

**THINSWITCH**



Switch contact adjustment



**Adjustable Design!**

Verifies ejector plate return before closing mold. Mount inside ejector housing and wire to machine controls. Use for core slides or any place where space is limited.

- Prevents Costly Mold Damage
- 3/16" Thick
- Fits Behind Ejector Plate
- Requires only 2 screw holes
- Very Economical to Install
- Ten million cycle mechanical life
- Adjustable operating point
- Electrical Capacity at 240V  
4 Amp Inductive 5 Amp Resistive
- SPDT
- 6' Wire included - leads stripped & tinned
- U.S. Patent # 5,446,252
- Made in the U.S.A.

- .187" thick, same height as rest buttons
- Wire to machine controls to prevent mold closing before ejector plate has completely returned.
- Use two in series in opposite corners of ejector housing of larger molds to ensure return of ejector plate.
- Mounts inside ejector housing where it cannot be damaged.
- Operating height adjustment between .187" and .250".

**MATERIALS**

BODY - Fiberglass reinforced nylon  
SPRING - Stainless steel  
WIRE - 22 GA stranded, 3-conductor w/ jacket

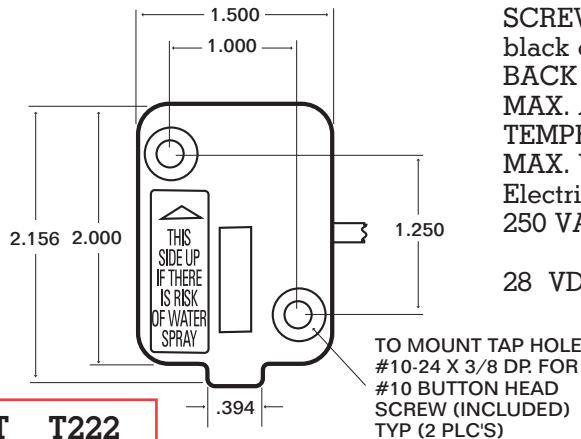
SCREWS - Hardened steel, black oxide finish  
BACK COVER - Polyester film

MAX. AMBIENT TEMPERATURE - 175°F  
MAX. VOLTAGE - 250

Electrical Specifications -  
250 VAC      5 amps resistive  
                  4 amps inductive  
28 VDC(sea level) 5 amps resistive  
                  4 amps inductive

**T222**  
for use up to 175°F  
**\$90.00 ea.**

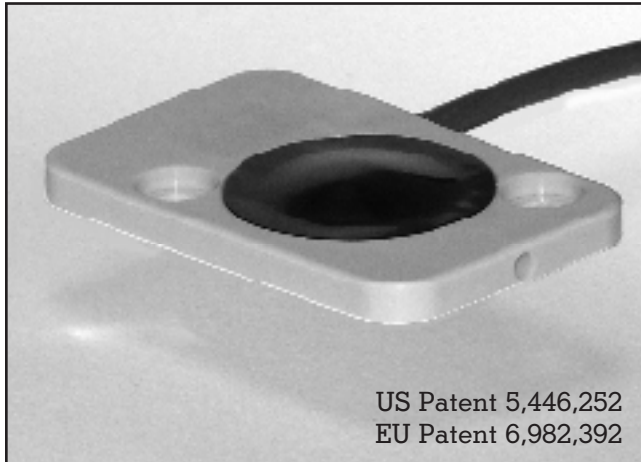
**HT291**  
for use up to 250°F  
**\$102.00 ea.**



QUANTITY DISCOUNT T222	
1 - 9 switches	\$90.00
10-24 switches	\$85.50
25+ switches	\$81.00

# Limit Switch-Thinswitch™

Liquid Resistant



US Patent 5,446,252  
EU Patent 6,982,392

## General Description

Smartflow® Thinswitch® Liquid-Resistant Limit Switch is designed to verify ejector plate return in areas where occasional water or oil spray is present. The Thinswitch helps prevent accidental mold close in injection molding applications by providing a position switch that is tied to the injection molding machine control. The liquid resistant switch uses the same mounting hole locations as the original Thinswitch. The Thinswitch has been tested for reliability over 10 million cycles without failure. Two switches can be used in series for larger molds to ensure the ejector plate return, preventing costly mold damage.

## Features and Benefits

- ◆ Over 10 million cycle life
- ◆ 175°F (79.4°C) standard temperature rating
- ◆ 250°F (121°C) high temperature unit for higher temperature needs
- ◆ Adjustable actuation between .187" and .250" from the mold base.
- ◆ 3/16" thick design fits snugly behind the ejector plate between the rest buttons
- ◆ Stripped and tinned 6 ft. wire leads
- ◆ Mounting screws and wire clips included

## Pricing

### T222LR

175°F(79.5°C) operating temp.....\$123

### HT291LR

250°F(121°C) operating temp.....\$136

## Specifications

Part Number/Operating Temperature

### T222LR

Standard Model ..... 175°F max.  
(79.4°C max.)

### HT291LR

High Temp Model ..... 250°F max.  
(121°C max.)

