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CLEAR STORAGE 1 ,008015,022026,030037,044,049,053053N000000N00001026 1
CLEAR STORAGE 2 L068116,105106,110117B101/I9I#071029C029056B026/B001/0991,001/001117I0? 2
BOOTSTRAP ,008015,022029,036040,047054,061068,072/061039 ,0010011040 3
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FORTRAN COMPILER -- SCANNER -- PHASE 03 PAGE 1

SEQ	PG	LIN	LABEL	OP	OPERANDS	SFX	CT	LOCN	INSTRUCTION	TYPE	CARD
101				JOB	FORTRAN COMPILER -- SCANNER -- PHASE 03						
102				*							
103				*	SCANNER PHASE: INSERT STATEMENT NUMBERS (NOT LABELS)						
104				*	CLASSIFY STATEMENTS (FORMAT STATEMENTS ALREADY CLASSIFIED)						
105				*							
106				CTL	6611						
107				*							
108			X1	EQU	89			0089			
109			X2	EQU	94			0094			
110			X3	EQU	99			0099			
111				*							
112				*	STUFF IN THE RESIDENT AREA						
113				*							
114			PHASID	EQU	110 PHASE ID, FOR SNAPSHOT DUMPS			0110			
115			SNAPSH	EQU	333 CORE DUMP SNAPSHOT ROUTINE			0333			
116				*							
117			PWORD	EQU	685 THE WORD PARAM			0685			
118			TOPCOR	EQU	688 TOP CORE ADDRESS FROM PARAM CARD			0688			
119			IMOD	EQU	690 INTEGER MODULUS -- NUMBER OF DIGITS			0690			
120			MANTIS	EQU	692 FLOATING POINT MANTISSA DIGITS			0692			
121			CONDNS	EQU	693 P FOR CONDENSED DECK			0693			
122			SNAPSW	EQU	694 S FOR SNAPSHOT			0694			
123			C1410	EQU	695 T IF RUN ON 1410 IN 1401 COMPATIBILITY MODE			0695			
124			FMTSW	EQU	696 X FOR NO FORMAT, L FOR LIMITED FORMAT			0696			
125				*	BLANK FOR ORDINARY, A FOR A CONVERSION						
126			PARAM	EQU	699 PARAMETER CARD IS STORED HERE			0699			
127				*							
128			LOADNX	EQU	700 LOAD NEXT OVERLAY			0700			
129			CLEARL	EQU	707 CLEAR INSTRUCTION IN LOADNX			0707			
130			LOADEX	EQU	793 BRANCH THAT EXITS LOADNX			0793			
131				*							
132				*	SIGNALS USED WHEN LOADING FROM CARDS						
133				*							
134				ORG	101				0101		
135				DCW	@:@ COLON 5-8	1	0101				4
136				ORG	101				0101		
137				DCW	@SCANNER@	7	0107				5
138				*							
139				ORG	838				0838		
140				*							
141				*	START HERE.						
142				*	CHECK MODULUS AND MANTISSA						
143				*							
144	838		BEGINN	MCW	TOPCOR,CORCHK&6	7	0838	M 688	985		6
145	845			SW	IMOD-1,MANTIS-1	7	0845	, 689	691		6
146	852			BCE	IDEF,IMOD, INTEGER MODULUS BLANK ON PARAMETER CARD	8	0852	B 864	690		6
147	860			B	ISPEC NO, USE SPECIFIED MODULUS	4	0860	B 871			6

SEQ	PG	LIN	LABEL	OP	OPERANDS	SFX	CT	LOCN	INSTRUCTION	TYPE	CARD
148		864	IDEF	MCW	INTDEF,IMOD YES, USE DEFAULT MODULUS	7		0864	M 442 690		6
149		871	ISPEC	BCE	FDEF,MANTIS, FLOATING POINT MANTISSA BLANK?	8		0871	B 883 692		7
150		879		B	FSPEC NO, USE SPECIFIED MANTISSA	4		0879	B 890		7
151		883	FDEF	MCW	FLTDEF,MANTIS YES, USE DEFAULT MANTISSA	7		0883	M 444 692		7
