VJ

DOT-HS-804 460

18.5 .A34 no. DOT-TSC-NHTSA-79-29 v.1

HE

1

AUTOMOTIVE MANUFACTURING ASSESSMENT SYSTEM

Volume I: Master Product Schedules

Thedore Taylor, Jr. Alan R. Cunningham Dominic A. Iannelli Madelyn C. Isaccs

Corporate-Tech Planning Inc. 275 Wyman Street Waltham, Massachusetts 02154



NOVEMBER 1979 FINAL REPORT

DOCUMENT IS AVAILABLE TO THE PUBLIC THROUGH THE NATIONAL TECHNICAL INFORMATION SERVICE, SPRINGFIELD, VERGINIA 22161

Frange, Litron cuttre

Prepared by

U.S. DEPARTMENT OF TRANSPORTATION NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION Office of Research and Development Washington DC 20590

NOTICE

This document is disseminated under the sponsorship of the Department of Transportation in the interest of information exchange. The United States Government assumes no liability for its contents or use thereof.

NOTICE

The United States Government does not endorse products or manufacturers. Trade or manufacturers' names appear herein solely because they are considered essential to the object of this report.

. .

,	1. Report No.	2. Government Acces	ssion No.	3.	Recipient's Cotalog	No.
4	DOT-HS ROA AGO					
	4. Title and Subtitle			5.	Report Date	
	AUTOMOTIVE MANUFACTURING	ASSESSMENT SY	STEM	N	lovember 1979	
	VOLUME I: MASTER PRODUCT	SCHEDULES	STEN	6.	Performing Organizat	tion Code
				L.		
A	7. Author's) Theodone Taylon	In · Alan P C	unningham	8.	Performing Organizat	ion Report No.
1	Madelyn C. Isaccs; Domini	ic Iannelli		2	DOT-TSC-NHTSA	-79-29.I
	Corporate-Tech Planning I	inc.*		10.	HS027/R0404	15)
	275 Wyman Street	0154		11.	Contract or Grant No	0.
	waltham, Massachusetts (02154		13	DU1/130-1303	
	12 Sponsoring Assess Name and Address				Truck of Keport and I	Period Covered
	U.S. Department of Transpor	rtation			FINAL RE	PORT
	National Highway Traffic Sa	fety Administ	ration		June 19// -	August 1978
	Office of Research and Deve	lopment		14.	Sponsoring Agency (Code
1	Washington DC 20590					
1	15. Supplementary Notes U.S.	Department of	Transport	tation		
	*Under Contract To· Resea	irch and Specia	al Program	ns Admin	istration	
	Trans	portation Sys	tems Cente	er		
	Cambr	ndge, Massachu	usetts 02	2142		
	16 Abstract VOlume I Master Pr	البام كالما	oc is now	- <u></u>	C	et document -
	volume 1, master 11	roduct Schedule	<u>es</u> , is par	тота	four volume se	et document
	ing areas of research result	ing from the o	developmen	nt of the	rour volume se e Automotive l	Manufacturin
	ing areas of research result Assessment System (AMAS) for	ing from the of the DOT/Trans	developmen sportation	nt of the nt of the n Systems	e Automotive I s Center. AM/	Manufacturin AS was desig
	ing areas of research result Assessment System (AMAS) for to assist in the evaluation	ing from the of the DOT/Trans	developmen sportation capabilit	nt of the nt of the n Systems ty to pro	e Automotive I s Center. AM/ oduce fuel ef	Manufacturin AS was desig ficient ve-
	ing areas of research result Assessment System (AMAS) for to assist in the evaluation hicles. Through extensive r	ing from the of the DOT/Trans of industry's research and sy	developmen sportation capabilit ynthesis o	nt of the nt of the n Systems ty to pro of public	Four volume so e Automotive I s Center. AM/ oduce fuel ef cly available	Manufacturin AS was desig ficient ve- information
	ing areas of research result Assessment System (AMAS) for to assist in the evaluation hicles. Through extensive r Master Product Timing Schedu	ing from the of the DOT/Trans of industry's research and sy les were gener	es, is par developmen sportation capabilit ynthesis o rated to p	nt of the n Systems ty to pro of public portray,	Four volume so e Automotive I s Center. AM/ oduce fuel ef cly available chronologica	Manufacturin AS was desig ficient ve- information lly, current
	ing areas of research result Assessment System (AMAS) for to assist in the evaluation hicles. Through extensive r Master Product Timing Schedu and future product changes a 85) light truck (1975 20)	oduct Schedule ing from the o the DOT/Trans of industry's research and sy les were gener nd technologic	es, is par developmen sportation capabilit ynthesis o rated to p cal advanc	nt of the n Systems ty to pro of public cortray, ces for e	Automotive I s Center. AM/ oduce fuel ef cly available chronologica each domestic	Manufacturin AS was desig ficient ve- information lly, current auto (1975-
	ing areas of research result Assessment System (AMAS) for to assist in the evaluation hicles. Through extensive r Master Product Timing Schedu and future product changes a 85), light truck (1975-80) a	ing from the of the DOT/Trans of industry's research and sy les were gener nd technologic nd selected in	es, is par developmen sportation capabilit ynthesis o rated to p cal advanc mport manu	nt of a nt of the n Systems ty to pro of public portray, ces for e ufacture	Four volume so e Automotive I s Center. AM/ oduce fuel ef cly available chronologica each domestic rs (1975-80).	Manufacturin AS was desig ficient ve- information 11y, current auto (1975- The Schedu
	ing areas of research result Assessment System (AMAS) for to assist in the evaluation hicles. Through extensive r Master Product Timing Schedu and future product changes a 85), light truck (1975-80) a show (by make, model, and ye sizing: styling changes; and	ing from the of the DOT/Trans of industry's research and sy les were gener nd technologic nd selected in ar): all new	es, is par developmen sportation capabilit ynthesis o rated to p cal advanc nport manu vehicle i	nt of a nt of the n Systems ty to pro of public portray, ces for e introduct	Automotive I s Center. AM/ oduce fuel ef cly available chronologica each domestic rs (1975-80). tions, highlic	Manufacturin AS was desig ficient ve- information lly, current auto (1975- The Schedu ghting down-
	ing areas of research result Assessment System (AMAS) for to assist in the evaluation hicles. Through extensive r Master Product Timing Schedu and future product changes a 85), light truck (1975-80) a show (by make, model, and ye sizing; styling changes; and gines transmissions fuel m	ing from the of the DOT/Trans of industry's esearch and sy les were gener nd technologic nd selected in ar): all new significant t	es, is par developmen sportation capabilit ynthesis o rated to p cal advanc nport manu vehicle i technologi	nt of a nt of the n Systems ty to pro of public oortray, ces for e introduct ical adva	Automotive I s Center. AM/ oduce fuel ef cly available chronologica each domestic rs (1975-80). tions, highlig ances in the a	Manufacturin AS was desig ficient ve- information lly, current auto (1975- The Schedu ghting down- areas of en-
	ing areas of research result Assessment System (AMAS) for to assist in the evaluation hicles. Through extensive r Master Product Timing Schedu and future product changes a 85), light truck (1975-80) a show (by make, model, and ye sizing; styling changes; and gines, transmissions, fuel m and reference lists are tabu	ing from the of the DOT/Trans of industry's esearch and sy les were gener nd technologic nd selected in ar): all new significant t etering, emiss lated to assis	es, is par developmen sportation capabilit ynthesis o rated to p cal advanc nport manu vehicle i technologi sion contr	nt of a stand of the n Systems ty to pro of public portray, ces for e ufacturer introduct ical adva rol and s	Automotive I s Center. AM/ oduce fuel ef cly available chronologica each domestic rs (1975-80). tions, highlig ances in the a safety. Exter	Manufacturin AS was desig ficient ve- information lly, current auto (1975- The Schedu ghting down- areas of en- nsive notes
	ing areas of research result Assessment System (AMAS) for to assist in the evaluation hicles. Through extensive r Master Product Timing Schedu and future product changes a 85), light truck (1975-80) a show (by make, model, and ye sizing; styling changes; and gines, transmissions, fuel m and reference lists are tabu information beyond that iden	ing from the of the DOT/Trans of industry's esearch and sy les were gener nd technologic nd selected in ar): all new significant t etering, emiss lated to assis tified on the	es, is par developmen sportation capabilit ynthesis o rated to p cal advanc nport manu vehicle i technologi sion contr	nt of a nt of the n Systems ty to pro of public cortray, ces for e ufacture introduct ical adva rol and s searcher	Four volume so e Automotive I s Center. AM/ oduce fuel ef- cly available chronologica each domestic rs (1975-80). tions, highlig ances in the a safety. Exter in obtaining	Manufacturin AS was desig ficient ve- information 11y, current auto (1975- The Schedu ghting down- areas of en- nsive notes additional
	ing areas of research result Assessment System (AMAS) for to assist in the evaluation hicles. Through extensive r Master Product Timing Schedu and future product changes a 85), light truck (1975-80) a show (by make, model, and ye sizing; styling changes; and gines, transmissions, fuel m and reference lists are tabu information beyond that iden Volume II, Product Sche	ing from the of the DOT/Trans of industry's esearch and sy les were gener nd technologic nd selected in ar): all new significant t etering, emiss lated to assis tified on the dules of Engin	es, is par developmen sportation capabilit ynthesis o rated to p cal advanc nport manu vehicle i technologi sion contr st the res schedules	nt of a nt of the n Systems ty to pro of public cortray, ces for e ufacture introduct ical adva rol and s searcher	Automotive I s Center. AM/ oduce fuel ef- cly available chronologica each domestic rs (1975-80). tions, highlig ances in the a safety. Exter in obtaining	Manufacturin AS was desig ficient ve- information 11y, current auto (1975- The Schedu ghting down- areas of en- nsive notes additional
	ing areas of research result Assessment System (AMAS) for to assist in the evaluation hicles. Through extensive r Master Product Timing Schedu and future product changes a 85), light truck (1975-80) a show (by make, model, and ye sizing; styling changes; and gines, transmissions, fuel m and reference lists are tabu information beyond that iden Volume II, <u>Product Sche</u> available engine, transmissi	ing from the of the DOT/Trans of industry's esearch and sy les were gener nd technologic nd selected in ar): all new significant t etering, emiss lated to assis tified on the dules of Engir on and rear ax	es, is par developmen sportation capabilit ynthesis o rated to p cal advanc nport manu vehicle i technologi sion contr st the res schedules ne/Driveli	nt of a nt of the n Systems ty to pro of public portray, ces for e introduct ical adva col and s searcher ine Combi nations f	Four volume so e Automotive I s Center. AM/ oduce fuel ef- cly available chronologica each domestic rs (1975-80). tions, highlic ances in the a safety. Exter in obtaining	Manufacturin AS was desig ficient ve- information lly, current auto (1975- The Schedu ghting down- areas of en- nsive notes additional ntifies the
	ing areas of research result Assessment System (AMAS) for to assist in the evaluation hicles. Through extensive r Master Product Timing Schedu and future product changes a 85), light truck (1975-80) a show (by make, model, and ye sizing; styling changes; and gines, transmissions, fuel m and reference lists are tabu information beyond that iden Volume II, <u>Product Sche</u> available engine, transmissi estic auto manufacturer for	ing from the of the DOT/Trans of industry's esearch and sy les were gener nd technologic nd selected in ar): all new significant t etering, emiss lated to assis tified on the dules of Engir on and rear as the model year	es, is par developmen sportation capabilit ynthesis o rated to p cal advanc nport manu vehicle i technologi sion contr st the res schedules ne/Driveli (le combin rs 1975 th	nt of a nt of the n Systems ty to pro of public portray, ces for e introduct ical adva col and s searcher ine Combi nations f	Four volume so e Automotive I s Center. AM/ oduce fuel ef- cly available chronologica each domestic rs (1975-80). tions, highlig ances in the a safety. Exter in obtaining inations, ider for all models 078.	Manufacturin AS was desig ficient ve- information lly, current auto (1975- The Schedu ghting down- areas of en- nsive notes additional ntifies the s of each dor
	ing areas of research result Assessment System (AMAS) for to assist in the evaluation hicles. Through extensive r Master Product Timing Schedu and future product changes a 85), light truck (1975-80) a show (by make, model, and ye sizing; styling changes; and gines, transmissions, fuel m and reference lists are tabu information beyond that iden Volume II, <u>Product Sche</u> available engine, transmissi estic auto manufacturer for Volume III, Materials-W	ing from the of the DOT/Trans of industry's esearch and sy les were gener nd technologic nd selected in ar): all new significant t etering, emiss lated to assis tified on the dules of Engir on and rear as the model year eight Analysis	es, is par developmen sportation capabilit ynthesis o rated to p cal advanc nport manu vehicle i technologi sion contr st the res schedules <u>ne/Driveli</u> (le combin rs 1975 th s, is a de	nt of a nt of the n Systems ty to pro of public portray, ces for e introduct ical adva rol and s searcher ine Combinations f nough 19 stailed of	Four volume so e Automotive I s Center. AM/ oduce fuel ef cly available chronologica each domestic rs (1975-80). tions, highlig ances in the a safety. Exter in obtaining inations, ider for all models 078. compendium of	Manufacturin AS was desig ficient ve- information lly, current auto (1975- The Schedu ghting down- areas of en- nsive notes additional ntifies the s of each dor material apu
	ing areas of research result Assessment System (AMAS) for to assist in the evaluation hicles. Through extensive r Master Product Timing Schedu and future product changes a 85), light truck (1975-80) a show (by make, model, and ye sizing; styling changes; and gines, transmissions, fuel m and reference lists are tabu information beyond that iden Volume II, <u>Product Sche</u> available engine, transmissi estic auto manufacturer for Volume III, <u>Materials-W</u> cations to automotive vehicl	ing from the of the DOT/Trans of industry's esearch and sy les were gener nd technologic nd selected in ar): all new significant t etering, emiss lated to assis tified on the dules of Engir on and rear ay the model year eight Analysis	es, is par developmen sportation capabilit ynthesis o rated to p cal advanc nport manu vehicle i technologi sion contr st the res schedules ne/Driveli kle combin rs 1975 th s, is a de	nt of a sint of the of the of the of the of the of the optical of the optical advational and signations for a sint of the optical advation of the optical advatin of the optic	Four volume so e Automotive I s Center. AM/ oduce fuel ef- cly available chronologica each domestic rs (1975-80). tions, highlig ances in the a safety. Exter in obtaining inations, ider for all models or8. compendium of s on technolog	Manufacturin AS was desig ficient ve- information lly, current auto (1975- The Schedu ghting down- areas of en- nsive notes additional ntifies the s of each dor material app gical advance
	ing areas of research result Assessment System (AMAS) for to assist in the evaluation hicles. Through extensive r Master Product Timing Schedu and future product changes a 85), light truck (1975-80) a show (by make, model, and ye sizing; styling changes; and gines, transmissions, fuel m and reference lists are tabu information beyond that iden Volume II, <u>Product Sche</u> available engine, transmissi estic auto manufacturer for Volume III, <u>Materials-W</u> cations to automotive vehicl and weight reduction potenti	ing from the of the DOT/Trans of industry's esearch and sy les were gener nd technologic nd selected in ar): all new significant t etering, emiss lated to assis tified on the dules of Engir on and rear as the model year eight Analysis es and compone al.	es, is par developmen sportation capabilit ynthesis o rated to p cal advanc nport manu vehicle i technologi sion contr st the res schedules <u>ne/Driveli</u> cle combin rs 1975 th s, is a de ents with	nt of a nt of the n Systems ty to pro of public portray, ces for e introduct ical adva col and s cearcher intions f nations f rough 19 tailed c emphasis	Automotive I s Center. AM/ oduce fuel ef- cly available chronologica each domestic rs (1975-80). tions, highlig ances in the a safety. Exter in obtaining inations, ider for all models or8. compendium of s on technolog	Manufacturin AS was desig ficient ve- information lly, current auto (1975- The Schedu ghting down- areas of en- nsive notes additional ntifies the s of each dor material app gical advance
	ing areas of research result Assessment System (AMAS) for to assist in the evaluation hicles. Through extensive r Master Product Timing Schedu and future product changes a 85), light truck (1975-80) a show (by make, model, and ye sizing; styling changes; and gines, transmissions, fuel m and reference lists are tabu information beyond that iden Volume II, <u>Product Sche</u> available engine, transmissi estic auto manufacturer for Volume III, <u>Materials-W</u> cations to automotive vehicl and weight reduction potenti Volume IV, <u>Engine Manuf</u>	ing from the of the DOT/Trans of industry's research and sy les were gener nd technologic nd selected in ar): all new significant t etering, emiss lated to assis tified on the dules of Engir on and rear as the model year eight Analysis es and compone al. acturing Analy	es, is par developmen sportation capabilit ynthesis o rated to p cal advanc nport manu vehicle i technologi sion contr st the res schedules <u>ne/Driveli</u> (le combin rs 1975 th s, is a de ents with ysis, desc	nt of a space of the optical of the optical advance of the optical advan	four volume so e Automotive I s Center. AM/ oduce fuel ef- cly available chronologica each domestic rs (1975-80). tions, highlig ances in the a safety. Exter in obtaining inations, ider for all models or a technolog complex moder	Manufacturin As was desig ficient ve- information 11y, current auto (1975- The Schedu ghting down- areas of en- nsive notes additional ntifies the s of each dor material app gical advance
	ing areas of research result Assessment System (AMAS) for to assist in the evaluation hicles. Through extensive r Master Product Timing Schedu and future product changes a 85), light truck (1975-80) a show (by make, model, and ye sizing; styling changes; and gines, transmissions, fuel m and reference lists are tabu information beyond that iden Volume II, <u>Product Sche</u> available engine, transmissi estic auto manufacturer for Volume III, <u>Materials-W</u> cations to automotive vehicl and weight reduction potenti Volume IV, <u>Engine Manuf</u> engine production facility (ing from the of the DOT/Trans of industry's esearch and sy les were gener nd technologic nd selected in ar): all new significant t etering, emiss lated to assis tified on the dules of Engir on and rear as the model year eight Analysis es and compone al. acturing Analy	es, is par developmen sportation capabilit ynthesis o rated to p cal advanc nport manu vehicle i technologi sion contr st the res schedules <u>ne/Driveli</u> (le combin rs 1975 th s, is a de ents with ysis, desc Engine Pla	nt of a nt of the n Systems ty to pro- of public portray, ces for e introduct ical adva rol and s cearcher ne Combi- nations f rough 19 tailed c emphasis cribes a int) and	four volume so e Automotive I s Center. AM/ oduce fuel ef- cly available chronologica each domestic rs (1975-80). tions, highlig ances in the a safety. Exter in obtaining inations, ider for all models or8. compendium of s on technolog complex moder assesses the	Manufacturin AS was desig ficient ve- information 11y, current auto (1975- The Schedu ghting down- areas of en- nsive notes additional ntifies the s of each dor material app gical advance
	ing areas of research result Assessment System (AMAS) for to assist in the evaluation hicles. Through extensive r Master Product Timing Schedu and future product changes a 85), light truck (1975-80) a show (by make, model, and ye sizing; styling changes; and gines, transmissions, fuel m and reference lists are tabu information beyond that iden Volume II, <u>Product Sche</u> available engine, transmissi estic auto manufacturer for Volume III, <u>Materials-W</u> cations to automotive vehicl and weight reduction potenti Volume IV, <u>Engine Manuf</u> engine production facility (year-to-year model changes a	ing from the of the DOT/Trans of industry's esearch and sy les were gener nd technologic nd selected in ar): all new significant t etering, emiss lated to assis tified on the dules of Engir on and rear as the model year eight Analysis es and compone al. acturing Analy Ford Windsor E nd government	es, is par developmen sportation capabilit ynthesis o rated to p cal advanc nport manu vehicle i technologi sion contr st the res schedules <u>ne/Driveli</u> (le combin rs 1975 th s, is a de ents with <u>vsis</u> , desc engine Pla regulator	nt of a nt of the n Systems ty to pro- of public portray, ces for e introduct in	four volume so e Automotive I s Center. AM/ oduce fuel ef- cly available chronologica each domestic rs (1975-80). tions, highlig ances in the a safety. Exter in obtaining inations, ider for all models of an technolog complex moder assesses the n on the manuf	Manufacturin AS was desig ficient ve- information lly, current auto (1975- The Schedu ghting down- areas of en- nsive notes additional ntifies the s of each dor material app gical advance rn high volum impact of facturing
	ing areas of research result Assessment System (AMAS) for to assist in the evaluation hicles. Through extensive r Master Product Timing Schedu and future product changes a 85), light truck (1975-80) a show (by make, model, and ye sizing; styling changes; and gines, transmissions, fuel m and reference lists are tabu information beyond that iden Volume II, <u>Product Sche</u> available engine, transmissi estic auto manufacturer for Volume III, <u>Materials-W</u> cations to automotive vehicl and weight reduction potenti Volume IV, <u>Engine Manuf</u> engine production facility (year-to-year model changes a process.	ing from the of the DOT/Trans of industry's esearch and sy les were gener nd technologic nd selected in ar): all new significant t etering, emiss lated to assis tified on the dules of Engir on and rear ay the model year eight Analysis es and compone al. acturing Analy Ford Windsor E	es, is par developmen sportation capabilit ynthesis o rated to p cal advanc nport manu vehicle i technologi sion contr st the res schedules <u>ne/Driveli</u> (le combin rs 1975 th s, is a de ents with vsis, desc ingine Pla regulator	nt of a nt of the n Systems ty to pro of public cortray, ces for e introduct ical adva rol and s searcher incough 19 tailed c emphasis cribes a int) and ry actior	four volume so e Automotive I s Center. AM/ oduce fuel ef- cly available chronologica each domestic rs (1975-80). tions, highlig ances in the a safety. Exter in obtaining inations, ider for all models of a compendium of s on technolog complex moder assesses the n on the manuf	Manufacturing AS was design ficient ve- information lly, current auto (1975- The Schedun ghting down- areas of en- nsive notes additional ntifies the s of each dor material app gical advance rn high volum impact of facturing
	ing areas of research result Assessment System (AMAS) for to assist in the evaluation hicles. Through extensive r Master Product Timing Schedu and future product changes a 85), light truck (1975-80) a show (by make, model, and ye sizing; styling changes; and gines, transmissions, fuel m and reference lists are tabu information beyond that iden Volume II, <u>Product Sche</u> available engine, transmissi estic auto manufacturer for Volume III, <u>Materials-W</u> cations to automotive vehicl and weight reduction potenti Volume IV, <u>Engine Manuf</u> engine production facility (year-to-year model changes a process. 17. Key Words Automotive Manufacturers -	ing from the of the DOT/Trans of industry's esearch and sy les were gener nd technologic nd selected in ar): all new significant t etering, emiss lated to assis tified on the dules of Engir on and rear ay the model year eight Analysis es and compone al. acturing Analy Ford Windsor E nd government	<pre>es, is par developmen sportation capabilit ynthesis o rated to p cal advanc nport manu vehicle i technologi sion contr st the res schedules ne/Driveli kle combin rs 1975 th s, is a de ents with ysis, desc argulator 18. Distribution</pre>	nt of a nt of the n Systems ty to pro- of public portray, ces for e introduct ical adva rol and s searcher internet of notions f rough 19 stailed c emphasis ribes a int) and y action	four volume so e Automotive I s Center. AM/ oduce fuel ef- cly available chronologica each domestic rs (1975-80). tions, highlig ances in the a safety. Exter in obtaining inations, ider for all models 78. compendium of s on technolog complex moder assesses the n on the manuf	Manufacturing AS was design ficient ve- information 11y, current auto (1975- The Schedun ghting down- areas of en- nsive notes additional ntifies the s of each dom material app gical advance rn high volum impact of facturing
	ing areas of research result Assessment System (AMAS) for to assist in the evaluation hicles. Through extensive r Master Product Timing Schedu and future product changes a 85), light truck (1975-80) a show (by make, model, and ye sizing; styling changes; and gines, transmissions, fuel m and reference lists are tabu information beyond that iden Volume II, <u>Product Sche</u> available engine, transmissi estic auto manufacturer for Volume III, <u>Materials-W</u> cations to automotive vehicl and weight reduction potenti Volume IV, <u>Engine Manuf</u> engine production facility (year-to-year model changes a process. 17. Key Words Automotive Manufacturers - Light Truck Manufacturers -	ing from the of the DOT/Trans of industry's esearch and sy les were gener nd technologic nd selected in ar): all new significant t etering, emiss lated to assis tified on the dules of Engir on and rear ax the model year eight Analysis es and compone al. acturing Analy Ford Windsor E nd government	es, is par developmen sportation capabilit ynthesis o rated to p cal advanc nport manu vehicle i technologi sion contr st the res schedules ne/Driveli kle combin rs 1975 th s, is a de ents with vsis, desc ingine Pla regulator	nt of a nt of the n Systems ty to pro- of public portray, ces for e introduct ical adva col and s searcher intercons f nough 19 etailed c emphasis cribes a int) and by action	Automotive I s Center. AM/ oduce fuel ef- cly available chronologica each domestic rs (1975-80). tions, highlig ances in the a safety. Exter in obtaining inations, ider for all models or all models or technolog complex moder assesses the n on the manuf	Manufacturin AS was desig ficient ve- information 11y, current auto (1975- The Schedu ghting down- areas of en- nsive notes additional ntifies the s of each dor material app gical advance rn high volum impact of facturing
	<pre>ing areas of research result Assessment System (AMAS) for to assist in the evaluation hicles. Through extensive r Master Product Timing Schedu and future product changes a 85), light truck (1975-80) a show (by make, model, and ye sizing; styling changes; and gines, transmissions, fuel m and reference lists are tabu information beyond that iden Volume II, <u>Product Sche</u> available engine, transmissi estic auto manufacturer for Volume III, <u>Materials-W</u> cations to automotive vehicl and weight reduction potenti Volume IV, <u>Engine Manuf</u> engine production facility (year-to-year model changes a process.</pre>	ing from the of the DOT/Trans of industry's esearch and sy les were gener nd technologic nd selected in ar): all new significant t etering, emiss lated to assis tified on the dules of Engir on and rear ax the model year eight Analysis es and compone al. acturing Analy Ford Windsor E nd government	<pre>es, is par developmen sportation capabilit ynthesis o rated to p cal advanc nport manu vehicle i technologi sion contr st the res schedules ne/Driveli (le combin rs 1975 th s, is a de ents with /sis, desc ingine Pla regulator 18. Distribution (NEG)</pre>	nt of a nt of the n Systems ty to pro- of public portray, ces for e introduct ical adva rol and s searcher intough 19 tailed c emphasis cribes a int) and by action con Stotement con Stotement	Automotive I s Center. AM/ oduce fuel ef- cly available chronologica each domestic rs (1975-80). tions, highlig ances in the a safety. Exter in obtaining inations, ider for all models or an technologica compendium of s on technologica complex moder assesses the n on the manuf	Manufacturin Manufacturin AS was desig ficient ve- information 11y, current auto (1975- The Schedu ghting down- areas of en- nsive notes additional ntifies the s of each dor material app gical advance rn high volur impact of facturing
	ing areas of research result Assessment System (AMAS) for to assist in the evaluation hicles. Through extensive r Master Product Timing Schedu and future product changes a 85), light truck (1975-80) a show (by make, model, and ye sizing; styling changes; and gines, transmissions, fuel m and reference lists are tabu information beyond that iden Volume II, <u>Product Sche</u> available engine, transmissi estic auto manufacturer for Volume III, <u>Materials-W</u> cations to automotive vehicl and weight reduction potenti Volume IV, <u>Engine Manuf</u> engine production facility (year-to-year model changes a process. 17. Key Words Automotive Manufacturers - Light Truck Manufacturers Import Auto Manufacturers Product Timing - Autos & Li	ing from the of the DOT/Trans of industry's esearch and sy les were gener nd technologic nd selected in ar): all new significant t etering, emiss lated to assis tified on the dules of Engir on and rear ay the model year eight Analysis es and compone al. acturing Analy Ford Windsor E nd government U.S. U.S. ght Trucks	<pre>es, is par developmen sportation capabilit ynthesis o rated to p cal advanc nport manu vehicle i technologi sion contr st the res schedules ne/Driveli kle combin rs 1975 th s, is a de ents with viss, desc info ving</pre>	nt of a nt of the n Systems ty to pro- of public portray, ces for e introduct ical adva rol and s searcher internet ne Combinations f nough 19 stailed c emphasis cribes a int) and y action of Stotement COMENTISATIONS S STALL 22161	Automotive I e Automotive I s Center. AM/ oduce fuel ef- cly available chronologica each domestic rs (1975-80). tions, highlig ances in the a safety. Exter in obtaining inations, ider for all models 78. compendium of s on technolog complex moder assesses the n on the manuf	Manufacturin Manufacturin AS was desig ficient ve- information 11y, current auto (1975- The Schedu ghting down- areas of en- nsive notes additional ntifies the s of each dor material app gical advance rn high volur impact of facturing
	<pre>ing areas of research result Assessment System (AMAS) for to assist in the evaluation hicles. Through extensive r Master Product Timing Schedu and future product changes a 85), light truck (1975-80) a show (by make, model, and ye sizing; styling changes; and gines, transmissions, fuel m and reference lists are tabu information beyond that iden Volume II, <u>Product Sche</u> available engine, transmissi estic auto manufacturer for Volume III, <u>Materials-W</u> cations to automotive vehicl and weight reduction potenti Volume IV, <u>Engine Manuf</u> engine production facility (year-to-year model changes a process. 17. Key Words Automotive Manufacturers - Light Truck Manufacturers Product Timing - Autos & Li 18. Security Classif (of this coord) 19. Security Classif (of this coord) 11. Security Classif (of this coord) 12. Security Classif (of this coord) 13. Security Classif (of this coord) 14. Security Classif (of this coord) 15. Security Classif (of this coord) 15. Security Classif (of this coord) 16. Security Classif (of this coord) 17. Security Classif (of this coord) 18. Security Classif (of this coord) 19. Secu</pre>	ing from the of the DOT/Trans of industry's esearch and sy les were gener nd technologic nd selected in ar): all new significant t etering, emiss lated to assis tified on the <u>dules of Engir</u> on and rear ay the model year eight Analysis es and compone al. acturing Analy Ford Windsor E nd government U.S. U.S. ght Trucks	<pre>es, is par developmen sportation capabilit ynthesis o rated to p cal advanc nport manu vehicle i technologi sion contr st the res schedules ne/Driveli kle combin rs 1975 th s, is a de ents with viss, desc ingine Pla regulator info ving</pre>	nt of a nt of the n Systems ty to pro- of public portray, ces for e introduct ical adva rol and s cearcher introduct ical adva rol and s cearcher ical adva rough 19 cearcher ical adva rough 19 cearcher rough 19 cearcher	Automotive I e Automotive I s Center. AM/ oduce fuel ef- cly available chronologica each domestic rs (1975-80). tions, highlig ances in the a safety. Exter in obtaining inations, ider for all models or all models of technolog complex moder assesses the n on the manuf	Manufacturing AS was design ficient ve- information 11y, current auto (1975- The Schedu ghting down- areas of en- nsive notes additional ntifies the s of each down material app gical advance rn high volum impact of facturing
	<pre>ing areas of research result Assessment System (AMAS) for to assist in the evaluation hicles. Through extensive r Master Product Timing Schedu and future product changes a 85), light truck (1975-80) a show (by make, model, and ye sizing; styling changes; and gines, transmissions, fuel m and reference lists are tabu information beyond that iden Volume II, <u>Product Sche</u> available engine, transmissi estic auto manufacturer for Volume III, <u>Materials-W</u> cations to automotive vehicl and weight reduction potenti Volume IV, <u>Engine Manuf</u> engine production facility (year-to-year model changes a process. 17. Key Words Automotive Manufacturers - Light Truck Manufacturers Product Timing - Autos & Li 19. Security Clossif. (of this report) Unclassified</pre>	oduct Schedule ing from the of the DOT/Trans of industry's esearch and sy les were gener nd technologic nd selected in ar): all new significant t etering, emiss lated to assis tified on the dules of Engir on and rear ax the model year eight Analysis es and compone al. acturing Analy Ford Windsor E nd government U.S. U.S. ght Trucks	<pre>es, is par developmen sportation capabilit ynthesis o rated to p cal advanc nport manu vehicle i technologi sion contr st the res schedules ne/Driveli kle combin rs 1975 th s, is a de ents with /sis, desc Engine Pla regulator 18. Distribution Suff. (of this page if ed</pre>	nt of a nt of the n Systems ty to pro- of public portray, ces for e introduct ical adva rol and s searcher introduct ical adva searcher introduct ical adva searcher introduct ical adva searcher ical adva	Automotive I e Automotive I s Center. AM/ oduce fuel ef- cly available chronologica each domestic rs (1975-80). tions, highlig ances in the a safety. Exter in obtaining inations, ider for all models of a technolog complex moder assesses the n on the manuf	Manufacturin Manufacturin AS was desig ficient ve- information 11y, current auto (1975- The Schedu ghting down- areas of en- nsive notes additional ntifies the s of each dor material app gical advance rn high volum impact of facturing

ø

. .

. 2

. .

PREFACE

Volume I (Master Product Schedules) was prepared for the Department of Transportation, Transportation Systems Center (TSC) and presents the results of research and analysis of the historical and projected introductions of new autos and light trucks of the major domestic and import vehicle manufacturers. The work was directed by the Transportation Industry Analysis Branch under the sponsorship of the Energy Programs Division.

The motor vehicle manufacturers' ability to meet 1979-1985 fuel economy goals is heavily dependent upon the timeliness and degree by which they are able to reduce the size and weight of today's fleets, and incorporate more fuel efficient power plants, drivelines, safety and emission control devices. When each manufacturer's past and announced future plans in these areas are monitored, a better understanding of the overall manufacturing process is obtained including the impact of regulatory requirements behind new vehicle introductions, and the lead time and planning involved. The results of this analysis for each of the manufacturers are in the form of Master Product Schedules which provide graphically, time phased relationships of model changes by make, year and market class.

Volume I contains the results of one of four major areas investigated under the Automotive Manufacturing Assessment System (AMAS) which was designed to evaluate the capability of the automotive industry to produce fuel efficient cars and light trucks, and to assess the impact such conversion will have on producers and consumers. The other three areas are: Product Schedules of Engine/Driveline Combinations (Volume II); Materials/Weight Analysis (Volume III); and Engine Manufacturing Analysis (Volume IV).

This volume is divided into four sections and appendices. Section One presents the methodology used to develop the Master Product Schedules and the product development cycle for new auto and engine introductions. Sectins 2, 3, and 4 cover product schedules for the U. S. domestic auto, domestic light truck, and import manufacturers, respectively. Supporting notation and reference sources are located in the appendices.

Corporate-Tech Planning wishes to acknowledge the guidance and assistance provided by Mr. George E. Byron, Transportation Industry Analysis Branch at TSC, who was the Technical Monitor for this program.

E.		382.	¥ E		<u>5 2 2 </u>		5 2	3 1 5 8 2 2 °C	*
Mensures Ta Fied		inches mohes laar	garda miles		aquare inches aquare yards square miles acros		ounces pounds chort tons	fluid auncols pinta gallons gallons cabic feet cabic yards cubic 1nChes	Fehrminis i tempse strues 9 10 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
siens from Motric Matriats by	LENGTH	0.0	1.1	AREA	0.16 1.2 0.4 2.5	ASS (weight)	0.035 2.2 1.1 VOLUAIE	0.03 2.1 1.06 0.26 0.26 1.3 51 1.3 61,02 61,02	9.6 (Deen add 32) 98.0 120 120 120 120
Approximate Coaver Withon You Maxim		chillimater 6 Centimater 8	maters hildmaters	1	square centimaters square maters square kilomaters hectares (10,000 m ²)	N	grans hiloprans romas 11000 kg)	multiture liters liters cubic maters cubic maters 11 ters TEMP	Celaus terroperstore
() constant		in the second	: е \$		Ĩ5~eĨ5.2		0 - 	ĕ = = = ⁶ 6 ⁶ 6 _1	ç,
23 23 24 25 25 25 25 25 25 25 25 25 25 25 25 25	22 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	2 61							c ω ² 3 ³ ⁰
9			7					ala hala hala hala	
						• -	1.	13 13	1 inches
	Symbel		5 5 e	u,	ิธ~ะาะ`	52	00 m 00 m	,3 ,3 9 = = = = = = = € = = = = € = =	l incheol
ះ ក្រឹងខ្លួននេះខេត	To Find Symbol		continuators can centinators can manars an	hu lometers hum	ອຊມລາຍ contineters car? ຣຊບລາຍ ແນງສາຍ ຣຊບລາຍ ແນງອາຊ	equers futometers hum hectores he	grema 6 h.i.lograma 6 komnes 1 6	ubic centimeters cc adultione mainteners cc mainteners mainteners mainteners 1 titers 1 titers 1 titers 1 titers 3 cubic molers 3 n ³ 2 cubic molers n ³	Certose certos cer
stsions to Metric Measures	Adultiphy by To Field Symbol	LENGTH	2.5 centimoters com 30 centimeters com 0.9 misters en	t.6 kilomaters kun AREA	8.5 aquare contineters of a 0.09 square maters m ² 0.6 square maters m ²	2.6 equare intometere ture 0.6 hectures he ISS (wreight)	20 Stamb 0 0.45 httoyama 6 0.9 kamea 1 VOLUDAE	16,4 Cubic centimeters Cc 6 mainturer mainturer 10 mainturer mainturer 24 mainturer mainturer 24 mainturer mainturer 24 mainturer mainturer 24 mainturer mainturer 23 mainturer mainturer 24 mainturer mainturer 23 mainturer mainturer 24 mainturer mainturer 25 mainturer mainturer 26 mainturer mainturer 23 mainturer mainturer 24 mainturer mainturer	RATURE (exect) 6/9 (after Coloue tempareture 32) 32)
Approximate Conversions to Metric Measures	When Ven Knows Adelticky by To Find Symbol	LENGTH	ischee 2.6 centingtes ca bee 30 centingten ca event 0.9 naciats an	nuiss 1.6 Arlomaters brn AREA	equare inchis 8.5 bquare contineters contineters contineters 6.5 bquare contineters m ² bquare tert 0.09 cquare maters m ² bquare maters m ²	ecres miss 2.6 square internetients han ecres 0.4 hectures ha	ounces 26 grama 6 pounds 0.45 hitograma 6 shorrions 0.9 konnes 1 (2000 tel VOLUME	cubic finches 16,4 cubic centimeters cc measures 6 maintinee ma their anneas 5 maintinee ma their anneas 20 maintinee ma cup 0.47 liters 1 pate 0.45 liters 1 quarte est 0.03 cubic mates m ³ cubic mates 0.76 cubic mates m ³	TEMPERATURE (exact) Fahrenheit 5/3 Later Colsius temperature addractung temperature 20

METRIC CONVERSION FACTORS

iv

CONTE	INTS
-------	------

Section			Page
1.	INTR	ODUCTION	1-1
	1.1 1.2 1.3	Background And Purpose Production Timing Phases Master Product Schedules	1-1 1-1 1-8
2.	THE	DOMESTIC AUTO MANUFACTURERS	2-1
	2.1 2.2 2.3 2.4 2.5	General General Motors Ford Motor Company Chrysler Corporation American Motors	2-1 2-5 2-8 2-9 2-11
· · 3.	THE	DOMESTIC LIGHT TRUCK MANUFACTURERS	3-1
4 .	3.1 3.2 3.3 3.4 3.5 3.6 3.7 THE	Introduction Optional Equipment General Motors Light Trucks Ford Light Trucks Chrysler Light Trucks American Motors Light Trucks International Harvester Light Trucks MAJOR IMPORT MANUFACTURERS	3-1 3-3 3-3 3-4 3-5 3-6 3-7 4-1
	4.1 4.2 4.3	Introduction Japanese Imports European Imports	4-1 4-4 4-25
APPENDIX	K (A) -	DOMESTIC AUTO NOTES AND CROSS-REFERENCE LISTS	A-1
APPENDIX	КВ -	DOMESTIC LIGHT TRUCK NOTES AND CROSS- REFERENCE LISTS	B-1
APPENDIX	КС-	IMPORT MANUFACTURERS' CROSS-REFERENCE LISTS	C-1
APPENDIX	(D -	REPORT OF NEW TECHNOLOGY	D-1

LIST OF ILLUSTRATIONS

F	igure		Page
	1-1	Standard Vehicle Timing Plan (Ford Motor Co.)	1-3
	1-2	Standard Engine Timing Plan (Ford Motor Co.)	1-5
	1-3	Composite Of Successive Model Year Timing Schedules	1-7
	2-1	General Motors Product Schedule, 1975-80	2-13
	2-2	General Motors Product Schedule, 1980-85	2-15
	2-3	Ford Product Schedule, 1975-80	2-17
	2-4	Ford Product Schedule, 1980-85	2-19
	2-5	Chrysler Product Schedule, 1975-80	2-21
	2-6	Chrysler Product Schedule, 1980-85	2-23
	2-7	American Motors Product Schedule, 1975-80	2-25
	2-8	American Motors Product Schedule, 1980-85	2-27
	3-1	General Motors Light Trucks Product Schedule, 1975-80	3-9
	3-2	General Motors Light Trucks Optional Equipment Schedule, 1975-80	3-13
	3-3	Ford Light Trucks Product Schedule, 1975-80	3-17
	3-4	Ford Light Trucks Optional Equipment Schedule, 1975-80	3-19
	3-5	Chrysler Light Trucks Product Schedule, 1975-80	3-21
	3-6	Chrysler Light Trucks Optional Equipment Schedule, 1975-80	3-23
	3-7	American Motors Light Trucks Product Schedule, 1975-80	3 - 25
	3-8	American Motors Light Trucks Optional Equipment Schedule, 1975-80	3-27
	3-9	International Harvester Light Trucks Product Schedule, 1975-80	3-29
	3-10	International Harvester Light Trucks Optional Equipment Schedule, 1975-80	3-31
	4-1	Toyota Product Schedule, 1975-80	4-15
	4-2	Datsun Product Schedule, 1975-80	4-17
	4-3	Honda Product Schedule, 1975-80	4-19
	4-4	Subaru Product Schedule, 1975-79	4-21

LIST OF ILLUSTRATIONS (Continued)

Figure		Page
4-5	Mazda Product Schedule, 1975-78	4-23
4-6	Volkswagen Product Schedule, 1975-80	4-39
4-7	Fiat Product Schedule, 1975-80	4-41
4-8	British Leyland Product Schedule, 1975-80	4-43
4-9	Volvo Product Schedule, 1975-80	4-45
4-10	Mercedes-Benz Product Schedule, 1975-79	4-47
4-11	Saab Product Schedule, 1975-78	4-49
A-1	General Motors Automobile Product Schedule Cross-Reference List (5/78)	A-7
A-2	Ford Automobile Product Schedule Cross- Reference List (5/78)	A-25
A-3	Chrysler Automobile Product Schedule Cross-Reference List (5/78)	A-38
A-4	American Motors Automobile Product Schedule Product Schedule Cross-Reference List (5/78)	A-45
ד מ	Concrel Mators Light Truck Product Schodulo	B-/
D-T	Cross-Reference List (5/78)	D-4
B-2	Ford Light Truck Product Schedule Cross- Reference List (5/78)	B-10
B-3	Chrysler Light Truck Product Schedule Cross- Reference List (5/78)	B-15
B-4	American Motors Light Truck Product Schedule Cross-Reference List (5/78)	B-19
B-5	International Harvester Light Truck Product Schedule Cross-Reference List (5/78)	B-22
C-1	Toyota Product Schedule Cross-Reference List	C-2
C-2	Datsun Product Schedule Cross-Reference List	C-7
C-3	Honda Product Schedule Cross-Reference List	C-10
C-4	Subaru Product Schedule Cross-Reference List	C-13
C-5	Mazda Product Schedule Cross-Reference List	C-15

٠,

LIST OF ILLUSTRATIONS (Continued)

Figure		Page
C-6	Volkswagen Product Schedule Cross-Reference List	C-18
C-7	Fiat Product Schedule Cross-Reference List	C-24
C-8	British Leyland Product Schedule Cross- Reference List	C-26
C-9	Volvo Product Schedule Cross-Reference List	C-29
C-10	Mercedes-Benz Product Schedule Cross-Reference List	C-31
C-11	Saab Product Schedule Cross-Reference List	C-35

LIST OF TABLES

Table		Page
1-1	Production Timing Phases	1-4
2-1	Categories Of Vehicle Change	2-2
4-1	Nissan Passenger Car Model Line-up	4-8

A-1	General Motors Automobile Product Schedule Notes (5/78)	A-2
A-2	Ford Automobile Product Schedule Notes (5/78)	A-20
A-3	Chrysler Automobile Product Schedule Notes (5/78)	A-34
A-4	American Motors Automobile Product Schedule Notes (5/78)	A-44
B-1	General Motors Light Truck Product Schedule Notes (5/78)	B-2
B – 2	Ford Light Truck Product Schedule Notes (5/78)	B-7
B-3	Chrysler Light Truck Product Schedule Notes (5/78)	B-13
B-4	American Motors Light Truck Product Schedule Notes (5/78)	B-18
B-5	International Harvester Light Truck Product Schedule Notes (5/78)	B-21

viii

LIST OF ABBREVIATIONS

A/C	Air Conditioner
AE	Automotive Engineering
AI	Automotive Industries
AL	(Alum.) Aluminum
AMAS	Automotive Manufacturing Assessment System
AMC(AM)	American Motors Corporation
AMM	American Metal Market Metalworking News Edition
AN	Automotive News
bbl	Barrel
BL	British Leyland
B-0-P	Buick-Oldsmobile-Pontiac
BRAT	Bi-drive Recreational All-terrain Transporter
BW	Business Week
С	Chrysler
CAFE	Corporate Average Fuel Economy
CID	Cubic Inch Displacement
CIS	Continuous Injection System
CO	Carbon Monoxide
CR	Consumer Reports
CTP	Corporate-Tech Planning Inc.
CVCC	Compound Vortex Controlled Combustion
С.W.	Curb Weight
DFP	Detroit Free Press
DOT	Department Of Transportation
ECC	Electronically Controlled Carburetor
EEC	Electronic Engine Control
EFI	Electronic Fuel Injection
EFM	Electronic Fuel Management
EGR	Electronic Gas Recirculation
EPA	Environmental Protection Agency
ESC	Electronic Spark Control
EST	Electronic Spark Timing
F	Ford Motor Company
FDB	Front Disk Brakes
FI	Fuel Injection

LIST OF ABBREVIATIONS (Continued)

FTOD	Ford Integral Overdrive
FWD	Front-Wheel Drive
GLC	Great Little Car
GM	General Motors Corporation
GMC	GMC Truck & Coach Division, General Motors Corp.
GVW	Gross Vehicle Weight
GVWR	Gross Vehicle Weight Rating
НС	Hydrocarbons
H.D.	Heavy Duty
HP	(hp) Horse Power
IH	International Harvester
L (l)	Liter
L-M	Lincoln-Mercury
MB	Mercedes-Benz
MCA	Mitsubishi Clean Air
MFR	(mfr) Manufacturer
MPC	Multi Purpose Carrier
MPG	(mpg) Miles Per Gallon
MPH	(mph) Miles Per Hour
MT	Motor Trend
MVMA	Motor Vehicle Manufacturers Association Of The United States, Inc.
MY	Model Year
NHTSA	National Highway Traffic Safety Administration
NOx	Oxides Of Nitrogen
онс	Overhead Camshaft
OHV	Overhead Value
ORV	Off Road Vehicle
PB	Power Bench
PFDB	Power Front Disk Brakes
PM	Popular Mechanix
PROCO	Programmed Combustion
PS	Power Steering (In Notes)
PS	Popular Science (In References)
PS-B	Power Split Bench
PU	Pick-Up Truck

LIST OF ABBREVIATIONS (Continued)

PV	Pick-Up, Van And 4WD
RFI	Radio Frequency Interference
R&T	Road & Track
SA	Scientific American
SAE	Society Of Automotive Engineers
SEEC-T	Subaru Exhaust Emission Control - Thermal And Thermo- dynamic Control
Т	Time
TGP	Turbulence Generating Pot
THM	Turbo Hydramatic
TSC	Transportation Systems Center
TTCS	Toyota Total Clean System
VV	Variable Venturi
VW	Volkswagen
WAR	Ward's Automotive Reports
WAW	Ward's Auto World
WAY	Ward's Automotive Yearbook
WB	Wheelbase
WEU	Ward's Engine Update
WSJ	Wall Street Journal

4WD (4-WD) Four-Wheel Drive

· ·

1. INTRODUCTION

1.1 BACKGROUND AND PURPOSE

The development of the Master Product Schedules for the major U.S. automotive manufacturers resulted directly from work performed on the design of the Automotive Manufacturing Assessment System (AMAS) data base. The purpose of AMAS was to provide the Department of Transportation with a means to evaluate the capability of the automotive industry to produce fuel efficient cars and to assess the impact--both on producers and consumers--of converting to such vehicles. During the development of this system, a need arose for a better understanding and representation of the automotive product planning cycle, including scheduled introduction dates of both vehicles and technology improvements, and the lead times required. Master Product Schedules were designed to fill this need.

