

FasTie® Quick Ejector Tie-in System

Description & Use

In an injection molding press, the FasTie® system quickly “ties- in” the mold ejector plate to the press ejection system, dramatically reducing mold change time. The greatest time savings are realized in presses where space is limited and the ejector system is difficult to tie in using solid knock-out bars.

The FasTie® coupler may be permanently mounted to the press ejector plate. The quick-connect locking mechanism in the coupler snaps mechanically onto the mold-mounted Pull Stud during mold installation.

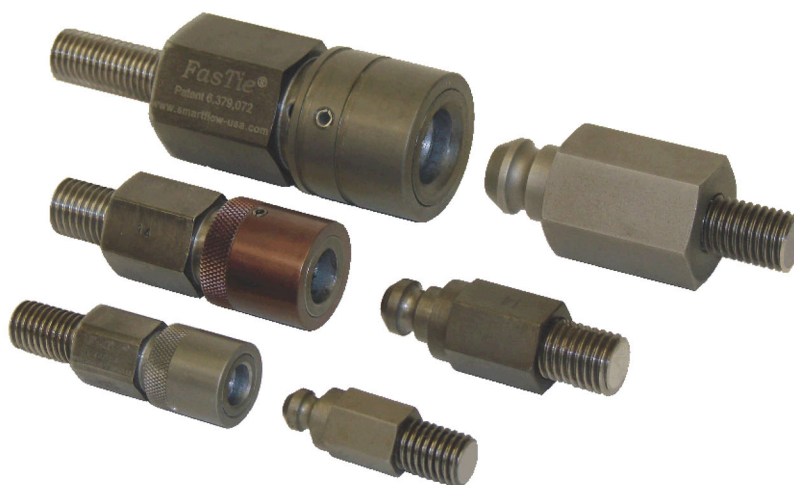
To release the ejectors, apply shop air to the coupler. The coupler opens to release the Pull Stud, disconnecting the press and tooling ejector plates. The coupler remains in the open position, ready for a new mold to be set.

For multiple ejector locations, an air manifold is recommended to release all couplers simultaneously. See inside catalog pages for installation examples. The FasTie® couplers and Pull Studs are available in 3 sizes to suit various applications: 1", 1-3/8" and 2" depending on the press size & knockout quantity (*refer to page 8*) for details.

Features & Benefits

- FasTie® installs easily into existing tapped holes, no additional machining is required.
- FasTie® reduces mold setting time by quickly uncoupling, plus there are no loose parts to stow.
- FasTie® remains coupled during mold cycling for increased “tie-in” reliability and reduced wear.
- SpeedBar® adjustable ejector bar changes length quickly without tools [$\pm 1/2"$ (12.7mm) from nominal in .006" (.15mm) increments].*
- SpeedBar® saves molders time and cost of machining individual ejector bars to fit different molds.*

* 1-inch only

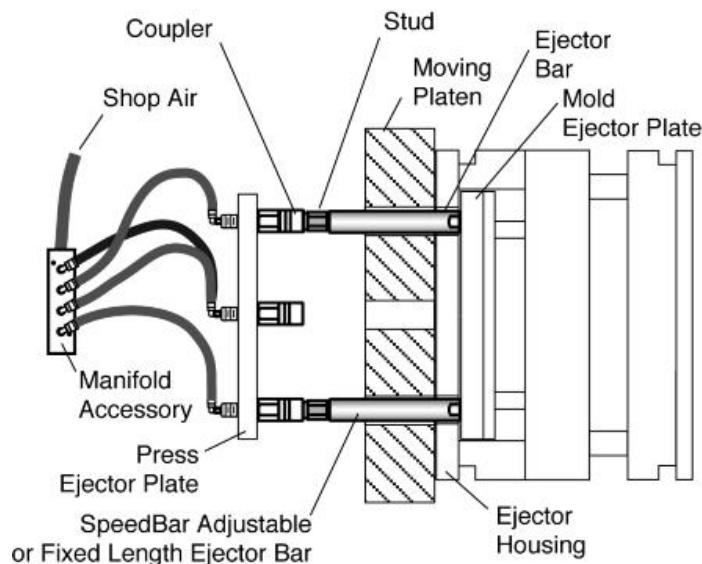


FasTie® Couplers
U.S. Patent No. 6,379,072

FasTie® Installation Examples

Typical Application for 2 or 4 Ejector Positions

This setup is designed for custom molders who use a variety of injection molds with different ejector patterns and ejector strokes.



