

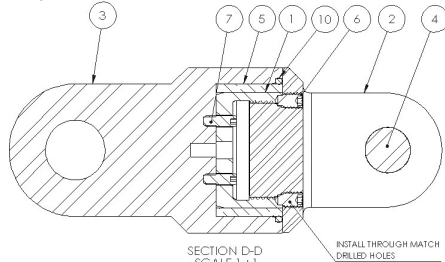
OPERATING SPECIFICATIONS



Design & Manufacturing Ltd.

SERIES 00560 BREAKAWAY CONNECTOR

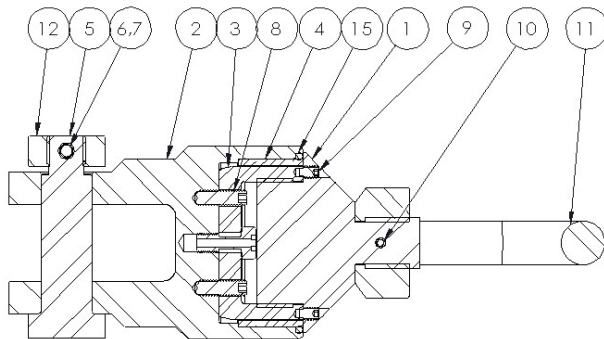
1. The breakaway connector is intended as mechanical overload protection for use when installing cable, ducting or pipe. It is used in conjunction with series 00565 or 00566 breakaway pins.



Series 00560 Breakaway Connectors are designed to prevent excessive loads damaging the cable or ducting during the pullback operation.

- 1. Pin Chamber
- 2. Clevis End
- 3. Body
- 4. Clevis Pin
- 5. Guide Bushing
- 6. Locking Setscrews
- 7. Alignment Setscrews
- 8. Allen key, 3/8"
- 9. Allen key, 3/32"
- 10. Sealing o-ring

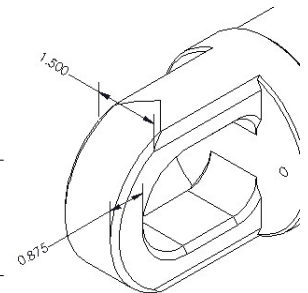
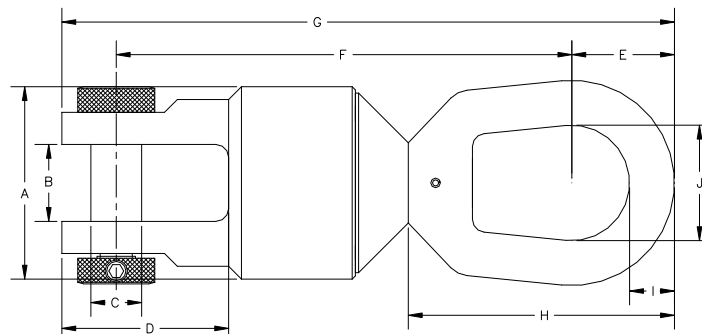
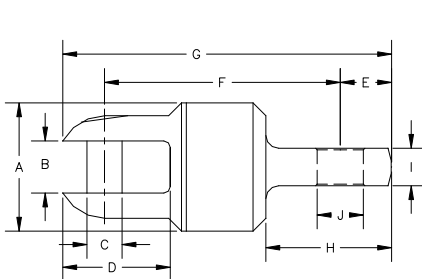
The Series 00560-010 Breakaway Connector is made up of six basic components, as shown on the drawing.



Series 00560-020 components:

- 1. End
- 2. Body
- 3. Pin Chamber
- 4. Bushing
- 5. Clevis Pin
- 6. Capscrew
- 7. Lockwasher
- 8. Alignment setscrew
- 9. Locking setscrew
- 10. Spring Pin
- 11. Eye nut
- 12. Clevis pin nut
- 15. O-ring

The breakaway pins for both styles can be assembled in any configuration, provided they are installed in a symmetrical pattern. Separation will occur at the value of the sum of the pin values.