152		890	FSPEC	C	IMOD,INTMIN COMPARE MODULUS TO MINIMUM	7		0890	C 690 M46		7
153		897		BH	BADMOD	5		0897	B U69 U		7
154		902		C	IMOD,DIGMAX CHECK INTEGER MODULUS	7		0902	C 690 M48		7
155		909		BL	BADMOD	5		0909	B U69 T		8
156		914	MANCHK	C	MANTIS,DIGMAX CHECK FLOATING POINT MANTISSA	7		0914	C 692 M48		8
157		921		BL	BADMAN	5		0921	B U95 T		8
158		926		C	MANTIS,FLTMIN	7		0926	C 692 M50		8
159		933		BH	BADMAN	5		0933	B U95 U		8
160				*							
161				*	REPORT MODULUS AND MANTISSA						
162				*							
163		938	BADRET	CS	332	4		0938	/ 332		8
164		942		CS		1		0942	/		8
165		943		MCW	MODMSG,210	7		0943	M M60 210		9
166		950		MCS	IMOD,213	7		0950	Z 690 213		9
167		957		W		1		0957	2		9
168		958		CS	299	4		0958	/ 299		9
169		962		MCW	MANMSG,211	7		0962	M M71 211		9
170		969		MCS	MANTIS,214	7		0969	Z 692 214		9
171		976		W		1		0976	2		9
172		977		CC	J	2		0977	F J		10
173				*							
174		979	CORCHK	BCE	CORCHK,0-0,0 TOPCOR STORED INTO B	8		0979	B 979 000 0		10
175		987		B		1		0987	B		10
176		988		SBR	MVBACK&6 STORES TOPCOR-2	4		0988	H T24		10
177		992		SBR	MVSTMT&3	4		0992	H 999		10
178		996	MVSTMT	LCA	0-0,STMTSV COPY STATEMENT TO WORK AREA	7		0996	L 000 L97		10
179	1	003		SAR	MVSTMT&3 READY FOR NEXT STATEMENT	4		1003	Q 999		10
180	1	007		MCW	STMTNO,STMTSV INSERT STATEMENT NUMBER INTO STMT	7		1007	M M00 L97		11
181	1	014		A	K1,STMTNO AND BUMP IT	7		1014	A M01 M00		11
182	1	021		BCE	CLASS2,STMTYP,F FORMAT STMT IS ALREADY CLASSIFIED	8		1021	B T14 L94 F		11
183				*							
184				*	SKIP OVER THE LABEL IF ANY						
185				*							
186	1	029		SBR	CHKLBL&6,STMTST	7		1029	H |49 L93		11
187	1	036		SBR	STMTPT,STMTST-1 INITIALIZE STATEMENT POINTER	7		1036	H M04 L92		11
188	1	043	CHKLBL	BCE	STSTMT,STMTST,: FOUND THE START OF THE STATEMENT?	8		1043	B |75 L93 :		12
189	1	051		SBR	CHKLBL&6	4		1051	H |49		12
190	1	055		SBR	CHKLB2&6	4		1055	H |65		12
191	1	059	CHKLB2	BCE	CHKLB2,0, DECREASE B REGISTER	8		1059	B |59 000		12
192	1	067		SBR	STMTPT SET STATEMENT POINTER	4		1067	H M04		12
193	1	071		B	CHKLBL	4		1071	B |43		12
194				*							
195				*	START PROCESSING THE STATEMENT PROPER.						
196				*	CHECK FOR ASSIGNMENT STATEMENT.						
197				*							

SEQ	PG	LIN	LABEL	OP	OPERANDS	SFX	CT	LOCN	INSTRUCTION	TYPE	CARD
198	1	075	STSTMT	MCW	STMTPT,ENDCHK&6	7		1075	M M04 |95		12
199	1	082		MCW	STMTPT,EQTEST&6	7		1082	M M04 /08		13
200	1	089	ENDCHK	BCE	CKWORD,0,} END OF STATEMENT?	8		1089	B /73 000 }	GMARK	13
201	1	097		B		1		1097	B		13
202	1	098		SBR	ENDCHK&6	4		1098	H |95		13
203	1	102	EQTEST	BCE	EQ,0-0,#	8		1102	B /19 000 #		13
204	1	110		B		1		1110	B		13
205	1	111		SBR	EQTEST&6	4		1111	H /08		13
206	1	115		B	ENDCHK	4		1115	B |89		14
207				*							
208				*	ASSIGNMENT STATEMENT.						
