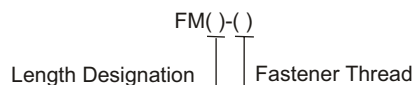
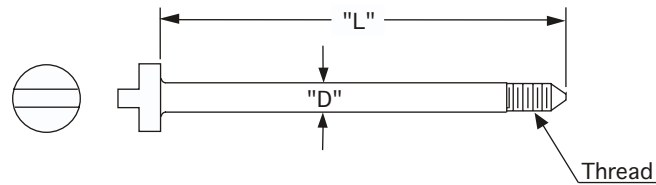


Part Number	Thread	"D"	"L"
FM01-5	4-40	.111	1.80
FM1-5	4-40	.111	2.30
FM2-5	4-40	.111	3.30
FM2.5-5	4-40	.111	3.80
FM3-5	4-40	.111	4.30
FM01-6	5-40	.123	1.90
FM1-6	5-40	.123	2.40
FM2-6	5-40	.123	3.40
FM2.5-6	5-40	.123	3.90
FM3-6	5-40	.123	4.40
FM01-632	6-32	.138	1.90
FM1-632	6-32	.138	2.40
FM2-632	6-32	.138	3.40
FM2.5-632	6-32	.138	3.90
FM3-632	6-32	.138	4.40
FM01-8	8-32	.164	2.00
FM1-8	8-32	.164	2.50
FM2-8	8-32	.164	3.50
FM2.5-8	8-32	.164	4.00
FM3-8	8-32	.164	4.50
FM4-8	8-32	.164	5.50

Part Number	Thread	"D"	"L"
FM01-1032	10-32	.189	2.10
FM1-1032	10-32	.189	2.60
FM2-1032	10-32	.189	3.60
FM2.5-1032	10-32	.189	4.10
FM3-1032	10-32	.189	4.60
FM4-1032	10-32	.189	5.60
FM5-1032	10-32	.189	6.60
FM01-1024	10-24	.189	2.10
FM1-1024	10-24	.189	2.60
FM2-1024	10-24	.189	3.60
FM2.5-1024	10-24	.189	4.10
FM3-1024	10-24	.189	4.60
FM4-1024	10-24	.189	5.60
FM5-1024	10-24	.189	6.60
FM01-10	12-28	.217	2.20
FM1-10	12-28	.217	2.70
FM2-10	12-28	.217	3.70
FM2.5-10	12-28	.217	4.20
FM3-10	12-28	.217	4.70
FM4-10	12-28	.217	5.70
FM5-10	12-28	.217	6.70

\*Appropriate length mandrels on this page are used with FBH1000 modular hand installation tools

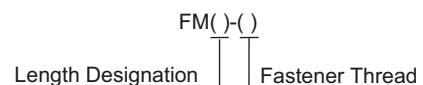


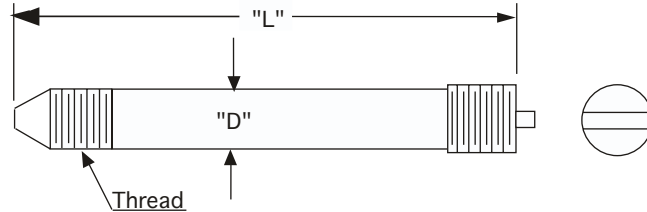


Part Number	Thread	"D"	"L"
FM01-420*	1/4-20	.248	2.40
FM1-420*	1/4-20	.248	2.85
FM2-420*	1/4-20	.248	3.85
FM2.5-420*	1/4-20	.248	4.40
FM3-420*	1/4-20	.248	4.85
FM4-420*	1/4-20	.248	5.85
FM5-420*	1/4-20	.248	6.85
FM01-12*	1/4-28	.248	2.40
FM1-12*	1/4-28	.248	2.85
FM2-12*	1/4-28	.248	3.85
FM2.5-12*	1/4-28	.248	4.40
FM3-12*	1/4-28	.248	4.85
FM4-12*	1/4-28	.248	5.85
FM5-12*	1/4-28	.248	6.85
FM6-12*	1/4-28	.248	7.85
FM01-518	5/16-18	.310	2.50
FM1-518	5/16-18	.310	3.00
FM2-518	5/16-18	.310	4.00
FM2.518	5/16-18	.310	4.50
FM4-518	5/16-18	.310	5.00
FM5-518	5/16-18	.310	6.00