The schedules provide a means for tracking changes in each manufacturer's product plans. Historical as well as projected introduction of new vehicles, and the frequency of change in the existing vehicles by make, model, and year are depicted. When used in conjunction with the Product Planning Cycles (timing diagrams) the schedules also assist in estimating the lead time a manufacturer may require towards meeting the fuel economy and emission standards of subsequent years.

1.2 PRODUCTION TIMING PHASES

Each manufacturer uses internal Production Timing Schedules to track each of the many product programs which are on-going at any one time. These Schedules present the significant milestones and lead times required to institute changes for any given year.

The introduction of each new auto, as well as major body and styling changes requires a considerable degree of planning and advanced scheduling. It is a complex process with hundreds of interlocking events. The planning process and major phases leading up to Job Number 1 (full volume production) consist of: cycle planning and concept definition; vehicle sizing and concept development; styling and design; engineering; prototype building and testing; tooling and

facilities; and full volume production. This process spans a period from thirty months to six years depending upon the extent of change, technology required, and resources committed. The automotive industry generally uses a 60-month nominal cycle for evolutionary type changes such as the introduction of completely new automobile or major body restyling.

()

Figure 1-1 is an example of the Production Timing Schedule applied to the development of an all new domestic auto. The time duration and degree of overlapping between each phase should be The major milestones are not precise dates, but often pernoted. iods extending for weeks, or as much as a month, depending upon complexity of the program, and tempo of competitive forces, economic (market, and corporate strategy. The Final Program Approval (Month 28) is a significant event in that a decision is made for volume production and capital expenditure. Up to that time, only a relatively small proportion of the total investment for that model year has been spent. Applying this example to a new 1984 model vehicle, initial planning would have just started in 1978 if the manufacturer expects to achieve volume production by August 1983. The Program Approval decision will have to be made in April 1981. Α more detailed description of the production timing phase activities is provided in Table 1-1.

The Timing Cycle, a product of fifteen to twenty years of fine tuning the automotive design and manufacturing process, is a compromise between resource commitment, lead time, and ability to react (to consumer and competitive forces with last minute work-in-process changes. Except for differences among individual phases, the 60month timing cycle seems to apply to engines as well (see Figure 1-2); although historically, new engine introductions are less frequent (production duration of ten years or more are typical) than styling changes.

Recent evidence indicates that product planning cycles have been stretching out over the years. Prior to 1975, the normal cycle was 42 months (versus the 60-month cycle discussed above). Reports suggest this cycle may well expand to ten years in the near future. The extention of the cycle reflects the intense additional effort to plan new products to meet increasingly stringent federal regulations



FIGURE 1-1. STANDARD VEHICLE TIMING PLAN (FORD MOTOR COMPANY)

TABLE 1-1. PRODUCTION TIMING PHASES

Phase	Activities		
Cycle Plan and Concept Definition	 Styling, engineering and product planning Manufacturing costs, competitive pressures and projected market options and alternatives Tentative new car line proposal Advanced testing of experimental system for emission, fuel economy 		
Vehicle Sizing and Concept Development	 Car production program initiation-establishment of broad car development objectives. Number of models offered, performance level, equipment and options, size and weight, cost trade-offs, producibility investigation, body styling, space envelope, ex- terior and interior dimensions, etc. Program approval, management review of preliminary design, 		
	commitment of major corporate resources		
Design 	 Hard point establishment Detailed styling with alternatives Clay model development and review Final styling selection 		
Engineering	 Detailed parts, components and subsystem design Detailed specifications and drawings Material lists Manufacturing methods and production process engineering Tooling design, patterns, and facility requirements, plant layeu Material and parts flow 		
Prototype and Test	 Engineering prototype build Full scale model approval Prototype testing-mechanical, engineering and (PA certification) 		
Tooling and Facilities	 Parts procurement Selection of vendors and suppliers Tool construction Tooling installation Specialized machinery and tooling test and checkout Pilot assembly and experimental production runs 		
Production	. Production build up . Full scale production		





(emissions safety, fuel economy) and still be competitive in the marketplace. This expansion of the planning cycle appears to contradict the current need to shorten the lead time in order to be more responsive to change in the regulatory climate. New products are replacing old at a much faster pace resulting in the commitment of vast amounts of capital in a relatively short span of time.

Conventional timing cycles are not valid for products that differ from the standard internal combustion engine and front engine mounted - rear drive domestic auto. GM and Ford estimate as much as six years for design, engineering and tooling of the new power plants to meet the proposed emission, safety and fuel economy standards of the mid 1980's and as much as 15-20 years for alternative turbine and stirling engines. These durations are primarily due to: absorption of new technology in solving basic regulatory problems (emissions, safety, etc.); development or conversion of manufacturing plants and tooling to mass produce the new more efficient vehicles; testing and certification of such vehicles; and the orderly phase-in of the new vehicles as the production of conventional autos winds down.

The magnitude of these efforts can be appreciated from the timing diagrams of a given model year. As an example (Figure 1-3), in going into the 1979 model year, one manufacturer has: (a) wound-up production for the 1978 year; (b) initiated 1979 volume production on completely new full size vehicles and performed facelifts on all other models; (c) placed tooling orders and started prototyping testing for 1980 model year vehicles, some of which will undergo major body changes while others will have facelifts; (d) is in the middle of styling, review of base clay, and engineering for the 1981 models; and (e) is in the planning and concept phase for the 1982 through 1984 models. Interlaid among these activities are the engine and vehicle modifications necessary to meet the more stringent emission and fuel economy standards in successive years. Moreover, resource and capital limitations restrict the amount of change a manufacturer can perform yearly. • As the example shows, major redesign or an all new vehicle introduction is limited to a few model lines while the majority of vehicles undergo only minor or no change.



.

FIGURE 1-3. COMPOSITE OF SUCCESSIVE MODEL YEAR TIMING SCHEDULES

1.3 MASTER PRODUCT SCHEDULES

With the industry product timing cycles as a basis for defining the automotive production process, Master Product Schedules were developed for the domestic automobile and light truck manufacturers, and a select number of the foreign import manufacturers. The effort involved extensive research and synthesis of publicly available information (trade journals, news media) starting with the 1975 model year through to the present, with projections to 1985 to the extent that data was available.

The domestic auto Master Production Schedule was the basis of methodology development, and was extended, with some modification, to light trucks and selected foreign import manufacturers. The basic methodology for the domestic autos was the development of a series of charts, (one for each manufacturer) which recorded continuously, yearly changes in a manufacturer's product offerings by model series, body size, and market class. The changes identified included: all new auto introductions, major body and styling changes, downsizing, new engines, driveline and other technological advancements, and their respective time phase relationships.

The charts are designed to provide an overall perspective of a manufacturer's product plan, and how these plans changed in response to current and future regulatory requirements. The charts also indicate a manufacturer's product mix (along with basic specifications of wheelbase and curb weight), what vehicles are derivatives of others, length of time since the last vehicle's change, and when vehicles' name plates are added or changed to counter competitive offerings or to revise market position.

A detailed description of the domestic auto Master Product Schedules is contained in Section 2.

The methodology used for the light trucks (Section 3) is basiccally the same as for passenger cars except that the variation of mission for each vehicle is emphasized rather than the market class. To facilitate ease in comparison, the format of the light trucks is similar to that of passenger cars. More detailed specifications are provided for each vehicle to reflect the subtle changes usually made

from year to year. Model changes for light trucks are shown in the same manner as for passenger cars.

The format used for domestic passenger cars and light trucks was also retained for the foreign passenger cars (see Section 4). In addition to the U.S. introduction date, the introduction date in the home market is highlighted since many models have been previously tested in the domestic market.

• • • •

2. THE DOMESTIC AUTO MANUFACTURERS

2.1 GENERAL

The current and projected product schedules of new domestic passenger cars reflects technology improvements based on research sources through May 1, 1978. The Master Product Schedules for all four domestic manufacturers are presented in Figure 2-1 through Figure 2-8 with explanatory notes and cross-reference lists pertaining to the schedules in Appendix A. Some general comments applicable to all schedules are as follows:

Market classification, as used here, broadly categorizes models according to size or particular market segment (i.e., luxury, compact). The convention follows the industry trade and media practices* except for some minor changes to maintain consistency. For example, the Buick and Oldsmobile C-Bodies, along with Cadillac C-Body models, are all considered Luxury-Standards. Moreover, Luxury-Standard applies only to <u>large</u> luxury cars (Lincoln, full-sized Cadillacs, New Yorker, etc.) even though other luxury models exist in the smaller classes, such as the intermediate size Cadillac Seville. Specialty cars such as the Riviera, Corvette, Thunderbird, Cordoba, etc., are located in the class closest to their size or market.

The four basic levels of body changes used by each manufacturer are shown by number coding the models each year. These changes are:

- ① All new car, new body
- 2 New sheet metal
- ③ New grille, tail lights, trim
- Garryover, no change

Table 2-1 describes these changes in more detail. Although each auto manufacturer may differ on terminology, there is general agreement on substance. The lead time from clay approval to volume production refers to the production timing phases discussed in

^{*}Wards Automotive Reports and Automotive News Market Classification

Section 1. An all new vehicle requires the most lead time whereas a new grille, minor sheet metal or ornamentation change requires less.

CATEGORY TYPE	LEAD TIME (CLAY APPROVAL TO VOLUME PRODUCTION)	DEGREE OF CHANGE
All New Vehicle All new body	$24\frac{1}{2}$ months	All new <u>car;</u> or all new <u>body; or complete</u> exterior sheet metal including new <u>roof</u> . (Requires new hard points/basic vehicle dimensions).
Major New Sheet Metal	$23\frac{1}{2}$ months	All new sheet metal below the window line; or new front and rear-end sheet metal; or new front or new rear sheet metal with new roof.
New Grille, Tail Lights, Minor Sheet Metal, and Trim	20 to 22¹₂ months	New front or new rear end sheet metal; or new fenders; or new quarter panels; or new roof; and/or new grille, new taillamps, new exterior ornamentation.
Carry Over	18 months	No change at all to vehicle; or very slight change to ornamentation at most.

TABLE 2-1. CATEGORIES OF VEHICLE CHANGE

An all new car or completely new body is a major resource expenditure; hence, the changes are made sparingly and not on all models in a single year. Once a new model or body has been introduced, it receives little or no change (carry-over) the following year, and then minimal facelift (trim, grille, tail light, etc.) each succeeding year thereafter until the style has run its course. Ford's Maverick and Pinto were introduced in 1970 and 1971 respectively as new models and were offered in the 1977 model year with little styling change other than minor sheet metal and trim.

The fact that the same type of body change is often shown for all model series within the same classification is not by coincidence. Industry typically will introduce a basic body or new auto for a given class, and then derive all other models in the same class from this basic style. The derivatives will often be introduced in the same model year in order to maximize promotional benefits. Name plate changes and body derivatives have been emphasized, particularly when it affects a change in market segment.

Major technology improvements are presented at the bottom of the chart or within the market class to which they apply. Such improvements include: all new engines and transmissions; new engine control systems; and other innovations affecting fuel economy such as material substitutions, etc.

The emission control requirements alone constitute an all new car change when it comes to resource expenditures and investment, and these changes contribute little to the shape or style of the car. The response to demands for smaller engines, lighter vehicles and shorter wheelbases shows up on all charts for 1976 on. The reduction of models and options offered for 1976, as well as minimization of styling changes, is due in large part to redirection of resources towards meeting emission control and fuel economy requirements for 1979 and beyond. The standard and intermediate size vehicles saw a concentration of weight reduction and shorter wheelbases in 1977 and 1978 as industry attempted to maintain large car sales levels by offering "roominess" on a more economical basis. This same strategy prevails in 1979 as all manufacturers attempt to re-size their complete model line up.

The extension of product changes to 1985 is based on manufacturers' changes prior to 1980 in conjunction with future plans as reported in the media. Consequently, five to six year intervals between major styling changes were carried through for General Motors, six to eight year intervals for Ford and Chrysler, and eight year intervals for AMC. AMC's product scheduling has been the most difficult to estimate due to the severity of its current business problems and estimations beyond the 1979 model year are speculative in nature. Beyond 1981, estimations are equally speculative for the other three manufacturers.

A wheelbase change is a convenient measure for monitoring down-

sizing trends. Name plates and wheelbase data therefore, are projected in as much detail as is known. Known specific weights of models are also identified and are helpful in tracking weight reduction programs.*

As the vehicle wheelbase and curb weight are reduced, the engine sizes required to maintain equivalent performance levels correspondingly become smaller. Therefore, cases where a manufacturer drops a large engine from its inventory are noted.

As mentioned previously, capital and other resource limitations allow only a few new model introductions in a given year. Occasionally, a newly introduced downsized car in one market class may end up equal in size or even smaller than its counterpart in the next smaller market class. This results in two vehicle lines competing against each other in the same weight range, a dilemma faced by all manufacturers trying to downsize their complete vehicle spectrum by the 1982 model year.

This situation may be circumvented in a number of ways. One option is to drop competing lines. Chrysler plans to do this in 1979 by discontinuing the older intermediate B-Body and replacing it with the new full sized R-Body cars (which were reduced to the former B-Body weight class). Another approach is to allow the two lines to compete in the same weight class for one year until the next class is downsized. GM pursued this strategy in 1977 when the weight of the new, downsized, standard B-Bodies competed in the same weight class as the old intermediate A-Body in order to preserve the A-Body customer base.

The following commentary summarizes each manufacturer's past and future product plans in the vehicle and technology areas.

Refer to Volume III, Materials-Weight Analysis for more detailed discussion.

2.2 GENERAL MOTORS

GM's six year plan calls for each car in the entire corporate passenger car lineup (except the Chevette which was new for 1976) to be reduced in size between 1977 and 1982. In domestic automobile manufacturing, GM is number one and provides the leadership due to its greater resources and ability to accomplish model introductions and weight reduction in a more systematic manner. Figures 2-1 and 2-2 present GM's passenger car Master Product Timing for 1975 to 1980 and 1980 to 1985 respectively.

Technology is advancing so fast, that information can become obsolete in a matter of months. Because of the rapid changes in engine developments at GM, many new engines planned for the 1980's have come to light since May 1978 when the Schedules were completed. As a result, only about half of the potential new engines are shown on the Schedules.

<u>1977</u> - The complete line of B and C Bodies (Standard and Luxury Standard models) were downsized with an all new structure, frame and styling. Wheelbases were reduced five to nine inches with a corresponding weight loss of 700 to 800 pounds. Pontiac introduced the 151 CID, L-4 "Iron Duke" engine which replaced the Chevy 140 CID, L-4 aluminum block engine in 1978.

<u>1978</u> - Downsizing extended to the Intermediate class as GM introduced all new A-Bodies. Vehicle weight was reduced by 400 to 800 pounds as the wheelbase dropped to 108.1 inches from 112 to 116 inches. Chevy and Buick each introduced new 90° V-6 engines of 200 and 196 CID, respectively, for use by the new A-Body models. The Olds 350 CID diesel V-8 engine (GM's first passenger diesel) was introduced on full-sized Olds models and the Cadillac Seville in mid-year. The relatively unpopular Vega and Astre Subcompact nameplates were dropped with the Monza and Sunbird lines expanding to include hatchback and wagon models. A new Chevette 4-door model was introduced with a wheelbase three inches larger than the twodoor at 97.3 inches. The Chevette also received the first passive belts to be offered on a domestic vehicle available in the spring as an option. Buick introduced its new 231 CID turbocharged V-6

engine on the Regal and LeSabre which is the first turbocharged engine to employ electronic spark control to retard the spark at the first sign of engine knock. Introduction of the first 3-way catalyst equipped car using electronic carburction was initiated on several California models.

<u>1979</u> - The front-wheel drive Toronado and Eldorado E-Body luxury cars and the Riviera B-Body rear drive will be downsized to new front-wheel drive E-Body models. This new E-Body is essentially a stretched A-Body frame with front-wheel drive. A new THM 325 automatic transaxle will be used in these new models. The Riviera will use a turbocharged 231 CID V-6 engine as standard, the Toronado will use a 260 CID V-8, and the Eldorado will use a 350 CID V-8. Oldsmobile is expected to introduce a new 260 CID diesel V-8 during the model year. A new turbocharged 151 CID L-4 engine will be introduced by Pontiac for use on selected models. The introduction of all new front-wheel drive X-Body compacts has been delayed until the Spring of 1979 and will be introduced as 1980 models. Improvements in carburetors and the use of light weight materials continued selectively on all models.

1980 - The new X-Body compacts with front-wheel drive will be introduced as early 1980 models in the Spring of 1979 with an expected wheelbase of 103.5 inches and a curb weight of 2700 pounds. Buick and Oldsmobile will have two and four door notchback sedans and Pontiac and Chevrolet will have two and foor door hatchback sedans. A new THM 125 automatic transaxle and four speed manual transaxle will be available on the new X-Bodies. Chevy will have a 2.8 liter, 60° V-6 and Pontiac, a transverse 151 CID L-4 available on the compacts. The Cadillac Seville will be an all new K-Body on a stretched A-Body frame with a wheelbase of 114 inches. The B and C-Body standard cars will have all new sheet metal with weight reduction of 200 pounds. Other new engine introductions include: a 267 CID Chevrolet V-8; a 2.2 liter transverse Pontiac L-4; and a Buick 231 CID diesel V-6. A new three-speed automatic transmission with lock-up torque converter should be available on the larger cars. The Chevrolet Corvette will get new lightweight

materials and a smaller 305 CID V-8 engine which will reduce the weight of this car by 400 pounds.

1981 - The subcompacts will be downsized and changed to frontwheel drive and separated into two distinct designs. The Monza and Sunbird will be new U-Body front-wheel drive subcompacts and the Starfire and Skyhawk new sporty X-Special front-wheel drive subcompacts. A new front-wheel drive X-Body station wagon with a wheelbase of 104.9 inches and a curb weight of 3000 pounds is expected to be introduced. A-Body models will receive all new sheet metal, and a new four-speed automatic transmission with overdrive and lock-up torque converter will be available. Airbags will again be offered as optional equipment on large cars. The 5.0 liter (305 CTD) V-8 will be the largest gasoline engine. (The 350 CID diesel V-8 will still be offered). New engines will include a turbocharged 260 CID Oldsmobile V-8, and a 1.8 liter Chevy L-4. Phase II 3-way catalytic converters with closed loop electronic fuel metering will be offered on all non-diesel powered engines. EFI single point injection systems will be offered on selected models.

<u>1982</u> - The F-Body Camaro and Firebird will be downsized to a wheelbase of 102 and 103 inches and will retain the conventional rear wheel drive configuration. This completes the downsizing of the entire General Motors passenger car line-up. The front-wheel drive, E and K-Bodies will receive new sheet metal and Chevrolet is expected to introduce an all new, from the ground up, 350 CID diesel V-8 engine.

<u>1983</u> - The second round of downsizing starts this year with the C-Body luxury standards being reduced to a wheelbase of 118 inches and converted to front-wheel drive. The B-Body standard cars will also be downsized to a wheelbase of approximately 112 inches. A new four-speed overdrive automatic transaxle will be available for the new downsized front-wheel drive C-Bodies. The Chevette is also expected to be converted to front-wheel drive on a 90 inch wheelbase. The 267 CID Chevy V-8 will be the largest engine available on any model with the exception of the Corvette which will still have a 305 CID engine offered.

<u>1984</u> - The Corvette will be an all-new Y-Body downsized to a curb weight of 2500 pounds. A smaller turbocharged engine is expected to be offered in the Corvette at this time.

2.3 FORD MOTOR COMPANY

Ford has allowed GM to test the market's acceptance of downsizing and has decided not to start its general downsizing program until 1979 with the introduction of new standard size cars, two years behind General Motors. To stay competitive with GM, Ford introduced new compact models in 1978 which were designed to compete against GM's new downsized A-Body intermediates. The complete revision of the intermediate/mid-size line-up of cars in 1980, and the introduction of new luxury standard models will essentially bring Ford up to date with General Motors in their downsizing strategies. Figures 2-3 and 2-4 present Ford's passenger car Master Product Timing for 1975 to 1980 and 1980 to 1985 respectively.

(

1977 - In addition to the new Cougar and Thunderbird, the Versailles wes introduced as a new luxury intermediate at midmodel year. This was the last year of production for the Maverick and Comet.

<u>1978</u> - New compacts to replace the Maverick and Comet were offered. Named Ford Fairmont and Mercury Zephyr, they include a complete line of two and four door sedans and station wagons in the 3,000 pound inertia weight class. With a wheelbase of 105.5 inches and increased interior volume, these models were marketed against the new GM A-Body intermediates in the mid-size class. The Fiesta front-wheel drive imported mini car was introduced to test the small car market. Electronic engine control (EEC I) was introduced on the Versailles 302 CID V-8 engine with the capability of controlling both spark advance and EGR flow rate. Three-way catalysts were introduced for the first time on a limited number of California models (Pintos and Bobcats). Torque converters on all automatic transmissions were improved to increase their efficiency and improve fuel economy.

1979 - Ford's new downsized standard models, as well as an allnew upsized Mustang and Capri highlight the model year. Aluminum

intake manifolds will be offered on 351 CID V-8 engines. The Mustang and Capri will be available with a new 140 CID turbocharged L-4 engine. EEC II (Electronic Engine Control of Spark, EGR, and air/ fuel ratio using a three-way catalyst and feedback carburetor) will be in wide use on California models. Improvements in weight reduction continue to be selectively used on all engines and models.

<u>1980</u> - Luxury-Standard models will be downsized with wheelbases six to ten inches less. New intermediate models will be introduced with wheelbases similar to the Granada/Monarch which will be merged into the intermediate line. A new 255 CID V-8 engine will be introduced as the 400 CID V-8 engine is dropped. This new engine will be widely used in the intermediate as well as standard models. Passive belts will be available on some models.

<u>1981</u> - A new front-wheel drive (European/American) Pinto notchback compact will be introduced with a two-seat sport version. By this time, the Fairmont/Zephyr will have been upgraded to low price intermediates and the new Pinto along with the Mustang and Capri will become compacts. All vehicles will be equipped with three-way catalysts and exhaust sensors with either feedback carburetors or electronic fuel metering systems. New 1.6 liter and 1.3 liter four cylinder engines with aluminum intake manifolds and aluminum heads will be used on the new front-wheel drive Pintos. Air bags will be optional on large cars.

2.4 CHRYSLER CORPORATION

Chrysler's master plan is to standardize all models on four basic wheelbases with two wheelbases being used in the subcompact and compact classes in front-wheel drive configurations, and two wheelbases being used in the intermediate and standard classes with conventional rear-drive configurations. This standardization will allow Chrysler to offer a full line of models yet still be able to obtain manufacturing efficiencies and cost savings which will keep it competitive in the market. Figures 2-5 and 2-6 present Chrysler's passenger car Master Product Timing for 1975 to 1980 and 1980 to 1985 respectively. <u>1977</u> - The M-Body Dodge Diplomat and Chrysler LeBaron were introduced as intermediates in mid-year. Two and four-door coupes and sedans with 318 CID V-8 lean burn engines were included in the initial offering. This was the last year for the C-Body Grand Fury, Royal Monaco, and Newport sedan and wagon.

<u>1978</u> - Station wagons were added to the Diplomat/Lebaron line as no more full-sized wagons are offered. The Fury and Monaco B-Bodies became the interim standard-sized car pending the introduction of the new R-Body in 1979. The Magnum XE edition of the Charger SE was introduced and will replace the Charger for 1979. The Dodge Omni and Plymouth Horizon subcompact L-Body models were introduced mid-year as four-door hatchbacks with front-wheel drive and a transverse VW 1.7 liter four cylinder engine. The use of the lean burn spark advance system was extended to all V-8 engines and a new lock-up torque conterter was standard on most six and eight cylinder engines using automatic transmissions.

<u>1979</u> - The new downsized R-Body standard and luxury standard models will be introduced on a wheelbase of 118.5 inches. This is a reduction of three to six inches over the old models. The 400 CID and 440 CID V-8 engines will be dropped making the 360 CID V-8 engine the largest engine. The Fury, Monaco, and Charger SE intermediate models will be dropped. On the other end of the scale, new two-door, front-wheel drive subcompact Omni/Horizon models will be introduced to complement the four-door models introduced in 1978. A new three-speed automatic transaxle with lock-up torque converter will be available on the L-Body subcompacts. The lean burn system will be dropped on four and eight cylinder engines in favor of an electronic spark control system. Advances in weight reduction will continue to be instituted selectively on all models.

<u>1980</u> - The entire intermediate line received new sheet metal and wheelbase changes to conform to the Volare/Aspen size. The Cordoba/ Magnum two-door models will be reduced slightly to a wheelbase of 112.7 inches which is the same as the Diplomat/LeBaron and Volare/ Aspen four-door sedans. The Diplomat/LeBaron two-door coupes will be reduced to a wheelbase of 108.7 inches, the same size as the Volare/

Aspen two-door coupes. This is the last year for the conventional Volare/Aspen, since they will be changed to front-wheel drive in 1981. The Imperial nameplate will be revived on a new luxury Y-Body intermediate with a wheelbase of 112.7 inches in mid-year. A turbocharged 1.7 liter four cylinder engine will be available for the sporty twodoor L-Body subcompacts.

<u>1981</u> - The Volare/Aspen compacts will be downsized to a wheelbase of 100 inches and changed to a front-wheel drive configuration called the K-Body. Weight will be reduced 600 to 700 pounds. A new 2.2 liter four cylinder Chrysler engine with a new Chrysler four speed overdrive manual transaxle will be used in the new front-wheel drive K-Body. The Omni/Horizon will receive new sheet metal and will be resized to a wheelbase of 94 inches.

<u>1982 to 1984</u> - In 1982, a new front-wheel drive luxury compact K-Body will be introduced giving Chrysler luxury models in the compact, intermediate, and full sized classes. A second round of downsizing is expected to start in 1983 with the full-sized R-Bodies being reduced to a wheelbase of approximately 110 inches and the intermediate models being reduced to a wheelbase of 106.7 inches in 1984. Several diesel engines will be introduced and also a new small four cylinder engine to replace the 1.7 liter VW engine.

2.5 AMERICAN MOTORS

Business problems, continuing deterioration of sales, a shortage of capital and other resources for design, development and tooling, permit very few improvements in AMC passenger car lines. Beyond the Pacer station wagon, introduced in 1977, no new introductions are planned before 1984. Changes which are implemented will be cosmetic and limited to sheet metal only. Figures 2-7 and 2-8 present American Motor Corporation's passenger car Master Product Timing for 1975 to 1980 and 1980 to 1985 respectively.

<u>1977</u> - The two-door Pacer station wagon was introduced as an all-new model in the compact class. The Gremlin received major sheet metal improvements and an optional Audi four cylinder 2 liter engine.

<u>1978</u> - The Pacer sedan and wagon received a new hood and front end with an optional 304 CID V-8 engine. The complete Hornet line was upgraded with new interior, instrument panel, headlights, grille, and new front and rear ends. The Hornet nameplate was dropped in favor of the AMX for hatchback coupes and Concord for the rest of the line. In mid-year, a SPacer van package was introduced as a dress-up option for the Pacer wagon.

<u>1979</u> - The subcompact Gremlin will receive all-new sheet metal and will be renamed. All automatic transmissions will receive the Chrysler lock-up torque converter.

<u>1980</u> - The Audi four cylinder 2 liter engine will be dropped and AMC will pruchase the Pontiac 151 four cylinder engine in its place. This move will be made to conserve capital which would have been required to build the Audi engine.

<u>1981 to 1984</u> - Sheet metal changes predominate as the Pacer sedan, wagon and Concord are revised, one per year. A new mini car is expected to be introduced in 1984 weighing approximately 2,000 pounds and obtaining forty miles per gallon.
MARKET CLASSI	
MAKE-SER	
LUXURY-STANDARD	
Cadillac	
Cad., Dids., Buick	
Dldsmobile	
Buick	·
<u>STANDARD</u> (Regular)	
Chevrolet	
Pontiac	
Buick	
Dldsmobile	
WERDWEDTATES (Nid-Si	
Chevrolet	
Chevrolet & Pontia	
Pontiac	
Buick	
Oldsmobile	
Cadillac	
CDMPACTS Chavrolet	
Chevrolet	
Pontiac	
Pontiac	
Buick	
Oldsmobile	
	·
FURCHARACTE	
Chevrolet	
Chevrolet	
Pontiac	
Buick	
Dldsmobile	
Chevrolet Special	
· MINI	
Chevrolet	LEGEND:
TECHNDLOGY	() All new car, new body
IMPROVEMENTS	
	(2) New sheet metal
	(3) they arill, t-
•	lights, trim
	(4) Carryover (10) Change)
	(-) Date of most recent
	A-Dudy clicinge
	Derivative/Replaces
-	
Source:	FIGURE 2 1 GENERAL MOTORS PRODUCT SCHEDULE.
	1075 QO
	2-13/2-14
	,

<u>1978</u> - The Pacer sedan and wagon received a new hood and front end with an optional 304 CID V-8 engine. The complete Hornet line was upgraded with new interior, instrument panel, headlights, grille, and new front and rear ends. The Hornet nameplate was dropped in favor of the AMX for hatchback coupes and Concord for the rest of the line. In mid-year, a SPacer van package was introduced as a dress-up option for the Pacer wagon.

<u>1979</u> - The subcompact Gremlin will receive all-new sheet metal and will be renamed. All automatic transmissions will receive the Chrysler lock-up torque converter.

<u>1980</u> - The Audi four cylinder 2 liter engine will be dropped and AMC will pruchase the Pontiac 151 four cylinder engine in its place. This move will be made to conserve capital which would have been required to build the Audi engine.

<u>1981 to 1984</u> - Sheet metal changes predominate as the Pacer sedan, wagon and Concord are revised, one per year. A new mini car is expected to be introduced in 1984 weighing approximately 2,000 pounds and obtaining forty miles per gallon.

	G	ENERAL MOTO	RS											REV	ISEO JI	1/70 CTP
	ľ	197	5		1976			197	7	19	978	19	79		198	0
MARKET CLASSIFICA	TION	JFMAMJ	JASONO	JEMA	LLM	ASOND	JFMA	MJ.	LONOZAL	FMAMJ	JASONO	JFMAMJ	JAS	ONDJF	MAMJ	JASOND
MAKE-SCHICS	t															
1141-211-040D	. 1	Devent 10	Canal Contra	116 27	-110) NOV C	45	- 121	 1 	NB-121	0		0	<		
Cade of March		A 11009A00.	2 10PONIDO, #1	V11RA, V8-122	6	ATYTERA	N14 0 97-1	122/12	1045EL00 w8-122/	126,917 52-116			New Shre	n Metal - 200 10	n less (c)	
fildsmittle		A) 98, #{61HC1	() 43. RECENCI	¥2.	127) MEW C	47	- 119 (3 7	x8-119	0		2	c		
Bale1		A OFTER	D GICIPA, 118	11E0 225, #8-	127 (NEW C	W8	-119 (A) (K8-119	0		0	τ		
		<u> </u>			1	Igh1 ¥s19h1 (70	10-800 1651		Dids W-D Diesel, Opt	lón	1					
						INCENSE WINEPERCAS	13	1	10 (10 (1)		5183 10960 A-8001		New Shee	1 Metal - 200 18	n less (40)	
ANDARD (Regular)		()	() 14501C1 IM	A1.6 1/7.	121.50	NIN B	¥8	-116 (A) 10	V8-116	0		Õ	1		
Chevrol#1		CATAL INA		NIVI16 68-12	3/127) new 8	H8	-126 (A 1	¥8-116	0)	0	8		
Pohl Isr Julich		(1) Lr SASA1	D TASABAE, CUS	10H V	8-124) NEW 8	48	-116 (3 8	¥∏•116	0	1	0	5		
01/sachile		(A) DE1 TA 89	() 0111A 88, CT	510K CRUISIA	2-124) NEW 8	49	-116	A DI11A #8 8	HOLIDAY 116	0	1	2	8		
			Reduct 11	m-Mode1s/0p1	0.03											
									1 1gh1 ¥righ1 4 (Hev Å1 (2)	4no-800 1bs)	O FUD () TOR.EL	OD-REVIERAND-114	(1)	1		
1188101A1(5 1814-51ze1					- 12						10		0			
Chevrolei	A	(4) CHIVEILE	() CHIVEIII MAL	180-A ¥8-13	2/116	2	A W8+112	/116	WALTED HEV A (34	1 48-105 1	0		6			
Chevrols1 R Ponliss	A Spec	() 6, 93 CAND,	MONTE CARIO	GRAND BRIX	A 30 (A spec HB	116	0 ×101 MW X 10	1203 88-108.1	0		ň	A		
Pontiac	A	() 1 cmA45	1 I MANS. GRAM	Lennis A	316	2	A 1/8-112	2/116	NEW A	HR-108,1	8		õ.	A		
Bulsk	A	(A) CINTUPI	(2) CEMILIER, SPI	CIAL CUSTOR,	RICAL (a an-112	7116		NR-101.1	0		ő	A		
01dsmcb11s	Å	CA) CUTLASS	CUTLASS S-SI	PRIME, BPOUGI		<u> </u>	e va-112	014.1		18-114.3	6	7	010	N) N 1	¥8-114	(7)
Cadillac	ĸ	() sevice	CO statute - 4	+8	111.3		10.0	(4) A	New 9014-5, 200 1	D (Chevalle)	A Hew 1101 275 Au	to Irans for FND I	01	Stertched A-Bod	,	
								10	hew 50' (-6, 195 C	D Bulch	-					
									(61 🛦	V+H 0105. 0151	sel (Sevills)	(0) (line 1) F	wD Curb	wi - 2700 16s		
MoV()?		(i) wave	() NOVA - FOR	045 K ³	.m. Io	<u>n</u>	Х 162	8-111	(1)	1	AV07A	() FWD 244 0	r NB	ији а	WB+103 5	
CREARC 131		C CANADO	CALIFORNIA CO	vi	-105	5	1 81	n- 108	(1) New Sall Europar	(181)	(3) CAMANO	W8-100	\bigcirc	ſ		
Deellar		() CHININ	O LIRIDIRD .	ESPHID, WE	-108	ົ <u>ກ</u>	F Ki	2+108	0 +		11110190	F ¥8-108	0	1		
ronitac		(A) WINTERA	C JRANS AN	LANDAL M	-111 (ñ	1 16	s-111	(A)		PN01H15 (30)	T FAD 244 0	r 168	NIW X	¥8 103.5	
ABATISC		() ()))///	G suchta s	5/8 10	-111	5	X 61	8-111	ŏ,		5146411	1 FND 254 5	r Mi	NIM X	N8-103-5	
0)depoint in		(1) 045 GA	O 04164, 51,	LANDAU, W	-101 (<u>n</u>	X 41	8-113	0 1		OPIGA	1 FHO 2M C	r. MB	NEW 1	W8-103.5	
		0	"NEG" SI	1111		<u> </u>		(46)	Optional Into Mas	tre Clec Dash	(Seallis) 41 Shor	ter ksegtb				
											A 10	A 1101 125 Tear	saule (A	utel (10)		
ACOMPACTS			10							1		A RecPherson 1	al lear	axle (10)		
Chevrole1	н	(1) VIGA	1 HOTCHBACK	A 17 CABRID	1.13	0	- K 4	5-97	¥iga - Disconlik	. {12}	10	a copera idaa	10			1
Cherrol#1	H Sper	. (1) MONZA	() 10vote COUT	14 513065		<u>.</u>	н н	18-97	1) New Hilchosel	H Hadou	0		6	R R	_	
Rentisc	H,H Spec	(1) ASTRI	U) SUMR19D	- ASJEE	48-97	2	н и	18-97	U SUNBIRD only	H (New Warjon			6	н		
Sulci	B Spec	1) SRINKWA	(a) 511HAVI		68-97	<u> </u>	R #	49-92	0	N	0		6	н		
Oldsmobile	H Spec	C) STARTINE	C) SDANTING,	18	48-97	0			0		6	7	6	1	_	
Chevrole1 Special	,	CORALIUE	Contraction		40-18	0		10-98 P	A		<u></u>		New 11	h1 WL Materials	- 400 lbs 1	r55
								(12)	Alun He Clo 1-4	l deoppelt lise used for a	12		305 CI), ¥-8 (38)		
			Lists 1	elant 4-Speed			3-51ge	(13)	A Teroorary Spare	110						
Chevro2e1)	_	O ORIVEDIE		vT-94)	0)		1) her 1-01	(14) 1 ¥8+97.	.1 ()	1 68-94 3/97.	10 0	EVROL11 D]
										54	1 Alum, lotate M	anllold 1.6 1+4	261 0	ID V-E (w/turto)	6 Dual 0150	lacenent
TECHNOLOGY THPROVINENTS		1								(A1) 🛦 A.	uto Seat Brill Opilio	n (Chrvrlls)	305 0	TO 4-8 (CMAN)	1231	
										(41)	A Passive Bells	- Mure Models	A Rev	3-Speed futo Tra-	s ⊯/loc≦up (22)
													· 21	Transierie 1-4	(Pontisc) (AB	(
					4	New Pontise 1	151 CID 1-4 (Iron pla	x1) (19)	(120) New 2-61	ol single stage car ujines)	burrler	. Pher	r 11 3-Way Cal	CallE Gas	Cogiors (33)
		1			(C{D	50' Y-6, 231			Bena 7+5 ((n-1	61 2-stage carbors1 Inc reginet1	or A Strey 3	65 CID 6	0° ¥-6 1A5)		.,
							day anars r	entrel)	Rev 10/00 1	51 610 1-4 (21	1.4	A	60' V-	6 Lor 180 (Ponth		
					(231 C1D	6 (Ence) and	1 1 1 1 1 1 1								
					(231 C1D V-1 231 C1D V-1 17) 3-Was Calal:	6 (Regal and yalon)	Pon11sc	2.51,1-4 🔺 2	er hi-performa	ncr 151 C(0 nr (19)	A fortier	Transve	rs= 151 C10	101 (23)	
					((5) CSC Turbo (s 23) CTD V-0 5000 Californi w/riectmintc 	6 (Regal and) yal on 2 15 Molinia 2 Carburetors	Ponlisc 7 St 8+4 Ruici	2.51,8-4 A	ew hi-performa cylinder engli	ncr 151 C (0 ne (19)	A Pon11ac 1-4, 11	fransvr wi l	rse 151 C1D 5 E19)	() (23)	
					((5) CSC Turbo (c) 231 CTD V-0 (7) D-Way Catal; some Catalorn w/riscimm(c) (7) SAR Spars () 	h (Regal and) yal on 2 1a Modria 2 Carburelors) Control	Pontisc 2 St 8+4 Ruici 3.01 V+6	7.51,1-4 ▲ 5 ▲ ▲ 41um (etabr Baot	cylinder engli fald	ncr 151 C(0 ne (19)	A Ponilac 1-4, 11	Fransvr , wj. l L I-E en	rse 151 C1D s (19) gine dropped (2A	1	
					t L	 (5) Turbo (s 23) C10 V-6 (7) 3-Was Californ WriteCirteic - WriteCirteic - N15AR Soars - System (loro 	6 (Regal and) yal on } 1a Modria } Carburelors Control nado)	Pontisc 7 St 8+4 Ruici 3.01 ¥+6	7.51,1-4 5 41um (etale Boot 18rsy, 335 5 350	er hi-performa cylinder engli 103d CID X-85 (43)	ACT 151 C(0 ACT (19)	7001120 1-4, 11 10 x-6 (Flutrrat	Fransvr , w] l I-E en I-E o	rse 151 C1D s E19) gine dropped (2A isss1 1-4 (Pon1s	1 a <i>r/Chrvy</i>] (9)	
					((a) CSC Turbo (c) 231 CTD V-1 (7) 3-Was Calati Same Californ w/riaclmintc (httsAk Spars) System (Toro) 	6 (Regal and yal on 27 15 Modris 27 Carburelors 3 Control Nado)	resaure Ponlisc 2 St 6.4 Luici 3.01 ¥-6	2.51,1-4 ▲ ⁿ ▲ 41um (ntair Hint 1Hrsy, 305 & 250 ▲ A1um Inisis Ham Serills 150 CLD	er hi-performa cylinder engli 1aJd CID V-85 (43) 1aId r-R (42)	Act 151 C(0 Act (19) ESC Junto 211 C (1) C(10 D)	10 2-6 (Fluirrai 10 2-6 (Fluirrai 10 2-6 (Fluirrai	Fransvr WI I I-E en 1.6: D Rulcy	rse 151 C1D s E19) glar dropped {2A isss1 1-4 (Pon11 231 C1D D1ess3 V	1 1 ar/Chrvy] (9] -6 (34]	

LEGEID: (1) All new car, new body (2) New sheet metal (3) New grill, tlights, trim (4) Carryover (No Change) (-) Date of most recent A-body change ---- Derivative/Replaces

, Source: Corporate Tech Planning

FIGURE 2-1. GENERAL MOTORS PRODUCT SCHEDULE, 1975-80 2-13/2-14



2-15/2-16

	GE	NERAL MOTO	RS										REVISED 5/1/78
MARKET CLASSIFICATIO		198	0		196	1	19	82	19	83	15	164	1965
MAKE-SERIES	. J	FMAMJ	JASDN	DJFM	AMJ	JASONI	DJFMAMJ	JASON	DJFMAMJ	JASON	DJFMAMJ	JASON	DJFMAMJJAS
LUKURY-STANDARD	0		(1)			3		0	How F	(1)		3	
Oldsmobile C		NINETY-EIGHT		C 98-	119/121		с	FWD	Downsized W8-118 (34)	FWD	с	FWD	c .
Buick		ELECYRA	Air-Bags Opt1	onal (41)		350 CTO V-8 Ch	evy Diesel Engine	New 4-Speed 0	D. Auto Transable (1		1	
	L					New from groun	d up (56)						
STANDARD (Regular) Chevrolet B	(3	DIRPALA	(4)			3		0		4		3	
Pontiac B Bulck B		CATALINA LeSABRE		В	M8-116		6		New 8 Downsized 98-112		8		8
Oldsmobile B	-	DELTA B8	New A. Sneed &	uto Teananli	ct inn				(27)				
			w/0.0. & Lock	up (Model 20	00/48) {49)							
Cadillac (Lue) X	C) SEVILLE	(4) FWD	ĸ	WB-114	(2) FWD	ĸ	(1) FWD	ĸ	(3) FWD	x	D FWD	K
Cadillac (Lus) E	Ċ	ELDORADO	0			(2)		(1)		0		0	
Oldsmobile (Lux) E Bulck (Lux) E		TORONADO RIVIFOR	FWD	E	W8-114	FWD	E	FWD	E	FNO	E	F 41D	E
Chevrolet & S	C	D MONTE CARLO	(?)			(4)		(4)		0		(4)	
Pontiac A S Buick A S	Spec.	GRAND PRIX REGAL	~	A Spec	WB-108 1	-	A Spec.	_	A Spec		A Spec		A Spec.
Chevrolet A	Ī	3) HAL IBIL	(?)			(1)		\odot		0		0	
Buick A Didsmobile A		CENTURY CUTLASS	-	A	W8-108.1	-	A		A		A	-	A
Pontiac A	H	LENANS										<u> </u>	
5040 M 27			Inco 200 CI	0 V-8 (0165) (50)								
Chevrolet F		CAMARO	(4)	F	WB-108	() New	F WB+102/103	(1)	F	0	F	2	F
Pontiac F	Ŀ	FIREBIRD				Conventional	Rear-Drive (47)	0					
Chevrolet X Bulck X	1	U NOVA SKYLARK	(4) EV0	x	¥8-103.5	EWD.		0		0		0	
Oldsmobile X Pontlac X	L	ONEGA		-	NO 10013	,	~	FWD	x	FWD	Χ	FWD	x
	Γ		New Car/Van	Wagon FND X	Body	0 1br (28)							
SUDCOMPACE	L		· carree lore.	NO-104 51 C		10 105. (207							
Chevrolet N 1	Spec.	3 HONZA	0	iew U	(29)	4	U	0	U	0	Ð	0	0
Pontiac H !	Spec.	SUNBIRD	FHD			FND		FWO		FW0		FND	
Oldsmobile H.S. Buick H.S.	Spec. Spec.	STARF LRE	FW0 N	zw № 5pec.	(29)	FNO	X Spec.	FWD	X Spec.	FWD	% Spec.	FWD	X Spec.
Chevrolet Special Y		CORVETTE	0	¥		0	Y	0	Y	0	New Y 2500 16s (55)	(4) FWD	¥
			1 8 Liter L- (w/Diese) Versel Versel Versel Versel	4 Chevy Eng	ine								
<u>#1#1</u>			1				_	1					
Chevrolet i		OCHEVETTE	0	T WB-S	94.3/97.3	0	T	New FRO	T 108-90	(FWD	Т	3 FWD	1
THERDVENENTS			▲ 5.0t V-8 La	rgest Engline	: (31)	A 165 CID 60" V	-6 Alum, Block	▲ 5.0¢ ¥-8	Drooted Errant V-Rod	(31)			A 25% Diesel Usage (31)
			A FEL SIDE	Point Infert	lan Surte	Englne (32)			oppen catept 1-800	A			- can preser proge (31)
			con single	A c		- ()3)				- 5.01 V-8 Dr	opped in Y-Body.		
				- 01es	ser Usage	incréase 5% Per	rear (31)			J.01 9-0, 1	orgene engine (al)		
			Phase 11 3- Electronic	Way CataTyt Air/Fuel Hel	lc Convert tering on	er & Closed-Loop <u>U.L.</u> Non-Diesel E	nglnes (33)						



MARKET CLASSIFICATION MAKE-SERIES	A	
LUXURY-STANDARD		
Lincoln ('75)		
Thunderbird Mark IV ('72)		
STANDARD		
Ford-Galaxie ('73)		
Custom		
- LID Mercury-Marquis		
INTERMEDIATES		
Ford-Torino ('72)		
Mercury-Montego -		
- Elite 🚤		
- Cougar		
Lincoln		
COMPACTS	10-	
Ford-Maverick ('7D)		
Mercury-Comet 🔫		
Ford-Granada ('75)		
Mercury-Monarch		
SUBCOMPACTS		
Ford-Pinto ('71)		
Mercury-Bobcat		
Ford-Mustang II ('74) Mercury-Capri		
TECHNOLOGY		
INFROMEPENTS	LEGEND:	
	1) All new car, new body	
	2 Lew sheet metal	
	3 Ilew grill, t-	
	(4) Carryover (flo Change)	
	 (-) Date of most recent A-body change 	
	Derivative/Replaces	
	URE 2-3. FORD PRODUCT SCHEDULE	1975. 20
	and the respective sentences,	1979-00
	2-17/2-18	



Source Corporate Loch Pleasing

FIGURE 2-3. FORO PROOUCT SCHEDULE, 1975-80

/



2-19/2-20

	FORD MOTO	A CO.									
ARKET CLASSIFICATION		1980		1981	1982		1963	1994	HEVISED 51,778		
MAKE-SERIES	JFMAM	JJASONO	JFMAM	JJASONO	JFMAMJJA	SOND	JFMAMJJASDNI			SIGINID	
LUMURY-STANDARD									a filminimi a la la	STOLIN	
Lincoln (180)	0	(4) CONTINENTAL	WB-117 4	10	(4)		(0)				
Mar# V ('80)	<u> </u>	HARK V	WB-114.4		_		^o	U			
STANDARD		Air Bags Option	al on Large Cars	(42)				New Oownsized (4	0)		
Ford - LTD (179)	0	D L10	W8-114.4	3	(4)		0	0			
and any a manufully		1000013			Ľ						
INTERMEDIATES											
Granada (1901)				1							
lhunderblird 🛶	P	GRANADA	WB-110	O	P		(3)	(1)			
Hercury Longar		COUGAR									
Versailles	0	VERSAILLES	W8-109.9	3	4		0				
INTERMEDIATES				Mew 3.8t83.2t	90° V-6 Engines						
(tow Price)				ay man meady	(17)						
Ford-Fairmont ('78)	Ð	FA1RMONT I ZEPHYR	<8-105.5	0	p		(4)	(3)			
		1									
5040 4 4 8 -		A Turbo 1.6t t- New FWD Pints	-4 Engline (39) 5 Eur./Amer. Eria Snact (15)	a							
Ford - Plate (111)		6			2-0r.	. MPV Van Ba	ised on the FWD Pinto Mid'80's (38)_				
1010 - 111(0 ()1)	P	D 2-SEAL SPORT	81910 EVD	0	<u>2</u> _		0	0			
Ford-Hustang (179)	1	A MISABAC	R 100	0	<u> </u>		()	(1)			
Mercury-Capri 🛶		CAPRI	0*100	Ø	3		p	(1)			
		A New 1.6151.31	4-Cyl. Engines								
MIN1/SUBCOMPACIS		and Alum. Rea	ids (30)								
Ford - Fiesta ('78)	0	TESTA/FND W	8-90	0	0		6	6			
		A New Ford Auto	Transaule and		N		V	<u> </u>			
		(30)	nual transatie					Vehicle Composition: 1,000 Twice Aluminum and Plastic	lbs Less Steel, from 1977	r	
											LEGEND:
THPROVEMENTS				All Alum. Versi	on of the			a 2-Seat Computer	Car with fors then		 All new of
		a laure franke		2,30 4-Lyt. (ng	(ne (45)			1.0£ Englne, 65-	70 MPG (32)		(2) New sheet
		Exhaust Senso	rs - (A))								(3) Hew arill
											lights, t
			PROCO w/Strat	If led				302 CID V-8			(4) Carryover
		A	307 CID V-8 ((18)				(19)			Change)
		Selected Vehi	cles (16)					Stratifed Charge PROCO-Full			(-) Date of
								Production			A-body c
Sources One											👝 🛥 Derivatis



Source: Corporate

CHRYLSER PRODUCT SCHEDULE, 1975-80 URE 2-5.