209				*							
210	1	119	EQ	SW	ENDCHK&4	4		1119	, |93		14
211	1	123		MCW	ENDCHK&6,SVCHAR&3	7		1123	M |95 /37		14
212	1	130		CW	ENDCHK&4	4		1130	) |93		14
213	1	134	SVCHAR	MCW	0-0,CHAR	7		1134	M 000 M05		14
214	1	141		SAR	SVCHAR&3	4		1141	Q /37		14
215	1	145		BCE	LPAREN,CHAR,%	8		1145	B T49 M05 %		14
216	1	153		BCE	LPAREN,CHAR,}	8		1153	B T49 M05 }	GMARK	15
217	1	161		BCE	CKWORD,CHAR,,	8		1161	B /73 M05 ,		15
218	1	169		B	SVCHAR	4		1169	B /34		15
219				*							
220				*	CHECK KEYWORD						
221				*							
222	1	173	CKWORD	MCW	STMTPT,*&4	7		1173	M M04 /83		15
223	1	180		MCW	0-0,WORD	7		1180	M 000 M15		15
224	1	187		SW	WORD	4		1187	, M15		15
225	1	191		SW		1		1191	,		15
226	1	192		MCW	WORD,*&8	7		1192	M M15 S06		16
227	1	199		BCE	BFCS1,KBFCs, IS 1ST LETTER B, F, C OR S?	8		1199	B S37 M24		16
228	1	207			CHAIN 3					MACRO	
229				BCE		1		1207	B	GEN	16
230				BCE		1		1208	B	GEN	16
231				BCE		1		1209	B	GEN	16
232	1	210		MCW	WORD-1,*&8	7		1210	M M14 S24		16
233	1	217	TQINUA	BCE	QINUA2,KQINUA, IS 2ND LETTER Q, I, N, U OR A?	8		1217	B S71 M20		16
234	1	225			CHAIN 4					MACRO	
235				BCE		1		1225	B	GEN	17
236				BCE		1		1226	B	GEN	17
237				BCE		1		1227	B	GEN	17
238				BCE		1		1228	B	GEN	17
239	1	229		SW	STMTYP	4		1229	, L94		17
240	1	233		B	OTHER	4		1233	B U22		17
241				*							
242				*	FIRST LETTER IS B(ACKSPACE), F(ORMAT), C(ONTINUE),						
243				*	S(TOP) OR S(ENSELIGHT)						
244				*							
245	1	237	BFCS1	C	WORD-2,KNSE IS WORD [BFCS].NSE?	7		1237	C M13 M74		17
246	1	244		BE	SENSE	5		1244	B S60 S		18
247	1	249		MCW	WORD,STMTYP USE FIRST LETTER (BFCS) FOR STMT TYPE	7		1249	M M15 L94		18

SEQ	PG	LIN	LABEL	OP	OPERANDS	SFX	CT	LOCN	INSTRUCTION	TYPE	CARD
248	1	256		B	CLASSD	4		1256	B T09		18
249	1	260	SENSE	MCW	TSENSE,STMTYP	7		1260	M M75 L94		18
250	1	267		B	CLASSD	4		1267	B T09		18
251				*							
252				*	SECOND LETTER IS (E)Q(UIVALENCE), (D)I(MENSION),						
253				*	(E)N(D) OR (E)N(D)FILE), (P)U(NCH) OR (P)A(USE)						
254				*							
255	1	271	QINUA2	MCW	WORD-1,STMTYP	7		1271	M M14 L94		18
256	1	278		BCE	N2,TQINUA&7,N	8		1278	B S90 S24 N		19
257	1	286		B	CLASSD	4		1286	B T09		19
258				*							
259				*	SECOND LETTER IS N. CHECK FOR ENDFILE.						
