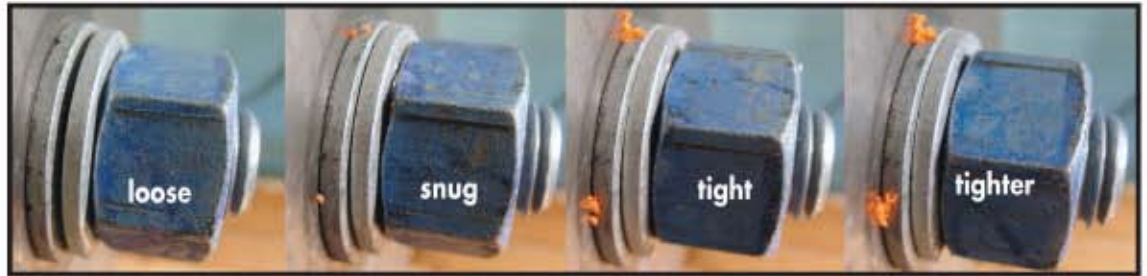




# Squirter™ DTI's the best way to bolt!



## Features

- ✓ Manufactured to ASTM F959M.
- ✓ Conforms to AS4100-1990 15.4.1 (b) Direct-tensioning indication device.
- ✓ Lot trace number on each washer.
- ✓ Test Certificates available online [www.hobson.com.au](http://www.hobson.com.au).
- ✓ Visual tension indication by Orange Silicon.
- ✓ Enables efficient & accurate installation of AS1252 structural assemblies.

## 3 Easy Steps:

1. Calibrate (feeler gauge) 2. Snug the Array of Bolts 3. Drive it 'Till It Squirts'

### 1. Calibrate Squirters® as follows:

Before starting installation, Squirter® DTI's MUST be calibrated in solid steel by checking the DTI gap with a feeler gauge<sup>+</sup> (see Note 1 below).

Using a solid steel connection - Insert a bolt, nut, flat washer (AS1252 Assembly<sup>++</sup>), and Squirter® DTI, tightening the bolt assembly until the DTI has been sufficiently compressed so that a feeler gauge of the correct thickness (0.13mm) will not enter half of the available places between the bumps on the DTI right into the bolt shank. If it does, tighten the bolt a little more and note the orange silicone squirt volume and appearance. Repeat this test a few times and get a visual impression of how much squirt is necessary (See Note 2 below).

**Note 1:** For AS1252 Assemblies, refer to AS4100-1990 15.2.5.3 *Tensioning by use of direct-tension indication device*.

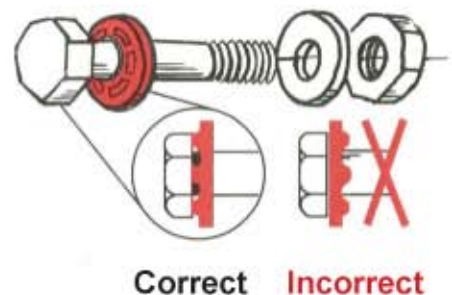
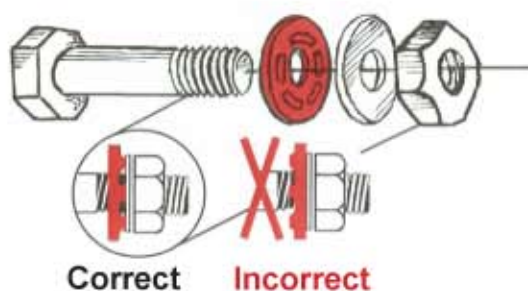
**Note 2:** The number of squirts should be AT LEAST equal to the number of bumps on the DTI less one: for instance, a five bump DTI should squirt in at least four places.

### 2. Snug the Array

Always snug an array of bolts before final tightening (Snug-tight is the tightness attained by a few impacts of an impact wrench or by the full effort of a person using a standard podger spanner). Make sure you don't fully compress the DTI on the snug (first) pass.