FIGURE 2-5. CHRYLSER PRODUCT SCHEDULE, 1975-8D



	CHRY	SLER									REVISED	/1/78CTP										
MARKET CLASSIE(CATION		1980	198	11	1	982		1983		1984	198	5										
MAKE-SERIES	JFI	AMJJASOND	JFMAMJ	JASOND	JFMAM	JJASDN	DJFN	AMJJASON	DJFMAM	JJASDND	JFMAMJ.	ASDND										
LUXURY-STANGARD						New Downsized	391															
Chrysler R	0	TEN YORKER	8 98-118.5	Q	R	0	H WB-	110	н	0												
STANDARO (Full Size)						New Downslawd	(29)															
Chrysler R	0	() NEWPORT	R WB-118.5	0	R	0	н мө-	110 (4)	н	0												
Dodge R	Õ	3 ST. REGIS	R WB-118.5	0	R	0	н ыв-	110 (4)	н	0												
INTERMEDIATE								Ne# Dov	ensized (39)													
Chrysler H _S Dodge	0	CORDOBA HAGNUH	4 ₅ W8-112.7	0	M _S	0	H.	0	J WB-106.7	0												
Chrysler F Oodge F	0	1E BARÓN DIPLOMAT	W8~108.7/112.7 F	0	F	(4)	F	0	J WB+106.7	0												
Chrysler Y	0	(1) EMPERTAL	¥ W8-112.7	0	Y	0	1	0	J WB-106.7	0												
						Advanced Tech	One-Chamb clogy Oles	er el (17)														
COMPACT		New FWD Downslzed 600	0-700 16s less (23)																			
Plymouth K Dodge K Chrysler K	4	O YOLARE ASPE'I FI	W8+100	 П 	DK W8-100	Q	ĸ	(1)	ĸ	0												
	-	CYCC Strat. Cha	rge Version of	<u>О</u> пи	0 K w8-100	0	x	0	К	0												
SUB-COMPACT		Heads (27)		New Luxury Con	pact (39)																	
Mitsubisht	0	(3) ARROW, COLT.S.	APPORO, CHALLENGER	0		0		(4)		0												
Plymouth/ Dodge Plymouth/	0	(2) HORIZON/OMNI	L WB+94	Õ	ι	0	L	0	L	0												
Dodge	1	(2) MTRADA/SOLO	L WB-94	٩	L	O	L	0	L	0												
MINI		New Sheet Metal	for L-Bodies (39)			1				- L.			Γ		LEGE	LEGEND	LEGEND:	LEGEND:	LEGEND:	LEGEND:	LEGEND:	LEGEND:
Hitsubishi	0	(1) HIRAGE		0		0		0		0				(() ATT	() All nev	() All new c	() All new car	() All new car, r	() All new car, no	() All new car, n	() All new car, ne
TECHNOLOGY														((?) Hew	2 llew sho	2 Ilew sheet	Ilew sheet m	Ilew sheet meta	Ilew sheet metal	Ilew sheet meta	Ilew sheet meta'
IPPROVER IN IS		New 4-Speed 0.D to Replace VW U	. Manual Transoxle init (32)			Mew 4-Cy}, 1e to Replace 1.	ss than 2.6 71 VW Engin	e (38)						((3) Hew Light	Ilew gri lights	Ilew grill lights, 1	Ilew grill, lights, tri	Ilew grill, t- lights, trim	Ilew grill, t- lights, trim	Ilew grill, t- lights, trim	Ilew grill, t- lights, trim
				Diesel 2.21 4-0	Cyl. Engine (19)									((4) Carr Chan	(4) Carryon Change	(4) Carryover Change)	(4) Carryover (1) Change)	(4) Carryover (No Change)	(4) Carryover (No Change)	(d) Carryover (No Change)	(4) Carryover (No Change)
		Electronic Feed Metering, and F Systems w/3-Way	Iback Carbs, Fuel Suel Injection r Catalyst (39)												() Dat A-b	(-) Date c A-body	(-) Date of A-body c	() Date of mo: A-body cha	(-) Date of most A-body change	(-) Date of most r A-body change	(-) Date of most in A-body change	(-) Date of most r A-body change
														Ē	r 🖛 Der	r 🖛 Deriva	r 🖛 Derivati	r 🛥 Derivative	Derivative/Re	Derivative/Rep	Derivative/Rep	Derivative/Rep



.



FIGURE 2-7. AMERICAN MOTORS PRODUCT SCHEDULE, 1975-80 2-25/2-26





	AMERICAN MOTORS					REVISEO 5/1/78	СТР	
MARKET CLASSIFICATION	1980	1981	1982	1983	1984	1985		
MAKE-SERIES	JFMAMJJASONO	JFMAMJJASONO	JFMAMJJASONO	JFMAMJJASONO	JFMAMJJASONO	JFMAMJJASC	ND	
111TERHEDIATE								
COMPACE								
ANI	0		0	(4)	0			
Nornet/Concord	0 0	0	(2) REVISED HORI	HET/CONCORD (15) (4)	0			
Pacer Sedan	(1) (2) REDESTORED	SEDAN (14)			0		1	
#id0n		CO MEDESTORED	AGUA (14) 10	10	10			
SUB-COMPACT								
Gren) In	()	(4)	0	0				
MINE				() NEW MINI (6				
New Car								1.565.00
								<u>LEGERO</u> :
								 All new car, new body
								2 Ilew sheet metal
								(i) llew arill to
								lights, trim
								(4) Carryover (No Change)
								(→) Date of most recent A-body change
								Derivative/Replaces

FIGURE 2-8. AMERICAN MOTORS PRODUCT SCHEOULE, 1980-85 2-27/2-28

3. THE DOMESTIC LIGHT TRUCK MANUFACTURERS

3.1 INTRODUCTION

The current and projected product schedules of new light truck introductions and major styling changes for the five domestic light truck manufacturers are shown from 1975 through 1980 in Figures 3-1 through 3-10. Light trucks covered by the Product Schedules are restricted to vehicles of 10,000 pounds GVW or less. Some general comments applicable to all schedules are:

a. Vehicle Classification - A classification system is used to provide some means for categorizing vehicles according to their market and mission. Each classification is defined as follows:

- Pickup open bed cargo carrier available in the following configurations:
 - 1. Regular Cab
 - 2. Extended Cab
 - 3. Crew Cab
 - 4. Chassis Cab
 - 5. Stake and Platform
 - 6. Car Type
 - 7. Imported Compact
- Van enclosed box shaped cargo or passenger area available in the following configurations:
 - 1. Cargo (generally without side windows)
 - 2. Passenger (generally with side windows)
 - 3. Step
 - 4. High Cube
 - 5. Chassis Cab
 - 6. Imported Compact
- Utility on or off road vehicle, generally four-wheel drive, with a small cargo or passenger area (enclosed or open).
- Wagon Similar in style to the passenger auto station wagon but built on a truck chassis providing larger payloads.

The vehicles are also classified by size as follows:

	Wheelbase	Overall Length							
Compact	Less than 110"	and Less than 180"							
Intermediate	Less than 120"	and Less than 190"							
Full Size	Over 120"	and/or Over 190"							

b. Silhouettes - a set of silhouettes which generally show the outline of the vehicles within each class are provided for each series. For example, for the Ford Motor Company pickups, Styleside and Flareside regular cab pickups are shown as well as the Supercab, Crew Cab, Chassis Cab and Stake models.

c. Technology Improvements - significant technology improvements as they relate to light trucks. These include new light truck engines and other innovations such as the introduction of diesel engines and light weight materials (i.e., plastic fender liners).

d. Body Changes - body changes are shown by number coding the models each year in a similar manner to the domestic automobile master product schedules. A comparison between the light truck and domestic automobile schedules shows that body changes are not as prevalent in light trucks. Each light truck manufacturer uses increased availability of optional equipment, rather than styling changes, as a means of differentiating yearly model changes.

e. Statistics - basic statistics pertaining to each model are shown on the charts. These include payload, curb weight, GVW, wheelbase, engines and transmissions as well as two or four wheel drive options. These statistics are provided whenever available.

f. Projections - the extension of product changes to 1980 is based on what the manufacturer did prior to 1978 as well as published reports in the media. Intervals between major styling changes are carried forward where it appears that a regular interval actually exists. Most light truck manufacturers do not follow a standard interval between major styling changes and, as a result, projections are not possible in those cases.

Recently, fuel economy standards have been established for light trucks up to 8,500 pounds GVW for 1980 and 1981 which all manufacturers must meet. These standards are divided for two different categories of light trucks, two-wheel drive and fourwheel drive, and are shown below with the 1979 industry estimate.

	Industry Estimate (MPG)	Final Sta	n d ard (MPG)
	1979	<u>1980</u>	1981
2WD	14.6	16	18
4WD	12.4	14	15.5

Trucks are still primarily work-horses despite increased recreational use, hence emission and fuel economy goals are more modest. The requirement to haul heavy loads safely means that weight reduction potential for light trucks is limited due to durability constraints.

As each manufacturer changes its product line to comply with increased fuel economy, safety, and emissions requirements, more changes in the near future will become evident. These changes are now just starting to become available through the traditional reference sources.

3.2 OPTIONAL EQUIPMENT

A Master Product Schedule similar to the one described above was compiled for each manufacturer, showing the major changes in optional equipment for each model by year in lieu of the basic changes in statistics. These charts depict more clearly the way light truck manufacturers differentiate their year to year offerings by the increased use of comfort/convenience and special trim options rather than by actual changes in styling.

3.3 GENERAL MOTORS LIGHT TRUCKS

Two makes of light trucks are produced by General Motors (GM), Chevrolet, and GMC. The make and series names shown on the Master Product Schedule are for the Chevrolet line of light trucks. The GMC line is identical except for minor trim differences and the name plates. The trend in pickups has been similar to Ford in that an all new body or new sheet metal is introduced every six years. The general trend of increasing availability of comfort options and other extras in the light truck line is being actively followed by GM.

GM Product Schedules are shown in Figures 3-1 and 3-2; the notes and cross-reference lists are in Appendix B.

<u>1976</u> - The Blazer was redone to include a new steel cab design and conventional steel doors. All four-wheel drive vehicles equipped with automatic transmissions received the full time fourwheel drive transfer box.

<u>1977</u> - Most light truck lines received only minor changes to include new trim. New comfort/convenience options were added to most lines to include the industry's first adjustable steering column available in vans.

<u>1978</u> - The El Camino is all new as it is derived from the new GM A-body cars. The Olds 350 CID V-8 diesel engine is available as optional equipment on the pickups. This is the first use of a diesel engine by GM in a light truck. Additional comfort/convenience and exterior decor options are available in most light truck lines.

<u>1979</u> - Pickups are scheduled for new bodies as they had new sheet metal in 1973. All other lines will be carryovers.

<u>1980</u> - A new front wheel drive compact van with a 105" wheelbase will be introduced. It is currently called the MPC and is derived from the new front wheel drive X-Body compact car.

3.4 FORD LIGHT TRUCKS

The trend in pickups has been to have an all new body or new sheet metal every six years, whereas the vans are on a seven year cycle. A new major introduction is announced almost every year in one of the Ford lines. Again, the major trend has been to increase the availability of comfort/convenience options and other extras in the light truck line since more people are looking at light trucks as basic transportation instead of being solely for commercial use.

Ford Product Schedules are shown in Figures 3-3 and 3-4; the notes and cross-reference lists are in Appendix B.

<u>1975</u> - Ford introduced the first body on frame vans midway through the model year. In the pickup area, a new F-150 pickup truck line was introduced between the F-100 and F-250 models.

<u>1976</u> - All light truck lines received new comfort/convenience options with the pickups also getting new grilles and trim. A new F-150 four wheel drive pickup truck was introduced in a 133 wheelbase only. Vans received the first optional factory installed swivel highback bucket seats.

<u>1977</u> - The Ranchero car-type pickup received all new sheet metal. Pickup trucks again received new grilles and trim. A new F-250 redesigned 4 x 4 with increased payload, smoother ride, special options, and easier steering was introduced. The Courier imported pickup truck was all new, with two different wheelbases and cargo box sizes available. The 360 and 390 CID engines were dropped as the 351 and 400 CID V-8 engines took their places. A new 2.75:1 economy axle was introduced. Pickups got new plastic front inner fenders and rear wheel house liners. The Broncho four-wheel drive utility vehicle received a new 14-gallon plastic fuel tank. Again, all light truck lines received improved comfort/ convenience options.

<u>1978</u> - The Broncho Utility vehicle is all new. Designed like a chopped down version of the pickup truck, it competes head-on with the Chevy Blazer. An optional 300 CID L-6 dual-displacement engine was scheduled to be introduced in mid-year, but was dropped due to problems.

)

)

)

<u>1979</u> - An all new pickup truck line is due. Continuation of the trend to more comfort/convenience and decor options is expected. 3.5 CHRYSLER LIGHT TRUCKS

Chrysler withdrew from the heavy truck market in 1975, and the medium truck market in 1977, to concentrate on the very profitable light trucks. With the Dodge line of light trucks, Chrysler

Corporation is expected to introduce two new compact vehicles for the 1979 model year in order to maintain its momentum as the fastest growing light truck manufacturer.

Product Schedules for Chrysler are shown in Figures 3-5 and 3-6; notes and cross-reference lists are in Appendix B.

<u>1976</u> - Only minor changes were made to all light truck lines. All models are considered carryovers and vans are equipped with automatic transmissions with a new electronic transmission fluid level and temperature sensor.

<u>1977</u> - Pickups and the Ramcharger utility vehicle were given new grilles and trim while the Ramcharger was offered in both fourwheel drive and two-wheel drive versions.

<u>1978</u> - All vans got new sheet metal. Pickups received a new optional 6 cylinder 105 horsepower diesel engine by Mitsubishi for mid-year introduction (a first for Chrysler). Other models were carryovers.

<u>1979</u> - New compact pickup will be introduced along with a new front wheel drive compact van. A new diesel version of the 225 CID Slant Six engine will be introduced.

3.6 AMERICAN MOTORS LIGHT TRUCKS

The optimism which American Motors (AMC) has for its Jeep line can clearly be seen by the major structure and design changes which have been made in these vehicles. The increase in buyer preference for utility and four-wheel drive vehicles, and the dominance of the Jeep name in this market segment, will result in the light truck line contributing more than its share toward the profitability of AMC in the future. Changes in each model line are expected to be dramatic and popular to capitalize on its current marketing position.

AMC Product Schedules are shown in Figures 3-7 and 3-8; notes and cross-reference lists are in Appendix B.

<u>1976</u> - AMC introduced the new CJ-7 utility vehicle with an all new structural polycarbonate plastic hardtop option. The CJ-6 was
dropped from the U. S. market and will only be produced for export. All Jeep lines received new improved frames and suspension systems as well as minor cosmetic changes.

<u>1977</u> - Cherokee Wagon became available in two and four door versions as the bottom of the line four door Wagoneer was dropped. Gross vehicle weight ratings (GVWR) were increased three to four hundred pounds for the J-20 pickup trucks.

<u>1978</u> - All models were carryovers with only minor increases in optional equipment availability.

<u>1979</u> - New "Shorty" Flareside Pickup will be introduced with a 108.7" wheelbase. This is 10 inches shorter than the standard Jeep pickup. A new 2.7 liter four cylinder 70 horsepower diesel engine will be available on the CJ series of Utility Vehicles.

<u>1980</u> - New "Jeep II" downsized utility vehicle with a 76 inch wheelbase will be offered with a new 2 liter four cylinder engine.

3.7 INTERNATIONAL HARVESTER LIGHT TRUCKS

)

1)

J

)

)

V

V

Information pertaining to the advanced product planning of International Harvester (IH) is very difficult to obtain due to its small market position and the limited number of models available. Its general strategy has been to drop lines which are not profitable and expand those lines which are popular.

International Harvester Product Schedules are shown in Figures 3-9 and 3-10; notes and cross-reference lists are in Appendix B.

<u>1975</u> - A new 150 series of light duty pickups, Travelall wagons, and Scout utility vehicles were introduced to augment the existing line.

<u>1976</u> - The Travelall wagon and conventional light duty pickups were dropped completely. The Scout line of utility vehicles was expanded to include new intermediate sized pickups and wagons called the Terra and Traveler. A new 6-cylinder diesel engine was introduced as optional equipment on all light truck lines, making IH the first domestic light truck manufacturer to offer a diesel engine. The Scout II Travel Top was a carryover from 1975. <u>1977</u> - All Scout models received new trim. New comfort/convenience options and off road driving packages were introduced in all Scout lines.

<u>1978</u> - The trend toward more comfort/convenience options was continued as a convertible top (with or without a sun roof), rear step bumper, and other options were added to each model.



<u>1977</u> - All Scout models received new trim. New comfort/convenience options and off road driving packages were introduced in all Scout lines.

<u>1978</u> - The trend toward more comfort/convenience options was continued as a convertible top (with or without a sun roof), rear step bumper, and other options were added to each model.



3-9/3-10

FIGURE 3-1. GENERAL MOTORS LIGHT TRUCKS PRODUCT SCHEDULE, 1975-80



FIGURE 3-1. GENERAL MOTORS LIGHT TRU PRODUCT SCHEDULE 1975-80 (Concluded)





.



	GENERAL M	OTORS					CTP			
MARKET CLASSIFICATION		1975	15	976	1977	1978	1979	1980		
MAKE-SERIES	JFMAN	JJASDND	JFMAMJ	JASDNDJFMAN	JJASDND	JFMAMJJASDND	JFMAMJJASOND	JFMAMJJAS	OND	
							All New FWD (Called MPC (Compact Vam 19)		
							0			
				New "Caravan" Euston Decor			<u> </u>			
VAN (*70)		New Easy to Renov	Rear Seats (1)	Option Package (7) New "Nomad" Travel/Rec Vehicle (Van) (7)	New Grille & Head on All Yans (17)	lights m				
0 0 G10	4	(4)		(4)	3	٨	0			
		New "Bonanza" Occ for All Vans (5)	or Option	New Optional Swivel Rectining Bucket Seats & Adjustable Steering Column (an Industry First)(11)						
000										
0-0	0	0		0	0	(1)	(1)			
610·	0				10					
	0	0		.0			0			
STEP-VAN										
P10	(1)	(4)		0	0	(3)	(4)			
-0 <u>-0</u>										
PZO	(1)	4		1	4	0	(4)			
P30	0	0		4	(4)	0	٩			
Sintipoau									[LEGEND:
Contraction of the second seco				New Grille - Power Windows & Door Locks Optional (8)						All new car, new bod
C10/×10	((1)		3 New 4WD Versions (13)	(4)	(4)	4			(2) New sheet metal
CTD										() flew grill, t- lights, trim
O C20/K20	(1)	(1)		0		()	(1)			(4) Carryover (10 Change)
TECHNOLOGY INFROVEMENTS				New 305 CID V-8 Engine (9)						 (-) Date of most recent A-body change
										Derivative/Replaces
Also includes styles sh	town for the G10	Source:	Corporate	e Tech Planning						

FIGURE 3-2. GENERAL MOTORS LIGHT TRUCKS OPTIONAL EQUIPMENT SCHEDULE, 1975-80 (Concluded) 3-15/3-16



FIGURE 3-3. FORD LIGHT TRUCKS PRODU

-

		FORD MOTOR C	0.										070	
MARKET CLAS	CIEICATION	197	5	19	976	19	77	197	8	1070		NEVISED 9/19/77	CTP	
MARKET CLASSIFICATION MAKE-SERIES		JFMAMJ.	JASONO	JFMAMJ	JASONC	JFMAMJ	JASONO	JFMAMJ	JASOND	J EMAMJJ	ASOND	I EMAM I		
Ofer dies 1	1671				Engines for F-1	150-F-350: 300 L-6,						al trinicing al al		
Pick-Ups 1		a			Trans for F-100	D-F-250: 3-M, 4-M,	3-A		0					
0 0)	4x2, 4x4	Ax2 Ax4		Av2 Av4	Payload 1060-1720			<u>(I)</u>				1	
Styleside	1-11-0		W8 117", 133",	139", 155"	NS Same as '7	6 GVW 4700-5650] [L					
Fiarnelde	((4)	GVW 4600-5700	0	Engines: 300	L-6, 302, 351, 400	V-8		\bigcirc			•		•
	F-150	4x2 Only	4x2, 4x4		4 x2, 4 x4	1091080 2030-2323][
SuperCab		a	WB 133", 139",	155" GVW 6030-640	0 WB Same as '7	6 GVW 6050-6200	J L		L				1	
- Carriero	F-250*	(4) 4x2, 4x4	(3) (4x2 4x4			Payload 1805-3745								
Crew Cab	(WB 133", 139".	150", 155"	UR 5	(34)	J L							
-0-00	((4)	(J) 6200-8100		3 Same as '7	Payload 2075-5990			Ο					
	F=350*	4x2	4x2		4x2									
IStake)	. /	First Rody of	W8 140", 155",	166.5" GVW 6650-	WB Same as 76 Trans: 0-M	GVW 6750-10000								
		Frame Vans (21)	Stake 137", 16	51"	Trans for the									
Vans ("	751		4		A ATT	Payload 1360-1910								
	ε-100		4x2		4x2									
124" wb	(124", 138" WB	WB 124", 138"	GVW 5100-5800	WB 124", 138" Engines: 300	GVW 5150-5750						J	}	
	E=150		(4)			Pavload_2190-2365	, r <u> </u>							
1.38_ WD)	124", 138" WB	WB 124" 110"	624 6060 6350	4x2		IL			[
			A	GAM 0030-0230	WB 124", 138" <u>Engines</u> : 300	GVW 6150 L-6, 351 V-8								
	E+250		4x2		4×2	Payload 2340-4495								
138" wb	(138" WB	WB 138"	GVW 6870-8350	W8 136"	GVW 6800-8400			L					
	1	0	4		(4)	Payload 3070-5730								
) ^{E-350}		4x2		4×2									
		136", 158" WB	¥G 138", 158"	GVW 8650-9900	WB 138", 158 Engines: 300	8" GVW 8600-10000			L	/ [_				
R	anchero (*72)				0	Dauland 1050								
-0	0	4x2	4x2		4x2 (urb 4t 3919-3992	I							
v	Ť		WB 118"	GVH 5685	WB 118"	GVW 5170-5240	I							
	Bronco (166)				Engines: 302, Trans: 3-A	351, 401 V-8								
-	T	4	(4)		(4)	Payload 900-1365	\odot							
10	0	4×4	4×4		4x4 (Curb Wt. 3495	4x4							LEGE
			WB 92"	GVW 4400-4900	W8 92" Engines: 302	GVW 4400-4900 V-8	WB 92" Engineer: 202	GVH 4400-4900	L	· [(1) A11
	Courter (172)				Trans: 3-M, 3	A-6	Trans: 3-M, 3	*-0 -A						(2) liew
	-0	Pay Pay	load 1400	(1) Payl	oad 900-1400	D Pay	load 900-1400							
-0	0	8x2		4x2 Curt	Wt. 2605	4x2								ligh
		WB 104.3" GYW	3965	WB 104.3" GYW Engine: 1.8: L	3490-4005 -4	107", 113" HB G Engines: 1.82, 1	WW 3575-4075 2,3 € L=4							(Carr
Technol	09 y			Irans: 4-M	▲ 351 & 400 C I	1 V-8 Engines		 Qual_Oisolacomo 						() Chan
*Also inc	nencs ludes styles				Oropped (27)	360 & 390 Engines		Engine Option or 300 C10 L+6 (39)	1					(-) Dat A-b
shown fo	r F-100.				A New 2.75:1 E	conomy Axle (26)								,- 🛥 Oer

•

FIGURE 3-3. FORO LIGHT TRUCKS PRODUCT SCHEOULE, 1975-80 3-17/3-18



)

)

þ

0

1

)

0

FIGURE 3-4. FORD LIGHT TRUCKS OPT EQUIPMENT SCHEDULE, 1975-80

	FORD MOTOR CO REVISED #19/11 C										
MARKET CLASSIFICATION		1975	1976	1977	1978	1979	1980				
MAKE-SERIES	JEMAN	JJASONOJF	OSSALL MAN	IDJFMAMJJASON	UDJFMAMJJASO	NDJFMAMJJAS		ASOND			
<u>P(Ceu)</u> ? (*67)	Supercab	New Elec Reer Window De (5), increased GYW (11), 15 GYW Reduced Asig Rat 13 Soncial Icin (10)	Dura Spark 1g fraster Plastic Enter <6000 Prevention (2 Sos [2], w/351 & 600 0 Feelows [12]	nlilon Siendard (18), Fenders (23), Ruil 2), Speed Conirol 10							
	(4)	0	0	0	10						
Sir-sor	Res (9)	Row 448 (12)	Electric Pran Supercabs (21	Window Oelraster an							
F-150	0	0 0	(3)	0	0	(1)					
SuperCab											
- F+250*	(1)	0	13	0 0	0	0					
Ciew Cab			Ask w/incress Streeting, jos	 Redesigned F-250 ed Payload, Easier er Step Helpht (34) 							
1-350*	0	0	0	(4)	0	0					
(Staka)	First Body o Frame Yeas	New "Cruising Yan" Opilo New Options in Convenien (2), 6000 Da Gyw Rodoc n Railos (2), Highback Buc 201 Seals (19)	n (23), cr Group Expanded Opti ed Asle on JOO EID Si krt Spurk Ignilio Eontrol w/JSi	ens Lisi (31), A/C + (24), Kew Dura m Slandard (18), Speed C10 Engine (12)							
E-100	0	6	0	(1)	(1)	0					
138' wh	0	0	0	0	0						
() c.m.	0					0					
138	0			10							
	0	6	0	0		0					
4YACHE40 (135)		New Fower Bench Seals, 0 Beavy Duly Liectrical 5 Anti-Ibelt Alans (3)	Dollonal New Ellunina stem, & 1wo-tonr P New 5 M [30	ied (n)ry System Ini (16)							
0.00	0	0	2	(1)	0	0					
<u>BRONCO</u> (*65)		New Power Front Disk Br. Sterring Ratio, Opitona Stabilizer (8), Grüter	akes, Power 1 Froni reased (8) - New Plasiic	New Bronco - Version of P furl lank-18 gai (15) Answer to th	Chopped-down TcSup - Ford e Cherk Blazer (2)						
	0	0	(4)	0	0	0					
(000[])# (*72)		N me * v/200	Soft Ride" Opilon 16 Payload (36)	"free Wherling' Oplions (40), Nrw 7' Bos, F. Seris Taligas 4 Design, 107" & 113" W B (28) Larger Fuel Tanks (55)),						
	<u>()</u>	0		0	0	0	0				
TLEMPOLOGY INDEXEMBELOGY			🔺 351 K 4	▲ New 2 35 Engine (37) 00 CID V-8 Engines Introduced,	▲ Dual-Disalecement Englin						
			340 & 3	90 Engline's Dropped (27) 5 3 Econamy Halr (26)	 Option on 300 CIO Sin 13 	9)					
Also includes alghes											

FIGURE 3-4. FORD LIGHT TRUCKS OPTIONAL EQUIPMENT SCHEOULE, 1975-80 3-19/3-20



)

Ò

0

PRODUCT SCHEDULE, 1975-80

.



.....

•

PRODUCT SCHEDULE, 1975-80 3-21/3-22



FIGURE 3-6. CHRYLSER LIGHT TR OPTIONAL EQUIPMENT SCHEDULE, 1

3-23/3-24

))

))

1

)

)

)

	CHRYSLER							REVISED CTP	
MARKET CLASSIFICATION	19	975	1:	976	1977	1978	1979	1980	
MAKE-SERIES	JFMAMJ	JASOND	JFMAMJ	JASOND.	JFMAMJJASON	DJFMAMJJASON	UDJFMAMJJASOND	JFMAMJJASOND	
						🔶 liew Comp	act Pickup (15)		
				Optional Glass Sky Sunroof for All 11	light Vent/ Jrucks []4]	Ō	4		
P1CKUP ('72)		Useand Cast Cock	I. Sulan and	New "Retriever" Fai	ctory Option				
		Spare Tire Carrie	er (3)	New Grille & Trim	(9) (9)				
-00 B1007W100	(1)	(4)	ton Tata	0	(4)	(1)	(4)		
		Option (7)	con trin	New "Powerwagon" U With 4-WD & Custon	ption Trim (10)				
005M/0020	0	4		3	4	0			
0 0 0	6	10			0				
	Q	10					<u>N</u>		
0 0						🔶 Мен Сопр	wact Van-FWD (16)		
<u>AV</u> 8 (151)						0			
		New Rear A/C Pact (3), Vans w/Auto Elec Trans Flo Sensor (4)	iage - ATI Vans Trans, get New id Level & Temp	New Swivel Highback Seats Optional & Si 225 CID 2-861 L-6	k Bucket Landard - Hew Sheet B Engine (14) - Vans (18)	etal on All			
O B100	(1)	(4)		(4)	0	(1)			
		New 'Street Van Est Model (7)	Custom						
81200	(4)	0		6	0	0			
	<u> </u>	<u>N</u>							
-00-									
8300	0	4		0	0	(3)	(1)		
-00.									
Ca100	0			10					LEGEND:
	0	0		(4)	Q	(4)	(4)		() All new car, new body
UTILITY (*74)									(2) New sheet metal
		Improved Ground	Clearance (3)	New 4-Wheel Drive Kew Grille & Trim	Option (9)				(3) New orill, 1-
Rancharger	(1)			10	0				lights, trim
0 0				New "Four by Four" Option Package (14	Custon				(4) Carryover (1'o Change)
TECHNOLOGY						New b-Lyl, 105 hp Diesel Engine by Ntsubishi for	L-6 Diesel Engine (13)		(-) Date of most recent
INVROVEMENTS						Pickups (20)(12)			A-body change
									, Derivative/Replaces