Part Number	Thread	"D"	"L"
FM01-14	5/16-24	.310	2.50
FM1-14	5/16-24	.310	3.00
FM2-14	5/16-24	.310	4.00
FM2.5-14	5/16-24	.310	4.50
FM3-14	5/16-24	.310	5.00
FM4-14	5/16-24	.310	6.00
FM5-14	5/16-24	.310	7.00
FM01-616	3/8-16	.373	2.58
FM1-616	3/8-16	.373	3.05
FM2-616	3/8-16	.373	4.05
FM2.5-616	3/8-16	.373	4.58
FM3-616	3/8-16	.373	5.05
FM4-616	3/8-16	.373	6.05
FM5-616	3/8-16	.373	7.05
FM01-16	3/8-24	.373	2.58
FM1-16	3/8-24	.373	3.05
FM2-16	3/8-24	.373	4.05
FM2.5-16	3/8-24	.373	4.58
FM3-16	3/8-24	.373	5.05
FM4-16	3/8-24	.373	6.05
FM5-16	3/8-24	.373	7.05

\*These mandrels can be used with BH2000 modular hand installation tools

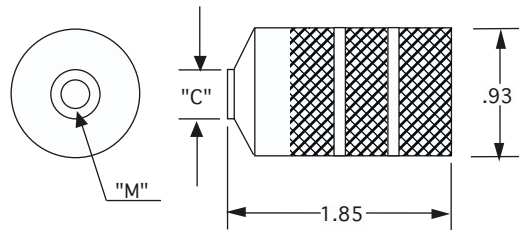




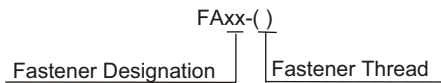
Part Number	Thread	"D"	"L"
FM01-720	7/16-20	.435	2.60
FM1-720	7/16-20	.435	3.10
FM2-720	7/16-20	.435	4.10
FM2.5-720	7/16-20	.435	4.70
FM3-720	7/16-20	.435	5.10
FM4-720	7/16-20	.435	6.10
FM5-720	7/16-20	.435	7.10
FM01-714	7/16-14	.435	2.60
FM1-714	7/16-14	.435	3.10
FM2-714	7/16-14	.435	4.10
FM2.5-714	7/16-14	.435	4.70
FM3-714	7/16-14	.435	5.10
FM4-714	7/16-14	.435	6.10
FM5-714	7/16-14	.435	7.10

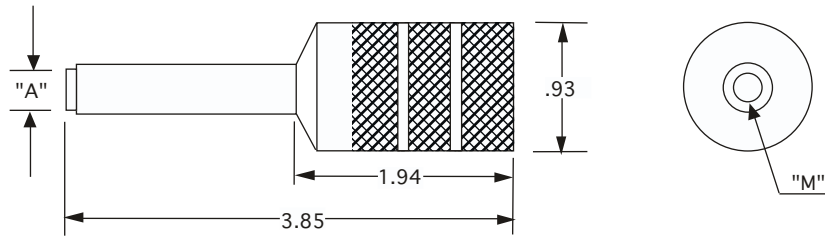
Part Number	Thread	"D"	"L"
FM01-820	1/2-20	.498	2.70
FM1-820	1/2-20	.498	3.20
FM2-820	1/2-20	.498	4.20
FM2.5-820	1/2-20	.498	4.80
FM3-820	1/2-20	.498	5.20
FM4-820	1/2-20	.498	6.20
FM5-820	1/2-20	.498	7.20
FM01-813	1/2-13	.498	2.70
FM1-813	1/2-13	.498	3.20
FM2-813	1/2-13	.498	4.20
FM2.5-813	1/2-13	.498	4.80
FM3-813	1/2-13	.498	5.20
FM4-813	1/2-13	.498	6.20
FM5-813	1/2-13	.498	7.20



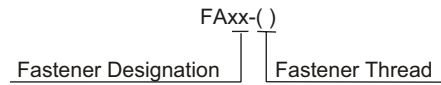


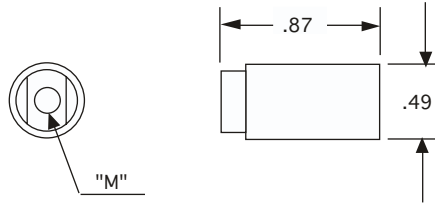
Part Number	C Dia.	M Dia.
FA15-832	.38	.166
FA15-1032	.46	.191
FA17-440	.21	.113
FA17-632	.26	.141
FA17-832	.30	.166
FA17-1032	.35	.191
FA33-440	.29	.113
FA33-632	.31	.141
FA33-832	.41	.166
FA33-1032	.50	.191
FA11-5	.32	.113
FA11-6	.37	.125
FA11-8	.50	.166
FA11-10	.62	.219
FA19-5	.27	.113
FA19-6	.34	.125
FA19-8	.46	.166
FA19-10	.55	.219
FA45-5	.25	.113
FA45-6	.29	.125
FA45-8	.38	.166





