AIMCO DynaTorque torque multipliers offer an economical solution to high torque bolting in a small, robust package.

Through a series of gearing, the DynaTorque multiplier takes torque input from a variety of input devices and increases the torque applied to the bolt by the known ratio of the multiplier’s gearing.

Input torque devices can range from hand ratchet wrenches, nutrunners, and settable torque wrenches.

**OPERATING INSTRUCTIONS**

1. Install the Reaction Bar onto the spline of the DynaTorque multiplier. The reacting portion of the Reaction Bar should be oriented in the same plane or beneath the square drive of the multiplier. (see Figure 1)

2. Place an Impact Grade socket onto the male square drive of the multiplier output and secure with a pin and retention ring (o-ring or metal clip).

3. Place multiplier with socket onto bolt to be tightened.


5. Insure that Reaction Bar is located adjacent to a flat surface capable of handling torque reaction forces generated by the multiplier when used.

   **Attention:** Reaction Bar will deliver force to the part opposite to working direction!

6. Set input tool or wrench to deliver the necessary input torque required to achieve the multiplied output torque from the multiplier. The listed ratio of the multiplier will need to be known and calculated to in order to understand the effects of input versus output. Example: In order to deliver 500 Nm from an ATM-800 DynaTorque multiplier, the ratio is 1:3.5 therefore 142.9 Nm input to
the multiplier will equal 500.15 Nm of output (500 divided by 3.5 equals 142.9).

7. Once input device torque has been preset, place the input torque device into the female square drive of the multiplier. Use the input torque applying device to tighten the bolt through the multiplier on the job.

Do not hold reaction bar or torque multiplier itself with hands while tightening is being performed. Forces generated can cause severe injury to the operator.

It should also be understood that forces applied by the input torque device will create a force opposite to the direction of tightening. Operators should hold the input torque device securely during tightening to avoid this reaction. Upon completion of the tightening event, operators should use care when releasing the input torque device to avoid backlash.

8. For DynaTorque models ATM-2800, ATM-3800, and ATM-5000, the planetary gear system must have stored torque energy released at the end of the tightening event.

This is accomplished by applying a small amount of torque through the input device in the tightening direction then placing the selection pawl into the neutral position (O) then releasing from the assembly.

Calculation of Input Torque

\[
\frac{\text{Desired Output Torque}}{\text{Torque Ratio}} = \text{Input Torque}
\]

Calculation of Output Torque

Known Input torque \times \text{Torque Ratio} = \text{Output torque}

Change of Shear Pin

In order to protect the DynaTorque torque multiplier internal gearing from damage in the event of overload, the shear pin has been engineered to fail at a specific load.

Each DynaTorque multiplier is supplied with one replacement shear pin part.

When the shear pin breaks due to an overload, there is the possibility of an abrupt force unloading of the torque wrench.

To remove damaged shear pin and replace:

- Remove the cover
  - ATM-800, ATM-1800 models utilize a circlip
  - ATM-2800, ATM-3800, ATM-5000 utilize cover screws
- Lift out damaged shear pin and inspect for debris
- Replace shear pin with new component
- Replace the cover

Should technical assistance be required, please contact your local AIMCO Service Representative.
### SPECIFICATIONS

<table>
<thead>
<tr>
<th>MODEL</th>
<th>INPUT</th>
<th>OUTPUT</th>
<th>RATIO</th>
<th>MAX TORQUE OUTPUT</th>
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</thead>
<tbody>
<tr>
<td>ATM-800</td>
<td>1/2</td>
<td>3/4</td>
<td>1:3.5</td>
<td>690 ft-lb, 900 Nm</td>
</tr>
<tr>
<td>ATM-1800</td>
<td>3/4</td>
<td>1</td>
<td>1:3.6</td>
<td>1238 ft-lb, 1800 Nm</td>
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<tr>
<td>ATM-2800</td>
<td>1/2</td>
<td>1</td>
<td>1:1.3</td>
<td>2066 ft-lb, 2900 Nm</td>
</tr>
<tr>
<td>ATM-3800</td>
<td>3/4</td>
<td>1</td>
<td>1:1.3</td>
<td>2804 ft-lb, 3800 Nm</td>
</tr>
<tr>
<td>ATM-5000</td>
<td>3/4</td>
<td>1.5</td>
<td>1:1.7</td>
<td>3690 ft-lb, 5000 Nm</td>
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<tr>
<td>ATM-8000</td>
<td>3/4</td>
<td>1.5</td>
<td>1:4.9</td>
<td>8904 ft-lb, 8000 Nm</td>
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<tr>
<td>ATM-12000</td>
<td>3/4</td>
<td>1.5</td>
<td>1:5.8</td>
<td>8856 ft-lb, 12000 Nm</td>
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<tr>
<td>ATM-16000</td>
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<td>2.5</td>
<td>1:7.5</td>
<td>11808 ft-lb, 16000 Nm</td>
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</table>

### DIMENSIONS

<table>
<thead>
<tr>
<th>MODEL</th>
<th>A (MM)</th>
<th>B (MM)</th>
<th>C (MM)</th>
<th>D (MM)</th>
<th>WEIGHT</th>
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<tbody>
<tr>
<td>ATM-800</td>
<td>65</td>
<td>105</td>
<td>132</td>
<td>130</td>
<td>2.9 LB, 1.3 KG</td>
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<tr>
<td>ATM-1800</td>
<td>90</td>
<td>150</td>
<td>188</td>
<td>132</td>
<td>6.6 LB, 3.0 KG</td>
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<tr>
<td>ATM-2800</td>
<td>95</td>
<td>200</td>
<td>240</td>
<td>132</td>
<td>11.5 LB, 5.2 KG</td>
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<tr>
<td>ATM-3800</td>
<td>95</td>
<td>200</td>
<td>240</td>
<td>132</td>
<td>11.5 LB, 5.2 KG</td>
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<tr>
<td>ATM-5000</td>
<td>120</td>
<td>215</td>
<td>272</td>
<td>150</td>
<td>15.4 LB, 7.0 KG</td>
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<td>344</td>
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<tr>
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<td>292</td>
<td>370</td>
<td>226</td>
<td>57.3 LB, 26.0 KG</td>
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</tbody>
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