

# TRACK AND ROADBEDS

## TRACK AND ROADBED CONDITION . . .

Recommended rope pulls required under favorable weather conditions for running loads (Lbs. per ton) on clean tracks which are free from curves, switches, grades are given in TABLE 1. When these

loadings are used, it must be verified that the rope is located parallel with and close to the cars being moved. To accomplish this may require the use of vertical guide rollers or sheaves depending on the location of the car puller.

Size of Rail	A	B	C
Light: 40-80#	3½-5"	3 <sup>5</sup> / <sub>8</sub> -5"	2 <sup>1</sup> / <sub>8</sub> -2 <sup>1</sup> / <sub>2</sub> "
Medium: 85-105#	5 <sup>3</sup> / <sub>16</sub> -6"	5-5 <sup>3</sup> / <sub>8</sub> "	2 <sup>7</sup> / <sub>16</sub> -2 <sup>1</sup> / <sub>16</sub> "
Heavy: 110-175#	6-8"	5½-6 <sup>3</sup> / <sub>4</sub> "	2 <sup>3</sup> / <sub>4</sub> -1 <sup>1</sup> / <sub>4</sub> "

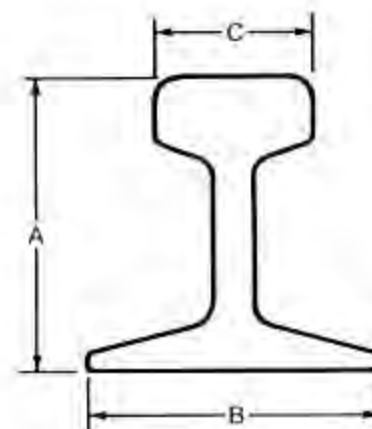


Figure 1

## TRACK CONDITIONS

	Good	Fair	Inferior
Track	Level	Slightly Uneven	Very Uneven
Type of Rails	Heavy-110 Lbs. & Up Per Yard	Medium To Heavy 85-105 Lbs. Per Yard	Light To Medium 40-80 Lbs. Per Yard
Tie Condition	Firm, Close, Uniform Spacing On 24" Centers Or Less	Solid Nonuniform Spacing On 30"-36" Centers	Loose Spaced Unevenly On More Than 36" Centers
Ballast Condition	Deep Solid 8-10" Below Surface Of Ties	Good, Moderate Depths 5-7 <sup>3</sup> / <sub>4</sub> " Below Surface Of Ties	Thin, Weak, Less Than 5" Below Surface Of Ties
Running Rope Pull Required Lbs. Per Ton Of Total Gross Weight	10	15	20-28

Table 1 — Track Factor Loading

## TRACK GRADE

$$\text{grade in per cent} = \frac{100 \times \text{rise}}{\text{length}}$$

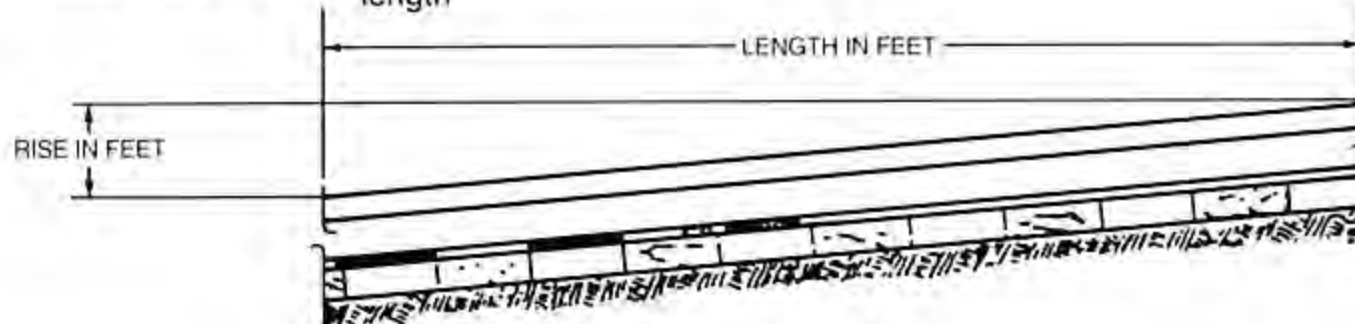


Figure 2

Track grade can be expressed in percent or degrees with each percent of grade representing one foot of rise in each 100 feet of horizontal track. The rope pull (Lbs. per ton) shown in TABLE 2 are approximate values.

Track Grade — %	0.5	1.0	1.5	2.0	2.5	3.0	3.5
Track Grade — Degrees	0°17'	0°35'	0°52'	1°09'	1°26'	1°44'	2°00'
Running Rope Pull Lbs. Per Ton Add To Table #1	10	20	30	40	50	60	70

Table 2 — Grade Factor Loading

\*NOTE: Closed Loop Car Puller continuous type is recommended where track has grade.