BASE DATA TABLES

Input Variables

TØTWT	Total weight
LYØUT	Layout No.
ITHGT	Inside Tank Height
ITWDT	Inside Tank Width
ITLGT	Inside Tank Length
BASXT	Base Extension
FLUID	Oil or Pyranol
ØPPRS	Operating Pressure
VCPRS	Vacuum Pressure
CØRSZ	Core Size
WNWDT	Window Width

Intermediate Variables

CNST 1	Constant 1
↓	↓
CNST 7	Constant 7
PART3	Part number for angle
PT3E	Dimension "E" for angle
PT1B	Dimension "B" for baseplate
PSIT	Test pressure
VITLG	Inside tank length - variable
STRES	Calculated stress value
INDXI	Index value (integer)
PT4QT	Rib quantity
PT7A	Dimension "A" on assembly
SECMD	Section modulus
PT7M	Dimension "M" on assembly
PT3K	Dimension "K" on angle

Output Variables

ØUTWI	Output word (integer)

Output Punch Line

Pt. No.	Name of Part		Used With	Description		
ØUTW0	ØUTW1	ØUTW2	ØUTW3	ØUTW4	ØUTW5	ØUTW6

Description		Quantity
ØUTW7	ØUTW8	ØUTW9

Note: all values inside a table are literals unless enclosed in parentheses which then means "contents of field named."

All values in the stub of a table are field names and hence always imply "contents of" except for GO TO instructions.

If no comparison is indicated then an equals test is assumed.

" - " means no test or no result.

(F XXX) means the result determined through use of the indicated formula following table.

"PUNCH" always takes the 100 digits stored in OUTW0 - OUTW9 and puts them in the output buffer. It also clears those 100 digits in memory.

Formulas would come in trailing the table which uses them. They would appear in machine code or pseudo-language with variable address fields.

" + " in a result box means to increment the value in the result location by the literal value indicated or by the contents of the address referred to.

* in an arithmetic expression means multiply.
** in an arithmetic expression means exponent.
/ in an arithmetic expression means divide by.

GO TO 999 - means error routine.

GO TO 998 - means end.

General Electric Company
Materials Services Department
570 Lexington Avenue
New York 22, N. Y.

Base Data Tables

Determine Part Number of Jack Pad

TAB 005	GØ TØ 010	
LYØUT	≤ 928	≥ 933
LYØUT	——	≤ 1340
CNST 2	110	108

Determine Part Number for Base and Angle, Also Dimension Formula Constants

TAB 010	GØ TØ ——	
TØT WT	≤ 25000	> 25000
TØT WT	——	≤ 50000
ØUT WØ	21A	21B
PART 3	23A	23B
CNST 1	15.50	16.00
CNST 3	13.00	13.50
ØUT W 4	*P21A	*P21B
GØ TØ	015	020

Determine Dimension "E" for Angle

TAB 015	GØ TØ 020	
CNST 2	110	108
PT 3E	.70	1.06

Determine & Punch 1st and 2nd Line (Plate) on Base Parts List

TAB 020	GØTØ022
ØUTW1	PLATE
ØUTW5	A =
ØUTW6	(F001)
ØUTW7	B =
PTIB	(F002)
ØUTW8	(PTIB)
ØUTW9	1
PUNCH	—
ØUTW5	C =
ØUTW6	(F003)
PUNCH	—

