LOADS: PER 2010 CALIFORNIA BUILDING CODE AND ASCE 7-05
(STRENGTH DESIGN IS USED) (Sos = 200, a_p = 10, b = 15, P_p = 25, z/h = 0.0)

WEIGHT = 300 LB
HORIZONTAL FORCE (E_H) = 0.90 W_P = 270 LB
VERTICAL FORCE (E_V) = 0.40 W_P = 120 LB

TU = 367 LB/BOLT (MAX)
VU = 77 LB/BOLT (MAX)

BOLT FORCES:

TENSION (T)

T_{\text{MAX}} = \left[ \frac{270\#(27\%)(4.44\%)}{1\text{bolt}(34.69\%)(10.25\%)} \times (0.3) \right] + \left[ \frac{270\#(27\%)(18.25\%)}{1\text{bolt}(10.25\%)(34.69\%)} \right] - \left[ \frac{(300\#(0.9) - 120\#)(4.44\%)(18.25\%)}{1\text{bolt}(10.25\%)(34.69\%)} \right] = 367 \text{ LB/BOLT (MAX)}

SHEAR (V)

V_{\text{MAX}} = \frac{270\#(5.81\%)}{2 \text{ bolts}(10.25\%)} = 77 \text{ LB/BOLT (MAX)}

NOTE:
STRUCTURAL ENGINEER OF RECORD SHALL PROVIDE DESIGN OF SUPPORT STRUCTURE TO SUPPORT WEIGHS AND FORCES SHOWN.
SEISMIC ANCHORAGE

CONCRETE SLAB ON METAL DECK

F R O N T  E L E V A T I O N

SIDE ELEVATION

LOADS: PER 2010 CALIFORNIA BUILDING CODE AND ASCE 7-05
(STRENGTH DESIGN IS USED) (Sds = 2.00, a_p = 10, l_p = 15, R_p = 25, z/h ≤ 10)
WEIGHT = 300 LB
HORIZONTAL FORCE (E_x) = 144 W_p = 432 LB
VERTICAL FORCE (E_y) = 0.40 W_p = 120 LB

TU = 611 LB/BOLT (MAX)
V_U = 122 LB/BOLT (MAX)

BOLT FORCES:

TENSION (T)

\[ T_{\text{MAX}} = \frac{432 \#(27'')(5.81'')}{1 \text{ bolt}} \times 0.3 \left( \frac{34.69''(10.25'')}{9''(3.00'') \times (0.3)} \right) + \frac{432 \#(27'')(18.25'')}{1 \text{ bolt}} \left( \frac{10.25''(34.69'')}{9''(3.00'') \times (0.3)} \right) - \frac{(300 \#(0.3') - 120 \#(5.81'')(18.25''))}{1 \text{ bolt}} \left( \frac{10.25''(34.69'')}{9''(3.00'') \times (0.3)} \right) = 611 \text{ LB/BOLT (MAX)} \]

SHEAR (V)

\[ V_{\text{MAX}} = \frac{432 \#(5.81'')}{2 \text{ bolts (10.25'')}} = 122 \text{ LB/BOLT (MAX)} \]

NOTE:
STRUCTURAL ENGINEER OF RECORD SHALL PROVIDE DESIGN OF SUPPORT STRUCTURE TO SUPPORT WEIGHTS AND FORCES ShOWN.
LOADS:
WEIGHT = 300 LB (MAX OPERATING WEIGHT)
HORIZONTAL FORCE (Eh) = 144 \ Wp = 432 LB
VERTICAL FORCE (Ev) = 0.40 \ Wp = 120 LB

BOLT FORCES:

TENSION (T)

\[ T_0 \text{ VERTCAL} = \frac{(12(300\#) + 120\#)(9.6')(119')}{2 \text{ SCREWS}(22') \text{ (22')}} = 39 \text{ LB} \]

\[ T_0 \text{ PARALLEL} = \frac{432\#(9.6')}{2 \text{ SCREWS}(22')} = 95 \text{ LB} \]

\[ T_0 \text{ PERP} = \frac{432\#(119')}{4 \text{ SCREWS}(22')} = 59 \text{ LB} \]

\[ T_0 = 39\# + 0.3(59\#) + 95\# = 152 \text{ LB/SCREW (MAX)} \]

SHEAR (V)

\[ V_0 = \sqrt{\left(\frac{(12(300\#) + 120\#)(119')}{2 \text{ SCREWS}(22')}\right)^2 + \left(\frac{432\#(119')}{4 \text{ SCREWS}(22')}\right)^2} = 143 \text{ LB/SCREW (MAX)} \]

NOTE:
STRUCTURAL ENGINEER OF RECORD SHALL PROVIDE DESIGN OF SUPPORT STRUCTURE TO SUPPORT WEIGHTS AND FORCES SHOWN.