Switching..... SPDT

## Electrical

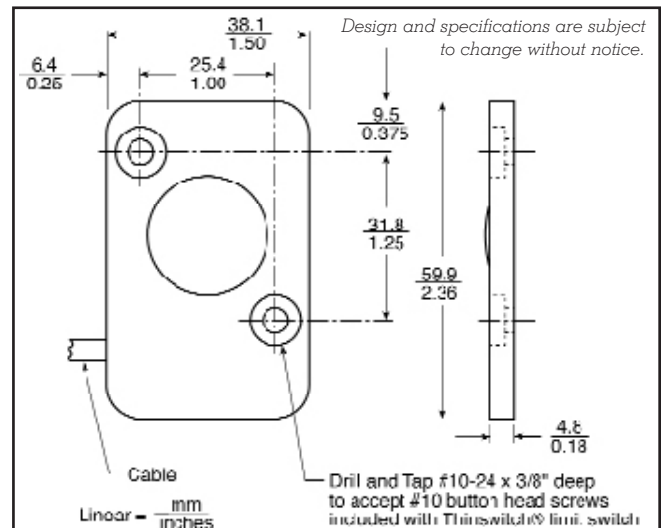
250VAC..... 5 Amps resistive  
4 Amps inductive  
28VDC (sea level) ..... 5 Amps resistive  
4 Amps inductive

Rated Current vs. Steel Temperature					
T222LR			HT291LR		
Amps	°F	°C	Amps	°F	°C
5.0	85	29.4	5.0	100	37.7
4.0	120	49.0	4.5	155	68.3
3.0	155	68.3	4.0	210	98.8
2.0	175	79.4	3.5	250	121.1

The Thinswitch® Limit Switch is designed for use in very low power mold protection control circuits. It is not intended to switch heavy loads in power applications.

## Materials

Body ..... Fiberglass-reinforced nylon  
Dome ..... Polyurethane  
Back Cover ..... Polyester film  
Wire Leads ..... 22ga stranded,  
3-conductor, shielded cable,  
6 ft. (1.8m) long,  
ends stripped and tinned



**VERSASWITCH™**

- Fits behind core
- Simply screw into mounting hole
- Very economical to install
- One million cycle mechanical life
- Adjustable operating point
- Electrical capacity at 240V, 3 Amp inductive, 5 amp resistive
- SPDT
- 6' wire included - Leads stripped & tinned

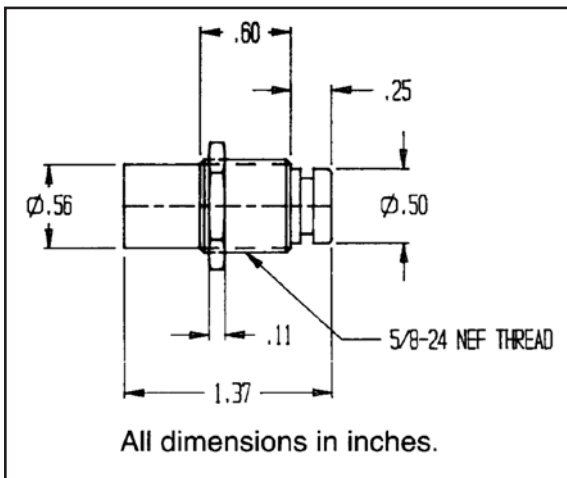
**Prevents  
Costly Mold  
Damage**



## MODEL V222 MATERIALS

BODY - Anodized aluminum  
PLUNGER - Stainless steel  
LOCKNUT - Stainless steel  
WIRE - 22 ga stranded, 3 conductor with jacket

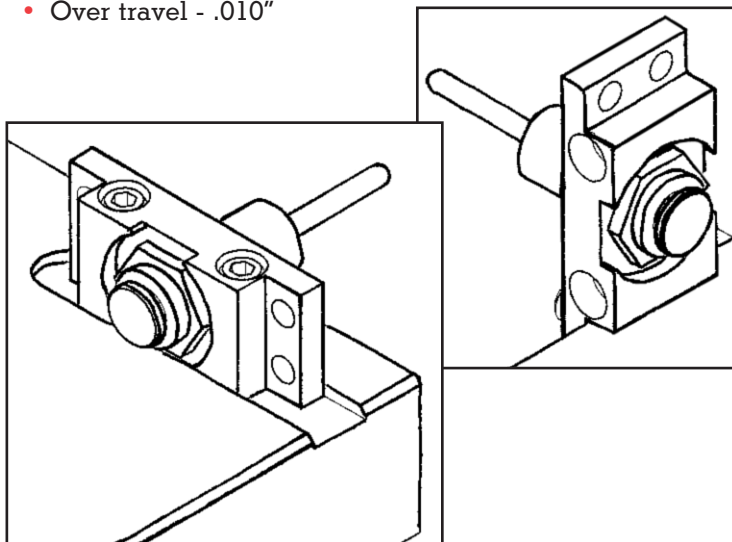
- Maximum ambient temperature - 180° F
- Maximum voltage - 240 VAC
- Operating Force - 1.6 kg./3.5 lb.
- Pretravel to operating point - .060"
- Over travel - .010"



## QUANTITY DISCOUNT

Versaswitch Part # V222

1 - 9 switches .....	\$90.00
10-24 switches .....	\$85.50
25+ switches.....	\$81.00