F001: ITLGT + 3
F002: ITWDT + (2 * BASXT) + CNST1
F003: (.50 * ITWDT) + 1.50

Determine & Punch 3rd Line (Jack Pad) on Base Parts List

TAB 022	GØTØ024
ØUTW0	22
ØUTW1	JACK
ØUTW2	PAD
ØUTW4	744A2
ØUTW5	07bb P
ØUTW6	(CNST2)
ØUTW9	4
PUNCH	—

Determine 4th Line on Base Parts List

TAB 024	GØ TØ 025	
PART3	23A	23B
ØUTWO	23A	23B
ØUTW4	*23A	*23B
ØUTW 5	E =	—
ØUTW 6	(PT3E)	—

Determine & Punch 4th Line (angle) on Base Parts List

TAB 025	GO TO027
—	—
ØUTW1	ANG
ØUTW7	K =
PT3K	(F011)
ØUTW8	(PT3K)
ØUTW9	2
PUNCH	—
OUTW 5	N =
OUTW 6	(F012)
PUNCH	—

F011: PT1B - CNST3
F012: BASXT + 2.50

Determine Test Pressure for Stress Calculation

TAB 027	GØTØ 028			
VCPRS	FULL	5	5	5
ØPPRS	——	3	5	7.50
PSIT	15	4.50	6.50	9

Set Inside Tank Length in a Working Location and Set Control Index to 0

TAB 028	GØTØ 029
——	——
VITLG	ITLGT
INDXI	0

Determine C for Stress Calculation

TAB 029	GØTØ 030	
FLUID	ØIL	PYRNL
CNST 4	.0322	.0562

Calculate Stress and Increment Control Index

TAB 030	GØTØ 035
——	——
STRES	(FØ21)
INDXI	+1

FØ21 : ((PSIT + (ITHGT * CNST4)) * (ITWDT**2) * (VITLG**2)) /
(4 * (PTIB**2)) * ((ITWDT**2) + (VITLG**2))

Determine Rib Quantity or Modify Parameters & Recalculate

TAB 035	GØTØ —					
INDX1	1	1	2	2	3	3
STRES	≤ 20000	> 20000	≤ 20000	> 20000	≤ 20000	> 20000
PT4QT	0	—	1	—	2	—
VITLG	—	(F031)	—	(F032)	—	—
GØTØ	060	030	040	030	040	999

F031 : .5 * VITLG
F032: .67 * VITLG

Determine Rib Length Constant

TAB 040	GØTØ 045	
PART 3	23A	23B
CNST 5	16.25	16.88

Determine 5th Line (Rib) on Base Parts List

TAB 045	GØTØ 050
—	—
ØUTW 0	24
ØUTW 1	RIB
ØUTW 4	*P24
ØUTW 5	A =
OUTW 6	(F041)
OUTW 7	B =
SECMD	(F042)
OUTW 9	(PT4QT)

F041 : PT1B - CNST 5
F042: ((PSIT + (ITHGT * CNST4)) * ((W**3) * VITLG)) /
((VITLG + ITWDT) * 160000)

Determine & Punch 5th Line (Rib) on Base Parts List

TAB 050	GØ TØ —					
PART 3	23A	23A	23A	23B	23B	23B
SECMD	≤ 2.47	≥ 2.48	> 2.92	≤ 3.07	≥ 3.08	> 3.98
SECMD	—	≤ 2.92	—	—	≤ 3.98	—
ØUTW 8	.312	.375	—	.375	.500	—
PUNCH	—	—	—	—	—	—
GØ TØ	060	060	999	060	060	999

Determine 6th Line on Base Parts List

TAB 060	GØ TØ 062						
CØRSZ	≥ 9	≥ 10	≥ 11	≥ 12	≥ 13	≥ 15	≥ 16
CØRSZ	< 10	< 11	< 12	< 13	≤ 14.5	< 16	≤ 17.5
ØUTW 6	21	21	21	22	22	23	22
CNST 6	9	10	11	12	13	15	16
CNST 7	4.20	4.60	5.20	5.60	6.30	7.13	7.83

Determine & Punch 6th Line (Bump Pin) on Base Parts List

TAB 062	GØ TØ 063
—	—
ØUTW 0	25
ØUTW 1	BUMP
ØUTW 2	PIN
ØUTW 4	744A2
ØUTW 5	11bb P
ØUTW 9	2
PUNCH	—

Determine and Punch 7th Line (Ground Block) on Base Parts List.