- ----

٠


	AMERICAN MOTO	RS					REVISEO 9/19/77 CTI	
MARKET CLASSIFICATION	1975		1976	1977	1978	1979	1980	
MAKE-SERIES	JFMAMJJ	ASONOJEMA	JJJASONO	JFMAMJJASONO	JFMAMJJASONO	JFMAMJJASONO	JFMAMJJASONO	
					Per SHORTY	Flareside Pickup (18)		
Blown first					0	0		
PICKUP (183)	-	Rew Custon "Roncho" Packag on Pickups (8)	e					
0 J-10	6 0)	4	(1)	(1)	0		
	2	-Bbl 256 ClD L-6 Engine St. n J+10 inste∦d of 1-8bl Ve 9)	andard *New Golden Eagle rsions Package on J-10	Option (14)				
J-20	0)	()	4	0	0		
oO			400 1bs. (12)	reased pro-		A New "JEEP 11	" Nownsized CJ-5 (17)	
UTILITY ('72)	CJ-6 Oropped in U.S	- (7)				0		
and a set	Produced for Export	Unly	New Extra Low Ge on 4-Speed Trans	ar Ratios mission for		A New 2 01 4 0	y]. Engine for Jeep 11 (17)	
and the	N	ен Windshleld & Top (2)	CJ Series (10)					
6 cu-s	0)	0	(4)	(1)	0		
		Ncw Stretched CJ-5 (2)	New Option∦l III & Air Condition) (13)	t Steering Column ng far CJ Series				
C 43-7	C)	(4)	(4)	(1)	0		
	Q	uadra-Trac Full-time 4-Whe rive & Auto- Trans- Avail.	el •New Golden Eagle on Package for CJ S	Option erles (14)				
WAGON (*63)	S	ierles (6)						LEGETID:
	2-Door Only		2-Door & 4-Door	(New) (11)				(1) All new car, new body
Cherokee	0	3) 1-861 258 610 4-6 Feedow St	D Batter of the Li	0	3	(4)		2 flew sheet metal
~~~ <u>`</u>	4-Door Only	n Cherokee Instead of 1-86 lersion (9)	Ampard Bolton-or-the-Ci Wagoneer Changed Cherokee (11)	l to				(3) flew grill, t- lights, trim
Bagoncer	0	D	4	(1)	(3)	(4)		(4) Carryover (fio
TECHNOLOGY THPROVENENTS		<ul> <li>New Structural Polycart Plastic Hardtop for CJ-</li> </ul>	00nate -7 (4)		▲ New 2.7t 4 C for CJ Serie	yl. 70 hp Diesel 5 (16)		(-) Date of most recent
	1	<ul> <li>All Jeeps have New Impr Frames &amp; Suspension Sys</li> </ul>	roved stems (5)					A-oody change
Interlor/Exterior Custon	L							Derivative/Replaces

Source: Corporate Tech Planning





Son be: Corporate Tech Planning

FIGURE 3-9. INTERNATIONAL HARVESTER LIGHT TRUCKS PRODUCT SCHEDULE, 1975-8D





Source: Corporate Tech Planning

FIGURE 3-10. INTERNATIONAL HARVESTER LIGHT TRUCKS OPTIONAL EQUIPMENT SCHEOULE, 1975-80 3-31/3-32

•

#### 4. THE MAJOR IMPORT MANUFACTURERS

#### 4.1 INTRODUCTION

#### 4.1.1 General

)

1 ~)

1.)

0

0

0

The current and projected product timing schedules for selected foreign automotive manufacturers, illustrated in Figures 4-1 through 4-11, provide a means for comparing differences and similarities among the various manufacturers and their products.

Domestic manufacturers group models into specific market classes by body type and/or wheelbase size. The import manufacturers, on the other hand, do not group models by the same criteria; emphasis is placed on vehicle weight and engine size and not the body styles. Moreover, a larger wheelbase need not imply a heavier vehicle or one which is less fuel efficient or produces higher emissions.

Information presented on the schedules was derived from many reference sources including technical and trade journals, MVMA specification forms, annual reports, company literature, etc. Although these sources provide some insight into the current products offered by import manufacturers, data is sparse regarding future import product plans when compared to the information available on the domestic manufacturers' plans.

Foreign manufacturers are cognizant of U.S. vehicle standards regarding fuel economy, safety, and emissions in product planning, and allocate resources to comply with these standards as well as to react to consumer and competitive forces. Import manufacturers must also contend with forces and standards imposed in their own home market which often exceed those in the U.S. Nevertheless, some producers seem to make styling changes and technological improvements within the bounds of limited resources in a faster and more precise manner compared to U.S. manufacturers. The level of change, technology, resources, and lead times required in introducing new vehicles or modifying current products is proportionally as considerable for foreign manufacturers as it is for U.S. manufacturers, although affecting a smaller volume of vehicles.

4-1

()

Analysis of appropriate sources indicates that the introduction of a new model involves approximately six planning process activities. Those used by Toyota^{*} are:

Concept Definition Styling Engineering Prototype and Testing Tooling and Manufacturing Full Volume Production.

This product planning cycle is representative of other import manufacturers.

The product planning cycles of foreign manufacturers often seem erratic or non-existent when correlated to the introductory date into the U.S. market. Actually, a car may have been produced for the home market for two or three years before it is "Americanized" and exported to the U.S. The decision to introduce a car to the U.S. market may be due to a combination of factors, among them:

Excessive productivity at home Salability to a small but specific segment of the U.S. market The mystique of owning a foreign auto Lower prices than domestics Innovative technology Opportunity for increased profits from larger sales volume Market analysis indicating a need for this vehicle.

Weight reduction and fuel economy are generally not the greatest problems faced by import manufacturers (although there are a few notable exceptions). The U.S. market has a larger variety of market segments than most import manufacturers have products in which to compete. As a result, as domestic manufacturers' vehicles become smaller and compete more directly with the import manufacturers, the limited variety of vehicles offered by import manufacturers may be their major problem.

^{*}Refer to The Wheel Extended (a Toyota in-house publication), Spring 1975, pages 38-46, for a full discussion.

# 4.1.2 Product Schedules

)

C

.)

1)

V)

5

1)

The selected sample vehicles displayed for each manufacturer are arranged in ascending curb weight. The derivatives of a basic vehicle are clustered around this curb weight, even if the weight of one derivative vehicle is higher than another "core" vehicle. For example, while a Toyota Celica coupe weighs less than a Corona, a Celica liftback may be heavier than a Corona; however, the liftback is displayed between the Celica coupe and the Corona to highlight the derivation from the basic Celica model. Trucks, pick-ups and vans are always displayed last.

Vehicle class, though not as clearly discernible for the imports as for the domestics, follows engine displacement rather than body size. The engine displacement in cubic centermeters is noted for each year's models. Many importers designate models by series with the model numbers referring to passenger capacity, doors, number of barrels in carburetor, body style, or other distinguishing features.

Unlike domestic vehicles, where once a new body or all new car is introduced will usually not be changed again for a number of years, foreign vehicles offered in the U.S. market can more readily be replaced by a vehicle already offered in the home market (once U.S. emission and safety regulations have been met). New body or new auto introductions are restricted each year by limited resources, with most new auto or body changes derived from existing vehicles. This is possible because, generally speaking, foreign manufacturers offer only a portion of their entire fleet to the U.S. market.

Body changes are shown by number coding the models each year in a similar manner to the domestic automobile master product schedules. These changes are: 1) all new car, new body; 2) new sheet metal; 3) new grille, taillights, trim; and 4) carryover, no change. In addition to body changes, the import manufacturers will periodically make major component changes to selected models. These changes are shown by using "dashed lines" for the year in which the change occurred.

Because auto manufacturers are traditionally reticent about disclosing future styling plans, projections beyond the 1979 model year are somewhat speculative. Sources of information are identified on each chart by numbers in parentheses which refer to the crossreference matrices found in Appendix C.

Technological advances, as they relate to safety, emissions, and fuel economy, are displayed on the bottom of the schedules to track prototype and research changes.

Since introduction dates for the home country and the U.S. can vary widely, different symbols are used to show this variance.

#### 4.2 JAPANESE IMPORTS (Figures 4-1 through 4-5)

Japanese automobile manufacturers have been very successful in marketing their products in the U.S. market. These products have consisted of small, lightweight, fuel efficient automobiles and compact light trucks which are well engineered, reliable, provide high quality, and feature many items as standard equipment which are usually optional on domestic vehicles. With emission standards in Japan considered to be more severe than in the United States, along with higher gasoline cost, much research has gone into innovative engines and emission control systems which provide reduced emissions with minimal effects on fuel economy.

As U.S. manufacturers reduce the average vehicle size of their fleet to meet fuel economy regulations, and the U.S. dollar continues to devaluate against the yen, the Japanese manufacturers will face greater competition in the small car market. This generally means that the traditional emphasis on attracting price-conscious buyers will have to be modified. The 1979 model cars will be dressed up to appeal to a "more youth-oriented market" and will include more American-type styling including a wider range of exterior and interior trim options. Recent sharp price increases have hurt sales causing inventories to rise. Further drops in the value of the dollar could signal the end of some low-volume, relatively low-profit models in the U.S. to reduce overall dealer inventories. As a result of these pricing and sales problems, each major Japanese auto maker is considering building assembly plants in the U.S. if the cost and stability of U.S. labor make it advantageous.

### 4.2.1 Toyota

5

5

-

17

5

1.)

1)

15

1)

Toyota first sold passenger cars in 1957 but produced four-wheel drive utility vehicles prior to that. Since Toyota is more likely than any other importer to take a model off the U.S. market and replace it with another one previously available only in Japan, any significant model change or introduction of a new vehicle in Japan is of primary significance here in the U.S. Toyota offers six basic models in the United States. These include: the Corolla; the Celica; the Corona; the Mark II/Cressida; the Land Cruiser; and a compact pick-up truck. (See Figure 4-1 for product schedule.)

The Corolla line (introduced in 1973) includes two and fourdoor sedans, a three-door hatchback, and a five-door wagon, available with either a four-speed manual or optional automatic transmission. In 1976, new SR-5 sport coupe and deluxe liftback models with five-speed overdrive manual transmissions were introduced. A new, smaller, 1200 cc engine was introduced in 1977 as standard equipment on the base two-door sedan to provide improved fuel economy; in addition, a new grille, front air dam, instrument panel and increased sound insulation were added. A new front-wheel-drive sub-Corolla was introduced in Japan for 1978 with a 1452 cc four-cylinder longitudinally mounted engine; four and five speed manual, as well as automatic transmissions were offered. This sub-Corolla may be introduced in the United States in 1979 at the same time the base Corolla receives new sheet metal.

4-5

1)

The Celica is the sporty Toyota with three versions offered: the GT Liftback; the GT Sport Coupe; and the ST Sport Coupe. Standard features on the Celica include a 2189 cc overhead cam four-cylinder engine, transistorized ignition, and a five speed manual transmission; automatic transmission and power steering are available as options. The Celica, when initially introduced in 1971, included only ST and GT coupe models. In 1975, the new larger 20-R four-cylinder engine was made standard replacing the 18-R engine. In 1976, the GT Liftback model was added to the line and aside from this, there was little change until 1978. The Celica was all new for 1978 providing 35 percent more glass area than the old model, a five-speed manual transmission as standard rather than the four-speed, and a curb weight reduced by one hundred pounds. For 1979 and 1980, all Celica models are expected to be carry-overs.

The Corona is a larger, roomier model available in two-door or four-door sedans, and a five-door wagon version. Initially introduced in 1974, the Corona is available with the same overhead cam engine used in the Celica; four or five-speed manual or an automatic transmission are available. In 1977, the Corona received a restyled hood, grille, and taillights. Power steering was added for the first time and the suspension system was improved. A Luxury Edition Corona was added to the series to fill the gap created by the discontinuation of the Mark II in 1976.

Toyota has three types of diesel cars in production all based on the Crown four-door sedan, which are sold only in Japan. The one with a four-cylinder overhead cam 2188 cc diesel engine and a four-speed manual transmission may be offered in the United States if diesel emission standards can be met.

6

6

The Mark II, Toyota's largest and most luxurious sedan, was dropped at the end of 1976 in preparation for the production of two new cars derived from the Mark II. One model, the Chaser, is sold only in Japan. It has a three-way catalyst, two liter sixcylinder fuel injected engine and is expected to comply with all

emission standards of both Japan and the U.S. The other, the Cressida, was introduced to the U.S. market at the beginning of 1978 and is available in a four-door sedan or five-door wagon. It uses the same six-cylinder 2563 cc engine as the old Mark II but is 146 pounds lighter and is available only with an automatic transmission. The Cressida styling is essentially the same as the Chaser except for different front grille designs.

The Land Cruiser, available as a two-door hardtop or four-door wagon, has been sold for twenty-six years. The wagon has a 106 inch wheelbase, uses a six-cylinder engine and, at 4300 pounds, is the heaviest Toyota imported.

Toyota also produces compact pick-up trucks for the U.S. market. Initially available with only a standard bed with either a deluxe four-speed or automatic transmission, an SR-5 sport version with a five-speed manual transmission was introduced in 1975. In 1976, the new long bed version was introduced along with a more powerful 2189 cc four-cylinder engine.

Toyota has engaged in fuel economy research since 1972 and emissions research since 1973 with research on the Toyota Total Clean System (TTCS) ongoing. To meet Japan's tough 1978 emissions standards, Toyota will utilize its turbulence generating pot (TGP) combustion method in the 1600 cc 12T-U type engine.

The F110, a front-wheel drive prototype vehicle with a rotary engine under consideration for introduction in the 1980's, will be a six passenger luxury sedan with a sliding door.

An experimental stratified charge rotary engine with greater fuel economy than the two liter piston engine has been tested in Toyota Crown and Mark II vehicles. At 21 mpg in 1978, a ten percent increase is expected before production. When this engine is approved for production, it may first appear in the U.S. market in a Cressida.

4-7

))

5

5

1)

5

15

5

5

5

1)

#### 4.2.2 Datsun

The Datsun trade name was derived from the initials of the three financial backers of the Kaishinsha Motor Works, predecessor of Nissan Motor Company. Their names were Den, Ayoama, and Takeuchi. At first the company name selected was "Datson," intended to mean "son of DAT," but the word "son" sounded too much like the Japanese word for "loss" so the car was renamed "Datsun."

6

(

0

5

Except for a few commercial vehicle lines, such as Nissan Caball and Nissan Junior, all the company's exported products are called "Datsun." In the domestic market, both Nissan and Datsun are used as product names. For example, the Datsun 810 in the U.S. is a Datsun Bluebird in Japan but the Datsun 710 in the U.S. is a Nissan Violet in the home market. The Nissan label extends to the top of the line vehicles while the Datsun name mainly applies to lower priced cars. All vans, trucks and busses carry the Nissan designation in Japan. Table 4-1 presents the complete model lineup for all Nissan passenger cars. Figure 4-2 shows the 1975-80 Product Schedule.

Domestic Market	USA and Canada	Other Overseas Markets		
Nissan Cherry F-ll	F-10	100-A, 120-A		
Datsun Sunny	B-210	120Y		
Nissan Silvia	200-SX	Not sold		
Nissan Violet	710	140-J, 160-J		
Datsun Bluebird	810	160-B, 180-B		
Nissan Skyline	Not sold	180-К, 240-К		
Nissan Laurel	Not sold	200-L		
Nissan Fairlady Z	280-Z	260-Z		
Nissan Cedric	Not sold	200-С, 260-С		
Nissan Gloria	Not sold	200-C, 260-C		
Nissan President	Not sold	Not sold		
Source: Automotive N	ews, October 31, 1977,	page 19.		

### TABLE 4-1. NISSAN PASSENGER CAR MODEL LINEUP

The B-210, which arrived in the U.S. in 1974 and replaced the old model 1200, has undergone only minor changes since its introduction. These minor changes have included: a larger 1397 cc engine in 1975; a new grille, five-speed manual transmission option, and a seventyfive pound weight reduction for 1977; and an automatic transmission option for 1978. Major changes are scheduled for 1980 when it will be squared off, have more glass area, and will undergo a weight reduction of one hundred pounds. The B-210 is available in two-door coupe, three-door hatchback, and four-door sedan versions.

1)

1)

P

n ))

)

P

)

P

The front wheel drive F-10 is available in a hatchback with a five-speed manual transmission and a two-door sport wagon with a four-speed manual transmission. Introduced in the United States in the middle of 1976, the F-10 uses the same engine as the B-210 but is not available with an automatic transmission. A front-wheel drive vehicle based on the B-210 is expected to replace the F-10 in the U.S. market in the middle of 1979.

In 1978, a new 510 model was introduced in the United States to replace the old 710 model which was originally introduced in 1973. This new 510 is similar to the 510 model sold in the United States from 1968 to 1972 with the exception of some suspension changes. Currently, the 510 is available in two and four-door sedans and a five-door wagon version with a four-speed manual transmission or an optional automatic; a three-door hatchback is also available with only a five-speed manual transmission. The 510 uses the same 1952 cc four-cylinder engine which was introduced on the old 710 in 1975. A new 710 model was introduced in Japan in 1977 but is not currently scheduled for introduction in the United States.

A new 810 model was introduced in the U.S. in 1977 as a replacement for the smaller 610 model. The 810 uses a 2393 cc sixcylinder engine rather than the 1952 cc four-cylinder engine used on the 610 and has a 104.3 inch wheelbase compared with the 98.4 inch wheelbase on the 610. This engine is a detuned version of the one used on the old 240-Z sports car.

At the beginning of 1978, a new B-310 model was introduced in Japan. This vehicle is currently not scheduled for introduction in the United States.

The 200-SX, introduced to the U.S. in 1977, has the same wheelbase as the B-210 but uses the same 2 liter engine found in the 510. The 200-SX has a five-speed manual transmission as standard equipment with optional automatic transmission. C

€

(

€

The 280-Z, which replaced the 260-Z in 1975, had electronic fuel injection offered on the 2753 cc engine. (The 260-Z replaced the 240-Z in the early 1970's.) The 280-Z 2+2 version introduced at the end of the 1975 model year is longer and provides a rear seat not offered on the base 280-Z. Electronic fuel injection was standard with the 2753 cc engine. In 1977, the more advanced Bosch L-Jetronic fuel injection system was standard and an automatic transmission was offered as an option. A new model introduced in 1978 in Japan will probably be offered in the U.S. in 1979 as the 290-Z.

Datsun also offers compact pick-up trucks in the U.S. market. In 1976, a long body version was introduced with an 88.6 inch long bed versus the 73.2 inch bed in the standard pick-up. Also introduced in 1976 was a king cab version with additional space behind the front seat for storage. This is the only compact pick-up truck currently offered with this feature. A "cab-over" pick-up truck is currently in production for the Japanese market and may be introduced in the United States in 1979.

### 4.2.3 <u>Honda</u> (Figure 4-3)

Honda entered the U.S. market in 1973 with the introduction of the Civic, available in two-door sedan or hatchback versions. The Civic remained unchanged until 1978 when it received new trim and a name change to the Civic 1200 to distinguish it from the Civic CVCC series. Offered with a 1237 cc conventional four-cylinder engine, the Civic is not available in California or high altitude locations due to emissions requirements. (See Figure 4-3 for Froduct Schedule.)

The Civic CVCC is available in two-door sedan, three-door hatchback, and five door wagon versions. The compound vortex controlled combustion (CVCC) engine was introduced in 1975 and is currently available on all Honda models except the Civic 1200. The Civic CVCC models use a 1488 cc four-cylinder engine; the twodoor sedan and three-door hatchback have an 86.6 inch wheelbase and the five-door wagon has an 89.9 inch wheelbase. As in the Civic 1200, all Civic models received new trim for 1978 and will be all new in Japan for 1980.

The Accord CVCC was first introduced in the United States in the middle of 1976. Built on a 93.7 inch wheelbase with a wider track than the Civic, the Accord uses a 1600 cc CVCC four-cylinder engine. A luxury LX model with variable assist power steering, air conditioning, and other luxury items was introduced in the United States in 1978. At the same time, a four-door Accord was introduced in Japan. For 1979, a new 1800 cc CVCC engine will replace the current 1600 cc engine; the four-door Accord will be offered to the U.S. market at this time only in the LX version. A 2+2 sports car based on the Accord will be introduced in Japan in 1980.

All Honda passenger cars are equipped with transverse mounted engines and front-wheel drive and can use leaded fuel. Available transmissions include: a two-speed semi-automatic on all models; a four-speed manual transmission on all Civic models; and a fivespeed manual on the Civic CVCC sedan and hatchback and all Accords.

Honda is currently testing a CVCC V-8 engine for possible future application in passenger cars.

## 4.2.4 <u>Subaru</u>

Subaru started exporting cars to the United States in the late 1960's when Malcom Bricklin was its chief U.S. distributing agent. The increased popularity of the Subaru line is easily evidenced by its climb from twelfth in import sales in 1976 to fifth in 1978. New vehicle introductions are not restricted to

4-11

)

P

1)

1)

1)

)

()

)

D

the beginning of the model year but occur throughout the year. All Subaru models use front-wheel-drive and horizontally opposed four-cylinder engines. (See Figure 4-5 for the Product Schedule.)

The SEEC-T (Subaru Exhaust Emission Control - Thermal and Thermodynamic control) engine was introduced on all 1976 models in both the 1400 cc and 1600 cc engine sizes. In 1977, the 1400 cc engine was dropped and all Subaru models now use the 1600 cc SEEC-T engine. In 1977, the Subaru was called the cleanest car in the world.

Subaru conducted a two-phase improvement program for all its models. Phase I was completed in 1977 with the upgrading of its engine and drivetrain. A sheet metal change made on all models in 1978 completed Phase II.

The GF hardtop is a two-door model with roll-down rear windows. In 1976 it was offered only with an automatic transmission but a five-speed manual was added for 1977.

The DL series includes a two-door coupe, four-door sedan, and five-door wagon. The coupe has "pop out" rear windows and is available only with a five-speed manual transmission. The sedan and wagon are available with four or five-speed manual transmissions as well as automatic. In 1976, the wagon was introduced and the coupe and sedan were redesigned.

Also introduced in 1976 was the 4WD wagon (four-wheel drive) based on the DL wagon. This is the only factory-produced four-wheel drive compact wagon offered in the U.S. market. In 1978, a fourwheel drive vehicle which looks like a mini pick-up truck but equipped with two seats facing the rear in the bed was introduced for the recreational market and called the BRAT (Bi-drive Recreational All-terrain Transporter). Both four-wheel drive vehicles are available only with a four-speed manual transmission.

# 4.2.5 Mazda

1

1 x

\$ )

0 7

0)

0

0 5

()

Mazda's commitment to the rotary engine is the strongest of any car manufacturer. Since the early sixties, it has manufactured more rotary-powered cars and trucks than any other company. High speed acceleration and performance are considered to be among the rotary's chief selling strengths, and the Mazda RX7 is the sportiest rotary made. After the successful introduction in the U.S. of Mazda's first rotary powered car in 1973, sales suffered due to bad publicity about the low fuel economy of the rotary engine. Mazda is trying to rebuild the image of the rotary engine as a high performance sports car engine rather than as an efficient engine for compact or smaller vehicles. Since then it has received recognition as an alternative to the internal combustion piston engine where small size and high performance are important. Mazda is currently putting more emphasis on the conventional piston engine vehicles it produces. (See Figure 4-5 for Production Schedules.)

Mazda vehicles are distributed by three different distributors in the United States, broken down into three different geographic areas: the West Coast; Central States; and East Coast. Not all models are offered in each zone nor is a given model introduced at the same time by each distributor. In addition, prices may vary in the three different areas.

In 1976, the Mazda 808 Mizer was introduced as a fuel economy version of the 808 sedan with a smaller 1272 cc four-cylinder piston engine versus the 1586 cc engine in the sedan. All 808 models were dropped in the United States at the end of 1977 after the successful introduction of the GLC three-door hatchback. The GLC uses the same 1272 cc four-cylinder piston engine as the old 808 Mizer and was expanded in 1978 to include five-door hatchback and three-door sport versions. The GLC is available with either a four or five-speed manual transmission, as well as a three-speed automatic.

The RX3 coupe was the first rotary car introduced in the United States by Mazda in 1973. For 1978, it was made into a sportier version and called the RX-3SP. This was used as the forerunner of the RX-7, a very classy two-seat sports car, which was introduced in May 1978. The RX-7 uses a slightly larger 1300 cc two rotor engine and is designed to compete with the Datsun 2802 and Chevrolet Corvette.

In 1974, Mazda introduced the RX-4 sedan in two-door, fourdoor, and wagon versions. This is a larger, heavier car than the RX-3 and uses a 1308 cc two rotor engine. The Cosmo hardtop was introduced in 1976 as a luxury version of the RX-4 sedan. It uses the same engine, drivetrain, and wheelbase as the RX-4 and received the same trim changes in 1977. The Cosmo is also known as an RX-5 in some markets and as the Legato in Europe.

A new model called the Luce Legato, was introduced in Japan for 1978 and utilizes either a rotary engine or a new two-liter four-cylinder engine. There are no plans at this time to export this vehicle to the U.S.

The Mazda pick-up introduced in 1976, was offered with a rotary engine through the end of 1977. In 1978, there were three versions offered: the older B-1600, now with a four-cylinder 1586 cc engine on a 104 inch wheelbase; the new short bed B-1800 pick-up with a 1796 cc four-cylinder engine and a 107 i.ch wheelbase; and the new long bed B-1800 with a 113 inch wheelbase.

For 1979, Mazda will offer only three basic vehicles in the U.S., and only one will have a rotary engine. The GLC and RX-7 passenger cars will remain along with the pick-up trucks. All other models will be dropped in an effort to rebuild the image of the rotary engine and to establish Mazda as a leader in piston engine technology.



.

The RX3 coupe was the first rotary car introduced in the United States by Mazda in 1973. For 1978, it was made into a sportier version and called the RX-3SP. This was used as the forerunner of the RX-7, a very classy two-seat sports car, which was introduced in May 1978. The RX-7 uses a slightly larger 1300 cc two rotor engine and is designed to compete with the Datsun 2802 and Chevrolet Corvette.

(

0

1

8

(

Ć

In 1974, Mazda introduced the RX-4 sedan in two-door, fourdoor, and wagon versions. This is a larger, heavier car than the RX-3 and uses a 1308 cc two rotor engine. The Cosmo hardtop was introduced in 1976 as a luxury version of the RX-4 sedan. It uses the same engine, drivetrain, and wheelbase as the RX-4 and received the same trim changes in 1977. The Cosmo is also known as an RX-5 in some markets and as the Legato in Europe.

A new model called the Luce Legato, was introduced in Japan for 1978 and utilizes either a rotary engine or a new two-liter four-cylinder engine. There are no plans at this time to export this vehicle to the U.S.

The Mazda pick-up introduced in 1976, was offered with a rotary engine through the end of 1977. In 1978, there were three versions offered: the older B-1600, now with a four-cylinder 1586 cc engine on a 104 inch wheelbase; the new short bed B-1800 pick-up with a 1796 cc four-cylinder engine and a 107 inch wheelbase; and the new long bed B-1800 with a 113 inch wheelbase.

For 1979, Mazda will offer only three basic vehicles in the U.S., and only one will have a rotary engine. The GLC and RX-7 passenger cars will remain along with the pick-up trucks. All other models will be dropped in an effort to rebuild the image of the rotary engine and to establish Mazda as a leader in piston engine technology.



Source: Corporate Tech Planning

FIGURE 4-1. TOYOTA PRODUCT SCHEDULE, 1975-80



4-17/4-18





Source: Corporate Tech Planning

FIGURE 4-2. DATSUN PRODUCT SCHEDULE, 1975-80




FIGURE 4-3. HONDA PRODUCT SCHEOULE, 1975-80









Source: Corporate Tech Planning

FIGURE 4-4. SUBARU PRODUCT SCHEDULE, 1975-79





Source: Corporate Tech Planning

FIGURE 4-5. MAZDA PRODUCT SCHEDULE, 1975-78

## 4.3 EUROPEAN IMPORTS

Since European auto manufacturers export a significant portion of their production, they must be conscious of the regulatory differences between many countries. A lack of international cooperation indicates a need for more common market initiative in solving problems shared by all manufacturers including emissions, energy, safety, and economic restraints, such as import/export tariffs and regulatory controls. Bureaucratic intervention frequently has had a counter-productive impact on the European automobile industry due to excessive controls from government agencies that do not fully understand the industry or market. Excessive taxation and state ownership without regard to principles of free enterprise plague the industry as well.

External factors also cause concern among the West European countries. East European countries often price exports well below identical models sold domestically in order to acquire needed currencies for exchange; at the same time, West European countries are usually excluded from marketing their products in the East European bloc. In some cases, a West European manufacturer contracts to provide a "turnkey" plant for an eastern country to produce models essentially identical to vehicles offered in the west. Competition is further enhanced when the eastern nation then exports those same vehicles, much to the dismay of the providing company. Japanese exports also have a deleterious effect as they begin to compete more heavily in the European market. In addition, European companies have difficulties marketing their models in the lucrative developing nations as the latter move to protect their own emerging industries.

In Europe, productivity is the key element in the automobile business as it is most elsewhere in the world. It is defined as:

a) Number of cars built per worker;

b) Capital investment per worker.

In 1977, Renault was near the top in both measures while Ford and Chrysler European affiliates were near the bottom. Productivity

improvements become harder to achieve due to frequent wildcat strikes and the job protection requirements of labor unions. In addition, regulatory requirements of the various governments put an increased burden on both personnel and capital which tends to lower productivity.

All foreign auto manufacturers exporting vehicles for the United States market must comply with the United States fuel economy, emissions, and safety standards designated for model years 1978-1985. Currently, the average European car imported to the United States satisfies the 1980 and 1981 CAFE requirements of 20 and 22 miles per gallon. While a number of individual production models meet the 1985 CAFE requirement, such as the diesel version of the Volkswagen Rabbit which has a combined fuel economy rating of 45 miles per gallon, no manufacturer's current corporate average achieves the 1985 CAFE requirement of 27.5 miles per gallon, nor does any manufacturer's fleet meet the 1980-1985 emission standards.

Alternatives available to meet the CAFE regulations are restricted by the lead times required to develop and implement new technologies. Application of new engine types and alternative power systems are, therefore, not feasible for the short-term period from 1979-1985. Instead, the European companies are concentrating on weight reduction techniques, expanded use of diesel and turbocharged engines, and vehicle designs which incorporate aerodynamic principles. For example, substitution of lightweight plastic, aluminum and high strength steel for mild steels; improved manufacturing processes; and replacement of heavy and complex parts with electronic equipment all contribute to weight reduction. Volkswagen has estimated that a 10 percent reduction of the aerodynamic drag coefficient could result in a 3.5 percent fuel saving. The majority of European manufacturers already offer or are developing diesel and/or turbocharged engines which achieve higher fuel economy ratings than comparable sized gasoline engines. However, until diesel emissions standards are established by the United States Environmental Protection Agency (EPA), continued diesel engine development by the European manufacturers will not be without some degree of risk.

Based on currently available data, it appears that manufacturers can comply with 1985 fuel economy standards if certain circumstances prevail. The predominant factor is continued acceptance of diesel (and turbocharged) engines both by the consuming public and EPA emissions standards; other factors include availability of financial and technological resources to expand vehicle offerings and weight reduction programs, as well as additional engine improvements.

# 4.3.1 Volkswagen

)

)

)

)

)

Volkswagen was the second foreign manufacturer to export vehicles to the United States for sale in 1949 (British Leyland was first in 1948). Since 1949 when two Beetles were sold, VW sales climbed steadily to more than 500,000 per year in 1968 through 1971. As the value of the dollar declined against the German Mark so did Volkswagen sales until by 1976 only 200,000 vehicles were sold in the U.S. The decision was made at that time to establish a vehicle assembly plant in the United States in order to soften the impact of currency fluctuations. With the start of assembly operations of the technologically advanced front wheel drive Rabbit in the United States, Volkswagen hopes that it will once again regain its position as the number one import manufacturer (including the sales of its domestically assembled vehicles). Figure 4-6 shows the Volkswagen Froduct Schedule.

The VW Beetle, introduced in the United States in 1949, was the most popular import vehicle ever. This popularity, in part, was due to its inexpensive price and the fact that it experienced only minor changes between then and 1978 when it was discontinued. The Super Beetle is slightly larger than the regular Beetle but uses the same 1,584 cc 4-cylinder air cooled rear engine equipped with the Bosch-L-Jetronic electronic fuel injection system. The Super Beetle sedan was also dropped in 1978 so only the Super Beetle convertible is still available in the U.S.

The VW Rabbit (called Golf in Germany), has front-wheel-drive with a transversely mounted overhead cam, and uses either water cooled gasoline or a diesel engine. When initially introduced in 1975, the Rabbit was offered with a conventional carburetor and a catalytic con-

verter but in 1976, the engine size was increased from 1,470 cc to 1,588 cc and the catalytic converter was eliminated. At this time the brakes were modified so that when the brake linings were worn down to the safety limit a "bump" would be felt in the brake pedal to alert the driver that the linings needed to be replaced. In 1977, since there were problems with the conventional carburetor, it was replaced by Bosch-K-Jetronic CIS (continuous injection system) fuel injection; the diesel version was also introduced. In 1978, the engine was scaled down from 1,588 cc to 1,457 cc but the power was increased by 7 horsepower. This technical change provided a smoother running engine and increased fuel economy by 1 mile per gallon. Other changes included new suspension, larger radiator, and passive seatbelts as standard on the deluxe version. Late in 1978, the U.S. manufactured Rabbits appeared with rectangular headlights and a new grille. A l-barrel carburetor instead of fuel injection may be offered on a limited basis in 1979. The custom version of the Rabbit is the only model currently produced in the United States but a luxury version may be added later along with new pick-up and wagon versions. For 1979, a five-speed manual transmission will be added to the four-speed manual and automatic currently available.

60

(1

((

0

(0

0

C,

The diesel Rabbit is only assembled in Germany and not at the Westmoreland, Pennsylvania plant. It uses a 1,471 cc transversely mounted engine and achieves an EPA rated fuel economy of 50 miles per gallon on the highway. The diesel Rabbit is only available with a four-speed manual transmission.

The VW Polo, which is not exported to the U.S., is said to have influenced the style of the Ford Fiesta. The Derby, another version of the Polo produced in Europe has a new notch-back style and is a foot longer. A Rabbit notch-back with similar styling may be available in the future.

The Scirocco is essentially identical to the Rabbit except that it has a sporty body style. It shares the same wheelbase, engine and drivetrain as the Rabbit. New in 1975, trim changes for 1978 included polyurethane coated bumpers, front spoilers, and wraparound turn signals. In 1977, a special limited edition called the Sidewinder I

was offered and a Sidewinder II version was introduced in 1978. A Spider coupe model may also be produced for 1979.

The Dasher (called Passat in Germany), first introduced to the U.S. in 1974, has a front-wheel drive with a longitudinally mounted 1,470 cc four-cylinder water cooled overhead cam engine. Initially offered with a standard carburetor, the engine received the new Bosch-K-Jetronic (CIS) fuel injection system in 1976 when the engine size was increased to 1,588 cc. Styling changes for 1978 include new front end sheet metal which gives it a sleeker look, wraparound polyeurethane covered bumpers in both front and rear, a front end spoiler, a new dashboard, and a new suspension system. Two and four door sedans, three door hatchback, and five door wagon versions are available with either an automatic or four speed manual transmission. There are no plans for a Dasher diesel at this time.

The Audi Fox, introduced in 1973 with a Bosch-K-Jetronic fuel injector system, is available in two and four door sedans and a five door wagon, and is essentially a Dasher twin. Changes for 1978 deminished the similarity as the Fox received new sheet metal, a wraparound grille, dual head lamps, new tail lights, a plastic fuel tank, and aluminum cylinder heads. For 1980, the Audi sedans may be produced at the Westmoreland, Pennsylvania plant with the station wagon following at a later date.

The Audi 100 LS, introduced in 1970, was dropped from the U.S. market in 1978 with the introduction of the Audi 5000 C. The 100 LS used a 1,871 cc 4-cylinder engine while the 5000 C uses a 2,144 cc in-line 5-cylinder, both in front-wheel drive configurations. The 100 model is being used to test different Wankel and diesel engines which may be introduced later. The 5000 model uses a new solderless radiator, has light alloy cylinder heads, a Bosch CIS fuel injection system, and a controlled deformation front end. The front end is designed based on the Timoshenko theory that certain steel members of the body deform in regular folds to disperse energy in a shorter length than when body sections are allowed to crumple. This allows the passenger compartment to maintain an unusually high level of integrity in a front end collision. A 6-cylinder diesel and

4-29

0

1)

10

0

1)

1)

1

a turbocharged diesel should be available in 1979 and 1980.

The VW bus/campmobile, also called the Type II and KOMBI, uses an air cooled rear mounted 1,970 cc 4-cylinder engine with the same Bosch-L-Jetronic fuel injection system as the Beetle. New glass and sheet metal were added to the bus for 1978. A diesel version is being considered for an unspecified future date.

An experimental vehicle, called Integrated Research Volkswagen (IRVW), was accepted by the U.S. Department of Transportation for testing in June 1977. It has a combined EPA rating of 60 miles per gallon using a turbocharged diesel and a five-speed manual transmission. Also available on the vehicle are 40 mile per hour frontal crash protection, a passive restraint system, and extremely low emissions. Most of the components used on the IRVW will start to appear in other models before 1980.

# 4.3.2 Fiat

Of the 1.1 million cars sold in Italy per year, Fiat has 49 percent of the market. The Fiat 127, which is not sold in the U.S., holds 17 percent of that share, making it the top selling car in Europe since 1973.

