

Bundle Breaker Guideline pg 1 of 4

WITH FLUTES - Single Wall				.970/.990 Dies (24.64mm /25.15 mm)	
Common Knife Length	Bundle Breaker Hgt.	Product Suggested	Product for MORE HOLD	Product for LESS HOLD	Dies built with .970 Curved and .990 SNN
Over 15" (382mm) and over	.937 (23.80mm)	045 Ex Light	045 Light	045 Ex Light w/ segments of knife	
9" - 15" (228 - 381mm)	.937 (23.80mm)	045 Light	045 Medium	045 Ex Light	
5" - 9" (152 - 228mm)	.937 (23.80mm)	045 Medium	055 Heavy	045 Light	
3" - 5" (76 - 152mm)	.937 (23.80mm)	055 Heavy	055 Ex Heavy	045 Medium	

WITH FLUTES - Single Wall				.990 & 1.00 Dies (25.15mm /25.40 mm)	
Common Knife Length	Bundle Breaker Hgt.	Product Suggested	Product for MORE HOLD	Product for LESS HOLD	Dies built with the same height straight & curved trim knives.
Over 15" (382mm) and over	.970 (24.64mm)	045 Ex Light	045 Light	045 Ex Light w/ segments of knife	
9" - 15" (228 - 381mm)	.970 (24.64mm)	045 Light	045 Medium	045 Ex Light	
5" - 9" (152 - 228mm)	.970 (24.64mm)	045 Medium	055 Heavy	045 Light	
3" - 5" (76 - 152mm)	.970 (24.64mm)	055 Heavy	055 Ex Heavy	045 Medium	

Note 1: **The above guidelines are a suggested starting point** based on limited field study and practice. Due to the numerous variables in the die cutting process, National Steel Rule will not be held liable for failed exploitation of the system.

Note 2: **Bundle Breaker Rule can be LOWER** than the trim rule. Straight and curved bundle breaker rule can be lower in height in most cases (.020 - .030 or .5 - .75 mm). The short cut segments of the perf require less force to penetrate, however when dramatic variations of anvil wear are present, it may be necessary to increase the bundle breaker rule height.

Note 3: **Using Straight Bundle Breaker Rule** cutting across the flutes is very challenging. Replacing continuous common knives over 40" (1016mm) in one piece will be challenging. Stabilizing the attached blanks through the machine requires significant holding power from the bundle breaking rule. Larger ties with higher percentage hold will be required. This required hold to get the bundle through the die cutter can exceed the bundle separation equipment's ability to break the bundles. The use of alternating knife and BB perf segments may be necessary for success.

Bundle Breaker Guideline pg 2 of 4

WITH FLUTES - Single Wall & Light Double Wall				1.00/1.025 Dies (25.40mm /26.03 mm)	
Common Knife Length	Bundle Breaker Hgt.	Product Suggested	Product for MORE HOLD	Product for LESS HOLD	Dies built with 1.00 Curved and 1.025 SNN
Over 15" (382mm) and over	.970 (24.64mm)	045 Ex Light	045 Light	045 Ex Light w/ segments of knife	
9" - 15" (228 - 381mm)	.970 (24.64mm)	045 Light	045 Medium	045 Ex Light	
5" - 9" (152 - 228mm)	.970 (24.64mm)	045 Medium	055 Heavy	045 Light	
3" - 5" (76 - 152mm)	.970 (24.64mm)	055 Heavy	055 Ex Heavy	045 Medium	

WITH FLUTES - Single Wall & Light Double Wall				1.025 or 1.030 Dies (26.03mm /26.16 mm)	
Common Knife Length	Bundle Breaker Hgt.	Product Suggested	Product for MORE HOLD	Product for LESS HOLD	Dies built with the same height straight & curved trim knives.
Over 15" (382mm) and over	1.000 (25.40mm)	045 Ex Light	045 Light	045 Ex Light w/ segments of knife	
9" - 15" (228 - 381mm)	1.000 (25.40mm)	045 Light	045 Medium	045 Ex Light	
5" - 9" (152 - 228mm)	1.000 (25.40mm)	045 Medium	055 Heavy	045 Light	
3" - 5" (76 - 152mm)	1.000 (25.40mm)	055 Heavy	055 Ex Heavy	045 Medium	

Note 1: **The above guidelines are a suggested starting point** based on limited field study and practice. Due to the numerous variables in the die cutting process, National Steel Rule will not be held liable for failed exploitation of the system.

Note 2: **Bundle Breaker Rule can be LOWER** than the trim rule. Straight and curved bundle breaker rule can be lower in height in most cases (.020 - .030 or .5 - .75 mm). The short cut segments of the perf require less force to penetrate, however when dramatic variations of anvil wear are present, it may be necessary to increase the bundle breaker rule height.

Note 3: **Using Straight Bundle Breaker Rule** cutting across the flutes is very challenging. Replacing continuous common knives over 40" (1016mm) in one piece will be challenging. Stabilizing the attached blanks through the machine requires significant holding power from the bundle breaking rule. Larger ties with higher percentage hold will be required. This required hold to get the bundle through the die cutter can exceed the bundle separation equipment's ability to break the bundles. The use of alternating knife and BB perf segments may be necessary for success.