Couplers are installed next to the Press Ejector Plate. Pull Studs are placed at the end of the mold-mounted ejector bars for easy removal. Molds are changed quickly without accessing the back of the Press Ejector Plate.

For example, a press with 4 ejector positions may be running molds using only the horizontal positions, but the next mold may need the 2 vertical ejector positions. Ejector housing shown is 1.062" thick.

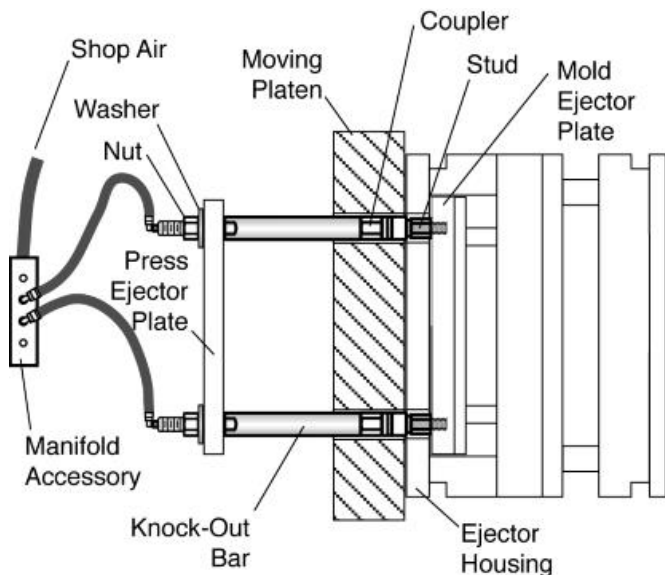
The Air Manifold supplies air to the end of each ejector bar for simultaneous coupler release.

PARTS LIST

Qty	Part
2 or 4	FasTie® Pull Stud
2 or 4	FasTie® Coupler
2 or 4	Fixed Length Ejector Bars or SpeedBar® Adjustable Length Bars
1	Air Manifold with tubing

Alternate Application for 2 or 4 Ejector Positions

This setup is designed for captive molders, or shops with tools using a standard ejector stroke.



Couplers are located at the end of the ejector bars mounted to the press ejector plate. Pull Studs are mounted to each mold in storage. Ejector connection is made without changing ejector bars. Ejector housing shown is 1.062" thick.

The Air Manifold supplies compressed air to the end of each ejector bar for simultaneous coupler release. Fixed length bars are finished on site, cut to length and tapped with 1/2-13 female thread.

PARTS LIST

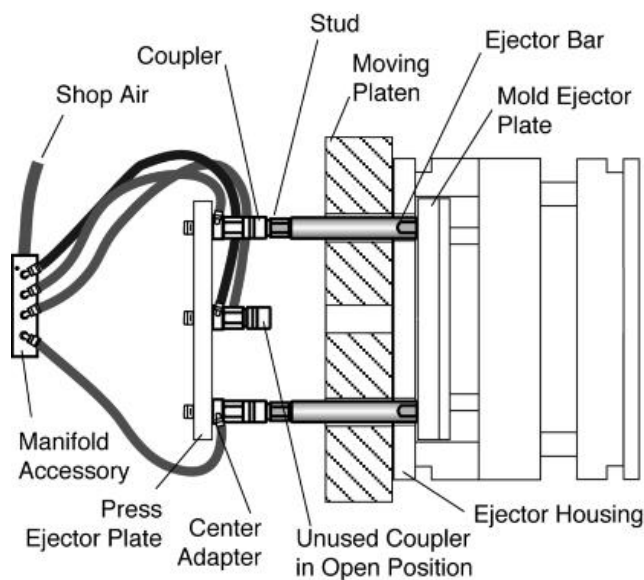
Qty	Part
2 or 4	FasTie® Pull Stud
2 or 4	FasTie® Coupler
2 or 4	Fixed Length Ejector Bars or SpeedBar® Adjustable Length Bars
1	Air Manifold with tubing

FasTie® Installation Examples

Alternate Application for 2 or 4 Ejector Positions

This setup is used where there is limited access to the back of the Press Ejector Plate. Custom molders using smaller presses will benefit from this application.

Couplers are installed next to the Press Ejector Plate. Pull Studs are placed at the end of the mold-mounted ejector bars for easy removal. Molds are changed quickly without accessing the back of the Press Ejector Plate.



For example, a press with 4 ejector positions may be running molds using only the horizontal positions, but the next mold may need the 2 vertical ejector positions. Ejector housing shown is 1.062" thick.