260				*							
261	1	290	N2	C	WORD-2,KDFILE IS WORD .NDFILE?	7		1290	C M13 M80		19
262	1	297		BE	CLASSD	5		1297	B T09 S		19
263	1	302		MCW	TSLASH,STMTYP SET TYPE TO /	7		1302	M M81 L94		19
264				*							
265				*	STATEMENT IS CLASSIFIED						
266				*							
267	1	309	CLASSD	CW	WORD	4		1309	) M15		19
268	1	313		CW		1		1313	)		19
269	1	314	CLASS2	CW	STMTYP	4		1314	) L94		20
270	1	318	MVBACK	LCA	STMTSV,0 MOVE THE STATEMENT BACK	7		1318	L L97 000		20
271	1	325		SBR	MVBACK&6	4		1325	H T24		20
272	1	329		SBR	CKBLNK&6	4		1329	H T43		20
273	1	333		SBR	83 ADDRESS BELOW LAST STMT, FOR NEXT PHASE	4		1333	H 083		20
274	1	337	CKBLNK	BCE	DONE,0-0,	8		1337	B W72 000		20
275	1	345		B	MVSTMT	4		1345	B 996		20
276				*							
277				*	LEFT PARENTHESIS OR GROUP MARK						
278				*							
279	1	349	LPAREN	MCW	EQTEST&6,X1	7		1349	M /08 089		21
280	1	356		BCE	RPAREN,1&X1,)	8		1356	B T69 0|1)		21
281	1	364		B		1		1364	B		21
282	1	365		B	CLASS2	4		1365	B T14		21
283	1	369	RPAREN	BCE	LPAR2,2&X1,%	8		1369	B T85 0|2 %		21
284	1	377		SBR	X1	4		1377	H 089		21
285	1	381		B	RPAREN	4		1381	B T69		21
286	1	385	LPAR2	BCE	F,3&X1,F	8		1385	B T97 0|3 F		22
287	1	393		B	CLASS2	4		1393	B T14		22
288	1	397	F	BCE	CLASS2,6&X1,:	8		1397	B T14 0|6 :		22
289	1	405			CHAIN 2					MACRO	
290				BCE		1		1405	B	GEN	22
291				BCE		1		1406	B	GEN	22
292	1	407		MCW	TARITH,STMTYP	7		1407	M M82 L94		22
293	1	414		SW	195	4		1414	, 195		22
294	1	418		B	CLASS2	4		1418	B T14		23
295				*							
296				*	FIRST LETTER IS NOT BFCS AND SECOND LETTER IS NOT QINUA						
297				*							

SEQ	PG	LIN	LABEL	OP	OPERANDS	SFX	CT	LOCN	INSTRUCTION	TYPE	CARD
298	1	422	OTHER	CW	WORD	4		1422	) M15		23
299	1	426		CW		1		1426	)		23
300	1	427		C	WORD,KFI IF (SENSE...?	7		1427	C M15 M32		23
301	1	434		BU	NOTIF	5		1434	B V21 /		23
302	1	439		BCE	SLITE,WORD-8,L	8		1439	B U58 M07 L		23
303	1	447		MCW	TSSW,STMTYP SENSE SWITCH	7		1447	M M40 L94		23
304	1	454		B	CLASS2	4		1454	B T14		24
305			*								
306			*		NINTH CHARACTER IS L -- ASSUME IF (SENSE LIGHT ...)						