Bundle Breaker Guideline pg 3 of 4

ACROSS FLUTES - Single Wall				.970/.990 Dies (24.64mm /25.15 mm)	
Common Knife Length	Bundle Breaker Hgt.	Product Suggested	Product for MORE HOLD	Product for LESS HOLD	Dies built with .970 Curved and .990 SNN
Over 15" (382mm) and over	.937 (23.80mm)	045 Medium	055 Heavy	045 Light	
9" - 15" (228 - 381mm)	.937 (23.80mm)	055 Heavy	055 Ex Heavy	045 Medium	
5" - 9" (152 - 228mm)	.937 (23.80mm)	055 Ex Heavy	10 TPI / .060	055 Heavy	
3" - 5" (76 - 152mm)	.937 (23.80mm)	10 TPI / .060	1/16 x 1/16	055 Ex Heavy	

ACROSS FLUTES - Single Wall				.990 & 1.00 Dies (25.15mm /25.40 mm)	
Common Knife Length	Bundle Breaker Hgt.	Product Suggested	Product for MORE HOLD	Product for LESS HOLD	Dies built with the same height straight & curved trim knives.
Over 15" (382mm) and over	.970 (24.64mm)	045 Medium	055 Heavy	045 Light	
9" - 15" (228 - 381mm)	.970 (24.64mm)	055 Heavy	055 Ex Heavy	045 Medium	
5" - 9" (152 - 228mm)	.970 (24.64mm)	055 Ex Heavy	10 TPI / .060	055 Heavy	
3" - 5" (76 - 152mm)	.970 (24.64mm)	10 TPI / .060	1/16 x 1/16	055 Ex Heavy	

Note 1: **The above guidelines are a suggested starting point** based on limited field study and practice. Due to the numerous variables in the die cutting process, National Steel Rule will not be held liable for failed exploitation of the system.

Note 2: **Bundle Breaker Rule can be LOWER** than the trim rule. Straight and curved bundle breaker rule can be lower in height in most cases (.020 - .030 or .5 - .75 mm). The short cut segments of the perf require less force to penetrate, however when dramatic variations of anvil wear are present, it may be necessary to increase the bundle breaker rule height.

Note 3: **Using Straight Bundle Breaker Rule** cutting across the flutes is very challenging. Replacing continuous common knives over 40" (1016mm) in one piece will be challenging. Stabilizing the attached blanks through the machine requires significant holding power from the bundle breaking rule. Larger ties with higher percentage hold will be required. This required hold to get the bundle through the die cutter can exceed the bundle separation equipment's ability to break the bundles. The use of alternating knife and BB perf segments may be necessary for success.

Bundle Breaker Guideline pg 4 of 4

ACROSS FLUTES - Single Wall & Light Double Wall					1.00/1.025 Dies (25.40mm /26.03 mm)
Common Knife Length	Bundle Breaker Hgt.	Product Suggested	Product for MORE HOLD	Product for LESS HOLD	Dies built with 1.00 Curved and 1.025 SNN
Over 15" (382mm) and over	.970 (24.64mm)	045 Medium	055 Heavy	045 Light	
9" - 15" (228 - 381mm)	.970 (24.64mm)	055 Heavy	055 Ex Heavy	045 Medium	
5" - 9" (152 - 228mm)	.970 (24.64mm)	055 Ex Heavy	10 TPI / .060	055 Heavy	
3" - 5" (76 - 152mm)	.970 (24.64mm)	10 TPI / .060	1/16 x 1/16	055 Ex Heavy	

ACROSS FLUTES - Single Wall & Light Double Wall					1.025 or 1.030 Dies (26.03mm /26.16 mm)
Common Knife Length	Bundle Breaker Hgt.	Product Suggested	Product for MORE HOLD	Product for LESS HOLD	Dies built with the same height straight & curved trim knives.
Over 15" (382mm) and over	1.000 (25.40mm)	045 Medium	055 Heavy	045 Light	
9" - 15" (228 - 381mm)	1.000 (25.40mm)	055 Heavy	055 Ex Heavy	045 Medium	
5" - 9" (152 - 228mm)	1.000 (25.40mm)	055 Ex Heavy	10 TPI / .060	055 Heavy	
3" - 5" (76 - 152mm)	1.000 (25.40mm)	10 TPI / .060	1/16 x 1/16	055 Ex Heavy	

Note 1: **The above guidelines are a suggested starting point** based on limited field study and practice. Due to the numerous variables in the die cutting process, National Steel Rule will not be held liable for failed exploitation of the system.

Note 2: **Bundle Breaker Rule can be LOWER** than the trim rule. Straight and curved bundle breaker rule can be lower in height in most cases (.020 - .030 or .5 - .75 mm). The short cut segments of the perf require less force to penetrate, however when dramatic variations of anvil wear are present, it may be necessary to increase the bundle breaker rule height.

Note 3: **Using Straight Bundle Breaker Rule** cutting across the flutes is very challenging. Replacing continuous common knives over 40" (1016mm) in one piece will be challenging. Stabilizing the attached blanks through the machine requires significant holding power from the bundle breaking rule. Larger ties with higher percentage hold will be required. This required hold to get the bundle through the die cutter can exceed the bundle separation equipment's ability to break the bundles. The use of alternating knife and BB perf segments may be necessary for success.