By 1980, Fiat hopes to install a total electronic engine control system in all its cars. As an interim step, certain models will feature electronic spark advance in 1979 with the model 128 as the most likely candidate. (Figure 4-7 shows the Product Schedule.)

Introduced in the U.S. in 1969, the Fiat 128 was the first front-wheel drive car it produced. In 1971, the sporty 128 SL three-door hatchback was introduced but underwent a name change to the 128 3P in 1976. Currently, the 128 is available in the U.S. in two and four-foor sedans and a three-door hatchback; the 128 wagon was discontinued in 1978. The 128 is due for a change in 1979 when a 1,500 cc engine and 5-speed manual transmission will be added. Three-door and five-door hatchbacks will be offered with

optional automatic transmission. The Fiat 138 sedan, introduced in Europe in 1978, is a derivitive of the 128 sedan. The model 128 GLX, a modified version of the 128 coupe, was introduced in Italy in 1978 and like the 138 sedan, is not currently scheduled for export to the United States.

The X 1/9 mid-engine sport coupe was introduced to the United States in 1973. In 1979, a new 1,500 cc engine will replace the current 1,290 cc 4-cylinder unit. A new 5-speed manual will be standard for 1979 along with restyled bumpers and interior trim.

In 1979, the Fiat 124 Spider will have a new 2,000 cc engine replacing the current 1,756 cc version and an optional automatic transmission.

The Fiat 131 sedan and wagon were new in 1975. A diesel version was offered in Italy for 1978 but is not expected to be exported to the U.S. Improvements to the 131 in 1978 included new interior trim, performance and economy improvements, as well as a styling "facelift."

The Fiat 132 is the top of the line model but is not exported to the U.S.

The front-wheel drive Lancia Gamma was introduced in Italy in March 1976 as a replacement for the 130, which was dropped in 1975. Luxury sedan and coupe versions will be introduced in the United States in 1979 to compete with other cars in the \$20,000 price range.

The Lancia Beta sedan and coupe were introduced to the U.S. in 1976 and, like the Lancia Gamma, are front-wheel drive vehicles. All Lancia models are expected to have a new 2,500 cc fuel injected 4-cylinder engine for 1979

4.3.3 British Leyland (BL Ltd.)

British Leyland manufactures five different makes of automobiles: MG; Triumph; Jaguar; Rover; and Austin; and, in 1948, was the first foreign manufacturer to export to the United States.

4-31

1)

1

13

1

17

0

1)

1)

1)

1)

BL produces a Mini which has been in production in England for eighteen years but is not sold in the U.S. A new Mini is scheduled for production at the end of 1979 and may be offered in Europe while the old Mini is still being produced. (See Figure 4-8 for Production Schedule.)

The MG Midget is a small two-seat sports car convertible on an 80" wheelbase with a 1,493 cc 4-cylinder engine. It has remained unchanged since 1974 and no changes are planned for the near future. The MGB is slightly larger, built on a 91" wheelbase and uses a 1,798 cc 4-cylinder engine. In 1977, it received a new instrument panel, sealed cooling system, and front and rear antiroll bars. The MGB is also available as a convertible.

The Triumph Spitfire, introduced in 1963, has received only minor modifications since that time. It is built on an 83" wheelbase and is equipped with the same 1,493 cc 4-cylinder engine as the MG Midget. In 1977, the Spitfire received a new intake manifold and carburetor, and improvements to the cylinder head, exhaust manifold, and distributor which resulted in improved fuel economy. The Triumph TR7, new in 1975, is built on an 85" wheelbase and uses a 1,998 cc 4-cylinder engine. In 1978, an automatic transmission was introduced as an option, a first for a BL Sports Car. The TR8 was new in 1978 in England and uses an aluminum V-8 engine developed in the 1960's for the Oldsmobile F-85. This vehicle is expected to be introduced to the United States in the near future.

The Jaguar XJ6L has undergone only minor changes since its introduction in 1969. In 1977, the wheelbase was increased to 112.8" from 109" but the 4,235 cc 6-cylinder engine was retained. For 1978, a three-way catalytic converter and fuel injection were introduced. The Jaguar XJ12 was introduced in 1974 as both sedan and coupe versions. It received fuel injection on its 5,345 cc 12-cylinder engine in 1975 and a new automatic transmission in 1978. When the wheelbase was increased to 112.8" in 1977, the coupe was dropped. The XJS was introduced in 1976 as a replacement for the XKE and use the same 5,343 cc 12-cylinder engine as in the

XJ12. Utilizing the Lucas fuel injection system, and built on a 102" wheelbase, this vehicle is the most aerodynamically designed of any produced by British Leyland and is the most expensive, priced at approximately \$24,000.

The Rover, Europe's car of the year for 1977, has not been sold in the United States since 1974; it will be reintroduced in 1980 when emission and fuel economy problems can be overcome. Two new Rover models for 1978, the 2,300 using a 4-speed manual transmission and the 2,600 using a 5-speed manual transmission, each with a new 6-cylinder engine will not be sold in the U.S.

The Austin Marina was built on a 96" wheelbase and used the same engine as the MGB but was dropped from the U.S. market in 1976. Austin still produces models in England but none are scheduled for export to North America.

4.3.4 Volvo

17

17

١.,

2 .

17

17

5

4 ×

1)

Volvo models are numbered using a three digit code to represent specific characteristics of each vehicle. The first digit represents the body styling; the second, the number of cylinders in the engine; and the third, the number of doors. For example, the 244 is style 2, uses a 4-cylinder engine, and has 4-doors. (See Figure 4-9 for Product Schedule.)

In 1975, Volvo replaced its 140 series (in production since 5 1967) with the new 240 series. Two and four-door sedans and a five-door wagon are offered. A new front end, front suspension, and other engineering changes were the direct result of work done on the Volvo experimental safety car. The 6-cylinder 164 sedan was replaced in 1976 by a new 260 series which included both two and four-door sedans and a five-door wagon equipped with a fuel injected 2,664 cc aluminum alloy V-6 engine. A new aluminum alloy 2,127 cc overhead cam 4-cylinder engine was also introduced in the 4-cylinder 240 series in 1976.

4-33

()

()

The Volvo 3-way catalyst Lambda-Sond emission control system was introduced in the 240 series in 1977 on cars sold in California. In 1978, this system became optional throughout the United States and was made standard on all Volvo models in 1979. It uses an oxygen sensor in the exhaust and feed-back control of the air/fuel ratio to maintain the optimum oxygen level in the exhaust for maximum emission control by the 3-way catalyst. In the continuous injection system (CIS) used by Volvo, fuel is metered based on the air flow volume. A turbocharger, planned for installation by 1981, will fit between the air flow meter and intake manifold. This placement will allow the meter to automatically adjust the fuel flow based on the volume of air forced into the engine by the turbocharger.

All 1978 Volvos received a new grille and headlights. At the same time, 242-GT and 262-C coupes were introduced. These new coupes were designed primarily for the North American market. By 1979, Volvo intends to have a VW designed diesel engine available on European cars and perhaps on U.S. models by 1981.

The Volvo 343 mid-sized car introduced in Europe in 1976 is not expected to be exported to the U.S.

### 4.3.5 Mercedes-Benz

Mercedes-Benz, the second largest West German passenger car producer (behind Volkswagen), is West Germany's most successful manufacturer of large luxury cars.

Mercedes future research programs concentrate on problems related to U.S. fuel economy, emission, and safety standards. Plans include: 1) further development of diesel engines (which constitute 46 percent of 1977 U.S. sales), turbocharged engines, catalytic converters, and passive restraint systems; 2) research into diesel emission controls in alternative power systems; and 3) implementation of weight reduction programs, primarily light alloy engines and selected body components. Figure 4-10 shows the Product Schedule.

Model designations used by Mercedes describe the engine size and type and body size. The numbers represent the engine displacement; e.g., 230 represents approximately a 2,300 cc or 2.3 liter engine. Letters designate body size and/or engine type; e.g., D for diesel, E for fuel injection, and S for the series of large cars. All fuel injected Mercedes models use the Boch-K-Jetronic continuous fuel injection system.

Mercedes-Benz introduced the W114/115 Series in 1967. Development on a new W123 Series began in 1970; it was introduced in Europe in 1976, and replaced the old W114/115 Series in the U.S. in 1977. This series consist of the 230, 240D, 280E, 300D, 280CE, and 300CD models. Mercedes also imports the 116 series of vehicles which includes the 280 SE and all 450 models except the 450SL, two door, two passenger, sport convertible, which is a 107 series vehicle. Mercedes usually introduces a new vehicle in Europe one year before the U.S. introduction. A six-year model development cycle is generally used by Mercedes-Benz with production runs scheduled for eight years. The designed vehicle life span is twelve years compared to only ten years for U. S. vehicles.

In 1985, the downsized, lightweight successors to the 123 Series will be introduced to the U.S. market in both turbo-diesel and gasoline versions. The gasoline engine construction will be either all aluminum or thin walled cast iron with an aluminum cylinder head. Mercedes projects that aerodynamic efficiency will be increased by 5 percent, as will transmission efficiency.

The body/chassis engineering which was used for the larger 116 series models, was used in the design of the W123 Series. The front sub-frame was eliminated on the 123 Series and the engine and front suspension are now attached directly to a unitized body/ frame. Center offset steering, sometimes called centerpoint steering, was added. The instrument panel also received engineering and styling changes.

In 1981, Mercedes will replace the current 116 Series (280SE and most 450 models) with a smaller 126 Series of cars powered by

4-35

0)

()

17

13

17

17

1)

1)

1)

1)

lighter weight six and eight-cylinder gasoline engines and turbocharged diesel engines. A 3-way catalyst and continuous fuel injection will be fitted on the gasoline engines; increased acceleration and fuel economy will result from a new 4-speed automatic transmission. Body styles will feature a lower and wider grille, rubber and plastic bumpers with chrome inserts, improved aerodynamics, and weight savings of approximately 450 pounds.

The model 230 will be fitted with a continuous injection system and 3-way catalytic converter in 1982 for the European market; however, the vehicle's popularity is down in the U.S. and it has been phased out of this market in 1978. The 240D is scheduled to receive a new turbocharged 4-cylinder diesel engine in 1983. The 280E was equipped with fuel injection for the U.S. market when it was newly introduced in 1977. The 300CE 5-cylinder diesel coupe and 280CE fuel injected 6-cylinder coupe are the coupe versions of the W123 Series sedan but share a slightly smaller wheelbase (106.7 inches for coupes versus 110 inches for sedans).

Between 1982 and 1984, the 450SL sport version (2-seat convertible) will be replaced by a smaller version which will have aluminum front and rear deck and the same lighter weight engine used in the sedans. The 450SLC received a new 5-liter aluminum block engine to become the 450SLC 5.0 for the European market in 1978. Other changes included an aluminum hood, trunk, and wheels, which, when added to the aluminum engine, result in a total weight savings of 220 pounds. The addition of front and rear spoilers currently only available in Europe, reduced aerodynamic drag by 9 percent. The 280SE sedan, new in 1975, uses a 2,746 cc 6-cylinder engine with a continuous injection system. The 300 SD sedan, introduced to the U.S. in mid-1978, was the first turbocharged diesel production car to enter the market. Sharing the same body as the 280SE, the 300SD is equipped with a 5-cylinder, fuel injected diesel engine, a Garrett turbocharger, and automatic transmission. The 450SEL sedan is equipped with a V-8 fuel injected engine and 3-speed automatic transmission. Introduced in 1977 to the U.S. and equipped

with a 6.9 liter V-8 fuel injected engine and 3-speed automatic transmission, the 450SEL 6.9 sedan is essentially the same as the 450SEL except for the engine. In early 1979, Mercedes will introduce a 5-cylinder diesel powered station wagon in the U.S. This 300TD wagon will have a new self-leveling rear suspension and other technological improvements and will undoubtedly be the most expensive station wagon available.

4.3.6 Saab

1 21

1 7)

1 3

りつ

1)

10

1)

1)

Saab produces three basic types of automobiles: two-door sedans; three-door hatchbacks; and five-door hatchbacks. These cars are generally available in three trimlines: the GL standard trim; GLE luxury trim; and EMS heavy duty sport package. The present styling of all models was introduced in 1969. In 1976, the only changes to the model line were minor refinements of engineering or styling details; e.g., rear brake caliper pistons, push button trip odometer, side lights, and some minor trim changes. In 1977. a five-door wagonback was added to the three-door model. The entire model line-up for 1977 included the 99GL in two and four-door sedans, and three and five-door wagonbacks; the 99GLE in two and four-door sedans only; and the 99EMS two-door sedan. All Saabs are front-wheel drive and use the same engine, four-speed manual transmission, and optional three-speed automatic transmission. (See Figure 4-11 for Product Schedule.)

In 1970, electronic fuel injection was added; a new 2-liter overhead cam four-cylinder engine was made standard in 1973; and, in 1975, the Bosch CIS (continuous injection system) mechanical fuel injection replaced electronic fuel injection. In 1977, the Lambda-Sond exhaust emission system with oxygen sensor and feedback control of the air/fuel ratio, and a 3-way catalyst was introduced in California and high altitude areas. This system, which meets all future U.S. emission requirements, was extended to all models sold throughout the U.S. in 1978.

4-37

))

1)

Several modifications were made in 1978. The wagonback name was dropped in favor of hatchback and the style was extended to the GLE and EMS models as well as the GL. The two-door EMS and four-door sedan GL models were dropped completely. The complete line for 1978 consists of the 99GL in two-door sedan, three-door hatchback and five-door hatchback versions; the 99 GLE in three-door hatchback model available with or without a turbocharger.

The Turbo EMS was first introduced to the U.S. in 1978. Only available with the 4-speed manual transmission, it is equipped with the same Lambda-Sond emissions control system and 2-liter fourcylinder engine as all Saab models. The turbocharger provides an additional twenty horsepower to the engine; and, as a result, the Saab Turbo EMS is designed to compete with other performance cars.

VOLKSWAGEN CA TP 1975 MARKET CLASSIFICATION Inertia Weight JFMAMJJ MAKE-SERIES Class, 1bs 1) (10)(1) F.W.D. Auto/4 Sp Rabbit (89.7)1470cc 4 cyl 07 Intro 1949 (13) Beetle (4) E.F.I. (26) Auto 2250 (96.6)1584cc 4 cyl 1 (10) Scirocco F.W.D. Auto/4 Spot (89.7)1470cc 4 cyl Super Beetle (4) E.F.1. Auto Opt (96.6)1584cc 4 cyl h 7 1) Intro 1974 (25) 2500 Dasher (4) F.W.D. Auto/4 Spd (89.7)1470cc 4 cyl Intro 1973 LEGFND: (4) F.W.D. F.I. Auto Audi Fox 2250 (1) All new car, new body (97)1588cc 4 cyl Intro 1970 1) New sheet metal 4 F.W.D. F.I. Auto Audi 100LS New grille, T-Lights, trim (3) 2750 (114.5)1871cc 4 cyl (4) Carryover (No Change) 5000C _____ Component Change 1 3000 Derivative/ 1) **Replaces** Van/Bus/Camper 1 4 Auto Opt EFI 3500 (109.5)1794cc 4 cyl DOMESTIC FOREIGN  $\otimes$ - Intro-date -Ħ Technology - Prototype -Δ V Improvements - Start Mfg. -8) Source Location () Knee Pad Belt Restr Reference Number Number Ref. D Wheel Base-In. Engine Disp. (cu. in.) and cc Cyls. - Curb Weight, 1bs. 1) Source: Corp VOLKSWAGEN PRODUCT SCHEDULE, 1975-80 4-39/4-40

1. )

0)

Several modifications were made in 1978. The wagonback name was dropped in favor of hatchback and the style was extended to the GLE and EMS models as well as the GL. The two-door EMS and four-door sedan GL models were dropped completely. The complete line for 1978 consists of the 99GL in two-door sedan, three-door hatchback and five-door hatchback versions; the 99 GLE in three-door hatchback model available with or without a turbocharger.

The Turbo EMS was first introduced to the U.S. in 1978. Only available with the 4-speed manual transmission, it is equipped with the same Lambda-Sond emissions control system and 2-liter fourcylinder engine as all Saab models. The turbocharger provides an additional twenty horsepower to the engine; and, as a result, the Saab Turbo EMS is designed to compete with other performance cars.

	OLKSWAGEN CARS AND VAL	NS				REVISED : 1/31/78 CTP		
MARKET CLASSINGATION	1975	1976	1977	1978	1979	1980	Inertia Weight	
MAKE-SERIES	J F M A M J J A S O N D	JFMAMJJASDND	JFMAMJJASOND	JFMAMJJASOND	JFMAMJJASDI	NDJFMAMJJASOND	Class, Ibs	
	(10)		(26)	(3) (33)			t t	
Rabbit	F.N.O. Auto/4 Spd 94 5	101 H.P. Increase (12) 94.5	C, 1. S. 94.5	V 🗇 US 3 0r (30)94.0	(30) Wagon (30)	(30) New FWD Model		
	(89.7)1470cc 4 cy1 1819(23)	(97)1588cc 4 cy1 1860 (9)	(97)1588cc L-4 1860(1)	(88.9)1(57cc [L-4 1837(32)				
					(A) Turke Girard (21)			
			(89.2)1871cc L-4 1960(2)	(89.7)1471cc 11-4 1960(32)	a intro-orieser (37)			
	Intro 1949 (13)		(13)				2000	
Beetle	E.F.I. 126) Auto Opt 94.5	4.5	34 5	Oropped	]		1	
	(96.6)1584cc 4 cy1 1973(27)	(96.6)1584cc 4 cyl 1970(9)	(96.6)1584cc H-4 1970 (1)					
				Derby/Notch Back (12)				
					0			
Scirocco	(10)	(12)	(26)	(3)		-10		
00110000	(89 2)1420cc 4 cvl 1874(22)	(97)1588cc 4 cvl 2090(9)	(97)3599-0 1-4 2015(3)	(RR 9)1457cc 11+6 1048(32)	(20) Sidewinder/Spider (30)	<u>N</u>		
Super Beetle			(77)733000 0-4 0013(3)	(0017)-5762 164 1710(32)				
Super Sectio	(4) E.F.1. Auto Opt 95.3	95.3	(a) Oropped Sedan 95.3	( Convertible Only (34) 95.3	0	6		
	(96.6)1584cc 4 cy1 2073(11)	(96.6)1584cc 4 cy1 2000	(96.6)1584cc 4 cyl 2110(4)	(96.6)1584cc H-4 2120(32)			2500	
Dasher	(4) F.W.D. Auto/4 Spd 97.2	C.1.5. 101 H.P. 97.2	() ()	97.2	0	(1)		
	(89.7)1470cc 4 cy1 2108(27)	(97)1588cc 4 cy1 2207(9)	(97)1588cc L-4 2207(1)	(97)1588cc 1L-4 2162(32)			1	
	Intro 1973	0	10- A 0	(15)	(			LEGFND:
Audi Fox	(4) F.N.D. F.1. Auto Opt 97.2	97.2	(0) (0) (0) (0) (0) (0) (0) (0) (0) (0)	97.2 (97)3588cc 1.4 2030(22)	(3)) OS AUGI KOECHOJCK	VIO	2250	1 All new car, new body
	(97)15002C 4 Cy1 (052(27)	(a0.a)(20055 4 6Å) 5023(a)	(31)130000 0-1 2033(1)	()))))))))) []]				New sheet metal
Audi 100LS	( F.N.O. F.1. Auto Opt 105.3	105.3	105.3	Audi 100 Dropped as US import	2-Rotor Hankel	(18) 5 Speed Turbo-Diesel (19)	2750	New grille, 7- Lights, trim
	(114.5)1871cc 4 cy1 2493(5)	(114.5)1871cc 4cy1 2568(6)	1871cc L-4 2480(1)			•		( Carryover (No
50000				() (29)	(10)	Station Wagon (30)	<b>1</b>	Change)
50000		Europ	(130)	2144cc 1L-5 2860(14)	010201 0 031 (10)	5 Speed Turros-Breset (20)	1000	Component Change
11. 10. 10.				(31)			4	Replaces
Van/Bus/Camper	Auto Opt EFI 94.5	H.P. Increase 94.5	91.5	Pront End/Glass	Diesel (37)	0	3500	DOMESTIC FOREIGN
	{109.5}1794cc 4 cy1 3000(27	) (120.2)1970cc 4 cy1 3042(9)	(120.2)1970cc H-4 3042(5)	)			¥	🛇 - Intro-date -
								🖽 - Prototype -
Technology		Engine Diesel	Rotary Turbocha Diesel	(37)				V - Start Mfg V
improvements	-		(23) (24)					() Source Location
	Knee Pad Belt Restraint (21)		Passi	ive Restraint System				Rumber Ref
								Wheel Base-In.
		Catalytic Converter (9)	Timoshenko (16)	1RVW (35)				Engine Disp. (cu. in.) and cc
	L							Cyls Curb Weight, Ths.

•

Source: Corporate Tech Planning

FIGURE 4-6. VOLKSWAGEN PRODUCT SCHEDULE, 1975-80

4-39/4-40



)))

0 00



	FIAT PASSENGER CAR	s				REVISED 1/31/78 CTF		
	1975	1976	1977	1978	1979	1980	Class, 1bs	
MARKET CLASSIFICATION	JFMAMJJAS	ONDJFMAMJJAS	SONDJFMAMJJA	SONDJFMAMJJA	SONDJFMAMJJASO	NDJFMAMJJASOND		
						(d) (D))	<b>4</b>	
128 Sedan	Intro 1969 (14)	96 4 C 5 H D	96.4 (7) E.W.D.	96 4 (A) E H O	(7) Clec spark divance	E N 0 5 Sed Automatic	4	
120 Sedan	(JP 71)200 an 1 and	1070/21 (20 711290cc 4 cml	1970(2) (78 2))290cc d cvl	1920(1) (28 7)1280cc 4 cm) 1	1600cc A ckl		4	
	(18,7)1230 CC 4 Cy1	1910(3) (Id.I)Ichice 4 chi	1500127 (70177125022 4 691					
					(1)	0		
	1 mm 1000 (14)							
128 Magon	() E U D	95.4 (4) F.W.D.	95.4 ( F.W.D.	96.4 Ofscontinued (161				
ieo nagon	(78,7)1290cc 4 cvl	2030(3) (78.711290cc 4 cy)	2030(2) (78.7)1290cc 4 cyl	2030(1)			1 1	
				(15)				
			128 Coupe Restyled	128 GLX	0	0	· 2250	
	Intro 1971 (14)	(12)						
128-3P	(4) F.H.D.	87.5 () F.W.O. SONC 3P	87.5 4 F.W.O.	87.5 ( F.N.D.	87.5 (4)	0		
	(78.7)1290. 4 cy1	2025(3) (78.7)1290 4 cy1	1915 (2) (78.7)1290cc 4 cyl	1915(1) 1290cc				
				(5)				
	1		1ntro 1971	① 127     ①	<u>i@</u>	1	1 1	
				1050cc				
V 1/0	Intro 1973 (14)	PE 2 (D) 4 Set News	****	(8)	(6)		-	
× 1/9	(78 713200co A cul	2010(2) (29 7))200cc 4 cm	2010/21 (78 7)1290-6 4 641	2010(1) (79)1290cc 4 cv]	1500cc			
	(10.1)123000 4 691	2010(3) (10.1)123044 4 631	conder (no.nnever + c)	cond(1) frequence 4 est	(6)			
124 Spider	0	89.7 4	89.7	89.7 4	89.7 ( Opt. Automatic	0	2500	LEGFND:
	(107.2)1756ce 4 cyl	2200(3) (107.2)1756cc 4 cy1	2200(2) (107.2)1756cc 4 cy1	2200(1) (107.2)1756cc IL-4	2000cc		· · ·	<ol> <li>All new car, new body</li> </ol>
	(13)			(6)			4	(2) New sheet metal
131 Sedan	0	98.0	98.0	93.0 (4)	98 🕢	0	4	3 New grille, T-
	(107 2)1756cc 4 cyl	2490(3) (107.2)1756cc 4 cyl	2490(2) (107.2)1756cc 4 cyl	2490(1) 1500cc/2000cc				
				(9)			4 1	Change)
				1995cc/3500cc			4 !	[ ] Component Change
121 Hacen	(13)			(6)	(7)			Ocrivative/     Replacer
151 Wayon	0	98.0	98.0	98.0	96 EFI Elec Control Sys			Nephaces
	(107.2)1755cc 4 cyl	2520(3) (107.2)1756cc 4 cyl	2520(3) (107.2)1756cc 4 cyl	2520(1) 1756cc	1800cc 4 cy1			DOMESTIC FOREIGN
Lancia Beta Sedan		(2) (2) (2) (2)	100.0	100.0	100	0	2750	🔗 - Intro-date - 🔶
		(107.1)1756cc 4 cy1	2566(2) (107.2)1756cc 4 cy]	2620(1) 1756cc			1	🖽 - Prototype -
	(14)	(10)			(4)			V - Start Hfg V
Lancia Ganma	Olscontinued Flat 130	175 • 1 F.W.O.	3	0	Luxury Car F.I.		4 1	( ) Source Location
		(2)			2500cc 4 CYL (6)			Keterence Number
Lancia Beta Coupe		O FNO	92.5	92.6	92 6 (1) F 1.	0	1	Wheel Preste
		(107.1)1756cc 4 cyl	2321(2) (107.2)1756cc 4 cy1	2395(1) 1756cc	2500cc 4 cy1	1	1 (	Fernan Dien, Jan in Land et
							•	Cyls Curb Weight, 165.
	L							

Source: Corporate Tech Planning

FIGURE 4-7. FIAT PRODUCT SCHEDULE, 1975-80





	BRITISH LEYLAND PASSENGER CARS REVISED 1/310							
	1975	1976	1977	1978	1979	1980	Inertia Weight Class, 165.	
MARKET CLASSIFICATION MAKE-SERIES	JFMAMJJASDN	DJFMAMJJASOND	JFMAMJJASONI	DJFMAMJJASDND	JFMAMJJASDNDJF	MAMJJASDND	·	
Mini				(8) 18 Yrs	In Production	1	1	
MG Midget							2000	
,	(91)1493cc 4 cy1 1799	80 (4) (91)1490cc 4 cy1 1803(3)	(91) 1493cc 4 cy1 1803(2)	(91)1493cc IL-4 1849	0 0			
MG8			(13) 91.1	91,1	0 10		2500	
	(109.6)1798cc 4 cy1 231	4(4) (110)1798cc 4 cy1 Z286(3)	(110)1798cc 4 cy1 2286(2)	(110)1798cc 1L+4 2338(16)	10			
Austin Marina	0	96 (4) Oropped In 1976 (4)	1				Î	
	(109.7)1798cc 4 cy1 176	6(4)	(12)				sono	
Triumph Spitfire		83 (d) (01)1403cc 4 and 1732(3)	(01)140240 4 and 1222(2)	0pt 5 Sp 0.0, 83 (91)1493cc 1L-4 1856(15)	<u>(</u> )			
Turing TD7	(4)		(9)/149200 4 (9) 1//3(2)					
Triumph 187	(122)1998cc 4 cy1 214	85 (4) 85 7(4) (122)1998cc 4 cy1 2147(3)	(122)1998cc 4 cy1 2147(2)	(122)1998cc 1L-4 2478(11)	(4)		2500	
TR8				(1) Sector (10)				
		(9)					Ī	
Jensen/Rover		92 Jensen Production Ends 92	Rover 3500 (19)	)	♦ ⁽¹⁷⁾		2750	() All new car, new body
	(ILOUSINGICE & CPI	(4) (100,5)(5/500 4 Cyr 2320(3	Replaces TR 2500 & 2000	5) 12300 # 2600 EDVC	0 0			2 New sheet metal
	latro 1953 (10)			(6)	<u>♥</u> I♥.			3 New grille, T- Lights, trim
Jaguar XJ6L	() IC	109	112.8	3 Way-Catalyst F.1. 112.8	0 0		Î	Carryover (No Change)
	(258)4235cc 6 cy1 3386	3(4) {258.4}4235 6 cy1 3786(3)	(258.4)4235 6 cy1 4072(1)	(258)4235cc 6 cyl 4068(10)				Derivative/
Jaguar XJ12	F.1, (4) 10	08.8 F.I. 109	(4) F.1. (Coupe Oropped) (20) 112.	8 O F.1. (18) Iransoission 112.8	0 0		4500	Replaces
Incura VIC	(326)5343cc 12 cy1 390	0(4) {326,1)5345cc 12 cy1 4120(3) (18)	(326.1)5345cc 12 cy1 4340(1)	(326) 5343cc 12 cy1 4334(40)				DOMESTIC FOREIGN
baguar xus		(326)5343cc 12 cy1 3935	(326)5343cc 12 cy1 3935(10	(10) (326)5343co 12 cy1 3935(10)				Prototype -
								V - Start Hfg V
								() Source Location Reference Number
								Wheel Base-In.
								Engine Disp. (cu. in.) and cc Cyls Curb Weight, 1bs.
				and the second				

Source: Corporate Tech Planning

FIGURE 4-8. BRITISH LEYLAND PRODUCT SCHEDULE, 1975-80

(




.1-



4-45/4-46





-) , , ,

)

)





Source: Corporate Tech Planning

FIGURE 4-10. MERCEDES-BENZ PRODUCT SCHEDULE, 1975-79. 4-47/4-48





Source: Corporate Tech Planning.

FIGURE 4-11. SAAB PRODUCT SCHEDULE, 1975-78

4-49/4-50

#### APPENDIX A

#### DOMESTIC AUTO NOTES AND CROSS-REFERENCE LISTS

This appendix contains notes and cross-reference matrices pertaining to the domestic automobile manufacturers. The notes (Tables A-1 through A-4) are keyed by reference number (as shown on the Master Product Schedules in Section 2, Figures 2-1 through 2-8) and model year(s). The cross-reference matrices (Figures A-1 through A-4) correlate the appropriate reference number with the original research sources.

1

1

Information provided in this appendix can be used to obtain additional details beyond those highlighted on the schedules. Original sources may be identified for further research and location of diagrams, photographs, etc. Source abbreviations are located in the List of Abbreviations at the front of this report.

## AUTOMOBILE PRODUCT SCHEDULE NOTES (5/78)

Rer. Nò.	Year	·
<u>i.</u>	1978	Oldsmobile to offer 350 CID V-8 Diesel option on Delta 88s and Ninety-Eights.
2.	1978	New A-Bodies 550-972 lbs. lighter, WB 108.1 in. using body and full-frame construction. Station wagons to have two- piece tailgate/window assemblies and 4-door sedans have fixed glass in rear doors.
3.	1979	New FWD Toronado, Eldorado, and Riviera E-bodies, WB 114 in. Riviera to use Turbo 231 CID V-6 engines, Toronado the 260 CID V-8, and Eldorado the 350 CID V-8. New THM 325 Automatic transmission will be used.
4.	1978	New Chevrolet 200 CID 90°V-6 engine with aluminum intake manifold and Dualjet carb.
5.	1978	New Buick 196 CID 90°V-6 even-firing engine.
6.	$1978\frac{1}{2}$	Oldsmobile Diesel V-8 to be available on the Cadillac Seville.
7.	1980	New FWD K-body Seville, WB 114 in.
8.	1980	New FWD X-body to be introduced in the Spring of 1979, WB 103.5 in., curb wt. 2700 lbs. Chevy and Pontiac to have 2- door and 4-door hatchback models, Buick and Olds 2-door and 4-door notchback versions.
9.	1980	Chevy 1.6 liter L-4 engine converted to diesel by Pontiac.
10.	1980	New THM 125 auto transaxle for X-bodies in 1980. Manual 4- speed version will also be available.
11.	1980	New X-bodies will have MacPherson strut suspensions.
12.	1978	The Vega and Astre to be discontinued as well as the Aluminum 140 CID L-4 Chevrolet engine. The Pontiac 151 CID L-4 iron engine will be used in its place on the Monza and Sunbird, which have been expanded to include the old Vega/Astre lines including the station wagon.
13.	1978	A temporary space-saving spare tire will be standard on all new A-bodies.
14.	1978	Chevette to be offered in a 4-door hatchback version, WB 97.3 in. vs 94.3 in for the 2-door.
15.	1978	The Buick 231 CID 90°V-6 engine converted to even firing.

Į

1

6 -

1)

∅.

ij

1)

1) *

1)

1)

#### AUTOMOBILE PRODUCT SCHEDULE NOTES (5/78) (Cont.)

Ref. No.	Model Year	
16.	1978	Turbocharged 231 CID V-6 with ESC (electronic spark control) available on Regal and LeSabre models.
17.	1978	Three-way catalyst with electronic feedback carburetor on some California models with Pontiac 2.5% and Buick 3.8% engines.
18.	1978	Camaro gets soft front and rear bumper similar to the Fire- bird.
19.	19 <b>77</b> 1978½ 1980	New 151 L-4 Pontiac iron block engine. High-performance version of the 151 CID engine. Transverse and light-weight versions of the 151 CID engine with aluminum intake manifolds for the new X-bodies and other models.
20	1978	Two new carburetors introduced: Dualjet 2 bbl single stage carb for all "V" engines and the Varajet 2 bbl 2-stage carb for all inline engines. Limited use only in 1978, expanding in 1979.
21	1979	New turbocharged 151 CID L-4.
22	1980	New 3-speed automatic transmission with lockup torque con- verter to be steadily phased in through 1985.
23	1980	New transverse 2.8 liter (171 CID) 60°V-6 engine built by Pontiac for FWD X-bodies.
24	197 <b>9</b>	The in-line six cylinder engine to be dropped.
25	1980	New Chevy 267 CID V-8 engine possibly with turbocharging, and dual-displacement version of the 305 CID V-8.
26.	1978	New Regal to be an A-special body.
27	1983	New downsized bodies with conventional rear drive; WB 112 in.
28	1981	New car/van wagon FWD X-body called MPC; WB 104.9in, curb wt. 3000 lbs.
<b>29.</b> ·	1981	New U-body FWD subcompact replacement for H-body Chevy Monza and Pontiac Sunbird. Olds Starfire and Buick Skyhawks become sportier X-special models on a smaller compact X-body.

# AUTOMOBILE PRODUCT SCHEDULE NOTES (5/78) (Cont.) .

Ref. No.	Model Year	
30.	1979 1981 1983	Chevette gets mild facelift. Skin change for Chevette with major wt. reduction. New Chevette FWD T-body; WB 90 in.
31.	1981 1983 1984 1985	5.0 liter V-8 largest engine. 5.0 liter V-8 dropped except in Y-body. 3.8 liter V-6 largest engine, 5.0 liter V-8 dropped in Y-body. Diesel usage of 25% expected as a result of a 5% increase
	1909	per year in the early 1980s.
32.	1980	New Chevrolet aluminum block 165 CID 60°V-6 for FWD and models.
33.	1980	All California gasoline engines to have Phase II 3-way
	1981	All non-diesel cars will have closed-loop fuel control systems, electronic engine controls, and 3-way catalyst systems.
34.	1983	Cadillac, Buick and Olds C-bodies to be switched to FWD, and downsized to a WB of 118 in.
	1987	B-bodies to be switched to FWD.
35.	1978	Corvette to get a complete face-lift both fore and aft, switching to a fastback design.
36.	1978	Chevrolet A-bodies get plastic front header panels (result- ing in wt. saving of 7-12 lbs.) with a polyurethane primer to cover up imperfections which permits finishes comparable to those on sheet metal parts. The Monte Carlo gets soft plastic front and rear bumpers with aluminum reinforcement bars. Chevy, Olds, and Buick A-bodies get plastic inner fender liners saving over 10 lbs.
37.	1978	Pontiac revives the Grand Am nameplate on a sporty version of the LeMans.
38.	1979-80	Corvette weight to be cut 400 lbs. by using a new fiberglass technique called in-mold coating, new plastic seats, lighter gauge steel, alum. or plastic wheels, one-piece plastic hood, composite doors, and completely redesigned bumper system. Engine in 1980 will be the 305 CID V-8.

θ

•

1

ð) |

9

1.

9

1

1

AUTOMOBILE PRODUCT SCHEDULE NOTES (5/78) (Cont.)

Ref. No.	Model Ye <b>ar</b>	
39.	1978	Chevelle name dropped in favor of Malibu, Ventura dropped for Phoenix.
40	1980	Major sheet metal changes for B and C bodies to reduce weight by 200 lbs. through the use of light-weight materials.
41.	1978½ 1979 1981	Passive seat belts optional on Chevettes in late spring. Passive belts available on several more models. Air Bags optional on full size cars.
42.	1978	Aluminum intake manifold saves 31 lbs. on Seville 350 CID V-8. Aluminum hood on most C-body Cadillacs saves 45 lbs.
43.	1978	Aluminum intake manifold on Chevy 305 and 350 CID V-8s; wt. savings 35 lbs.
44.	1979 1980	New Olds 260 CID V-8 diesel engine available on the Cutlass. Buick 231 V-6 diesel.
45	1980	New 165 CID (2.7L) 60°V-6 transverse and conventional Chevy iron block engines with aluminum intake manifold.
46.	1978	Cadillac Seville offers optional Tripmaster electronic dash- board giving many functions in digital format.
47.	1982	New F-body Camaro/Firebird models with conventional drive.
48.	1980	New Pontiac 2.2 liter (135 CID) L-4 engine.
49.	1981	New Model 200/4R 4-speed automatic transmission with over- drive and lock-up torque converter.
50.	1981	New turbocharged version of the Olds 260 CID V-8.
51.	1983	New 4-speed O.D. automatic transaxle for FWD C-body models.
52.	1981	New Chevy 1.8 liter L-4 engine with iron block and head. Diesel version also being tested.
53.	1981	New EFT system using 2 injectors in the throttle body, each servicing half the cylinders (single point injections).
54.	1979	Chevy l.t liter L-4 engine gets aluminum intake manifold.

# AUTOMOBILE PRODUCT SCHEDULE NOTES (5/78) (Cont.)

Ref. No.	Model Year	
55.	1984	Corvette gets all new Y-body using the 151 CID L-4 turbor or charged engine. Curb wt. 2500 lbs.
56.	1982	Chevy 350 CID diesel V-8 new from the ground up.



J

1

1)-

)

à

)

1)

V

1)

)

)

1

FIGURE A-1. GENERAL MOTORS AUTOMOBILE PRODUCT SCHEDULE CROSS-REFERENCE LIST (5/78)



_					-	_										
3																
6																
8																
2												-				
5					_											
5																
5															•	
5																
5																
17																
<u>a</u>																
Ň													_			
6																
3																
7																
1																
3																
5																
1 J																
1																
4																
47																
-																
3																
X							_		_						-	
E.																
38																1
F																
5																
0														-		
3					_											
T T																
m												-			-	
33										×						
m																
12								×				×				
2				×												
-				- 4												
121				~		<										1
129				×	>	<										
2829				×	>	<										
272829				x	>	<										_
6272829				X	>	<		×								_
526272829				x	>	<		X								
2526272829				x	>	<		×								
24 2 5 2 6 2 7 28 29				X	>	<		x x								
23 24 2 5 2 6 2 7 28 29		×	X	X	>	<		x			x					
2 23 24 2 5 2 6 2 7 28 29		X	x	X	>	<		x x			×					
1 22 23 24 2 5 2 6 2 7 28 29		x	×	x	>	V		XXX			×					
21 22 23 24 2 5 2 6 2 7 28 29		x	x	x	>	V		x			x					
2 d 21 22 23 24 2 5 2 6 2 7 28 29		x	X	x	>	V		x			x					
19202122223242526272829		XXX	×	X	>	×		XX			x					
8 19 2 d 2 1 22 23 24 2 5 2 6 2 7 28 2 9		XXX	x	X	>	×		XXX			X					
718192d21222323242526272829		XXX	X	X	>	<		x x			x					
1 7 1 8 1 9 2 d 2 1 2 2 2 3 2 4 2 5 2 6 2 7 2 8 2 9		XXX	X	X	>	<		X			x					
16 1 7 1 8 19 2 0 2 1 2 2 2 3 2 4 2 5 2 6 2 7 2 8 2 9		XXX	X	X	>	×		x			x				×	
51617181920212223242526272829		X X	X	X	>	<		X			×				×	
1 5 6 1 7 8 1 9 2 4 2 1 2 2 2 3 2 4 2 5 2 6 2 7 2 8 2 9		X X X	X	X	>	<		x			x				×	
141516171819202122223242522222		X X X	×	X	>	<		X			X				×	
1 3 1 4 1 5 1 6 1 7 1 8 1 9 2 d 2 1 2 2 2 3 2 4 2 5 2 4 2 7 2 8 2 9		XXX	X					X			×				X	
12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29		XXX	x					X			×				X	
11211114151617181926212223242526272829		X X X	×					X			X				×	
0 1  1 2 1 3 1 4 1 5 1 6 1 7 1 8 1 9 2 0 2 1 2 2 2 3 2 4 2 5 2 6 2 7 2 8 2 9		xxx	X					×			X			:	X	
1 0 1 1 1 2 1 3 1 4 1 5 1 6 1 7 1 8 1 9 2 4 2 1 2 2 2 3 2 4 2 5 2 4 2 7 2 8 2 9	X	X X X	X					x			×				×	
9 10 1 1 12 1 3 1 4 1 5 16 1 7 1 8 1 9 2 0 2 1 2 2 2 3 2 4 2 5 2 6 2 7 2 8 2 9	X .	x x	×					x			×				X	
8 9 1 0 1 1 1 2 1 3 1 4 1 5 1 6 1 7 1 8 1 9 2 d 2 1 2 2 2 3 2 4 2 5 2 4 2 7 2 8 2 9		XXX	X	x				X			×				×	
8 9 10 1 11 2 1 3 1 4 1 5 1 6 1 7 1 8 1 9 2 0 2 1 2 2 2 3 2 4 2 5 2 4 2 7 2 8 2 9		x	X	X				× ×			x				X	
7 8 9 1011121131415161 71819202122223242526272829		XXX	X	x				×			X				X	
6 7 8 9 10 1 1 1 2 1 3 1 4 1 5 1 6 1 7 1 8 1 9 2 0 2 1 2 2 2 3 2 4 2 5 2 6 2 7 2 8 2 9	X .	x	X	X				×××	×		×				X	
5 6 7 8 9 10 1 11 2 1 3 1 4 1 5 1 6 1 7 1 8 1 9 2 4 2 1 2 2 2 3 2 4 2 5 2 4 2 7 2 8 2 9		x	×	X				× ×			x				×	
· [ 5 6 · 7 8 ] 9 [10] 1 ] 12   14   15 [16] 1 7   18   19 20 21 22 23 24 2 5 2 4 2 7 28 29			X					× ×			x				×	
4 5 6 7 8 9 10 1 1 2 1 4 1 5 1 9 2 4 2 1 2 5 2 4 2 5 2 4 2 7 2 8 2 9	X .	X X X X	x	X				×			×				×	
3 4 5 6 7 8 9 10 1 1 2 1 4 1 5 1 6 1 7 8 9 2 1 2 3 5 4 5 5 6 1 7 1 8 1 9 2 4 2 1 2 2 3 2 4 2 5 2 4 2 7 2 8 2 9		X	X	X			×	× ×			x		x		×	
2 3 4 5 6 7 8 9 10 1 1 2 1 3 1 4 1 5 16 7 2 2 3 2 4 2 5 2 8 2 7 2 8 2 9		x	X				×	× ×			x x				X	
1 2 3 4 5 6 7 8 9 4 0 1 1 1 2 1 3 1 4 1 5 8 9 2 3 2 4 2 7 2 8 2 7 2 8 2 9 2 4 2 7 2 8 2 9	X .	x	X	X			×	X			×				X	
1 2 3 4 5 6 7 8 9 101 112 114 15 6 1 7 8 9 2 0 1 12 13 14 15 8 16 1 7 18 19 2 0 21 22 23 24 2 5 2 6 2 7 28 29		R X X X X X X X X X X X X X X X X X X X	x	X			× ×	x	×		×		X		×	
; 1 2 3 4 5 6 7 8 9 4 01 112 1 1 4 1 5 1 6 1 7 2 2 3 2 4 2 5 2 4 2 7 2 8 2 9	AMM AMM	WAR X X X X 130	WEU X X	X		AK	×	MEU X X	AN AN		x x		X		×	
25 1 2 3 4 5 6 7 8 9 10 1 1 3 1 4 1 5 6 7 8 9 10 1 1 3 1 3 1 4 1 5 1 6 1 7 1 8 1 9 2 7 2 1 2 2 2 3 2 4 2 5 2 6 2 7 2 8 2 9	7 Arod	7 WAR X X X X 3-130	7 WEU X X X	X		WAR	AN X X 47	7 MEU	7 AN	7 WEU	T -50	AI -31	AN		AN	
I 2 3 4 5 6 7 8 9 10 112 14 15 6 7 8 9 20 112 13 14 15 16 1 7 18 19 2 0 21 22 23 24 2 5 2 6 2 7 28 29	2 X X X X X X X X X X X X X X X X X X X	/77 WAR X X X X 129-130	/77 WEU X X X	MT X			77 AN x x x	/77 weu	(77 AN	/77 WEU	MT X 47–50	77 AI 29-31	77 AN		X	
OURCES 1 2 3 4 5 6 7 8 9 101 112 114 15 16 17 2 23 24 25 23 24 2 5 24 2 7 28 29	25/77 AMM · X	25/77 WAR X X X X X X X X X X X X X X X X X X X	29/77 WEU X X X X	X X X X X X X X X X X X X X X X X X X		2/// WAR	3/77 AN x x x	13/77 WEU X X X X	34 34	227/77 WEU 2	77 MT X X X X X X X X X X X X X X X X X X	29-31 × 29-31	X N X N X		34 AN	
sources 1 2 3 4 5 6 7 8 9 101 1121 141 5 161 7 22 23 242 5 242 5 242 7 242 9	,/25/77 AMON	,/25/77 WAR X X X X X Pp 129-130	(29/17 MEU X X X X	X X MT		p 140	5/9/77 AN x x x p 1647	x x x pp 164	p 34	p 2	2/17 MT X X X X X X X X X X X X X X X X X X	5/1/77 AI pp 29-31	5/6/77 AN		p 34	

0

0

1.

)

1)

* 18 ×

1

C

Ø

ţ)



														_	
<u>s</u>															
5															
89															
1															
5															
قر															
1 22															•
4															
- <del>SI</del>															
ŝ															
5															
2															
0															
L T															
3															
51															
5															
븠															
1															
11															
m				~											
1													_		
T															
3				_											
9															
2															
2															
m															
6				×							×				
2									×					×	
5				~											
1															
Lě l											_				
121															
12															
L = 1															
2															
8															
5	2														
- and I							×								
27															
2627															
52627															
4252627															
3 24 2 5 2 6 2 7				×											
23 24 2 5 2 6 2 7				×											
22 23 24 2 5 2 6 2 7				×											
1 22 23 24 2 5 2 6 2 7				×											
d 21 22 23 24 2 5 2 6 2 7				×											
2021 22 23 24 2 5 2 6 2 7				×											
19 20 21 22 23 24 2 5 2 6 2 7				×								×			
181920212222324252627				X								×			
7181920212222324252627				×								×			
5 1 7 1 8 1 9 2 0 2 1 2 2 2 3 2 4 2 5 2 6 2 7				×								×			
16 1 7 1 8 19 2 4 2 1 2 2 2 3 2 4 2 5 2 6 2 7				×		<						×			
154617181929212222324252627				X								×			
4 1 5 1 6 1 7 1 8 1 9 2 0 2 1 2 2 2 3 2 4 2 5 2 6 2 7				X		<pre></pre>						×			
314151617181920212222226252627	X			X		<						×			
21114151617181920212222226252627	X			X		<						×			
121314151617181920212222324252627	X			X		<		×				×			
1 1 1 2 1 3 1 4 1 5 1 6 1 7 1 8 1 9 2 0 2 1 2 2 2 3 2 4 2 5 2 6 2 7	X			X	>	<		×				X			
011121111415461718192021222324252627	X			x	>	<		×				X			
101112111415461718192021222324252627	X			×		<		×				×			
9 10 11 11 21 14 15 46 17 18 19 20 21 22 23 24 25 26 27	x			×		<		×				×			
8 9 4 0 1 1 1 2 1 3 1 4 1 5 4 6 1 7 1 8 1 9 2 4 2 1 2 2 2 3 2 4 2 5 2 6 2 7	X			x	×	<		X				×			
7 8 9 10 0 1 1 1 2 1 3 1 4 1 5 1 6 1 7 1 8 1 9 2 0 2 1 2 2 2 3 2 4 2 5 2 6 2 7	X			×				×				x			
6 7 8 9 10 1 1 2 1 3 1 4 1 5 4 6 1 7 1 8 1 9 2 0 2 1 2 2 2 3 2 4 2 5 2 6 2 7	X			×				×				×			
5 6 7 8 9 h 0 h 1 1 2 h 4 h 5 h 6 h 7 h 8 h 9 2 d 2 h 2 2 2 3 2 4 2 5 2 6 2 7	X			X		<		×				X			
5 6 7 8 9 10 1 1 2 1 3 1 4 1 5 1 6 1 7 1 8 1 9 2 9 2 1 2 2 2 3 2 4 2 5 2 6 2 7	X			X		4		x		X		X	×		
4 5 6 7 8 9 101112141415161718192021222324252627	X			×	>	<		x	×	×		×	×		
3 4 5 6 7 8 9 1 0 1 1 2 1 1 4 1 5 1 6 1 7 1 8 1 9 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	X			×	>>			x	×	X		×	×		
2 3 4 5 6 7 8 9 4 0 1 4 1 2 1 3 1 4 1 5 4 6 1 7 1 8 1 9 2 0 2 1 2 2 2 3 2 4 2 5 2 6 2 7	X	×		×	×	4		x		x		X			
2 3 4 5 6 7 8 9 10 1 11 2 1 3 1 4 1 5 1 6 7 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	X	X		×		4		x	× ×	x		×	×		
1 2 3 4 5 6 7 8 9 101 112 1 1 4 1 5 6 7 8 9 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	X	X		×				x	x	x		×			
1 2 3 4 5 6 7 8 9 101 1121 142 5 6 7 8 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2		rs x	X	×	×	<	AR	AR	X	×		X	-X	×	
:5 1 2 3 4 5 6 7 8 9 1 0 1 1 2 1 3 1 4 1 5 1 6 7 8 9 1 0 1 1 1 2 1 3 1 4 1 5 1 6 1 7 1 8 1 9 2 0 2 1 2 2 2 3 2 4 2 5 2 6 2 7	WAR X	WAR X	MEU X	AN			WAR	WAR X X X X	Aboli X X	AAR X X		X	AR	X	
CES 1 2 3 4 5 6 7 8 9 10 1 1 2 1 3 4 5 6 7 8 9 10 1 1 2 1 3 1 4 1 5 1 6 1 7 1 8 1 9 2 0 2 1 2 2 2 3 2 4 2 5 2 6 2 7	X WAR	7 WAR X	7 WEU X	7 AN		17 AN	77 WAR	77 WAR X X X X	77 AND X X X	T WAR X X		7 WEU	VAR X	7 AMM X	
URCES 1 2 3 4 5 6 7 8 9 1 0 1 1 2 1 4 1 5 6 7 8 9 2 0 1 1 2 1 4 1 5 1 6 1 7 1 8 1 9 2 0 2 1 2 2 2 2 3 2 4 2 5 2 6 2 7	26 X/77 WAR	1/17 WAR X	:477 WEU X	x x x x x x x x x x x x x x x x x x x	162	8628	3/77 WAR	236 X WAR X X X X X X X X X X X X X X X X X X X	1614 X X X	777 WAR X X X	7 MT 103	(77 WEU X X X X X X X X X X X X X X X X X X X	177 WAR X	777 AMM X	
sources 1 2 3 4 5 6 7 8 9 1 0 1 1 2 1 1 4 5 6 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	. 226	18/77 WAR X	22/77 WEU X	25/77 AN	p 162	(25/17 AN A) A (25/17 A) A (25	25/77 WAR 5 235	225/77 WAR X X X X 25/77 WAR	225/77 ANDM X X X 3p 1614	11/77 WAR X X X	777 MT > 103	x x x x x x x x x x x x x x x x x x x	(8/77 WAR	11/77 AMM X	

٩ ١

)

1

)

, , ,

٩ ١

9

9.

)

)





)

.

1

)

.]

}

1)

1)

Л Л

1) (1)

1

# FIGURE A-1. GENERAL MOTORS AUTOMOBILE PRODUCT SCHEDULE CROSS-REFERENCE LIST (5/78)(Cont.)





						and the owner of the owner of the owner.					and the second se		_	
0														
6														
12														
1 5 1	1													
3														
ň														
5														
5														
ŝ														
5														
N														
5														
in I	_													
5														
6										× .				
1														
3						×								
51		×*		×										