307			*								
308	1	458	SLITE	MCW	TSLITE,STMTYP	7		1458	M M83 L94		24
309	1	465		B	CLASS2	4		1465	B T14		24
310			*								
311			*		BAD MODULUS MESSAGE						
312			*								
313	1	469	BADMOD	CS	332	4		1469	/ 332		24
314	1	473		CS		1		1473	/		24
315	1	474		MCW	MSG42,218	7		1474	M N01 218		24
316	1	481		W		1		1481	2		24
317	1	482		CC	J	2		1482	F J		25
318	1	484		MCW	INTDEF,IMOD	7		1484	M M42 690		25
319	1	491		B	MANCHK	4		1491	B 914		25
320			*								
321			*		BAD MANTISSA MESSAGE						
322			*								
323	1	495	BADMAN	CS	332	4		1495	/ 332		25
324	1	499		CS		1		1499	/		25
325	1	500		MCW	MSG43,219	7		1500	M N20 219		25
326	1	507		W		1		1507	2		25
327	1	508		CC	J	2		1508	F J		26
328	1	510		MCW	FLTDEF,MANTIS	7		1510	M M44 692		26
329	1	517		B	BADRET	4		1517	B 938		26
330			*								
331			*		NOT AN IF STATEMENT, CHECK FOR OTHERS						
332			*								
333	1	521	NOTIF	BCE	DO,WORD,D	8		1521	B V95 M15 D		26
334	1	529		BCE	LPAR3,WORD-2,%	8		1529	B W06 M13 %		26
335	1	537		BCE	LPAR5,WORD-4,%	8		1537	B W17 M11 %		26
336	1	545		BCE	GOTO,WORD,G	8		1545	B W28 M15 G		27
337	1	553		BCE	PRINT,WORD,P	8		1553	B W39 M15 P		27
338	1	561		BWZ	READ,WORD-4,2	8		1561	V W50 M11 2		27
339	1	569		BCE	RWD,WORD-5,D	8		1569	B W61 M10 D		27
340	1	577		MCW	K1,STMTYP	7		1577	M M01 L94		27
341	1	584		MN	WORD-5,STMTYP USE NUMERIC OF SIXTH CHAR	7		1584	D M10 L94		28
342	1	591		B	NOTIF2	4	V3M4	1591	B N36		28
343			*								
344			*		FIRST LETTER IS D(O)						
345			*								
346	1	595	DO	MCW	TDO,STMTYP	7		1595	M M39 L94		28
347	1	602		B	CLASS2	4		1602	B T14		28

SEQ	PG	LIN	LABEL	OP	OPERANDS	SFX	CT	LOCN	INSTRUCTION	TYPE	CARD
348			*								
349			*		THIRD CHARACTER IS LEFT PARENTHESIS						
350			*								
351	1	606	LPAR3	MCW	TIF,STMTYP	7		1606	M M38 L94		28
352	1	613		B	CLASS2	4		1613	B T14		28
353			*								
354			*		FIFTH CHARACTER IS LEFT PARENTHESIS -- ASSUME COMPUTED GOTO						
355			*								
356	1	617	LPAR5	MCW	TCGO,STMTYP	7		1617	M M37 L94		29
357	1	624		B	CLASS2	4		1624	B T14		29
358			*								
359			*		FIRST CHARACTER IS G						
360			*								
361	1	628	GOTO	MCW	TGO,STMTYP	7		1628	M M36 L94		29
362	1	635		B	CLASS2	4		1635	B T14		29
363			*								
364			*		FIRST CHARACTER IS P						
365			*								
366	1	639	PRINT	MCW	TPRINT,STMTYP	7		1639	M M35 L94		29
367	1	646		B	CLASS2	4		1646	B T14		29
368			*								
369			*		FIFTH CHARACTER IS NUMERIC -- ASSUME IT'S READ						
370			*								
371	1	650	READ	MCW	TREAD,STMTYP	7		1650	M M34 L94		30
372	1	657		B	CLASS2	4		1657	B T14		30
373			*								
374			*		SIXTH CHARACTER IS D -- ASSUME REWIND						
375			*								
376	1	661	RWD	MCW	TREW,STMTYP	7		1661	M M33 L94		30
377	1	668		B	CLASS2	4		1668	B T14		30
378			*								
379			*		ALL DONE						
380			*								
381	1	672	DONE	BSS	SNAPSH,C	5		1672	B 333 C		30
382	1	677		SBR	LOADEX&3,1010	7		1677	H 796 |10		30
383	1	684		SBR	CLEARL&3,2599	7		1684	H 710 N99		31
384	1	691		LCA	SORTER,PHASID	7		1691	L N30 110		31