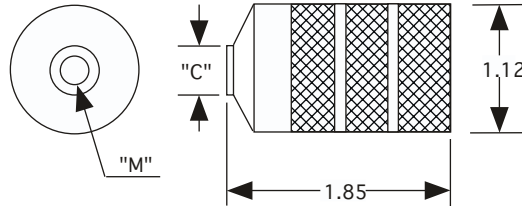
Part Number	A Dia.	M Dia.
FA18-440	.21	.113
FA18-632	.26	.141
FA18-832	.30	.166
FA18-1032	.35	.191
FA35-440	.29	.113
FA35-632	.31	.141
FA35-832	.41	.166
FA35-1032	.50	.191
FA12-5	.32	.113
FA12-6	.37	.125
FA12-8	.50	.166
FA12-10	.62	.219
FA43-5	.32	.113





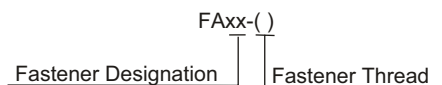
Part Number	M Dia.
FC1-5	.113
FC1-6	.125
FC1-632	.141
FC1-8	.166
FC1-1032	.191
FC1-10	.219

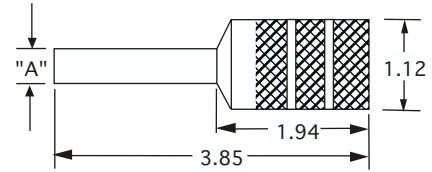
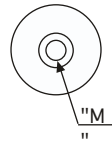
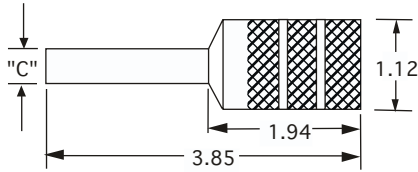
FCxx-( )  
Chuck Style | Fastener Thread



Part Number	C Dia.	M Dia.
FA25-832	.38	.166
FA25-1032	.46	.191
FA25-428	.54	.250
FA25-524	.65	.313
FA25-624	.74	.375
FA27-440	.21	.113
FA27-632	.26	.141
FA27-832	.30	.166
FA27-1032	.35	.191
FA27-428	.43	.250
FA27-524	.51	.313
FA27-624	.57	.375
FA27-720	.63	.438
FA27-820	.69	.500
FA32-440	.29	.113
FA32-632	.31	.141
FA32-832	.41	.166
FA32-1032	.50	.191
FA32-428	.61	.250
FA32-524	.80	.313
FA32-624	.89	.375

Part Number	C Dia.	M Dia.
FA21-5	.32	.113
FA21-6	.37	.125
FA21-8	.50	.166
FA21-10	.62	.219
FA21-12	.75	.250
FA21-14	.88	.313
FA21-16	1.00	.375
FA21-5A	.27	.113
FA21-6A	.34	.125
FA21-8A	.46	.166
FA21-10A	.55	.219
FA46-5	.25	.113
FA46-6	.29	.125
FA46-8	.38	.166
FA53-XX (Elliptical Blind Nut Series)		



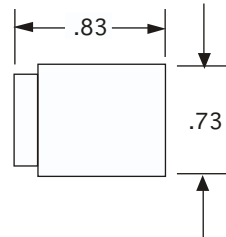
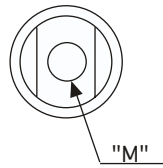


Part Number	C Dia.	M Dia.
FA28-440	.21	.113
FA28-632	.26	.141
FA28-832	.30	.166
FA28-1032	.35	.191
FA28-428	.43	.261
FA28-524	.51	.313
FA28-624	.57	.385
FA28-720	.63	.448
FA28-632	.69	.511
FA34-440	.29	.113
FA34.632	.31	.141
FA34-832	.41	.166
FA34-1032	.49	.193
FA34-428	.60	.250
FA34-524	.79	.313
FA34-624	.89	.375

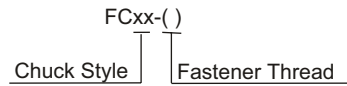
Part Number	A Dia.	M Dia.
FA22-5	.32	.113
FA22-6	.37	.125
FA22-8	.49	.166
FA22-10	.62	.219
FA22-12	.75	.250
FA22-14	.88	.313
FA22-16	1.00	.375

