Attachment 3

Tank Support Frame Design

TANK SUPPORT FRAME

The support frame (or skid) will be constructed from HSS 8x8x1/4, allowing it to be lifted & placed at the desired location in one piece. Lifting lugs will be provided at each corner of the skid.

See Figure 3 for frame layout & dimensions. Figure 4 shows how the tanks, containment pan & shielding pl's will be located on the frame. Also see Attachment 7.

The support skid is analyzed using "RAMAdvanse" (Ref. 6). Analysis input & output are attached.

Loads

tank wt – vol = 8000 gal = 1069.4 ft^3

for content wt use SG = 1.0

content wt = 1.0(62.4)(1069.4) = 66730#

assume tank wt (empty) = 11000# (w/ accessories see Attachment 7)

total wt = 66730 + 11000 = 77730# say 80K

consider 4 legs per tank,

wt on each leg = 80/4 = 20K full tank

= 11K/4 = 2.75K empty tank

containment pan – see Attachment 1

3/16" pl wt = 7.66 psf

if tank leaks, liquid wt = 3'(62.4) = 187 psf

total wt = 7.66 + 187 = 195 psf

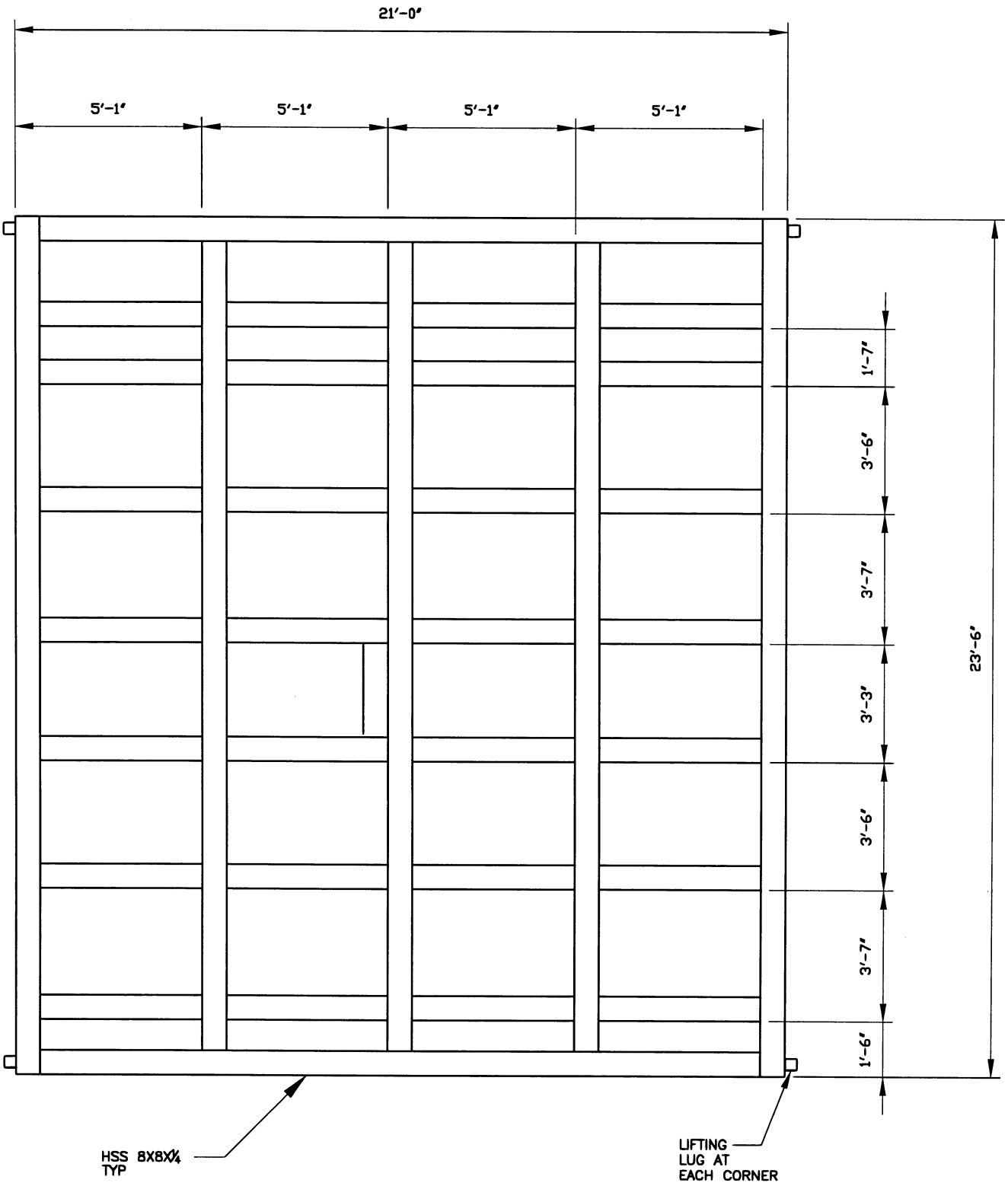


FIGURE 3
TANK SUPPORT FRAME

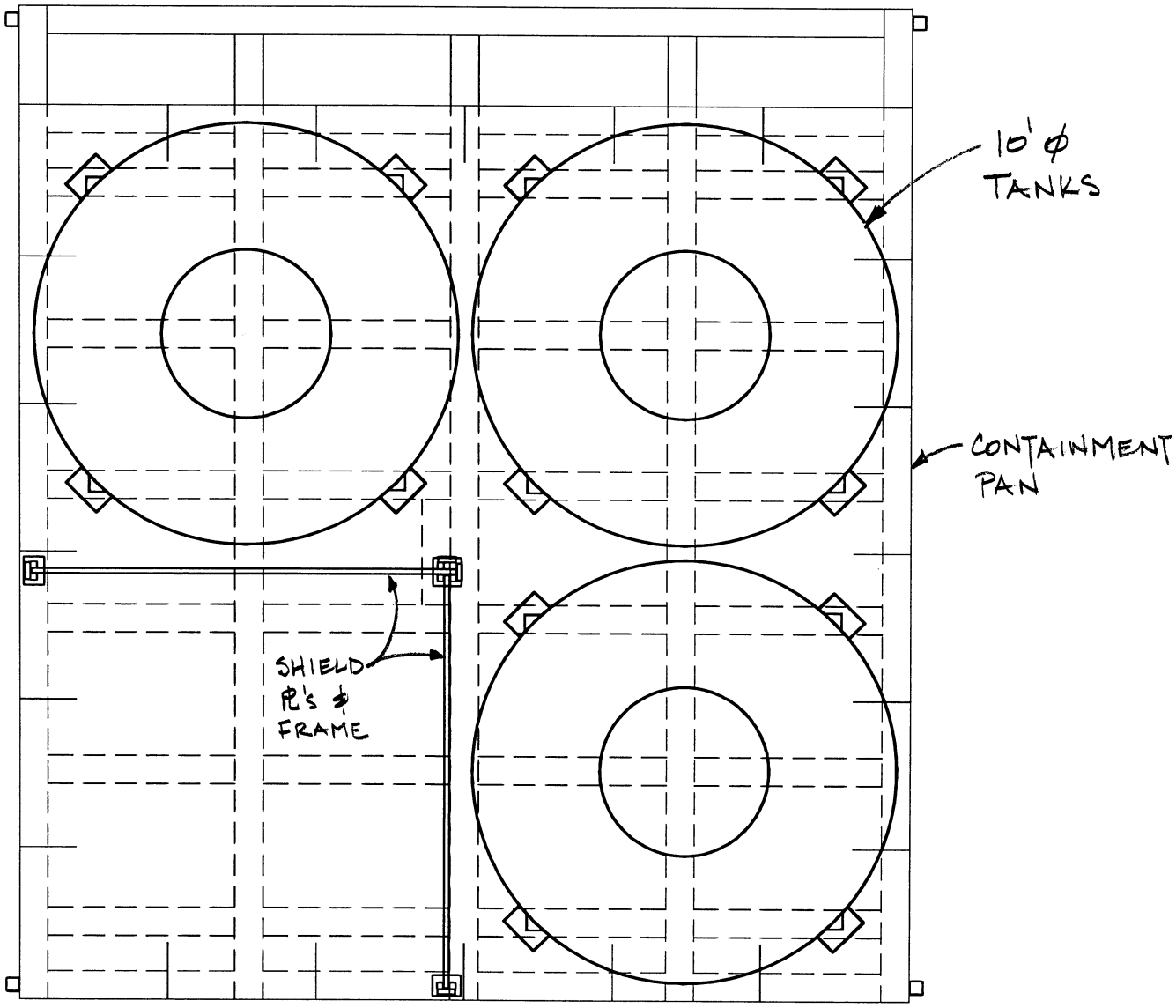


FIGURE 4
TANK SUPPORT FRAME

shield panels & frame — See Attachment 2

conservatively use max. reaction at ea. base plate location, $R = 7.6^k$ at 3 places

Load Cases

DL = selfwt of skid & pan floor

TK = wt of tanks full

SC = wt of containment pan full (tank has leaked)

TK1 = tank 1 is empty, other tanks full

TK2 = tank 2 is empty, other tanks full

TK3 = tank 3 is empty, other tanks full

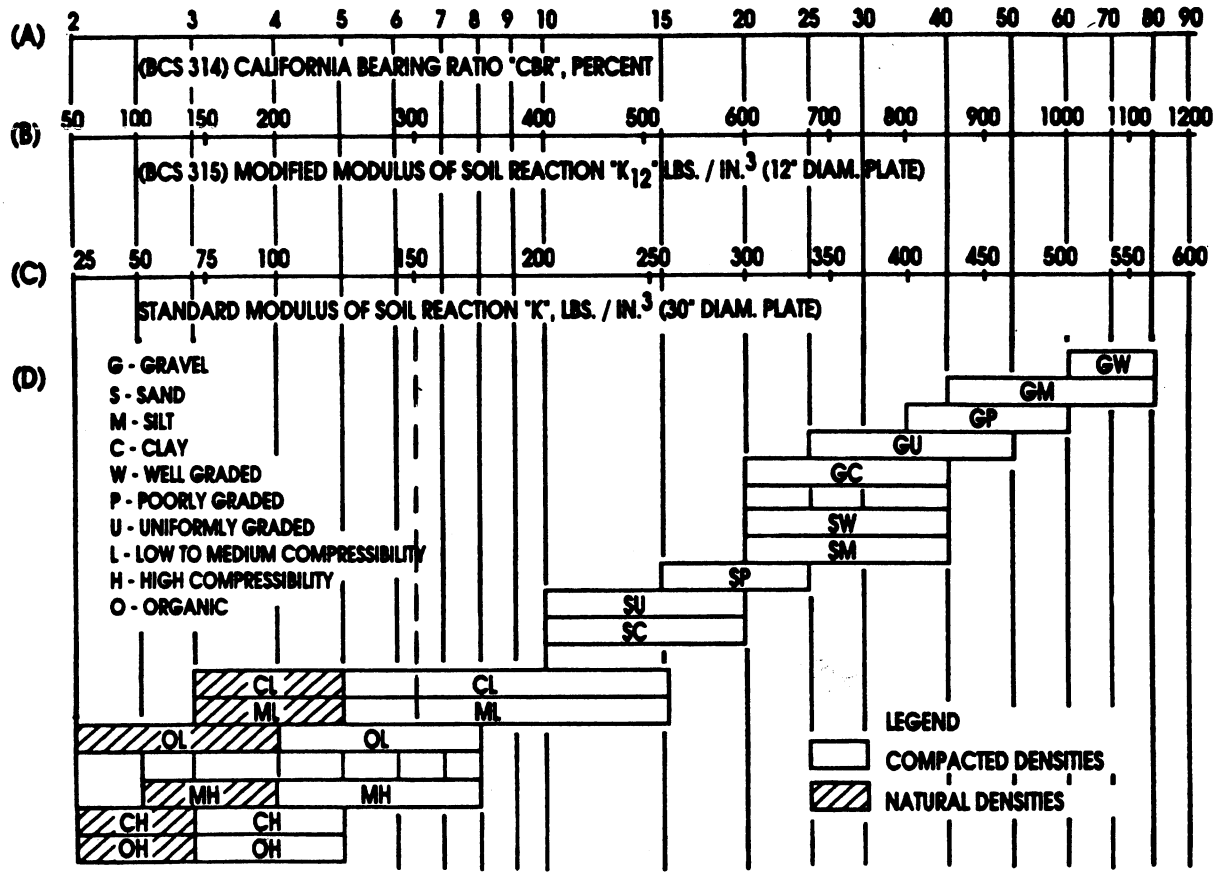
SP = shield panel wt

Load Combinations

1. DL + TK + SP
2. DL + SC + TK1 + SP
3. DL + SC + TK2 + SP
4. DL + SC + TK3 + SP

Supports

Since the skid will be placed on soil, vertical soil spring supports are located at each node. Spring constants are determined using a subgrade modulus value times the tributary area for each node. Soil is ML or CL, so representative subgrade modulus K = 150 pci from



Note: Comparison of soil type to "K", particularly in the "L" and "H" Groups, should generally be made in the lower range of the soil type.

Fig. 3.3.5—Interrelationship of soil classifications and strengths (from Reference 23)

Fig. 3.3.5 of ACI 360R (Ref. 13). See p. 66 of input data for spring constants used.

Results

From the code check, the greatest stress (or design) ratio (calc'd stress / allowable stress) is 0.37 in Beam #70 for LC4. All member stress ratios are < 1.0, so skid is OK using HSS 8 × 8 × 1/4.

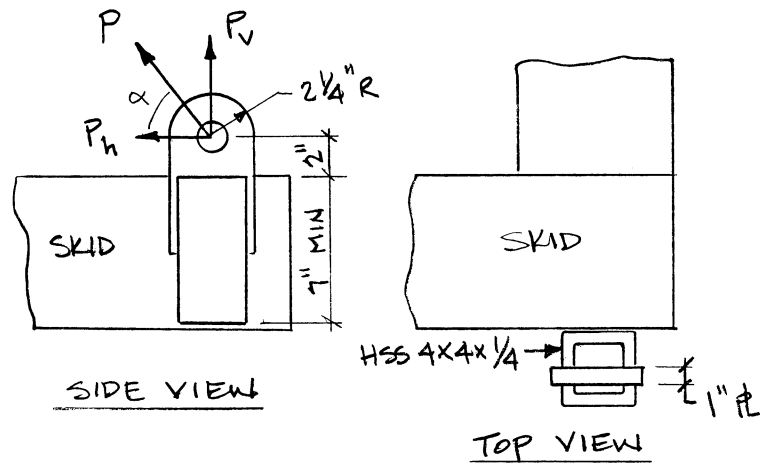
Greatest vertical displacement = 0.150" at node #25 for LC4. This magnitude of displacement is negligible.

SKID LIFTING LUG

Locate a lifting lug at ea. corner of skid.

Assume skid to be lifted with containment pan & shield ℄ frame.

Skid wt ≈ 8600#
Pan wt ≈ 6000#
Frame wt ≈ 1100#
15700#
use 16000#



Each lug to support ½ of load w/impact (25%)

$P_v = 1.25(16.0)/2 = 10^k$

assume $\alpha = 45°$, then

$P = 14.1^k$ & $P_h = 10^k$

see Ref 2 for AISC references

Try 1" x 4½" bar (A36) for lug w/ 1½" ϕ hole for shackle, & HSS 4x4x¼ for attachment of lug to skid.

Check Bearing

$F_p = .9 F_y = .9(36) = 32.4$ ksi (AISC J8)

req'd brg area = 14.1/32.4 = 0.44 in²

for 1" bar, min. shackle dia = 0.44/1 = 0.44" OK since most likely shackle will be >0.44" in dia.

Check Net Area for Tension

$F_t = 0.45 F_y = .45(36) = 16.2$ ksi (AISC D3.1)

$f_t = 14.1/(1)(4.5-1.5) = 4.7$ ksi < F_t so OK

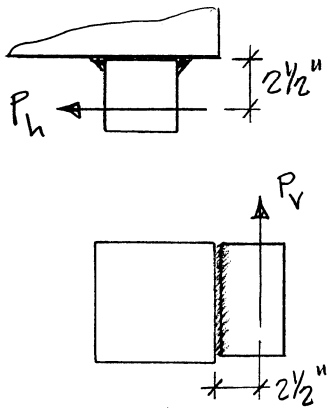
req'd net area = 14.1/16.2 = 0.87 in²

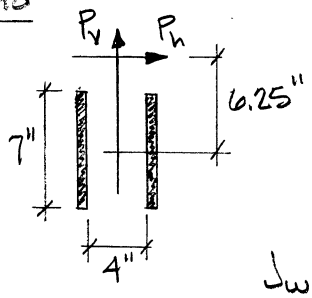
Check Net Area for Shear & Hoop Tension

req'd area $= 2/3(0.87) = 0.58\ in^2$ (AISC D3.2)

net area of 1" bar $= 1"\left(2.25 - \frac{1.5}{2}\right) = 1.75\ in^2 > 0.58\ in^2$ OK

Check HSS to HSS Weld





$S_h = bd = 7(4) = 28\ in^2$

$S_v = \frac{d^2}{3} = \frac{7^2}{3} = 16.3\ in^2$

$J_w = \frac{d(3b^2+d^2)}{6} = \frac{7[3(4)^2+7^2]}{6} = 113\ in^3$

$f_h = \frac{TC}{J_w} = \frac{10(6.25)(4/2)}{113} = 1.11\ k/in$

$f_{sh} = \frac{P_h}{A_w} = \frac{10}{2(7)} = 0.71\ k/in$ $\quad f_{Mh} = \frac{M_h}{S_h} = \frac{10(2.5)}{28} = 0.89\ k/in$

$f_{sv} = \frac{P_v}{A_w} = \frac{10}{2(7)} = 0.71\ k/in$ $\quad f_{Mv} = \frac{M_v}{S_v} = \frac{10(2.5)}{16.3} = 1.53\ k/in$

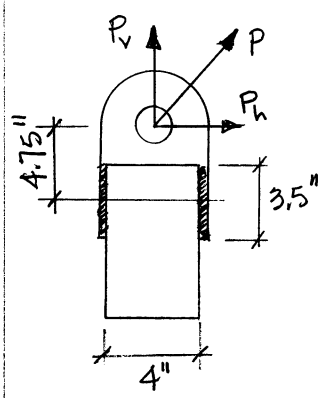
$f_r = \left[(1.11+0.71+0.89)^2 + (0.71+1.53)^2\right]^{1/2} = 3.52\ k/in$

For E70, allowable stress on 1" weld is

$f_a = 0.3(70)(1)(0.707) = 14.8\ k/in$

$\therefore$ req'd weld size $= 3.52/14.8 = 0.24"$ use min. ¼" fillet

Check Lug Weld



force on weld from moment couple

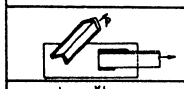
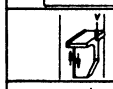
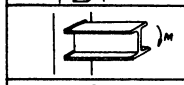
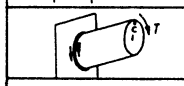
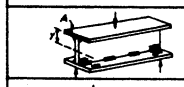
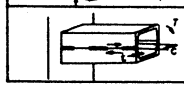
$F = \frac{4.75(P_h)}{4} = \frac{4.75(10)}{4} = 11.88^k$

$f_s = \frac{P}{A_w} = \frac{F+P_v}{A_w} = \frac{11.88+10}{2(3.5)} = 3.13\ k/in$

req'd weld size $= \frac{3.13}{14.8} = 0.21"$ use min ¼" fillet

(Ref 9)

TABLE 4—Determining Force on Weld

Type of Loading		standard design formula stress lbs/in²	treating the weld as a line force lbs/in
	PRIMARY WELDS transmit entire load at this point		
	tension or compression	$\sigma = \frac{P}{A}$	$f = \frac{P}{A_w}$
	vertical shear	$\sigma = \frac{V}{A}$	$f = \frac{V}{A_w}$
	bending	$\sigma = \frac{M}{S}$	$f = \frac{M}{S_w}$
	twisting	$\sigma = \frac{TC}{J}$	$f = \frac{TC}{J_w}$
	SECONDARY WELDS hold section together - low stress		
	horizontal shear	$\tau = \frac{VAy}{It}$	$f = \frac{VAy}{In}$
	torsional horizontal shear*	$\tau = \frac{T}{2At}$	$f = \frac{T}{2A}$

A = area contained within median line.
(*) applies to closed tubular section only.

6. SIMPLE TENSILE, COMPRESSIVE OR SHEAR LOADS ON WELDS

For a simple tensile, compressive or shear load, the given load is divided by the length of the weld to arrive at the applied unit force, lbs per linear inch of weld. From this force, the proper leg size of fillet weld or throat of groove weld may be found.