⚡ Dimensions specific to 00560-020S

Part Number	A	B	C	D	E	F	G	H	I	J	Net Weight	Replacement Clevis Pin Kit (2 Pins / Kit)
00560-010	2-1/2" 63.5 mm	1" 25.4mm	11/16" 17.4mm	2-3/32" 53.1mm	1" 25.4mm	4-19/32" 116.6mm	6-13/32" 162.7mm	2-7/16" 61.8mm	29/32" 23.0mm	29/32" 23.0mm	4.0 lb 1.81 kg	00035-HEX
00560-010S	2-1/2" 63.5 mm	1" 25.4mm	11/16" 17.4mm	2-3/32" 53.1mm	1" 25.4mm	4-19/32" 116.6mm	6-13/32" 162.7mm	2-7/16" 61.8mm	29/32" 23.0mm	29/32" 23.0mm	4.0 lb 1.81 kg	00035-HEXS
00560-020	3-3/4" 95.3 mm	1-1/2" 38.1mm	1" 25.4mm	3-1/4" 82.5mm	2" 50.8mm	8-7/8" 225.4mm	11-15/16" 303.1mm	5-3/16" 131.7mm	7/8" 22.2mm	2-1/4" 57.15mm	14.7 lb 6.66 kg	00508-P010
00560-020S	4" 101.6 mm	1-1/2" 38.1mm	1-1/32" 26.3mm	3-1/4" 82.5mm	2" 50.8mm	7-1/2" 189.7mm	10-23/32" 272.3mm	4" 101.6mm	7/8" x 1.5" 22.2mm x 38.1mm⚡	2-1/4" 57.15mm	18 lb 8.18 kg	00508-P010S

Note: "S" designates the connector as a marine grade stainless steel version, intended for use in a marine environment.

Dimensions and weights subject to change without notice.

OPERATING INSTRUCTIONS



**Design &
Manufacturing Ltd.**

SERIES 00560 BREAKAWAY SWIVEL



READ AND UNDERSTAND
THESE INSTRUCTIONS
BEFORE USING
THESE PRODUCTS

BREAKAWAY PINS

Breakaway Pin Torque Recommended Maximum Torques

Connector	Kit Part Number	Color Code	Target Break Load (kg)	Target Break Load (lbs)	Torque Preload (lbs)	Torque (ftlbs)	Torque (inchlbs)
00560-010 00570-202 00570-208	00565-015	Black/red	68	150	50	0.21	2.5
	00565-025	Brown	113	250	60	0.25	3
	00565-030	Black/orange	136	300	80	0.33	4
	00565-040	Grey	181	400	130	0.54	7
	00565-070	Green/Orange	318	700	420	1.8	21
	00565-075	Yellow	340	750	540	2.3	27
	00565-100	Orange	454	1000	720	3.0	36
	00565-120	Purple	544	1200	800	3.3	40
	00565-130	Black	590	1300	840	3.5	42
	00565-138	Grey/Red	628	1385	840	3.5	42
	00565-150	Red	681	1500	980	4.1	49
	00565-200	Blue	907	2000	1360	5.7	68
	00565-200S	Grey/yellow	907	2000	1360	5.7	68
	00565-250	Green	1134	2500	1700	7.1	85
	00565-250S	Blue/Red	1134	2500	1700	7.1	85
	00566-030	White	300	661	440	1.8	22
	00566-040	Beige/green	400	882	600	2.5	30
	00566-050	Turquoise	500	1102	740	3.1	37
	00566-100	Purple/Orange	1000	2204	1400	5.8	70
	00566-120	Black/White	1200	2645	1640	6.8	82
00560-020							
	00565-300	Yellow	1361	3000	1853	12	139
	00565-300S	Brown	1361	3000	1853	12	139
	00565-600	Orange	2722	6000	3680	23	276
	00565-700	Red	3176	7000	4160	26	312
	00565-800	Blue	3630	8000	4800	30	360
	00565-900	Green	4083	9000	5280	33	396
	00566-200	White	2000	4408	2880	18	216
	00566-250	Beige	2500	5510	3680	23	276
	00566-300	Turquoise	3000	6612	4160	26	312
	00566-350	Purple	3500	7716	4480	28	336
	00566-400	Black	4000	8818	4960	31	372