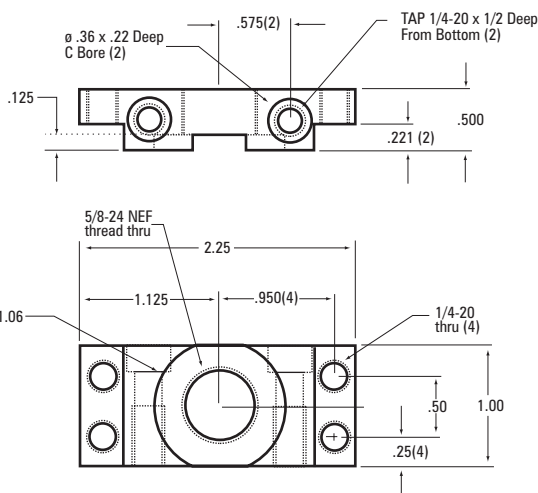
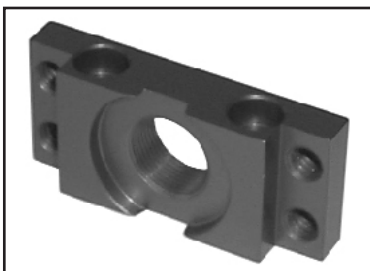


## ACCESSORIES

P222 Twist lock electrical plug **\$34.80**

BCR222 Electrical box, cover plate, and receptacle **\$132.00**

VB222 Mounting Bracket (Red Anodized Aluminum) **\$26.00**





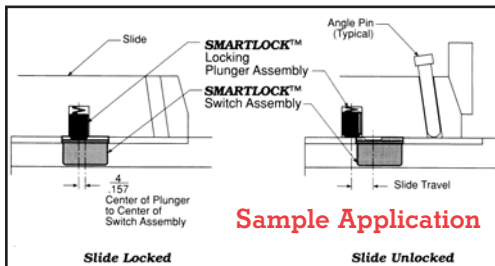
## Mode of Operation

Installed in the slide, the plunger moves into a recess in the locking plate of the switch assembly, which is installed in the mold plate. The switch actuator, located in the bottom of the recess, closes the normally open switch contacts when the plunger is seated in the locking plate recess. When the break away force is applied to the slide, the lock is released, and the switch returns to its normal state.

## Slide Retainer & Limit Switch

**A revolutionary detent and safety switch. Confirms slide position and prevents mold damage from premature molded part ejection.**

The Smartflow™ SMARTLOCK™ slide retainer and limit switch is designed for injection molders to provide switching plus slide retention in one unique package. The SMARTLOCK™ locking function prevents premature slide movement during molded part ejection while the SPDT switch is simultaneously actuated.

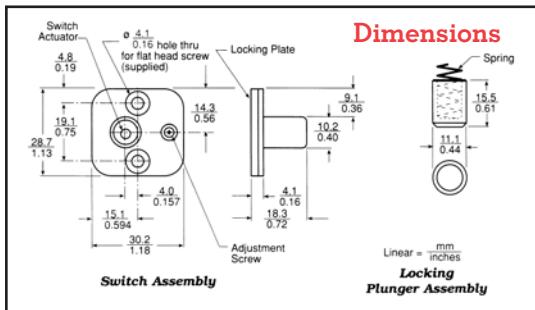


## Sample Application

The SMARTLOCK™ slide retainer and limit switch has been tested for reliability over 10 million cycles without failure. Two or more switches may be used for larger molds, or molds with multiple slides. Increased safety and prevention of mold damage result when the SMARTLOCK™ slide retainer and limit switch is installed in a mold.

## Features and Benefits

- Over 10 million cycle life provides long dependable service.
- 17-27 pounds holding force: adjustable for optimum operation
- 175°F (79.4°C) standard temperature rating allows installation into most molding applications.



- 250°F (121°C) high temperature unit provides additional application flexibility.

- Superior flush mount switch shielded from damage by mounting inside a protective milled pocket.
- Stripped and tinned 6 ft. wire leads make the switch ready to install without modification.
- Included mounting screws and wire clips help install the SMARTLOCK™ switch neatly and easily.

The SMARTLOCK™ slide lock and limit switch provides a slide lock and SPDT switch in one unique package for use in molding applications to verify slide position and prevent mold damage. Install the plunger and switch assemblies into corresponding milled pockets in the slide and mold plate. In operation, the plunger moves into a recess in the locking plate, providing a lock with 25 lbs maximum breakaway force. (The breakaway force is adjustable by changing the plunger bore depth.) The switch actuator is located in the bottom of locking plate recess. When the plunger is seated in the locking plate, the normally open contacts are closed.