6			×											
4														
131						×		_						
3														
4									×					
2														
1														
12														
3														
0														
8						-								-
m														
121														
5														
2														
5														
3		×												
6			-											
0														
121														
-														
5											×			
m I	X											×		
	~													
0		~												
829		~												
2829	x	~				×								
272829	×	~				×								
6272829	×	~				×								
5 2 6 2 7 28 29	x	~				×								
2526272829	C X	~				×								
242526272829		×				×								
3 24 25 26 27 28 29		×				×								
23242526272829		×				×								
22 23 24 2 5 2 6 2 7 28 29		×				×								
21 22 23 24 25 26 27 28 29		×				×								
021 22 23 24 25 26 27 28 29		X				×								
2021 22 23 24 2 5 2 6 2 7 28 29		×				×			×					
19 20 21 22 23 24 2 5 26 27 28 29		×				×			×					
181920212223242526272829		×				×			×					
7 18 19 20 21 22 23 24 2 5 26 27 28 29		×				×			×					
1 7 1 8 19 2 9 21 22 23 24 2 5 2 6 2 7 28 29		×				X			×					×
16 1 7 1 8 19 20 21 22 23 24 2 5 26 27 28 29		×				×			×					x
51617181920212223242526272829		×				×			×					x
151617181920212223242526272829		×	X			X			×					X
141516171819202122223242526272829		×	X			×			×					x
13141516171819202122223242526272829		×	X	X		x			×					×
213141546171819202122223242526272829		×	X	X		x			X					×
11211314151617181920212223242526272829		×	X	x x		×			×					x
1 1 1 2 1 3 1 4 1 5 1 6 1 7 1 8 1 9 2 0 2 1 2 2 2 3 2 4 2 5 2 6 2 7 2 8 2 9		×	X	xx		×			×					x
011121314151617181920212222242526272829		×	X	x x		×			×					x
1011121314151617181920212223242526272829		×	×	xx		×			×					x
9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29		×	×	xx		×			×					X
8 9 10 1 11 2 1 3 1 4 1 5 1 6 1 7 1 8 1 9 2 0 2 1 2 2 2 3 2 4 2 5 2 6 2 7 2 8 2 9		×	x	xxx		×			×					×
7 8 9 1 0 1 1 2 1 3 1 4 1 5 1 6 1 7 1 8 1 9 2 9 2 1 2 2 2 3 2 4 2 5 2 6 2 7 2 8 2 9		X	×	XXX		×			×					X
7 8 9 10 1 1 1 2 1 3 1 4 1 5 1 6 1 7 1 8 1 9 2 9 2 1 2 2 2 3 2 4 2 5 2 6 2 7 2 8 2 9		X	×	XXX		×			×					X
6 7 8 9 10 1 11 2 1 3 1 4 1 5 1 6 1 7 1 8 1 9 2 0 2 1 2 2 2 3 2 4 2 5 2 6 2 7 2 8 2 9		x	X	xx		×			×					X
5 6.7 8 9 1011121314151617181920212223242526272829		X	×	xx		×			×					x
5 6 7 8 9 1 0 1 1 2 1 3 1 4 1 5 1 6 1 7 1 8 1 9 2 9 2 1 2 2 2 3 2 4 2 5 2 6 2 7 2 8 2 9		X	x	XX		×			× ×					X
4 5 6 7 8 9 1 0 1 1 2 1 3 1 4 1 5 1 6 1 7 1 8 9 1 0 1 1 2 2 3 2 4 2 5 2 6 2 7 2 8 2 9		×	X	xx					×					x
3 4 5 6 7 8 9 101 112 13 14 15 16 1 7 18 19 20 21 22 23 24 2 5 26 27 28 29		X	×	XXX		×	×		X					X 2
3 4 5 6 7 8 9 10 1 1 1 1 1 1 4 1 5 1 6 1 7 8 9 2 0 1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2		x	x	XXX		×	X		× *					x
2 3 4 5 6 7 8 9 101 1121 3 4 1 5 6 7 8 9 2 0 1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2		X	x	xx		X	×		×					
1 2 3 4 5 6 7 8 9 1 0 1 1 1 2 1 3 1 4 1 5 1 6 7 8 9 1 0 1 1 1 2 1 3 1 4 1 5 1 6 1 7 1 8 1 9 2 0 2 1 2 2 2 3 2 4 2 5 2 6 2 7 2 8 2 9		X	x	xx		×	×		× ×					X
1 2 3 4 5 6 7 8 9 1 0 1 1 1 2 1 3 4 5 6 7 8 6 7 8 9 1 0 1 1 1 2 1 3 1 4 1 5 1 6 1 7 1 8 1 9 2 0 2 1 2 2 2 3 2 4 2 5 2 6 2 7 2 8 2 9		X	×	xxx		×			X					X
1 2 3 4 5 6 7 8 9 1 0 1 1 1 1 1 4 1 5 1 6 1 7 8 9 1 0 1 1 1 1 2 1 3 1 4 1 5 1 6 1 7 1 8 1 9 2 0 2 1 2 2 2 3 2 4 2 5 2 6 2 7 2 8 2 9		WAR X X X X X X X X X X X X X X X X X X X	x			X	MET	EU	Arb	AN	AN	AN	78X	AR
ES 1 2 3 4 5 6 7 8 9 10 1 1 2 1 3 4 5 6 7 8 9 10 1 1 2 1 3 1 4 1 5 1 6 1 7 1 8 1 9 2 0 2 1 2 2 2 3 2 4 2 5 2 8 2 7 2 8 2 9	X AN	7 WAF	35 AW	X X X		AN	7 weu x	MEU .	7 APO	7 AN X	7 AN	7 AN	p 78x	WAR
RCES 1 2 3 4 5 6 7 8 9 101 11 21 31 4 5 6 7 8 9 20 1 1 2 1 3 1 4 1 5 1 6 1 7 1 8 1 9 2 4 2 1 2 2 3 2 4 2 5 2 6 2 7 2 8 2 9	(77 AN (77 A)		ими т	PS X X X X X X X X X X X X X X X X X X X	AE X -27	77 AN	777 wed x	77 WED	/77 AMD	/77 AN X	/77 AN	77 AN	25 p 78k	78 WAR
URCES 1 2 3 4 5 6 7 8 9 10 11212131415161718 9 20 21 22 23 24 25 26 27 28 29	( X )	14/77 WAR X X X X X X X X X X X X X X X X X X X	7 WAW X 31–35	7 PS X X X X X X	7 AE X 44-27 44-27	/77 AN	25/77 WEU X 266	/77 MEU 1-3	3 3	9/77 AN X NA	9/77 AN 8	6/77 AN	PS P 78X	7 7
sources 1123456788900112131415h617181924212223242526272829	(X) (24/77 AN	7 14/77 WAF X X X X X X X X X X X X X X X X X X X	77 WAW p 31–35	777 PS X X X 600 X X X 100 X X X 100	777 AE X 24-27	71/77 AN X X X X X X X X X X X X X X X X X X	/25/17 WEU X p 266	/9/77 MEU	/12/77 AMP X	/19/77 AN X 13/77 AN 3	/19/77 AN	30 30	78 PS p 78x	16/78 WAR

A-15

)

1)

)

.)

1)

•

1

1

) 7

and in state		- in Malanna area		-	and the second second second		Concession of the local diversion of the loca	and the second second						
3	1													
6	1				the birdents						-		_	
8	<u>}</u>							and the second se			An October			
in											_			
57	1													
50									and decompletions and are					
5							CTACOPTON AND							
2														
54	ļ.													
3	1													
2							12.0						_	
5						-								
5	<u> </u>										· · · · · · · · · · · · · · · · · · ·			
5										$\times$				
6	×	×								×.			×	
8														
1													_	
4														
9														
45	1													·
4		×					- Elizabetha		The late desired as	~				
素	L													
4														
42														
-	-					·								
8														
3										×		×		
3														
38														
N														
3														
-										to the Exception				
35														
7														
3		×	×				×		×					
-21						_								
m														
11														1
0														
2														
282					×	×								
27282					×	X				X		X	×	
627282					×	X				×		X	X	
5 2 6 2 7 28 2					×	×	·			×		X	×	
252627282					×	×				x		X	×	
24252627282					X	X				х	×	X	X	
23 24 2 5 2 6 2 7 28 2					X	X				X	X	X	X	
2 23 24 2 5 2 6 2 7 28 2					X	X				x	X	X	x	
22 23 24 2 5 2 6 2 7 28 2					X	×				X X X	X	x	×	
21 22 23 24 2 5 2 6 2 7 28 2					X	×				X X X	x	×	X	
2 0 21 22 23 24 2 5 2 6 2 7 28 2					×	×				x x	×	×	X	
92021 22 23 24 2 5 2 6 2 7 28 2					×	×				x x	×	X	X	
8 19 2 0 2 1 2 2 2 3 2 4 2 5 2 6 2 7 2 8 2					X	×				XXX	×	X	X	
18192021222324252627282					X	X				XXX	×	×	X	
1 718192021 22 23 24 2 5 2 6 2 7 28 2					X	X	X		X	XXX	X	×	X	
6 1 7 1 8 19 20 21 22 23 24 2 5 2 6 2 7 28 2					X	X	X	X	X	XXX	X	X	X	
51617181920212222324252627282					X	X	X	X	X	XXX	x	X	X	
154617181920212222324252627282					X	X	X	X	X	XXX	x	X	X	
14151617181920212222324252627282					X	X	X	X	X	XXX	X	X	×	
1 3 1 4 1 5 1 6 1 7 1 8 1 9 2 0 2 1 2 2 2 2 3 2 4 2 5 2 6 2 7 2 8 2					X	X	X	×	X	XXX	X	x	×	
2 1 3 1 4 1 5 1 6 1 7 1 8 1 9 2 0 2 1 2 2 2 3 2 4 2 5 2 6 2 7 2 8 2					X	X	X	X	X	X	X	X	×	
1121314154617181920212222324252627282					X	×	X	X	X	XXXX	X	×	×	
1112131415161718192021222324252627282					×	×	X	X	x	× ×	x	x	×	
10111211114151617181920212222324252627282	×				×	×	x	x	x	X	×	×	×	
9 10 0 1 1 1 2 1 3 1 4 1 5 1 6 1 7 1 8 1 9 2 0 2 1 2 2 2 3 2 4 2 5 2 6 2 7 2 8 2	×				×	×	x	×	x	x	x	x	×	
8 9 10 0 1 1 1 2 1 3 1 4 1 5 1 6 1 7 1 8 1 9 2 0 2 1 2 2 2 3 2 4 2 5 2 6 2 7 2 8 2	X				×	×	X	× *	x	x	x	x	×	
8 9 1 0 1 1 1 2 1 3 1 4 1 5 1 6 1 7 1 8 1 9 2 9 2 1 2 2 2 3 2 4 2 5 2 6 2 7 2 8 2				×	×	X	x	×	x	x	x	x	×	
7 8 9 1 0 1 1 1 2 1 3 1 4 1 5 1 6 1 7 1 8 1 9 2 0 2 1 2 2 2 3 2 4 2 5 2 6 2 7 2 8 2					×	x	x	×	x	x	x	X	×	
6 7 8 9 10 1 1 1 1 2 1 3 1 4 1 5 1 6 1 7 1 8 1 9 2 0 2 1 2 2 2 3 2 4 2 5 2 6 2 7 2 8 2	×			×	×	x	x	x	X	x	×	x	×	
5 6 7 8 9 10 0 1 1 1 2 1 3 1 4 1 5 1 6 1 7 1 8 1 9 2 0 2 1 2 2 2 3 2 4 2 5 2 6 2 7 2 8 2	×				x	x	x	×	x	x	x	x	×	
5 6 7 8 9 10 11 12 13 14 15 16 1 7 18 19 20 21 22 23 24 2 5 26 27 28 2				×	×	x	X	×	x	x x x	× ×	x		
4 5 6 7 8 9 10 1 1 1 2 1 3 1 4 1 5 1 6 1 7 1 8 1 9 2 9 2 1 2 2 2 3 2 4 2 5 2 6 2 7 2 8 2	×			×	x	×	x	x	X	X X X	×	x	×	
3 4 5 6 7 8 9 10 1 1 12 1 3 1 4 1 5 1 6 1 7 1 8 1 9 2 9 2 1 2 2 2 3 2 4 2 5 2 6 2 7 2 8 2	×			×	x	x	x	x	X		x	x	×	
2 3 4 5 6 7 8 9 10 11 12 1 14 15 16 1 7 8 19 20 21 22 23 24 2 5 26 2 7 28 2	X			×	×	x	x	x	X	x x x x x x x x x x x x x x x x x x x	x x	x	×	
2 3 4 5 6 7 8 9 1 0 1 4 1 2 4 1 4 1 5 4 6 7 8 9 2 4 2 5 2 6 2 7 2 8 2	×			×	x	×	x	x	X		× ×	x	×	
1 2 3 4 5 6 7 8 9 10 1 1 4 1 5 6 7 8 9 10 1 1 4 1 5 6 7 8 9 10 1 1 4 1 5 1 9 7 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	×			×	x	x	x	x	X	X X X	x	x	×	
1 2 3 4 5 6 7 8 9 1 0 1 4 1 2 1 3 1 4 1 5 1 6 2 1 2 2 2 2 3 2 4 2 5 2 6 2 7 2 8 2	X			AR	X	x	x	×	X			LR X	X	
35 [1] 2 3 4 5 6 7 8 9 1 0 1 1 1 2 1 3 1 4 1 5 1 6 7 8 9 2 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	4 Ath	WEU	Aith	WARK X	Arb	X	902 X X X	7 90	A1 X X 20	AN X X X X X X X X X X X X X X X X X X X	AN	WAR	Aybe	
CES 1 2 3 4 5 6 7 8 9 1011121114151617182222222222222222222222222222222222	78 Ath X	78 WEU ,4,5	78 Aim	78 WAR	78 AIM X X X	PS X	WAW X X 0-92	RéT Két k.	8 AI 9-20	8 AN X X X X X X X X X X X X X X X X X X	8 AN	8 WAR	78 AAPA	
URCES [1]2]3 4 5 6 7 8 9 10 112 11 4 15 16 1 7 18 19 20 21 22 23 24 2 5 26 27 28 2	6/78 ALM X X X	2/78 WEU 1.4.5	13/78 Ator	3/78 WAR	5/78 APP	X X X X X X X X X X X X X X X X X X X	8 WAW 8 Y 4 Y 4 Y 4 Y 4 Y 4 Y 4 Y 4 Y 4 Y 4 Y	8 R&T X 88-90	/78 AI 19-20	1633 X X X X X X X X X X X X X X X X X X	778 AN X X	778 WAR 43	3/78 AMP	
sources 1 2 3 4 5 6 7 8 9 1 0 1 1 2 3 4 5 6 7 8 9 1 0 1 1 2 1 3 1 4 1 5 1 6 1 7 1 8 1 9 2 9 2 1 2 2 2 4 2 5 2 6 2 7 2 8 2	X 16/78 ARP	220/78 WEU 22 1,4,5	223/78 Aifte	233/78 WAR 25	30/78 Arbs x	778 PS X X X X X X X X X X X X X X X X X X	778 WAW X 800-92 X 178 WAW X 179 00-92	778 R&T X X X X X X X X X X X X X X X X X X X	/1/78 AI 2p 19-20	76/78 AN X X X X X X X X X X X X X X X X X X	76/78 AN X 33	76/78 WAR 2 43	(13/78 AMP	

1

-		
3		
59		
8		
2		
S		
2		
12		× .
-		
3		
5		
2	×	
-		
lo l		
5		
3		×
4	×	~
9		
1		
4	<u>^</u>	^
1		×
3		
27	1	
4		
Ŧ	×	
ु		×
6		
8		
m	<u></u>	^
m		
2		
5		
17		
à	×	
121		
2	×	
2		
m m		
13	×	×
8		
7	×	×
3		
ñ		
5	×	
3		
<b>R</b>		
2		
52		
17		
9		
8		×
		×
-		× ×
181		×
17181		×
617181		× ×
51617181		× X
151617181		×
14151617181		× X
314151617181		×X
2 1 3 1 4 1 5 1 6 1 7 1 8 1		×X
12 1 3 1 4 1 5 1 6 1 7 1 8 1		× X
1 1 1 2 1 3 1 4 1 5 1 6 1 7 1 8 1		× X
011121314151617181		×X
1 0 1 1 1 2 1 3 1 4 1 5 1 6 1 7 1 8 1		× ×
9 10 1 1 2 1 3 1 4 1 5 1 6 1 7 1 8 1		× × × ×
8 9 10 1 12 13 14 15 16 17 18 1		× × × × × × × × ×
7 8 9 10 1 12 13 14 15 16 1 7 18 1		× × × × × × × × ×
6.7 8 9 10 11 2 1 3 1 4 1 5 1 6 1 7 1 8 1		× × × × × × × × ×
6 .7 8 9 10 1 1 2 1 3 1 4 1 5 1 6 1 7 1 8 1		× × × × × × × × × × × × × ×
5 6 7 8 9 10 11 2 1 1 4 1 5 16 1 7 18 1		× × × × × × × × ×
4 5 6 7 8 9 10 11 2 1 1 4 1 5 16 1 7 18 1		× × × × × × × × ×
3 4 5 6 7 8 9 10 112 13 14 15 16 17 18 19		× × × ×
2 3 4 5 6.7 8 9 10 112 13 14 15 16 17 18 19		× × × × × × × × ×
2 3 4 5 6 7 8 9 10 1 1 2 1 3 1 4 1 5 16 1 7 1 8 1		× × × × × × × × × ×
1 2 3 4 5 6 7 8 9 10 1 1 2 1 3 1 4 1 5 16 1 7 1 8 1		× × × × × × × × × ×
1 2 3 4 5 6 7 8 9 10 11 21 31 4 15 16 7 8 9		AN X X X X X X X X X X X X X X X X X X X
S 1 2 3 4 5 6 7 8 9 1011121114151617181	AN AN HAR HAR AN AN AN	WAAR   x   x   x   x   x   x   x   x   x
CES 1 2 3 4 5 6 7 8 9 101 112 1 1 4 1 5 16 1 7 18 1	8 AN 66 AN 8 AN 8 WAR 8 AN 8 AN 8 AN 8 AN 8 AN 627	8 WAR X X X T T S S M M WEU X X X X X X X X X X X X X X X X X X X
URCES 1 2 3 4 5 6 7 8 9 10 1 1 2 1 3 4 5 6 7 8 9 10 1 1 2 1 3 1 4 1 5 1 6 1 7 1 8 1	VALES VILLES VIL	78 WAR X X X 2 8 2 2 2 4 5 6 3 1 5 3 1 5 3 1 5 3 1 5 3 1 5 5 5 5 5 5 5 5 5 5 5 5 5
SOURCES 1 2 3 4 5 6.7 8 9 10 11 21 31 4 15 16 1 7 18 1	20/NLES 13/78 AN p 1646 20/78 AN 23/78 HAR 27/78 AM 27/78 AM 27/78 AN 27/78 AN 27/78 AN 27/78 AN	27/78 WAR 68 78 MT 12 78 PS 46 78 PS 78 PS

FIGURE A-1. GENERAL MOTORS AUTOMOBILE PRODUCT SCHEDULE CROSS-REFERENCE LIST (5/78)(Cont.)

A-17

1)

1) )

> ) ,)

> > () ()

> > > () ()

. I. D

8 D

N D

> } •

) )



<u> </u>	-	~				~~~~~						 		
0												 		
2												 		
80	T													
2	+											 		
in.	+											 		
56									~			 		
55	T												•	
-	+			<u> </u>								 		-
54	1											 		
3	T													
2	+		×							×		 		
5												 		
5														
50	T													
-				~					~			 		-
3	-											 		
48	1					_								
2	T													
풍	<u> </u>				*****				~			 		
ž.	<u> </u>											 		
4										×				
4	X													
*	-											 		
4														
17	1											 		
1	1-													
4	-											 		
4								×						_
6														
5	-											 		
ñ					×							 		
2														
5	1											 		
3												 	~ ~ ~ ~ -	
~														
3	1			×										
3	1-	-										 		-
9	-	_							_			 		_
33														
H.	1													
8	+											 		
m.														
29														
-	+											 		
2	+											 		
5														
26	1													
5	+											 		
2										×		 		
24														
3	-													
5	+					· · ·						 		
2	-	_										 		
51	1													
0	+													
6	+											 		
-												 		
18	1													
7	1											 		
	+		_									 		
16	1											 		
5														
3	+											 		-
-												 		
H														
_	-											 		
5							~					 		
112	-											 		
1112	E													
10112				×										
9 1 0 1 1 1 2				×							_	 		
9 1 0 1 1 1 2				×							_			
8 9 1 0 1 1 1 2				×		×					_			
7 8 9 10 1 1 2				×		×								
7 8 9 10 112				x		×								
6.789101112				×		×								
5 6 7 8 9 10 11 12				x		×								
1 5 6 7 8 9 10 1 1 2				x		×								
4 5 6 7 8 9 10 1112				x		×								
3 4 5 6 7 8 9 10 11 12				x x		×								
2 3 4 5 6 7 8 9 10 11 12				x		X								
2 3 4 5 6 7 8 9 10 11 12				x		x								
1 2 3 4 5 6 7 8 9 10 11 12				x		x								
1 2 3 4 5 6 7 8 9 10 1 1 2			z	X X	2	AR X 30	Ě							
s 1 2 3 4 5 6 7 8 9 10 1 1 2	AN N N N N N N N N N N N N N N N N N N		AN	AMM X X X	AN	-130 X X X	APPH	AMD6	WEU	AMM				
CES 1 2 3 4 5 6 7 8 9 10 11 12	8 AN		8 AN	18 AMM X X X	8 AN	8 WAR X X 9-130	8 AMM	8 AMr6 24	8 WEU	8 AMM 35				
JRCES 1 2 3 4 5 6 7 8 9 1 0 1 1 1 2	/78 AN		/78 AN	/78 AMM X X X X	/78 AN	/78 WAR X X X	/78 AMM	/78 AMP6 1624	/78 WEU 168	/78 AMM 1635				
OURCES 1 2 3 4 5 6 7 8 9 1 0 1 1 2	10/78 AN		43 43 AN	24/78 AMM X X X X	24/78 AN	24/78 WAR X X X	24/78 AMM	24/78 AMD6 p 1624	28/78 WEU	p 1635				

FIGURE A-1. GENERAL MOTORS AUTOMOBILE PRODUCT SCHEDULE CROSS-REFERENCE LIST (5/78)(Concluded)

A-19

1)

J)

)

Ŋ

1)'

)

, ), )

۹ ال

ß D

1) •)

# AUTOMOBILE PRODUCT SCHEDULE NOTES (5/78)

Ref. No.	Model Year	
1.	1978	Mark V "Carriage Roof" option solid white vinyl with a canvas weave over steel. Miles-to-empty option using a digital microprocessor. All Lincolns get windshield-washer fluid level indicator.
2.	1979	Standard sized Ford and Mercury models to be down- sized. Curb weight 3600 lbs., WB 114.4 in., length 208 in. Approximately 700-800 lbs. lighter and 14 in. shorter.
3.	1980	Lincoln and Continental Luxury-full sized models to be downsized and share underbodies with standards. Mark V WB 114.4 in., Continental WB 117.4 in. Curb weight 4000 lbs.
4.	1978-79	Little change for intermediates.
5.	1978	Versailles will have all Aluminum hocd.
6.	1978	New Ford F-body Fairmont/Zephyr using 140 CID L-4, 200 CID L-6, and 302 CID V-8 engines. Models include 2-dr, 4-dr, & station wagons (LTD II and Cougar wagons dropped). Approximately 300 lbs. lighter and 4 inches shorter than Maverick/Comet which they replace. WB 105.5 in. New gauge pack- age and power options available with the Zephyr Z-7 and Farimont Futura personal specialty cars being introduced mid-year (2-door coupes).
7.	1978	Fairmont/Zephyr have unibody construction, revised MacPherson strut front suspension with the coil springs between the lower A-arms and the number two crossmember, and a new 7½ in differential with less offset allowing lower ratios. Variable ratio rack- and-pinion power steering available (also Pinto/ Bobcat and Mustang II), with a pressure bypass cir- cuit that decreases the driving power required when power assist is not called for.
8.	1981	Current compacts become intermediates after 1980.
9	1979	Mustang all new 4-seater in notchback and hatchback, new Capri domestic derivative of Mustang in notch- back only. Built on shortened Fairmont frame with

1

1

1.

}

-}

)

100

1

# AUTOMOBILE PRODUCT SCHEDULE NOTES (5/78) (Cont.)

,

Ref. No.	Model Year	
		soft front and rear ends, resulting in 200 lbs. less weight. Upsized from the current 96.2 in. WB to 100.4 in. Turbocharged 4-cylinder engine available for Mustang, Capri and Pinto.
10.	1978	California Pintos and Bobcats with auto transmission and 2.3 liter engine have 3-way catalysts and feed- back carburetors using analog electronics. Carbs supplied by Holley. Versailles' 302 CID V-8 has EEC-1 electronic engine control of spark timing and EGR flow rate as vell as a Variable Venturi (VV) carburetor. The VV carb is also on all California 302 CID V-8 engines.
11.	1978	PROCO (Programmed Combustion) Stratified Charge direct injection engine starts tests on 302/351 CID V-8 engines.
12.	1979	Model 2700 Variable Verturi carburetor to be availab in all states (Mass produced for V-8 engines). Mode 2150 (ECC) electronically controlled feedback carbur tor available nation-wide on selected engines.
13.	1979	Chrome plated aluminum bumpers on selected models.
14.	1979	New light weight rear axles with new ratios: $7\frac{1}{2}$ and $8\frac{1}{2}$ in. for new downsized standard cars, 6-3/4 in. for the Mustang and Capri.
15.	1981	Ford's "Erika" Eur./Amer. FWD replacement for the Pinto and Escort will be a notchback rather than a hatchback design; WB 94.0 in.
16.	1981	Exhaust sensors and 3-way catalyst, on all vehicles. EEC III (electronic engine control of EGR, spark timing, and air/fuel ratio) using electronic fuel metering rather than a carb on selected vehicles. Electronics designed by Motorola. Robert Bosch Corp will supply the fuel injector components.
17.	1982	New V-6 Production: a 3.8 (232 CID) and a 3.2 liter (195 CID) to be ready. The 3.8 liter engine will be a 90°V with alum. cylinder heads.

AUTOMOBILE PRODUCT SCHEDULE NOTES (5/78) (Cont.)

Ref. No.	Model <b>Year</b>	
18.	1982	PROCO stratified charge, direct injection engine to be ready on the 302 CID V-8 first in limited produc- tion.
19.	1980 1985	New 255 V-8 engine pulled off the 302 CID V-8 block. Biggest engine will be the 351 CID V-8. Largest engine will be the 302 CID V-8.
20.	1978	Aluminum intake manifold used on some 302 CID V-8 engines.
21.	1978	New FWD Fiesta with a 1.6 liter OHV I-4 Kent engine modified for the U.S. market and emissions require- ments, 4-speed manual transaxle, MacPherson strut front suspension, and lifetime sealed Timken preset front wheel bearings. WB 90.0 in.
22.	1978	New improved more efficient reduced slip torque con- verters for all automatic transmissions.
23.	1978	All Ford and L-M models are carryovers except for all Farimont/Zephyr and Fiesta and new grille, headlights and tail lights on the Gransda/Monarch (first minor style change since 1975 intro.)
24.	1978	Warranty coverage broadened to include service adjust ments for 12 months or 12,000 miles.
25.	1978	Several Ford and L-M models (especially the new models) get improved aerodynamics, i.e. front spoilers.
26.	1978	Pinto/Bobcat get digital AM clock radio option, first of many for all Ford models.
27	1979	EEC II on selected models - electronic control of EGR, spark timing, and air/fuel ratio control with feedback carb and 3-way catalyst and exhaust sensor. Electronic voltage regulator to be standard on all Ford cars. (Introduced in 1978 on selected models).
28	1979	Composite Graphite Test Car intermediate size but only 2500 lbs. w/graphite wheels, bumpers, hood, deck lid, seat frames, front end assembly and doors.

.

AUTOMOBILE PRODUCT SCHEDULE NOTES (5/78) (Cont.)

Ref. No.	Model Year	
29.	1980	New intermediate car introductions. LTD II name to be dropped (in favor of Granada). Cougar (instead of Monarch) and T'Bird models will use underbodies similar to Fairmont/Zephyr but will be a little lar- ger. WB 108.0 in. Granada/Monarch compacts dropped.
30.	1981	Two transverse 1.6 and 1.3 liter 4-cylinder engines for Erika. Hemispherical combustion chambers will be used. They will have alum. intake manifolds and possibly alum. heads. A new U.Sbuilt auto trans- axle will be introduced for these engines. The man- ual transaxle will be imported form Toyo Kogyo of Japan.
31.	1985	Average Ford car to weigh 3000 lbs. vs. 4000 lbs. in 1978 and 4200 lbs. in 1977.
32.	1985	Two-seat commuter cars to be on the market with less than 1000cc engines and 65~70 mpg.
33.	1978	Plastic fuel tanks on Mustang II 8-cylinder models - the only car with them.
34.	1978	"Unique Cooling" approach makes aluminum heads cost- effective. Testing 302 CID V-8.
35.	1978	New Optional road-abrasion package a spray-on strip of polyvinyl chloride along the lower edge of the car between the prime coat and finish coat to reduce paint chipping from road gravel (all cars).
36.	1978	Plans cancelled for dual displacement 300 CID L-6
	1980	Dual displacement or vari-cube V-8 engine still in testing for the 1980's with the 302 CID V-8 version to be installed in selected mid-sized models in 1980. Emissions appear to be causing problems.
37.	1978 1979	Aluminum rear cover plates for L-6 engines. Weight savings of 1-2 lbs. realized. Aluminum rear cover plates for 140 CID L-4 and 302 CID V-8 engines.

AUTOMOBILE PRODUCT SCHEDULE NOTES (5/78) (Cont.)

Ref. No.	Model Year	-
38.	Mid '80s	FWD van prototype off the new Erika which has 2 doors and is a multipurpose vehicle.
39.	1981	Super Pinto high performance version of the Erika will be a sporty 2-door hatchback with a turbccharged 1.6 liter OHC 4-cylinder engine with an aluminum cylinder head and CVCC stratified charge combustion chambers.
40.	1985	Second round of downsizing will begin two years be- hind GM.
41.	1978	New ignition system in testng which eliminates dis- tributor and reduces RFI (Radic Frequency Inter- ference).
42.	1980 1981	Ford testing plans include introduction of a passive belt system in some models. An air bag option will be available for its large cars and passive belts in scme small cars.
43	1978 ¹ 2	A commercial mini-van, the Pinto Panel Delivery Van, will be introduced for businesses that do not need larger trucks. Also being introduced is a Thunderbird T-Roof option with tinted glass roof panels.
44	1981	FWD 2-seater sports car may be introduced, derived from the all new Pintc.
45	1980s	Ford considering an all aluminum version of its 2.3 liter 4-cylinder engine.
46	1979	Bobcat and Pinto get new headlamps and grille. Bobcat name to be dropped.


A-25

FIGURE A-2. FORD AUTOMOBILE PRODUCE SCHEDULE CROSS-REFERENCE LIST (5/78)

10

1 6

B

١

0	
4	
6	
5	
00	
100	
m.	
9	
<u>m</u>	×
5	
-m	
3	
5	
2	
- A	
m	
0	
5	
5	
8	
2	
2	
9	
2	
5	
2	
24	
3	
5	
53	
5	
0	
0	
H.	×
8	м
	~ X
	×
10	
La	
S	× × ×
14	×
	~
2	×
금	
	× × ×
a	×
6	
00	
n	×
0	×
5	
4	
3	× × × × ×
N	
	×
-	×
S	
S	2467382861 Caraca62666136 ao 5 - 5 5 5 5 5 5 5 5 5
R	
0	
S	A A A A A A A A A A A A A A A A A A A
	AN MAN MAN AN AN AN AN MAN AN A
lange	

A-26

FIGURE A-2. FORD

AUTOMOBILE PRODUCT SCHEDULE CROSS-REFERENCE LIST (5/78)(Cont.)

<b>1</b> 00	
4	
3	
38	,
2	
9	
5	
5	
8	
0	
32	
31	
<u> </u>	
6	
82	
72	
62	
5	
25	×××
24	×
23	× ×
22	×
-	×
0	× ×
92	
H	X
	^
1	
16	
5	
4	
7	
물	
-	
H O	× × × × ×
6	×
00	
2	× × ×
9	× × × ×
10	
4	
5	×
2	×
-	×
	31 7 7 7 8
S	• • • • • • • • • • • • • • • • • • •
SC	18/ 58/ 22/ 100 22/ 21/ 100 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/ 200 8/
Inc	- ст
S	T T T T T T T T T T T T T T T T T T T
	MU MA AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA

FIGURE A-2. FORD AUTOMOBILE PRODUCT SCHEDULE CROSS-REFERENCE LIST (5/78)(Cont.)

A-27

10

1

١

)

1

U B

) 6

1



AUTOMOBILE PRODUCT SCHEDULE CROSS-REFERENCE LIST (5/78)(Cont.)

(75)		
4		
6		
8		-1
3		_
3		
9	, , , , , , , , , , , , , , , , , , ,	
5	~ ~ ~	-
3		_
34		
6		
23		-
6	*	_
31		
0	× × × ×	
6		-
2		
28	×	
-	×	
62		
2	×	
25		
4		
32		-
2		
22		
-		
5		-
5		_
19		
8		
1		_
	× ×	
16	×	
5		
17		_
-		×
5		×
17		-
н		<u> </u>
10	× × ×	
6		
		-
8		_
2		
9		
	^X	-
4		_
4		
m		
	* *	-
2		×
	× • × ×	
S		
CE		1
JR.		
10		-
S		
	A A A A A A A A A A A A A A A A A A A	

A-29

FIGURE A-2. FORD AUTOMOBILE PRODUCT SCHEDULE CROSS-REFERENCT LIST (5/78)(Cont.)

1

1,

1,

19

.

10

) 1

6

1)

( 1990) (12/2) ISTI IN 21 (12 STORE CHILDE CONDUCT IN MACHINE

6	H											-Grandel gra	- Carlos and a state of the sta		-	_	-					-		
T								-					Sector Sector		-									
39																								
8	1																							
F																	-					alli, farmali pagaritar		
6		_				-																-		
m						×	×	1					×	×	×				>	4			1	
35											;	×												•
7	Ì		×																		مي ويعلم ( ما اي ا			
10										-														
33	<u> </u>		-		~			Cognition Inflore							A colored with							an a tha gin the origination		
m													-								- ANN - T - SAL - BP			
31																								
no l	1								×	×			- Auction Constrainty of Constrainty					×				4		
6	-																							
2											Children Spinson				A					-				
5																		مار مقدرها <u>از جالانا</u> ن						
27		×	_			×																		
26		×				X																		
5				ni manin (nii) 7						-												an an the second se		
42															a a constanting and a constant and	-			and sensitive					
5	<u> </u>																			-				
23				-			_				_													
22																								
17	1																							-
0														-										RC DRC
92																				-				E C
	<u> </u>											-									×	×		
-																								N.
17																						×		-A-
9	1	×																						щ
5	<u> </u>															2								L H
														والمروات مي تحمد										16
14																								لمل
E I	1																							
5	1																							
																						a mani kata kasi		
귿																								
H	L	×				×																		
6																	×							
8	1																							
2	-													a poly of the first statement										
				-													-							
	<u> </u>																							
5																-1						and apple states (200 - 1807)		
4																							1	
ω.																								
~																				-		-		
																-	a na mana di kata ya k		-					
						×	and the state																	
				20	00	~	00 15. (	00	~	6	0	8	8	0	0	8	2 20	~	0	8	84			
S	00	0 ~	5	-	17	361		178	321	17	~~~	1		~	n n	5	N N	381	-	1	1	10		
RC	5	1.1	1	N G	2	19		19/1	6/	15	1 4	/10	101	19	ã F	Ĕ.	120		N V	127	4/30	3,		
inc	-	d	0		2	d-	d	-	2-	d'	- P	24	2	d	- A	-	d -i	ld	À A	ì	d-	d.		
S	AW	° (+1	d.	AR	7	1		05	A	F	7.	5	d	F	2	7	B	11	C 1	5	IR			
	M	AF		M	AL	5		M	Ā		Ā	3		~	¢	Ā	- H	±	3	ß	We			

AUTOMOBILE PRODUCT SCHEDULE CROSS-REFERENCE LIST (5/78)(Cont.)

A-30

322⁴



A-31

FORD FIGURE A-2.

AUTOMODALL PRODUCT STILLING COUNCE BELLENCE FILL (S.Z.M.) (COURT ) 

U 0

Ľ 1

1 )

> ٠ )

> )

1 6

1 )

) )

1

1)



×

×

×

A-32

FIGURE A-2. FORD

AUTOMOBILE PRODUCT SCHEDULE CROSS-REFERENCE LIST (5/78)(Cont.)

.

_		
0 +		
6		
8		
5		
3		
36		
5		
43		
8		
<u>e</u>		
32		
E		
0	×	
6		
2		
58		
27		
2 6		
2		
42		
2		
2		1
22		
12		
0		B B
92	×	
81		
		2
1	×	
16		R
5		3
		L
-		
12		
드		
0		
0	× ×	
8		
~		
9		
5		
4		
3		
2	×	
CES	78 78 76 76 10/78 11/78 55 22 22 4/78 22 22 4/78	
UR	7 0.7 0.7 0.7 0.7 0.4 0.4 0.	
SO	2 3	
	WA AN AN AN AN AN	
		1

AUTOMOBILE PRODUCT SCHEDULE CROSS-REFERENCE LIST (5/78)(Concluded)

A-33

0)

()

•

5

2

•

1

1.

1

1,

1

ø

00

AUTOMONTEL PROPERTY STUDIED CROSS RELEARNED FIST (SZZB) (CONC.)

#### AUTOMOBILE PRODUCT SCHEDULE NOTES (5/78)

Ref. No.	Model Year	
1.	1978	Electronic Lean Burn on all V-8 engines.
2.	1979	New R-body cars to have fabricated aluminum wheels and chrome-plated aluminum bumpers.
3.	1978	Gran Fury, Royal Monaco, and Newport Town & Country Wagon and Sedan discontinued; Fury and Monaco interim standards until 1979.
4.	1979	New R-body standard size cars, Dodge (4-dr. St. Regis and Chrysler (2-& 4-dr. Newport & New Yorker) only no Plymouth. WB-118.5 in.
5.	1979	Fury and Monaco B-bodies discontinued.
6.	1979	318 CID V-8 with electronic spark control system and fuel metering standard for new R-bodies.
7.	1978	New Magnum XE 2-dr. coupe, sporty version of Charger SE (unchanged). Cordoba gets new front and rear ends Charger SE to be scrubbed in 1979.
8.	1978	Lock-up torque converter standard on automatic trans- missions A-904 and A-727 with all engines except the 440 CID V-8.
9.	1980	Cordoba/Magnum will be redesgined and built on the 112.7 in. WB as a variation of the M-body.
10.	1977 1978	New Diplomat/LeBaron spring introduction in 2- and 4- dr. models. Station wagon versions added.
11.	1980	New 225 CID I-6 pre-chamber diesel derived from the slant six.
12.	1978	Introduction of Mitsubishi diesel in light trucks only. Engine is 6-cylinder, 243 CID, 103 hp.
13.	1978	New Omni/Horizon FWD L-body with 1.7 liter VW L-4 engine with aluminum head, 4-speed VW manual trans- axle, and 3-speed Chrysler auto transaxle. Curb wt. 2,137 lbs., WB 99.2 in.

# AUTOMOBILE PRODUCT SCHEDULE NOTES (5/78) (Cont.)

Ref. No.	Model Year	
14.	1978	New Omni/Horizon to be a 5-door hatchback with one- piece body sides, optional air conditioning using a swashplate drive compressor, and aluminum bumpers a first for Chrysler.
15.	1978	New Sapporo/Challenger subcompact luxury sports cars from Mitsubishi: WB 99.0 in.; curb wt. 2,400 lbs.; 4- and 5-speed manual and 3-speed automatic trans- mission; 1.6, 2.0, 2.6 liter 4-cylinder engines with MCA-Jet stratified charge system.
16.	1980½	New 2.2 liter 4-cylinder engine with EFM, MCA-Jet system, and electronic spark control. Aluminum heads are being considered.
17.	1983	New advanced technology one-chamber diesel 225 CID 6-cylinder engine.
18.	1979	The 400 & 440 CID V-8 engines to be dropped. The 360 CID V-8 will be largest engine.
19.	1982	Diesel version of the 2.2 liter 4-cylinder engine planned.
20.	1980	Turbocharged 1.7 liter engine for the sporty 2-door versions of the Omni/Horizon.
21.	1980	Diplomat/LeBaron 2-door coupes will be reskinned and built on the 108.7 in. WB of the Volare/Asper F-body. The 4-door models will get a facelift and remain on a 112.7 in. WB.
22.	1978	Introduction of an advanced solid-state search-tune radio controlled by a digital microprocessor.
23.	1981	Smaller versions of the Volare/Aspen will be intro- duced as K-bodies with FWD; 100 in. WB, 212 liter engine, 2- and 4-door and wagon. Weight reduced 600-700 lbs.
24.	1978	Turbo 225 CID L-6 in development.

1

. )

, J

)

1,

· 13

1)

#### AUTOMOBILE PRODUCT SCHEDULE NOTES (5/78) (Cont.)

Ref. No.	Model Year	
25.	1978	Swashplate drives 5-cylinder air conditioner com- pressor for all 6-cylinder engines: 10.2 lbs. less weight and requires less space.
26.	1978	Volare/Aspen and New Yorker new grille and tail lights.
27.	1981	CVCC stratified charge version of the 2.2 liter L-4 engine.
28.	1979	Omni/Horizon will be offered in a 2-door hatchback version called the Solo and Mirada with special styling; WB 96.7 in.
29.	1978	All cars from Mitsubishi have MCA-JET engines standard.
30.	1979	Introduction of new chrome-plated aluminum bumpers on the R-bodies a first for U.S. industry.
31.	1978	Omni/Horizon 1.7 liter engine is equipped with elec- tronic lean burn and a "Hall-effect" distributor.
32.	1978	New 4-speed OD manual transaxle to mate with the new 2.2 liter FWD 4-cylinder engine as well as the 1.7 liter engine.
33.	1978	New light weight L-6 engine with more aluminum parts including a two-piece, electronic-beam-welded intake manifold.
34.	1979	New lock-up torque converter for auto transaxle on Omni/Horizon.
35.	1980 ¹ /2	New "prestige" small luxury car Y-body. Possible name: Imperial. Curb weight 3,500 lbs., WB 112.7in.
36.	1981	New aluminum heads for the 225 CID L-6 engine.
37.	1979	Introduction of induction manifold fuel injection .and 3-way catalyst on Calif. 1V, 6-cylinder engines. Lean burn system dropped in favor of an electronic spark control system. Air/fuel ratio of 16:1 vs. 18:1 initially on all 4- and 8-cylinder engines.

1

-

1.

•

7 5

1,

13

. 6

1

1)

### AUTOMOBILE PRODUCT SCHEDULE NOTES (5/78) (Cont.)

Ref. No.	Model Ye <i>e</i> r	
38.	1983	New 4-cylinder engine smaller than 2.0 liters to replace the 1.7 liter VW engine.
39.	1981	New sheet metal on L-bodies. Wheelbase reduced to 94 in. Electronic feedback carbs, fuel metering, and fuel injection systems with 3-way catalyst in development for the 1980s.
	1982	A new luxury K-body may be introduced.
	1983	New H-body downsized to replace the R-body; WB 110 in., Curb weight 3,500 lbs.
	1984	New J-body to replace the M and Y bodies; WB 106.7in.
40.	1979	New Mitsubishi mini named the Mirage with FWD and 1.6 liter engine.

A-37

Sourcess       1       2       5       6       7       8       9       10       11       12       12       3       4       5       6       7       8       9       10       11       12       12       12       12       12       12       12       12       12       12       12       12       12       12       12       12       12       12       12       12       12       12       12       12       12       12       12       12       12       12       12       12       12       12       12       12       12       12       12       12       12       12       12       12       12       12       12       12       12       12       12       12       12       12       12       12       12       12       12       12       12       12       12       12       12       12       12       12       12       12       12       12       12       12       12       12       12       12       12       12       12       12       12       12       12       12       12       12       12       12       12       12	0		
SOURCES       1       5       5       5       9       101112131415161171619262232425262728293031323334355637383         EU       126/77       ×       ×       ×       ×       ×         N       22/4/77       ×       ×       ×       ×       ×         N       2/4/77       ×       ×       ×       ×       ×         N       2/21/77       ×       ×       ×       ×       ×         N       2/28/77       ×       ×       ×       ×       ×         N       2/101       ×       ×       ×       ×       ×       ×         N       2/101       ×       ×       ×       ×       ×       ×       ×         N       2/101       ×       ×       ×       ×       ×       ×       ×       ×       ×	4		~
Sources       1       2       6       7       8       9       10       11       12       12       22       22       22       23       33       33       33       33       33       33       33       33       33       33       33       33       33       33       33       33       33       33       33       33       33       33       33       33       33       34       34       35       34       35       34       35       34       35       34       35       34       34       34       34       34       34       34       34       34       34       34       34       34       34       34       34       34       34       34       34       34       34       34       34       34       34       34       34       34       34       34       34       34       34       34       34       34       34       34       34       34       34       34       34       34       34       34       34       34       34       34       34       34       34       34       34       34       34       34       34       34	2		
SOURCES       1       2       6       7       8       9       10       11       26       27       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23	e		
SOURCES       1       2       4       5       7       8       9       10       11       26       7       8       9       10       11       26       7       8       9       10       11       26       7       8       9       10       11       26       7       8       9       10       11       26       7       8       9       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10 <t< th=""><th>2</th><th></th><th></th></t<>	2		
SOURCES       1       2       6       7       8       9       10       11       21       4       5       6       7       8       9       10       11       26       27       28       29       03       32       33       36       35       33       36       35       33       36       35       33       36       35       33       36       35       35       35       35       35       35       35       35       35       35       35       35       35       35       35       35       35       35       35       35       35       35       35       35       35       35       35       35       35       35       35       35       35       35       35       35       35       35       35       35       35       35       35       35       35       35       35       35       35       35       35       35       35       35       35       35       35       35       35       35       35       35       35       35       35       35       35       35       35       35       35       35       35       35       35 <th>9</th> <th></th> <th></th>	9		
BURGES       1       2       4       5       6       7       8       9       10       11       21       1       2       4       5       6       7       8       9       10       11       2       2       2       2       2       2       2       2       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3 <td< th=""><th>5</th><th></th><th></th></td<>	5		
BURCES       1       3       4       5       7       8       9       10       1112       12       3       4       5       7       8       9       10       1112       12       2       2       2       2       2       2       2       2       2       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3	m		
SOURCES       1       2       4       5       6       7       8       9       10       111213141516171819202222222222222222222222222222222222	34		
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	33		
SOURCES       1       2       3       5       6       7       8       9       10       11       12       12       12       22       22       22       22       22       22       22       22       22       22       22       22       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       24       25       26       27       23       23       23       23       24       25       26       27       23       23       23       23       24       25       26       27       23       24       25       26       27       23       24       25       26       27       23       24       27       24       27       24       27       24       27       24       27       24       27       24       27       24       27       24       27       24       27       24       27       24       27       27       27       27       27       27       27       27       27       27       27       27       27       27       27	2		
BUIL/26/76       1       5       6       7       8       9       101112131415161771819202122232455262728239303         EU       11/26/76       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       <	급		
SOURCES       1       2       3       5       6       7       8       9       10       11       222       222       222       223       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23       23 <t< th=""><th>- 21</th><th></th><th></th></t<>	- 21		
BUIL26/76       1       2       3       4       5       7       8       9       10       1112131415161741819202122232425526272822         P       12       22       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2	m		
SOURCES       1       2       3       4       5       7       8       9       10111213141516171819202122232425262728         T       P       8       x       x       x       x       x         T       P       21       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x	29		
BUIL26/76       1       2       3       4       5       6       7       8       9       10111213141516171819202122324252627         EU       11227736       x       x       x       x       x       x         EU       224777       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x	8		
SOURCES 1 2 3 4 5 6 7 8 9 10111212141516171819202122222222222222222222222222222222	2		
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	62		
SOURCES 1 2 3 4 5 6 7 8 9 1011121314151617181920212232425 EU 11/26/76 EU 11/26/76 EU 12/27746 N 12/27746 N 22/21777 M 22/21777 M 22/21777 M 22/21777 M 22/21777 M 22/21777 M 22/28777 M 22/2777 M 22/27777 M 22/2777 M 22/2777 M 22/2777 M 22/2777 M 22/2777 M 22/277	2		
SOURCES 1 2 3 4 5 6 7 8 9 10111213141516171819 2021 22 23 24 EU 11/26/76 EU 11/26/76 EU 11/26/76 N 12/27/26 N 2/21/77 N 2/21/77 N 2/21/77 N 2/21/77 N 2/21/77 N 2/221/77 N 2/221/77 N 2/221/77 N 2/221/77 N 2/221/77 N 2/221/77 N 2/221/77 N 2/221/77 N 2/221/77 N 2/21/77 N 2/221/77 N 2/21/77 N 2/221/77 N 2/21/77 N 2/228/77 N 2/228/77 N 4/4/77 N 7 N 4/4/77 N 4/1/77 N 4/1/77 N 4/1/77 N 5/2/77 N 4/1/77 N 6/1/1/77 N 6/1/1/77 N 7 N 7 N 7 N 7 N 7 N 7 N 7 N	25		
SOURCES 1 2 3 4 5 6 7 8 9 1011121314151617181920212222 EU 11/26/76 EU 11/26/76 EU 12/27/76 N 12/27/76 N 2/21/77 N 4/4/77 N 2/21/77 N 4/4/77 N 5/21/77 N 7 N 4/4/77 N 7 N 4/4/77 N 7 N 4/4/77 N 7 N 4/4/77 N 5/21/77 N 7 N 7 N 4/4/77 N 7 N 7 N 4/4/77 N 5/21/77 N 7 N 7 N 7 N 7 N 7 N 7 N 7 N	24		
SOURCES       1       2       3       4       5       6       7       8       9       1011112131415161741819202122         EU $11/26/76$ x       x       x       x       x         EU $11/26/76$ x       x       x       x       x         EU $11/26/76$ x       x       x       x       x         EU $2/4/77$ x       x       x       x       x         N $2/21/77$ x       x       x       x       x         N $2/21/77$ x       x       x       x       x         M $2/28/77$ x       x       x       x       x         M $2/28/77$ x       x       x       x       x         M $2/28/77$ x       x       x       x       x         M $p.64$ x       x       x       x       x         M $p.101$ x       x       x       x       x         M $p.101$ x       x       x       x       x       x       x	m		
SOURCES12345678910111112121212121212121212121212121212121212121212121212121212121212121212121212121212121212121212121212121212121212121212121212121212121212121212121212121212121212121212121212121212121212121212121212121212121212121212121212121212121212121212121212121212121212121212121212121212121212121212121212121212121212121212121212121212121212121212121212121212 <t< th=""><th>2 2</th><th></th><th></th></t<>	2 2		
SOURCES         1         2         3         4         5         6         7         8         9         10         11         15         6         7         8         9         10         11         15         6         7         8         9         10         11         15         6         7         8         9         10         11         15         16         17         18         19         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20 <t< th=""><th>2</th><th></th><th></th></t<>	2		
SOURCES1234567891011121314151617181920EU $1/2/27/3d$ xxxxN $12/27/3d$ xxxEU $2/4/77$ xxxN $2/21/77$ xxxN $2/21/77$ xxxN $2/21/77$ xxxN $2/21/77$ xxxN $2/21/77$ xxxN $2/21/77$ xxxN $2/28/77$ xxxN $2/28/77$ xxxAM $9/77$ xxAN $9/101$ xxAN $4/4/77$ xxAN </th <th>21</th> <th></th> <th></th>	21		