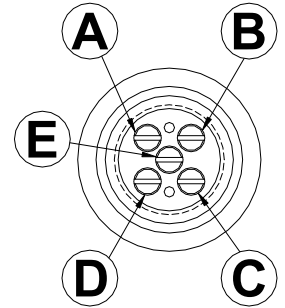
OPERATING INSTRUCTIONS

DCD Design & Manufacturing Ltd. SERIES 00560 BREAKAWAY SWIVEL



INSTALLATION

1. To install the pins in the unit, first select the break value required, then by referring to the load distribution tables on the following pages, select the proper pin combination.
2. Ensure all parts are clean; insert the pin chamber into the body locating the alignment pin into the small drilled hole.
3. Screw the required Breakaway Pins in the proper locations. For longer term installations subject to cyclic loading, torque the pins to the recommended torque value per the tables above. This will prevent fatigue on the pin from all loads below the preload value listed. The final breakload of the pin will remain unchanged.



WARNING: Do not over tighten the pins beyond the recommended torque and ensure they are assembled in a symmetrical manner. Failure to do this may result in distorted values.

**PIN LOCATION
REFERENCE**

4. Ensure Neverseize or grease is applied to the threads of the pin chamber before screwing in the end of the connector. Once fully inserted, screw in the locking setscrews to lock the end against the pin chamber. After separation, loosen these setscrews before attempting to unscrew the connector from the pin chamber.

WARNING: The locking setscrews between the pin chamber and the end of the connector are designed to withstand 160ftlbs and 225ftlbs of torque in the 00560-010 and 00560-020 respectively. However, it is highly advised that the breakaway connector is always used with a swivel. In the 00560-020S, the torque is limited to 66inlbs.

5. To remove broken pins, use a Phillips screwdriver pressed firmly into the hole of each pin, unscrew broken end out of hole.

OPERATION



1. This product **must not** be used if the pulling mechanism functions in a **counter clockwise rotation**. This will cause the Breakaway Connector to loosen its assembled condition.
2. A swivel must **always** be used between the Breakaway Connector and the pulling mechanism to avoid severe damage to the Connector as well as extreme likelihood of personal injury.

SAFETY



1. An overload condition **will** cause the Breakaway Connector to separate and release the stored energy of the duct, rope, chain or cable. Make sure that all components of the pulling system are able to withstand the maximum pulling loads. Components not rated for the pull force may break and release the stored energy of the pull. Never use a worn, defective or incomplete component.
2. **Use Breakaway pins once only.** Elongation or stretching of the pins may occur during the first use and we will not guarantee predictable results on subsequent usage.
3. Be prepared for the unexpected. Always use recognized safety practices and wear recognized safety equipment.

OPERATING INSTRUCTIONS



**Design &
Manufacturing Ltd.**

SERIES 00560 BREAKAWAY SWIVEL



READ AND UNDERSTAN
THESE INSTRUCTIONS
BEFORE USING
THESE PRODUCTS

SERVICE



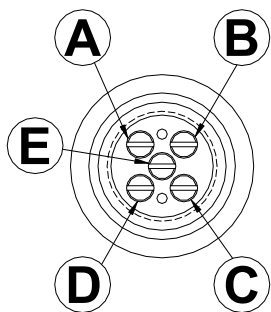
1. To maintain this product in the best possible condition, it must be thoroughly cleaned out after each use and a light smear of grease should be applied to the surfaces of the bronze bushing the Pin Chamber and the pin chamber threads after each use. Periodially apply a heavy oil (75W90 or similar) to the locking setscrews to prevent corrosion.

00560-010 BREAKAWAY PIN LOAD DISTRIBUTION TABLE

In the following table are suggested ways of arriving at required load values. There are usually several options other than those shown below. The five pin locations are designated as A, B, C, D & E. All numbers below are expressed in lb or kg.