7. BENDING OR TWISTING LOADS ON WELDS

The problem here is to determine the properties of the welded connection in order to check the stress in the weld without first knowing its leg size. Some design texts suggest assuming a certain weld-leg size and then calculating the stress in the weld to see if it is overstressed or understressed. If the result is too far off, then the weld-leg size is readjusted.

This has the following disadvantages:

1. Some decision must be made as to what throat section is going to be used to determine the property of the weld. Usually some objection can be raised to any throat section chosen.

2. The resulting stresses must be combined and, for several types of loading, this can be rather complicated.

In contrast, the following is a simple method to determine the correct amount of welding required for adequate strength. This is a method in which the weld is treated as a line, having no area, but a definite length and outline. This method has the following advantages:

1. It is not necessary to consider throat areas because only a line is considered.

2. Properties of the welded connection are easily found from a table without knowing weld-leg size.

3. Forces are considered on a unit length of weld instead of stresses, thus eliminating the knotty problem of combining stresses.

4. It is true that the stress distribution within a fillet weld is complex, due to eccentricity of the applied force, shape of the fillet, notch effect of the root, etc.; however, these same conditions exist in the actual fillet welds tested and have been recorded as a unit force per unit length of weld.

8. DETERMINING FORCE ON WELD

Visualize the welded connection as a single line, having the same outline as the connection, but no cross-sectional area. Notice, Figure 14, that the area (A_w) of the welded connection now becomes just the length of the weld.

Instead of trying to determine the stress on the weld (this cannot be done unless the weld size is known), the problem becomes a much simpler one of determining the force on the weld.

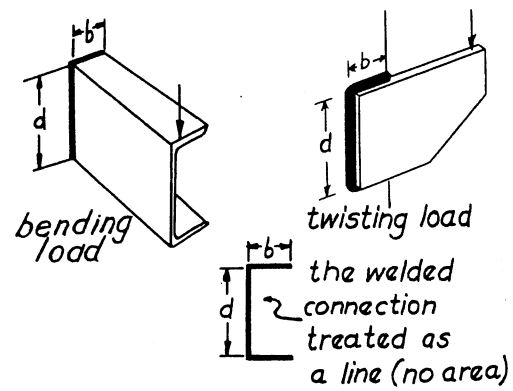


FIG. 14 Treating weld as a line.

By inserting the property of the welded connection treated as a line into the standard design formula used for that particular type of load (see Table 4), the force on the weld may be found in terms of lbs per linear inch of weld.

Example: Bending

Standard design formula (bending stress)	Same formula used for weld (treating weld as a line)
$\sigma = \frac{M}{S} = \frac{\text{lbs}}{\text{in.}^2}$ stress	$f = \frac{M}{S_w} = \frac{\text{lbs}}{\text{in.}}$ force

EDF-5017 62/148
Rev 1

Design of Welded Structures by O W Blodgett

(Ref. 9)

Normally the use of these standard design formulas results in a unit stress, psi; however, when the weld is treated as a line, these formulas result in a force on the weld, lbs per linear inch.

For secondary welds, the weld is not treated as a line, but standard design formulas are used to find the force on the weld, lbs per linear inch.

In problems involving bending or twisting loads Table 5 is used to determine properties of the weld treated as a line. It contains the section modulus (S_w), for bending, and polar moment of inertia (J_w), for twisting, of some 13 typical welded connections with the weld treated as a line.

For any given connection, two dimensions are needed, width (b) and depth (d).

Section modulus (S_w) is used for welds subject to bending loads, and polar moment of inertia (J_w) for twisting loads.

Section moduli (S_w) from these formulas are for maximum force at the top as well as the bottom portions of the welded connections. For the unsymmetrical connections shown in this table, maximum bending force is at the bottom.

If there is more than one force applied to the weld, these are found and combined. All forces which are combined (vectorially added) must occur at the same position in the welded joint.

Determining Weld Size by Using Allowables

Weld size is obtained by dividing the resulting force on the weld found above, by the allowable strength of the particular type of weld used (fillet or groove), obtained from Tables 6 and 7 (steady loads) or Tables 8 and 9 (fatigue loads).

If there are two forces at right angles to each other, the resultant is equal to the square root of the sum of the squares of these two forces.

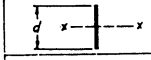
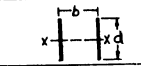
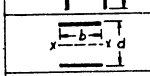
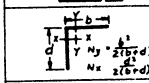
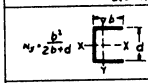
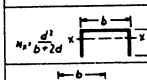
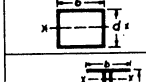
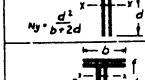
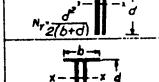
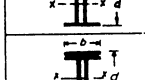
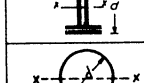
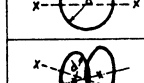
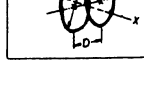
$$f_r = \sqrt{f_1^2 + f_2^2} \quad \ldots\ldots\ldots\ldots\ldots\ldots (3)$$

If there are three forces, each at right angles to each other, the resultant is equal to the square root of the sum of the squares of the three forces.

$$f_r = \sqrt{f_1^2 + f_2^2 + f_3^2} \quad \ldots\ldots\ldots\ldots\ldots\ldots (4)$$

One important advantage to this method, in addition to its simplicity, is that no new formulas must be used, nothing new must be learned. Assume an engineer has just designed a beam. For strength he has used the standard formula $\sigma = M/S$. Substituting the load on the beam (M) and the property of the beam (S) into this formula, he has found the bending stress (σ). Now, he substitutes the property of the weld, treating it as a line (S_w), obtained from Table 5, into the same formula. Using the same load (M), $f = M/S_w$, he thus finds the force on the weld (f) per linear inch. The weld size is then found by dividing the force on the weld by the allowable force.

TABLE 5—Properties of Weld Treated as Line

Outline of Welded Joint b=width d=depth	Bending (about horizontal axis x-x)	Twisting
	$S_w = \frac{d^2}{6}$ in.^{2}	$J_w = \frac{d^3}{12}$ in.^{3}
	$S_w = \frac{d^2}{3}$	$J_w = \frac{d(3b^2 + d^2)}{6}$
	$S_w = bd$	$J_w = \frac{b^3 + 3bd^2}{6}$
	$S_w = \frac{4bd+d^2}{6}$ top; $= \frac{d^2(4b+d)}{6(2b+d)}$ bottom	$J_w = \frac{(b+d)^4 - 6b^2d^2}{12(b+d)}$
	$S_w = bd + \frac{d^2}{6}$	$J_w = \frac{(2b+d)^3}{12} - \frac{b^2(b+d)^2}{(2b+d)}$
	$S_w = \frac{2bd+d^2}{3}$ top; $= \frac{d^2(2b+d)}{3(b+d)}$ bottom	$J_w = \frac{(b+2d)^3}{12} - \frac{d^2(b+d)^2}{(b+2d)}$
	$S_w = bd + \frac{d^2}{3}$	$J_w = \frac{(b+d)^3}{6}$
	$S_w = \frac{2bd+d^2}{3}$ top; $= \frac{d^2(2b+d)}{3(b+d)}$ bottom	$J_w = \frac{(b+2d)^3}{12} - \frac{d^2(b+d)^2}{(b+2d)}$
	$S_w = \frac{4bd+d^2}{3}$ top; $= \frac{4bd^2+d^3}{6b+3d}$ bottom	$J_w = \frac{d^3(4b+d)}{6(b+d)} + \frac{b^3}{6}$
	$S_w = bd + \frac{d^2}{3}$	$J_w = \frac{b^3 + 3bd^2}{6} + d^3$
	$S_w = 2bd + \frac{d^2}{3}$	$J_w = \frac{2b^3 + 6bd^2 + d^3}{6}$
	$S_w = \frac{\pi d^2}{4}$	$J_w = \frac{\pi d^3}{4}$
	$I_w = \frac{\pi d}{2}\left(D^2 + \frac{d^2}{2}\right)$; $S_w = \frac{I_w}{c}$; where $c = \frac{\sqrt{D^2+d^2}}{2}$	

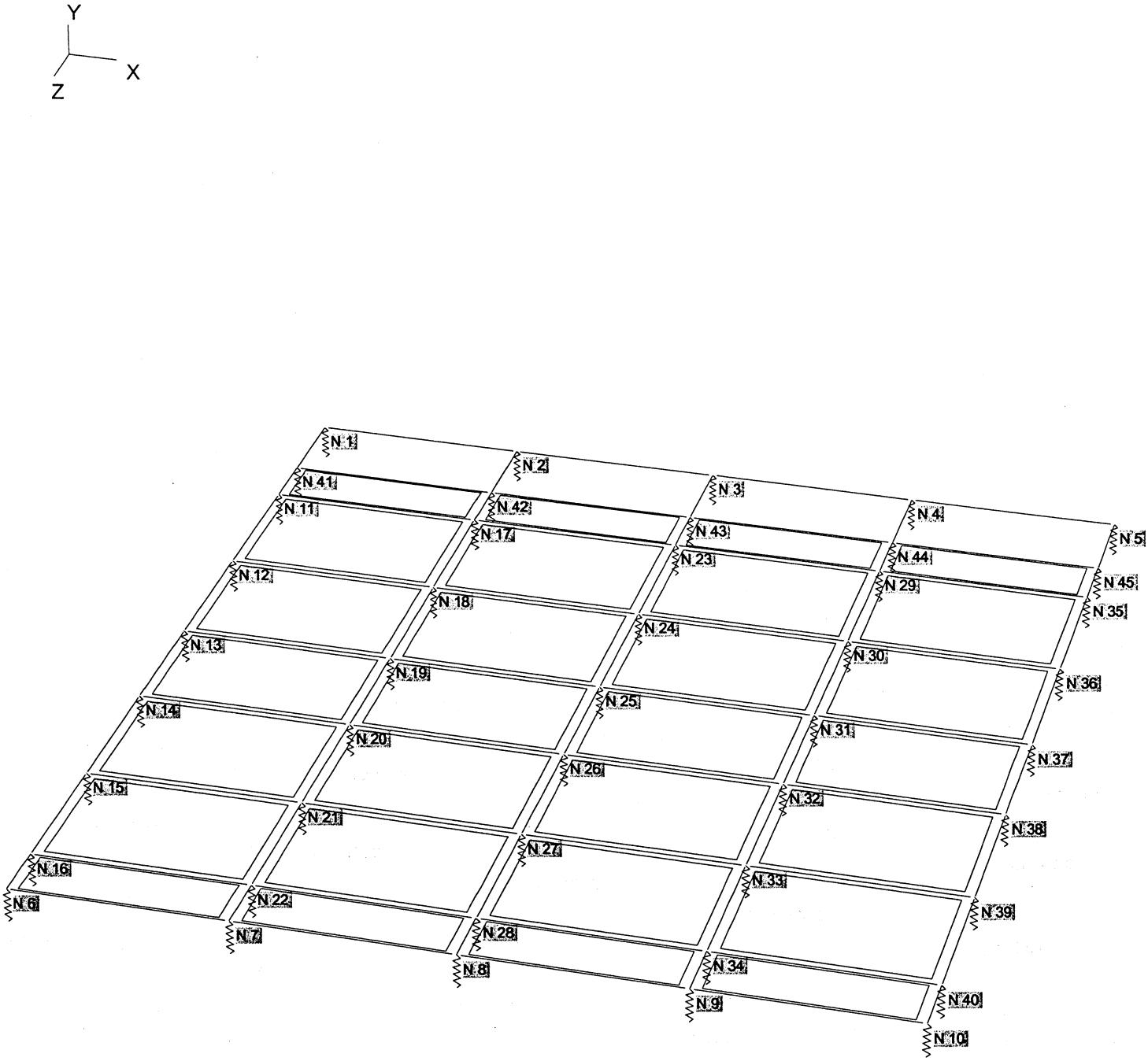
Applying System to Any Welded Connection

1. Find the position on the welded connection where the combination of forces will be maximum. There may be more than one which should be considered.

2. Find the value of each of the forces on the welded connection at this point. (a) Use Table 4 for the standard design formula to find the force on the weld. (b) Use Table 5 to find the property of the weld treated as a line.

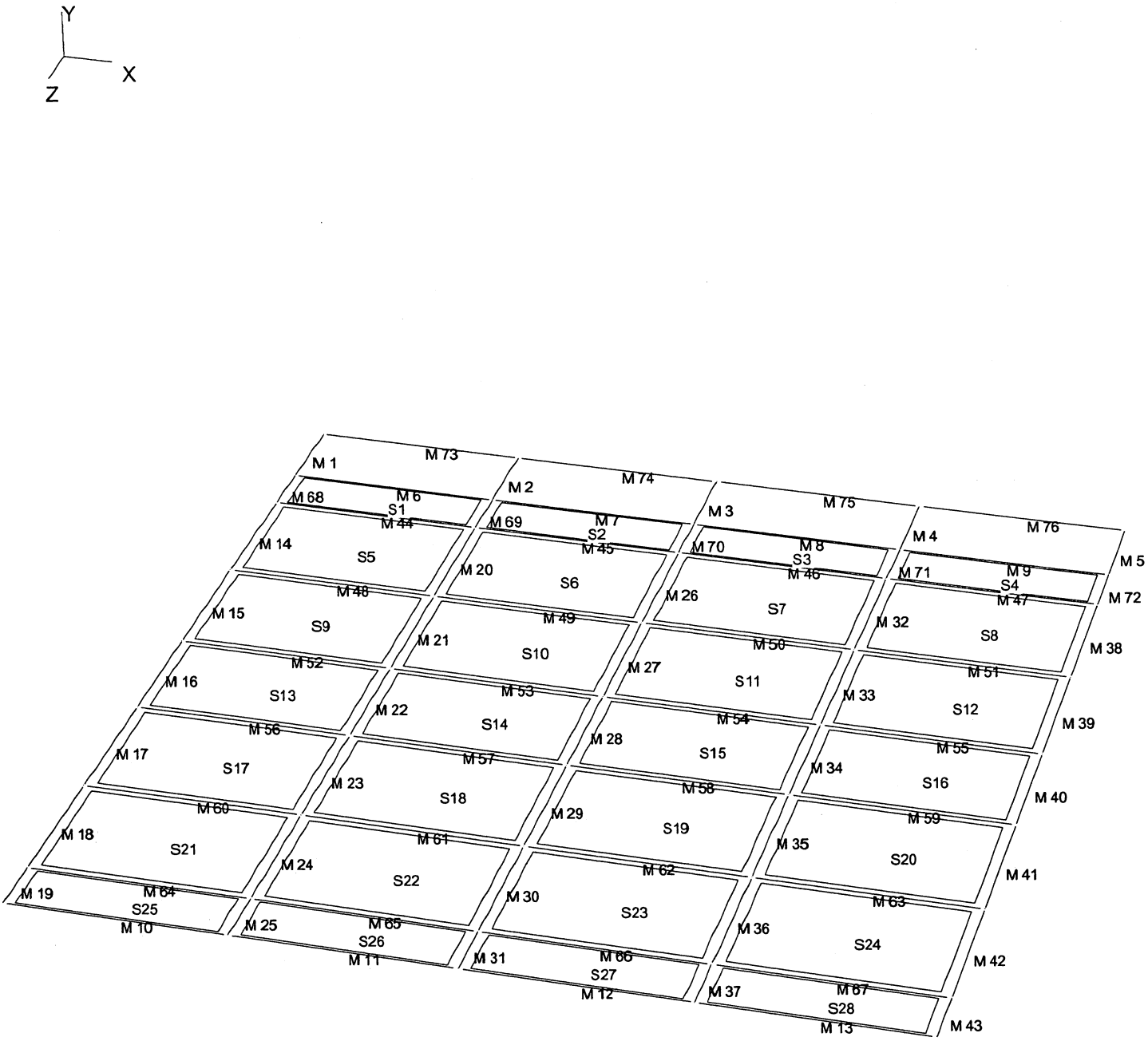
3. Combine (vectorially) all of the forces on the weld at this point.

4. Determine the required weld size by dividing this resultant value by the allowable force in Tables 6, 7, 8, or 9.



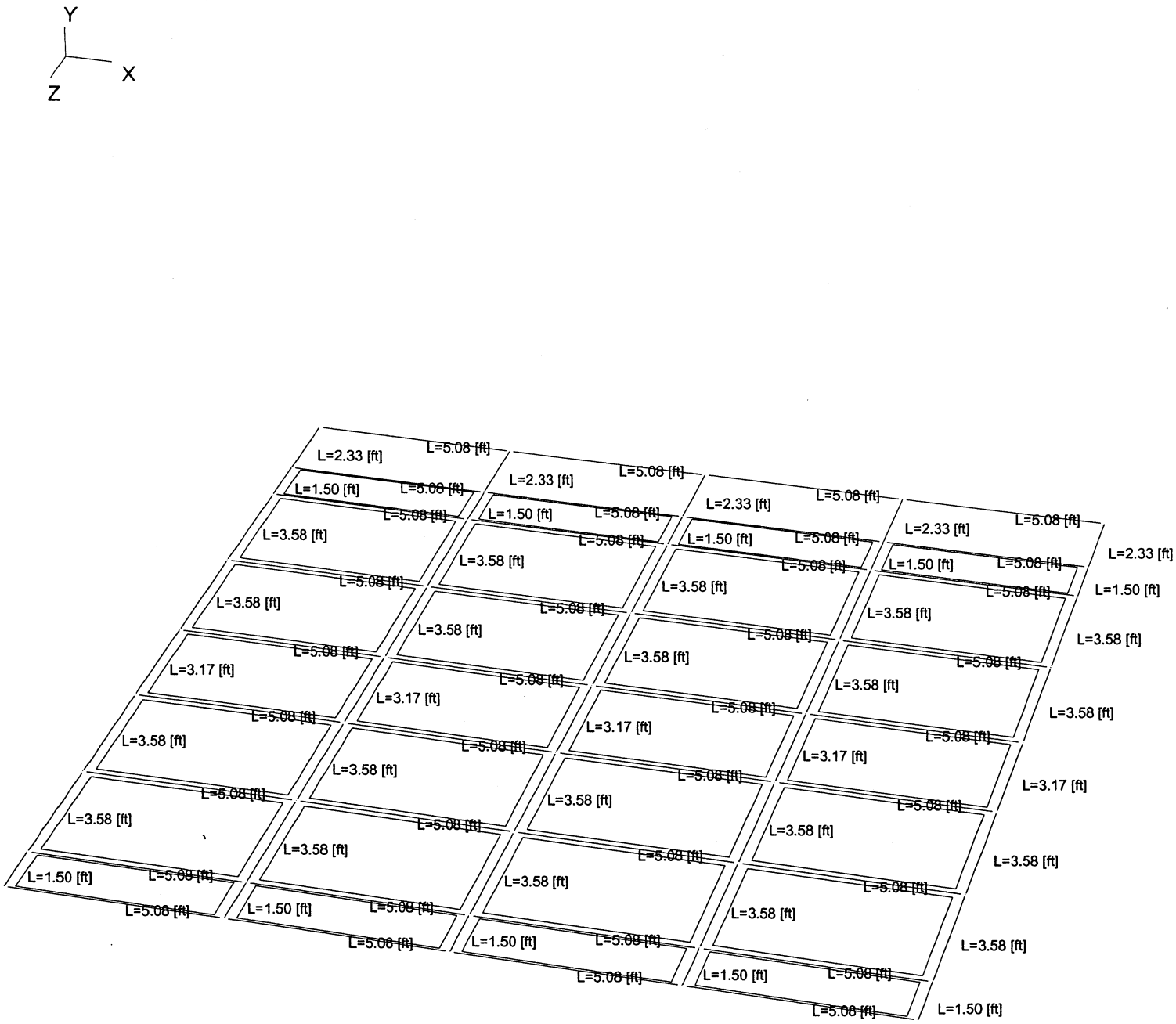
TANK SUPPORT FRAME (SKID)