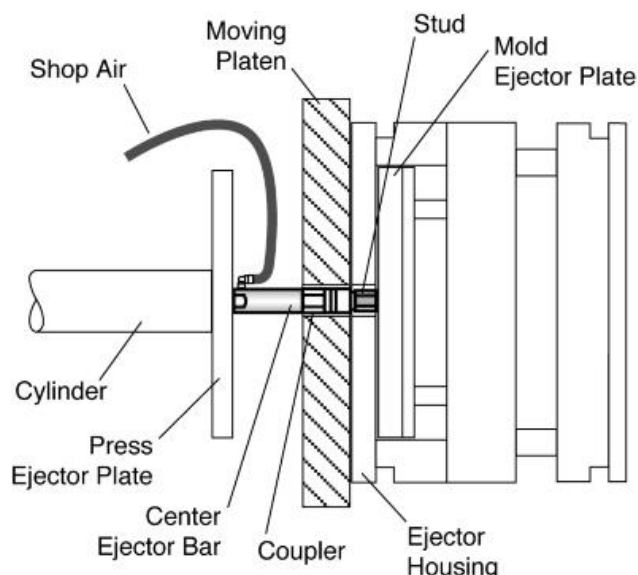
The Air Manifold supplies air to the mold side of the Press Ejector Plate with the use of adapters.

PARTS LIST

Qty	Part
2 or 4	FasTie® Pull Stud
2 or 4	FasTie® Coupler
2 or 4	Fixed Length Ejector Bars or SpeedBar® Adjustable Length Bars
1	Air Manifold with tubing

Center Ejector Position

For small presses with a center ejector, replace the cylinder bolt with a Center Ejector Bar and FasTie® coupler.



Center Ejector Bar and Coupler are installed into the Press Ejector Plate, with the Coupler attached to the end. Pull Stud is installed in the Mold Ejector Plate. Molds are changed quickly without accessing the back of the Press Ejector Plate. Ejector housing shown is 1.062" thick.

Shop air is supplied to the side of the center adapter. No Air Manifold is needed. Fully-threaded Center Ejector Bar may be shortened to proper length on-site. In many small machines, there may not be room for an ejector bar.

PARTS LIST

Qty	Part
1	FasTie® Pull Stud
1	FasTie® Coupler
1	Center Ejector Bar

FasTie® Specifications & References

Specifications

Maximum operating temperature.....	300°F (149°C)
Air pressure range	80 - 100 psi
Pull Stud material	Hardened Steel
Ejector bar and coupler material	High Strength Steel
Threaded Pull Studs	B7 Alloy or Comparable
Air manifold material	Anodized Aluminum
Air tubing material	1/8" OD Nylon

Press Requirements

	COUPLER SIZE		
	1"	1-3/8"	2"
Platen thru hole min.	Ø1.063"	Ø1.45"	Ø2.063"
	Ø27mm	Ø36.8mm	Ø52.4mm
Ejector plate thru hole min.	Ø0.512"	Ø0.641"	Ø0.765"
	Ø14mm	Ø16.5mm	Ø19.4mm
Ejector force per coupler max.	2.5 tons	5.5 tons	7.5 tons

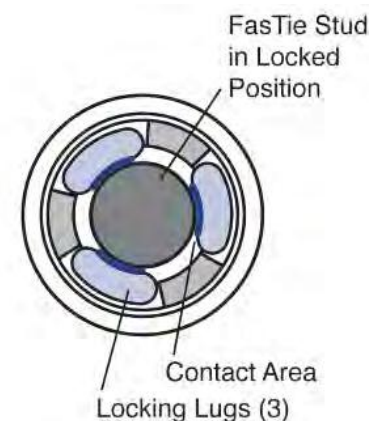
Recommended FasTie® Size per Press Size & Knockout Qty.

KNOCKOUT QUANTITY			
Press Tonnage	1 (Center)	2	4
0-250	1" HS	1" HS	1" HS
250-500	1-3/8"	1" HS or 1-3/8"	1" HS or 1-3/8"
500-750	2"	1-3/8" or 2"	1-3/8" or 2"
750-1000	2"	1-3/8" or 2"	1-3/8" or 2"
1000+	Do not use	2"	2"

FasTie® 1" Components

FasTie® Coupler Bearing Surface Cross-Section

High Strength Coupler Design employs three locking lugs, dramatically increasing the load-bearing surface area of the components