## Specifications:

Maximum Breakaway Force: 17-27 lbs. (8-12 kg)-user adjustable  
 Electrical: 250VAC, 28VDC(4 Amps Inductive, 5 Amps Resistive)  
 Operating Temperature

**SL222: 175°F max.(79.4°C)**

**SL291: 250°F max.(121°C)**

Switching: SPDT

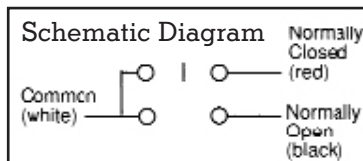
## Materials:

Body: Fiberglass-reinforced nylon

Locking Plate: Hardened Steel

Plunger and Spring: Hardened Steel

Wire Leads: 22ga stranded, 3-conductor, shielded cable, 6ft (1.8m) long, ends stripped and tinned



## Parts Included:

- (1) Switch Assembly
- (1) Plunger Assembly
- (2) 6-32 flat head switch mounting screws,
- (2) 10-24 wire clamp mounting screws
- (2) wire clamps,
- (1) instruction sheet

**SL222 Standard Smartlock™ \$137.00**  
**SL291 Hi-Temp Smartlock™ \$150.00**

**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 is permanently mounted to the press ejector plate. The quick-connect locking mechanism in the coupler snaps mechanically onto the mold-mounted stud during mold installation. To release the ejectors, apply shop air to the coupler. The coupler opens to release the 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. Two **Fastie®** sizes are available: 1-inch model for presses 500 tons and under and 2-inch model for presses larger than 500 tons.



**Accessories**

The **Fastie®** system features additional parts to aid installation and use. These accessories can be used in combination to accommodate your specific press and mold applications. Different thread sizes are available to suit most presses and molds.

- **K-LINK™** Ejector Cushions\*
- **SPEEDBAR®** Adjustable Length Ejector Bars\*
- Fixed Length Blank Ejector Bars
- Center Knockout Adapters
- Center Knockout Bars
- Air Manifolds

\* 1-inch only

**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.
- **K-Link™** cushion helps protect valuable presses and ejector system parts from damage due to improper setup.\*
- **SpeedBar™** adjusts quickly without tools to the exact length required ( $\pm 1/2"$ (12.7mm) from nominal in .006"(.15mm) increments).\*
- **SpeedBar™** relieves molders from the time and trouble of machining ejector bars to fit different molds.\*

\* 1-inch only

**Specifications**

Allowable press tonnage: 1-inch ..... $\leq$  500 tons  
 2-inch ..... $\geq$  500 tons  
 Maximum operating temp .....300°F (149°C)  
 Air pressure range .....80 - 100 psi  
 Stud material .....Hardened Steel  
 Ejector bar and coupler material .....High Strength Steel  
 Air manifold material .....Aluminum  
 Air tubing material .....1/8"OD Nylon

**Press requirements:**

	Coupler Size	
	1-inch	2-inch
Platen thru hole min.	$\phi$ 1.063" $\phi$ 27 mm	$\phi$ 2.063" $\phi$ 52.4 mm
Ejector plate thru hole min.	$\phi$ 0.512" $\phi$ 14mm	$\phi$ 0.765" $\phi$ 19.4mm
Ejector force per coupler max.	2.5 tons	7.5 tons

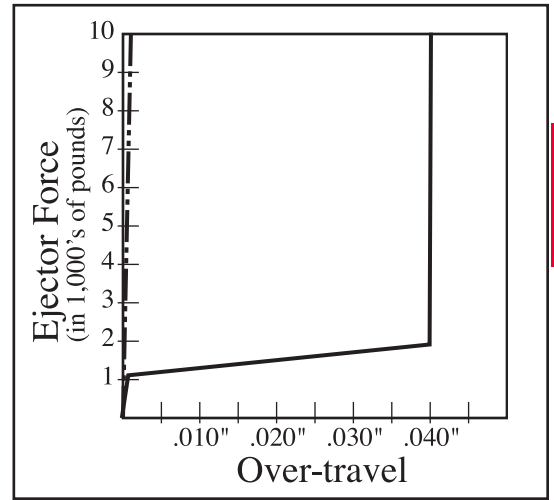
### K-LINK

K-LINK ejector cushion is a shock-absorber for the ejector system of an injection molding press. The K-Link helps protect molds, ejector bars, and the injection molding press from fatigue due to harsh forces present during part ejection. The K-Link also protects against a mis-adjusted ejector home position up to 1mm or .040".

Typical ejector systems apply 5 to 12 tons of force upon expensive mold and machine components. Constant pounding during ejection (especially rapid, multiple ejector strokes) fatigues ejector components; wear or damage is not immediately evident. Over time, ejector system linkage weakens and may break without warning. Resulting machine and mold repair is costly in terms of parts, labor and machine down-time. The K-Link ejector cushion and a periodic maintenance program helps protect you from these preventable losses.

Use the K-Link to prevent damage to the FasTie couplers. The K-Link can also stand alone as a shock-absorber used with your existing ejector bars.

For use with 1-inch FasTie only.



### Fixed Length Ejector Bar

Fixed Length Ejector Bar is a solid bar that provides an air passage from the back of the press ejector plate to the FasTie Coupler. Several lengths are stocked with one blank end for on-site finishing.



### SpeedBar

SPEEDBAR is an adjustable length ejector bar that quickly compensates for variations in different molds. Used with the FasTie system, mold ejector plate tie-in and adjustment times are significantly reduced. The adjustment sleeve is rotated without tools to shorten or lengthen the bar length up to 1/2" in increments of .006". Once the desired length is set, the springloaded sleeve securely locks in your adjustment.



### Air Manifolds, Center Adapters and Center Ejector Bars

Air Manifolds, Center Adapters, and Center Ejector Bars aid in installation of the FasTie System. See pages 235 and 236 for Installation Examples. Custom sizes are available.