NODE NUMBERS AND SOIL SPRING SUPPORTS



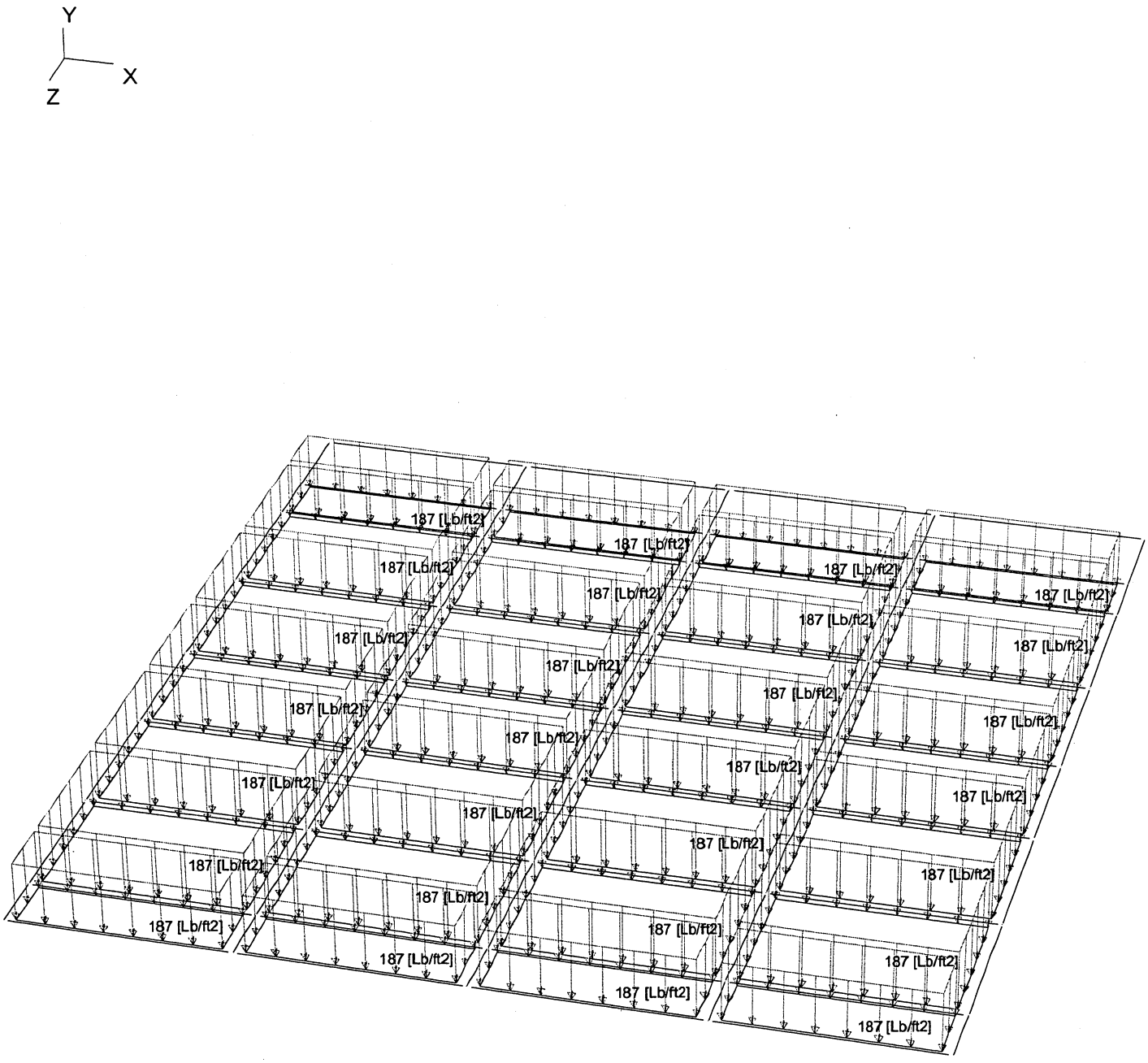
TANK SUPPORT FRAME (SKID)

BEAM AND PLATE NUMBERS



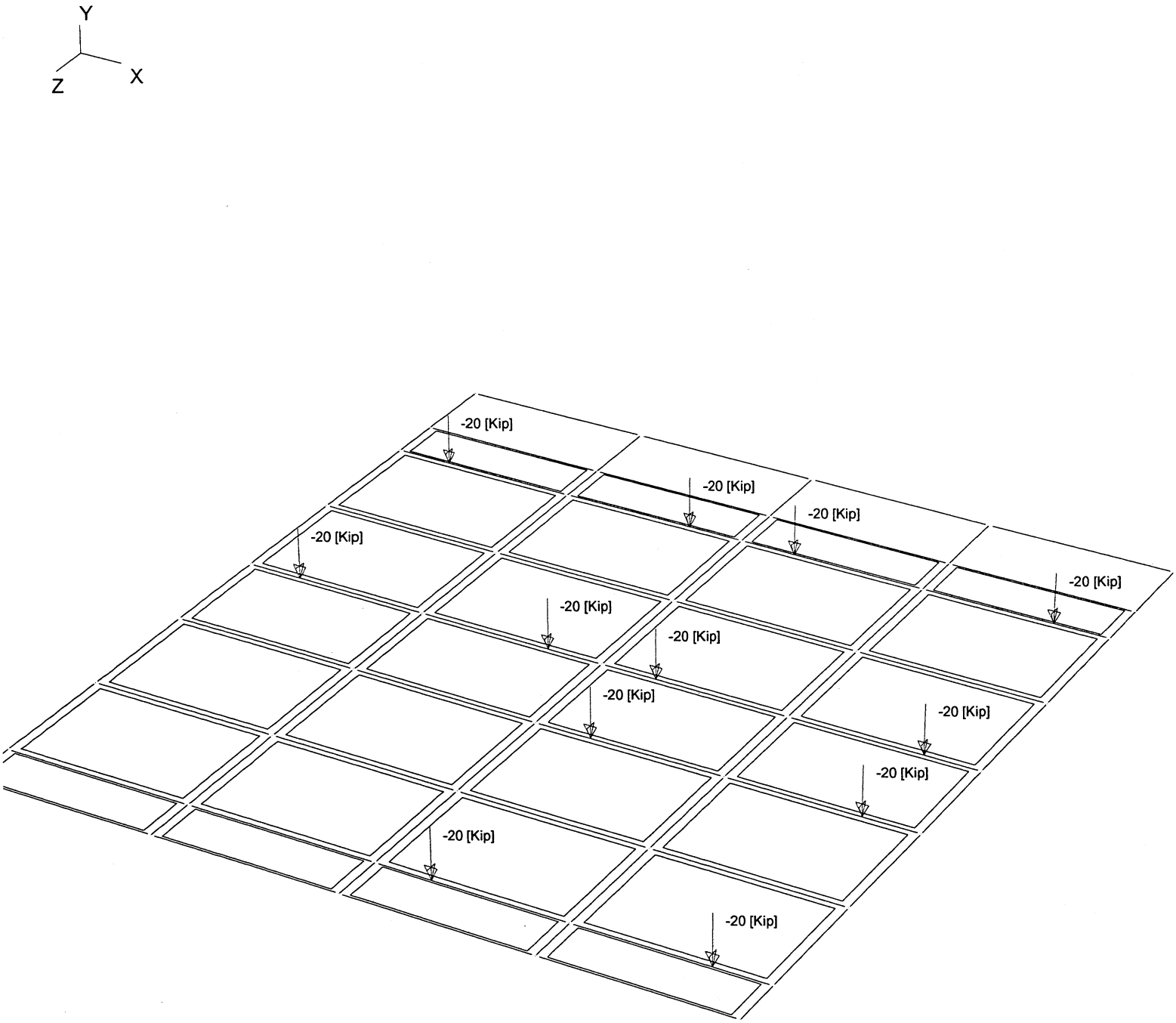
TANK SUPPORT FRAME (SKID)

BEAM LENGTHS



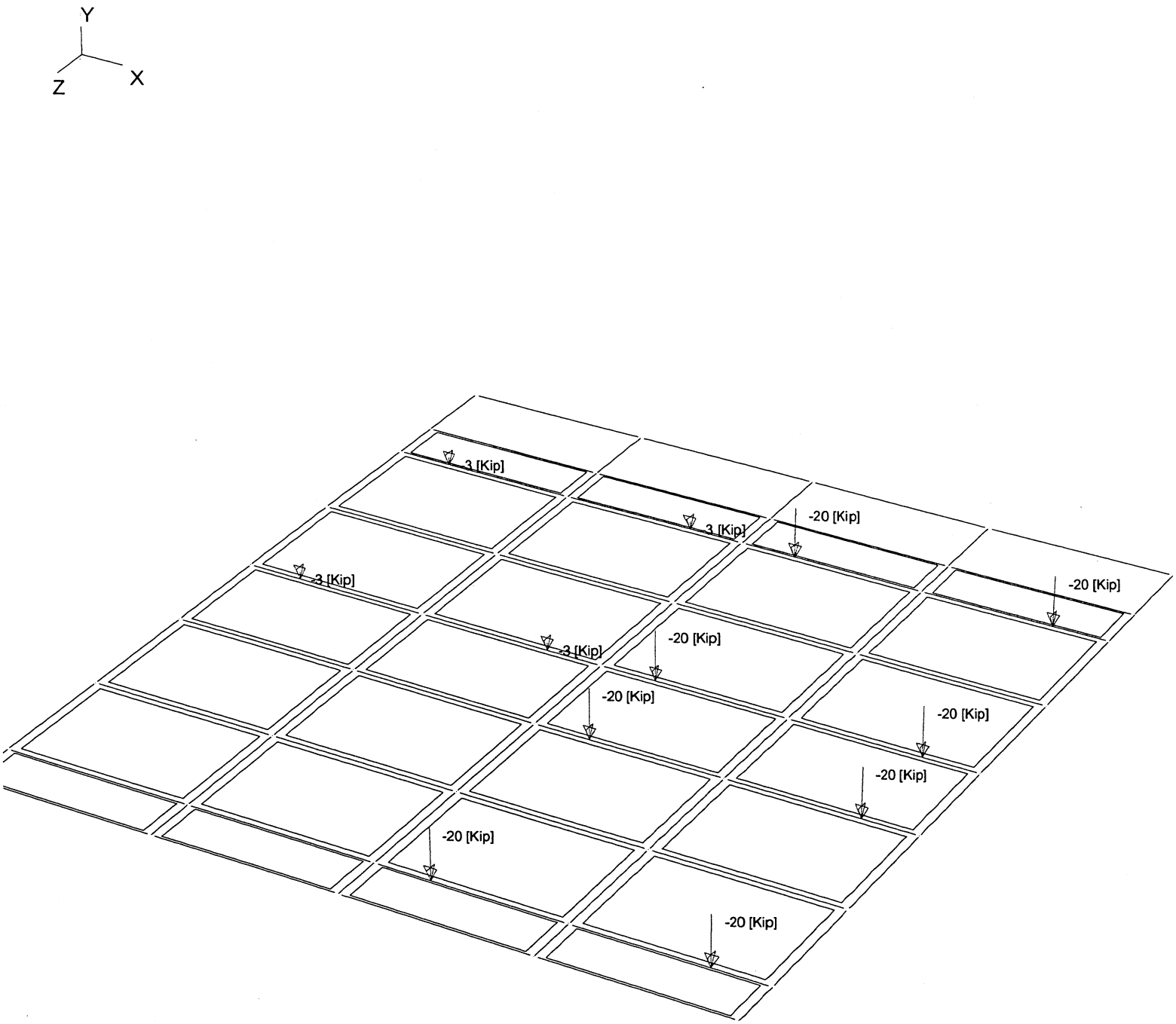
TANK SUPPORT FRAME (SKID)

LOAD CASE SC (Containment Pan Full)



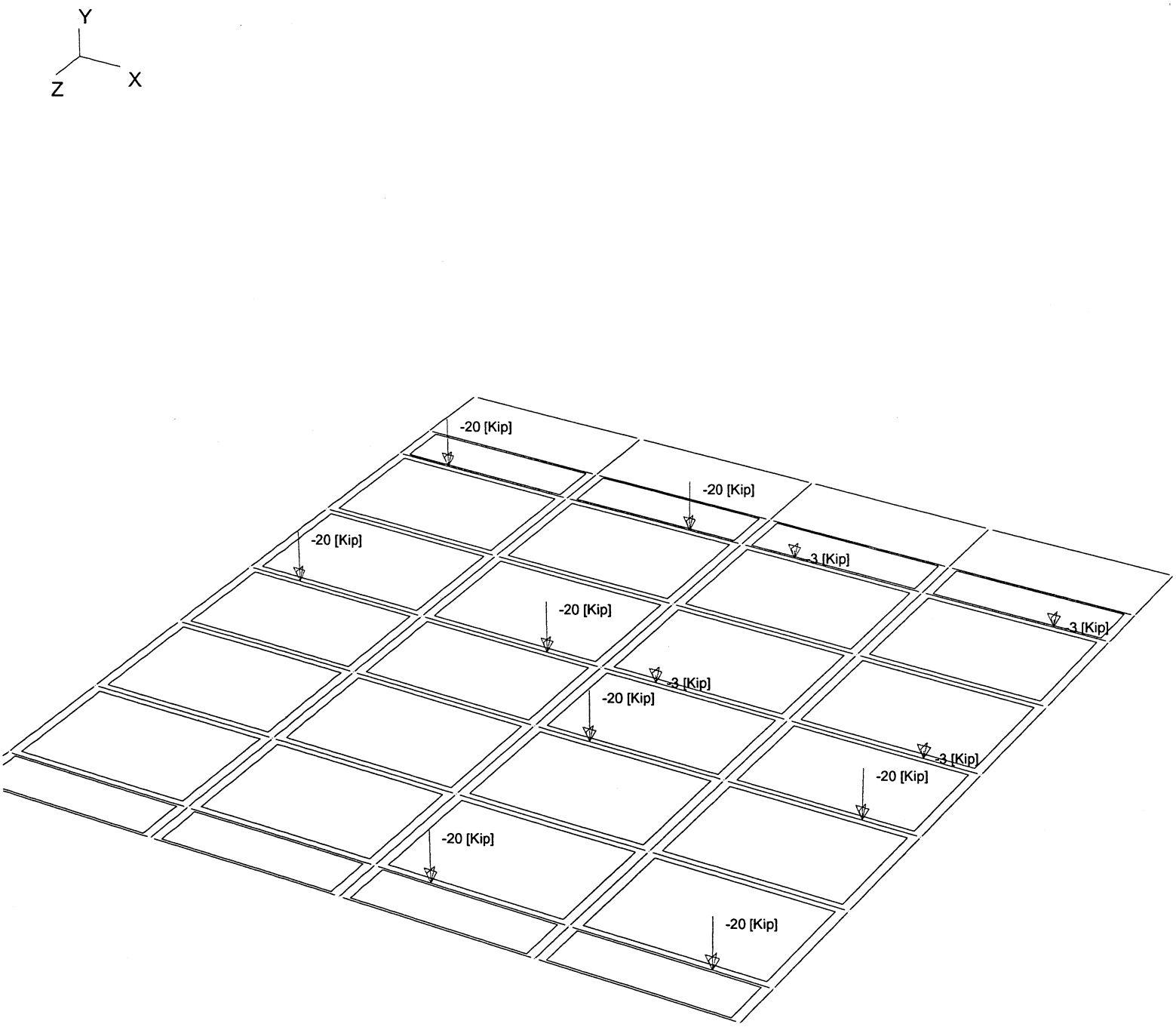
TANK SUPPORT FRAME (SKID)

LOAD CASE TK (Tanks Full)



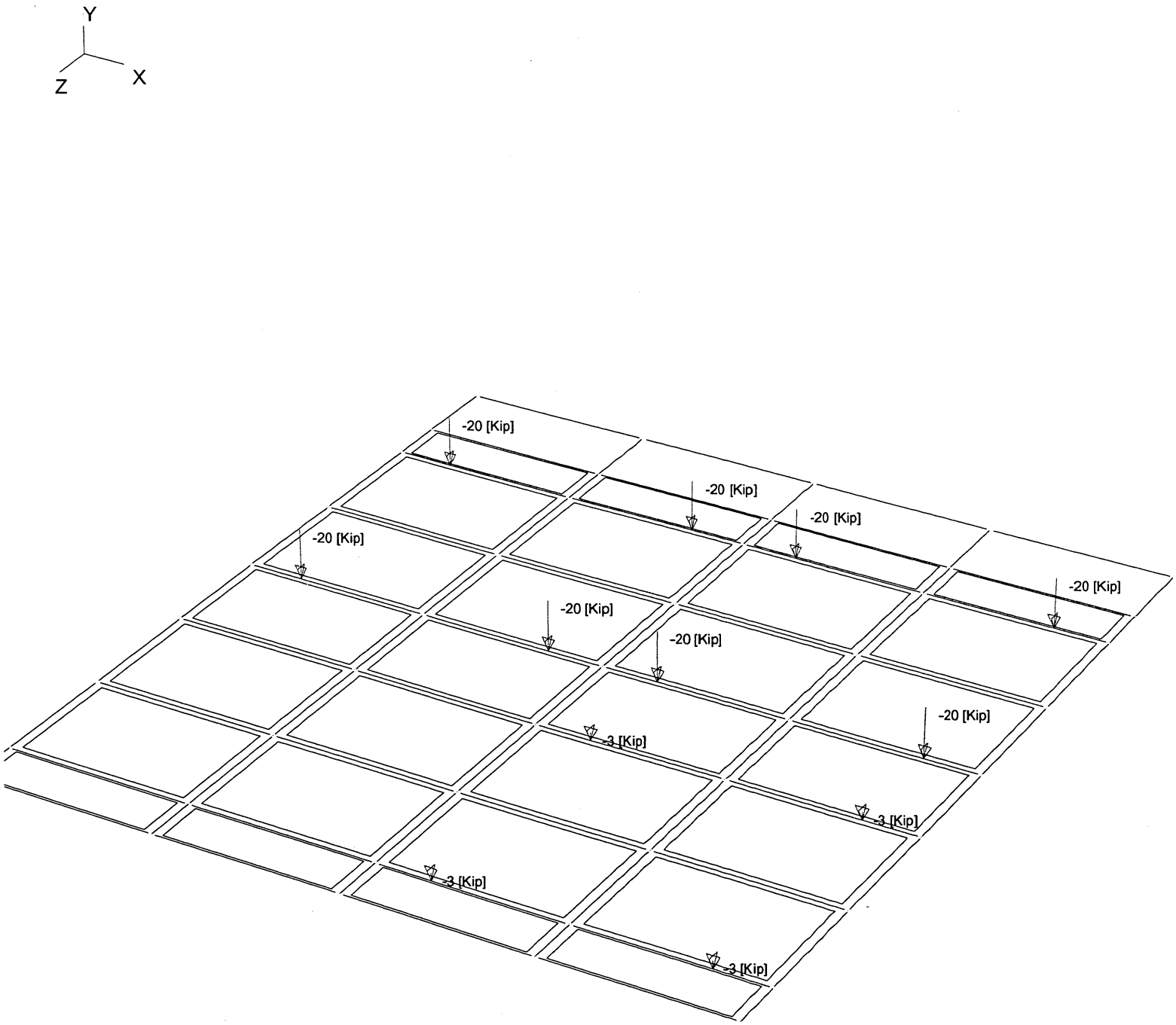
TANK SUPPORT FRAME (SKID)

LOAD CASE TK1 (Tank 1 Empty)



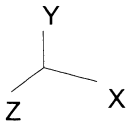
TANK SUPPORT FRAME (SKID)

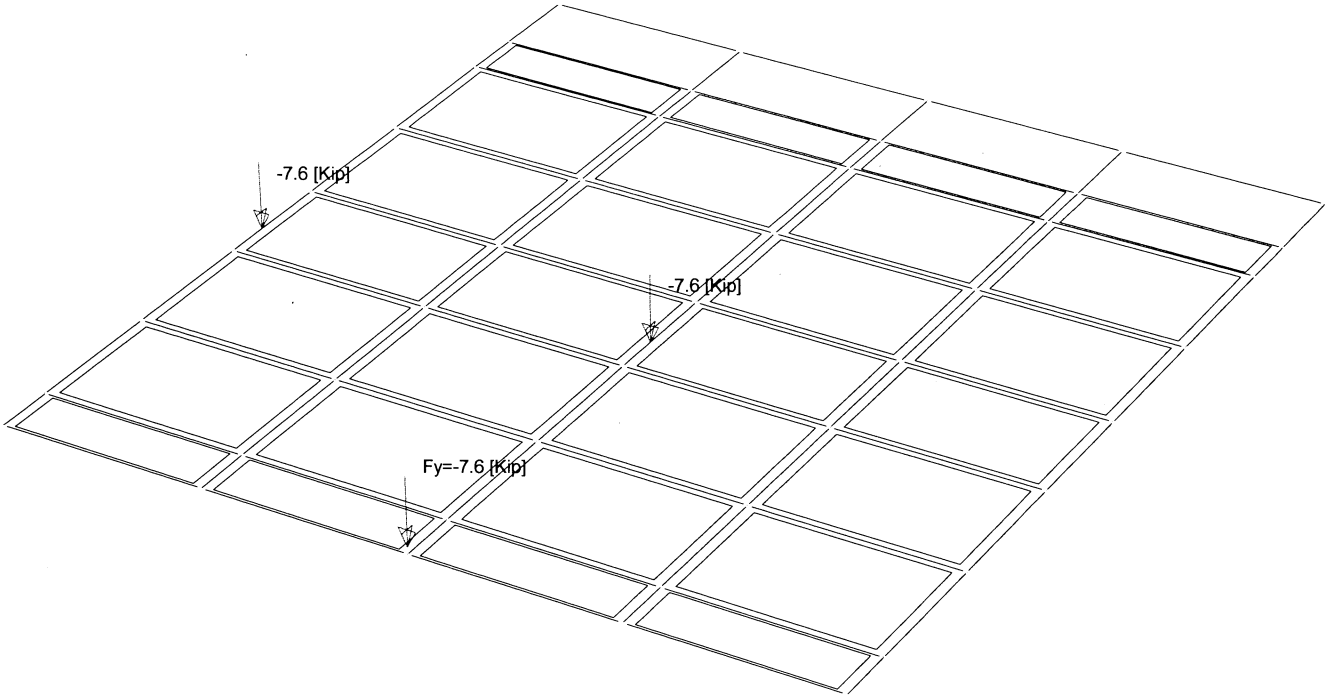
LOAD CASE TK2 (Tank 2 Empty)