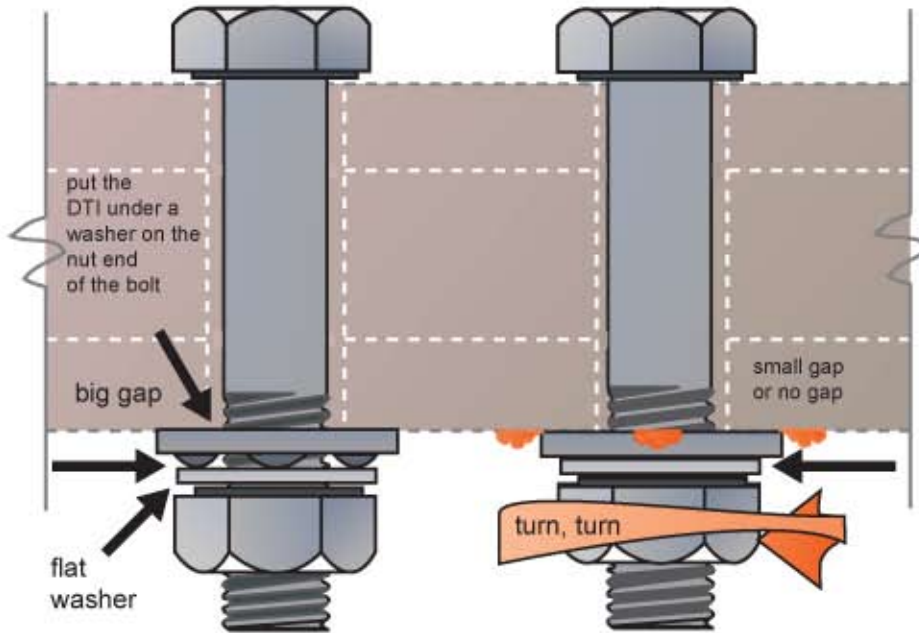
### 3. Drive it 'Till It Squirts

Tighten the bolt until the orange silicone appears in volume. Don't stop tightening until the squirt volume and appearance matches the result in the calibration exercise. Then stop tightening. The number of squirts should be at least equal to the number of bumps on the DTI less one.



<sup>+</sup> A skidmore (Hydraulic bolt tension indicator) may also be used for calibration. Refer to Hobson for details.  
<sup>++</sup> All structural product supplied by Hobson is to AS1252-1983 dimensions & AS1252-1996 mechanical.

# Squirter™ DTI's Installation & Inspection



## FOR FABRICATORS AND OTHER BOLT INSTALLERS

1. You can locate the DTI on either end of the bolt. The preferred way by most installers is shown above. Just make sure the DTI bumps bear against the underside of the bolt head or against a hardened flat washer, never directly against the nut or the steel plates.
2. Never grind the DTI bumps down by turning either the bolt head or the nut directly against the DTI - put a flat washer in between.
3. ALWAYS snug an array of bolts before final tightening, just as you would when DTIs are not used. Make sure you don't fully compress the DTI on the snug (first) pass.
4. Remember, DTIs don't change the torque resistance of the bolt, and they don't change the (flat) washer requirements.
5. Refer to AS4100-1990 15.2 Erection Procedures to make sure the installation is correct.

## FOR INSPECTORS

1. Check all bolt, nut, flat washer, and DTI certifications for conformance with the project specifications. Hobson Engineering have Test Certificates for AS1252 structural products and Squirter DTI's available online.
2. Once the bolts are in place, check a sample of compressed DTIs using the proper thickness feeler gauge (0.13mm). Attempt to insert the feeler gauge between the compressed DTI bumps half way around the DTI. If you CANNOT insert the feeler gauge all the way into the bolt shank, THE BOLT IS OK. If you CAN insert it all the way into the bolt shank, THE BOLT IS NOT OK.
3. Once the bolt sample is inspected with the feeler gauge, the right amount of squirt from the DTI can be assessed. It is now possible to carry out visual inspection on other bolts.

[www.hobson.com.au](http://www.hobson.com.au)

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....because quality matters