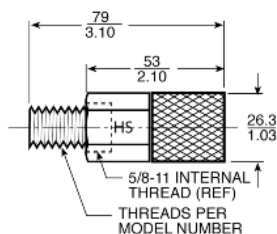


High Strength 1" FasTie®

High Strength FasTie® Couplers & Pull Studs

FasTie® 1" Coupler

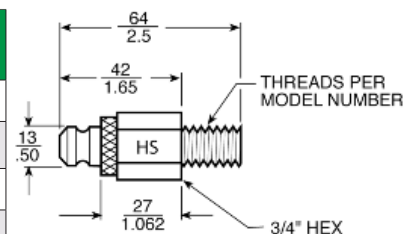
CATALOG NO.	THREAD SIZE
FTFHS-50	1/2-13
FTFHS-63	5/8-11
FTFHS-M12	M12 X 1.75
FTFHS-M16	M16 X 2



Coupler

FasTie® 1" Pull Stud

CATALOG NO.	THREAD SIZE
FTMHS-38	3/8-16
FTMHS-50	1/2-13
FTMHS-63	5/8-11
FTMHS-M12	M12 X 1.75
FTMHS-M16	M16 X 2
FTMHS-M20	M20 X 2.5



Pull Stud

Center knock-out, multiple and high speed ejection indicate the need for High-Strength FasTie® Couplers and Pull Studs.

Note: Do not use High-Strength 1" FasTie® Couplers in combination with original 1" version. Damage to couplers will result. High-Strength Couplers and Pull Studs are longer than the original 1" parts, and are not to be used in combination with Original Couplers and Pull Studs.

FasTie® Accessories

Additional parts to aid installation and use:



Speed Bar®
U.S. Patent No. 6,315,514

Speed Bar®

- The SpeedBar® Adjustable Length Ejector Bar changes length without tools $\pm 1/2$ " in increments of .006". Air passes through the bar for air hook-up at the back of the press ejector plate.

Note: Only available for 1" FasTie® System



Fixed Length Ejector Bar

Fixed Length Ejector Bar

- The Fixed Length Ejector Bar provides an air passage to the back of the press ejector plate. Several lengths are available with one blank end for on-site finishing.

Note: Only available for 1" FasTie® System



Center Ejector Bar



Center Adapter

Center Ejector Bar & Center Adapter

- The Center Ejector Bar and Center Adapter provide an air passage in front of the press ejector plate for center knockout. Also use for multiple knockouts.

Note: Center Ejector Bar only available for 1" FasTie® System



Air Manifold

Air Manifold

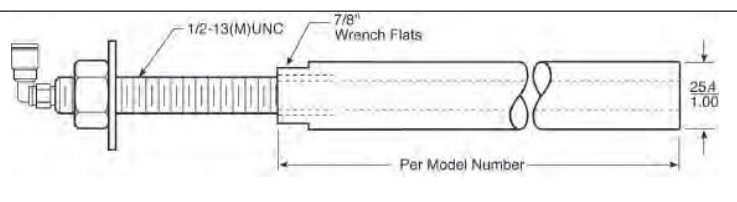
- The Air Manifold splits single air supply into four circuits to aid air connection. Comes with 1/8" diameter tubing and pneumatic connectors.

Ask about special thread sizes for ejector bars and center adapters

FasTie® 1" Accessories

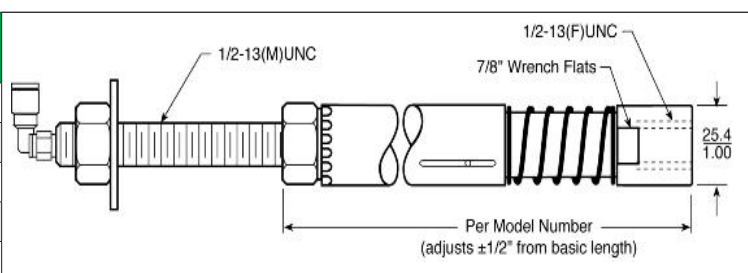
Fixed Length Ejector Bar®

CATALOG NO.	LENGTH
FTBB-50-8	8"
FTBB-50-10	10"
FTBB-50-12	12"
FTBB-50-14	14"



