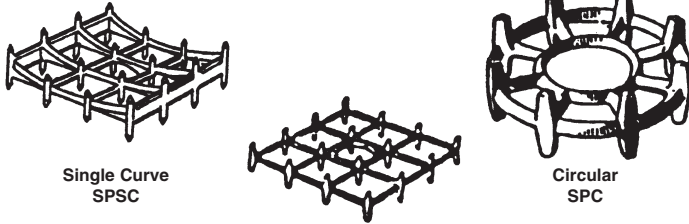




## Spike Grid Timber Connector



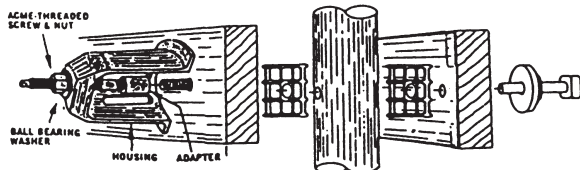
**Spike Grids** are used primarily in pole construction, docks, piling, wharves, and railroad and highway bridges or trestles. Flat and circular grids are used between sawn timbers, while single curve grids are used between round piles or poles and sawn members.

Manufactured from malleable iron in accordance with current ASTM Specification A-47, Grade 32510.

Spike Grids are available in 3 types: flat, single curve, and circular. Single curve fits between one rounded and one flat member. Circular fits between two flat or curved members. Flat fits between two flat members. Also available galvanized to ASTM A-153.

Install with grid applicator or hydraulically, cannot be installed by tightening standard nut.

| Type         | Size            | Depth | Bolt Hole Dia. | Bolt Dia. (max) | Lumber Min. Dimensions |                   |
|--------------|-----------------|-------|----------------|-----------------|------------------------|-------------------|
|              |                 |       |                |                 | Grid in One Face       | Grid in Both Face |
| Flat         | 4-1/8" x 4-1/8" | 1"    | 1.06           | 1"              | 1-5/8" x 5-1/2"        | 2-5/8" x 5-1/2"   |
| Single Curve | 4-1/8" x 4-1/8" | 1.38" | 1.06           | 1"              | 1-5/8" x 5-1/2"        | -                 |
| Circular     | 3-1/4" dia.     | 1.20" | 1.33           | 1"              | 1-5/8" x 5-1/2"        | 2-5/8" x 5-1/2"   |



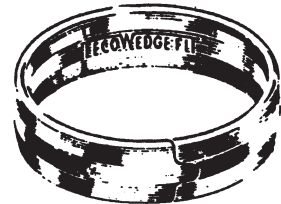
### Installation Procedure

## Teco Split Rings (Timber Rings)

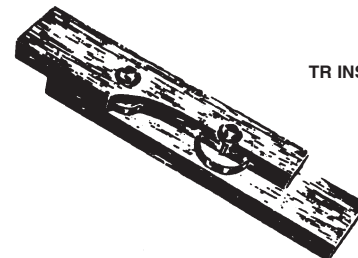
Material: Hot-rolled SAE 1010 carbon steel. Standard or galvanized. (see footnote)

Use: Split Rings are used primarily in the assembly of clear spans ranging from 20' to 250' and are available in 2-1/2" and 4" diameters. They are placed in specially made groove in overlapping members, and thus, the rings develop maximum strength in the joints by distributing the stress over a greater area. The special wedge shape of the ring section provides maximum tolerance for easy insertion, at the same time insuring a tight-fitting joint when the ring is fully inserted in the conforming groove. Generally, the 2-1/2" diameter ring is used for lighter trusses and trussed rafters utilizing 2" lumber, the 4" diameter ring is used for heavier trusses using 3" and heavier material. A separate publication for engineering design use data is available.

Conforming grooves for TECO Split Rings are cut with precision made grooving tools, available from CCS, which can be used in heavy duty 3/4" drills or in drill presses with 1/2" minimum chucks.



TR



TR INSTALLED

| Mfg. No.  | Inside Diameter | Depth | Bolt Diam. | Lumber Min. Dimensions |                   | Weight Per Carton | Pcs. Per Carton |
|-----------|-----------------|-------|------------|------------------------|-------------------|-------------------|-----------------|
|           |                 |       |            | Ring In 1 Face         | Ring In Bolt Face |                   |                 |
| TECO-2.5  | 2-1/2"          | 3/4"  | 1/2"       | 1" x 3-1/2"            | 1-1/2" x 3-1/2"   | 40 lbs.           | 150             |
| TECO-2.5G | 2-1/2"          | 3/4"  | 1/2"       | 1" x 3-1/2"            | 1-1/2" x 3-1/2"   | 42 lbs.           | 150             |
| TECO-4    | 4"              | 1"    | 3/4"       | 1" x 5-1/2"            | 1-1/2" x 5-1/2"   | 34 lbs.           | 50              |
| TECO-4G   | 4"              | 1"    | 3/4"       | 1" x 5-1/2"            | 1-1/2" x 5-1/2"   | 35 lbs.           | 50              |

All Timber Connectors are also available when specified, with a hot-dip galvanized coating. The galvanizing specification for the malleable iron shear plates and spike grids is ASTM A-153, for Split Rings the specification is ASTM A-123.