SOURCES         1         2         3         4         5         6         7         8         9         10         1112         13         14         15         6         1         12         12         12         13         14         15         6         1         12         12         12         12         12         12         12         12         12         12         12         12         12         12         12         12         12         12         12         13         12         12         13         13         13         13         13         13         13         13         13         13         13         13         13         13         13         13         14         16         13         14         13         13         14         16         13         13         14         16         16         17         18         18         18         18         18         18         18         18         18         18         18         18         18         18         18         18         18         18         18         18         18         18         18         18         18	20		
SOURCES       1       2       3       4       5       6       7       8       9       1011121314151617181         W       12/27/746       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x	6		
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	8		
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	무		
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		X	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	E P		
SOURCES         1         2         3         4         5         6         7         8         9         10         11         12         13         14           EU         11/26/76 $x$	12	× ×	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	4		
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	-	× ×	
SOURCES       1       2       3       4       5       6       7       8       9       10       1111         FU $12/27/746$ x       x       x       x       x       x         N $12/27/746$ x       x       x       x       x       x         N $2/4/77$ x       x       x       x       x       x         N $2/21/77$ x       x       x       x       x       x       x         M $2/21/77$ x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x		××	
SOURCES1234567891011EU $11/26/74$ $x$ $x$ $x$ $x$ $x$ $x$ $x$ $x$ $x$ N $12/27/746$ $x$ $x$ $x$ $x$ $x$ $x$ $x$ $x$ $x$ EU $2/4/77$ $x$ $x$ $x$ $x$ $x$ $x$ $x$ $x$ $x$ N $2/28/77$ $x$ $x$ $x$ $x$ $x$ $x$ $x$ $x$ M $2/28/77$ $x$ $x$ $x$ $x$ $x$ $x$ $x$ M $2/28/77$ $x$ $x$ $x$ $x$ $x$ M $2/2/77$ $x$ $x$ $x$ $x$ $x$ M $2/2/77$ $x$ $x$ $x$ $x$ $x$ M $2/2/77$ $x$ $x$ $x$ $x$ <th>1</th> <th></th> <th></th>	1		
SOURCES12345678910EU $11/26/746$ $x$ $x$ $x$ $x$ $x$ $x$ $x$ $x$ $x$ N $2/4/77$ $2/4/77$ $x$ <th>1</th> <th>× × ·</th> <th></th>	1	× × ·	
SOURCES         1         2         3         4         5         6         7         8         9         1           FU $11/26/76$ N $12/27/76$ x         x         x         x         x         x         x         x         x         x         x         x         x         x         x         x         x         x         x         x         x         x         x         x         x         x         x         x         x         x         x         x         x         x         x         x         x         x         x         x         x         x         x         x         x         x         x         x         x         x         x         x         x         x         x         x         x         x         x         x         x         x         x         x         x         x         x         x         x         x         x         x         x         x         x         x         x         x         x         x         x         x         x         x         x         x         x         x         x         x<	0	× ×	
EU       1       2       3       4       5       6       7       8         N $221$ N $221$ ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       ×       <			
EU $11/26/76$ $1$ $2$ $3$ $4$ $5$ $6$ $7$ $7$ $P$ $8$ $x$ $x$ $x$ $x$ $12/27/766$ $12/27/766$ $x$ $x$ $x$ $x$ $12/27/766$ $12/27/766$ $x$ $x$ $x$ $x$ $12/22/7766$ $x$ $x$ $x$ $x$ $x$ $N$ $2/24/77$ $x$ $x$ $x$ $x$ $N$ $2/228/77$ $x$ $x$ $x$ $x$ $x$ $N$ $2/28/77$ $x$ $x$ $x$ $x$ $x$ $x$ $N$ $100$ $x$		× · · · · · · · · · · · · · · · · · · ·	~
EU 11/26/76 1 2 3 4 5 6 7 EU 11/26/76 $\times p 8$ N 2/27/76 $\times x \times x$ M 2/21/77 $\times x \times x$ M 2/21/77 $\times x \times x \times x$ M 2/28/77 $\times x \times x \times x$ AU 7/77 $\times x \times x \times x$ AU 4/4/77 $\times x \times x \times x$ AU 4/4/77 $\times x \times x \times x$ M 4/11/77 $\times x \times x$ M 4/11/77 $\times x \times x$ M 5/2/77 $\times x \times x$ M 5/2/77 $\times x \times x$	8		^
EU 11/26/76 1 2 3 4 5 6 EU 11/26/76 $\times p$ 8 N 2/27/76 $\times x$ x N 2/21/77 $\times x$ x N 2/21/77 $\times x$ x N 2/28/77 $\times x$ x AW 7/77 $\times x$ x AW 4/11/77 $\times x$ x AW 4/11/77 $\times y$ x AW 4/11/77 $\times y$ x P 109 $\times y$ 1099 $\times y$ 1009 $\times x$ 1009 $\times y$ 1009 $\times x$ 1009 $\times y$ 1009 $\times x$ 1000 $\times x$	7	×	
EU 11/26/76 1 2 3 4 5 EU 11/26/76 1 2 3 4 5 N 12/27/76 1 2 3 4 5 EU 2/4/77 6 1 2 2 3 4 5 EU 2/4/77 6 1 2 2 3 4 5 N 2/21/77 6 1 2 3 4 5 N 2/21/77 7 6 1 2 3 4 5 N 2/21/77 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	9	×	
SOURCES 1 2 3 4 EU 11/26/76 1 2 3 4 N 2/27/76 21 EU 2/4/77 EU 2/4/77 N 2/21/77 8 N 2/21/77 8 N 2/21/77 8 N 2/28/77 8 N 2/21/77 8 N 2/21/77 8 N 2/2/77 8 N 2/2/	5	4 V	
EU 11/26/76 EU 11/26/76 P 8 N 12/27/76 EU 2/4/77 EU 2/4/77 N 2/28/77 MM 2/28/77 MM 2/28/77 AW 3/77 AW 3/77 AW 3/77 AW 4/11/77 AW 4/11/77 MM 4/11/77 MM 4/11/77 MM 4/11/77 MM 2/21622 MM 4/11/77 MM 2/28/77 MM 2/28/77 MM 2/28/77 AW 13/77 AW 13/77 MM 2/28/77 MM 2/11/77 MM 2/21629 S/13/77 PP 16.29 S/13/77 PP 16.29 S/13/77 PP 16.29 PP 16.29 MM 2/21/77 MM 2/216/77 MM 2/28/77 MM 2/11/77 PP 16 P 10 P 16 P 10 P 16 P 17 P 17 P 17 P 17 P 17 P 18 P 18			
EU 11/26/76 1 2 3 EU 11/26/76 2 1 2 3 N 2/27/76 2 1 2 3 EU 2/4/77 2 2 1/77 2 2 1/77 2 2 2 1/77 2 2 2 1/77 2 2 2 2 2 1/77 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	4		
EU 11/26/76 EU 11/26/76 N P21/27/76 EU 2/4/77 EU 2/4/77 EU 2/28/77 MM 2/28/77 MM 2/28/77 AW 3/77 AW 3/77 AW 3/77 AW 4/11/77 AW 4/11/77 MM 5/2/77 MM 5/2/77 MM 5/2/77 MM 5/2/77 P 109 MM 5/2/77 P 15 P 1629 S/13/77 P 1 6 P 1 7 P 1 7 P 1 6 P 1 7 P	3	×	
EU 11/26/76 EU 11/26/76 N 22/27/76 EU 2/4/77 EU 2/4/77 N 2/28/77 MM 2/28/77 MM 2/28/77 AU 2/28/77 AU 2/28/77 AU 2/28/77 AU 2/28/77 AU 2/28/77 AU 2/28/77 AU 2/28/77 AU 2/28/77 AU 2/21/77 AU 4/11/77 AI 4/11/77 AI 64 P 100 N 2/24/77 M 5/2/77 M 5/2/77 P 109 M 5/2/77 P 109 P 15 P 109 M 5/2/77 P 109 P 15 P 109 M 5/2/77 P 109 P 15 P 109 P 109 M 2/21/77 P 109 P 100 P 109 P 100 P 109 P 100 P 100	2		
SOURCES EU 11/26/76 P 8 P 8 P 21 EU 2/4/77 P 21/77 P 21/77 P 2/28/77 AW 2/28/77 P 164 P 164 P 2/28/77 AW 2/28/77 AW 2/28/77 P 2/28/77 P 1522 AW 2/28/77 P 101 AW 4/11/77 AW 4/11/77 M 5/2/77 M 5/2/77 P 109 M 5/2/77 P 109 M 5/2/77 P 109 P 15 P 109 P 100 P			
EU 11/26/7 EU 11/26/7 EU 12/27/7 EU 2/4/77 EU 2/4/77 P 21 P 21 P 21 P 21 P 2/4/77 P 2/28/7 AU 2/27/7 AU 2/27/77 AU 2/27/7 AU 2/27/77 AU 2/27/77			2
EU 11/26 EU 11/26 EU 11/26 EU 2/4/ EU 2/4/ P 2/21 MM 2/22 AW 2	5		Ś
SOUR EU 11/ P 2/ EU 2/ EU 2/ EU 2/ P 2/ EU 2/ AW 2/ AU	E		
AAW F F F F F F F F F F F F F F F F F F	UR		d l
A A A A A A A A A A A A A A A A A A A	0S		<u>г</u>
		MEL MAN NA MAN NA MAN NA MAN NA MAN NA MAN NA MAN MAN	

FIGURE A-3. CHRYSLER AUTOMOBILE PRODUCT SCHEDULE CROSS-REFERENCE LIST (5/78)

									×			×	
									×			×	
									×			×	
									×			×	
									×			×	
									×			×	
									×			×	
									×			×	
									×			×	
									*			×	
									×			×	
									×			×	
									×			×	
									×			×	
									×			×	
												×	
												×	
												×	
												×	
												×	
												×	
												×	
												×	
												×	
											×		
								×					
					ac								
	×												
													×
	×									×			
					×					×			
		×								×			
					;	×							
~ ~												<u>^</u>	
^				^			^						
			×										
×													
×			×									×	
×													
			×										
			30	~	200	~				~	~		~
1		5	17	5	6	1		5	2	91	1		-
7 1	57	3,0	18	9.0	3/	4	-	10	5	18/	6 5		28
	220	517	71	7	4 [ [	12	77	4	/8/	d'I	77	22	20
	цю ц.	0 4 0	ц.0	д 9	д. 0 I	<u>д</u> Ф	d L	4 L	d r	d r	d L	- d -	d r
EU EU	É	EU MM	MM	z	AR	ΕU	E	z	EU	Z	Z	AR	EU
3 3	Σ	3 A	A	A	3	3	X	A	3	A	A	3	5
				۵	- 30								
	. p 14 WEU 5/27/77 x x x x x w x	. p 14 weu 5/27/77 weu 5/27/77 x x x x x x x x x x x x x x x x x x	. P 14 WEU 5/27/77 WEU 5/27/77 WEU 5/27/77 WEU 5/27/77 WEU 6/10/77 WEU 6/10/77 WEU 6/10/77 X X X X X X X X X X X X X X X X X X X	. P 14 WEU 5/27/77 P 1 WEU 5/27/77 MT 6/77 MT 6/77 WEU 6/10/77 MMM 6/13/77 AMM 6/13/77 AMM 6/13/77 X X X X X X X X X X X X X X X X X X	WEU 5/27/77       WEU 5/27/77         WEU 5/27/77       X         WEU 5/27/77       X         WEU 5/27/77       X         WEU 6/10/77       X         MM 6/13/77       X         AMM 6/13/77       X         AMM 6/13/77       X         AMM 6/13/77       X         X       X         X       X         X       X         X       X         X       X         X       X         X       X         X       X         X       X         X       X         X       X         X       X         X       X         X       X         X       X         X       X         X       X         X       X         X       X         X       X         X       X         X       X         X       X         X       X         X       X	<ul> <li>Yeu 5/27/77</li> <li>WEU 5/27/77</li> <li>WEU 5/27/77</li> <li>WEU 5/27/77</li> <li>WEU 5/27/77</li> <li>WEU 5/27/77</li> <li>WEU 6/10/77</li> <li>X X X</li> <li>X X</li></ul>	<ul> <li>Yeu 5/27/77</li> <li>Weu 5/27/77</li> <li>Weu 5/27/77</li> <li>Weu 5/27/77</li> <li>Weu 6/10/77</li> <li>Weu 6/10/77</li> <li>X X X X X</li> <li>MT 6/77</li> <li>MT 6/77</li> <li>X X X X X</li> <li>X X X X</li> <li>X X X X X</li> <li>X X X X X</li> <li>X X X X X X</li> <li>Anm 6/13/77</li> <li>X X X X X X X</li> <li>Anm 6/13/77</li> <li>X X X X X X X X X</li> <li>Anm 6/13/77</li> <li>X X X X X X X X X X X X X X X X X X X</li></ul>	<ul> <li>Yeu 5/27/77</li> <li>Weu 5/27/77</li> <li>Weu 5/27/77</li> <li>Weu 5/27/77</li> <li>Weu 5/27/77</li> <li>Weu 6/10/77</li> <li>Weu 6/10/77</li> <li>X X X</li> <li>MT 6/13/77</li> <li>Anm 6/13/77</li> <li>X X</li> <li>X</li></ul>	<ul> <li>weu 5/27/77</li> <li>weu 5/27/77</li> <li>weu 5/27/77</li> <li>weu 5/27/77</li> <li>weu 5/27/77</li> <li>weu 6/10/77</li> <li>weu 6/10/77</li> <li>weu 6/10/77</li> <li>weu 6/13/77</li> <li>weu 7/17</li> <li>weu</li></ul>	<pre>x x x x x x x x x x x x x x x x x x x</pre>	weu 5/27/77       weu 5/27/77         weu 5/27/77       weu 5/27/77         weu 5/27/77       x         weu 5/27/77       x         weu 5/27/77       x         weu 6/10/77       x         weu 6/13/77       x         AMM 7/777       x         AM 7/4/77       x         AM 7/4/77       x         AM 7/4/77       x         AM 7/4/77         AM 7/4/77     <	<pre>x x x x x x x x x x x x x x x x x x x</pre>	<ul> <li>weu 5/27/77</li> <li>weu 5/27/77</li> <li>weu 5/27/77</li> <li>weu 5/27/77</li> <li>weu 5/27/77</li> <li>weu 6/10/77</li> <li>weu 6/10/77</li> <li>weu 6/13/77</li> <li>weu 7/24/77</li> <li>weu 7/18/77</li> <li></li></ul>

AUTOMOBILE PRODUCT SCHEDULE CROSS-REFERENCE 11ST (5/78)(Comt ) FIGURE A-3. CHRYSLER

•,

•, ъ ą

۰. ای

•

•

12

n n 5)

.9

1)

15

0							
6		CHICKLE & Concerning of the				· · · · · · · · · · · · · · · · · · ·	
83							
5							
m.							
3						-	
35							
34							
3							
23							
E I			·				
3							
m							
29					×	× ×	
28				×			
27			>	<			
0							
52		<u>×</u>	×				
4 2						×	
5	×						
5	×						2
22							Ē
21							٢S
20							HR
61							0
8	×	·····					ŝ
F							Ť
19			×				ш
10	× ×						UR
		×	×	>	< ×	××	16
14	× ×			×			LL
E	× ×						
12			×				
E			~	`			
0		××	Q				
17							
<u> </u>							
8		× ×				×	
~	×	× ×	×				
9							
5	×						
4							
m	×	×	×				
		<u></u>					
-		X X	×			<u> </u>	
-	7 77 77	382	50	77	77	3	
)ES	225. 115. 115. 125. 125. 125. 125. 125.	12/10	28/28	18/9/	10/	82 35 35	
JRC	9/6 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	46 6	L/G	1/6	10	01 do	
Sol			4		5. 41		
	AN ME ME ME PS DF	AN	AN	AN	WE ME	AE	

AUTOMOBILE PRODUCT SCHEDULE CROSS-REFERENCE LIST (5/78)(Cont.)

2     3     4     5     6     7     8     9     10     11     12     13     14     15     6     7     8     9     10     11     12     13     14     15     16     17     18     19     20     21     22     23     24     25     26     29     30       x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x	31323.				 							×		×		 ×	×	
2     3     4     5     6     7     8     9     10     11     12     13     14     15     16     17     18     19     20     21     22     23     24     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5     5 <td>2930</td> <td></td> <td>×</td> <td></td> <td>×</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>,</td> <td></td> <td></td> <td> </td> <td></td> <td>_</td>	2930		×		×								,			 		_
2 3 4 5 6 7 8 9 1011121314 1516 171819 20 21 22 23 24 2 5 2 6 x x x x x x x x x x x x x x x x x x x	2728												×		×	 ×		
x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x <td>2526</td> <td></td> <td></td> <td></td> <td> ×</td> <td></td> <td>_</td> <td></td> <td></td> <td></td> <td> </td> <td></td> <td></td> <td></td> <td></td> <td> </td> <td></td> <td></td>	2526				 ×		_				 					 		
2       3       4       5       6       7       8       9       10       1112       13       14       15       16       17       18       19       20       21       22         x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x       x	23 24				 						 					 		_
2     3     4     5     6     7     8     9     10     11     12     13     14     15     16     17     18     19     20       x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x     x	21 22				 		×			×	 					 		
2     4     5     6     7     8     9     10     1112     1314     15     16     17     18       x     x     x     x     x     x     x     x     x     x       x     x     x     x     x     x     x     x     x       x     x     x     x     x     x     x     x       x     x     x     x     x     x     x       x     x     x     x     x     x       x     x     x     x     x     x       x     x     x     x     x     x       x     x     x     x     x     x       x     x     x     x     x     x       x     x     x     x     x     x       x     x     x     x     x       x     x     x     x     x       x     x     x     x     x       x     x     x     x     x       x     x     x     x     x       x     x     x     x     x       x     x     x     x	81920						-									×		_
2     3     4     5     6     7     8     9     10     11     12     13     14     15     16       x     x     x     x     x     x     x     x     x     x       x     x     x     x     x     x     x     x     x       x     x     x     x     x     x     x     x       x     x     x     x     x     x     x       x     x     x     x     x     x       x     x     x     x     x     x       x     x     x     x     x     x       x     x     x     x     x     x       x     x     x     x     x     x       x     x     x     x     x     x       x     x     x     x     x       x     x     x     x     x       x     x     x     x     x       x     x     x     x     x       x     x     x     x     x       x     x     x     x     x       x     x     x     <	1718				 						 	×						_
3     4     5     6     7     8     9     10     1112     13       x     x     x     x     x     x     x     x       x     x     x     x     x     x     x       x     x     x     x     x     x       x     x     x     x     x     x       x     x     x     x     x       x     x     x     x     x       x     x     x     x     x       x     x     x     x     x       x     x     x     x     x       x     x     x     x     x       x     x     x     x     x       x     x     x     x     x       x     x     x     x     x       x     x     x     x       x     x     x     x       x     x     x     x       x     x     x     x       x     x     x     x	1546	×		×		×				×	 	×	×			 ×		
x x x x x x x x x x x x x x x x x x x	1314				 						 ×	×××	×	××	×	×		
x x x x x x x x x x x x x x x x x x x	1112			_	 ×					×	 					 		
x x x x x x x x x x x x x x x x x x x	910		×	×							 					 		
x x x x x 3 3 4 5 5 6 6 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	7 8	x x	×××	×	 ×			×	×	×	 					 		
	5 6																	
x x x m	4										 				×			
	6	×	×	×	 						 				X	 		

AUTOMOBILE PRODUCT SCHEDULE CROSS-REFERENCE LIST (5/78) (Cont.)

AUTOMOBILE PRODUCT SCHEDULT CROSS-REFERENCE LEST (5778) (CONCED 1) 19

1

8,

1) 5)

15

))

0																		
76														×			-	
8																	-	
3												×		×			_	
m			THE REAL PROPERTY AND INCOME.								X						_	
36									_	×								
35		×												×				
34	×													54				
33																		
2									×			×		×			And the second second	
FT	×		×		¥										مىلىرىيەت ( الدىل <b>ار</b> ىچ			
6												_					-	
93																	-	
5																	_	
28	×							×						×				
27																		
26																		
25																		
4																		
5														~~~~				
2 2														<u>^</u>			-	æ
12									-									ш
2														×				YS
2(								×						×	×			HR
19														×				0
1 8	×															×		÷.
17																		-
19	×		×				×		54	¥.		¥	~	~				ш
5		مان سنتمانی للسنانیا	<b></b>									_ <u>a</u>	<u> </u>	~~~				UR
41																		IG
	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		×		×												_ '	ц.,
	^		~	~~~	~					×								
FI																		
1													•	×	×			
10																		
6														×				
8																		
2									· · · · ·									
10		-																
						~												
LC1														×			-	
4						×								×				
6						×								×				
2						X												
-1																		
		4			~~		00	00 00	00	00	00	00	00	8 7				
S	8 4 7)	34	~~~	178	1 78	17	163	L/3	1	17	17	17	12:01				
CE	1-1	6	-6	3.1	2-1	1.1	116	23	2/23	51	46	8 /20	59	27	14	46		
DUE	H m -	1 P.M	Cl m	Ω	1 4	01	AN	Id I	D L	2 D	2/ D	20	2 P	PF 2/	d C	ρ.		
S	MAN PP	E-1	dd S	T S	PP	EU	z	Ş	Ă	Z	EU	AR	7	Ą	6			
	3 3	Σ	P	R	A	3	A	Ā	A	A	M	M	AI	A.	D.			

AUTOMOBILE PRODUCT SCHEDULE CROSS-REFERENCE LIST (5/78)(Cont.)

A-42



AUTOMOBILE PRODUCT SCHEDULE CROSS-REFERENCE LIST (5/78) (Concluded)

FIGURE A-3. CHRYSLER

A-43

.))

1

1

1

)

.].

)

1

1)

1

)

AUTOMOUTE PROPRET SCHEDULE GROSS-REFERENCE ESZED (COME.)

1)

1)

)

TABLE A-4. AMERICAN MOTORS

AUTOMOBILE PRODUCT SCHEDULE NOTES (5/78)

• •

Ref. No.	Model Year	
1.	1978	New Concord luxury compact to replace the Hornet. Available in 2 and 4-door sedans, hatchback, and 4-door wagon. The 2- door weighs 3,200 lbs. Audi's 4-cylinder 121 CID engine to be available mid-year.
2.	1978	Hornet dropped, AMX hatchback sport version remains pulled off the basic Concord.
3.	1978	304 CID V-8 option available on the Pacer.
4.	1977	Mid-year introduction of the 121 CID 4-cylinder Audi engine on the Gremlin.
5.	1979	New fastback subcompact. Gremlin name to be dropped, Javelin possible name.
6.	1984	New mini car delayed to 1984.
7.		AM working on new Electronic Spark Timing (EST).
8.	1978	Barcelona II luxury trim package now available in 4-door sedan as well as 2-door coupe Matadors.
9.	1979	AM to get Chrysler's locking torque converter for automatic transmissions.
10.	1978	Pacer uses HSLA steel face bar on bumper (new).
11.	1978	Minor trim change to Gremlin and a new dashboard.
12.	1978	Mid-year introduction of the SPacer — van package for the Pacer wagon.
13.	1979	Matador dropped. Will make only compact and smaller cars.
14.	1981	Redesigned Pacer Sedan.
	1982	Redesigned Pacer wagon.
15.	1983	Revised Concord.
16.	1980	AM will buy approximately 100,000 of GM's 151 CID 4-cylinder Pontiac engines a year instead of the Audi engine starting in 1980.
17.	1978	AM testing 4-wheel drive Concord wagonfuture plans unknown.

0																		•	
6																			
8																			
3	-																		
3																			
36																			
5	-																		
43		_																	
12						_						··· , ····							
E																			
32																			
E																			
0	-																		
6						_			-										
32													and the statement				_		
5			_																
27																			
26																			
5																			
42	-																		
32																		<u>.</u>	
5																			
22																			
21																			
0																			
6																			
18																			
			_																
-																_			
16																			
5																			
5																			
-	<u> </u>	_																	
12																	_		
E													×			×	×	×	×
0															×				
E	-		-																
5														×					
8													×			×		×	
7										×									
9																			
5	-		×			×	×		*	X									
	-					-									-				
4	×															×			
3						×		×			×	×	×			×	×	×	×
5						×					×		×			×	×	×	×
H			×	*	4	×			×	(×	×	×			×	×	×	×
	1					~		2	~		7	7			7				
S	-	2		0 -		17	77	1	17	-	1	1	77	77	1		12	77	
CE	1	&1	5	12	-	25	2/	18	30	5	27	29	6	5/	26	77	583	1	11
1 B	17	14	1	15	-	4/	31	16	5	11	9.8	8 8	12	18	9/	002	33	47	60/
So	0	d	e	ď	, <u> </u>	R	Ξ	d D	9 8		P	R	00 17	0.2	R	0 -	d H	~ ~	0.10
	AT	đ	ΑI	D N N	P	MA	AM	PE	Ρ	ЧЛ	DF	Р МА	AN	P MA	P WA	TM	P R&	ΑI	Post
- Lawrence	A	-	-	-	-	-	-	-											

A-45

FIGURE A-4. AMERICAN MOTORS

1)

1.)

10

1

1

1

) .

)

ゥ

· · · · .

1

[O]			
94			
8			
5			
5			
36			
35			
34			
3			
23			
1			
6			
B			
29			
28			
27			
26			
5			
42			
32			
2			
5.			RS
21			10
20			M
19			N
18			IC/
F			ER
9		× × × × × × ×	AM
5			
41	~		4,
-	×		A-
			Я
12	×		BU
1			E
0			
6			
00			
10	м		
5	×	×	
4		×	
3			
2			
F	and the second se	× × × × × ×	
	7	8 8 8	
0	7	7 8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	
SCE	1/2	10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10	
- INC	10 11 11	5 5 1 5 5 5 5 1 1 1 1 1 1 1 1 1 1 1 1 1	
SC	MAN	TAPT U R TA CA	
	M I A N		

AUTOMOBILE PRODUCT SCHEDULE CROSS-REFERENCE LIST (5/78)(Cont.)

A-46

	•
6	
18	
E	
37	,
36	
<u>m</u>	
a	
33	
2	
1	
<u> </u>	
30	
6	
8	
72	
2	
26	
5	
5	
2	
23	
22	
2	
2	
19	
Ø	
The second secon	
	^
H	×
15	
4	
	× × ×
12	
-	
0	
1	
6	
8	
~	
9	
5	
4	
<u> </u>	
2	
	8 7 8 8
ES	
RC	
0	
S	D dz d s d d d z d

1,

)

Ł

· . };

3

·) ;

* .

1)

1.5

45

1)

AUTOMOBULE PROPUCT ScHEDULT CROSS REFERENCE (5720) (CONC.)

A-47/A-48

ALTOMOBILE PRODUCT SCHEDULE CROSS-REFERENCE LIST (5/78)(Concluded) FIGURE A-4. AMERICAN MOTORS

APPENDIX B

1)

1)

p.

1)

1.5

1

1)

DOMESTIC LIGHT TRUCK NOTES AND CROSS-REFERENCE LISTS

This appendix contains notes and cross-reference matrices pertaining to the domestic light truck manufacturers. The notes (Tables B-1 through B-5) are keyed by reference number (as shown on the Master Product Schedules in Section 3, Figures 3-1 through 3-10) and model year(s). The cross reference matrices (Figures B-1 through B-5) correlate the appropriate reference number with the original research sources.

Information provided in this appendix can be used to obtain additional details beyond those highlighted on the schedules. Original sources may be identified for further research and location of diagrams, photographs, etc. Source abbreviations are located in the List of Abbreviations at the front of this report.

TABLE B-1. GENERAL MOTORS

LIGHT TRUCK PRODUCT SCHEDULE NOTES (5/78) .

Ref. No.	Model Year	
1.	1976	Blazer all new bumpers, steel cab design and conventional steel doors. Vans new easy to remove rear seats. Pickups only modest decor changes. LUV revised rear suspension, and addi- tional 5 hp and optional auto. trans.
2.	1976	Selected specs.
3.	1976	El Camino gets a facelift (new trim and head lamps).
4.	1976	All 4 x 4 vehicles with auto. trans. will have only full-time four-wheel drive.
5.	1976	Pickups new Sport Truck option in stepside, pickups and vans new decor option called "Bonanza," both mid-year intros.
6.	1976	Blazer new soft top and Chinook-built camper option called the Chalet for mid-year.
7.	1977	GM to have custom vans, the Caravan custom option package and the Nomad travel/rec vehicle.
8.	1977	Pickups 4 x 4 added to Series 30, Chassis cabs and Crew cabs. Blazer, Suburban and Pickups new grille, new power windows and door locks.
9.	1977	All series new 305 CID V-8 engine.
10.	1977	Selected specs.
11.	1977	Vans optional swivel reclining bucket seats and adjustable steering column, first in industry.
12.	1978	Pickups to have optional Olds 350 CID V-8 Diesel Engine.
13.	1977	Suburban new 4 x 4.
14.	1977	Pickups new rear window defroster.
15.	1977	LUV increased payload, new optional high-back bucket seats and sliding rear window. New variable ratio steering gear and rear shocks.
16.	1977	LUV new "Mighty Mike" exterior trim group.
17.	1978	Vans new grille and headlights

	TABLE	B-1.	GENERAL	MOTORS
--	-------	------	---------	--------

LIGHT TRUCK PRODUCT SCHEDULE NOTES (5/78) (Cont.)

9

•

.

•

9

.

•

.

9

.

.

.

5184] 1

•12

500

····

Ref. No.	Model Year	
18.	1978	El Camino all new, GMC Sprint name dropped, all new Caballero.
19.	1980	New FWD compact van with 105 in. WB called MPC.
20.	1978	Selected specs.



-														
6	1													-
5														_
38														
1														
6														
m													-	
32									_					
3				******										
100														
m														
2														
F														-
m														
8														
6														-
3														_
28														
27														
0														
5 2														
5														
4														
3														-18
2														
22														
-														
5														;
2														î
19														
8														
														_
9														
2														
14														
														`
E I														
5														-
6														
8														
												×		
9											×		Х	
5							×	X						
									<u></u>					
4		X	×											
m								and a second						_
			×	×										
5		X	X		×	X				×				
	, ×	X	Х	X	Х	×			Х					
				5		5					9			
		ŝ	75	[75 2	46	5	9		6 6	[]	e	76	
E	75	17	-2	27	3/	26	76-5	17	76	,4	12	26	2	
RC		1	3.	0.	10	2/	2/	7.0	19	11	/+/	10	10	
S.	22	9	10	10 24	ΞŢ	41		2, 16	23	4	11	2 -	6/	
S	P L	N d	I Dp	y d	NDP	AR P	Ърр	L d	P P	T PP	P P	АV Рр	H d	
	2	A	A	A	A	2	2	A	2	A	کہ	2	Å	
Vision of the local division of the local di	CARD IN CONTRACTOR OF STREET,		The second second second	Contraction of the local division of the loc	and the second s				the second se				NAME OF BRIDE AND DO TO THE OWNER	

-

B-4

LIGHT TRUCK PRODUCT SCHEDULE CROSS-REFERENCE LIST (5/78)

ł



10	1											
t												
6	T											
1 m												
8												
			· · · · ·									
- m	1											
0	1											
m												
15	1											
-m												
3												
9												
2												
m l	1											
0												
5												
16												
8												·
5												
2												
12												
26												
5												
2												
4												
2												
12												
N												
5						_						
							· · · ·					
2	L											
50	1											
6												
	1											
∞												
	<u> </u>											
LĂ												×
5												~
												~
4												
											~ ~	
									×			
N	<u> </u>											
								×				
-						¥						
1						~						
LC				×					X			X
6				×		\times						
00			×	54		×			×		54	
			~	~					~		~	
				\sim		X		\sim			\sim	
								<u> </u>	· · · · · · · · · · · · · · · · · · ·		~	
	L								×	×		
5		×						×				
4												
m												
2	X				X		24					
							×					
					-							
		>	76	9	16			76				
S	7	1	1	1~~	5	92	507	>0	57	Ц		1
G	191	-6	16	13	9	12	76	12	$-\frac{1}{3}$	-9	17	8
R	1 8	<u> </u>	> 6	\$ 5	F H	0 1	1	1	3 2	20	65	25
2	27	δ 16 -7	8	8/8	5	5 1	3		1a 3	8	7 1	2.0
S	d	L D L	R	d	d.	Ad	d	L d	L1 P	D D	> ~	
	P 11	ar dr	AM d	D d	P	AM d	1T P	P D	P I	TT D	A d	h d
	1.4			4			2	~4	2	2	خر	A
Company of the local division of the local d												

B-5

1 3

James and a state of the state		
40		
68		
8		
E -		
63		
0		• •
3		
34		
33		
32		
E		
Ö		
6		
82		
72		
62		
5		
2		
24		
23		
22		RS
77		E
Ö	×	ž
6		AL
81	×	ШЧ
7		ЦЦ
	×	
H.	×	
-	×	8
14		щ
F		UR UR
12	× ×	
三		
a		
6	X	
5		
4		
σ		
2		
S		
RCE	/ 11 G Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z	
- NO	1 3 2 3 3 1 1 2 6 4 7 5 4 7 5 1 1 3	
S	A A A A A A A A A A A A A A A A A A A	

LIGHT TRUCK PRODUCT SCHEDULE CROSS-REFERENCE LIST (5/78)(Concluded)

B-6

TABLE B-2. FORD

.

LIGHT TRUCK PRODUCT SCHEDULE NOTES (5/78)

	Ref. No.	Model Year	
1.	1.	1975	Supercab Pickup-new innovation (1 ½ cab PU).
n 2	2.	1976	Van opt. convenience group-new intermittent windshield wipers, d/n rear view mirror.
, ki	3.	1976	Ranchero-new PB seats or PS-B seats, opt. HD elec. system, antitheft alarm, new interior trim.
59	4.	1976	Bronco GVWs increased.
	5.	1976	F Series-new electric rear window defroster.
	6.	1976	F-100 and F-150-integral power steering (new) and F.D.B.
})	7.	1976	Pickups and vans w/GVW < 6,000 lbs have reduced axle ratios, better emission, catalysts.
	8.	1976	Bronco-new PFDB and PS gear ratio; front stabilizer bar new option.
19	9.	1975	F-150 introduced.
, 3	10.	1976	Pickups - Explorer Special trim package repeat, other trim packages coming.
	11.	1976	Pickups - new grille and increased GVWs.
19	12.	1976	F-150-new 6050 lb. GVW 4 x 4 133" WB.
	13.	1976	Econoline van specifications.
	14.	1976	F-100 specifications.
	15·	1977	Bronco-new 14 gallon plastic fuel tank (inc. from 12.2 gal).
.) 9	16.	1977	Ranchero-new illuminated entry system and two-tone paint.
	17.	1977	Pickups and vans-new speed control with 2 bbl CID V8 engine (and 400 CID V8 on F Series).
1.	18.	1977	Pickups and vans-new duraspark ignition standard.
.,	19.	1976	Vans-first factory installed highback bucket seats (swivel).
	20.	1975	Vans-industry's first body on frame vans unchanged for 1977 and 1976.

B-7

(bobulation) (2, 2) Is II INTERED OUT THAT HAS A MADALEMENT A

1.

1, >

1 .

TABLE B-2. FORD

LIGHT TRUCK PRODUCT SCHEDULE NOTES (5/78) (Cont.) .

Ref. No.	Model Year	
21.	1977	Pickups-new electric rear window defroster on Supercabs.
22.	1977	Pickups—extensive use of galvanized and precoated steel and zinc-rich primers.
23.	1977	Pickups-new plastic front inner fenders and rear wheel house liners (except 140" WB F-350).
24 •	1977	Pickups and vans-new AM/FM manual radio and A/C on 6 cyl. engines.
25.	1977	Bronco-no change.
26.	1977	Trucks-new economy axle (2.75:1).
27.	1977	Trucks using 300 CID 6, 302, 351, 400 and 460 CID V-8s - 360 and 390 CID V-8s dropped.
28.	1978	Ford answer to Chevy Blazer - chopped-down version of the pickup truck using Bronco name.
29.	1977 & 1976	Vans-new special trim option incl. porthole, paneling, striping ("Cruising Van").
30.	1977	Ranchero-all new sheet metal.
31.	1977	Vans-expanded options list.
32 ·	1977	F Series-new grilles and trim.
33.	1977 & 1976	Courier specifications.
34.	1977	F-250-redesigned 4 x 4 w/lower step ht., incr. payload, smoother ride, tow and camper options, easier steering.
35.	1977	Courier-larger fuel tanks of 15 and 17.5 gal. w/6' and 7' box resp.
36.	1977 & 1976	Courier-soft ride option; payload on 900 lbs. instead of standard 1,400 lbs.
37.	1977	Courier-new 2.3% engine w/4 or 5 speed manual and auto trans, (1.8% standard only w/4 or 5 speed).

TABLE B-2. FORD

-

30

500

1.

1 3

1.

10

, ·

1)

1)

....

* :

103

LIGHT TRUCK PRODUCT SCHEDULE NOTES (5/78) (Cont.)

	Ref. No.	Model Year	· · · · · · · · · · · · · · · · · · ·
€	38.	1977	Courier-new 107" WB 6' box 113" WB 7' box redesigned like F-Series pickups (incl. tailgate).
	39.	$1978\frac{1}{2}$	Trucks to have dual displacement engine option.
4 4 8 1	40.	1977 ¹ 2	Courier-"Free Wheeling" option package; special trim and options.

<u> </u>															
7															_
<u> </u>															
38															
<u> </u>					_										
36															
35															
34											·				-
3															
5															
7															
8															-
6								~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~			¥	¥			
82								~							
72															
22															
2															
5															
24															-
23															
22															
21															
20		×			×					_					
61			 .								×		×		-
8												·			
F									·····						
61															
5 1															
17														×	
													×		
12			×	×	×	×			×						
17			×	×	××				×						
0							×								
6						×									
8			×	×	×	×								•	
~				×	×	×									
9				×	×										
5				×	×										
.+					×										
<u> </u>				×	×										
2				×											
	×									20			10		
	8 t				Ц	Z		IAR		2		I	35		
CES	b	X	M	AN 3	A C	5 A -72	ME	14	ΥY	C.	MM	S P	L.	~	
URC	AN Log ire	WA)8	WA 2	75 3&1	175	-01	WP 2	/76 3	W/ 25	ĹΜ	W/	/7(ĘM	CI 19	
sol	75 rol utu	75 2(75	P %	/1/	/3 P	76	15.	76	76	76 5	15	76	76	
	19 19	19 P	9/ P	/6	10 P	11 P	2/ P	3/ p	19 P	5/	5/ p	6/ P	7/	d /6	

B-10

LIGHT TRUCK PRODUCT SCHEDULE CROSS-REFERENCE LIST (5/78) FIGURE 8-Z. FURD



, 9

, 🦻

7										×				
ñ		~			~ ~					•				
38										×	×			
17								·		×				
응ተ														
8 1				<u>×</u>										
m														
ž								×					×	
2				×										
2											×			
HT.											×			
응			~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~											
2	×					X					×		· · · · · · · · · · · · · · · · · · ·	
15					~ ~				×					
58							×							
27	×		×			×								
20	×		×											
5			×			^								
3			×											
잂														_
2			×											
5	×		×											
15	×		×											
21	×		×											
5		_	×											
<u></u>	×													
掃			<u> </u>				<u></u>							
	×													
2	×													
12	×													
4														
=														
긁														
긐丨														
≓∔														
H														
0														
8														
~														
0														
					••••									
4														
3														
2														
											and the set of the set			
ICES	76 AN	16 AN	WAW	MT 841	76 AI -20	fecham 1.	Ľ	7 WAR	Ľ	11	IAY	ruck an	p 36	-
SOUF	13/7 PP 86	p 3	t0/76 p 59	L1/76 PP 37	L1/15/ PP 17	1/77 N ix Il b 35	2/77 N P 20	2/14/7 P 53	8/77 N P 91	4/77 N p 18	1977 W p 246	1 77/ + and V	Ideas	

B-11

1	×		×		×	٢	
39				×			
38	×	×	×				
1 m	×	× ×	×				
9	~		~				
5	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		^				
4		×					
m m							
23	×						
13							
8							
6							
5							
7							
67							
5							
2							
24							
23							
22							
21							9
20							FOF
19							
18							2
1							- m
1.6							RE
5							GU
4							Ē
5							
두							
5							
1							
4							
~							
5							
SOURCES	+/77 Truck and Van Ideas pp. 32-35	+/77 WAW P 22	+/4/77 AN pp 8&22	5/27/77 AN PP 6&9	//11/77 AN	۲ ۲	

LIGHT TRUCK PRODUCT SCHEDULE CPOSS-REFERENCE LIST (5/78)(Concluded)
TABLE B-3. CHRYSLER

LIGHT TRUCK PRODUCT SCHEDULE NOTES (5/78)

Ref. No.	Model Year	•
1.	1974	Ramcharger introduced.
2.	1975	Chrysler Corp. withdraws from the heavy truck market to con- centrate on light trucks.
3.	1976	Only minor changes to trucks including: Vans new rear A/C package, Ramcharger improved ground clearance, and pickups hinged seat back and swing-out spare tire carrier.
4.	1976	Vans with auto. trans. get a new electronic transmission fluid level sensor which also indicates overheating.
5.		Chrysler considering either a compact pickup or mini pickup.
6.	1976	Selected specs of Dodge Trucks.
7.	1976	Van mid-year custom kit model called the "Street Van." Pickup custom option called the "Warlock".
8.	1977	Pickups new factory option vendor-built wrecker called the "Retriever."
9.	1977	Pickups and Ramcharger have new grilles and trim with Ramcharger now offered in both 4 x 4 and 4 x 2.
10.	1977	New pickup option called "Powerwagon" with 4-WD and custom trim for mid-year intro.
11.		No plans for a mini pickup.
12.	1978	Pickup diesel option. Mid-year intro. of 4 cyl. 105 hp engine by Mitsubishi.
13.	1979	Chrysler diesel version of the 225 CID L-6 engine.
14.	1977	Vans unchanged except new swivel highback bucket seats and 225 CID 2-bbl L-6 as standard engine. Ramcharger new mid-year custom option package called "Four by Four". All Dodge lines get optional glass skylight vent/sunroof.
` 15.	1979	Chrysler new compact pickup.
16.	1979	Chrysler new compact van based on new FWD L-body.
17.	1977	Selected specs of Dodge Trucks.
18.	1978	Vans to get new sheet metal.
10.	1970	vans to get new sheet metal.

••

1 1

11

))

1)1

1)

11

" 🦻

B-13

TABLE B-3. CHRYSLER

LIGHT TRUCK PRODUCT SCHEDULE NOTES (5/78) (Cont.)

Ref. No.	Model Year	
19.	1977	Chrysler drops medium trucks, will produce light trucks only.
20.	1978	Pickup diesel from Mitsubishi to be introduced in mid-year is a 6-cyl. engine not 4-cyl.

.

FIGURE - 1 Sources 100005 1 201 1 201 1 201 1 201 1 201 1 201 1 201 1 201 1 201 1 201 1 201 1 201 1 201 1 201 1 201 1 201 1 201 1 201 1 201 1 202 1 203 1 203 1 203 1 203 1 203 1 203 1 203 1 203 1 203 1 203 1 203 1 203 1 203 1 203 1 <																-1 ·
FIGURE 1 Sources 12 2		4														
Image: 1 2 3 4 5 0 7 0 9 101 113 1 141 5 161 7 161 1 7 161 9 2 02 12 2 2 3 2 4 5 9 0 7 1 2 2 3 4 5 9 10 1 12 1 141 5 161 7 161 1 7 161 9 2 02 12 2 3 2 4 5 9 0 7 1 2 2 3 2 4 5 9 0 7 1 2 3 1 2 3 4 5 9 10 7 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	A F	39														
Image: Second state Image: Second st	3	8														
Sources 1 2 5 6 7 8 9 10 11 13 4 1		5		-												-
Sources 1 2 4 5 6 7 8 9 0 1 2 <t< th=""><th></th><th>5</th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th></t<>		5														
Sources 1 2 5 6 7 8 9 10 11 12 <td< th=""><th></th><th>5</th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th></td<>		5														
Sources 1 2 5 6 7 8 9 101112111415561171619262122229303132333 Sources 1 2 3 4 5 6 7 8 9 10111211141556117161926212222329303132333 Sources 1 2 3 4 5 6 7 8 9 101112111415561 P 207 2 4 5 6 7 8 9 P 207 2 4 5 7 8 9 P 207 2 4 5 6 7 8 P 207 2 4 5 7 8 P 207 2 4 5 7 6 Nu< 107/75 X X X X P 2 2 4 6 7 P 2 X X X X N 10/75 X		- C														
Sources 1 2 5 6 7 8 9 10111211141560171819920232829990931323 MY 1975 X X X X X X X WY 1975 X X X X X X WY 1975 X X X X WY 1975 X X X WW 10775 X X X WW 10775 X X X P 2005 X X X WW 10775 X X X P 1011717 X X X P 101775 X X X P 2005 X X X P 2017 X X		<u> </u>					-									_
Sources 1 2 4 5 6 7 8 9 10 11 14 16 17 18 9 10 11 14 16 17 18 9 10 11 11 16 17 18 9 10 11 11 16 17 18 10 12 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 2 2 1 2<	÷'	-														_
Sources 1 2 5 5 7 8 9 10 11 <td< th=""><th></th><th>32</th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th></td<>		32														
Sources 1 2 4 5 6 7 8 9 10 11 11 4 1 2		31														
Sources 1 2 4 5 6 7 8 9 10 11 11 14 15 1 2		2														
Sources 1 2 3 4 5 0 7 8 9 10 11 13 19 10 11 13 10 12 3 4 5 0 7 8 9 10 11 10	- +	29														
5000 500 5 <td< th=""><th></th><th>8</th><th></th><th></th><th></th><th></th><th>~~~~</th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th></td<>		8					~~~~									
Sources 1 3 4 5 6 7 8 9 10 11 14 15 1	91 1															
5000000000000000000000000000000000000		5														
Sources 1 2 5 6 7 8 9 10 11 <th< th=""><th></th><th>2</th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th></th<>		2														
Figure 1 500 1 2 4 5 6 7 8 9 10111213141516171819202122232 Figure 2007 WY 1975 X X X X X WY 1975 WY 1975 X X X WW 1075 WW 1075 X X X Wu 1075 X X X P 207 WU 1075 X X P 207 X X X MW 1075 X X X P 207 X X X MW 1075 X X P 21 X X MW 10775 X X P 21 X X MW 1275 X X MW 5766 X X P 28 X X MW 5776 X MW 5776 X <th></th> <th>5</th> <th></th>		5														
Sources 1 2 4 5 6 7 8 9 10 11 13 4 5 6 7 8 9 10 11 13 14 5 6 7 8 9 10 11 13 14 5 6 7 8 9 10 11 13 14 5 6 7 8 9 10 11 13 14 15 6 7 8 9 10 11 13 14 15 6 7 8 9 10 11 13 14 15 6 7 8 9 10 11 13 14 14 16 1		5														
Sources 1 2 3 4 5 6 7 8 9 10 11 15 16 17 18 19 202 WY 1975 P 207 W Y <		5														~
Sources 1 2 3 4 5 6 7 8 9 10 11 12 13 4 5 6 7 8 9 10 11 12 12 3 4 5 6 7 8 9 10 11 12 12 3 4 5 6 7 8 9 10 11 12 12 3 4 5 6 7 8 9 10 11 12 12 3 4 5 6 7 8 9 10 11 12 12 1 1 10 12 1 1 10 12 1 1 10 12 1 1 10 12 1 1 10 10 11 12 1 1 10 12 1 1 10 12 12 1 12	\$ P	22														
Sources 1 2 3 4 5 6 7 8 9 10 11 21 4 5 6 7 8 9 10 11 21 4 5 6 7 8 9 10 11 21 4 5 6 7 8 9 10 11 21 4 5 6 7 8 9 10 11 21 4 5 6 7 8 9 10 11 21 4 5 6 7 8 9 10 11 21 4 5 6 7 8 9 10 11 21 4 7 4 <th></th> <th>21</th> <th></th> <th>-</th> <th></th> <th>ZYS</th>		21		-												ZYS
Sources 1 2 3 4 5 6 7 8 9 101112111415161711819 May 1974 x x x x x x x May 1975 x x x x x x May 1975 x x x x x May 1975 x x x x May 10775 x x x P 207 x x x May 10775 x x x P 207 x x x May 10775 x x x P 207 x x x At 10/1/75 x x P 21 x x At 10/1/75 x x P 21 x x May 12/75 x x P 28 x x May 12/76 x x P 28 x x May 27/65 x x P 28 x x May 8/76 x x P 28-29 x x May 8/76 x x P		20														
Figure 1 1 2 3 4 5 6 7 8 9 10 11		19														
Figure 1 23 4 5 6 7 8 9 10 11 <		18														
Sources 1 2 4 5 6 7 8 9 10 WY 1974 X X X X WY 1975 X X X P 209 X X X WW 10/1/75 X X X P 23-25 X X X AI 10/1/75 X X P 23-25 X X MW 12/75 X X P 23-25 X X MW 12/75 X X P 23-25 X X MW 12/75 X X P 23 X X MW 10/1/76 X X P 44/1/76 X X MW 51653 X X MW 5165 X X P 28 X		5														
Sources 1 2 3 4 5 6 7 8 9 10 11 11 WY 1974 X X X X X X WY 1975 X X X X WY 1975 X X X WY 1975 X X X P 207 X X P 207 X X P 203 X X P 201 X X P 203 X X MW 10/1/75 X X P 23-25 X X MW 10/1/75 X X P 23-25 X X MW 10/1/75 X X P 23-25 X X MW 10/1/76 X X P 23 X X MW 10/7/76 X X P 45 X X MW 5/76 X X P 28 X X M 13 X <th>1</th> <th>5</th> <th></th> <th>- <u> </u></th>	1	5														- <u> </u>
Sources 1 2 3 4 5 6 7 8 9 10 11 Way 1974 x x x x x x x x Way 1975 x x x x x x Way 1975 x x x x P 207 x x x Waw 1975 x x x P 207 x x Waw 10/75 x x x P 21 x x All 4/1/76 x x P x x Maw 12/75 x x Maw 12/75 x x P x x Maw 12/76 x x P x x Maw 12/76 x x P x x Maw 12/76 x x P x Maw 12/76 x P x Maw 5/76 x P x Maw 8/76 x P x Maw 8/76 P <		5														- <u></u>
Find the second seco	1 · · · ·	7														-1
Sources 1 2 3 4 5 6 7 8 9 10 May 1975 v v 1975 x x x x Wax 1975 v x x x x Wax 1975 x x x x P 207 x x x P 309 xx x P 309 x x P x x x At 10/1755 x x P 21 x Maw 10/75 x x At 10/1755 x x P x x At 10/1755 x x At 4/1766 x x P 21 x Maw 12/75 x x Maw 5/76 p 38 P x x Maw 6/15/76 x x P x x <th></th> <th>×</th> <th>-1</th>															×	-1
Sources 1 2 3 4 5 6 7 8 9 10 MY 1974 N N 1975 X X X X WY 1975 N 1 2 3 4 5 6 7 8 9 10 WY 1975 X X X X X X X WAY 1975 X X X X X P 207 WAS 9/29/75 X X X WA 10/75 X X X X P 207 WAS 10/75 X X X MM 10/75 X X X X MM 10/75 X X X P 21 X X X MM 11/3/75 X X X MM 12/75 P X X MM 5/76 P X X MM 5/76 P X X MM 8/76 P X X MM 8/76 P X X P Z X X MM 8/76 P X P X X		-														_
Sources 1 2 3 4 5 6 7 8 9 10 WY 1974 X X X X X Y WY 1975 X X X X WY 1975 X X X WN 209 X X X WN 10/175 X X X P 21 X X X AI 10/1755 X X X P 21 X X X AI 10/1775 X X X P 23 X X X AI 4/1766 X X X MY 5/76 P 28 X MY 5/16 P 10 X P 28 X X X MY 5/16 P 10 X MY P X X MY <t< th=""><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th></t<>																
Sources 1 2 3 4 5 6 7 8 9 10 May 1974 x <th>1.</th> <th>=</th> <th></th>	1.	=														
Sources 1 2 3 4 5 6 7 8 Way 1975 x x x x x x x Way 1975 x x x x x x Way 1975 x x x x x Way 1975 x x x x Way 1975 x x x P 207 x x x Waw 10/75 x x x P 203 x x x AM 11/3/75 x x x AN 11/3/75 x x x P 23 x x x AN 11/3/75 x x x Maw 12/75 x x x May 5/76 P 28 x x P 28 X x x May 6/15/76 P 28 x x P 28 X x x May 8/76 P 28 x x		2														