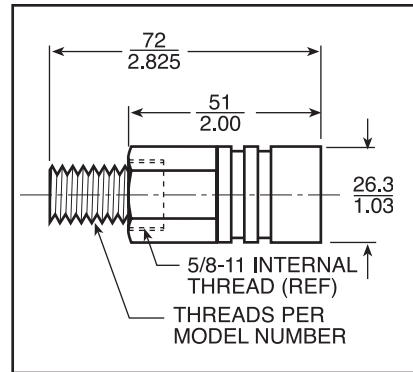


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275

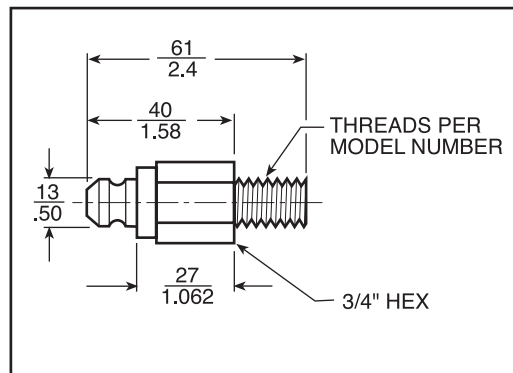
**Couplers**

Model No.	Thread Size	Price Each
FTF50	1/2-13(M)	\$276.00
FTF63	5/8-11(M)	\$276.00



**Studs**

Model No.	Thread Size	Price Each
FTM38	3/8-16(M)	\$36.00
FTM50	1/2-13(M)	\$36.00
FTM63	5/8-11(M)	\$36.00
FTCS4	1/2-13(F)	\$36.00
FTM16-2M	M16X2	\$50.40

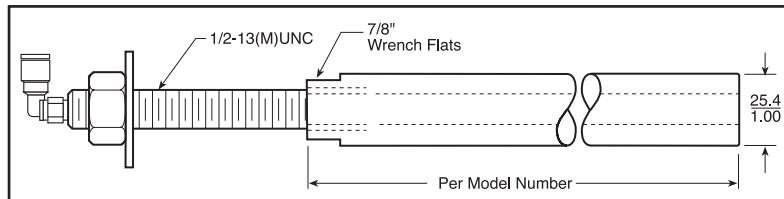


**Ejector Bars**

Measure ejector length very closely (within  $\pm .002''$ ) to insure proper ejector bar function. Subtract 2" length for FasTie coupler, and 3.75" length for the K-Link cushion when used.

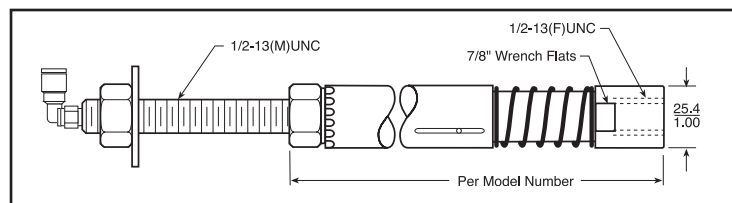
**Fixed Length Blank**

Model No.	Length	Price Each
FTBB50-8	8"	\$73.20
FTBB50-10	10"	\$76.80
FTBB50-12	12"	\$80.40
FTBB50-14	14"	\$84.00



**SpeedBar™ Adjustable  $\pm 1/2''$**

Model No.	Length	Price Each
SBAB50-6	6"	\$159.60
SBAB50-7	7"	\$166.80
SBAB50-8	8"	\$174.00
SBAB50-9	9"	\$181.20
SBAB50-10	10"	\$187.20
SBAB50-11	11"	\$194.40
SBAB50-12	12"	\$201.60
SBAB50-13	13"	\$207.60
SBAB50-14	14"	\$212.40



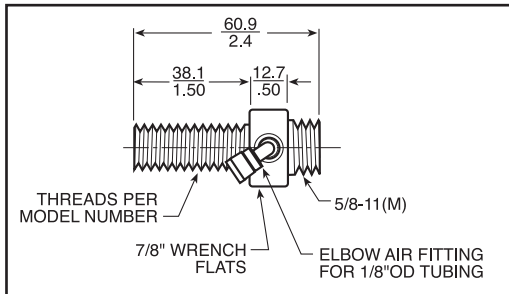
# Fastie® - Quick Ejector Tie-In System

## Part Number and Pricing for 1" Parts



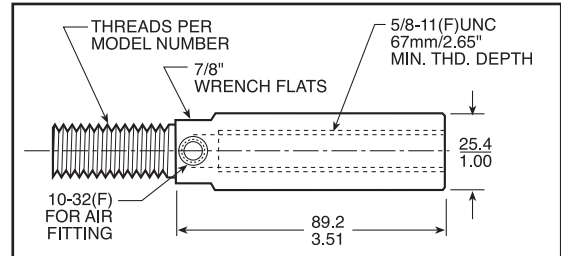
### Center Adapter

Model No.	Thread Size	Price Each
FTCA63M0.5	5/8-11(M)	\$64.80
FTCA16M0.5	M16X2(M)	\$64.80