TAB063	GDTΦ065
—	—
ΦUTW0	26
ΦUTW1	GROUN
ΦUTW2	06BLK
ΦUTW4	755A1
ΦUTW5	6S6G1
ΦUTW9	2
PUNCH	—

Determine Dimension M on Base Assembly

TAB065	GΦTΦ010			
WNWDT	≤8	≤8	≤8	>8
CØR5Z	≤14.5	≥15	≥16	-
CØR5Z	—	≤16	≤17.5	—
PT7M1	(F051)	(F052)	(F053)	(F053)

F051: CNST 7 + (WNIWDT/2)
F052: CNST 7 + 5
F053: CNST 7 + WNIWDT - 2

Determine and Punch 8th Line (Assembly) on Base Parts List

TAB 070	GΦTΦ075
—	—
ΦUTW0	27
ΦUTW1	ASM
ΦUTW4	*P27
ΦUTW5	A=
ΦUTW6	(F061)
ΦUTW7	K=
ΦUTW8	(PT3K)
ΦUTW9	X1
PUNCH	—
ΦUTW5	H=
ΦUTW6	F(062)
ΦUTW7	M=
ΦUTW8	(PT7M)
PUNCH	—

F061: ITLGT +16
F062: (CNST 6/2) +5.50

Determine need for Dimension D on Base

TAB 075	GΦTΦ—	
PT4PT	2	—
GΦTΦ	080	998

Determine Dimension D and Punch 9th Line (Assembly) of Base Parts List

TAB 080	GO TO 995
—	—
OUTW5	D=
OUTW6	(F071)
PUNCH	—

F071 : ((.166 * ITLGT) + .05)/100

Analysis of Base Tables.

TAB No	Test Rows	Result Rows	Cols	Form	Terms	Equiv. Words
005	2	1	2			6
010	2	6	2			16
015	1	1	2			4
020	1	11	1	3	9	26
022	1	8	1			9
024	1	4	2			10
025	1	9	1	2	4	16
027	2	1	4			12
028	1	2	1			3
029	1	1	2			4
030	1	2	1	1	14	24
035	2	3	6	2	4	36
040	1	1	2			4
045	1	8	1	2	11	26
050	3	3	6			36
060	2	3	7			35
062	1	7	1			8
063	1	7	1			8
065	3	1	4	3	8	28
070	1	14	1	2	5	23
075	1	1	2			4
080	1	3	1	1	4	10
						348

Equivalent words = (Test Rows + Res Rows) Cols + (Form Terms · 1.5)

Total words = Equivalent words + (No of tables × 2)

= 348 + 22×2 = 392 words.

Generic Model List

The following list represents a further step toward compiling a Master Generic Parts List. The information was obtained from the AB and DB line of Switchboard Instruments.

The line is divided into six major assemblies or accumulations which when combined comprise the instrument. These are:

1. Armature Assembly
2. Base Assembly
3. Cover Assembly
4. Case Assembly
5. External Components and Hardware
6. Element Assembly

Armature Assembly

Pointer Assembly
- Spacer
- Pointer
- Hub
- Counterweight supports

Armature Coil Assembly
- Main Coil
- Connectors
- Insulation
- Damper Windings
- Cement
- Seal
- Connection Strip
- Coil Support
- Lavite Form

Control Spring & Collet Assembly
- Control Spring
- Collet

Spiral

Counterweight

Lead

Compensating Collar

Counterweighting Collar

Shaft Assembly
- Shaft
- Pivot Assembly

Base Assembly

Drilled Terminal Block
- Terminal Block
  - Terminal Block
  - Insert

Terminal Stud
Lock Washer for stud
Nut Lead
Lead & Clip Assembly - redundant
- Clip "
- Insulation "
- Lead "

Filling Compound
Internal Shunt - redundant
Assembly of Shunt, terminal & leads
- Terminal
- Resistance Strip
- Lead & Clip Assembly - redundant
  - Clip "
  - Insulation
  - Leads
- Lead
- Solder
- Shunt

