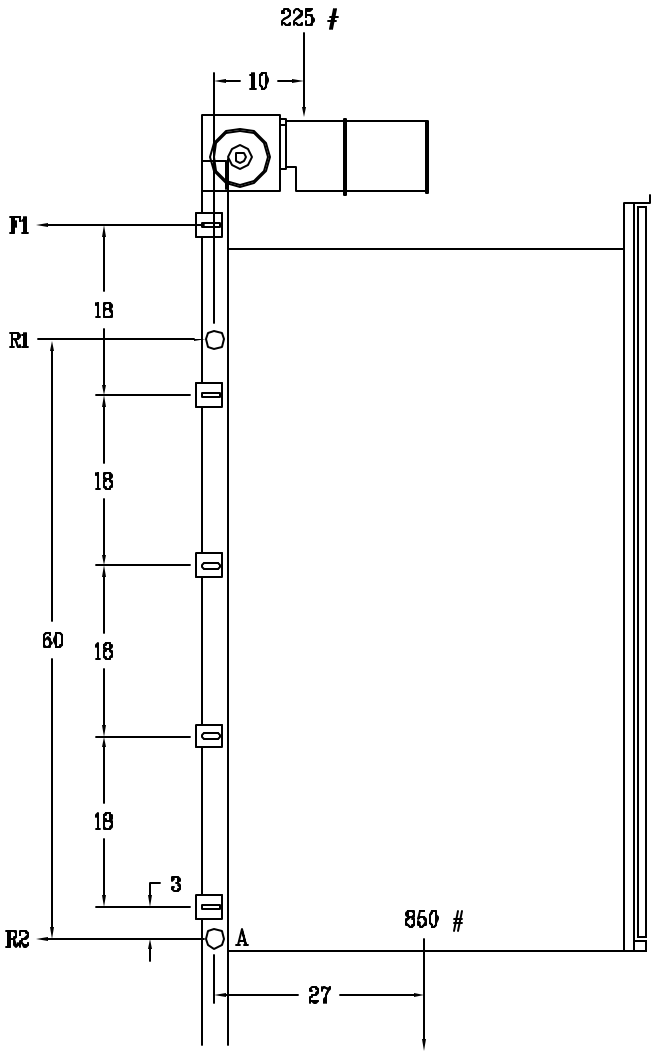

PULL OUT FORCES

$\Sigma M_A=0$ $\quad 27(850)=60(R1)$
$\quad R1=383$

$\Sigma F_X=0$ $\quad R1=R2$
$\quad R2=383$

$F1=C(75)$
$T=C(r_1^2+ r_2^2+ r_3^2+ r_4^2+ r_5^2)$

$10(225) + 60(383) = C(3^2+ 21^2+ 39^2+ 57^2+ 75^2)$
$C=2.32$
$F1=2.24(75) = 174$

Pull out force per fastener =174/2 = 87 lbs.

SHEAR FORCES

Carriage = 53
Header = 225
Tracks = 150
Car & Payload = 850
Total = 1278

Shear force per fastener =
1278/20 fasteners min. = 64 lbs

IMPACT FLOOR LOADING

1278 x 2.5 = 3195 lbs.

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MATERIAL LIST

WINDSOR

DAB/RAIL FORCES

WFORCES