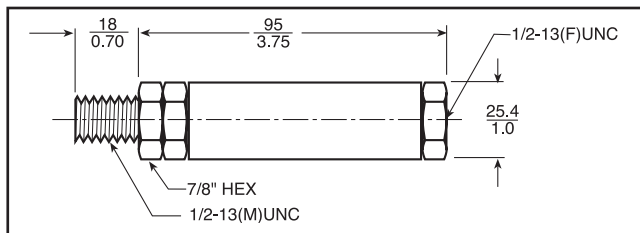
### Center Bar

Model No.	Thread Size	Price Each
FTCA63M63F	5/8-11(M)	\$90.00
FTCA16M63F	M16(M)	\$90.00



### K-Link

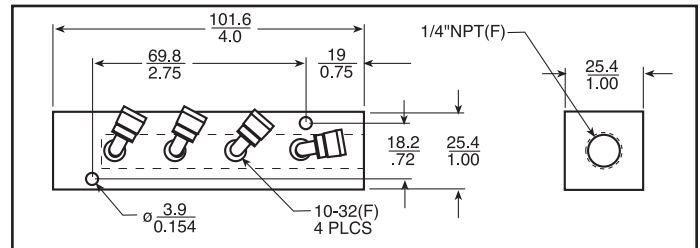
Model No.	Price Each
FTKL50	\$117.60



### Air Manifold Assembly

Model No.	Price Each
FTAM100	\$48.00

*Included: (1) manifold, (4) 1/8" elbow pneumatic fitting, (4) ø1/8" x 4ft. tubing*

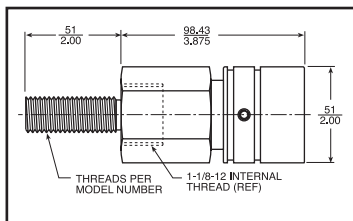


# Fastie® - Quick Ejector Tie-In System

## Part Number and Pricing for 2" Parts

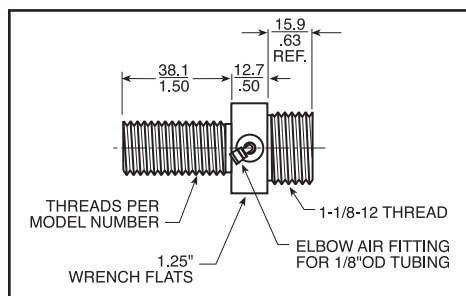
### Couplers

Model No.	Thread Size	Price Each
FTF2-75	1/2-13(M)	\$384.00
FTF2-16	5/8-11(M)	\$384.00



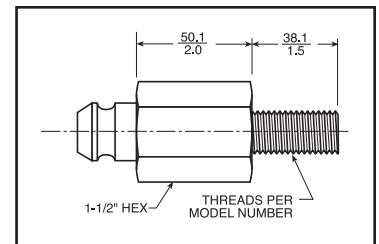
### Center Adapter

Model No.	Thread Size	Price Each
FTCA75M0.5	3/4-10(M)	\$114.00
FTCA16M0.5	M16X2(M)	\$114.00



### Studs

Model No.	Thread Size	Price Each
FTF2-75	3/4-10(M)	\$72.00
FTF2-16	M16x2(M)	\$90.00



**Ejector Bars for 2" Fastie are special orders!**

featuring the best of:

Northern Supply (800-365-6565) • Nickerson Machinery (800-821-9534) • OHS (Ontario-888-809-7050/Quebec-888-475-9224)

# FasTie® - Quick Ejector Tie-In System

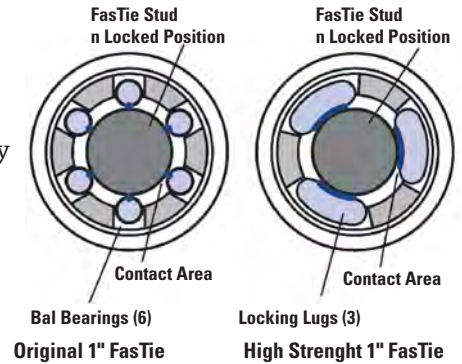
## 1-Inch Couplers and Studs



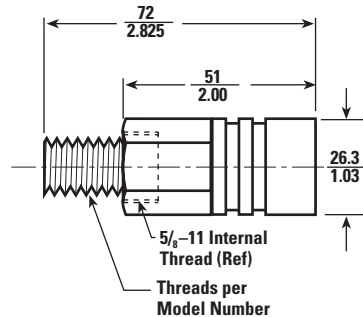
### FasTie Coupler Bearing Surface Cross-Sections

**Original FasTie Coupler Design** uses 6 ball bearings supplying 6 points of contact for load-bearing surface area.

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

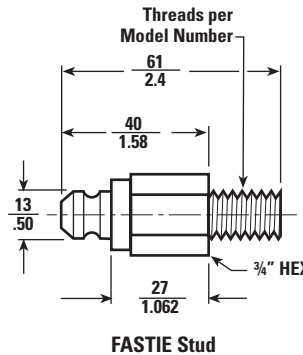


### Original FasTie Couplers and Studs



FASTIE Coupler

Model Number	Thread Size	Price Each
FTF50	1/2-13	\$281.75
FTF63	5/8-11	\$281.75
FTFM12	M12 x 1.75	\$293.25
FTFM16	M16 x 2	\$293.25



