

# TAKEDOWN SCREW MOVEMENT TEST

## **Objective:**

Measure the movement if any that occurs with the takedown screws when subjected to normal handling/shooting environments.

## **Tests 1:**

1. Bias stock to center trigger. Set torque of front and middle screw to 40 ft/lbs.; hand tighten back screw.
  - Tap on gun stock in several locations on shooter's left and right
  - Measure torque w/ torque wrench-measurement should be taken from force needed to loosen screw.
2. Bias stock to center trigger. Set torque of front and middle screw to 60 ft/lbs.; hand tighten back screw.
  - Tap on gun stock in several locations on shooter's left and right
  - Measure torque w/ torque wrench-measurement should be taken from force needed to loosen screw.

## **Test 2:**

3. Bias stock to center trigger. Set torque of front and middle screw to 40 ft/lbs.; hand tighten back screw.
  - Tap on gun stock in several locations on shooter's left and right
  - Retighten screws
  - Tap on gun stock in several locations on shooter's left and right
  - Measure torque w/ torque wrench-measurement should be taken from force needed to loosen screw.
4. Bias stock to center trigger. Set torque of front and middle screw to 60 ft/lbs.; hand tighten back screw.
  - Tap on gun stock in several locations on shooter's left and right
  - Retighten screws
  - Tap on gun stock in several locations on shooter's left and right
  - Measure torque w/ torque wrench-measurement should be taken from force needed to loosen screw.

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### Tests 3:

5. Bias stock to center trigger. Set torque of front and middle screw to 40 ft/lbs.; hand tighten back screw.
  - Tap on gun stock in several locations on shooter's left and right
  - Retighten screws
  - Tap on gun stock in several locations on shooter's left and right
  - Retighten screws
  - Tap on gun stock in several locations on shooter's left and right
  - Retighten screws
  - Tap on gun stock in several locations on shooter's left and right
  - Measure torque w/ torque wrench-measurement should be taken from force needed to loosen screw.
6. Bias stock to center trigger. Set torque of front and middle screw to 60 ft/lbs.; hand tighten back screw.
  - Tap on gun stock in several locations on shooter's left and right
  - Retighten screws
  - Tap on gun stock in several locations on shooter's left and right
  - Retighten screws
  - Tap on gun stock in several locations on shooter's left and right
  - Retighten screws
  - Tap on gun stock in several locations on shooter's left and right
  - Measure torque w/ torque wrench-measurement should be taken from force needed to loosen screw.

### Tests 4:

7. Bias stock to center trigger. Set torque of front and middle screw to 40 ft/lbs.; hand tighten back screw.
  - Tap on gun stock in several locations on shooter's left and right
  - Retighten Screws
  - Shoot (1) proof + (2) regular rounds
  - Measure torque w/ torque wrench-measurement should be taken from force needed to loosen screw.
8. Bias stock to center trigger. Set torque of front and middle screw to 60 ft/lbs.; hand tighten back screw.
  - Tap on gun stock in several locations on shooter's left and right
  - Retighten Screws
  - Shoot (1) proof + (2) regular rounds

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- Measure torque w/ torque wrench-measurement should be taken from force needed to loosen screw.

#### Tests 5:

9. Seat stock in natural position before setting screws. Set torque of front and middle screw to 40 ft/lbs.; hand tighten back screw.
  - Shoot (2) regular rounds
  - Measure torque w/ torque wrench-measurement should be taken from force needed to loosen screw.
10. Seat stock in natural position before setting screws. Set torque of front and middle screw to 50 ft/lbs.; hand tighten back screw.
  - Shoot (2) regular rounds
  - Measure torque w/ torque wrench-measurement should be taken from force needed to loosen screw.
11. Seat stock in natural position before setting screws. Set torque of front and middle screw to 60 ft/lbs.; hand tighten back screw.
  - Shoot (2) regular rounds
  - Measure torque w/ torque wrench-measurement should be taken from force needed to loosen screw.

