

L. B. Foster Company
Transit Products Division
Direct Fixation Rail Fastener
Model F28R4

The F28R4 Direct Fixation Fastener was originally designed, tested and supplied to the Portland, Oregon Tri-Met Authority. Model F28R4 is available in different variants for different flangeway gap widths. Based on original design requirements, the fastener bodies provide the following basic functions:

- ◆ Secures 115RE rail/guard rail to concrete track bed at 1:40 cant
- ◆ Stabilizes vertical and lateral rail movement
- ◆ Controls longitudinal rail movement
- ◆ Provides track noise and vibration dampening
- ◆ Electrically isolates rail from track bed
- ◆ Lateral adjustment of +/- 1/8 inch to +/- 1/2 inch or available in a non-adjustable version
- ◆ Utilizes non threaded rail hold down spring clip type clips

The Model F28R4 has completed extensive Qualification and Production testing to demonstrate the fastener's response to various load environments and electrical applications. Based on the results of these tests, the F28R4 Direct Fixation Rail Fastener provides the following fundamental performance characteristics:

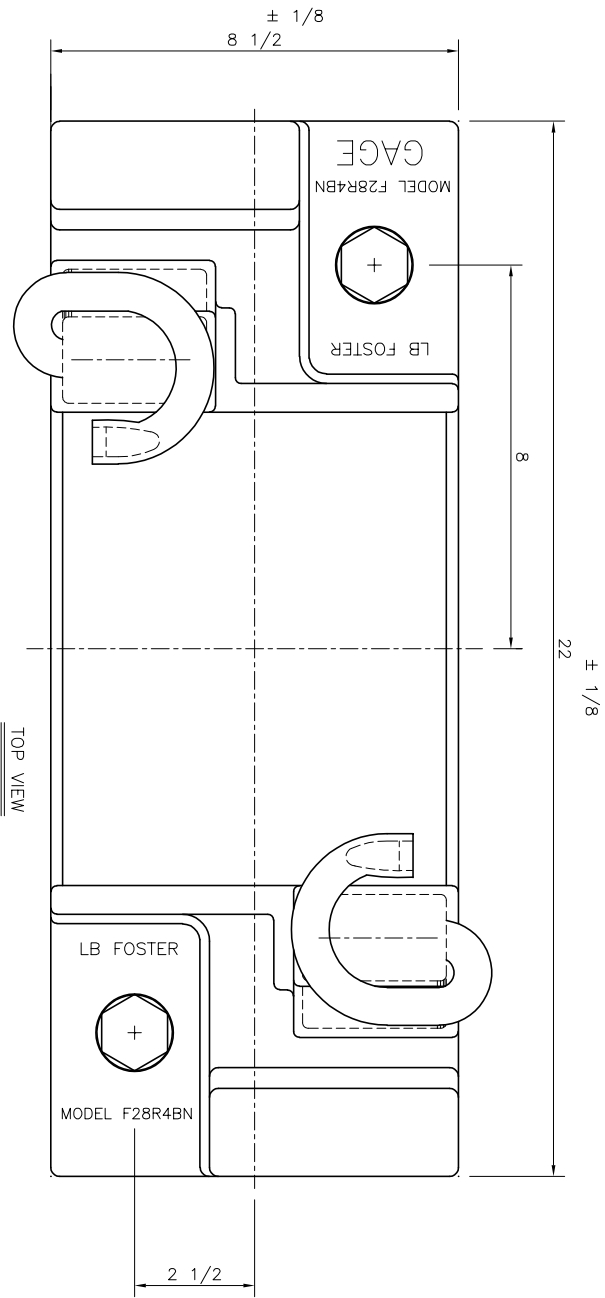
- ◆ Vertical stiffness of approximately 150,000 pounds per inch deflection
- ◆ With a "static" vertical force of 10,400 pounds per fastener body and a "static" lateral force of 5,900 pounds per fastener body, the rail head movement along the gage line is limited to less than 0.200 inches
- ◆ Allows continuous longitudinal "slippage" of rail at approximately 3,000 pounds longitudinal force per fastener body

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- ◆ Withstands a minimum of 10,000 volts (DC) per fastener body in a clean and dry test environment without material breakdown or electrical flashover
- ◆ Provides individual fastener body electrical resistance properties of greater than 1 million ohms (wet) and 10 million ohms (dry) at 500 volts (DC)
- ◆ Exhibits a “dynamic” vertical stiffness of approximately 1.5 times that of the “static” stiffness throughout a similar load range
- ◆ Resists repeated combined vertical and lateral “dynamic” loading in excess of 3,000,000 cycles with a vertical force of 10,400 pounds per fastener body and alternating lateral forces of 2,850 and 1,830 pounds per fastener body
- ◆ Resists vertical uplift forces of 5,000 pounds (static) per fastener body and repeated uplift forces of 1,000 lbs for greater than 1,500,000 cycles
- ◆ Resists repeated longitudinal loading of +/- 2,530 pounds per fastener body for greater than 25,000 cycles

The above performance characteristics are provided for informational purpose only and are based solely on limited previous testing. Actual performances may vary from those stated above.