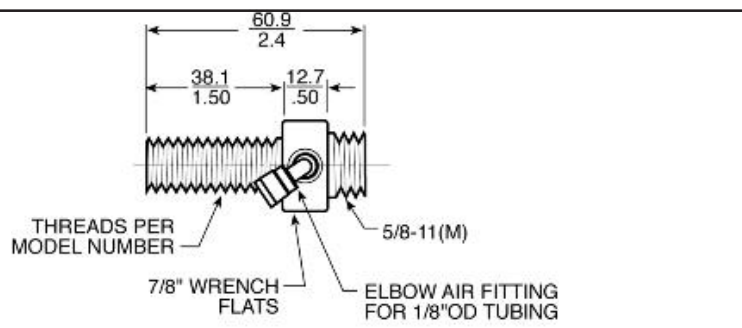
Speed Bar® Adjustable Ejector Bar

CATALOG NO.	LENGTH	CATALOG NO.	LENGTH
SBAB-50-6	6"	SBAB-50-11	11"
SBAB-50-7	7"	SBAB-50-12	12"
SBAB-50-8	8"	SBAB-50-13	13"
SBAB-50-9	9"	SBAB-50-14	14"
SBAB-50-10	10"		



Center Adapter

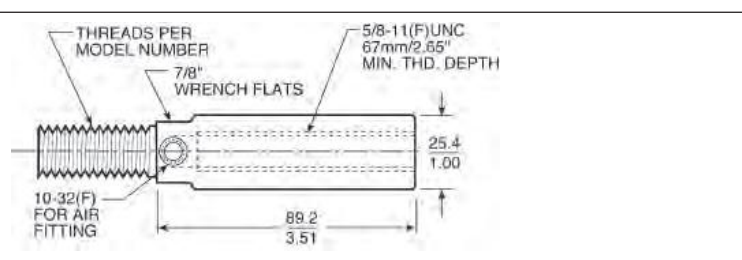
CATALOG NO.	THREAD SIZE
FTCA-63	5/8-11
FTCA-M12	M12 x 1.75
FTCA-M16	M16 x 2
FTCA-M20	M20 x 2.5



Center Bar

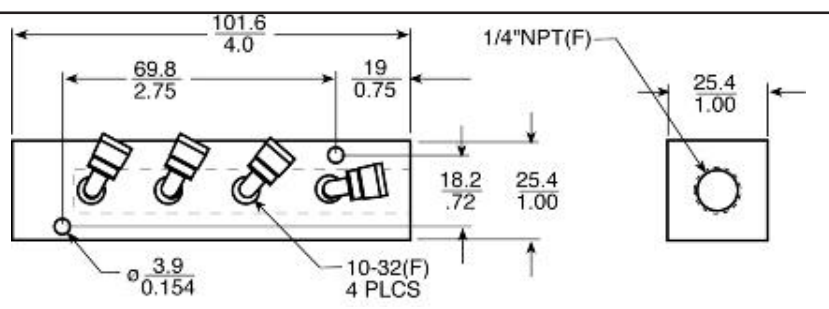
CATALOG NO.	THREAD SIZE
FTCA-63-63*	5/8-11
FTCA-M16-63*	M16 x 2

*Use with FTFHS-63 only



Air Manifold

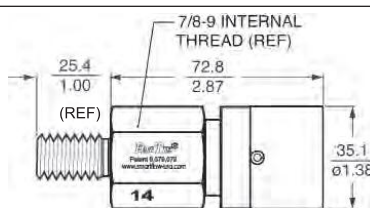
AIR MANIFOLD FTAM-100 PARTS LIST	
Qty.	Description
1	FTAM-100 (Air Manifold)
4	FTPF-2 (1/8" elbow pneumatic fitting)
4	FTT-125 (Ø1/8" x 4ft nylon tubing)