Pin Location (See Pin Location Reference Diagram)					Break Value
A	B	C	D	E	lb
				750	750
				1,000	1,000
				1,500	1,500
1,000		750			1,750*
				2,000	2,000
750		750		750	2,250
750		750		1,000	2,500
1,000		1,000		750	2,750
750	750	750	750		3,000
750	750	750	1,000		3,250
750	1,000	750	1,000		3,500
1,500		1,500		750	3,750
1,000	1,000	1,000	1,000		4,000
1,000	750	1,000	750	750	4,250
1,500		1,500		1,500	4,500
2,000		2,000		750	4,750
	2,500		2,500		5,000
1,500	750	1,500	750	750	5,250
2,000		2,000		1,500	5,500
1,000	1,500	1,000	1,500	750	5,750
1,500	1,500	1,500	1,500		6,000
2,000	750	2,000	750	750	6,250
1,500	750	1,500	750	2,000	6,500
1,500	1,500	1,500	1,500	750	6,750
1,500	2,000	1,500	2,000		7,000
2,000	1,000	2,000	1,500	750	7,250*
	2,500		2,500	2,500	7,500
2,000	1,500	2,000	1,500	750	7,750
2,000	2,000	2,000	2,000		8,000
2,000	1,500	2,000	1,500	1,500	8,500
1,500	2,000	1,500	2,000	2,000	9,000
2,000	2,000	2,000	2,000	1,500	9,500
2,500	2,500	2,500	2,500		10,000
2,500	2,000	2,500	2,000	1,500	10,500
2,500	2,500	2,500	2,500	1,000	11,000
2,500	2,500	2,500	2,500	1,500	11,500
2,500	2,500	2,500	2,500	2,000	12,000
2,500	2,500	2,500	2,500	2,500	12,500

*Note! Uneven pin distribution may result in up to 10% lower breaking value.



PIN LOCATION REFERENCE

Patent # 5,599,129

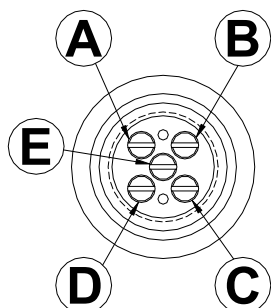
Pin Location (See Pin Location Reference Diagram)					Break Value
A	B	C	D	E	kg
				300	300
				400	400
				500	500
300		300			600
300		400			700*
400		400			800
400		500			900*
				1,000	1,000
400		400		300	1,100
400		400		400	1,200
400		400		500	1,300
500		500		400	1,400
500		500		500	1,500
300		300		1,000	1,600
500	400	500	300		1,700*
400		400		1,000	1,800
500	500	500	400		1,900*
1000		1,000			2,000
500	400	500	400	300	2,100
500	400	500	400	400	2,200
500	400	500	400	500	2,300
1,200		1,200			2,400
500	500	500	500	500	2,500
1,000	300	1,000	300		2,600
1,200		1,200		300	2,700
1,200		1,200		400	2,800
1,200		1,200		500	2,900
1,000		1,000		1,000	3,000
1,000	400	1,000	400	300	3,100
1,000	400	1,000	400	400	3,200
1,000	400	1,000	400	500	3,300
1,200		1,200		1000	3,400
1,200	400	1,200	400	300	3,500
1,200		1,200		1200	3,600
1,200	400	1,200	400	500	3,700
1,000	400	1,000	400	1,000	3,800
1,200	500	1,200	500	500	3,900
1,000	1,000	1,000	1,000		4,000
1,000	400	1,000	500	1,200	4,100*
1,200	400	1,200	400	1,000	4,200
1,000	1,000	1,000	1,000	300	4,300
1,000	1,000	1,000	1,000	400	4,400
1,000	1,000	1,000	1,000	500	4,500
1,200	500	1,200	500	1,200	4,600
1,000	1,200	1,000	1,200	300	4,700
1,200	1,200	1,200	1,200		4,800
1,000	1,200	1,000	1,200	500	4,900
1,000	1,000	1,000	1,000	1,000	5,000
1,200	1,200	1,200	1,200	300	5,100
1,200	1,200	1,200	1,200	400	5,200
1,200	1,200	1,200	1,200	500	5,300
1,200	1,000	1,200	1,000	1,000	5,400
1,200	1,000	1,200	1,000	1,200	5,600
1,200	1,200	1,200	1,200	1,000	5,800
1,200	1,200	1,200	1,200	1,200	6,000

00560-020 BREAKAWAY PIN LOAD DISTRIBUTION TABLE

In the following table are suggested ways of arriving at required load values. There are usually several options other than those shown below. The five pin locations are designated as A, B, C, D & E. All numbers below are expressed in lb or kg.