#### TEST 6:

12. Seat stock in natural position before setting screws. Set torque of front and middle screw to 40 ft/lbs.; torque back screw to 20 ft/lbs.  
---USE 4 guns
  - Shoot (5) magazines (20) regular rounds
  - Measure torque w/ torque wrench-measurement should be taken from force needed to loosen screw.
13. Set stock in natural position before setting screws. Set torque of front and middle screw to 60 ft/lbs.; torque back screw to 20 ft/lbs.  
---USE 4 guns
  - Shoot (5) magazines (20) regular rounds
  - Measure torque w/ torque wrench-measurement should be taken from force needed to loosen screw.

#### TEST 7:

14. Seat stock in natural position before setting screws. Set torque of front and middle screw to 40 ft/lbs.; torque back screw to 20 ft/lbs.  
---USED 2 guns

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- Shoot (5) magazines (20) regular rounds off shoulder
- Measure torque w/ torque wrench-measurement should be taken from force needed to loosen screw.

15. Set stock in natural position before setting screws. Set torque of front and middle screw to 60 ft/lbs.; torque back screw to 20 ft/lbs.

---USED 2 guns

- Shoot (5) magazines (20) regular rounds off shoulder
- Measure torque w/ torque wrench-measurement should be taken from force needed to loosen screw.

#### RESULTS:

##### TEST 1.1

|        | Before test | After Test | % Reduction |
|--------|-------------|------------|-------------|
| Front  | 40          | 32.5       | 18.75       |
| Middle | 40          | 38.5       | 3.75        |
| Back   | 10          | 8          | 20          |

##### TEST 1.2

|        | Before test | After test | % Reduction |
|--------|-------------|------------|-------------|
| Front  | 60          | 45         | 25          |
| Middle | 60          | 42.5       | 29.2        |
| Back   | 10          | 9          | 10          |

##### TEST 2.3

|        | Before test | After test | % Reduction |
|--------|-------------|------------|-------------|
| Front  | 40          | 30         | 25          |
| Middle | 40          | 35         | 12.5        |
| Back   | 10          | 9          | 10          |

##### TEST 2.4

|        | Before test | After test | % Reduction |
|--------|-------------|------------|-------------|
| Front  | 60          | 48         | 20          |
| Middle | 60          | 44         | 26.7        |
| Back   | 10          | 8          | 20          |

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**TEST 3.5**

|        | Before test | After test | % Reduction |
|--------|-------------|------------|-------------|
| Front  | 40          | 35         | 12.5        |
| Middle | 40          | 39         | 2.5         |
| Back   | 10          | 10         | 0           |

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**TEST 3.6**

|        | Before test | After test | % Reduction |
|--------|-------------|------------|-------------|
| Front  | 60          | 45         | 25          |
| Middle | 60          | 48         | 20.0        |
| Back   | 10          | 10         | 0           |

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**TEST 4.7**

|        | Before test | After test | % Reduction |
|--------|-------------|------------|-------------|
| Front  | 40          | 20         | 50          |
| Middle | 40          | 28         | 30.0        |
| Back   | 10          | 8          | 20          |

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**TEST 4.8**

|        | Before test | After test | % Reduction |
|--------|-------------|------------|-------------|
| Front  | 60          | 32         | 46.7        |
| Middle | 60          | 40         | 33.3        |
| Back   | 10          | 9          | 10          |

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**TEST 5.9**

|        | Before test | After test | % Reduction |
|--------|-------------|------------|-------------|
| Front  | 40          | 25         | 37.5        |
| Middle | 40          | 35         | 12.5        |
| Back   | 10          | 5          | 50          |

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**TEST 5.10**

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|        | Before test | After test | % Reduction |
|--------|-------------|------------|-------------|
| Front  | 50          | 25         | 50          |
| Middle | 50          | 32         | 36.0        |
| Back   | 10          | 0          | 100         |

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**TEST 5.11**

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|        | Before test | After test | % Reduction |
|--------|-------------|------------|-------------|
| Front  | 60          | 53         | 11.6666667  |
| Middle | 60          | 50         | 16.7        |
| Back   | 10          | 10         | 0           |

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**TEST 6.12-1**

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|        | Before test | After test | % Reduction |
|--------|-------------|------------|-------------|
| Front  | 40          | 10         | 75          |
| Middle | 40          | 28         | 30.0        |
| Back   | 20          | 18         | 10          |