Lockwasher for assembly of shunt, terminal & leads
Nut for assembly of shunt, terminal & leads
Resistance Card & Wire Assembly
- Wire
- Resistance card & clip assembly
- Wire
- Resistance and clip assembly
  - Resistance Card
  - Terminal clip
- Stud
- Spacer between cards
- Nut
- Washer

Connector
Assembly of resistance cards
Spacer

Screw
Rectifier
Transformer
Washer for spiral connector screw
Screw for spiral connector
Wire Clip
Hex nut for rectifiers
Lockwasher for hex nut for rectifiers
Screw for transformer
Lockwasher for screw for transformer
Screw for rectifier
Screw for single res spool
Lockwasher for screw for single res spool
Resistance Spool and Winding
    Assembly of Resistance Spool
        Spacer
        Flange (s)
        Core
        Washer
    Wire
Screw for double res spool
Lockwasher for screw for res spool
Double res spool and winding
Rheostoat
Dust Guard
Lock Nut
Insulation Blanket
Resistance Spool Cover
Barrier

Mounting nut for rheostat
Lockwasher for stud
Spacer for stud
Lockwasher for connector
Washer for connector
Adjustable resistor
Screw fastening resistor
Washer for screw fastening resistor
Resistor
Screw fastening resistor
Lockwasher for screw
Shoulder bushing
Resistable cage
Stud holding cage

Insulation Bushing
Lockwasher for stud
Nut for stud
Potentiometer
Lockwasher for potentiometer shaft
Nut holding potentiometer to cage
Lock nut for potentiometer
Nameplate
Screw fastening nameplate
Lockwasher for screw
Capacitor
Reactor
    Lamination
    Lamination
    Reactor Coil Assembly
        Spool
        Insulation
        Lead
        Lead
Condenser
Screw for capacitor
Lockwasher for capacitor
Sprial connection & lead screw
        insulation
        maganiun

Cover Assembly

Cover bezel or cover
Window
Shaft for zero set
Crank for zero set
Clip for window
Eyelet for window clip
Gasket for cover
Cover screw
Center Disk
Manual Pointer
Zero set washer
Cover name plate
Zero set bushing

Center Bushing Assembly (for Control Initiation)
- Bushing
- Pinion
- Pinion
- Pinion
- Pinion Shaft

Set point arm pusher
Insulation
Gear
Zero set knob
Mask
Screw
Washer
Barrier
Spacer
Spacer

External Components and Hardware

Nut for mounting screw
Lockwasher
Washer
Mounting lag
Screw for mounting lag
Case screw
Lockwasher for case screw
Gasket for case
Resistor Cage
Nut fastening resistor cage
Lockwasher for stud nut
Nameplate
External Resistor

Case Assembly

Case
Mounting Studs
Lamp Case
Insulation (s)
Weld Nut

Element Assembly

- Element Frame
- Front Regulator
- Jewel Screw Assembly
  - Jewel
  - Jewel Screw
  - Spring
  - Nut - stop for jewel screw
  - Spring Washer
  - Washer - for regulator lever
- Pointer Stop Assembly
  - Pointer Stop
  - Insulator
  - Screw
- Lock Washer Spring
- Screw (s) - fastening scale plate
- Scale Plate
- Pole pieces & lamination assembly
  - Lamination Assembly
    - Core Ring Limination (Type 1)
    - Core Ring Laminations (Type 2)
  - Pole Pieces Assembly (Fixed)
    - Support plate
    - Pole piece & magnet assembly
      - Pole piece (Fixed)
      - Magnet
    - Rivel
  - Screws
  - Lock Washers
  - Pole piece assembly (adj)
    - Pole piece (adj)
    - Support plate (adj)
    - Rivit
- Scale plate support
- Supporting stud
- Supporting sleeve
- Screw fastening stud to base
- Screw holding element and sleeve to base
- Lockwasher for screw
- Connector plate assembly
- Screw fastening connector to element frame
- Lockwasher for screw fastening connector
- Screw Fastening element frame to magnet core
- Lockwasher for screw
- Washer for screw
- Spacing washer for element