NITROGEN BTL. CARRIER

~~SPREADER BAR~~

I.D. Nº 37 COLOR OF BAR: YELLOW

LOAD CAPACITY PAINTED ON BAR N.A. ~~TONS.~~

DATE CAP. & I.D. Nº PAINTED ON BAR N.A.

DATE OF LAST LOAD TEST.

TEST LOAD WEIGHT 175# / ~~TONS~~ SIDE.

TEST LOAD % 125%

STRESS CALCULATIONS:

DONE BY R. CARRIER.

DATE 1-22-91

REMARKS:

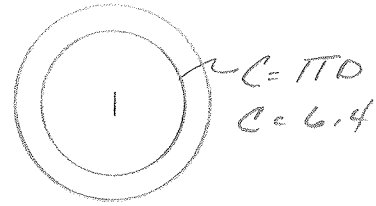
Rev C
12-90

NITROGEN BOTTLE CARRIER FOR E-683
DWG # 9202.402-MD-285054

SHOULDERED EYEBOLT 5/8 ϕ GOOD FOR 3400# > 350#

WELD ON TOP CAP $S = \frac{P}{A} = \frac{350}{1/4 \times 6.4}$

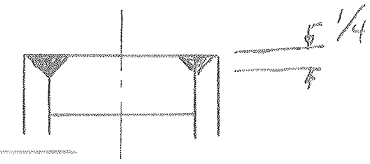
$S = 218$ psi



WEIGHT:

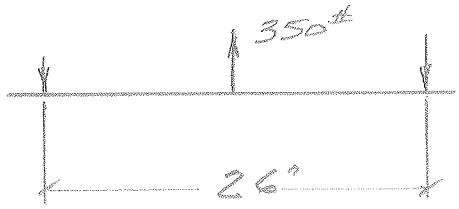
BOTTLES 276#
FRAME 57#
333#

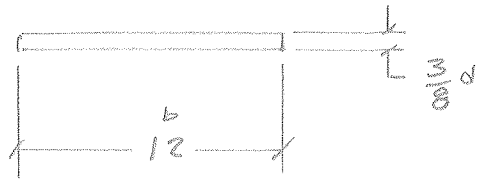
USE ≈ 350#



LETS ASSUME THE BOTTLES ARE SOMEHOW PLACED ON THE CARRIER SUCH THAT THE WEIGHT OF THE BOTTLES ARE AT THE EXTREME ENDS OF THE CARRIER i.e. 26"

$W = 276^{\#}$
$l = 26''$
$Z = \frac{bd^2}{6} = .281$





$$S = \frac{Wl}{4Z} = \frac{276^{\#} \times 26}{4 \times .281} = \frac{7176}{1.124} = 6384 \text{ psi}$$

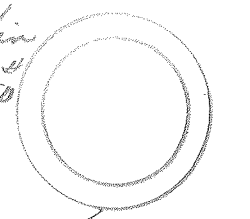
EVEN WORST CASE LOADING, WITHOUT GUSSETS, CARRIER IS ADEQUATE

LETS LOOK AT WELD.

THE BASE OF THE 2" PIPE IS FILLET WELDED TO THE 3/8 PLATE (ALL AROUND)

RULE OF THUMB FOR 1/4 FILLET WELD 2400#/in

$\therefore$ 2400# × 7.4" = 17760# > 350#



C = πD
= 7.4