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**TEST 6.12-2**

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|        | Before test | After test | % Reduction |
|--------|-------------|------------|-------------|
| Front  | 40          | 20         | 50          |
| Middle | 40          | 28         | 30.0        |
| Back   | 20          | 14         | 30          |

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**TEST 6.12-3**

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|        | Before test | After test | % Reduction |
|--------|-------------|------------|-------------|
| Front  | 40          | 19         | 52.5        |
| Middle | 40          | 30         | 25.0        |
| Back   | 20          | 14         | 30          |

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**TEST 6.12-4**

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|        | Before test | After test | % Reduction |
|--------|-------------|------------|-------------|
| Front  | 40          | 18         | 55          |
| Middle | 40          | 30         | 25.0        |
| Back   | 20          | 13         | 35          |

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**AVERAGE TEST RESULT of 6-12:(1-4)**

|         | Before Test | After test | % Reduction |
|---------|-------------|------------|-------------|
| FRONT:  | 40          | 16.75      | 58.2        |
| MIDDLE: | 40          | 29         | 27.5        |
| BACK:   | 20          | 14.75      | 26.3        |

**TEST 6.13-1**

|        | Before test | After test | % Reduction |
|--------|-------------|------------|-------------|
| Front  | 60          | 30         | 50          |
| Middle | 60          | 32         | 46.7        |
| Back   | 20          | 15         | 25          |

**TEST 6.13-2**

|        | Before test | After test | % Reduction |
|--------|-------------|------------|-------------|
| Front  | 60          | 18         | 70.0        |
| Middle | 60          | 42         | 30.0        |
| Back   | 20          | 18         | 10          |

**TEST 6.13-3**

|        | Before test | After test | % Reduction |
|--------|-------------|------------|-------------|
| Front  | 40          | 28         | 30          |
| Middle | 40          | 40         | 0.0         |
| Back   | 20          | 16         | 20          |

**TEST 6.13-4**

|        | Before test | After test | % Reduction |
|--------|-------------|------------|-------------|
| Front  | 60          | 25         | 58.3333333  |
| Middle | 60          | 38         | 36.7        |
| Back   | 20          | 13         | 35          |

**AVERAGE TEST RESULT of 6-13:(1-4)**

|         | Before Test | After test | % Reduction |
|---------|-------------|------------|-------------|
| FRONT:  | 60          | 25.25      | 57.91       |
| MIDDLE: | 60          | 38         | 36.67       |
| BACK:   | 20          | 15.5       | 22.5        |

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**TEST 7.14-1**

|        | Before Test | After test | % Reduction |
|--------|-------------|------------|-------------|
| Front  | 40          | 28         | 30          |
| Middle | 40          | 30         | 25.0        |
| Back   | 20          | 10         | 50          |

**TEST 7.14-2**

|        | Before Test | After test | % Reduction |
|--------|-------------|------------|-------------|
| Front  | 40          | 35         | 12.5        |
| Middle | 40          | 30         | 25.0        |
| Back   | 20          | 13         | 35          |

**AVERAGE TEST RESULT of 7-14(1-2)**

|         | Before Test | After test | % Reduction |
|---------|-------------|------------|-------------|
| FRONT:  | 40          | 31.5       | 21.3        |
| MIDDLE: | 40          | 30         | 25          |
| BACK:   | 20          | 11.5       | 42.5        |

**TEST 7.15-1**

|        | Before Test | After test | % Reduction |
|--------|-------------|------------|-------------|
| Front  | 60          | 42         | 30          |
| Middle | 60          | 38         | 36.7        |
| Back   | 20          | 15         | 25          |

**TEST 7.15-2**

|        | Before Test | After test | % Reduction |
|--------|-------------|------------|-------------|
| Front  | 60          | 38         | 36.7        |
| Middle | 60          | 38         | 36.7        |
| Back   | 20          | 16         | 20          |

**AVERAGE TEST RESULT of 7-15:(1-2)**

|         | Before Test | After test | % Reduction |
|---------|-------------|------------|-------------|
| FRONT:  | 60          | 40         | 33.33       |
| MIDDLE: | 60          | 38         | 36.67       |
| BACK:   | 20          | 15.5       | 22.5        |

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