Variations to Model F28R4 can be made to accommodate various custom requirements. For more information concerning this Direct Fixation Fastener model or other product needs, please call us in our Suwanee, Georgia office at (678) 678-5200.

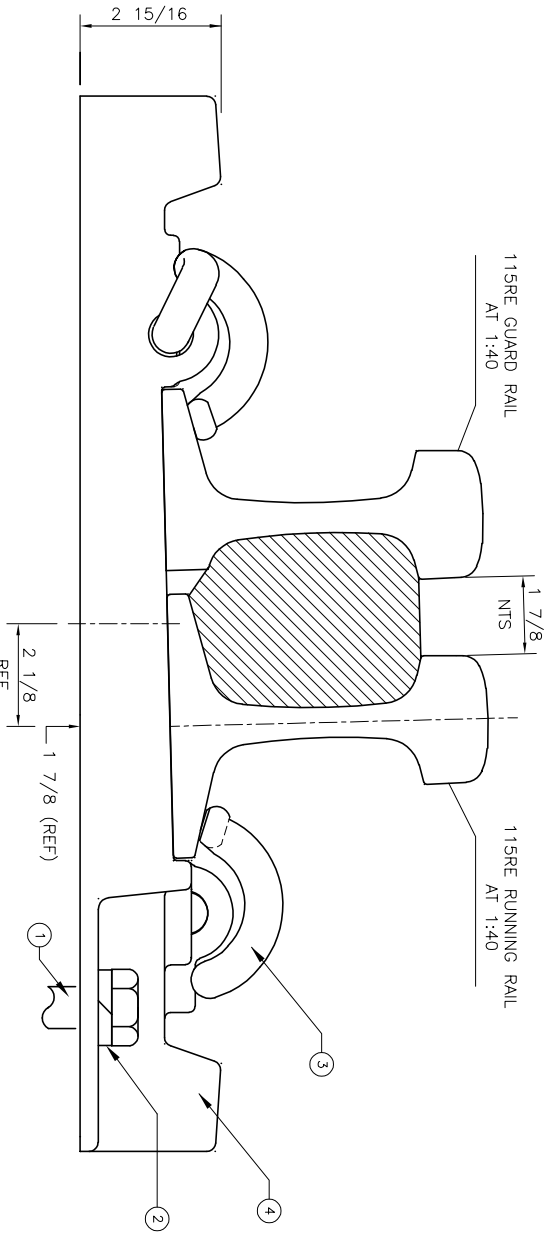


NOTES

1. ALL DIMENSIONS IN INCHES UNLESS OTHERWISE NOTED.
2. USE WRITTEN DIMENSIONS. DO NOT USE SCALED OFF DIMENSIONS IN PRODUCTION.
3. ALL DIMENSION TO ± 1/32 EXCEPT AS NOTED.

BILL OF MATERIALS

ITEM	PART NO.	DESCRIPTION
1 (2 EA)	25-510-031	7/8"-9 x 3 1/2, UNC CLASS 24, ASTM F3125 INSTALLATION TORQUE: 275 FT-LBS +/- 25
2 (2 EA)	10-548-008	7/8 HELICAL SPRING LOCK WASHER EXTRA DUTY, ZINC COATED
3 (2 EA)	10-334-002	RESILIENT SPRING CLIP, #2055 (RIGHT HAND) PANDROL PROPRIETARY STEEL 5160 MODIFIED DIMENSIONAL INSPECTION 2.5 AQL, LEVEL II
4 (1 EA)	184723-001	FASTENER BODY MODEL F28R4BN



SECTION A-A

PROPRIETARY

NOT TO BE DIRECTED, USED OR DUPLICATED FOR PROCUREMENT, MANUFACTURE OR ANY OTHER PURPOSE EXCEPT AS AUTHORIZED. IN WRITING, BY TRANSIT PRODUCTS DIVISION.

LB Foster Rail Business		Transit Products Division Suwanee, Ga 30024			
TITLE: DF FASTENER ASSEMBLY, MODEL F28R4BN					
FOR: INFORMATION PURPOSE ONLY					
DESIGN: TRANSIT PRODUCTS			REVISIONS		
DWG BY: SSF	S: 1.5.19	DATE:	DESCRIPTION:	REV:	BY:
APPROD:					
SCALE: NONE					
DWG NO.: DF-141					
CONTRACT: NA					
REF: NA					