TANK SUPPORT FRAME (SKID)

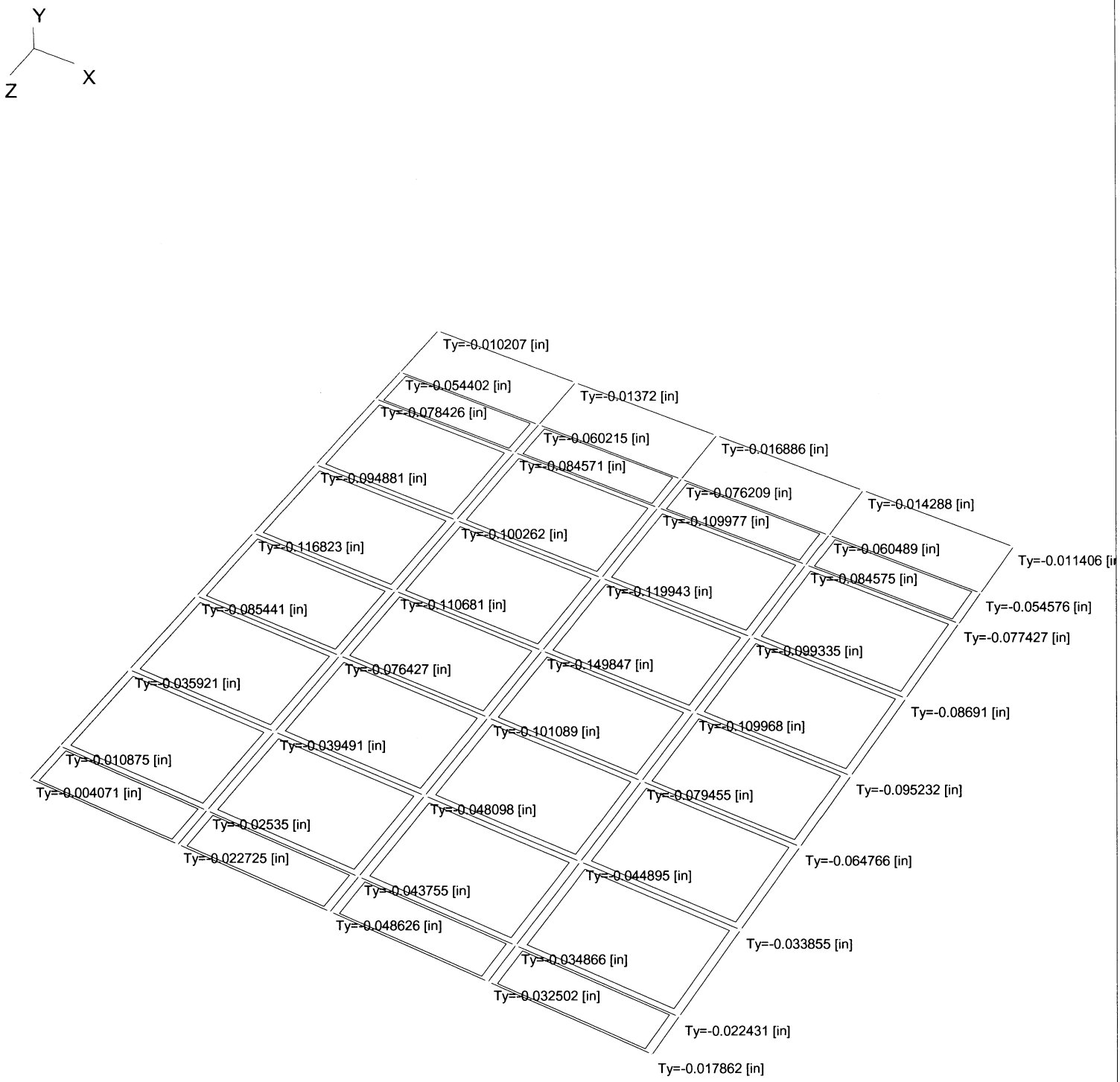
LOAD CASE TK3 (Tank 3 Empty)





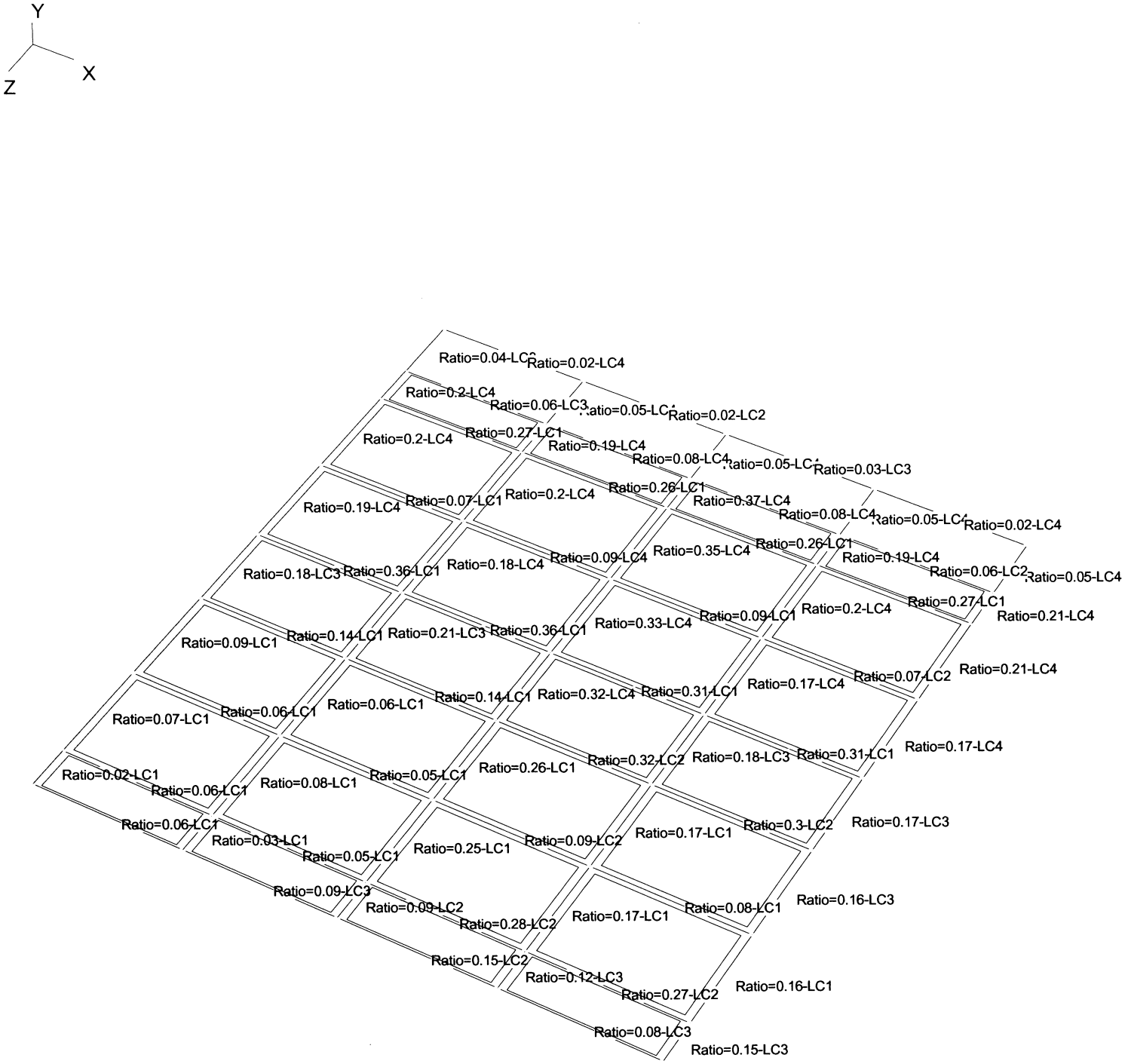
TANK SUPPORT FRAME (SKID)

LOAD CASE SP (Shield Panel Weight)



TANK SUPPORT FRAME (SKID)

NODE DISPLACEMENT - LOAD COMBINATION 4



TANK SUPPORT FRAME (SKID)

DESIGN RATIO (Calculated Stress to Allowable Stress)

M O D E L D A T A E C H O

File : C:\Current Projects\V-Tank Analysis\Skid Design\TnkSkid4.AVW
Units : Lb-in
Date : 11/15/2004
Time : 2:46:25 PM

N O D E S

Node	X [in]	Y [in]	Z [in]	Floor
1	0	0	0	0
2	61	0	0	0
3	122	0	0	0
4	183	0	0	0
5	244	0	0	0
6	0	0	274	0
7	61	0	274	0
8	122	0	274	0
9	183	0	274	0
10	244	0	274	0
11	0	0	46	0
12	0	0	89	0
13	0	0	132	0
14	0	0	170	0
15	0	0	213	0
16	0	0	256	0
17	61	0	46	0
18	61	0	89	0
19	61	0	132	0
20	61	0	170	0
21	61	0	213	0
22	61	0	256	0
23	122	0	46	0
24	122	0	89	0
25	122	0	132	0
26	122	0	170	0
27	122	0	213	0
28	122	0	256	0
29	183	0	46	0
30	183	0	89	0
31	183	0	132	0
32	183	0	170	0
33	183	0	213	0
34	183	0	256	0
35	244	0	46	0
36	244	0	89	0
37	244	0	132	0
38	244	0	170	0
39	244	0	213	0
40	244	0	256	0
41	0	0	28	0
42	61	0	28	0
43	122	0	28	0
44	183	0	28	0
45	244	0	28	0

S P R I N G S

Node	TX [Lb/in]	TY [Lb/in]	TZ [Lb/in]	RX [Lb*in/Deg	RY [Lb*in/Deg	RZ [Lb*in/Deg
1	0	53400	0	0	0	0
2	0	90000	0	0	0	0
3	0	90000	0	0	0	0
4	0	90000	0	0	0	0
5	0	53400	0	0	0	0
6	0	47400	0	0	0	0
7	0	84000	0	0	0	0
8	0	84000	0	0	0	0
9	0	84000	0	0	0	0
10	0	47400	0	0	0	0

11	0	73200	0	0	0	0
12	0	87600	0	0	0	0
13	0	85800	0	0	0	0
14	0	85200	0	0	0	0
15	0	87600	0	0	0	0
16	0	73200	0	0	0	0
17	0	109800	0	0	0	0
18	0	124200	0	0	0	0
19	0	122400	0	0	0	0
20	0	121800	0	0	0	0
21	0	124200	0	0	0	0
22	0	109800	0	0	0	0
23	0	109800	0	0	0	0
24	0	124200	0	0	0	0
25	0	122400	0	0	0	0
26	0	121800	0	0	0	0
27	0	124200	0	0	0	0
28	0	109800	0	0	0	0
29	0	109800	0	0	0	0
30	0	124200	0	0	0	0
31	0	122400	0	0	0	0
32	0	121800	0	0	0	0
33	0	124200	0	0	0	0
34	0	109800	0	0	0	0
35	0	73200	0	0	0	0
36	0	87600	0	0	0	0
37	0	85800	0	0	0	0
38	0	85200	0	0	0	0
39	0	87600	0	0	0	0
40	0	73200	0	0	0	0
41	0	64800	0	0	0	0
42	0	101400	0	0	0	0
43	0	101400	0	0	0	0
44	0	101400	0	0	0	0
45	0	64800	0	0	0	0

M E M B E R S

Beam	NJ	NK	Description	Section	Material
1	1	41	MainBeam	TUBE 8x8x1_4	A500 Gr B
2	2	42	MainBeam	TUBE 8x8x1_4	A500 Gr B
3	3	43	MainBeam	TUBE 8x8x1_4	A500 Gr B
4	4	44	MainBeam	TUBE 8x8x1_4	A500 Gr B
5	5	45	MainBeam	TUBE 8x8x1_4	A500 Gr B
6	41	42	CrossBeam	TUBE 8x8x1_4	A500 Gr B
7	42	43	CrossBeam	TUBE 8x8x1_4	A500 Gr B
8	43	44	CrossBeam	TUBE 8x8x1_4	A500 Gr B
9	44	45	CrossBeam	TUBE 8x8x1_4	A500 Gr B
10	6	7	EndBeam	TUBE 8x8x1_4	A500 Gr B
11	7	8	EndBeam	TUBE 8x8x1_4	A500 Gr B
12	8	9	EndBeam	TUBE 8x8x1_4	A500 Gr B
13	9	10	EndBeam	TUBE 8x8x1_4	A500 Gr B
14	11	12	MainBeam	TUBE 8x8x1_4	A500 Gr B
15	12	13	MainBeam	TUBE 8x8x1_4	A500 Gr B
16	13	14	MainBeam	TUBE 8x8x1_4	A500 Gr B
17	14	15	MainBeam	TUBE 8x8x1_4	A500 Gr B
18	15	16	MainBeam	TUBE 8x8x1_4	A500 Gr B
19	16	6	MainBeam	TUBE 8x8x1_4	A500 Gr B
20	17	18	MainBeam	TUBE 8x8x1_4	A500 Gr B
21	18	19	MainBeam	TUBE 8x8x1_4	A500 Gr B
22	19	20	MainBeam	TUBE 8x8x1_4	A500 Gr B
23	20	21	MainBeam	TUBE 8x8x1_4	A500 Gr B
24	21	22	MainBeam	TUBE 8x8x1_4	A500 Gr B
25	22	7	MainBeam	TUBE 8x8x1_4	A500 Gr B
26	23	24	MainBeam	TUBE 8x8x1_4	A500 Gr B
27	24	25	MainBeam	TUBE 8x8x1_4	A500 Gr B
28	25	26	MainBeam	TUBE 8x8x1_4	A500 Gr B
29	26	27	MainBeam	TUBE 8x8x1_4	A500 Gr B
30	27	28	MainBeam	TUBE 8x8x1_4	A500 Gr B
31	28	8	MainBeam	TUBE 8x8x1_4	A500 Gr B

32	29	30	MainBeam	TUBE 8x8x1_4	A500 Gr B
33	30	31	MainBeam	TUBE 8x8x1_4	A500 Gr B
34	31	32	MainBeam	TUBE 8x8x1_4	A500 Gr B
35	32	33	MainBeam	TUBE 8x8x1_4	A500 Gr B
36	33	34	MainBeam	TUBE 8x8x1_4	A500 Gr B
37	34	9	MainBeam	TUBE 8x8x1_4	A500 Gr B
38	35	36	MainBeam	TUBE 8x8x1_4	A500 Gr B
39	36	37	MainBeam	TUBE 8x8x1_4	A500 Gr B
40	37	38	MainBeam	TUBE 8x8x1_4	A500 Gr B
41	38	39	MainBeam	TUBE 8x8x1_4	A500 Gr B
42	39	40	MainBeam	TUBE 8x8x1_4	A500 Gr B
43	40	10	MainBeam	TUBE 8x8x1_4	A500 Gr B
44	11	17	CrossBeam	TUBE 8x8x1_4	A500 Gr B
45	17	23	CrossBeam	TUBE 8x8x1_4	A500 Gr B
46	23	29	CrossBeam	TUBE 8x8x1_4	A500 Gr B
47	29	35	CrossBeam	TUBE 8x8x1_4	A500 Gr B
48	12	18	CrossBeam	TUBE 8x8x1_4	A500 Gr B
49	18	24	CrossBeam	TUBE 8x8x1_4	A500 Gr B
50	24	30	CrossBeam	TUBE 8x8x1_4	A500 Gr B
51	30	36	CrossBeam	TUBE 8x8x1_4	A500 Gr B
52	13	19	CrossBeam	TUBE 8x8x1_4	A500 Gr B
53	19	25	CrossBeam	TUBE 8x8x1_4	A500 Gr B
54	25	31	CrossBeam	TUBE 8x8x1_4	A500 Gr B
55	31	37	CrossBeam	TUBE 8x8x1_4	A500 Gr B
56	14	20	CrossBeam	TUBE 8x8x1_4	A500 Gr B
57	20	26	CrossBeam	TUBE 8x8x1_4	A500 Gr B
58	26	32	CrossBeam	TUBE 8x8x1_4	A500 Gr B
59	32	38	CrossBeam	TUBE 8x8x1_4	A500 Gr B
60	15	21	CrossBeam	TUBE 8x8x1_4	A500 Gr B
61	21	27	CrossBeam	TUBE 8x8x1_4	A500 Gr B
62	27	33	CrossBeam	TUBE 8x8x1_4	A500 Gr B
63	33	39	CrossBeam	TUBE 8x8x1_4	A500 Gr B
64	16	22	CrossBeam	TUBE 8x8x1_4	A500 Gr B
65	22	28	CrossBeam	TUBE 8x8x1_4	A500 Gr B
66	28	34	CrossBeam	TUBE 8x8x1_4	A500 Gr B
67	34	40	CrossBeam	TUBE 8x8x1_4	A500 Gr B
68	41	11	MainBeam	TUBE 8x8x1_4	A500 Gr B
69	42	17	MainBeam	TUBE 8x8x1_4	A500 Gr B
70	43	23	MainBeam	TUBE 8x8x1_4	A500 Gr B
71	44	29	MainBeam	TUBE 8x8x1_4	A500 Gr B
72	45	35	MainBeam	TUBE 8x8x1_4	A500 Gr B
73	1	2	EndBeam	TUBE 8x8x1_4	A500 Gr B
74	2	3	EndBeam	TUBE 8x8x1_4	A500 Gr B
75	3	4	EndBeam	TUBE 8x8x1_4	A500 Gr B
76	4	5	EndBeam	TUBE 8x8x1_4	A500 Gr B

S H E L L S

Shell	N1	N2	N3	N4	Description	Material	Thickness [in]
1	41	42	11	17	Pan	A36	0.188
2	42	43	17	23	Pan	A36	0.188
3	43	44	23	29	Pan	A36	0.188
4	44	45	29	35	Pan	A36	0.188
5	11	17	12	18	Pan	A36	0.188
6	17	23	18	24	Pan	A36	0.188
7	23	29	24	30	Pan	A36	0.188
8	29	35	30	36	Pan	A36	0.188
9	12	18	13	19	Pan	A36	0.188
10	18	24	19	25	Pan	A36	0.188
11	24	30	25	31	Pan	A36	0.188
12	30	36	31	37	Pan	A36	0.188
13	13	19	14	20	Pan	A36	0.188
14	19	25	20	26	Pan	A36	0.188
15	25	31	26	32	Pan	A36	0.188
16	31	37	32	38	Pan	A36	0.188
17	14	20	15	21	Pan	A36	0.188
18	20	26	21	27	Pan	A36	0.188
19	26	32	27	33	Pan	A36	0.188
20	32	38	33	39	Pan	A36	0.188
21	15	21	16	22	Pan	A36	0.188
22	21	27	22	28	Pan	A36	0.188

23	27	33	28	34	Pan	A36	0.188
24	33	39	34	40	Pan	A36	0.188
25	16	22	6	7	Pan	A36	0.188
26	22	28	7	8	Pan	A36	0.188
27	28	34	8	9	Pan	A36	0.188
28	34	40	9	10	Pan	A36	0.188

L O A D D A T A

File : C:\Current Projects\V-Tank Analysis\Skid Design\TnkSkid4.AVW
Units : Lb-ft
Date : 11/15/2004
Time : 2:47:55 PM

NODAL FORCES

ConditiNode		FX [Lb]	FY [Lb]	FZ [Lb]	MX [Lb*ft]	MY [Lb*ft]	MZ [Lb*ft]
SP	8	0	-7600	0	0	0	0
LC1	8	0	-7600	0	0	0	0
LC2	8	0	-7600	0	0	0	0
LC3	8	0	-7600	0	0	0	0
LC4	8	0	-7600	0	0	0	0