Pin Location (See Pin Location Reference Diagram)					Break Value
A	B	C	D	E	lb
				3,000	3,000
6,000		6,000			12,000
3,000		3,000		7,000	13,000
7,000		7,000			14,000
3,000		3,000		9,000	15,000
8,000		8,000			16,000
7,000		7,000		3,000	17,000
9,000		9,000			18,000
8,000		8,000		3,000	19,000
7,000		7,000		6,000	20,000
7,000		7,000		7,000	21,000
7,000		7,000		8,000	22,000
7,000		7,000		9,000	23,000
8,000		8,000		8,000	24,000
8,000		8,000		9,000	25,000
9,000		9,000		8,000	26,000
9,000		9,000		9,000	27,000
7,000	7,000	7,000	7,000		28,000
3,000	7,000	3,000	7,000	9,000	29,000
6,000	6,000	6,000	6,000	6,000	30,000
6,000	6,000	6,000	6,000	7,000	31,000
6,000	6,000	6,000	6,000	8,000	32,000
6,000	6,000	6,000	6,000	9,000	33,000
7,000	7,000	7,000	7,000	6,000	34,000
7,000	7,000	7,000	7,000	7,000	35,000
7,000	7,000	7,000	7,000	8,000	36,000
7,000	7,000	7,000	7,000	9,000	37,000
8,000	7,000	8,000	7,000	8,000	38,000
8,000	7,000	8,000	7,000	9,000	39,000
8,000	8,000	8,000	8,000	8,000	40,000
8,000	8,000	8,000	8,000	9,000	41,000
9,000	9,000	9,000	9,000	6,000	42,000
9,000	9,000	9,000	9,000	7,000	43,000
9,000	9,000	9,000	9,000	8,000	44,000
9,000	9,000	9,000	9,000	9,000	45,000

*Note! Uneven pin distribution may result in up to 10% higher breaking point.



PIN LOCATION REFERENCE

Patent # 5,599,129

Pin Location (See Pin Location Reference Diagram)					Break Value
A	B	C	D	E	kg
				3,000	3,000
3,000		3,000			6,000
2,000		2,000		2,500	6,500
2,000		2,000		3,000	7,000
2,000		2,000		3,500	7,500
4,000		4,000			8,000
3,000		3,000		2,500	8,500
3,000		3,000		3,000	9,000
3,000		3,000		3,500	9,500
3,000		3,000		4,000	10,000
4,000		4,000		2,500	10,500
4,000		4,000		3,000	11,000
4,000		4,000		3,500	11,500
4,000		4,000		4,000	12,000
2,500	2,500	2,500	2,500	2,500	12,500
2,500	2,500	2,500	2,500	3,000	13,000
2,500	2,500	2,500	2,500	3,500	13,500
2,500	2,500	2,500	2,500	4,000	14,000
3,000	3,000	3,000	3,000	2,500	14,500
3,000	3,000	3,000	3,000	3,000	15,000
3,000	3,000	3,000	3,000	3,500	15,500
3,000	3,000	3,000	3,000	4,000	16,000
3,000	3,500	3,000	3,500	3,500	16,500
3,500	3,500	3,500	3,500	3,000	17,000
3,500	3,500	3,500	3,500	3,500	17,500
3,500	3,500	3,500	3,500	4,000	18,000
4,000	3,500	4,000	3,500	3,500	18,500
4,000	3,500	4,000	3,500	4,000	19,000
4,000	4,000	4,000	4,000	3,500	19,500
4,000	4,000	4,000	4,000	4,000	20,000