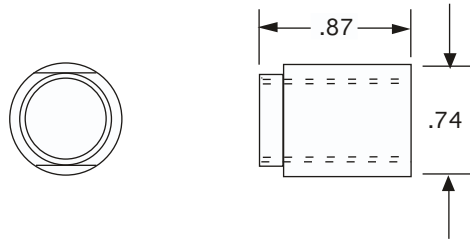
FAxx-( )  
 Fastener Designation | Fastener Thread





Part Number	M Dia.
FC2-5	.113
FC2-6	.125
FC2-632	.141
FC2-8	.166
FC2-1032	.191
FC2-10	.219
FC2-12	.250
FC2-14	.313
FC2-16	.375



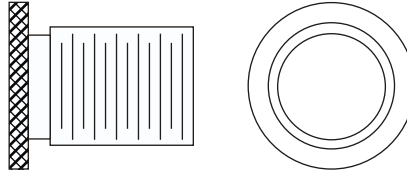


<b>Part Number</b>	For Mandrels:
FC3	-720, -714 -820, -813

# ***Fast-Tool***

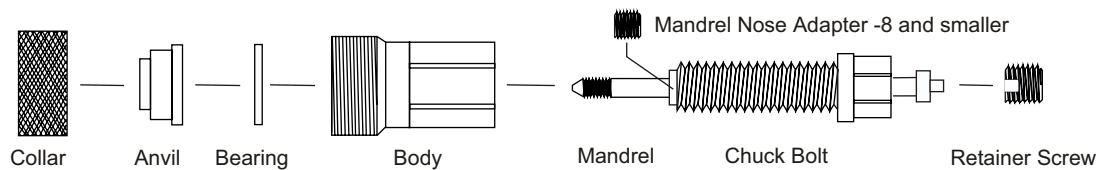
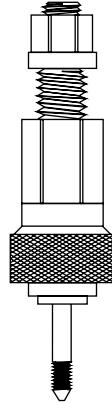
## **Anvil Adapter FAA1**

For use with Hi-Shear Corp. BG1750 Hydraulic Power Gun



Fits in place of anvils on BG1750 gun allowing use of drive tooling for BH86/BG2500 hydraulic guns on smaller BG1750 gun.

Section 2  
Modular Hand Installation System



Our hand installation tool is a modular design and can be purchased as subcomponents or configured.

The versatile tool allows interchange of inexpensive anvils and existing mandrels permitting one base tool to install all fasteners within the capability of the tool. This avoids the expense of purchasing unique tool assemblies for every fastener style/diameter. FBH1000 can install fasteners from 4-40 through 12-28 threads. FBH2000 hand tool installs 1/4-20 & 1/4-28 fasteners.

For FBH1000 tools, a chuck bolt nose adapter is used for mandrel sizes -8 and smaller use of a common chuck bolt. Both tools have a travel range of 1". Extended anvils available on request.

The hand tool can also be supplied with the collar rolled in place creating a fixed configuration when desired.

## Advantages of Fast-Tool Modular System

Hand tool expense can be reduced significantly using our modular system compared to single purpose tools offered.

Compare the need to install the following fasteners:

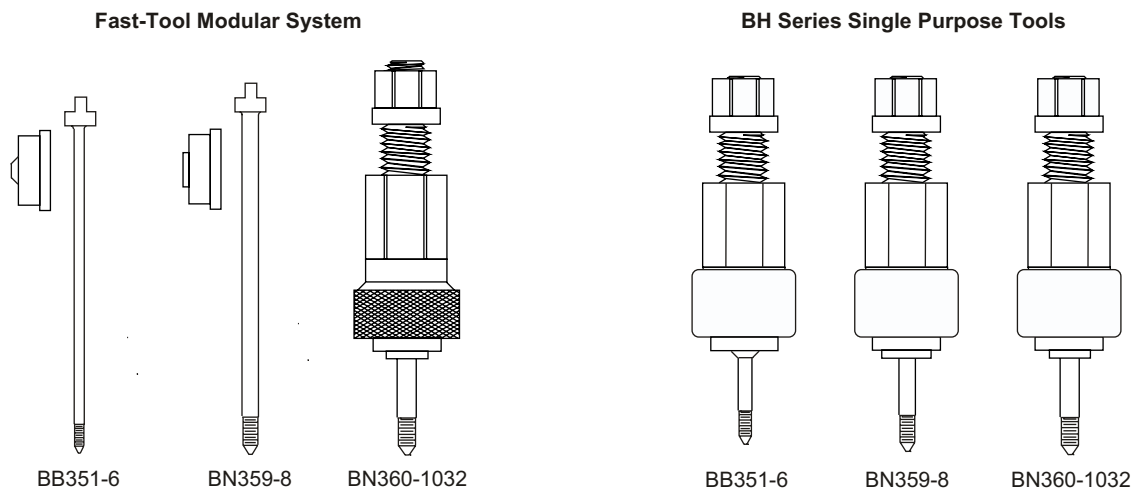
- BB351-6-( )
- BN359-8-( )
- BN360-1032-( )