CONCENTRATED FORCES ON MEMBERS

ConditiBeam		Dir.	Value [Lb]	Distance [ft]	%
TK	44	Y	-20000	1.5	0
	45	Y	-20000	3.58333	0
	46	Y	-20000	1.5	0
	47	Y	-20000	3.58333	0
	52	Y	-20000	1.5	0
	53	Y	-20000	3.58333	0
	54	Y	-20000	1.5	0
	55	Y	-20000	3.58333	0
	58	Y	-20000	1.5	0
	59	Y	-20000	3.58333	0
	66	Y	-20000	1.5	0
	67	Y	-20000	3.58333	0
TK1	44	Y	-3000	1.5	0
	45	Y	-3000	3.58333	0
	46	Y	-20000	1.5	0
	47	Y	-20000	3.58333	0
	52	Y	-3000	1.5	0
	53	Y	-3000	3.58333	0
	54	Y	-20000	1.5	0
	55	Y	-20000	3.58333	0
	58	Y	-20000	1.5	0
	59	Y	-20000	3.58333	0
	66	Y	-20000	1.5	0
	67	Y	-20000	3.58333	0
TK2	44	Y	-20000	1.5	0
	45	Y	-20000	3.58333	0
	46	Y	-3000	1.5	0
	47	Y	-3000	3.58333	0
	52	Y	-20000	1.5	0
	53	Y	-20000	3.58333	0
	54	Y	-3000	1.5	0
	55	Y	-3000	3.58333	0
	58	Y	-20000	1.5	0
	59	Y	-20000	3.58333	0
	66	Y	-20000	1.5	0
	67	Y	-20000	3.58333	0
TK3	44	Y	-20000	1.5	0
	45	Y	-20000	3.58333	0
	46	Y	-20000	1.5	0
	47	Y	-20000	3.58333	0
	52	Y	-20000	1.5	0

	53	Y	-20000	3.58333	0
	54	Y	-20000	1.5	0
	55	Y	-20000	3.58333	0
	58	Y	-3000	1.5	0
	59	Y	-3000	3.58333	0
	66	Y	-3000	1.5	0
	67	Y	-3000	3.58333	0
SP	16	Y	-7600	2	0
	28	Y	-7600	2	0

LOADS ON SHELLS

Condition	Shell	Pressure [Lb/ft2]	Temp. [F]
SC	1	187	0
	2	187	0
	3	187	0
	4	187	0
	5	187	0
	6	187	0
	7	187	0
	8	187	0
	9	187	0
	10	187	0
	11	187	0
	12	187	0
	13	187	0
	14	187	0
	15	187	0
	16	187	0
	17	187	0
	18	187	0
	19	187	0
	20	187	0
	21	187	0
	22	187	0
	23	187	0
	24	187	0
	25	187	0
	26	187	0
	27	187	0
	28	187	0
LC2	1	187	0
	2	187	0
	3	187	0
	4	187	0
	5	187	0
	6	187	0
	7	187	0
	8	187	0
	9	187	0
	10	187	0
	11	187	0
	12	187	0
	13	187	0
	14	187	0
	15	187	0
	16	187	0
	17	187	0
	18	187	0
	19	187	0
	20	187	0
	21	187	0
	22	187	0
	23	187	0
	24	187	0
	25	187	0
	26	187	0
	27	187	0
	28	187	0
LC3	1	187	0
	2	187	0

	3	187	0
	4	187	0
	5	187	0
	6	187	0
	7	187	0
	8	187	0
	9	187	0
	10	187	0
	11	187	0
	12	187	0
	13	187	0
	14	187	0
	15	187	0
	16	187	0
	17	187	0
	18	187	0
	19	187	0
	20	187	0
	21	187	0
	22	187	0
	23	187	0
	24	187	0
	25	187	0
	26	187	0
	27	187	0
	28	187	0
LC4	1	187	0
	2	187	0
	3	187	0
	4	187	0
	5	187	0
	6	187	0
	7	187	0
	8	187	0
	9	187	0
	10	187	0
	11	187	0
	12	187	0
	13	187	0
	14	187	0
	15	187	0
	16	187	0
	17	187	0
	18	187	0
	19	187	0
	20	187	0
	21	187	0
	22	187	0
	23	187	0
	24	187	0
	25	187	0
	26	187	0
	27	187	0
	28	187	0

L O A D C O N D I T I O N S

ConditiDescription		Comb.	--Self weight multiplier-- Multx	Multy	Multz
DL	Dead load	0	0	-1	0
TK	All Tanks Full	0	0	0	0
SC	Containment	0	0	0	0
TK1	Tank 1 Empty	0	0	0	0
TK2	Tank 2 Empty	0	0	0	0
TK3	Tank 3 Empty	0	0	0	0
SP	Shield Panel Wt	0	0	0	0
LC1	DL+TK+SP	1	0	0	0
LC2	DL+SC+TK1+SP	1	0	0	0
LC3	DL+SC+TK2+SP	1	0	0	0
LC4	DL+SC+TK3+SP	1	0	0	0

A N A L Y S I S R E S U L T S

File : C:\Current Projects\V-Tank Analysis\Skid Design\TnkSkid4.AVW
Units : Kip-in
Date : 11/15/2004
Time : 2:50:52 PM

R E A C T I O N S

Node	FORCES [Kip] FX	FY	FZ	MOMENTS [Kip*in] MX	MY	MZ
Condition LC1=DL+TK+SP						
1	0.00000	0.53021	0.00000	0.00000	0.00000	0.00000
2	0.00000	1.11767	0.00000	0.00000	0.00000	0.00000
3	0.00000	1.35524	0.00000	0.00000	0.00000	0.00000
4	0.00000	1.09183	0.00000	0.00000	0.00000	0.00000
5	0.00000	0.49237	0.00000	0.00000	0.00000	0.00000
6	0.00000	-0.59955	0.00000	0.00000	0.00000	0.00000
7	0.00000	1.16487	0.00000	0.00000	0.00000	0.00000
8	0.00000	5.89637	0.00000	0.00000	0.00000	0.00000
9	0.00000	5.99040	0.00000	0.00000	0.00000	0.00000
10	0.00000	3.19240	0.00000	0.00000	0.00000	0.00000
11	0.00000	4.75954	0.00000	0.00000	0.00000	0.00000
12	0.00000	6.50885	0.00000	0.00000	0.00000	0.00000
13	0.00000	8.04242	0.00000	0.00000	0.00000	0.00000
14	0.00000	5.25081	0.00000	0.00000	0.00000	0.00000
15	0.00000	1.12461	0.00000	0.00000	0.00000	0.00000
16	0.00000	-0.61281	0.00000	0.00000	0.00000	0.00000
17	0.00000	7.39261	0.00000	0.00000	0.00000	0.00000
18	0.00000	9.33434	0.00000	0.00000	0.00000	0.00000
19	0.00000	10.58557	0.00000	0.00000	0.00000	0.00000
20	0.00000	6.64099	0.00000	0.00000	0.00000	0.00000
21	0.00000	2.55126	0.00000	0.00000	0.00000	0.00000
22	0.00000	1.39531	0.00000	0.00000	0.00000	0.00000
23	0.00000	10.00774	0.00000	0.00000	0.00000	0.00000
24	0.00000	11.86209	0.00000	0.00000	0.00000	0.00000
25	0.00000	17.22728	0.00000	0.00000	0.00000	0.00000
26	0.00000	14.04050	0.00000	0.00000	0.00000	0.00000
27	0.00000	7.20378	0.00000	0.00000	0.00000	0.00000
28	0.00000	7.36755	0.00000	0.00000	0.00000	0.00000
29	0.00000	7.28947	0.00000	0.00000	0.00000	0.00000
30	0.00000	9.73487	0.00000	0.00000	0.00000	0.00000
31	0.00000	13.49950	0.00000	0.00000	0.00000	0.00000
32	0.00000	13.03550	0.00000	0.00000	0.00000	0.00000
33	0.00000	8.85150	0.00000	0.00000	0.00000	0.00000
34	0.00000	8.18122	0.00000	0.00000	0.00000	0.00000
35	0.00000	4.54870	0.00000	0.00000	0.00000	0.00000
36	0.00000	6.27544	0.00000	0.00000	0.00000	0.00000
37	0.00000	8.86823	0.00000	0.00000	0.00000	0.00000
38	0.00000	8.75189	0.00000	0.00000	0.00000	0.00000
39	0.00000	6.27837	0.00000	0.00000	0.00000	0.00000
40	0.00000	5.42319	0.00000	0.00000	0.00000	0.00000
41	0.00000	2.96981	0.00000	0.00000	0.00000	0.00000
42	0.00000	4.96486	0.00000	0.00000	0.00000	0.00000
43	0.00000	6.46028	0.00000	0.00000	0.00000	0.00000
44	0.00000	4.88151	0.00000	0.00000	0.00000	0.00000
45	0.00000	2.83914	0.00000	0.00000	0.00000	0.00000
SUM	0.00000	273.76772	0.00000	0.00000	0.00000	0.00000
Condition LC2=DL+SC+TK1+SP						
1	0.00000	-0.11441	0.00000	0.00000	0.00000	0.00000
2	0.00000	0.22135	0.00000	0.00000	0.00000	0.00000
3	0.00000	0.93452	0.00000	0.00000	0.00000	0.00000
4	0.00000	1.32442	0.00000	0.00000	0.00000	0.00000
5	0.00000	0.75522	0.00000	0.00000	0.00000	0.00000
6	0.00000	0.12510	0.00000	0.00000	0.00000	0.00000
7	0.00000	2.52523	0.00000	0.00000	0.00000	0.00000
8	0.00000	7.22235	0.00000	0.00000	0.00000	0.00000
9	0.00000	7.17316	0.00000	0.00000	0.00000	0.00000
10	0.00000	3.71542	0.00000	0.00000	0.00000	0.00000
11	0.00000	1.60190	0.00000	0.00000	0.00000	0.00000

12	0.00000	3.15399	0.00000	0.00000	0.00000	0.00000
13	0.00000	4.65909	0.00000	0.00000	0.00000	0.00000
14	0.00000	4.47237	0.00000	0.00000	0.00000	0.00000
15	0.00000	2.43220	0.00000	0.00000	0.00000	0.00000
16	0.00000	0.66788	0.00000	0.00000	0.00000	0.00000
17	0.00000	3.66789	0.00000	0.00000	0.00000	0.00000
18	0.00000	5.96560	0.00000	0.00000	0.00000	0.00000
19	0.00000	7.08155	0.00000	0.00000	0.00000	0.00000
20	0.00000	6.52185	0.00000	0.00000	0.00000	0.00000
21	0.00000	5.11853	0.00000	0.00000	0.00000	0.00000
22	0.00000	3.58850	0.00000	0.00000	0.00000	0.00000
23	0.00000	7.72567	0.00000	0.00000	0.00000	0.00000
24	0.00000	10.54859	0.00000	0.00000	0.00000	0.00000
25	0.00000	15.41624	0.00000	0.00000	0.00000	0.00000
26	0.00000	15.10182	0.00000	0.00000	0.00000	0.00000
27	0.00000	10.21364	0.00000	0.00000	0.00000	0.00000
28	0.00000	9.60383	0.00000	0.00000	0.00000	0.00000
29	0.00000	8.54286	0.00000	0.00000	0.00000	0.00000
30	0.00000	12.01786	0.00000	0.00000	0.00000	0.00000
31	0.00000	16.15553	0.00000	0.00000	0.00000	0.00000
32	0.00000	15.96083	0.00000	0.00000	0.00000	0.00000
33	0.00000	11.95456	0.00000	0.00000	0.00000	0.00000
34	0.00000	10.22295	0.00000	0.00000	0.00000	0.00000
35	0.00000	5.72772	0.00000	0.00000	0.00000	0.00000
36	0.00000	8.23962	0.00000	0.00000	0.00000	0.00000
37	0.00000	10.91097	0.00000	0.00000	0.00000	0.00000
38	0.00000	10.71332	0.00000	0.00000	0.00000	0.00000
39	0.00000	8.07339	0.00000	0.00000	0.00000	0.00000
40	0.00000	6.49206	0.00000	0.00000	0.00000	0.00000
41	0.00000	0.84646	0.00000	0.00000	0.00000	0.00000
42	0.00000	2.28439	0.00000	0.00000	0.00000	0.00000
43	0.00000	4.90280	0.00000	0.00000	0.00000	0.00000
44	0.00000	5.63704	0.00000	0.00000	0.00000	0.00000
45	0.00000	3.60969	0.00000	0.00000	0.00000	0.00000
SUM	0.00000	283.71555	0.00000	0.00000	0.00000	0.00000

Condition LC3=DL+SC+TK2+SP

1	0.00000	0.79306	0.00000	0.00000	0.00000	0.00000
2	0.00000	1.35026	0.00000	0.00000	0.00000	0.00000
3	0.00000	0.93452	0.00000	0.00000	0.00000	0.00000
4	0.00000	0.19552	0.00000	0.00000	0.00000	0.00000
5	0.00000	-0.15225	0.00000	0.00000	0.00000	0.00000
6	0.00000	-0.07654	0.00000	0.00000	0.00000	0.00000
7	0.00000	2.34764	0.00000	0.00000	0.00000	0.00000
8	0.00000	7.22235	0.00000	0.00000	0.00000	0.00000
9	0.00000	7.35075	0.00000	0.00000	0.00000	0.00000
10	0.00000	3.91706	0.00000	0.00000	0.00000	0.00000
11	0.00000	5.93856	0.00000	0.00000	0.00000	0.00000
12	0.00000	8.47304	0.00000	0.00000	0.00000	0.00000
13	0.00000	10.08516	0.00000	0.00000	0.00000	0.00000
14	0.00000	7.21224	0.00000	0.00000	0.00000	0.00000
15	0.00000	2.91964	0.00000	0.00000	0.00000	0.00000
16	0.00000	0.45606	0.00000	0.00000	0.00000	0.00000
17	0.00000	8.64600	0.00000	0.00000	0.00000	0.00000
18	0.00000	11.61733	0.00000	0.00000	0.00000	0.00000
19	0.00000	13.24161	0.00000	0.00000	0.00000	0.00000
20	0.00000	9.56632	0.00000	0.00000	0.00000	0.00000
21	0.00000	5.65432	0.00000	0.00000	0.00000	0.00000
22	0.00000	3.43704	0.00000	0.00000	0.00000	0.00000
23	0.00000	7.72567	0.00000	0.00000	0.00000	0.00000
24	0.00000	10.54859	0.00000	0.00000	0.00000	0.00000
25	0.00000	15.41624	0.00000	0.00000	0.00000	0.00000
26	0.00000	15.10182	0.00000	0.00000	0.00000	0.00000
27	0.00000	10.21364	0.00000	0.00000	0.00000	0.00000
28	0.00000	9.60383	0.00000	0.00000	0.00000	0.00000
29	0.00000	3.56474	0.00000	0.00000	0.00000	0.00000
30	0.00000	6.36613	0.00000	0.00000	0.00000	0.00000
31	0.00000	9.99547	0.00000	0.00000	0.00000	0.00000
32	0.00000	12.91636	0.00000	0.00000	0.00000	0.00000
33	0.00000	11.41877	0.00000	0.00000	0.00000	0.00000
34	0.00000	10.37441	0.00000	0.00000	0.00000	0.00000
35	0.00000	1.39106	0.00000	0.00000	0.00000	0.00000

36	0.00000	2.92057	0.00000	0.00000	0.00000	0.00000
37	0.00000	5.48490	0.00000	0.00000	0.00000	0.00000
38	0.00000	7.97345	0.00000	0.00000	0.00000	0.00000
39	0.00000	7.58596	0.00000	0.00000	0.00000	0.00000
40	0.00000	6.70388	0.00000	0.00000	0.00000	0.00000
41	0.00000	3.74036	0.00000	0.00000	0.00000	0.00000
42	0.00000	5.72038	0.00000	0.00000	0.00000	0.00000
43	0.00000	4.90280	0.00000	0.00000	0.00000	0.00000
44	0.00000	2.20105	0.00000	0.00000	0.00000	0.00000
45	0.00000	0.71578	0.00000	0.00000	0.00000	0.00000
SUM	0.00000	283.71555	0.00000	0.00000	0.00000	0.00000

Condition LC4=DL+SC+TK3+SP

1	0.00000	0.54508	0.00000	0.00000	0.00000	0.00000
2	0.00000	1.23479	0.00000	0.00000	0.00000	0.00000
3	0.00000	1.51978	0.00000	0.00000	0.00000	0.00000
4	0.00000	1.28595	0.00000	0.00000	0.00000	0.00000
5	0.00000	0.60907	0.00000	0.00000	0.00000	0.00000
6	0.00000	0.19294	0.00000	0.00000	0.00000	0.00000
7	0.00000	1.90889	0.00000	0.00000	0.00000	0.00000
8	0.00000	4.08458	0.00000	0.00000	0.00000	0.00000
9	0.00000	2.73018	0.00000	0.00000	0.00000	0.00000
10	0.00000	0.84666	0.00000	0.00000	0.00000	0.00000
11	0.00000	5.74080	0.00000	0.00000	0.00000	0.00000
12	0.00000	8.31158	0.00000	0.00000	0.00000	0.00000
13	0.00000	10.02345	0.00000	0.00000	0.00000	0.00000
14	0.00000	7.27959	0.00000	0.00000	0.00000	0.00000
15	0.00000	3.14665	0.00000	0.00000	0.00000	0.00000
16	0.00000	0.79608	0.00000	0.00000	0.00000	0.00000
17	0.00000	9.28590	0.00000	0.00000	0.00000	0.00000
18	0.00000	12.45259	0.00000	0.00000	0.00000	0.00000
19	0.00000	13.54741	0.00000	0.00000	0.00000	0.00000
20	0.00000	9.30880	0.00000	0.00000	0.00000	0.00000
21	0.00000	4.90483	0.00000	0.00000	0.00000	0.00000
22	0.00000	2.78346	0.00000	0.00000	0.00000	0.00000
23	0.00000	12.07542	0.00000	0.00000	0.00000	0.00000
24	0.00000	14.89686	0.00000	0.00000	0.00000	0.00000
25	0.00000	18.34132	0.00000	0.00000	0.00000	0.00000
26	0.00000	12.31261	0.00000	0.00000	0.00000	0.00000
27	0.00000	5.97371	0.00000	0.00000	0.00000	0.00000
28	0.00000	4.80430	0.00000	0.00000	0.00000	0.00000
29	0.00000	9.28638	0.00000	0.00000	0.00000	0.00000
30	0.00000	12.33744	0.00000	0.00000	0.00000	0.00000
31	0.00000	13.46011	0.00000	0.00000	0.00000	0.00000
32	0.00000	9.67765	0.00000	0.00000	0.00000	0.00000
33	0.00000	5.57598	0.00000	0.00000	0.00000	0.00000
34	0.00000	3.82823	0.00000	0.00000	0.00000	0.00000
35	0.00000	5.66768	0.00000	0.00000	0.00000	0.00000
36	0.00000	7.61335	0.00000	0.00000	0.00000	0.00000
37	0.00000	8.17092	0.00000	0.00000	0.00000	0.00000
38	0.00000	5.51806	0.00000	0.00000	0.00000	0.00000
39	0.00000	2.96567	0.00000	0.00000	0.00000	0.00000
40	0.00000	1.64198	0.00000	0.00000	0.00000	0.00000
41	0.00000	3.52523	0.00000	0.00000	0.00000	0.00000
42	0.00000	6.10585	0.00000	0.00000	0.00000	0.00000
43	0.00000	7.72762	0.00000	0.00000	0.00000	0.00000
44	0.00000	6.13361	0.00000	0.00000	0.00000	0.00000
45	0.00000	3.53650	0.00000	0.00000	0.00000	0.00000
SUM	0.00000	283.71555	0.00000	0.00000	0.00000	0.00000

