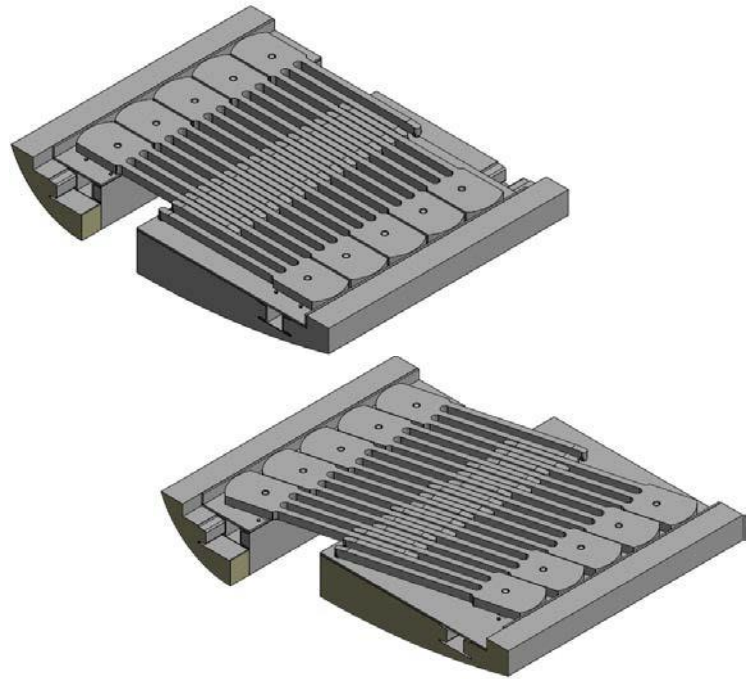


# Wabo®Trident Finger Joint (FINT)

Multi-directional Finger Joint System – Patent Pending

| Features                    | Benefits   |
|-----------------------------|--|
| Multi-axis capability       | Accommodates movements and rotations in all orthogonal directions  |
| Restoring force components  | Finger plates are pre-tensioned and connected to torsion springs to control system in service                                  |
| Sound Attenuation           | Engineered to eliminate plate noise using <b>QuietRide™</b> technology   |
| Restoration/Retro-fit Ready | Easy maintenance and parts replacement from bridge deck. Segmental fingers minimize traffic flow interruptions during repairs. |
| Fully Compliant             | AASHTO standards   |
| Add-on Features             | Neoprene Gutter Trough<br>Bulkhead Form Work<br>Level Angles   |



## DESCRIPTION:

Wabo®Trident Finger Joint system expands the use and application of finger joint technology. A strategically designed plurality of finger plates and support mechanism accommodates transverse and vertical bridge deck movements. Each trident finger assembly is pre-tensioned, and elastomeric support bearings create a noise-free, smooth riding surface. Segmental finger construction allows easy maintenance of all components from the bridge deck with minimizing interruption of traffic flow. When combined with features from Wabo®FingerPlus finger joint technology, initial gutter installation is easily accomplished, with clean out and long-term maintenance of the gutter accomplished from the bridge deck.

## RECOMMENDED FOR:

- New construction that contains multi-directional movements where finger joint technology is preferred
- Retro-fit applications where shallow blackout geometry exists, and/or replacement in stages is required.

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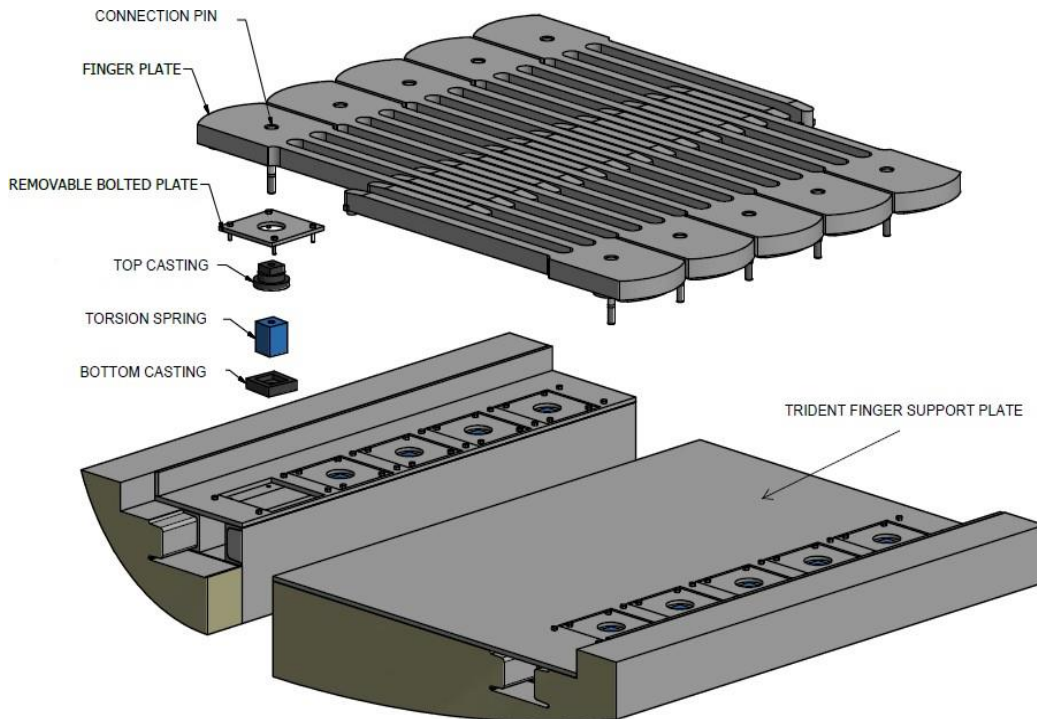
### KEY FEATURES:

- Condition specific finger plate shape provides virtually limitless movement range.
- Accommodates AASHTO design requirements for vehicular loads and opening requirements.
- All maintenance activity and access from top of bridge deck.
- Optional drain trough available using Wabo®FingerPlus technology.

### PACKAGING/COVERAGE:

- Finger plates and support system components packaged as complete, factory assembled with the option for assemblies to suit staged or full-length installation.
- Optional drain trough or bulkhead can be installed at the factory.
- Wabo®PrimaLub packaged in one (1) gallon containers.
- Optional drain trough available using Wabo®FingerPlus technology.

### TECHNICAL DATA:



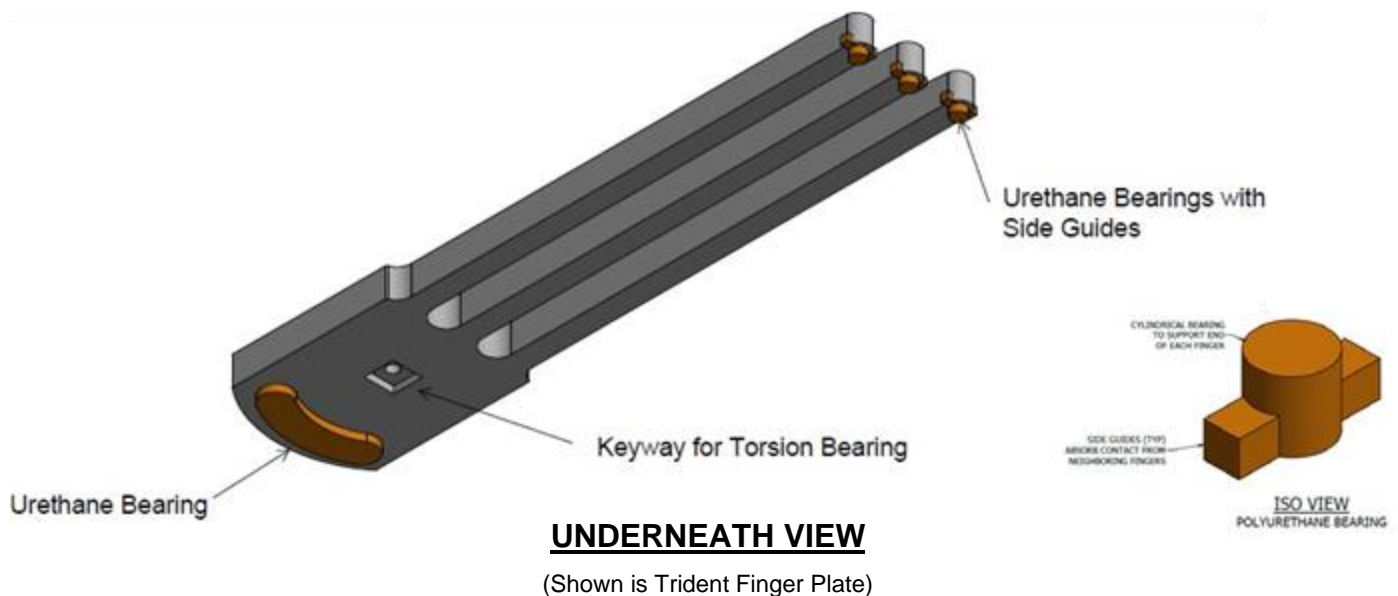
### **EXPLODED VIEW**

(Shown without optional gutter system)

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### Trident Finger Plates

Unique structural steel finger plate geometry is designed to allow multi-axis movements without binding the expansion joint system. Contact a WBA Representative with project criteria so our team of experts can design a finger configuration to meet your project needs. Movement range is virtually limitless in longitudinal and transverse directions, vertical deflections can be accommodated, and finger plates can be designed and fabricated using mild or high strength steel.