GOURCES 1 2 3 4 5 6 7 8 MAY 1974 X		6														
Image: Sources of the second secon		8													×	
Sources 1 2 4 5 6 Way 1975 X X X X Way 1975 X X X X Way 1975 X X X Waw 10/75 X X X Waw 10/75 X X X An 11/3/75 X X X P 23-25 X X X An 10/1/75 X X X An 10/1/75 X X X P 23-255 X X X An 10/1/75 X X X Maw 12/75 Y X X P 28 Waw X X May 5/76 P 28-35 X P 28-35 X X X Waw 5/76 P 28-29 X P P 28-35 X X <th></th> <th>~</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th>×</th> <th>×</th> <th>×</th> <th></th> <th>×</th> <th></th>		~									×	×	×		×	
GOURCES 1 2 3 4 5 WAY 1974 X X X X WAY 1975 X X X X WAY 1975 X X X X WAY 1975 X X X X WAW 10/75 X X X P 309 X X X WAW 10/1/75 X X X AI 10/1/75 X X X AI 10/1/75 X X X AI 10/1/75 X X X MAW 12/75 X X X AI 10/1/75 X X X MAW 12/75 X X X MT 5/76 P 28 X MT 5/76 P 28 X MT 5/156 P 28 X MT 5/76 P 28 X MT 5/76 P 28 X MV 5/156 P 28 X P P 28		9								~				~		
GOURCES 1 2 4 MAY 1974 N 1 2 4 MAY 1975 X X X X WAY 1975 X X X X WAY 1975 X X X X WAW 10/75 X X X X P 207 X X X X WAW 10/75 X X X X P 207 X X X X WAW 10/75 X X X X P 201 X X X X MAW 10/75 Y X X X MAW 12/75 P 21 X X X MAW 12/75 P 38 X X X MT 5/76 P 45 X X X MT 5/76 P 28 Y X X MT 5/76 P 28 X X X MT 5/76 P 28 X X X MT 7/76 P 13 Y X MT 7/76 P 28 X X P 28 Y Y X MM 8/76 P 28 X </th <th>0.9</th> <th>5</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th>×</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th>	0.9	5							×							
Gources 1 2 3 May 1975 N X X Way 1975 X X X Way 1975 X X X Way 1975 Y X X Way 1975 Y X X Way 1975 X X X Way 1975 X X X Way 10/75 X X X Maw 10/75 Y X X Maw 12/75 Y X X Maw 5/76 Y Y X Maw 5/76 Y Y X Maw 5/76 Y Y X Maw 8/76 Y X X Maw 8/76 Y X X Maw 8/76 Y Y X	,				×		×	×		,						-
GOURCES 1 2 3 WAY 1974 X X WAY 1975 X X WAW 10/1/75 X X P 200 X X MAW 10/1/75 X X AI 10/1/75 X X P 23-25 X X AI 10/1/75 X X MM 2/76 Y X P 28 X X MT 5/76 P 28 WAW 5/76 P 28 MT 5/76 P 28 WAW 5/76 P 28 MM 5/76 P 28 P 13 M X MM 8/76 P X PP 28-29 P P PP 28-29 P P PP 28-29																
SOURCES 1 XMY 1974 X WAY 1975 X WAY 1975 X WAY 1975 X WAW 10/75 X WAW 10/75 X WAW 10/75 X P 207 X WAW 10/75 X P 207 X WAW 10/75 P 207 WAW 10/75 P 201 MAW 12/75 P 10672 WAW 12/75 P 28 MT 5/76 P 28 WAW 8/76 P 28 WA 8/76 P 28 P 28-25 WA 8/76 P 28-29 P 28-29		<u> </u>			×	X	×									_
SOURCES 1 WAY 1974 X WAY 1975 X WAY 1975 X WAW 10/75 X WAW 10/75 X WAW 10/75 X WAW 10/75 Y P 207 X WAW 10/75 Y P 207 X WAW 10/75 Y P 207 X MAW 10/75 Y P 207 X MAW 10/75 Y P 21 Y MAW 10/75 Y P 21 Y AI 10/1/75 Y P 21 Y MAW 12/75 Y P 28 Y MT 5/76 P P 28 Y MAW 5/76 P P 28 Y MT 7/76 P P 28 Y MT 7/76 P P 28 Y MT 7/76 P P 28 Y MM 8/76 P P 28-25 Y M 8/76 P P 28-29 Y		5		~											~~~~	
SOURCES WAY 1974 WAY 1975 WAY 1975 WAY 1975 WAW 10/75 P 207 WAW 10/75 P 21 AI 10/1/75 P 21 AI 10/1/75 P 21 AI 11/3/75 P 21 AI 4/11/76 P 28 WT 5/76 P 28 WT 5/76 P 28 WT 5/76 P 28 WT 7/76 P 28 WT 7/76 P 28 WT 7/76 P 28 WT 7/76 P 28 P 28 <td< th=""><th>-</th><th></th><th>×</th><th>×</th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th></td<>	-		×	×												
SOURCES WAY 1974 P 226 WAY 1975 P 207 WAW 10/75 P 21 P 207 WAW 10/75 P 21 P 23-25 P 21 P 23-25 P 21 P 23-25 P 23-25 P 23-25 P 23-25 P 23-25 P 28-35 MT 5/76 P 28-35 MT 7/76 P 28-35 MT 7/76 P 28-35 PP 28-29	11 9				75		5	5					9			
Source May 197 P 226 Way 197 P 207 Waw 10/1 P 207 P 21 P 21 P 21 P 21 P 21 P 23 MT 5/76 P 28 MT 5/76 P 28 MT 5/76 P 28 P 28 P 28 P 28 P 28 P 28 P 28 P 28	"	CES	4	5	/6:	75	./7	172	75	76	_	53	17	35	629	
Solution Service Servi		JRC	197	197	9/2	10/	23-	1/3	3	11	176	5/7	115	176	3/7	
B-15		SOI	Y 1	Y] 20	30	2]	10		36 36	47	5/28	3 0	6/	77	2 2	
B-15			MA	PP P	MAN P	P P	AI Pl	NN	P P	AI	TM	Id	AI	PI	IM PI	
1 D-13								R_15		·						
	11 9							0-10								

۱, ۹

21.7 21.13 2

0														1 .
94														1
8														
73								·				*		-
m														-
ñ														-
35														
34]
33														
32														1
31														1
0							*							1
67														1
8			······				·····		· · · · ·	·				1
72														1
62									·····				· · · · ·	1
52		,												+
5														-
5			· · · · · ·											
5							·					·		L E
57														VSI
21														HR
20														
19														
18														
													×	I ш
16		.,									×		········	UR
5							•				~			1 ⁹ I
4					×			~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		×		
- 21									~ ~	~~~~~				-
7				<u>×</u>										-
	-		×	~									· · · · · · · · · · · · · · · · · · ·	
													·	
			X					X	×	<u> </u>		×		1
6	×				×		×					×		1
8														
7			×		\varkappa	\times	×		×					1
9		×												
2														
4														
m														
2]
ы														
		6	9			9	11			2				
ES	176	-51	3/7		9,6	0	5 I		77	11	~		5	
RC	30,	76 14-	/1.5	176	7-5	/15	nix 3-3	177	24/	14	177	977	1/1	
OU	8/	9/	9	10,26	2.1	11	har 77 33	13	1/2	2/	88	1: 24(4/5	
S	N	Ър	AR P	Ed	ЧМ РР	I	l/ pp	ММ	NDP	AR P	P M	P d	H d	
L	4	0	<u> </u>	Σ	حر	<u>A</u>	5				حر		5	1

B-16

LIGHT TRUCK PRODUCT SCHEDULE CROSS-REFERENCE LIST (5/78)(Cont.)

4

0

/~p

e



1)

-																	_			_	
10																					
6																					
5								_									_	_			
38																					
1																					
63																	_				
m																					
35																					
4	1																				
1 m																			_		_
m																					
32																					
F	†																				
m																				_	
100																					
6																					
100	+																				
5																					
27																					
9																					
5 2																					
2																					
24																					
3																					
5								·····													
5																					
51	1																				
0	+												×		×	×					
5											-										
			\times	\times	4																
8		4																			
T												-						×			:
H				×			×														
5				~																	
17							~														
												\times									
										×											
. 2						~			м												
17	+					~			~	~								-			
0												\times									
6																					
8	-								_						_						
7												\times									
9																					
5																					
4																					
m																					
2																					
-																					
-	~	~			27		~	~		~						-			×		
URCES	/11/7	/18/7	6&16	5/77 63-64	6/10/		/27/7	127/7		127/7	177	0	7/77 1	7/8/7		7/25/ 35	TM	50-55	e Truc	1000	
0	I ST m	4		Press.		-	6 4	9	H	9	n 0	N	5		-	2	~	- ,	60 +	11	
1 10			D_	3 0						0			2	5		\sim	~	0	-	1 -	
N.	AN	AN	рр	MAN	WEU	ď	N	N	ď	NN	L	, d	P P	JEU	ď	p h	17	дq	bod	6	

3-17

ETCHDE R_3 CHRVSLEP

TABLE B-4. AMERICAN MOTORS

LIGHT TRUCK PRODUCT SCHEDULE NOTES (5/78)

Ref. No.	Mode: Year	1
	1041	
1.	1975	All Jeep models unchanged.
2.	1976	New CJ-7 introduced, CJ-5 facelift, new windshield and top.
3.	1976	Selected specs of Jeep models.
4.	1976	New Structural polycarbonate plastic hard top on CJ-7.
5.	1976	All Jeeps have new frame and suspension systems.
6.	1976	CJ-7 Quadra-Trac full-time 4-wheel drive and automatic trans. available first time on CJ series.
7.	1976	CJ-6 replaced by CJ-7 but will continue to be built for export.
8.	1976	Pickup new custom "Honcho" package.
9.	1977	2 bbl 258 CID L-6 replaces 1 bbl 258 CID as standard engine on the Cherokee and J-10 models.
10.	1977	New extra low gears ratios on 4-speed trans. for CJ series.
11.	1977	Bottom-of-the-line 4-door Wagoneer changed to Cherokee.
12.	1977	J-20 GVWs have been increased 300-400 lbs.
13.	1977	CJ series new optional tilt steering column and air conditioning.
14.	1977	Golden Eagle option package for CJ series and J-10.
15.	1977	Selected specs of Jeep models.
16.	1979	CJ series optional diesel from Perkins, 2.7% 4-cyl. 70 hp.
17.	1980	(approx) New Jeep II 76" wb with 2& 4-cyl. engine downsized version of the CJ-5.
18.	1979	(approx) New Pickup called "Shorty," an upbeat flare- side with 108.7" wb.
19.	1977	Selected specs of Jeep models.

	88														
1	The second														
	19														
	5													•	· •
	4														
	m														
1	23														
*	5														
	6														
	8														
	77														
a 1	62		·												
	5 2														
	42														
	3 2														
	2 2														
	12														
)	02														
	92														
	81								×				~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		
	7														
	L <u>ä</u>														
	-												×		
	14											×		\$	~
e	13								×	×	×		×		
	12								×						
	1								×	×	×				
	10								X						
	6								×						
	8						×		×		· · · · · · · · · · · · · · · · · · ·				
	~					×									
	9		X	×	×	×					×		×		
	5		×			×		×							
•	4		×		×	×					×		×		
	6		×						×						
	2		×	×	×	×		×			×				
		×													
¢			2		5	5					76	76	~		
	SE	ŝ	31	572	/7	72	76	9	76	76	5/	16	x /7 35		
•	RCI	197	15	7/0/18	23-	L/3 د/1	1/	197	/6/ 3&1	10/	1/1	L/2	ani 1 13-	17	
	1 3	2	8		1 H		16	2	6			1.1	- L	e c	ά.
			р.	5 14	<u></u>	p.		24	p.	5 14	<u>11</u>				

1 9

0		
X		
ŝ		
38		
믕		
m		
3.5		
34		
3		
3		
2		
m		
8		
6		
8		
2		
5		
26		1
5		
4		R
3		E
2		M
22		Z
51		5
0		RI
6		E
8	n	A
	X X	
12	\times \times	4-4
16	× ×	- 62
2		R
극		1 B
-	× ×	I
E I	×	
12		
न	×	
5		
н		
6		
80	×	
2		
9	×	
4		
9		
2	×	
	2 1 1 1	
ES	11111111111111111111111111111111111111	
RC	7/22/166 22/2/23/	
00		
S	H L L L L L L L L L L L L L L L L L L L	
		J

LIGHT TRUCK PPODUCT SCHEDULE CROSS-REFERENCE LIST (5/78)(Concluded)

TABLE B-5. INTERNATIONAL HARVESTER

LIGHT TRUCK PRODUCT SCHEDULE NOTES (5/78)

b

)

Ref. No.	Model Year	
1.	1976	Travelall wagon and conventional light pickups dropped. Scout line expanded to these areas as intermediates.
2.	1975	New 150 Series of light pickups, Travelall wagons, and Scout utility vehicles.
3.	1976	New 6 cylinder diesel engine option on all IH light truck lines. First domestic light truck manufacturer to offer a diesel.
4.	1976	Selected specs of new Scout vehicles.
5.	1976	Traveler Wagon - steel reinforced fiberglass top with hatchback styling and rear door.
6.	1976	Terra pickup - 6 ft box, 2400 lb load capacity.
7.	1976	Scout II Travel Top carryover from 1975 with a price leader "Echo" model.
8.	1977	All Scout models have new trim.
9.	1977	Terra optional tie-down rails, Traveler optional sliding-pane rear windows, and all Scouts optional cruise control with V-8 engines and auto trans.
10.	1977	Scout II new SS-II option with extra-heavy duty suspension, brush guards, roll bar, soft top, no doors, and off-road lights. Mid-year intro to compete with Jeep CJ series for "serious" off-road activities.
11.	1977	Traveler Family Cruiser interior option mid-year intro.
12.	1977	Terra new Suntanner option three-way convertible, Traveler new Family Wagon option with reclining swivel high-back bucket seats and all Scouts new ORV off-road driving package. Mid- year intro.
13.	1977	All Scouts expanded availability of cruise control and tilt steering wheel.
14.	1977	Selected specs of Scout vehicles.

SOURCES 1 2 4 5 6 7 8 9 10 11 12 12 23 43 53 33 <th></th>																
Sources 1 2 4 5 6 7 8 9 1011121114[5]601718]92021222226252629303132339433365733659 P 18 wx 1975 x <t< td=""><td>4</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>_</td><td></td><td></td><td></td><td></td></t<>	4											_				
SOURCES 1 2 3 5 6 7 8 9 1011121313414151617718192623128293033132333633396 P 18 wx 1975 x wx 1975 x x x ww 8/75 x x x ww 8/75 x x x ww 9/75 x x x ww 10/1/75 x x x ww 10/1/75 x x x AN 10/1/75 x x x	6															
SOURCES 1 2 3 5 6 7 9 10 11 21 4 5 6 7 33 34 33 34 33 34 33 34 33 34 34 34 34 34 34 34 34 <td>80</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>and the state of the</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	80								and the state of the							
SOURCES 1 2 3 5 6 7 8 9 10 11 21 22 22 22 22 23 30 31 35 36 <td>1</td> <td></td>	1															
SOURCES 1 2 4 5 6 7 9 10111211141516171819203122333443534 WAX 1975 WAX 1975 WAX 1975 X <td>5</td> <td></td>	5															
SOURCES 1 2 3 5 6 7 8 9 1011121314(15)6(17)18(19)24(21)22232455262728)29303132334435 WAY 1975 WAY 1975 WAY 1975 X X X WAY 1975 X X X X X X WAY 1975 X X X X X X AN Frologue X X X X X X X MAN 8/75 X	m															••
sources 1 2 3 5 6 7 8 9 10111211141516 171819202122232425262738293031323334 way 1975 x <td< td=""><td>35</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>	35															
SOURCES 1 2 3 5 6 7 8 1011121311415161617181920212222262728[2393033132335 WaY 1975 WaY 1975 Way 1975 X X X WaY 1975 X X X X X X Way 1975 X X X X X X Way 8/75 X X X X X X Way 8/75 X X X X X X Way 8/75 X <td>*</td> <td></td>	*															
SOURCES 1 2 3 5 6 7 8 9 1011121314151546171819202122224252627282930031323 WaY 1975 X <	3															
sources 1 2 3 5 6 7 8 9 101112114151617181920212222242526272829303113 wax 1975 " " 8 9 1011121114151617181920212222242526272829303113 wax 1975 " " 8 9 1011121114151617181920212222242526272829303113 wav 1975 " " " " " av P 211 " " " " " av P 211 " " " " " av P 21 " " " " " " av 1075 "	23		· · · · · · · · · · · · · · · · · · ·					40								
sources 1 2 3 5 6 7 8 9 10 12 14 5 6 7 8 9 10 12 14 15 12 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 3	n															
SOURCES 1 2 4 5 6 7 8 9 1011121314415161718192d21222324252627282930 WAY 1975 X </td <td>m</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>-</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	m								-							
SOURCES 1 2 3 4 5 6 7 8 9 1011121114151617181920212222222526272829 WAY 1975 W WY 1975 X<	30									1 -						
SOURCES 1 2 3 4 5 6 7 8 9 10 11 12 3 4 5 6 7 8 9 10 11 12 3 4 5 6 7 8 9 10 11 11 12 3 4 5 6 7 10 <td>59</td> <td></td>	59															
SOURCES 1 2 3 4 5 6 7 8 9 1011121314 15 6 7 8 22/2222222222222222222222222222222222	8		· · · · ·			of the local de		1. <u></u> 1.1								
Sources 1 2 3 4 5 6 7 8 9 10111213141516171819202122222222222222222222222222222222	2							ومدحل (185 م 186 م								
SOURCES 1 2 3 4 5 6 7 8 9 10111213141516171819202122224252 WAX 1975 X <td>5</td> <td></td> <td>·····</td> <td></td> <td></td> <td></td>	5												·····			
SOURCES 1 2 3 4 5 6 7 8 9 10111121141516171819 20(212222222425 WAY 1975 X	5															<u>[</u> []
SOURCES 1 2 3 5 6 7 8 9 10111213141516 171819 202122 22324 WAY 1975 X	25															S
SOURCES 1 2 3 4 5 6 7 8 9 10 11 2 15 2	24															2
SOURCES 1 2 3 4 5 6 7 8 9 1011121314 1516 1718 19 2021 22 WAY 1975 X	0									and the state of the		1. 18. 1. J. 1. 1. J. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.				
SOURCES 1 2 3 4 5 6 7 8 9 10111121314151617181920212 WAX 1975 X <td>2</td> <td></td>	2															
SOURCES 1 2 3 4 5 6 7 8 9 10 11 15 6 7 8 9 10 11 15 2 <	5					_										
SOURCES 1 2 3 4 5 6 7 8 9 10 11 21 1	21															õ
SOURCES 1 2 3 4 5 6 7 8 9 10111213141516171819 WAY 1975 X	20			-												17
SOURCES 1 2 3 4 5 6 7 8 9 10 11 21 1	6]															
SOURCES 1 2 3 4 5 6 7 8 9 10 11 15 1 1 WAY 1975 X	8															
SOURCES 1 2 3 4 5 6 7 8 9 101112131415161 WAY 1975 X <	7															
SOURCES 1 2 3 4 5 6 7 8 9 10 11 12 1 5 1 5 5 7 8 9 10 11 1 <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>																
SOURCES 1 2 3 4 5 6 7 8 9 10 11 2 1	E L															
SOURCES 1 2 3 4 5 6 7 8 9 10 11 12 13 14 WAY 1975 P I X	L5															-
SOURCES 1 2 3 4 5 6 7 8 9 10 11 12 13 WAY 1975 X	4													×		
SOURCES 1 2 3 4 5 6 7 8 9 10 11 12 WAY 1975 X	-71														<u></u>	<u> </u>
SOURCES 1 2 3 4 5 6 7 8 9 10 11 WAY 1975 X	킁		_													
SOURCES 1 2 3 4 5 6 7 8 9 10 11 WAY 1975 X																iu
SOURCES 1 2 3 4 5 6 7 8 9 10 WAY 1975 X	1							and the second se				`				
SOURCES 1 2 3 4 5 6 7 8 9 WAY 1975 X	0															
SOURCES 1 2 3 4 5 6 7 8 WAY 1975 X X 5 6 7 8 WAY 1975 X X X X X X WAY 1975 X X X X X X WAY 1975 X X X X X X AN Prologue X X X X X X P 45 X X X X X X X WAW 9/75 X X X X X X X X P 71 AN 11/3/75 X	6													×	5	~
SOURCES 1 2 3 4 5 6 7 8 WAY 1975 X X 1975 X 1975 1 1 WAY 1975 X X X X X X X WAY 1975 X X X X X X X WAY 1975 X X X X X X X AN Prologue X														50		-
SOURCES 1 2 3 4 5 6 7 WAY 1975 X X 1975 5 6 7 WAY 1975 X X X X X X WAY 1975 X X X X X X WAY 1975 X X X X X X X AN Prologue X X X X X X WAW 9/75 X X X X X X X P 71 X </td <td>-</td> <td></td>	-															
SOURCES 1 2 3 4 5 6 WAY 1975 X X 5 6 WAY 1975 X 1975 5 7 5 WAY 1975 X X X X X WAY 1975 X X X X X AN Prologue X X X X X X AN 9/75 X X X X X X X P 45 X X X X X X X AM 9/75 X <t< td=""><td>~</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>×</td><td></td><td></td><td></td><td></td><td></td></t<>	~										×					
SOURCES 1 2 3 4 5 WAY 1975 X X 4 5 WAY 1975 X X X X 19 5 WAY 1975 X <t< td=""><td>9</td><td></td><td></td><td></td><td></td><td></td><td>×</td><td></td><td>×</td><td></td><td></td><td></td><td></td><td></td><td>a lot area</td><td></td></t<>	9						×		×						a lot area	
SOURCES 1 2 3 4 WAY 1975 X X X WAY 1975 X X X AN Prologue X X X AN Prologue X X X P 45 X X X X WAW 9/75 X X X AN 10/1/75 X X X AN 11/3/75 X X X AN 10/1/75 X X X AN 11/3/75 X X X AN 106/76 X X X MAY 1976	5						×		×							
SOURCES 1 2 3 WAY 1975 X X P 18 X X WAY 1975 X X WAY 1975 X X WAY 1975 X X WAY 1975 X X AN Prologue X X AN Prologue X X P X X X MAW 8/75 X X P 71 X X AM 9/75 X X P 71 X X AN 10/1/75 X X AN 11/3/75 X X AN 11/3/75 X X AN 11/3/75 X X AN 10/6 Y X MAW 1976 X X P 2277 <td>.+</td> <td></td> <td>** * ***</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>×</td> <td>55</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	.+		** * ***						×	55						
SOURCES 1 2 3 WAY 1975 Y P 18 X WAY 1975 Y P 211 AN Prologue to Future 1975 P 84 X WAW 8/75 Y P 45 X WAW 9/75 Y P 71 AT 10/1/75 Y P 71 AT 10/1/75 Y P 71 AT 10/1/75 Y AN 11/3/75 Y P 23-25 X AN 11/3/76 Y P 23-25 X AN 11/3/76 Y P 227 AN 10/76 Y P 6&35 Y MAY 1076 Y P 6&35 WAW 10/76 Y P 57-59 X						54		M		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		~	~			
SOURCES 1 2 WAY 1975 Y P 18 X WAY 1975 Y P 211 X AN Prologue to Future 1975 P 45 X WAW 9/75 P 45 X WAW 9/75 Y P 71 X AN 11/3/75 X AN 11/3/75 Y P 10&72 X AN 11/3/75 X AN 11/3/75 X AN 11/3/75 X AN 11/3/76 Y P 23-25 X AN 11/3/76 Y P 227 AN 1976 Y P 42 X MAY 1976 Y P 227 AN 9/27/76 Y P 6&35 Y MA 10/76 Y P 6&35 Y	m									P.4		~	~			
SOURCES 1 WAY 1975 Y WAY 1975 Y WAY 1975 P 211 AN Prologue to Future 1975 X WAW 8/75 X WAW 8/75 X WAW 8/75 X WAW 9/75 Y P 45 X WAW 9/75 Y P 23-25 X AN 11/3/75 X AN 11/3/75 X AN 11/3/75 X MAW 2/76 Y P 227 X AN 9/27/76 Y P 6&35 Y MAW 10/76 Y P 6&35 Y MAW 10/76 Y P 6&35 Y	5		×													
SOURCES WAY 1975 P 18 WAY 1975 P 211 AN Prologue to Future 1975 P 45 WAW 9/75 P 45 WAW 9/75 P 71 A1 10/1/75 P 71 A1 10/1/75 P 23-25 AN 11/3/75 P 23-25 AN 11/3/75 P 23-25 AN 11/3/75 P 23-25 AN 11/3/76 P 54-55 AN M.D.B. Issue 1976 P 42 WAY 1976 P 6&35 MAV 10/76 P 6&35 WAW 10/76 P 68 35 WAW 10/76	-1	, ×				×	×		×	×		×	×		>	۲
SOURCES WAY 1975 P 18 WAY 1975 P 211 AN Prologi to Futuri 1975 P 45 WAW 9/75 P 71 AN 9/75 P 71 AN 11/3/7 P 23–25 AN 11/3/7 P 23–25 AN 11/3/7 P 23–25 AN 11/3/7 P 23–25 AN 11/3/7 P 227 AN 9/27/76 P 6&35 AN 9/27/76 P 6&35 WAW 10/76 P 6&35 WAW 10/76				-Te	(1)				10	10		76		10		
SOURCE WAY 197. P 18 WAY 197. P 211 AN Prolo to Futi 1975 P 45 WAW 8/7: P 45 WAW 9/7: P 71 AN 11/3. AN 10/7. PP 6&35 VAM 10/7. PP 6&35 VAM 10/7. PP 6&35 VAM 10/7.	S	5	5	180	ur		10	10	17	12	52	.B.	10	176	92	
SOUF WAY 1 P 18 WAY 1 P 21. AN Protection P 21. P 22. P 22.	E	97	97	010	uti		17.	11	3-7	/3	1-1	0 0	97(\$35		
NAY WAY WAY AN AN MAW WAW WAW PP PP PP PP PP PP PP PP PP PP PP PP PP	1 J	18	21.	Pr	F 22	34	8 5	9.	10	11	2 5	M.) 50	13	9/:	H	n l
3 3 4 3 3 4 4 3 4 3 4 3 4 3 4 3 4 3 4 3	so	АY р	PΡ	z	to	d.	MA	AW	I	Ndd	AW	I S C	AY	N de	MA	2
		3	3	A	- • •		3	3	A	A	3	A)	M	A	3,	

B-22

1

LIGHT TRUCK PRODUCT SCHEDULE CROSS-REFERENCE LIST (5/78)

1

1

 γ_{0}^{\prime}



LIGHT TRUCK PRODUCT SCHEDULE CROSS-REFERENCE LIST (5/73) (Concluded) FIGURE B-5. INTERNATIONAL HARVESTER

B-23/B-24

ŋ

10

4

x

×

×

11/11 mm

APPENDIX C

11

11

., *

3).

1

1

1)

1

IMPORT MANUFACTURERS' CROSS-REFERENCE LISTS

This appendix contains cross-reference matrices pertaining to selected import manufacturers. The cross-reference matrices (Figures C-1 through C-11 are keyed by reference number (as shown on the Master Product Schedules in Section 4, Figures 4-1 through 4-11) and correlate the appropriate reference number with the original research sources.

Information provided in this appendix can be used to obtain additional details beyond those highlighted on the schedules. Original sources may be identified for further research and location of diagrams, photographs, etc. Source abbreviations are located in the List of Abbreviations at the front of this report.

34353637383940		ised 1/31/78
3233		Rev
031		4
93		-
282		-
272		
26	× ×	1
25	×	
24		
2 23	×	-
12:	×	-
02		-TC
192		1 20
1 8		
17	× ×	1 -
16	* * *	<u>ن</u>
15	* * *	URE
14		101
213	× ×	
11	× ×	-
0		-
46	× × ×	-
00	× × ×	-
7	×	1
9	× ×	1
5	* *]
4	* * * *	
3	× × ×	
2	× × × ×	_
	× × × ×	-
SOURCES	1977 AN Mkt Data Bk. p 27 p 27 p 27 l976 AN Mkt Data Bk. p 25 p 25 p 34 p 51 l975 WAY p 34 p 45 p 45 p 45 p 213 p 43 p 213 p 213 p 203 p 213 p 203 p 203 p 213 p 156 p 115 p 107 p 107 p 107 p 107 p 107 p 107 p 107 p 107 p 107 p 203 p 213 p 107 p 107 p 107 p 203 p 213 p 107 p 203 p 213 p 107 p 107 p 203 p 213 p 107 p 203 p 213 p 213 p 217 p 203 p 213 p 213 p 217 p 203 p 213 p 2	*Not used

PRODUCT SCHEDULE CROSS-REFERENCE LIST



VD

U

* e

),

))

· · 1)

11

))

.) 🏚

.)

1

Territion is the second induities rounded

FEGURE C. F. TOYOTA

1

White transit

1 -1

C-3

8 19 20 21 22 23 24 25 26 27 28 29 30 31 35 36 37 38 x<		Revised 1/31/78
8 19 2 G 21 22 23 2 4 2 5 2 6 2 7 28 2 9 3 0 3 1 3 2 3 3 3 4 3 5 3 6 3 7 3 8 x x x x x x x x x x x x x		Revised 1/31/78
.8 19 2 2 2 2 3		Revised 1/31/78
8 19 2021 22 23 24 2 5 2 6 27 28 29 30 31 3 2 3 3 3 4 3 5 3 6 x x x x x x x x x x x x x x x x x x x		Revised 1/31/
8 19 20 21 22 23 24 2 5 2 6 27 28 29 30 31 3 2 3 3 3 4 3 5 2 x x x x x x x x x x x x x x x x x x x		Revised 1/3
8 19 20 21 22 23 24 25 26 27 28 29 30 31 32 3 3 3 4 3 × × × × × × × × × × × × × × × × × × ×		Revised
8 19 20 21 22 23 24 25 26 27 28 29 30 31 3 2 3 3 3 x x x x x x x x x x x x x x x x x x x		Revise
8 19 20 21 22 23 24 25 26 27 28 29 30 31 32 3 x x x x x x x x x x x x x x x x x x x		Revi
8 19 20 21 22 23 24 2 5 2 6 2 7 28 29 30 31 3 x x x x x x x x x x x x x x x x x x x		
8 19 20 21 22 23 24 2 5 2 6 27 28 29 30 3 × × × × × × × × × × × × × × × × × × ×		
8 19 20 21 22 23 24 25 26 27 28 29 3 x x x x x x x x x x x x x		1
8 19 26 21 22 23 24 25 26 27 28 2 x x x x x x x x x x x x x x x x x x x		
8 19 20 21 22 23 24 25 26 27 24 x x x x x x x x x x x		
8 19 20 21 22 23 24 2 5 2 6 2 x x x x x x x x x x x x		
x x x x x x x x x x x x x x x x x x x		
× × × × × × × × × × × × × × × × × × ×		
× × × × × × × × × ×	×	
x x x x x x x x x x x x x x x x x x x		
× 8 19 20 21 22 × × × × × × × × × × × × × × × × × ×		
× ×		A
× 8 19 20		OT
× 8	×	
∞×		
A mod 3 77		-
2		er H
× ×		
H ×		
о н		
0		
α	×	
×		
0		
n ×		
X		
m	× ×	
H	~ ~	
×	~ ^	
SOURCES S/7/77 WAR P 84 P 84 P 22 8/76 R&T P 68 P 68 P 68 P 48 P 101 P 213 P		

PRODUCT SCHEDULE CROSS-REFERENCE LIST (CONT.)

C-4

0																				
6																				
8												-								
5																				_
m.																				
36																				
5																				
43																				
10																<u>^</u>			~	
0	×							_		<u>`</u>									~	
32																				
	×									×							×			
0																				
6											·····						_		·	
5																				
28		×	:		×	:	×						×						×	
1																				
5																				
5																				
5								×												
24																				
53																				
5																				
5																				
5																				
20													×							
19																-				
8	м													and the second						
	<u></u>			м						~										
	×			~			~			~	^								×	
19																				
5																				
4		_																		
								_				-								
-																				
12																				
5																				
L H																				
6															_					
8											×			×						
~																				
5							_													
4																				
-																				
2														a						
	1				2	1	-	~	7		~	2			7		2			
5	1/1	~			17			17	2/		1	17			17		17	5	-	
E	/1	17	/		24	0 5	-	/3	30		19	16		~	22		13			
JR	11	12	11	5	2		32	10	1 6		/6	6		17	1		5/	5	8 4	
10	. H		- [5	1	0. 6	3	2.6	5	7	2	5	~	6.6	5	-	5	-	5	
S S	G 0.		0. 15	1 0			1 .	4		-	7 .	1	-	5 · O		0.	[1] (0. 2	1 0.	

Here's most 1/11/20

I LOURI C. I. TOYOTA PRODUCT SCHEDHE CROSS-RELERING LIST (CONF.)

1)

1)

C-5

FIGURE C-I. IUTUIA

1

-		1
3		
6		78
8		1
1		15
응		
5		ed
m	×	is
34		Sev
33		
32		
न		
8		
5		
5	×	
28	×	
27		
26	×	
5	×	
4		
3		
5		
22		<
21		
20		
6		F
ŝ		
F		
Ē		
12		C L
4		i i
- m		
2		
무		
크		Į
E I		
6		
8		
~		
0		
4		
3		
2		
	· · · ·	
ES	4 4 3	
RC		
Jo N	v v v v v v v v v v v v v v v v v v v	
0,1	H H H H H H H H H H H H H H H H H H H	

•

PRODUCT SCHEDULE CROSS-REFERENCE LIST (CONCLUDED)

FIGURE C-1. TOYOTA



PRODUCT SCHEDULE CROSS-REFERENCE LIST

v 🧠

0		7
9		- 00
83		-15
5		-10
÷		
ñ		ed
35		1.
34		ev L
33		7 8
2		
-		-
5	×	-
93		-
82		_
72		-{
2	×	_
26	×	
25	×	
24	×	
23	X X	-
27		-
6		- N
92		TS
18	×	DA
F		
		-2-
L ²	×	<u>ن</u>
15		RE
4	×	9
<u> </u>	×	- 2
5		-
두		-
5		-
L H		-
5	×	4
8		_
9	×	_
5	×	
4		
m		7
2	×	
		7
—	! <u><u><u></u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u></u>	-
S	AI AI AN AN AN AN AN AN AN AN AN AN AN AN AN	
l S	6 Ad	
150	7/7 33/7 121 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
Š		

PRODUCT SCHEDULE CROSS-REFERENCE LIST (CONT.)

٠		
	m w	
	m	
	m.	
	30	
	n N	
	×	
	<u> </u>	
	× ×	
E.		
	× ×	
•	50 × × × × × × × ×	
	8	
	0	
	X	
· .		
0		
	7	
	<u>×</u>	
	ri	
	6 ×	
	∞ ×	
-		
	× × v	
	۲ ×	
	4	
	m ×	
	N	
1 .		
	88/1 11/1 11/1 11/1 11/1 11/1 11/1	
	CC 1 2 4 1 1 1 8 3 3 1 7 4 7 1 1 1 8 6 7 4 7 7 1 1 1 8 6 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	

•

PRODUCT SCHEDULE CROSS-REFERENCE LIST (CONCLUDED)

I

_

\$

C-9

40		
39		
38		~
37		1
36		31
5		1
4		ba
33		1 S
23		ev
1		× ×
63		
93		
32		
72		
2		
5		
25		
24		
23		
22		
21		_
20		D/D/
19		19 H
18		1
5		ب
19		ن
5		RE
4		[GU
-		Ē
21		
긐		
등		
E.		
5		
8	×	
	×	
۴°	× × ×	
<u> </u>	×	
4	×	
m	×	
8	× × ×	
-	× × × × ×	
SOUPCES	1977 AN Mkt Data Bk. P 36 P 72 P 72 Data Bk. P 58 1976 AN Mkt Data Bk. 1976 AN Mkt P 51 P 51 P 51 P 45 P 45 P 45 P 2,5,27 P 2,5,2	

PRODUCT SCHEDULE CROSS-REFERENCE LIST



FIGURE C-3. HONDA

_

1.

4		~
39		178
8		31,
		1/
믕		φ
5		se
<u>m</u>		, vi
Ē		Re
m		
32		
31		
ê		
67		
8		
1		
5		
52		
5		
57		
23		
22		
21		AC
20		INO
19		Í
8		
F	×	
19	×	
2		URE
1	×	16
	×	لك
17		
11		
10		
6		
8		
F		
9		
4		
m		
2		
-	× ×	
	in 'in 'in	
ES	ri, b	
RC.	D D D D D D D D D D D D D D D D D D D	
ы б	14111 B 8/4 6/6 1/6 1/2 B 1/2	
S	N C N C L C L C C C C C C C C C C C C C	

PRODUCT SCHEDULE CROSS-REFERENCE LIST (CONCLUDED)

		19														00
		6														1
-		8						-								
1		13														
-	1-	5														- T
-	19	m														I.S.
		3														ev –
2		34														2 M
3		33														
14 +		32														
		न														_
		5					·									
		6														
	8	2														
		12														
-	7	27														
	r	26														
Ξ	20	25														
7		5														
Ō		m														_
· · ·		2														
5		17														
_		07														_
	0	92														
N Z		1-1														
1012																
		1														
: ×		16														
		15														5
12	6	4														<u></u>
		-		·····												
		7														
10	0															
- 6		1														
		H-I														
		6														
101	') 🥥	8												×		
		~														
		9						×						×	×	
-		5								×						
-		4		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~									×			
-		-		~						~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~					
-	1 🧠									~	~					
		~					×	×	×							
			×	×	×							×				_
1			1kt			Ik t						~	77	5	75	
-		CES	8k.	AY 51	A] -49	N N 3k.	-60	45	AI -38	4Y 43	AI 41)77 1	5/	1/2	64/	
	· · ·	N N	Al A	W/ 41,	77	A F	-69	₩,	76 37-	W/ 26,	15	19 1,2	1/1	/25	1/2	
	1	Sol	77 at	77 P	1/ P	76 at:	d JC	D d	1	75	1/1	MA ubs l		8	100	
			19 D	19 P	4/ P	19 D	d of	Id Id	4/ p1	19 P1	4/ P1	NW	AI	AN	AN	
		-														

1 🥥

		78
0		1/
16		, 3
83		
5		sec
m.		i.
3		Rey
35		-
34		
33		
32		
न		
0		
93		
82		
72		
5		
5		
25		
24		
23		
22		
FT		
10		R
92		BAI
1		SUI
1 T		
1		4.
ЦЩ.		්
		Б
1	×	GU
H	×	ΕI
12	×	
E I	×	
0	×	
6	ų.	
8	×	
	^	
L,		
4		
3		
7		
Ч	· ×	
SOURCES	tlantic Imported Cars, Subaru Dealer, Cambridge AR 4/11/77 P 115 P 85 P 85 P 86 P 86 P 98 P 98 P 98 P 98 P 98 P 98 P 26 P 26	

PRODUCT SCHEDULE CROSS-REFERENCE LIST (CONCLUDED)



C-15

1 .

0 7]
6															78
38															17
2															19
9															12
5															Sec.
5						<u></u>									1.1
8				نيز بر المراجع											Re.
2															-
<u> </u>						ladowine without			· ·						
<u> </u>												-			
30															1
29															
28]
27															
10															1
5															1
45	,														
33															
2 2															-
2									~						
5															-
5															
61	-														MA
18															
17															2
9															1 5
5															L H
5															ent
															Ē
7															
긐							·							~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	-
												×			
E E											×				
6										×					
8			×											×	1
7		×		×		×	×		×						1
9	×														1
5			×		×		×	×	×	×					1
															1
															1
-															-
2															
SOURCES	1 11/7/77 5 28	tw 11/77 0 25	1 10/31/77 20	1 10/10/77 5 25	1 8/15/77 3 3	4 8/1/77 5 21	1 5/10/77 51	NW 2/77 5 21	AR 1/17/77 5 19	r 4/77 84,90	r 4/77 5 116	V 11/28/77 2 23	4 12/1/75	op 2,4	
	AA 4	W	AP T	A H	AP	AP 1	AP 1	W/	W/ E	ž	N. H	A	A		J

PRODUCT SCHEDULE CROSS-REFERENCE LIST (CONT.)



PRODUCT SCHEDULE CROSS-REFERENCE LIST (CONCLUDED)

40		
39		
38		ø
37	×	[]
36		/3]
35	· ×	
34		sed
33		vi
32		Re
31		
n B		
29		
28		
27	×	
26	× ×	
2	×××	
24	X	
5	×	
27		
	×	ШN
Ŋ		ИAG
6		KSI
8	×	,oL
F		>
5		.0
15	×	5
41	×	RE
		GU
21	× ×	Ц
두		
5		
L T		
1. 	<u>× × × ×</u>	
1 m	×	
10		
5		
	×	
<u> </u>		
SOURCES	1977 AN Mkt Data Bk. Pp 44,76 Pp 44,76 P 57 P 57 P 57 P 51 P 51 P 51 P 51 P 51 P 51 P 51 P 51	*Not used

PRODUCT SCHEDULE CROSS-REFERENCE LIST



۲

1

C-19

FIGURE C-6. VOLKSWAGEN

(TNOO) I JI I JULIO DI CONT (CONT)



FIGURE C-6. VOLKSWAGEN PRODUCT SCHEDULE CROSS-REFERENCE LIST (CONT.)



C-21

-

1 .

FIGURE C-6. VOLKSWAGEN

1 2 3 4 5 6 7 8 9 011112111415161171819262950335637363736373639 x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x <td< th=""></td<>
1 2 3 4 5 6 7 8 9 10 11 12 3 4 5 6 7 8 9 10 11 12 3 4 5 6 7 8 9 10 11 12 13 12 13 14 15 15 16 17 18 19 10 11 11 10 17 14 15 17 14 15 17 14 15 17 14 15 17 14 15 17 14 15 17 14 15 16 17 14 15 17 14 15 17 </td
1 2 3 4 5 6 7 8 9 10 11 21 23
1 2 3 4 5 6 7 8 9 10 112 13 13 23
1 2 3 4 5 6 7 8 9 h011121131415 13 4 5 5 13 4 5 13 4 5 13 4 5 13 4 5 13 4 5 13 4 5 13 4 13 4 13 4 13 4 13 4 13 4 13 4 13 1
1 2 3 4 5 6 7 8 9 10 11 12 3 4 5 6 7 8 9 10 11 12 3 4 5 6 7 8 9 10 11 12 12 23 24 25 26 29 30 31 32 33 34 1 1 1 1 18 19 12 12 12 23 34 12 12 12 23 30 31 32 33 34 13 14
1 2 3 4 5 6 7 8 9 10 11 12 3 03 13 23 23 20 13 23 3 03 13 23 3 03 13 23 3 03 13 23 3 03 13 23 3 03 13 23 3 03 13 23 3 03 13 23 3 03 13 23 3 03 13 23 3 03 13 13 23 3 03 13
1 2 3 4 5 6 7 8 9 101112131415161718192021223324252627282930031323 x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x
1 2 3 4 5 6 7 8 9 10 11 11 12 23 24 25 16 17 18 19 10 11 11 12
1 2 3 4 5 6 7 8 9 101112111415161718192021222226229203 x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x
1 2 3 4 5 6 7 8 9 10 11 21 21 22 23 24 25 6 27 29 3 x
1 2 3 4 5 6 7 8 9 1011112131415h61718192021222324252627282 x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x
1 2 3 4 5 6 7 8 9 10111213141516171819202122232025262722 x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x
1 2 3 4 5 6 7 8 9 10 11 21 22 22 22 25 5 6 x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x
1 2 3 4 5 6 7 8 9 10 11 12
1 2 3 4 5 6 7 8 9 10 111213141516171819202122232425 x x x x x x x x x x x x x x x x x x x
1 2 3 4 5 6 7 8 9 10 11 21 21 22 22 23 24 24 25 6 7 18 19 20 21 22 23 24 24 5 6 7 18 19 10 11
1 2 3 4 5 6 7 8 9 10 11 21 21 22 23 1 2 3 4 5 6 7 8 9 10 11 21 12 23 1 1 2 3 4 5 6 7 8 9 10 11 12 13 12
1 2 3 4 5 6 7 8 9 10 11 21 12 22 12 1 2 3 4 5 6 7 8 9 10 11 12 12 12 1 1 1 1 1 1 12 12 12 1 1 1 1 1 1 1 12 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 <t< td=""></t<>
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 1 1 1 1 1 1 1 1 1 1 10 11 11 11 11 11 11 11 10 1
1 2 3 4 5 6 7 8 9 10 11 12 13 19 10 1 2 3 4 5 6 7 8 9 10 11 12 13 19 20 1 1 1 1 12 13 14 15 16 10 1 1 1 1 1 1 1 10 <
1 2 3 4 5 6 7 8 9 10 11 12 14 15 16 17 18 19 1 1 1 1 1 1 1 1 1 1 1 1 10 11 11 11 11 11 11 1 </td
1 2 3 4 5 6 7 8 9 10 11 12 15 16 1 1 1 1 1 1 15 16 17 18 1 1 1 1 1 1 15 16 17 18 1 1 1 1 1 1 1 16 17 18 1 1 1 1 1 1 1 1 16 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1<
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 1
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 1 1 1 1 1 1 1 1 1 16
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 15 1 1 1 1 1 1 1 1 15 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 2 3 4 5 6 7 8 9 10 11 12 13 14 1 2 3 4 5 6 7 8 9 10 11 12 13 14 1 1
1 2 3 4 5 6 7 8 9 10 11 12 13 1 2 3 4 5 6 7 8 9 10 11 12 13 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 2 3 4 5 6 7 8 9 10 11 12 1 1 2 3 4 5 6 7 8 9 10 11 12 1 1 2 3 4 5 6 7 8 9 10 11 12 1 1 2 3 4 5 6 7 8 7 8 1 2 5 5 6 7 8 8 8 1 2 5 5 6 7 8 8 8 1 2 5 5 6 7 8 8 8 1 2 7 8 8 8 8 8 1 2 5 5 6 7 8 8 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 2 3 4 5 6 7 8 9 10 11 1 2 3 4 5 6 7 8 9 10 11 1 2 3 4 5 6 7 8 9 10 11 1 2 3 4 5 6 7 8 9 10 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 <
1 2 3 4 5 6 7 8 9 10 1 x x x x x x x x
1 2 3 4 5 6 7 8 9 10 x x x x x x x x
1 2 3 4 5 6 7 8 9 x x x x x x x x
I 2 3 4 2 8 × × × 2 8
1 2 3 4 5 6 7 × × × × × × ×
1 2 4 5 6 × × × × ×
1 2 3 4 5 × × × × ×
1 2 3 4 × × × ×
1 3 × 4
л Г Г
OURCES 86,89, 86,89, 9/75 4(0,41, 11/28/7 77 11/28/7 77 104 104 104 104 104 104 104 104 104 104
MT PP PP PP PP PP PP PP PP PP PP PP PP PP

PRODUCT SCHEDULE CROSS-REFERENCE LIST (CONT.)

C-22



0													
3													
5													
ñ											-		
m.													
36													
35													
7													
5													
2													
E I													
8													
5													
5													
28													
27													
26													
25													
24													
23													
2													
-													
07													
92													
8													
7													
1.6													
15													
14													
							×						
5													
F													
5										×			
<u> </u>									×			×	×
8													
7											×		
9									×	×			
5									×				
4										×			
3			· · · · · · · · · · · · · · · · · · ·				×	×					
5		×		;	< ×	×	×						_
	×	×	×										
	ц.								~	~	~		~
S	Mk 7		16	¥۲ · ۵	s s	н∞	3	нн	17	1	8/1	77	1
E	Bk Br	7AY 5	A -4	Bk	TAY ,4	-3	IAY , 4	A -4	28	19	/2	16	29
E E	7 F 5 a 76	39	48	a	29	37	26 26	40	11/	12/	10	1/1	8/
S	97 Dat	97 97	/1/ op	976 Dat	976 0 P	/1/ 0P	979 DP	/1/ DD	N O	NO	EU	5 0	AR
			4	H		4	- H	4	Al	A	WI	Al	W/

C-23

Revised 1/31/78

9														n a
6						· · · · ·								
8														~ ~
15														
63														
5														
m														
94														
33														
32	ļ													
31														
0					<u>.</u>									
6														
8			· · · · · · · · ·											
72		· · · · · · · · · · · · · · · · · · ·												
62				· · · · · · · · · · · ·										
5 2														
2														
24														
53														
22														
21														
2														
61														
8														
F														
5														
5														
1	1										×		×	
13												×		
12											×			
L L			×	×										
0									×					
6		×			×	×		×						
8										×			-	
~			· <i>····</i>				~							
5						·	~							
		~			¥				×					
							÷							
4														
e														
2			×											
SOURCES	N 8/29/77 p 10	AW 7/77 P 38	E 6/77 P 20	N 6/13/77 P 60	EU 5/13/77 P 5	N 5/9/77 P 45	AR 4/25/77 p 134	EU 10/14/77 P 1	N 10/17/77 p 6	EU 9/30/77 p 1	&Т 8/76 р 89	AW 9/75 P 42	N 12/29/75 p 12	
ليسا	A	3	A	A	3	A	3	3	A	3	В	3	A	

PRODUCT SCHEDULE CROSS-REFERENCE LIST (CUHT.) FIGURE C-7. FIAT

•
_	7.11				
	12		4		80
	5		39		17
	-		38		31
	0		37		1
-	2		36		ed
-	Re		5		/is
			34		Rev
			33		
-		1	32		
-		,	नि		
-		r	l in the second		
-			6		
-		1	8		
_	-		1		
	HO.	*	9		
) (C		5		
_	7		42		
_	-		33		LT L
_	-		2 2		FIJ
_	I V I)	12		_
_	- 2)	0		
_	· 1		92		ن
	12		8		JRE
			7		IGL
	URI C RU	2	19		Ĺ
	101)	2		
	1	,	극	*	
-	Ξ	1	H		
-	20		1		
-	5				
-	000			·	
-	18()		E		
-	-	2	6		
-			8		
-			-		
			9		
-		1	5	×	
_		` `	4		
			3		
			2		
_			-		
1		4		د. د. د.	
1		1	CES	14/	
		9	Ĕ	00/: 9 0/: 8 0/:	
			SO		
1				AN A F P A A A A	
				C 2E	

.

9 h 0 | 1 4 1 2 1 4 1 5 h 6 1 7 1 8 1 9 2 4 2 1 22 23 24 2 5 2 6 2 7 28 2 9 3 0 3 1 3 2 3 3 6 4 3 5 3 6 3 7 3 8 3 9 4 0 Revised 1/31/78 FIGURE C-8. BRITISH LEYLAND × 8 7 9 × ŝ × × × 4 × × m × × × 2 × × × , i × × WEU 11/25/77 PP 6,7 pp 26,32,43 AN 11/28/77 p 26,38 .976 AN Mkt 977 AN Mkt pp 2,5,27 Data Bk. pp 76-77 p 72 4/1/76 AI pp 37-38 SOURCES **PP** 48-49 Data Bk. **PP** 59-60 **PP** 40-41 4/1/77 AI 4/1/75 AI 4VMA 1977 AE 12/77 P 27 975 WAY YAW 779. .976 WAY Jaguar p 45 p 51

PRODUCT SCHEDULE CROSS-REFERENCE LIST



4														
6														
8									ter Within an Adria					
F														
5														
5														
4														
8														
-														
m														
10														
3														
29														
28														
27														
56														
5														
42														
2														·····
22														·····
17														
0 2														
92														
5														
7														
-														
E e														
15														
14													×	
귀							_							
12		-					-		×	×	×			
1								×						
0					×	×	×					×		
6														
0			~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~											
-	×	×	^											
10														
4														
3														
2														
-														
10	11	27		6]	-	17	8/17		~	2	77,	978	2	
CE	16	1/	~	d	17	24/	/28	77	17	3/	24,	1	17	
UR.	51	1	/7 30	1	12	0/	10	8/2/	1120	/1	6/	ar	11	
so	2 2	4 3	1 2	11	LT 4	4 1	5U 3	00 1-1	H	N 6	cu , 6	uga Vdv	W.	
	AP	AP	Εů		R	AP	WE	E 1	RS	AP	W	J.	W/ b	

Revised 1/31/78

0 0 0000

C-27

3		
39		
38		78
5		
9		
5		- 70
4		se
3		
5		- ~
-		1
8		-
6		-
82		-
72		-
5		4
5		-
5		-
24		1 g
53		LA L
22		μ λ
21		
20	×	ISI
19	×	
18	× ×	B
1	×	1.
16	×	1 00
5	×	
4		1 B
	^	16
2]		
구		1
등		1
L L L		-
		-
-		-
		-
		-
5	×	1
6		-
5		-
		1
	3 N N	1
SOURCES	pitfire 1978 Adv. 6 1978 Adv AW 10/77 P 72 AW 9/75 P 44 N 12/26/7 P 6 N 12/26/7 P 2,29 IT 4/77 P 2,29 IT 4/77 P 2,29 II 6 II 6 P 27,92 II 6 P 250 P 250	
	0 2 5 5 4 4 2 5	J

PRODUCT SCHEDULE CROSS-REFERENCE LIST (CONCLUDED)

x x x x x x x x x x x x x x x x x x x

FIGURE C-9. VOLVO

4									-					
39													· ·	
38														
1														8
36													-1	[]
5														Ē
4														L,
3							-							ed
23														1.5
F										nacuranyi san Banadar	The second s			Rev
5													'	
93						,								
82												an antisen interneting stationers		
72											والاستخاصة والمراجع			-
62														
5														
5														
24														
23														0
22														DL V
21														V(
20														•
19														6-0
18														
1														URI
19														IG
5								······································				· · · · · · · · · · · · · · · · · · ·		
5														
21								~						
								~						
믕				^										
E.						×								
6		×	×	×	×				×					
8				×			×							
~		×	×	•										
0		×	×	×										
5	×													
4														
3														
2								×						
	•													
	11	77	41	44	77	L.	77	75				- <u>-</u>		
S S S	24	1/.	14	28	3/	ve nt	9	3/						
RC	00	-/2	1/	6	1/1	Ad	1	/1	177					
DO DO	34	11	R]	50	7	78 ise	12	9 10	21					
s l	WA	AN	WA	WE P1	WE	19	AN	AN	AE					
l.												the state of the s		

PRODUCT SCHEDULE CROSS-REFERENCE LIST (CONT.)



2 0

1 0

4															8/
<u> </u>							-		و و بار و و و و و و و و و و و و و و و و و و و						1/1
ñ															./3
m.															٩]
m															see
m														_	ivi
<u>ě</u>															Re
8														_	
32															
<u> </u>															
n n n															
29															
28															
27															
26															
25															Z
24											·				EN
23															S-B
22															DE
21															SCE
20															ME F
19															
18															0.
1															5
16															ш
15															GUR
14															FI
귀									×						
12															
H															
10															
6								×	××		×	×			
œ							×		×						
7	×	×	×	×	×								×	×	
9						×			×	×					
5															
4															
e															
2															
SOURCES	AN 11/21/77 P 30	WAW 11/77 p 23	R&T 12/77 p 81	WEU 10/28/77 P 6	AI 11/15/77 p 16	WAR 10/3/77 P 317	WEU 9/30/77 P 8	WAR 10/3/77 p 318	AN 9/26/77 P 2 P 3 D 27	WAR 9/12/77 P 292	WAR 8/15/77 p 261	AN 8/8/77	MT 6/77 p 16	p 32	

PRODUCT SCHEDULE CROSS-REFERENCE LIST (CONT.)



C-33

10

...

FIGURE C-10. MERCEDES-BENZ

8		8/
8		1
3		/3
3		
ŝ		ed
m		715
ľà		Rey
<u> </u>		
32		
10		
<u> </u>		
6		
8		
7		
62		
52		
2		
5		, c
5		
5		
21		
20		144
19		
18		C 17
1		C
16		L
5	×	
4		
-		
7		
긐		
등		
Ē		
L.		
8		
<u>_</u>	×	
°		
2		I
4		
3		
7		
-		
	2	
S		
RC		
B	112666712776	
S	Y O Y O H O	
L		

FIGURE C-10. MERCEDES-BENZ PRODUCT SCHEDULE CROSS-REFERENCE LIST (CONCLUDED)



PRODUCT SCHEDULE CROSS-REFERENCE LIST

FC		
1 to		
6		~
18		78
m		1
5		3
0		1
10		70
m.		e.
T		
m		e l
19		8
m.		
E.		
6		
5		
53		
8		
12		
12		5
2		
5		Ŭ
12		
5		ST
23		
5		
2		E B
5		EN A
2		l v X
6		
		- H
Ĩ		
		os c
5		E H A
E		
12		LIG
4		L L D
	^	三 平
i i i	×	
12	×	0,
F	L	5
	^^	2
L A	× × ×	
6		L H
- ^a		
1	×	
9		
	V	
5	^	
4		
-		
<u> </u>		
2		
	С Г <u></u>	
ES	4 7 7 6 67 24 9 7 7 7	
RC	0 1 2 2 2 2 2 2 2 1 1 2 2 1 2 1 2 2 1 2 1 2 2 1 2 2 1 2 2 1 2	
B	trio <thtr< th=""> trio trio tr</thtr<>	
s S	ZO ZO ZO NO HO HO ZO ON ZO ZO ZO	
	A A A A A A A A A A A A A A A A A A A	

APPENDIX D

REPORT OF NEW TECHNOLOGY

After a thorough review of the work performed under this contract, no new innovations, discoveries, improvements or inventions were made or patents submitted.

5

9

The program did result in a better understanding of the automotive industry and its capacity to meet fuel economy goals due to the development of Master Product Timing Schedules for domestic autos and light trucks as well as for selected import manufacturers.

D - 1/D - 2



10	5-1		Aut	HE	
	FORMERLY FORM D		Automotive assessment	HE 18.5 .A	



Ę

¢

OFFICIAL BUSINESS

PENALTY FOR PRIVATE USE, \$300



I,

Postage and fees paid U. S. Department of transportation

518