385	1	698		B	LOADNX	4		1698	B 700		31
386	1	702		DCW	#1	1		1702			31
387			*								
388			STMTST	EQU	2393 STATEMENT START			2393			
389			STMTYP	EQU	2394 STATEMENT TYPE -- F FOR FORMAT			2394			
390			STMTSV	EQU	2397			2397			
391			*								
392			*		CONSTANTS AND WORK AREAS						
393			*								
394				ORG	2398				2398		
395	2	400	STMTNO	DCW	001	3		2400			32
396	2	401	K1	DCW	1	1		2401			32
397	2	404	STMTPT	DCW	#3 STATEMENT POINTER	3		2404			32

SEQ	PG	LIN	LABEL	OP	OPERANDS	SFX	CT	LOCN	INSTRUCTION	TYPE	CARD
398	2	405	CHAR	DCW	#1 CHARACTER BEING EXAMINED		1	2405			32
399	2	415	WORD	DCW	#10		10	2415			32
400	2	420	KQINUA	DC	@QINUA@ TEST SECOND CHARACTER OF STATEMENT		5	2420			32
401	2	424	KBFCFS	DC	@BFCFS@ TEST FIRST CHARACTER OF STATEMENT		4	2424			32
402	2	430	KFI	DCW	@ESNES%FI@ IF(SENSE SPELLED BACKWARD		8	2432			32
403	2	433	TREW	DC	@Z@ STATEMENT CODE FOR REWIND		1	2433			32
404	2	434	TREAD	DC	@L@ STATEMENT CODE FOR READ		1	2434			32
405	2	435	TPRINT	DC	@P@ STATEMENT CODE FOR PRINT		1	2435			32
406	2	436	TGO	DC	@G@ STATEMENT CODE FOR GOTO		1	2436			32
407	2	437	TCGO	DC	@T@ STATEMENT CODE FOR COMPUTED GOTO		1	2437			33
408	2	438	TIF	DC	@E@ STATEMENT CODE FOR IF		1	2438			33
409	2	439	TDO	DC	@D@ STATEMENT CODE FOR DO		1	2439			33
410	2	440	TSSW	DC	@W@ STATEMENT CODE FOR IF (SENSE SWITCH ...		1	2440			33
411	2	442	INTDEF	DCW	05 DEFAULT INTEGER MODULUS		2	2442			33
412	2	444	FLTDEF	DCW	08 DEFAULT FLOATING POINT MANTISSA DIGITS		2	2444			33
413	2	446	INTMIN	DCW	01 MINIMUM INTEGER MODULUS		2	2446			33
414	2	448	DIGMAX	DCW	20 MAXIMUM INT MOD AND MAX FP MANTISSA		2	2448			33
415	2	450	FLTMIN	DCW	02 MINIMUM FLOATING POINT MANTISSA DIGITS		2	2450			34
416	2	460	MODMSG	DCW	@MODULUS IS@		10	2460			34
417	2	471	MANMSG	DCW	@MANTISSA IS@		11	2471			34
418	2	474	KNSE	DCW	@ESN@ NSE (PART OF SENSELIGHT) SPELT BACKWARD		3	2474			34
419	2	475	TSENSE	DCW	@J@ STATEMENT CODE FOR SENSE LIGHT		1	2475			34
420	2	480	KDFILE	DCW	@ELIFD@ DFILE (PART OF ENDFILE) SPELT BACKWARD		5	2480			34
421	2	481	TSLASH	DCW	@/@ STATEMENT CODE FOR END		1	2481			34
422	2	482	TARITH	DCW	@R@ STATEMENT CODE FOR ARITHMETIC		1	2482			35
423	2	483	TSLITE	DCW	@K@ STATEMENT CODE FOR IF (SENSE LIGHT...		1	2483			35
424	2	501	MSG42	DCW	@ERROR 42 - MODULUS@		18	2501			35
425	2	520	MSG43	DCW	@ERROR 43 - MANTISSA@		19	2520			35
426	2	530	SORTER	DCW	@SORTER ONE@		10	2530			36
427	2	535	K9	DCW	9	V3M4	1	2531			36
428	2	535	TESTW6	DC	6531	V3M4	4	2535			36
429	2	536	NOTIF2	MN	WORD-5,*&8	V3M4	7	2536	D M10 N50		36
430	2	543		BCE	CLASS2,TESTW6,0 READ TAPE?	V3M4	8	2543	B T14 N35 0		36
431	2	551		B	WRITE TAPE?	V3M4	1	2551	B		36
432	2	552		B	READ INPUT TAPE?	V3M4	1	2552	B		36
433	2	553		B	WRITE OUTPUT TAPE?	V3M4	1	2553	B		36
434	2	554		MN	K9,STMTYP USE CODE 9	V3M4	7	2554	D N31 L94		37
435	2	561		BIN	CLASS2,	V3M4	5	2561	B T14		37
436				ORG	2600				2600		
437	2	600	GMWM	DCW	@}@		1	2600		GMARK	38
438				EX	BEGINN				B 838		39
439				END					/ 000 080		