All plates are machined to accept urethane bearings at each end, as well as a machined pocket to accept the torsion spring assembly.

### QuietRide™ Technology

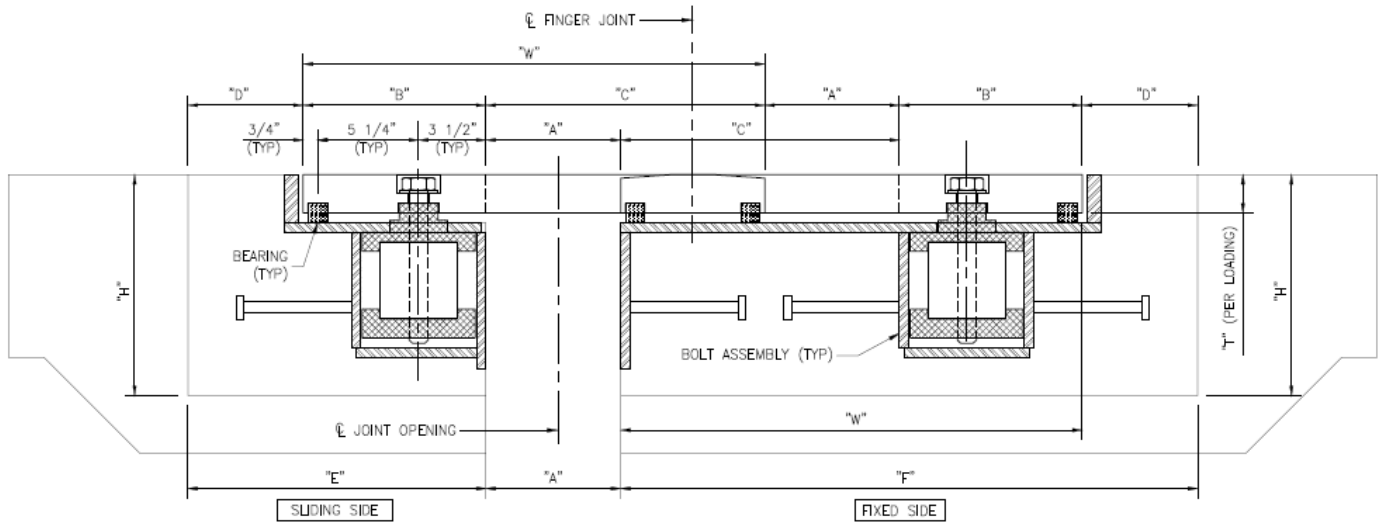
Specially designed polyurethane bearings are factory installed into the Trident finger plates at each end to eliminate plate to plate contact and noise.

### Torsion Springs

Specially designed top and bottom castings are the mechanisms that assist to pre-tension the finger plates, and create a lateral restoring force when transverse movement of the finger plate sections occur. This restoring force assists in maintaining equidistant geometry between adjacent finger plates, and keeps the entire finger joint system properly aligned throughout the system's movement range.

### Trident Finger Support Plates

Structural steel support plates are supplied with the system to ensure the finger plates have uniform bearing throughout the entire movement range, and to align the overall system.



**FINGER JOINT SECTION A-A**

TRIDENT

| FINGER JOINT SIZE | MOVEMENT | JOINT OPENING "A" |      |      | BOLT LANDING LENGTH<br>" B " | FINGER LENGTH<br>" C " | CONC. POUR ACCESS<br>" D " | SLIDING SIDE BLOCKOUT WIDTH<br>" E " | FIXED SIDE BLOCKOUT WIDTH<br>" F " | BLOCKOUT DEPTH<br>" H " | PLATE WIDTH<br>" W " | PLATE THICKNESS<br>" I " |
|-------------------|----------|-------------------|------|------|------------------------------|------------------------|----------------------------|--------------------------------------|------------------------------------|-------------------------|----------------------|--------------------------|
|                   |          | MIN.              | MID. | MAX. |                              |                        |                            |                                      |                                    |                         |                      |                          |
| 600D/P            | 6        | 1                 | 4    | 7    | 9.5                          | 8.5                    | 6                          | 15.5                                 | 24                                 | 11.5                    | 18                   | 1                        |
| 900D/P            | 9        | 1                 | 5.5  | 10   | 9.5                          | 11.5                   | 6                          | 15.5                                 | 26.75                              | 11.5                    | 21                   | 1                        |
| 1200D/P           | 12       | 1                 | 7    | 13   | 9.5                          | 14.5                   | 6                          | 15.5                                 | 29.75                              | 11.5                    | 24                   | 1.25                     |
| 1400D/P           | 14       | 1                 | 8    | 15   | 9.5                          | 16.5                   | 6                          | 15.5                                 | 31.75                              | 11.5                    | 26                   | 1.5                      |
| 1600D/P           | 16       | 1                 | 9    | 17   | 9.5                          | 18.5                   | 6                          | 15.5                                 | 33.75                              | 11.5                    | 28                   | 1.5                      |
| 1800D/P           | 18       | 1                 | 10   | 19   | 9.5                          | 20.5                   | 6                          | 15.5                                 | 35.75                              | 11.625                  | 30                   | 1.5                      |
| 2000D/P           | 20       | 1                 | 11   | 21   | 9.5                          | 22.5                   | 6                          | 15.5                                 | 37.75                              | 11.75                   | 32                   | 1.75                     |
| 2200D/P           | 22       | 1                 | 12   | 23   | 9.5                          | 24.5                   | 6                          | 15.5                                 | 39.75                              | 11.75                   | 34                   | 1.75                     |
| 2400D/P           | 24       | 1                 | 13   | 25   | 9.5                          | 26.5                   | 6                          | 15.5                                 | 41.75                              | 11.875                  | 36                   | 2                        |