FasTie® 1-3/8" & 2" Components Accessories

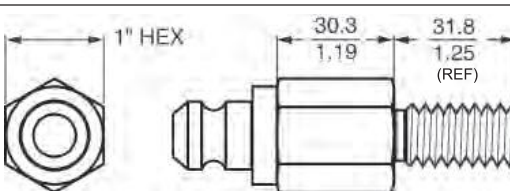
FasTie® 1-3/8" Coupler

CATALOG NO.	THREAD SIZE
FTF1.4-63	5/8-11
FTF1.4-75	3/4-10
FTF1.4-M16	M16 x 2
FTF1.4-M20	M20 x 2.5



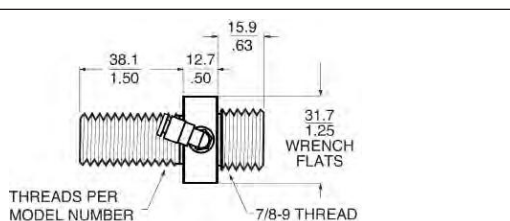
FasTie® 1-3/8" Pull Stud

CATALOG NO.	THREAD SIZE
FTM1.4-50	1/2-13
FTM1.4-63	5/8-11
FTM1.4-75	3/4-10
FTM1.4-M16	M16 x 2
FTM1.4-M20	M20 x 2.5



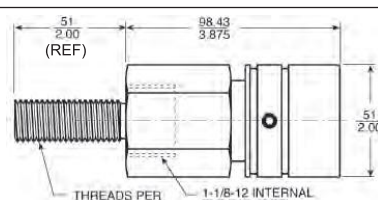
FasTie® 1-3/8" Center Adapter

CATALOG NO.	THREAD SIZE
FTCA1.4-63	5/8-11
FTCA1.4-75	3/4-10
FTCA1.4-M16	M16 x 2
FTCA1.4-M20	M20 x 2.5



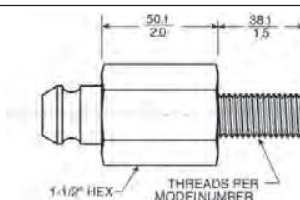
FasTie® 2" Coupler

CATALOG NO.	THREAD SIZE
FTF2-63	5/8-11
FTF2-75	3/4-10
FTF2-M16	M16 x 2
FTF2-M20	M20 x 2.5



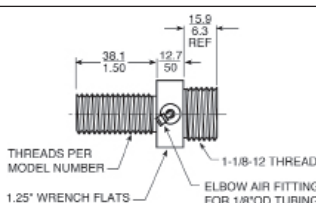
FasTie® 2" Pull Stud

CATALOG NO.	THREAD SIZE
FTM2-63	5/8-11
FTM2-75	3/4-10
FTM2-M16	M16 x 2
FTM2-M20	M20 x 2.5



FasTie® 2" Center Adapter

CATALOG NO.	THREAD SIZE
FTCA2-75	3/4-10
FTCA2-M16	M16 x 2
FTCA2-M20	M20 x 2.5



Ejector bars for 1-3/8" & 2" FasTie's are available as special orders. Contact your representative for information.

Retrofit existing ejection systems with FasTie®

Determine New Ejector Bar Length

To determine new ejector bar length:

- Identify length of current solid ejector bar (*Figure 1*)
- Select connected FasTie® Length from table below
- Subtract connected FasTie® Length from current solid ejector bar length
- Subtract center adapter length, if needed
- Result is new FasTie® ejector bar length (*Figure 2*)

CONNECTED FASTIE® LENGTHS		
DESCRIPTION	CATALOG NO.s	"X" LENGTH
High Strength 1" FasTie	FTFHS-xx & FTMHS-xx	3.162" / 80.3mm
1-3/8" FasTie	FTF 1.4-xx & FTM 1.4-xx	4.300" / 109.2 mm
2" FasTie	FTF2-xx & FTM2-xx	5.875" / 149.2mm

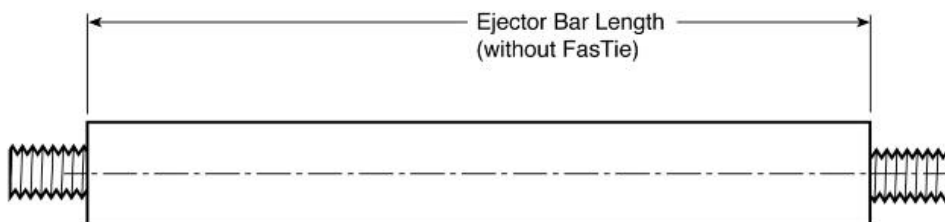


Figure 1

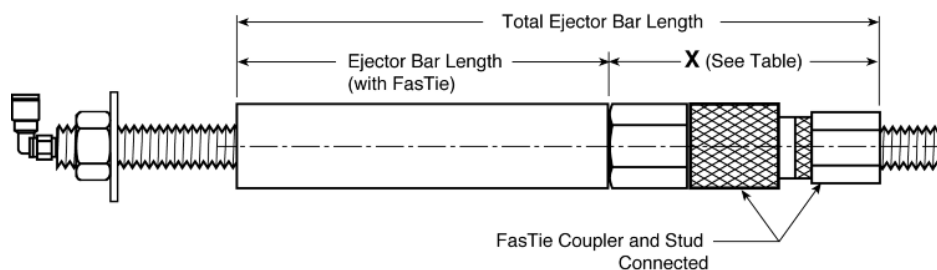


Figure 2