M E M B E R F O R C E S A T S I G N I F I C A N T P O I N T S

Condit.: LC1=DL+TK+SP

Station	Dist to J [in]	Axial [Kip]	Plane 1-2 Shear V2 [Kip]	Plane 1-2 M33 [Kip*in]	Plane 1-3 Shear V3 [Kip]	Plane 1-3 M22 [Kip*in]	Torsion [Kip*in]
MEMBER 1							
0%	0.000	0.000	-0.686	1.110	0.000	0.000	-7.583
100%	28.000	0.000	-0.625	19.462	0.000	0.000	-7.583
MEMBER 2							
0%	0.000	0.000	-0.648	6.074	0.000	0.000	-3.939
100%	28.000	0.000	-0.587	23.370	0.000	0.000	-3.939
MEMBER 3							
0%	0.000	0.000	-1.445	-14.818	0.000	0.000	0.113
100%	28.000	0.000	-1.384	24.780	0.000	0.000	0.113
MEMBER 4							
0%	0.000	0.000	-0.611	6.023	0.000	0.000	4.357
100%	28.000	0.000	-0.550	22.278	0.000	0.000	4.357
MEMBER 5							
0%	0.000	0.000	-0.664	1.610	0.000	0.000	8.330
100%	28.000	0.000	-0.603	19.354	0.000	0.000	8.330
MEMBER 6							
0%	0.000	0.000	0.906	33.355	0.000	0.000	-0.064
100%	61.000	0.000	1.039	-25.956	0.000	0.000	-0.064
MEMBER 7							
0%	0.000	0.000	-1.217	-30.435	0.000	0.000	9.764
100%	61.000	0.000	-1.084	39.737	0.000	0.000	9.764
MEMBER 8							
0%	0.000	0.000	1.091	40.145	0.000	0.000	-10.061
100%	61.000	0.000	1.224	-30.470	0.000	0.000	-10.061
MEMBER 9							
0%	0.000	0.000	-1.054	-25.906	0.000	0.000	-0.639
100%	61.000	0.000	-0.921	34.340	0.000	0.000	-0.639
MEMBER 10							
0%	0.000	0.000	0.410	-4.068	0.000	0.000	5.739
100%	61.000	0.000	0.543	-33.131	0.000	0.000	5.739
MEMBER 11							
0%	0.000	0.000	-1.562	-42.351	0.000	0.000	1.440
100%	61.000	0.000	-1.428	48.850	0.000	0.000	1.440
MEMBER 12							
0%	0.000	0.000	1.681	79.195	0.000	0.000	-6.882
100%	61.000	0.000	1.815	-27.433	0.000	0.000	-6.882
MEMBER 13							
0%	0.000	0.000	-1.037	-20.259	0.000	0.000	-4.255
100%	61.000	0.000	-0.904	38.925	0.000	0.000	-4.255
MEMBER 14							
0%	0.000	0.000	3.648	99.208	0.000	0.000	19.594
100%	43.000	0.000	3.742	-59.670	0.000	0.000	19.594
MEMBER 15							
0%	0.000	0.000	-3.794	-61.565	0.000	0.000	-14.161
100%	43.000	0.000	-3.700	99.547	0.000	0.000	-14.161
MEMBER 16							
0%	0.000	0.000	0.017	95.774	0.000	0.000	26.654
100%	38.000	0.000	7.700	-12.852	0.000	0.000	26.654
MEMBER 17							
0%	0.000	0.000	0.873	-7.170	0.000	0.000	-4.277
100%	43.000	0.000	0.967	-46.729	0.000	0.000	-4.277
MEMBER 18							
0%	0.000	0.000	-0.608	-40.154	0.000	0.000	-6.072
100%	43.000	0.000	-0.514	-16.045	0.000	0.000	-6.072
MEMBER 19							
0%	0.000	0.000	-0.244	-9.770	0.000	0.000	-4.070
100%	18.000	0.000	-0.205	-5.735	0.000	0.000	-4.070
MEMBER 20							
0%	0.000	0.000	3.363	96.409	0.000	0.000	-2.202
100%	43.000	0.000	3.457	-50.240	0.000	0.000	-2.202
MEMBER 21							
0%	0.000	0.000	-3.118	-42.436	0.000	0.000	-3.927
100%	43.000	0.000	-3.024	89.619	0.000	0.000	-3.927
MEMBER 22							
0%	0.000	0.000	3.061	107.726	0.000	0.000	-2.908
100%	38.000	0.000	3.144	-10.185	0.000	0.000	-2.908

MEMBER 23							
0%	0.000	0.000	0.189	-24.072	0.000	0.000	-0.100
100%	43.000	0.000	0.282	-34.201	0.000	0.000	-0.100
MEMBER 24							
0%	0.000	0.000	-0.718	-41.805	0.000	0.000	-5.996
100%	43.000	0.000	-0.625	-12.932	0.000	0.000	-5.996
MEMBER 25							
0%	0.000	0.000	-1.005	-13.467	0.000	0.000	-9.180
100%	18.000	0.000	-0.966	4.276	0.000	0.000	-9.180
MEMBER 26							
0%	0.000	0.000	7.251	175.946	0.000	0.000	-1.915
100%	43.000	0.000	7.345	-137.857	0.000	0.000	-1.915
MEMBER 27							
0%	0.000	0.000	-6.907	-144.671	0.000	0.000	-7.923
100%	43.000	0.000	-6.813	150.311	0.000	0.000	-7.923
MEMBER 28							
0%	0.000	0.000	0.251	136.682	0.000	0.000	-24.868
100%	38.000	0.000	7.934	19.180	0.000	0.000	-24.868
MEMBER 29							
0%	0.000	0.000	4.135	43.186	0.000	0.000	13.840
100%	43.000	0.000	4.229	-136.640	0.000	0.000	13.840
MEMBER 30							
0%	0.000	0.000	-4.164	-132.491	0.000	0.000	-14.147
100%	43.000	0.000	-4.070	44.544	0.000	0.000	-14.147
MEMBER 31							
0%	0.000	0.000	1.338	32.752	0.000	0.000	30.275
100%	18.000	0.000	1.378	8.309	0.000	0.000	30.275
MEMBER 32							
0%	0.000	0.000	3.670	91.096	0.000	0.000	1.880
100%	43.000	0.000	3.764	-68.750	0.000	0.000	1.880
MEMBER 33							
0%	0.000	0.000	-3.189	-68.752	0.000	0.000	0.777
100%	43.000	0.000	-3.095	66.339	0.000	0.000	0.777
MEMBER 34							
0%	0.000	0.000	-0.218	66.204	0.000	0.000	-4.000
100%	38.000	0.000	-0.135	72.926	0.000	0.000	-4.000
MEMBER 35							
0%	0.000	0.000	3.460	59.920	0.000	0.000	-5.979
100%	43.000	0.000	3.554	-90.884	0.000	0.000	-5.979
MEMBER 36							
0%	0.000	0.000	-3.360	-92.567	0.000	0.000	1.589
100%	43.000	0.000	-3.266	49.906	0.000	0.000	1.589
MEMBER 37							
0%	0.000	0.000	3.062	52.909	0.000	0.000	7.145
100%	18.000	0.000	3.102	-2.568	0.000	0.000	7.145
MEMBER 38							
0%	0.000	0.000	3.967	98.405	0.000	0.000	-15.745
100%	43.000	0.000	4.061	-74.182	0.000	0.000	-15.745
MEMBER 39							
0%	0.000	0.000	-3.229	-73.275	0.000	0.000	23.958
100%	43.000	0.000	-3.135	63.554	0.000	0.000	23.958
MEMBER 40							
0%	0.000	0.000	-0.060	62.985	0.000	0.000	-0.289
70%	26.600	0.000	-0.002	63.799	0.000	0.000	-0.289
100%	38.000	0.000	0.023	63.676	0.000	0.000	-0.289
MEMBER 41							
0%	0.000	0.000	3.345	60.851	0.000	0.000	-24.485
100%	43.000	0.000	3.439	-84.993	0.000	0.000	-24.485
MEMBER 42							
0%	0.000	0.000	-3.587	-86.426	0.000	0.000	16.791
100%	43.000	0.000	-3.493	65.785	0.000	0.000	16.791
MEMBER 43							
0%	0.000	0.000	4.037	68.799	0.000	0.000	-38.865
100%	18.000	0.000	4.076	-4.218	0.000	0.000	-38.865
MEMBER 44							
0%	0.000	0.000	-12.807	-60.582	0.000	0.000	-0.543
30%	18.300	0.000	7.233	167.416	0.000	0.000	-0.543
100%	61.000	0.000	7.326	-143.434	0.000	0.000	-0.543
MEMBER 45							
0%	0.000	0.000	-6.560	-140.691	0.000	0.000	4.276
70%	42.700	0.000	-6.467	137.426	0.000	0.000	4.276
100%	61.000	0.000	13.573	-104.600	0.000	0.000	4.276

MEMBER 46							
0%	0.000	0.000	-13.542	-102.980	0.000	0.000	-4.099
30%	18.300	0.000	6.498	138.468	0.000	0.000	-4.099
100%	61.000	0.000	6.591	-140.997	0.000	0.000	-4.099
MEMBER 47							
0%	0.000	0.000	-7.356	-143.087	0.000	0.000	-0.525
70%	42.700	0.000	-7.262	169.002	0.000	0.000	-0.525
100%	61.000	0.000	12.778	-58.464	0.000	0.000	-0.525
MEMBER 48							
0%	0.000	0.000	1.098	33.763	0.000	0.000	-1.891
100%	61.000	0.000	1.231	-37.286	0.000	0.000	-1.891
MEMBER 49							
0%	0.000	0.000	-1.383	-35.563	0.000	0.000	5.918
100%	61.000	0.000	-1.250	44.743	0.000	0.000	5.918
MEMBER 50							
0%	0.000	0.000	1.285	50.750	0.000	0.000	-0.898
100%	61.000	0.000	1.418	-31.681	0.000	0.000	-0.898
MEMBER 51							
0%	0.000	0.000	-1.219	-30.577	0.000	0.000	-0.906
100%	61.000	0.000	-1.086	39.713	0.000	0.000	-0.906
MEMBER 52							
0%	0.000	0.000	-11.698	-40.889	0.000	0.000	-3.762
30%	18.300	0.000	8.342	166.814	0.000	0.000	-3.762
100%	61.000	0.000	8.435	-191.390	0.000	0.000	-3.762
MEMBER 53							
0%	0.000	0.000	-8.107	-192.406	0.000	0.000	14.364
70%	42.700	0.000	-8.014	151.765	0.000	0.000	14.364
100%	61.000	0.000	12.026	-61.952	0.000	0.000	14.364
MEMBER 54							
0%	0.000	0.000	-12.142	-45.002	0.000	0.000	0.739
30%	18.300	0.000	7.898	170.822	0.000	0.000	0.739
100%	61.000	0.000	7.992	-168.433	0.000	0.000	0.739
MEMBER 55							
0%	0.000	0.000	-8.253	-163.660	0.000	0.000	0.579
70%	42.700	0.000	-8.159	186.738	0.000	0.000	0.579
100%	61.000	0.000	11.881	-24.310	0.000	0.000	0.579
MEMBER 56							
0%	0.000	0.000	1.642	30.932	0.000	0.000	5.684
100%	61.000	0.000	1.775	-73.299	0.000	0.000	5.684
MEMBER 57							
0%	0.000	0.000	-1.775	-76.110	0.000	0.000	-8.186
100%	61.000	0.000	-1.642	28.087	0.000	0.000	-8.186
MEMBER 58							
0%	0.000	0.000	-11.755	-10.687	0.000	0.000	15.817
30%	18.300	0.000	8.285	198.071	0.000	0.000	15.817
100%	61.000	0.000	8.378	-157.673	0.000	0.000	15.817
MEMBER 59							
0%	0.000	0.000	-8.123	-155.691	0.000	0.000	2.819
70%	42.700	0.000	-8.030	189.163	0.000	0.000	2.819
100%	61.000	0.000	12.010	-24.262	0.000	0.000	2.819
MEMBER 60							
0%	0.000	0.000	0.519	1.798	0.000	0.000	6.573
100%	61.000	0.000	0.653	-33.954	0.000	0.000	6.573
MEMBER 61							
0%	0.000	0.000	-0.758	-28.057	0.000	0.000	-1.034
100%	61.000	0.000	-0.625	14.108	0.000	0.000	-1.034
MEMBER 62							
0%	0.000	0.000	0.708	42.100	0.000	0.000	3.114
100%	61.000	0.000	0.841	-5.134	0.000	0.000	3.114
MEMBER 63							
0%	0.000	0.000	-0.952	-12.700	0.000	0.000	1.433
100%	61.000	0.000	-0.818	41.284	0.000	0.000	1.433
MEMBER 64							
0%	0.000	0.000	0.392	-2.005	0.000	0.000	6.276
100%	61.000	0.000	0.525	-29.965	0.000	0.000	6.276
MEMBER 65							
0%	0.000	0.000	-0.388	-26.743	0.000	0.000	5.717
100%	61.000	0.000	-0.255	-7.129	0.000	0.000	5.717
MEMBER 66							
0%	0.000	0.000	-12.935	-51.661	0.000	0.000	-6.093
30%	18.300	0.000	7.105	178.686	0.000	0.000	-6.093
100%	61.000	0.000	7.198	-126.681	0.000	0.000	-6.093

MEMBER 67							
0%	0.000	0.000	-7.222	-132.264	0.000	0.000	-3.044
70%	42.700	0.000	-7.129	174.141	0.000	0.000	-3.044
100%	61.000	0.000	12.911	-55.762	0.000	0.000	-3.044
MEMBER 68							
0%	0.000	0.000	-4.481	19.427	0.000	0.000	-40.882
100%	18.000	0.000	-4.441	99.727	0.000	0.000	-40.882
MEMBER 69							
0%	0.000	0.000	-3.260	33.233	0.000	0.000	0.511
100%	18.000	0.000	-3.220	91.555	0.000	0.000	0.511
MEMBER 70							
0%	0.000	0.000	-9.982	4.979	0.000	0.000	-0.294
100%	18.000	0.000	-9.943	184.298	0.000	0.000	-0.294
MEMBER 71							
0%	0.000	0.000	-3.117	31.737	0.000	0.000	-0.178
100%	18.000	0.000	-3.077	87.483	0.000	0.000	-0.178
MEMBER 72							
0%	0.000	0.000	-4.344	20.022	0.000	0.000	42.613
100%	18.000	0.000	-4.304	97.855	0.000	0.000	42.613
MEMBER 73							
0%	0.000	0.000	0.156	7.583	0.000	0.000	1.110
100%	61.000	0.000	0.289	-5.983	0.000	0.000	1.110
MEMBER 74							
0%	0.000	0.000	-0.180	-2.044	0.000	0.000	7.185
100%	61.000	0.000	-0.047	4.896	0.000	0.000	7.185
MEMBER 75							
0%	0.000	0.000	0.042	4.783	0.000	0.000	-7.633
100%	61.000	0.000	0.176	-1.863	0.000	0.000	-7.633
MEMBER 76							
0%	0.000	0.000	-0.305	-6.220	0.000	0.000	-1.610
100%	61.000	0.000	-0.172	8.330	0.000	0.000	-1.610

Condit.: LC2=DL+SC+TK1+SP

			Plane 1-2		Plane 1-3		
Station	Dist to J [in]	Axial [Kip]	Shear V2 [Kip]	M33 [Kip*in]	Shear V3 [Kip]	M22 [Kip*in]	Torsion [Kip*in]
MEMBER 1							
0%	0.000	0.000	0.014	4.189	0.000	0.000	-2.622
100%	28.000	0.000	0.075	2.946	0.000	0.000	-2.622
MEMBER 2							
0%	0.000	0.000	0.030	8.021	0.000	0.000	-7.510
100%	28.000	0.000	0.091	6.334	0.000	0.000	-7.510
MEMBER 3							
0%	0.000	0.000	-0.903	-9.114	0.000	0.000	-11.113
100%	28.000	0.000	-0.842	15.306	0.000	0.000	-11.113
MEMBER 4							
0%	0.000	0.000	-0.902	-2.416	0.000	0.000	-1.330
100%	28.000	0.000	-0.841	21.981	0.000	0.000	-1.330
MEMBER 5							
0%	0.000	0.000	-0.827	-0.681	0.000	0.000	8.611
100%	28.000	0.000	-0.766	21.623	0.000	0.000	8.611
MEMBER 6							
0%	0.000	0.000	0.295	4.673	0.000	0.000	3.233
100%	61.000	0.000	0.429	-17.410	0.000	0.000	3.233
MEMBER 7							
0%	0.000	0.000	-0.627	-21.547	0.000	0.000	13.291
100%	61.000	0.000	-0.494	12.660	0.000	0.000	13.291
MEMBER 8							
0%	0.000	0.000	0.655	33.217	0.000	0.000	1.326
100%	61.000	0.000	0.788	-10.782	0.000	0.000	1.326
MEMBER 9							
0%	0.000	0.000	-0.797	-9.983	0.000	0.000	0.499
100%	61.000	0.000	-0.664	34.578	0.000	0.000	0.499
MEMBER 10							
0%	0.000	0.000	0.428	-2.817	0.000	0.000	4.036
100%	61.000	0.000	0.561	-32.996	0.000	0.000	4.036
MEMBER 11							
0%	0.000	0.000	-1.542	-40.861	0.000	0.000	0.524
100%	61.000	0.000	-1.408	49.119	0.000	0.000	0.524

MEMBER 12							
0%	0.000	0.000	1.679	80.068	0.000	0.000	-6.785
100%	61.000	0.000	1.813	-26.436	0.000	0.000	-6.785
MEMBER 13							
0%	0.000	0.000	-1.041	-19.679	0.000	0.000	-3.237
100%	61.000	0.000	-0.908	39.773	0.000	0.000	-3.237
MEMBER 14							
0%	0.000	0.000	0.784	20.300	0.000	0.000	4.032
100%	43.000	0.000	0.878	-15.424	0.000	0.000	4.032
MEMBER 15							
0%	0.000	0.000	-0.900	-17.102	0.000	0.000	2.905
100%	43.000	0.000	-0.806	19.569	0.000	0.000	2.905
MEMBER 16							
0%	0.000	0.000	-2.859	14.841	0.000	0.000	5.174
65%	24.700	0.000	4.795	79.461	0.000	0.000	5.174
100%	38.000	0.000	4.824	15.490	0.000	0.000	5.174
MEMBER 17							
0%	0.000	0.000	0.800	19.733	0.000	0.000	-6.873
100%	43.000	0.000	0.894	-16.698	0.000	0.000	-6.873
MEMBER 18							
0%	0.000	0.000	-0.181	-11.434	0.000	0.000	-5.178
100%	43.000	0.000	-0.087	-5.661	0.000	0.000	-5.178
MEMBER 19							
0%	0.000	0.000	0.142	-1.113	0.000	0.000	-2.821
100%	18.000	0.000	0.182	-4.032	0.000	0.000	-2.821
MEMBER 20							
0%	0.000	0.000	0.722	27.886	0.000	0.000	-3.021
100%	43.000	0.000	0.815	-5.159	0.000	0.000	-3.021
MEMBER 21							
0%	0.000	0.000	-0.330	2.631	0.000	0.000	-3.795
100%	43.000	0.000	-0.236	14.816	0.000	0.000	-3.795
MEMBER 22							
0%	0.000	0.000	0.381	31.867	0.000	0.000	-0.417
100%	38.000	0.000	0.464	15.828	0.000	0.000	-0.417
MEMBER 23							
0%	0.000	0.000	0.010	0.210	0.000	0.000	1.978
100%	43.000	0.000	0.103	-2.221	0.000	0.000	1.978
MEMBER 24							
0%	0.000	0.000	-0.237	-10.884	0.000	0.000	-4.311
100%	43.000	0.000	-0.143	-2.722	0.000	0.000	-4.311
MEMBER 25							
0%	0.000	0.000	-0.357	-2.579	0.000	0.000	-7.826
100%	18.000	0.000	-0.318	3.492	0.000	0.000	-7.826
MEMBER 26							
0%	0.000	0.000	4.397	108.311	0.000	0.000	7.776
100%	43.000	0.000	4.490	-82.759	0.000	0.000	7.776
MEMBER 27							
0%	0.000	0.000	-3.870	-88.759	0.000	0.000	-20.064
100%	43.000	0.000	-3.776	75.612	0.000	0.000	-20.064
MEMBER 28							
0%	0.000	0.000	-2.635	60.224	0.000	0.000	-3.632
60%	22.800	0.000	-2.586	119.743	0.000	0.000	-3.632
100%	38.000	0.000	5.048	52.392	0.000	0.000	-3.632
MEMBER 29							
0%	0.000	0.000	4.094	68.403	0.000	0.000	20.828
100%	43.000	0.000	4.188	-109.677	0.000	0.000	20.828
MEMBER 30							
0%	0.000	0.000	-3.762	-106.563	0.000	0.000	-12.227
100%	43.000	0.000	-3.668	53.196	0.000	0.000	-12.227
MEMBER 31							
0%	0.000	0.000	1.929	42.367	0.000	0.000	30.880
100%	18.000	0.000	1.968	7.300	0.000	0.000	30.880
MEMBER 32							
0%	0.000	0.000	3.580	93.801	0.000	0.000	0.931
100%	43.000	0.000	3.674	-62.164	0.000	0.000	0.931
MEMBER 33							
0%	0.000	0.000	-3.067	-63.731	0.000	0.000	1.556
100%	43.000	0.000	-2.973	66.139	0.000	0.000	1.556
MEMBER 34							
0%	0.000	0.000	-0.052	68.405	0.000	0.000	0.453
65%	24.700	0.000	0.002	69.034	0.000	0.000	0.453
100%	38.000	0.000	0.031	68.820	0.000	0.000	0.453