FASTIE Stud

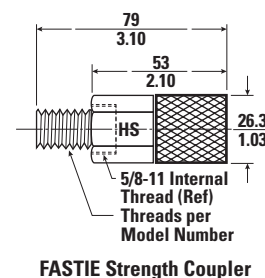
Model Number	Thread Size	Price Each
FTM38	3/8-16	\$40.25
FTM50	5/8-11	\$40.25
FTM63	M12 x 1.75	\$40.25
FTMM12	M12 x 1.75	\$51.75
FTMM16	M16 x 2	\$51.75
FTMM20	M20 x 2.5	\$51.75

### High Strength FasTie Couplers and Studs

*Do not use HS FasTie Couplers in combination with original version (above). Damage to couplers will result.*

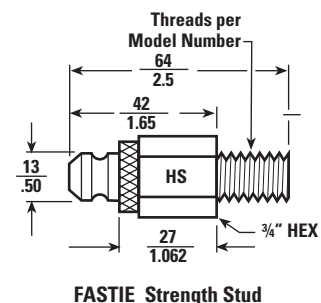
Center knock-out, multiple and high speed ejection indicate the need for High Strength FasTie Couplers and Studs. High Strength Couplers and Studs are longer than the original parts (see above), and are not to be used in combination with Original Couplers and Studs. All Accessories are compatible with both styles of Couplers and Studs.

Model Number	Thread Size	Price Each
FTMHS38	3/8-16	\$40.25
FTMHS50	5/8-11	\$40.25
FTMHS63	M12 x 1.75	\$40.25
FTMHSM12	M12 x 1.75	\$51.75
FTMHSM16	M16 x 2	\$51.75
FTMHSM20	M20 x 2.5	\$51.75



FASTIE Strength Coupler

Model Number	Thread Size	Price Each
FTFHS50	1/2-13	\$307.05
FTFHS63	5/8-11	\$307.05
FTFHSM12	M12 x 1.75	\$318.55
FTFHSM16	M16 x 2	\$318.55

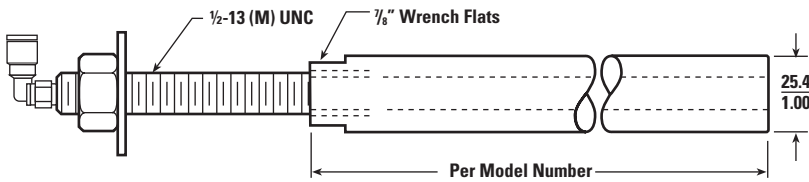


FASTIE Strength Stud

# FasTie® - Quick Ejector Tie-In System

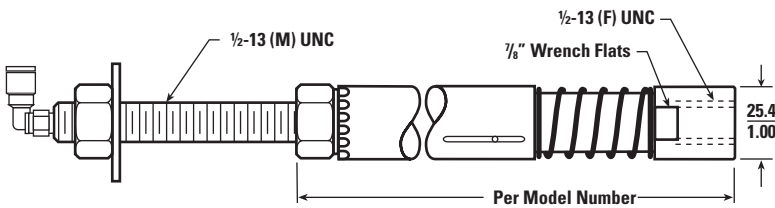
## FasTie 1-Inch Accessories

### Fixed Length Ejector Bar ½-13 threads



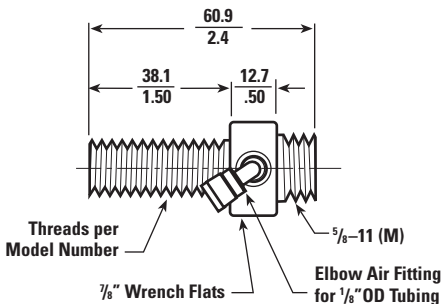
Model Number	Length	Price Each
FTBB50-8	8"	\$85.10
FTBB50-10	10"	\$88.55
FTBB50-12	12"	\$93.15
FTBB50-14	14"	\$96.60

### SPEEDBAR Adjustable Ejector Bar ½-13 threads



Model Number	Length	Price Each
SBAB50-6	6"	\$175.95
SBAB50-7	7"	\$184.00
SBAB50-8	8"	\$192.05
SBAB50-9	9"	\$200.10
SBAB50-10	10"	\$205.85
SBAB50-11	11"	\$213.90
SBAB50-12	12"	\$221.95
SBAB50-13	13"	\$228.85
SBAB50-14	14"	\$234.60

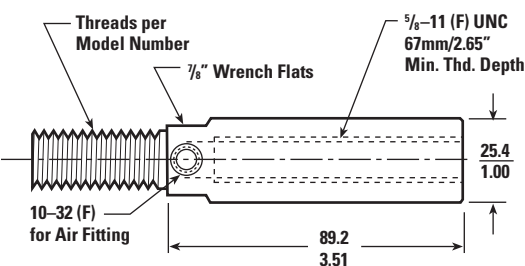
### Center Adapter



Model Number	Thread Size	Price Each
FTCA63	5/8-11"	\$62.10
FTCAM16	M16 x 2	\$71.30
FTCAM20	M30 x 25	\$86.25

Air Handling Parts		Price Each
FTAM100	Air Manifold Assembly	\$46.00
FTPF2	Pneumatic Fitting 90° Elbow, 10-32 x 1/8" OD tube	\$4.03
FTT125	Tubing 1/8" OD, nylon	\$0.46

