MPH; 6 Stops from 60 MPH	216 ft. max. (15-150 lbs)								(4) Pedal Effort
SS. 3.1 FLUID LEVEL INDICATOR	MASTER CYLINDER RESERVOIR LEVEL LOSS CAUSE WARNING LIGHT TO ACTIVATE	Light with Level at 1/4 capacity								
SS. 6 (S7.18) FINAL INSPECTION	(CONDITION OF BRAKES, LININGS, WHEEL CYLINDERS, MASTER CYLINDER, FLUID LEVELS, LEAKS, AND ALL WARNING LAMPS FUNCTIONAL)									
										(NOTE) Hydraulic line pressure vs. pedal effort curve - see sheet 2.

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STOPPING DISTANCE & PEDAL EFFORT

Sheet 2 of 2 76CAT-26

CAR MAKE, MODEL & YEAR _____ FLEET NO. _____ TEST WEIGHT: FRONT _____ REAR _____ TOTAL _____ TEST DATE _____ AMBIENT TEMPERATURE _____ ROAD SURFACE _____ DRIVER _____ OBSERVER _____ TIRE SIZE & MFR _____			TIRE PRESSURE _____ BRAKE MFR & TYPE _____ BRAKE SIZE: FRONT _____ REAR _____ DRUM MFR. & TYPE _____ DRUM WIDTH: FRONT _____ REAR _____ MASTER CYL. DIM. _____ STROKE _____ TYPE _____ WHEEL CYLINDER DIAMETER: FRONT _____ REAR _____			BRAKE LININGS MFR. _____ MAT. _____ THICKNESS _____ WIDTH _____ LENGTH _____ ATTACHED TO SHOE _____ TYPE OF BURNISH: _____ REMARKS: _____			FRONT PRI. _____ SEC. _____		REAR PRI. _____ SEC. _____	
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FIRST EFFECTIVENESS GVW		SECOND EFFECTIVENESS GVW		THIRD EFFECTIVE- NESS LT. LOAD		PARTIAL SYSTEM LITE LOAD		PARTIAL SYSTEM GVW		PROP. SYST. GVW		FOURTH EFFECTIVENESS GVW			
130															
120															
110															
100															
90															
80															
70															
60															
50															
40															
30															
20															
	30 MPH	60 MPH	30 MPH	60 MPH	80 MPH	40 MPH	60 MPH	60 MPH	60 MPH	60 MPH	60 MPH	30 MPH	60 MPH	80 MPH	95 MPH
	STOPPING DISTANCE		PEDAL EFFORT POWER				Rears Oper	Frts Oper	Frts Oper	Frts Oper	Frts Oper				
	STOPS NOT MEETING		PEDAL EFFORT MANUAL												

ALL REQUIREMENTS