MEMBER 35							
0%	0.000	0.000	3.359	64.658	0.000	0.000	-1.546
100%	43.000	0.000	3.453	-81.789	0.000	0.000	-1.546
MEMBER 36							
0%	0.000	0.000	-3.241	-80.912	0.000	0.000	2.292
100%	43.000	0.000	-3.147	56.428	0.000	0.000	2.292
MEMBER 37							
0%	0.000	0.000	3.529	60.396	0.000	0.000	6.729
100%	18.000	0.000	3.569	-3.485	0.000	0.000	6.729
MEMBER 38							
0%	0.000	0.000	3.971	105.059	0.000	0.000	-14.891
100%	43.000	0.000	4.065	-67.715	0.000	0.000	-14.891
MEMBER 39							
0%	0.000	0.000	-3.110	-66.263	0.000	0.000	24.891
100%	43.000	0.000	-3.016	65.441	0.000	0.000	24.891
MEMBER 40							
0%	0.000	0.000	0.019	66.244	0.000	0.000	0.242
100%	38.000	0.000	0.102	63.960	0.000	0.000	0.242
MEMBER 41							
0%	0.000	0.000	3.318	63.486	0.000	0.000	-24.156
100%	43.000	0.000	3.412	-81.209	0.000	0.000	-24.156
MEMBER 42							
0%	0.000	0.000	-3.595	-81.798	0.000	0.000	16.234
100%	43.000	0.000	-3.501	70.773	0.000	0.000	16.234
MEMBER 43							
0%	0.000	0.000	4.208	72.893	0.000	0.000	-39.711
100%	18.000	0.000	4.247	-3.200	0.000	0.000	-39.711
MEMBER 44							
0%	0.000	0.000	-1.786	-11.335	0.000	0.000	1.956
30%	18.300	0.000	1.254	20.074	0.000	0.000	1.956
100%	61.000	0.000	1.348	-35.481	0.000	0.000	1.956
MEMBER 45							
0%	0.000	0.000	-0.884	-35.832	0.000	0.000	6.699
100%	61.000	0.000	2.250	-39.989	0.000	0.000	6.699
MEMBER 46							
0%	0.000	0.000	-13.473	-79.469	0.000	0.000	1.359
30%	18.300	0.000	6.567	160.717	0.000	0.000	1.359
100%	61.000	0.000	6.660	-121.693	0.000	0.000	1.359
MEMBER 47							
0%	0.000	0.000	-7.060	-124.753	0.000	0.000	-0.292
70%	42.700	0.000	-6.967	174.737	0.000	0.000	-0.292
100%	61.000	0.000	13.073	-58.129	0.000	0.000	-0.292
MEMBER 48							
0%	0.000	0.000	0.396	1.128	0.000	0.000	-1.673
100%	61.000	0.000	0.530	-27.119	0.000	0.000	-1.673
MEMBER 49							
0%	0.000	0.000	-0.744	-26.343	0.000	0.000	6.125
100%	61.000	0.000	-0.611	14.981	0.000	0.000	6.125
MEMBER 50							
0%	0.000	0.000	0.749	42.826	0.000	0.000	0.122
100%	61.000	0.000	0.883	-6.951	0.000	0.000	0.122
MEMBER 51							
0%	0.000	0.000	-0.843	-7.575	0.000	0.000	-1.452
100%	61.000	0.000	-0.710	39.790	0.000	0.000	-1.452
MEMBER 52							
0%	0.000	0.000	-0.938	-2.280	0.000	0.000	-4.718
30%	18.300	0.000	2.102	13.611	0.000	0.000	-4.718
100%	61.000	0.000	2.196	-78.154	0.000	0.000	-4.718
MEMBER 53							
0%	0.000	0.000	-2.163	-81.532	0.000	0.000	12.344
70%	42.700	0.000	-2.070	8.831	0.000	0.000	12.344
100%	61.000	0.000	0.970	-7.661	0.000	0.000	12.344
MEMBER 54							
0%	0.000	0.000	-12.251	-24.143	0.000	0.000	-3.040
30%	18.300	0.000	7.789	193.682	0.000	0.000	-3.040
100%	61.000	0.000	7.882	-140.905	0.000	0.000	-3.040
MEMBER 55							
0%	0.000	0.000	-7.855	-139.804	0.000	0.000	-0.795
70%	42.700	0.000	-7.762	193.613	0.000	0.000	-0.795
100%	61.000	0.000	12.278	-24.713	0.000	0.000	-0.795
MEMBER 56							
0%	0.000	0.000	1.221	12.042	0.000	0.000	4.235
100%	61.000	0.000	1.354	-66.488	0.000	0.000	4.235

MEMBER 57							
0%	0.000	0.000	-1.373	-68.884	0.000	0.000	-11.391
100%	61.000	0.000	-1.240	10.811	0.000	0.000	-11.391
MEMBER 58							
0%	0.000	0.000	-12.053	-13.711	0.000	0.000	4.611
30%	18.300	0.000	7.986	200.502	0.000	0.000	4.611
100%	61.000	0.000	8.080	-142.512	0.000	0.000	4.611
MEMBER 59							
0%	0.000	0.000	-7.871	-140.510	0.000	0.000	0.466
70%	42.700	0.000	-7.777	193.576	0.000	0.000	0.466
100%	61.000	0.000	12.263	-24.463	0.000	0.000	0.466
MEMBER 60							
0%	0.000	0.000	0.416	-1.696	0.000	0.000	5.261
100%	61.000	0.000	0.549	-31.116	0.000	0.000	5.261
MEMBER 61							
0%	0.000	0.000	-0.684	-24.826	0.000	0.000	-3.410
100%	61.000	0.000	-0.551	12.829	0.000	0.000	-3.410
MEMBER 62							
0%	0.000	0.000	0.735	45.887	0.000	0.000	-0.297
100%	61.000	0.000	0.869	-3.031	0.000	0.000	-0.297
MEMBER 63							
0%	0.000	0.000	-0.841	-6.868	0.000	0.000	0.586
100%	61.000	0.000	-0.708	40.399	0.000	0.000	0.586
MEMBER 64							
0%	0.000	0.000	0.359	-2.361	0.000	0.000	4.551
100%	61.000	0.000	0.492	-28.331	0.000	0.000	4.551
MEMBER 65							
0%	0.000	0.000	-0.365	-24.780	0.000	0.000	4.673
100%	61.000	0.000	-0.232	-6.567	0.000	0.000	4.673
MEMBER 66							
0%	0.000	0.000	-12.921	-49.783	0.000	0.000	-6.168
30%	18.300	0.000	7.119	180.312	0.000	0.000	-6.168
100%	61.000	0.000	7.212	-125.643	0.000	0.000	-6.168
MEMBER 67							
0%	0.000	0.000	-7.182	-130.106	0.000	0.000	-2.150
70%	42.700	0.000	-7.089	174.585	0.000	0.000	-2.150
100%	61.000	0.000	12.951	-56.053	0.000	0.000	-2.150
MEMBER 68							
0%	0.000	0.000	-0.695	6.181	0.000	0.000	-7.289
100%	18.000	0.000	-0.656	18.344	0.000	0.000	-7.289
MEMBER 69							
0%	0.000	0.000	-0.396	16.378	0.000	0.000	-3.392
100%	18.000	0.000	-0.357	23.155	0.000	0.000	-3.392
MEMBER 70							
0%	0.000	0.000	-6.146	3.357	0.000	0.000	-31.605
100%	18.000	0.000	-6.107	113.635	0.000	0.000	-31.605
MEMBER 71							
0%	0.000	0.000	-4.141	21.213	0.000	0.000	-2.116
100%	18.000	0.000	-4.101	95.393	0.000	0.000	-2.116
MEMBER 72							
0%	0.000	0.000	-4.663	21.157	0.000	0.000	43.127
100%	18.000	0.000	-4.624	104.738	0.000	0.000	43.127
MEMBER 73							
0%	0.000	0.000	0.101	2.622	0.000	0.000	4.189
100%	61.000	0.000	0.234	-7.579	0.000	0.000	4.189
MEMBER 74							
0%	0.000	0.000	-0.017	-0.069	0.000	0.000	12.210
100%	61.000	0.000	0.116	-3.083	0.000	0.000	12.210
MEMBER 75							
0%	0.000	0.000	0.084	8.031	0.000	0.000	3.096
100%	61.000	0.000	0.217	-1.169	0.000	0.000	3.096
MEMBER 76							
0%	0.000	0.000	-0.205	0.161	0.000	0.000	0.681
100%	61.000	0.000	-0.072	8.611	0.000	0.000	0.681

Condit.: LC3=DL+SC+TK2+SP

Station	Dist to J [in]	Axial [Kip]	Plane 1-2 Shear V2 [Kip]	Plane 1-2 M33 [Kip*in]	Plane 1-3 Shear V3 [Kip]	Plane 1-3 M22 [Kip*in]	Torsion [Kip*in]
MEMBER 1							
0%	0.000	0.000	-0.849	-1.181	0.000	0.000	-7.865
100%	28.000	0.000	-0.788	21.731	0.000	0.000	-7.865
MEMBER 2							
0%	0.000	0.000	-0.939	-2.364	0.000	0.000	1.747
100%	28.000	0.000	-0.878	23.072	0.000	0.000	1.747
MEMBER 3							
0%	0.000	0.000	-0.903	-9.114	0.000	0.000	11.339
100%	28.000	0.000	-0.842	15.306	0.000	0.000	11.339
MEMBER 4							
0%	0.000	0.000	0.067	7.970	0.000	0.000	7.927
100%	28.000	0.000	0.128	5.243	0.000	0.000	7.927
MEMBER 5							
0%	0.000	0.000	0.036	4.689	0.000	0.000	3.368
100%	28.000	0.000	0.097	2.838	0.000	0.000	3.368
MEMBER 6							
0%	0.000	0.000	0.649	33.593	0.000	0.000	-1.202
100%	61.000	0.000	0.782	-10.033	0.000	0.000	-1.202
MEMBER 7							
0%	0.000	0.000	-0.781	-10.747	0.000	0.000	-1.623
100%	61.000	0.000	-0.647	32.810	0.000	0.000	-1.623
MEMBER 8							
0%	0.000	0.000	0.501	13.067	0.000	0.000	-13.588
100%	61.000	0.000	0.635	-21.582	0.000	0.000	-13.588
MEMBER 9							
0%	0.000	0.000	-0.444	-17.361	0.000	0.000	-3.936
100%	61.000	0.000	-0.311	5.658	0.000	0.000	-3.936
MEMBER 10							
0%	0.000	0.000	0.414	-3.219	0.000	0.000	4.721
100%	61.000	0.000	0.547	-32.551	0.000	0.000	4.721
MEMBER 11							
0%	0.000	0.000	-1.560	-41.354	0.000	0.000	1.343
100%	61.000	0.000	-1.426	49.723	0.000	0.000	1.343
MEMBER 12							
0%	0.000	0.000	1.661	79.464	0.000	0.000	-5.966
100%	61.000	0.000	1.795	-25.943	0.000	0.000	-5.966
MEMBER 13							
0%	0.000	0.000	-1.055	-20.124	0.000	0.000	-2.552
100%	61.000	0.000	-0.922	40.176	0.000	0.000	-2.552
MEMBER 14							
0%	0.000	0.000	3.652	105.862	0.000	0.000	18.740
100%	43.000	0.000	3.746	-53.203	0.000	0.000	18.740
MEMBER 15							
0%	0.000	0.000	-3.675	-54.553	0.000	0.000	-15.093
100%	43.000	0.000	-3.581	101.434	0.000	0.000	-15.093
MEMBER 16							
0%	0.000	0.000	0.095	99.033	0.000	0.000	26.123
100%	38.000	0.000	7.778	-12.568	0.000	0.000	26.123
MEMBER 17							
0%	0.000	0.000	0.846	-4.536	0.000	0.000	-4.606
100%	43.000	0.000	0.940	-42.945	0.000	0.000	-4.606
MEMBER 18							
0%	0.000	0.000	-0.616	-35.526	0.000	0.000	-5.515
100%	43.000	0.000	-0.522	-11.056	0.000	0.000	-5.515
MEMBER 19							
0%	0.000	0.000	-0.073	-5.677	0.000	0.000	-3.224
100%	18.000	0.000	-0.034	-4.717	0.000	0.000	-3.224
MEMBER 20							
0%	0.000	0.000	3.273	99.115	0.000	0.000	-1.252
100%	43.000	0.000	3.367	-43.654	0.000	0.000	-1.252
MEMBER 21							
0%	0.000	0.000	-2.997	-37.415	0.000	0.000	-4.707
100%	43.000	0.000	-2.903	89.420	0.000	0.000	-4.707
MEMBER 22							
0%	0.000	0.000	3.227	109.927	0.000	0.000	-7.362
100%	38.000	0.000	3.310	-14.291	0.000	0.000	-7.362

MEMBER 23							
0%	0.000	0.000	0.087	-19.335	0.000	0.000	-4.533
100%	43.000	0.000	0.181	-25.106	0.000	0.000	-4.533
MEMBER 24							
0%	0.000	0.000	-0.599	-30.151	0.000	0.000	-6.699
100%	43.000	0.000	-0.505	-6.410	0.000	0.000	-6.699
MEMBER 25							
0%	0.000	0.000	-0.538	-5.980	0.000	0.000	-8.763
100%	18.000	0.000	-0.499	3.359	0.000	0.000	-8.763
MEMBER 26							
0%	0.000	0.000	4.397	108.311	0.000	0.000	-11.606
100%	43.000	0.000	4.490	-82.759	0.000	0.000	-11.606
MEMBER 27							
0%	0.000	0.000	-3.870	-88.759	0.000	0.000	4.218
100%	43.000	0.000	-3.776	75.612	0.000	0.000	4.218
MEMBER 28							
0%	0.000	0.000	-2.635	60.224	0.000	0.000	-46.103
60%	22.800	0.000	-2.586	119.743	0.000	0.000	-46.103
100%	38.000	0.000	5.048	52.392	0.000	0.000	-46.103
MEMBER 29							
0%	0.000	0.000	4.094	68.403	0.000	0.000	6.852
100%	43.000	0.000	4.188	-109.677	0.000	0.000	6.852
MEMBER 30							
0%	0.000	0.000	-3.762	-106.563	0.000	0.000	-16.067
100%	43.000	0.000	-3.668	53.196	0.000	0.000	-16.067
MEMBER 31							
0%	0.000	0.000	1.929	42.367	0.000	0.000	29.671
100%	18.000	0.000	1.968	7.300	0.000	0.000	29.671
MEMBER 32							
0%	0.000	0.000	1.028	22.572	0.000	0.000	2.700
100%	43.000	0.000	1.122	-23.669	0.000	0.000	2.700
MEMBER 33							
0%	0.000	0.000	-0.401	-23.685	0.000	0.000	0.645
100%	43.000	0.000	-0.307	-8.465	0.000	0.000	0.645
MEMBER 34							
0%	0.000	0.000	-2.899	-9.655	0.000	0.000	-6.492
100%	38.000	0.000	-2.816	98.939	0.000	0.000	-6.492
MEMBER 35							
0%	0.000	0.000	3.281	84.203	0.000	0.000	-8.058
100%	43.000	0.000	3.375	-58.904	0.000	0.000	-8.058
MEMBER 36							
0%	0.000	0.000	-2.879	-61.646	0.000	0.000	-0.096
100%	43.000	0.000	-2.785	60.117	0.000	0.000	-0.096
MEMBER 37							
0%	0.000	0.000	3.711	63.798	0.000	0.000	5.791
100%	18.000	0.000	3.750	-3.352	0.000	0.000	5.791
MEMBER 38							
0%	0.000	0.000	1.103	19.497	0.000	0.000	-0.182
100%	43.000	0.000	1.197	-29.936	0.000	0.000	-0.182
MEMBER 39							
0%	0.000	0.000	-0.335	-28.811	0.000	0.000	6.892
100%	43.000	0.000	-0.241	-16.425	0.000	0.000	6.892
MEMBER 40							
0%	0.000	0.000	-2.935	-17.948	0.000	0.000	21.191
100%	38.000	0.000	-2.852	92.017	0.000	0.000	21.191
MEMBER 41							
0%	0.000	0.000	3.272	87.754	0.000	0.000	-21.889
100%	43.000	0.000	3.366	-54.961	0.000	0.000	-21.889
MEMBER 42							
0%	0.000	0.000	-3.160	-57.706	0.000	0.000	15.897
100%	43.000	0.000	-3.066	76.168	0.000	0.000	15.897
MEMBER 43							
0%	0.000	0.000	4.423	77.457	0.000	0.000	-40.114
100%	18.000	0.000	4.463	-2.515	0.000	0.000	-40.114
MEMBER 44							
0%	0.000	0.000	-13.102	-60.247	0.000	0.000	-0.776
30%	18.300	0.000	6.938	173.150	0.000	0.000	-0.776
100%	61.000	0.000	7.031	-125.101	0.000	0.000	-0.776
MEMBER 45							
0%	0.000	0.000	-6.629	-121.387	0.000	0.000	-1.182
70%	42.700	0.000	-6.536	159.675	0.000	0.000	-1.182
100%	61.000	0.000	13.504	-81.089	0.000	0.000	-1.182

MEMBER 46							
0%	0.000	0.000	-2.218	-38.369	0.000	0.000	-6.522
100%	61.000	0.000	0.915	-36.138	0.000	0.000	-6.522
MEMBER 47							
0%	0.000	0.000	-1.377	-35.133	0.000	0.000	-3.024
70%	42.700	0.000	-1.283	21.661	0.000	0.000	-3.024
100%	61.000	0.000	1.757	-9.218	0.000	0.000	-3.024
MEMBER 48							
0%	0.000	0.000	0.722	33.840	0.000	0.000	-1.346
100%	61.000	0.000	0.856	-14.284	0.000	0.000	-1.346
MEMBER 49							
0%	0.000	0.000	-0.848	-10.834	0.000	0.000	4.898
100%	61.000	0.000	-0.715	36.819	0.000	0.000	4.898
MEMBER 50							
0%	0.000	0.000	0.646	20.989	0.000	0.000	-1.105
100%	61.000	0.000	0.779	-22.460	0.000	0.000	-1.105
MEMBER 51							
0%	0.000	0.000	-0.517	-20.409	0.000	0.000	-1.125
100%	61.000	0.000	-0.384	7.078	0.000	0.000	-1.125
MEMBER 52							
0%	0.000	0.000	-12.095	-41.292	0.000	0.000	-2.387
30%	18.300	0.000	7.945	173.689	0.000	0.000	-2.387
100%	61.000	0.000	8.038	-167.534	0.000	0.000	-2.387
MEMBER 53							
0%	0.000	0.000	-7.998	-164.878	0.000	0.000	18.143
70%	42.700	0.000	-7.904	174.625	0.000	0.000	18.143
100%	61.000	0.000	12.136	-41.092	0.000	0.000	18.143
MEMBER 54							
0%	0.000	0.000	-1.085	9.288	0.000	0.000	2.758
30%	18.300	0.000	1.954	27.887	0.000	0.000	2.758
100%	61.000	0.000	2.048	-57.559	0.000	0.000	2.758
MEMBER 55							
0%	0.000	0.000	-2.013	-50.424	0.000	0.000	1.536
70%	42.700	0.000	-1.920	33.535	0.000	0.000	1.536
100%	61.000	0.000	1.120	14.298	0.000	0.000	1.536
MEMBER 56							
0%	0.000	0.000	1.390	30.731	0.000	0.000	8.038
100%	61.000	0.000	1.523	-58.118	0.000	0.000	8.038
MEMBER 57							
0%	0.000	0.000	-1.477	-60.950	0.000	0.000	3.020
100%	61.000	0.000	-1.343	25.063	0.000	0.000	3.020
MEMBER 58							
0%	0.000	0.000	-12.157	-27.963	0.000	0.000	19.022
30%	18.300	0.000	7.883	188.145	0.000	0.000	19.022
100%	61.000	0.000	7.976	-150.447	0.000	0.000	19.022
MEMBER 59							
0%	0.000	0.000	-7.701	-148.880	0.000	0.000	4.269
70%	42.700	0.000	-7.608	177.983	0.000	0.000	4.269
100%	61.000	0.000	12.432	-43.152	0.000	0.000	4.269
MEMBER 60							
0%	0.000	0.000	0.409	0.913	0.000	0.000	7.420
100%	61.000	0.000	0.543	-28.122	0.000	0.000	7.420
MEMBER 61							
0%	0.000	0.000	-0.785	-25.953	0.000	0.000	2.376
100%	61.000	0.000	-0.652	17.895	0.000	0.000	2.376
MEMBER 62							
0%	0.000	0.000	0.634	40.820	0.000	0.000	5.489
100%	61.000	0.000	0.767	-1.903	0.000	0.000	5.489
MEMBER 63							
0%	0.000	0.000	-0.848	-9.862	0.000	0.000	2.746
100%	61.000	0.000	-0.715	37.791	0.000	0.000	2.746
MEMBER 64							
0%	0.000	0.000	0.352	-2.296	0.000	0.000	5.383
100%	61.000	0.000	0.485	-27.807	0.000	0.000	5.383
MEMBER 65							
0%	0.000	0.000	-0.402	-25.705	0.000	0.000	5.792
100%	61.000	0.000	-0.269	-5.252	0.000	0.000	5.792
MEMBER 66							
0%	0.000	0.000	-12.958	-51.098	0.000	0.000	-5.049
30%	18.300	0.000	7.082	179.669	0.000	0.000	-5.049
100%	61.000	0.000	7.175	-124.718	0.000	0.000	-5.049