### Center Bar (use with FTF-63 or FTFHS-63 only)



Model Number	Thread Size	Price Each
FTCA63-63	5/8-11	\$124.20
FTCAM16-63	M16 x 2	\$124.20

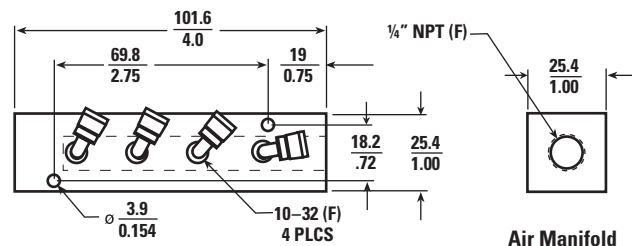
Call for a quote on thread sizes not shown

### FTAM100

Includes:

- manifold
- (4) 1/8" elbow pneumatic fittings
- (4) ø1/8" x 4ft tubing

$$\text{Linear} = \frac{\text{mm}}{\text{inch}} \text{ (TYP)}$$



### 277b

DME Moulding Supplies features the best of:

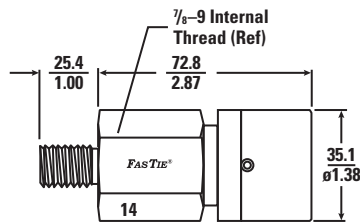
Northern Supply (800-365-6565) • Nickerson Machinery (800-821-9534) • OHS (Ontario-888-809-7050/Quebec-888-475-9224)

# FasTie® - Quick Ejector Tie-In System



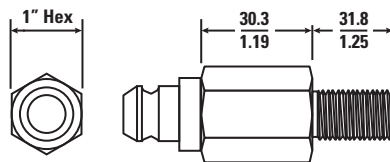
## FasTie® 1-3/8-Inch Components

1-3/8" FasTie Coupler



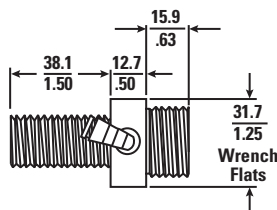
Model Number	Thread Size
FTF1.4-63	5/8-11
FTF1.4-75	3/4-10
FTF1.4-M16	M16 x 2
FTF1.4-M20	M20 x 2.5

1-3/8" FasTie Stud



Model Number	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

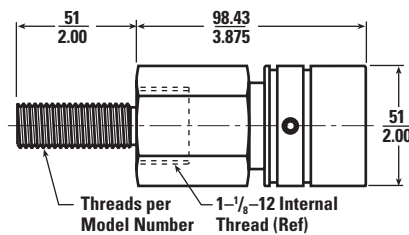
1-3/8" Center Adapter



Model Number	Thread Size
FTCA1.4-75	3/4-10
FTCA1.4-M16	M16 x 2
FTCA1.4-M20	M20 x 2.5

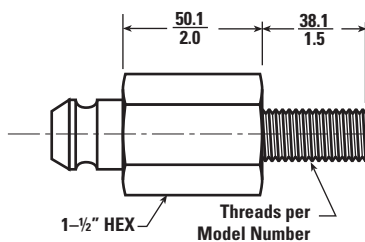
## FasTie 2-Inch Components

FasTie Coupler



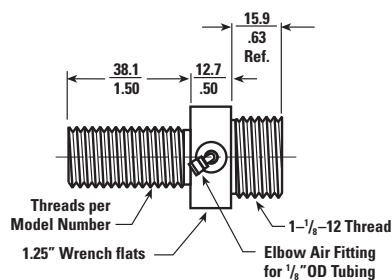
Model Number	Thread Size	Price Each
FTF2-63	5/8-11	\$391.00
FTF2-75	3/4-10	\$391.00

2" FasTie Stud



Model Number	Thread Size	Price Each
FTM2-63	5/8-11	\$74.75
FTM2-75	3/4-10	\$74.75
FTM2M16	M16 x 2	\$92.00
FTM2M24	M24 x 2.5	\$92.00

2" Center Adapter



Model Number	Thread Size	Price Each
FTCA2-75	3/4-10	\$103.50
FTCA2M16	M16 x 2	\$149.50
FTCA2M20	M20 x 2.5	\$149.50

**Ejector Bars for 1-3/8-Inch and 2-inch FasTie's are special orders.  
Contact your representative for information.**

Linear =  $\frac{\text{mm}}{\text{inch}}$   
(TYP)

## Determine Ejector Bar Length

- Determine length of Solid Ejector Bar
- Select Connected FasTie Length from table
- Subtract Connected FasTie Length from Solid Ejector Bar Length
- Subtract Center Adapter Length if needed
- Result is FasTie Ejector Bar Length

Connected FasTie Lengths		
Description	Part Numbers	"X" Length
Original 1" FasTie	FTF-xx and FTM-xx	3.062"/77.8mm
High Strength 1" FasTie	FTFHS-xx and FTMHS-xx	3.162"/80.3mm
1 3/8" FasTie	FTF14-xx and FTM 14-xx	4.300"/109.2mm
2" FasTie	FTF2-xx and FTM2-xx	5.875"/149.2mm