## INSTALLATION SUMMARY:

- **Concrete** - Concrete interface must be dry and clean (free of dirt, coatings, rust, greases, oil and other contaminants), sound and durable. Loose, contaminated, spalled, deteriorated and/or delaminated concrete must be removed to sound concrete and repaired prior to placement of the expansion control system. New concrete must be cured (minimum of 14 days recommended).
- Prepare breakout to proper widths and depths, and place formwork.
- Using temporary lifting devices, set assembly into proper position and joint opening width in the roadway surface.
- Pour concrete into breakout area, making sure all vent holes are filled with concrete at the completion of the pour.
- Temporary lifting devices are removed as soon as practical to allow system movement with adjacent construction.
- Make certain the most current version of the product data sheet is being used. Please consult the website ([www.wbacorp.com](http://www.wbacorp.com)) or contact a customer service representative at 1-800- 677-4922.
- Proper application is the responsibility of the user. Field visits by Watson Bowman Acme personnel are for the purpose of making technical recommendations only and not for supervising or providing quality

## OPTIONAL GUTTER INSTALLATION:

- If gutter is not pre-assembled, at least 24 hours after completion of initial installation and setting of finger joint assembly, remove Trident finger plates by removing the connection pins.
- Apply Wabo®PrimaLub to machined cavity along each side of support plates, and a small portion on the rubber lug of gutter.
- Insert bottom lug of gutter into machined cavity and insert top lug into cavities on each side of gutter using a seal installation tool.
- Remove excess Wabo®PrimaLub.
- Install Trident finger plates in the same location as supplied from the factory, and torque to WBA recommendations.

## FOR BEST RESULTS:

- Shelf life of chemical components is 1 year.
- Periodically inspect connection pins for tightness, and re-torque to WBA recommendations as needed. Consult a Watson Bowman Acme representative for

## RELATED DOCUMENTS:

- Material Safety Data Sheets
- Wabo®Trident Technical Specification
- Wabo®Trident Project Shop Drawings
- Wabo®Trident Installation Procedure
- Wabo®Trident Finger Joint Datasheet

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#### LIMITED WARRANTY:

Watson Bowman Acme Corp. warrants that this product conforms to its current applicable specifications. WATSON BOWMAN ACME CORP. MAKES NO OTHER WARRANTY, EXPRESS OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE. The sole and exclusive remedy of Purchaser for any claim concerning this product, including, but not limited to, claims alleging breach of warranty, negligence, strict liability or otherwise, is the replacement of product or refund of the purchase price, at the sole option of Watson Bowman Acme Corp. Any claims concerning this product shall be submitted in writing within one year of the delivery date of this product to Purchaser and any claims not presented within that period are waived by Purchaser. IN NO EVENT SHALL WATSON BOWMAN ACME CORP. BE LIABLE FOR ANY SPECIAL, INCIDENTAL, CONSEQUENTIAL (INCLUDES LOSS OF PROFITS) OR PUNITIVE DAMAGES. Other warranties may be available when the product is installed by a factory trained installer. Contact your local Watson Bowman Acme representative for details. The data expressed herein is true and accurate to the best of our knowledge at the time published; it is, however, subject to change without notice. *Watson Bowman Acme Corp. reserves the right to amend or withdraw any information contained herein without notice and will not be responsible or liable for any inaccuracy or ambiguity of any information contained herein.*

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Watson Bowman Acme  
95 Pineview Drive  
Amherst, NY 14228  
phone: 716-691-7566  
fax: 716-691-9239  
watsonbowmanacme.com