MEMBER 67							
0%	0.000	0.000	-7.190	-130.630	0.000	0.000	-1.319
70%	42.700	0.000	-7.096	174.381	0.000	0.000	-1.319
100%	61.000	0.000	12.943	-56.118	0.000	0.000	-1.319
MEMBER 68							
0%	0.000	0.000	-4.800	20.561	0.000	0.000	-41.396
100%	18.000	0.000	-4.761	106.610	0.000	0.000	-41.396
MEMBER 69							
0%	0.000	0.000	-4.284	22.709	0.000	0.000	2.449
100%	18.000	0.000	-4.245	99.465	0.000	0.000	2.449
MEMBER 70							
0%	0.000	0.000	-6.146	3.357	0.000	0.000	31.018
100%	18.000	0.000	-6.107	113.635	0.000	0.000	31.018
MEMBER 71							
0%	0.000	0.000	-0.253	14.882	0.000	0.000	3.725
100%	18.000	0.000	-0.214	19.082	0.000	0.000	3.725
MEMBER 72							
0%	0.000	0.000	-0.558	6.776	0.000	0.000	9.020
100%	18.000	0.000	-0.519	16.472	0.000	0.000	9.020
MEMBER 73							
0%	0.000	0.000	0.056	7.865	0.000	0.000	-1.181
100%	61.000	0.000	0.189	0.397	0.000	0.000	-1.181
MEMBER 74							
0%	0.000	0.000	-0.222	-1.350	0.000	0.000	-3.545
100%	61.000	0.000	-0.089	8.144	0.000	0.000	-3.545
MEMBER 75							
0%	0.000	0.000	-0.121	-3.196	0.000	0.000	-12.658
90%	54.900	0.000	-0.001	0.147	0.000	0.000	-12.658
100%	61.000	0.000	0.012	0.112	0.000	0.000	-12.658
MEMBER 76							
0%	0.000	0.000	-0.250	-7.815	0.000	0.000	-4.689
100%	61.000	0.000	-0.117	3.368	0.000	0.000	-4.689

Condit.: LC4=DL+SC+TK3+SP

			Plane 1-2		Plane 1-3		
Station	Dist to J [in]	Axial [Kip]	Shear V2 [Kip]	M33 [Kip*in]	Shear V3 [Kip]	M22 [Kip*in]	Torsion [Kip*in]
MEMBER 1							
0%	0.000	0.000	-0.723	2.216	0.000	0.000	-8.695
100%	28.000	0.000	-0.662	21.603	0.000	0.000	-8.695
MEMBER 2							
0%	0.000	0.000	-0.756	5.511	0.000	0.000	-4.822
100%	28.000	0.000	-0.694	25.811	0.000	0.000	-4.822
MEMBER 3							
0%	0.000	0.000	-1.589	-15.674	0.000	0.000	0.061
100%	28.000	0.000	-1.528	27.961	0.000	0.000	0.061
MEMBER 4							
0%	0.000	0.000	-0.789	5.306	0.000	0.000	5.193
100%	28.000	0.000	-0.728	26.534	0.000	0.000	5.193
MEMBER 5							
0%	0.000	0.000	-0.806	2.640	0.000	0.000	9.434
100%	28.000	0.000	-0.744	24.341	0.000	0.000	9.434
MEMBER 6							
0%	0.000	0.000	0.890	33.510	0.000	0.000	1.222
100%	61.000	0.000	1.024	-24.869	0.000	0.000	1.222
MEMBER 7							
0%	0.000	0.000	-1.216	-29.472	0.000	0.000	10.247
100%	61.000	0.000	-1.083	40.640	0.000	0.000	10.247
MEMBER 8							
0%	0.000	0.000	1.079	40.678	0.000	0.000	-10.535
100%	61.000	0.000	1.212	-29.199	0.000	0.000	-10.535
MEMBER 9							
0%	0.000	0.000	-1.042	-24.976	0.000	0.000	-1.997
100%	61.000	0.000	-0.909	34.543	0.000	0.000	-1.997
MEMBER 10							
0%	0.000	0.000	0.094	-2.977	0.000	0.000	4.803
100%	61.000	0.000	0.227	-12.772	0.000	0.000	4.803
MEMBER 11							
0%	0.000	0.000	-1.106	-20.525	0.000	0.000	7.771
100%	61.000	0.000	-0.973	42.900	0.000	0.000	7.771

MEMBER 12							
0%	0.000	0.000	0.993	47.109	0.000	0.000	-7.464
100%	61.000	0.000	1.126	-17.506	0.000	0.000	-7.464
MEMBER 13							
0%	0.000	0.000	-0.348	-11.538	0.000	0.000	-2.804
100%	61.000	0.000	-0.215	5.653	0.000	0.000	-2.804
MEMBER 14							
0%	0.000	0.000	3.702	107.689	0.000	0.000	18.909
100%	43.000	0.000	3.796	-53.514	0.000	0.000	18.909
MEMBER 15							
0%	0.000	0.000	-3.728	-56.212	0.000	0.000	-13.876
100%	43.000	0.000	-3.634	102.055	0.000	0.000	-13.876
MEMBER 16							
0%	0.000	0.000	-0.042	95.980	0.000	0.000	27.174
50%	19.000	0.000	-0.000	96.384	0.000	0.000	27.174
100%	38.000	0.000	7.641	-10.401	0.000	0.000	27.174
MEMBER 17							
0%	0.000	0.000	0.789	-6.076	0.000	0.000	-3.192
100%	43.000	0.000	0.883	-42.022	0.000	0.000	-3.192
MEMBER 18							
0%	0.000	0.000	-0.623	-36.410	0.000	0.000	-4.684
100%	43.000	0.000	-0.529	-11.659	0.000	0.000	-4.684
MEMBER 19							
0%	0.000	0.000	-0.124	-6.673	0.000	0.000	-2.981
100%	18.000	0.000	-0.084	-4.799	0.000	0.000	-2.981
MEMBER 20							
0%	0.000	0.000	3.303	107.067	0.000	0.000	-1.616
100%	43.000	0.000	3.397	-36.972	0.000	0.000	-1.616
MEMBER 21							
0%	0.000	0.000	-2.973	-31.705	0.000	0.000	0.452
100%	43.000	0.000	-2.879	94.126	0.000	0.000	0.452
MEMBER 22							
0%	0.000	0.000	2.904	103.428	0.000	0.000	1.487
100%	38.000	0.000	2.987	-8.490	0.000	0.000	1.487
MEMBER 23							
0%	0.000	0.000	0.070	-24.693	0.000	0.000	0.908
100%	43.000	0.000	0.164	-29.723	0.000	0.000	0.908
MEMBER 24							
0%	0.000	0.000	-0.678	-36.066	0.000	0.000	-5.415
100%	43.000	0.000	-0.584	-8.948	0.000	0.000	-5.415
MEMBER 25							
0%	0.000	0.000	-0.205	-6.313	0.000	0.000	-7.732
100%	18.000	0.000	-0.166	-2.974	0.000	0.000	-7.732
MEMBER 26							
0%	0.000	0.000	6.925	189.569	0.000	0.000	-0.144
100%	43.000	0.000	7.019	-110.222	0.000	0.000	-0.144
MEMBER 27							
0%	0.000	0.000	-6.815	-115.964	0.000	0.000	-1.015
100%	43.000	0.000	-6.721	175.074	0.000	0.000	-1.015
MEMBER 28							
0%	0.000	0.000	3.134	169.453	0.000	0.000	-3.718
100%	38.000	0.000	10.817	-57.603	0.000	0.000	-3.718
MEMBER 29							
0%	0.000	0.000	1.009	-31.878	0.000	0.000	1.972
100%	43.000	0.000	1.103	-77.279	0.000	0.000	1.972
MEMBER 30							
0%	0.000	0.000	-1.482	-73.898	0.000	0.000	-2.407
100%	43.000	0.000	-1.388	-12.192	0.000	0.000	-2.407
MEMBER 31							
0%	0.000	0.000	-2.328	-26.338	0.000	0.000	4.198
100%	18.000	0.000	-2.289	15.212	0.000	0.000	4.198
MEMBER 32							
0%	0.000	0.000	3.282	107.097	0.000	0.000	3.359
100%	43.000	0.000	3.375	-36.027	0.000	0.000	3.359
MEMBER 33							
0%	0.000	0.000	-2.952	-34.894	0.000	0.000	2.731
100%	43.000	0.000	-2.858	90.037	0.000	0.000	2.731
MEMBER 34							
0%	0.000	0.000	2.446	91.628	0.000	0.000	-1.558
100%	38.000	0.000	2.529	-2.882	0.000	0.000	-1.558
MEMBER 35							
0%	0.000	0.000	0.513	-14.961	0.000	0.000	-5.530
100%	43.000	0.000	0.607	-39.026	0.000	0.000	-5.530

MEMBER 36							
0%	0.000	0.000	-0.992	-40.738	0.000	0.000	2.211
100%	43.000	0.000	-0.898	-0.109	0.000	0.000	2.211
MEMBER 37							
0%	0.000	0.000	0.474	4.225	0.000	0.000	5.948
100%	18.000	0.000	0.513	-4.653	0.000	0.000	5.948
MEMBER 38							
0%	0.000	0.000	3.626	114.662	0.000	0.000	-15.039
100%	43.000	0.000	3.720	-43.273	0.000	0.000	-15.039
MEMBER 39							
0%	0.000	0.000	-3.102	-41.234	0.000	0.000	21.230
100%	43.000	0.000	-3.008	90.141	0.000	0.000	21.230
MEMBER 40							
0%	0.000	0.000	2.784	90.913	0.000	0.000	-21.750
100%	38.000	0.000	2.867	-16.459	0.000	0.000	-21.750
MEMBER 41							
0%	0.000	0.000	0.260	-18.262	0.000	0.000	-7.049
100%	43.000	0.000	0.354	-31.481	0.000	0.000	-7.049
MEMBER 42							
0%	0.000	0.000	-0.965	-32.413	0.000	0.000	2.036
100%	43.000	0.000	-0.871	7.057	0.000	0.000	2.036
MEMBER 43							
0%	0.000	0.000	0.650	9.266	0.000	0.000	-5.639
100%	18.000	0.000	0.690	-2.795	0.000	0.000	-5.639
MEMBER 44							
0%	0.000	0.000	-12.855	-61.163	0.000	0.000	0.541
30%	18.300	0.000	7.185	167.711	0.000	0.000	0.541
100%	61.000	0.000	7.279	-141.093	0.000	0.000	0.541
MEMBER 45							
0%	0.000	0.000	-6.576	-139.694	0.000	0.000	4.454
70%	42.700	0.000	-6.483	139.103	0.000	0.000	4.454
100%	61.000	0.000	13.557	-102.631	0.000	0.000	4.454
MEMBER 46							
0%	0.000	0.000	-13.569	-102.463	0.000	0.000	-4.853
30%	18.300	0.000	6.471	139.480	0.000	0.000	-4.853
100%	61.000	0.000	6.564	-138.831	0.000	0.000	-4.853
MEMBER 47							
0%	0.000	0.000	-7.315	-141.222	0.000	0.000	-1.975
70%	42.700	0.000	-7.222	169.140	0.000	0.000	-1.975
100%	61.000	0.000	12.818	-59.066	0.000	0.000	-1.975
MEMBER 48							
0%	0.000	0.000	0.987	32.793	0.000	0.000	-2.695
100%	61.000	0.000	1.120	-31.449	0.000	0.000	-2.695
MEMBER 49							
0%	0.000	0.000	-1.412	-33.518	0.000	0.000	2.574
100%	61.000	0.000	-1.279	48.560	0.000	0.000	2.574
MEMBER 50							
0%	0.000	0.000	1.209	49.432	0.000	0.000	-3.171
100%	61.000	0.000	1.342	-28.393	0.000	0.000	-3.171
MEMBER 51							
0%	0.000	0.000	-1.116	-27.765	0.000	0.000	-2.040
100%	61.000	0.000	-0.983	36.275	0.000	0.000	-2.040
MEMBER 52							
0%	0.000	0.000	-11.949	-41.122	0.000	0.000	-6.066
30%	18.300	0.000	8.091	171.183	0.000	0.000	-6.066
100%	61.000	0.000	8.184	-176.282	0.000	0.000	-6.066
MEMBER 53							
0%	0.000	0.000	-7.809	-177.314	0.000	0.000	3.247
70%	42.700	0.000	-7.716	154.159	0.000	0.000	3.247
100%	61.000	0.000	12.324	-65.001	0.000	0.000	3.247
MEMBER 54							
0%	0.000	0.000	-12.542	-62.299	0.000	0.000	-2.364
30%	18.300	0.000	7.498	160.862	0.000	0.000	-2.364
100%	61.000	0.000	7.591	-161.275	0.000	0.000	-2.364
MEMBER 55							
0%	0.000	0.000	-7.836	-156.992	0.000	0.000	-0.772
70%	42.700	0.000	-7.743	175.622	0.000	0.000	-0.772
100%	61.000	0.000	12.297	-43.049	0.000	0.000	-0.772
MEMBER 56							
0%	0.000	0.000	1.242	30.365	0.000	0.000	4.326
100%	61.000	0.000	1.376	-49.486	0.000	0.000	4.326

MEMBER 57							
0%	0.000	0.000	-1.674	-48.911	0.000	0.000	-11.864
100%	61.000	0.000	-1.541	49.124	0.000	0.000	-11.864
MEMBER 58							
0%	0.000	0.000	-0.705	43.424	0.000	0.000	13.859
30%	18.300	0.000	2.335	55.062	0.000	0.000	13.859
100%	61.000	0.000	2.428	-46.627	0.000	0.000	13.859
MEMBER 59							
0%	0.000	0.000	-1.892	-42.650	0.000	0.000	1.795
70%	42.700	0.000	-1.799	36.146	0.000	0.000	1.795
100%	61.000	0.000	1.241	14.697	0.000	0.000	1.795
MEMBER 60							
0%	0.000	0.000	0.132	1.495	0.000	0.000	5.610
100%	61.000	0.000	0.265	-10.595	0.000	0.000	5.610
MEMBER 61							
0%	0.000	0.000	-0.253	-4.273	0.000	0.000	-0.736
100%	61.000	0.000	-0.120	7.087	0.000	0.000	-0.736
MEMBER 62							
0%	0.000	0.000	0.038	11.467	0.000	0.000	2.643
100%	61.000	0.000	0.172	5.057	0.000	0.000	2.643
MEMBER 63							
0%	0.000	0.000	-0.260	-2.686	0.000	0.000	0.932
100%	61.000	0.000	-0.126	9.086	0.000	0.000	0.932
MEMBER 64							
0%	0.000	0.000	0.056	-1.707	0.000	0.000	4.989
100%	61.000	0.000	0.189	-9.181	0.000	0.000	4.989
MEMBER 65							
0%	0.000	0.000	-0.458	-6.845	0.000	0.000	7.614
100%	61.000	0.000	-0.324	17.012	0.000	0.000	7.614
MEMBER 66							
0%	0.000	0.000	-1.673	10.391	0.000	0.000	-6.554
30%	18.300	0.000	1.367	39.734	0.000	0.000	-6.554
100%	61.000	0.000	1.461	-20.645	0.000	0.000	-6.554
MEMBER 67							
0%	0.000	0.000	-1.226	-24.398	0.000	0.000	-2.217
70%	42.700	0.000	-1.132	25.946	0.000	0.000	-2.217
100%	61.000	0.000	1.908	-7.696	0.000	0.000	-2.217
MEMBER 68							
0%	0.000	0.000	-4.701	22.854	0.000	0.000	-42.146
100%	18.000	0.000	-4.662	107.123	0.000	0.000	-42.146
MEMBER 69							
0%	0.000	0.000	-3.811	34.873	0.000	0.000	-0.246
100%	18.000	0.000	-3.771	103.113	0.000	0.000	-0.246
MEMBER 70							
0%	0.000	0.000	-10.667	7.206	0.000	0.000	0.024
100%	18.000	0.000	-10.627	198.849	0.000	0.000	0.024
MEMBER 71							
0%	0.000	0.000	-3.857	35.111	0.000	0.000	0.999
100%	18.000	0.000	-3.817	104.176	0.000	0.000	0.999
MEMBER 72							
0%	0.000	0.000	-4.814	26.367	0.000	0.000	43.918
100%	18.000	0.000	-4.774	112.661	0.000	0.000	43.918
MEMBER 73							
0%	0.000	0.000	0.178	8.695	0.000	0.000	2.216
100%	61.000	0.000	0.311	-6.219	0.000	0.000	2.216
MEMBER 74							
0%	0.000	0.000	-0.168	-1.398	0.000	0.000	7.727
100%	61.000	0.000	-0.035	4.794	0.000	0.000	7.727
MEMBER 75							
0%	0.000	0.000	0.034	4.733	0.000	0.000	-7.947
100%	61.000	0.000	0.168	-1.423	0.000	0.000	-7.947
MEMBER 76							
0%	0.000	0.000	-0.330	-6.616	0.000	0.000	-2.640
100%	61.000	0.000	-0.197	9.434	0.000	0.000	-2.640

DESIGN BY GROUP FOR CONTROLLING LOAD CONDITION

File : C:\Current Projects\V-Tank Analysis\Skid Design\TnkSkid4.AVW
Units : Kip-in
Date : 11/15/2004
Time : 2:52:43 PM

DESIGN CODE : A S D

C O D E C H E C K

MAX. INTERACTION RATIO PER DESCRIPTION
B.Ratio= Bending and axial interaction ratio
S.Ratio = Shear interaction ratio
Stat.b = Station where max. B.Ratio occurs
Stat.v = Station where max. S.Ratio occurs
NOTE.- Non-steel members are not printed

Important.- Maximum values will only be computed from
currently selected elements

MAX. INTERACTION RATIO IN DESCRIPTION : CrossBeam
OCCURS AT MEMBER : 53
OCCURS FOR CONDITION : LC1=DL+TK+SP
DESIGN STATUS : OK

B.RATIO	Eqn	STAT.B[in]	Axial[Kip]	M33[Kip*in]	M22[Kip*in]
0.36	F4-1	0.00	0.00	-192.41	0.00

S.RATIO	Eqn	STAT.V[in]	V2[Kip]	V3[Kip]	Tor[Kip*in]
0.24	F4-1	61.00	12.03	0.00	14.36

MAX. INTERACTION RATIO IN DESCRIPTION : EndBeam
OCCURS AT MEMBER : 12
OCCURS FOR CONDITION : LC2=DL+SC+TK1+SP
DESIGN STATUS : OK

B.RATIO	Eqn	STAT.B[in]	Axial[Kip]	M33[Kip*in]	M22[Kip*in]
0.15	F4-1	0.00	0.00	80.07	0.00

S.RATIO	Eqn	STAT.V[in]	V2[Kip]	V3[Kip]	Tor[Kip*in]
0.04	F4-1	61.00	1.81	0.00	-6.78

MAX. INTERACTION RATIO IN DESCRIPTION : MainBeam
OCCURS AT MEMBER : 70
OCCURS FOR CONDITION : LC4=DL+SC+TK3+SP
DESIGN STATUS : OK

B.RATIO	Eqn	STAT.B[in]	Axial[Kip]	M33[Kip*in]	M22[Kip*in]
0.37	F4-1	18.00	0.00	198.85	0.00

S.RATIO	Eqn	STAT.V[in]	V2[Kip]	V3[Kip]	Tor[Kip*in]
0.19	F4-1	0.00	-10.67	0.00	0.02