

April 30, 1980

ENGINEERING MEMO #417

TO: Memo Distribution
FROM: R. E. Orwig
SUBJECT: 1981 MODEL YEAR BRAKE SYSTEM DESIGN CHANGES.

New Power Brake Cylinders will be used with the gasoline engines for 1981 CMC vehicles. These will consist of a lightweight power head and lightweight aluminum/plastic composite master cylinder.

The current cast iron master cylinder will be replaced with an aluminum body and plastic reservoir. The new reservoir features a window for fluid level determination. The chambers on the master cylinder have been reversed: Front brakes to rearward outlet; rear brakes to forward outlet.

The V6 engine vehicles will have an inclined version for clearance with the A/C compressor. The V8's will be tilted slightly upward also by use of a tapered spacer at the dash mounting inter-face.

A new pedal assembly will be required for these new brake cylinders. The pedal support bracket is being revised to accept both the gasoline and diesel engine brake systems. Installation procedures must be closely adhered to--both on the CMC production assembly line and in the field. The dash panel is also being revised to accept both the gasoline and diesel engine brake systems. A special dash sealing cover plate is required for the V6 installations.

The disc brake calipers are being replaced by a new "drag free" design to help improve fuel economy by reducing front disc brake drag.

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HYDRO-BOOST (As used on Diesel Engine equipped vehicles).

The current 707276 Hydraulic Brake Booster Asm- as supplied by Bendix and 707227 Brake Master Cylinder Asm - as supplied by Delco-Moraine, will be replaced by a new Bendix Hydro-Boost Asm (which includes the Master Cylinder). This new Hydro-Boost is non-pressure limiting with a 30MM bore and will be used in conjunction with the new "drag free" disc brake calipers for 1981.

Following is a preliminary list of parts affected by these design changes:

ENGINEERING MEMO #417

REVISIONS			
DATE	ITEM REV & PAGE NO.	DATE	ITEM REV & PAGE NO.
5-22-80	Items (8-26) Added		
9-5-80	Chgs P.3 Chgs P.4 Items 27-30 Added P.4		
11-4-80	Items 31-36 Added P.4 P.5 Added		
12-15-80	Items 39-41 Added P.5		

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ITEM	DESCRIPTION (New Parts Only)	B OF M	OLD PART NUMBER	B OF M	NEW PART NUMBER	FOR DEPT USE ONLY	INT NEW FOR OLD	AVAIL AFTER CHG	REMARKS (Old Parts Only)
1	Cyl Asm-Pwr Brk(TDM 9.50 & 8.00)	B	707105				NO	YES	Serv or Scrap
2	Cyl Asm-Pwr Brk (9.50)	B	707106				NO	YES	Serv or Scrap
A 3	Caliper Asm-Frt Disc Brk	B	707113-14	B	707583-84		NO	YES	Serv or Scrap
A 4	Caliper Asm-Frt Disc Brk(Mod)	M	707115-16	M	707585-86		NO	YES	Serv or Scrap
A 5	Cyl Asm-Master(Bendix) Diesel	B	707227	B	707665		NO	YES	Serv or Scrap
A 6	Booster Asm-Hyd Brake Diesel	B	707276	M	707666		NO	YES	Serv or Scrap
7	Cyl Asm-Pwr Brk(Mod)	M	707532				-NO	YES	Serv or Scrap
8	Spacer-Pwr Brk Cyl to Dash Pnl	-	- - -	B	706778		-	-	Reinstate
9	Supt Asm-Pedal Welded	M	707360	M	707552		YES	YES	If any-Rework
10	Supt & Nut Asm-Pedal	M	707362	-	- - -		-	-	None
11	Brkt-Accel Cable Hsq	M	708232	M	708627		NO	YES	Serv or Scrap
12	Supt-Pedal	M	708433	M	708621		YES	YES	If any-Rework
13	Brkt-Pedal Supt	M	708369	M	708619-20		NO	NO	Scrap
14	Bolt-3/8-16x1-1/2 Proj Weld	B	708050	-	- - -		-	-	Increase Usage
15	Cover-P/B Cyl Mt Holes	-	- - -	M	708611		-	-	New Part
16	Plate-Bolt Asm-P/B to dash(1t)	-	- - -	M	707553		-	-	New Part
17	Plate-P/B Asm to Dash-Right	-	- - -	M	708626		-	-	New Part
18	Plate-P/B Asm to Dash-Left	-	- - -	M	708625		-	-	New Part

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19	Plate & Bolt Asm-P/B to Dash(Rt)	-	- - -	M	707554		-	-	New Part
A 20	Shank-Brake Pedal Diesel Only	M	708408	M	708628		YES	NO	Use W/O Obs
21	Supt Asm-Pedal(Final)	M	707359	M	(Partial) 707547		-	YES	Chg "C"
22	Pedal Asm-Brake Compl	M	707325	M	(Partial) 707546		-	YES	Use
23	Pedal Asm-Brake Welded	M	707324	M	(Partial) 707545		-	YES	Chg "A"
A 24	Reinf Asm-Accel Pedal Supt	M	707090	M	707661		NO	YES	Use Diesel Only
A 25	Shank-Brake Pedal Gas	M	708408	M	708612		-NO	NO	Use W/O Obs
26	Panel-Dash	M	646026	-	Chg"V""W"		YES	YES	Rework if Req'd
27	Cylinder Asm-Brk Master V8			B	707655		NO	-	New Part
28	Cylinder Asm-Brk Master V6			B	707654		NO	-	New Part
29	Power Head Asm-240S Vac V6			B	707656		-	-	New Part
30	Power Head Asm-240T Vac V8			B	707657		-	-	New Part
31	Tube Asm-M/Cyl to Comb Vlv Rr In1	M	703936	M	707672		NO	YES	Serv or Scrap
32	Tube-3/16 OD x.028 Wall x 24.18 Lg	M	704313	M	704320		NO	YES	If Any-Rework
33	Tube-3/16 OD x.028 Wall x 21.60 Lg	M	704311	M	704317		NO	YES	If Any-Rework
34	Tube-3/16 OD x.028 Wall x 17.50 Lg	M	704311	M	704318		NO	YES	If Any-Rework
35	Tube-3/16 OD x.028 Wall x 22.20 Lg	M	704311	M	704319		NO	YES	If Any-Rework
36	Tube Asm-M/Cyl to Comb Vlv Frt	M	705622	M	707673		NO	YES	Serv or Scrap