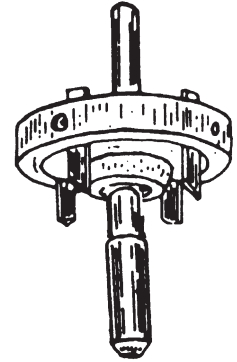
Some connectors are available in other metals on special inquiry basis.

When making grooves or daps for galvanized connectors, it may be necessary to increase the width and depth of the groove to compensate for the galvanized coating. This is accomplished as follows: (1) loosen the socket set screw on the cutter blades(s) that cut outside diameter of groove, (2) insert shim material (try approx. 0.010") under cutter(s), (3) lower cutting depth of blade(s) approx. 0.010" and lighten set screw, (4) lower the other groove cutting blades the same amount, (5) check connector for good fit in grooves of mating pieces, adjust further if needed.



## Teco Installation Tools

| To cut groove or dap with either cutterhead:  | Tools Needed to Groove for 2-1/2" Split Rings  | Tools Needed to Groove for 4" Split Rings   |
|---|--|---|
| Bolt holes are already drilled in the wood, insert a PILOT into the cutterhead: (A pilot is simply a guiding or centering device) | TECO-301<br>Cutterhead (containing 4 blades)   | TECO-302<br>Cutterhead (containing 6 blades)  |
|   | TE12-MRC Cutters for TECO 301<br>PILOT 562 Pilot for 301   | TE14-MRC Cutters for Teco 302<br>PILOT 813 13/16" Pilot for 302<br>PILOT 938 15/16" Pilot for 302<br>TE7-M 3/4" Pilot for 302 |
| Replacement cutter blade sets are available for all cutterheads   |  |   |
| All pilots have 1/2" machine shank for use in power drill.  | Pilot sizes given in above tables are for the standard bolt for the connectors and standard practice hole diameters for the bolts. |   |

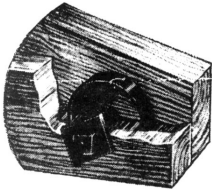


The cutterhead can be used in heavy duty 3/4" power drill with a torsion bar or in a drill press with minimum 1/2" chuck to cut grooves and daps for TECO split rings.

**HOT-DIP GALVANIZED:** Shear Plates and Timber Rings available in galvanized coating to ASTM A--153.

### Timber Rings

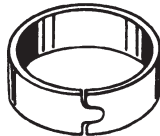
Cleveland timber rings are used in the assembly of clear span roof trusses. Rings are placed in pre-cut grooves to spread the load and avoid crushing the wood. Joint is completed with a bolt and square washer. The 2-1/2" ring is used in nominal 2" lumber and the 4" ring in nominal 3" and heavier lumber. Timber rings are used in residential, farm building and heavier construction. When 4" rings are used in 2" nominal lumber, with rings in both faces, the allowable load is reduced approximately 20%



TR2.5 (2-1/2")



TR4 (4")

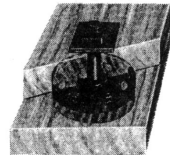


| Inside Diameter | Steel Size   | Bolt Size | Minimum Lumber Sizes |                     |
|-----------------|--------------|-----------|----------------------|---------------------|
|                 |              |           | Ring 1 Side          | Rings in Both Sides |
| 2-1/2"          | 3/4" x 5/32" | 1/2"      | 1" x 3-1/2"          | 1-1/2" x 3-1/2"     |
| 4"              | 1" x 3/16"   | 3/4"      | 1" x 5-1/2"          | 1-1/2" x 5-1/2"     |

Includes pilot and blades.

### Shear Plates

Are set in pre-cut daps in wood timbers, flush with the face of the wood. The shear plate spreads the load and reduces the number of bolts required. Made of malleable Iron to ASTM Specification A-47, Grade 325.10. Shear plates may be secured with nails for security in handling and transit.



Shear plates are used in connections between wood and steel, such as steel tie plates, arch shoes and truss heel joints.

Also used in demountable joints in scaffolding, bleacher seats, and other knockdown wood structures.



| Mfg. No. | Outside Diameter | Bolt Size |
|----------|------------------|-----------|
| SP2-6    | 2-5/8"           | 3/4"      |
| SP4      | 4"               | 3/4"      |
| SP4S     | 4"               | 7/8"      |



Made in U.S.A.

Includes pilot and blades