

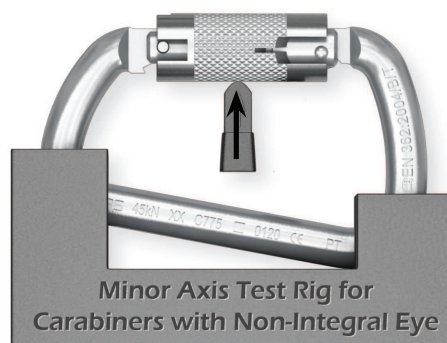
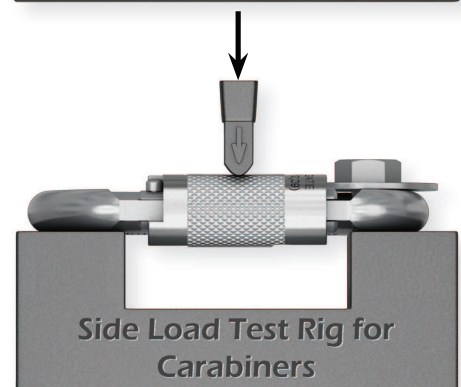
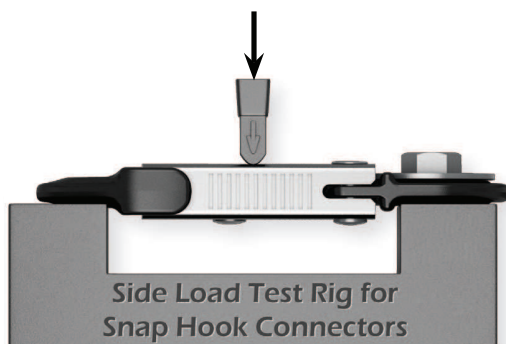
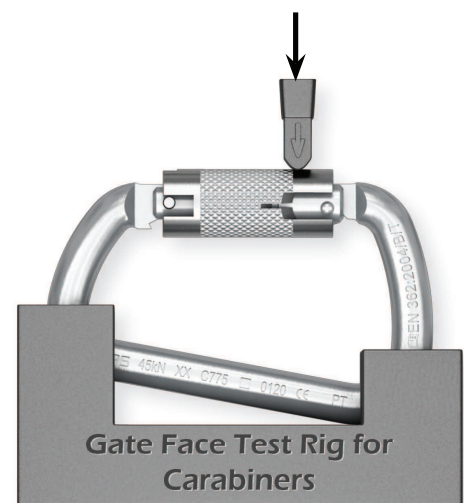
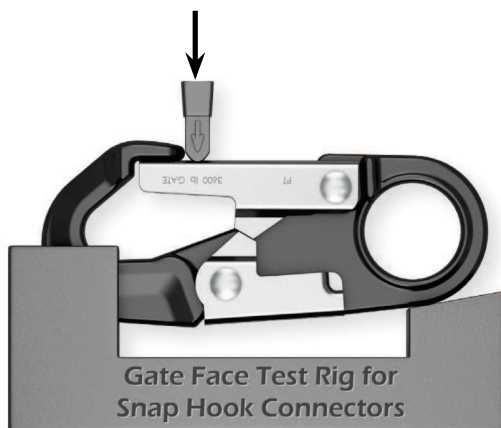
ANSI/ASSE Z359.12-2009 REQUIREMENTS FOR SNAP HOOKS AND CARABINERS

The American National Standard (ANSI/ASSE Z359.1-2007) became effective November 24, 2007. The new standard increased the minimum gate face and side load requirements for connectors to meet or exceed 3,600lb (16kN).

Connectors with non-integral eyes are also required to meet a minor axis gate strength of 3,600 lbs (16kN). The connector gate must be marked with the load rating; the body of the connector must be marked with a major axis load rating. Non-integral connectors are to be clearly marked with ANSI Z359.1.

This standard changed to ANSI/ASSE Z359.12-2009 effective November 2009 incorporating a dynamic drop test requirement. With the New CSA standard Z259.12-11 the Canadian and US standards are harmonized with respect to the requirements for connectors.

Destructive Testing: Testing Configuration



MINIMUM REQUIREMENTS AS OUTLINED FOR HOOKS AND CARABINERS PER STANDARD

Standard	CSA Z259.12- 01	CSA Z259.12- 11	CSA Z259.12- 16	ANSI Z359.1- 1999	ANSI/ASSE Z359.12- 2009	ANSI Z359.12- 16	EN 362:2004	NFPA 1983- 2006
Major Axis	5000 lbs (22.2kN)	5000 lbs (22.2kN)	5000 lbs (22.2kN)	5000 lbs (22.2kN)	5000 lbs (22.2kN)	5000 lbs (22.2kN)	4500 lbs (20 kN)	***
Gate Face	220 lbs (1kN)	3600 lbs (16kN)	3600 lbs (16kN)	220 lbs (1kN)	3600 lbs (16kN)	3600 lbs (16kN)	220 lbs (1kN)	N/A
Side Load	350 lbs (1.55kN)	3600 lbs (16kN)	3600 lbs (16kN)	350 lbs (1.55kN)	3600 lbs (16kN)	3600 lbs (16kN)	350 lbs (1.55kN)	N/A
Minor Axis	N/A	3600lbs (16kN)*	3600 lbs (16kN)*	N/A	3600 lbs (16kN) *	3600 lbs (16kN) *	**	***
Transverse	N/A	N/A	3600 lbs (16kN)****	N/A	N/A	3600 lbs (16kN) ****	N/A	N/A

* New Standards require Minor Axis Loading for connectors with non-integral eyes.

** EN: Basic Connector 1575 lbs (7kN); Multi Use Connector 3378 lbs (15kN)

*** NFPA: Light Use... Major Axis gate closed 6069 lbs (23kN); Major Axis gate open 1574 lbs (7kN); Minor Axis 1574 lbs (7kN)
General Use... Major Axis gate closed 8922 lbs (39.7kN); Major Axis gate open 2473 lbs (11kN); Minor Axis 2473 lbs (11kN)

**** New standard require Transverse Loading for connectors with opening one inch or larger

TRANSVERSE BODY LOADING TEST FIXTURE (STATIC)