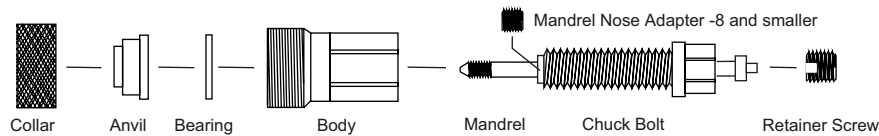
Three complete BH Series tools are required to install all three fasteners.

With the Fast-Tool modular system, purchase one complete tool assembly, two additional mandrels and two anvils. Cost will be less than half the expense of having to purchase the three single purpose tools. In the future, anvils and mandrels would only be needed compounding the savings.

Alternately, the basic body assembly can be purchased with anvils and mandrels added separately.

Refer to the illustrations below:





### Steps to change over tool for different fastener:

1. Unscrew threaded collar
2. Remove existing anvil
3. Make sure thrust bearing has sufficient grease
4. Install new anvil into bore
5. Screw on collar
6. Remove chuck bolt
7. Remove existing mandrel from chuck bolt (if necessary)
8. Install/exchange mandrel adapter on nose of chuck bolt (if necessary)
9. Install new mandrel
10. Reinstall chuck bolt into body

### Fastener Installation Instructions:

**Step 1** - Verify tooling for fastener to be installed.

**Step 2** - Rotate Chuck Bolt counterclockwise for full extension of mandrel.  
Slip sleeve over mandrel.  
Rotate Expander onto thread end of mandrel until finger tight.

**Step 3** - Rotate Chuck Bolt clockwise to seat sleeve head against anvil face.  
Note: Chuck Bolt has left handed thread

**Step 4** - Insert Sleeve into hole of structure.  
Keep tool perpendicular to structure to avoid mandrel breakage.

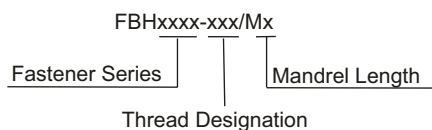
**Step 5** - Place a box end wrench or socket on the Chuck Bolt.  
Place a crow foot on torque wrench on the body hex.  
Open crow foot should face outward from end of torque wrench  
Rotate body until anvil is in firm contact with sleeve head.  
Keep Chuck Bolt stationary and rotate Body until desired torque is achieved.

**Step 6** - To remove tool rotate Body clockwise until loose.  
Rotate Chuck Bolt counterclockwise to remove tool from fastener  
manufacturer guidelines for proper installation.

**Caution:** Overtorquing may damage fastener as well as break mandrel.  
Rotating Chuck Bolt during installation will break mandrel.  
Follow fastener manufacturer's guidelines for proper installation.

Fastener Style	Tool Series	Configured Hand Tool No.	Individual Components		
			Body Ass'y No.	Anvil No.	Mandrel No.
BB351-5, BB352-5	1000	FBH1000-5/M2 FBH1000-5/M3	FBH1000 FBH1000	FBH200-1000-5 FBH200-1000-5	FM2-5 FM3-5
BB351-6, BB352-6	1000	FBH1000-6/M2 FBH1000-6/M3	FBH1000 FBH1000	FBH200-1000-6 FBH200-1000-6	FM2-6 FM3-6
BB351-8, BB352-8	1000	FBH1000-8/M2 FBH1000-8/M3	FBH1000 FBH1000	FBH200-1000-8 FBH200-1000-8	FM2-8 FM3-8
BB351-10, BB352-10	1000	FBH1000-10/M2 FBH1000-10/M3	FBH1000 FBH1000	FBH200-1000-10 FBH200-1000-10	FM2-10 FM3-10
BN157-1032	1100	FBH1100-1032/M2 FBH1100-1032/M3	FBH1000 FBH1000	FBH200-1100-1032 FBH200-1100-1032	FM2-1032 FM3-1032
BN359-832	1100	FBH1100-832/M2 FBH1100-832/M3	FBH1000 FBH1000	FBH200-1100-8 FBH200-1100-8	FM2-8 FM3-8
BN359-1024	1100	FBH1100-1024/M2 FBH1100-1024/M3	FBH1000 FBH1000	FBH200-1100-1032 FBH200-1100-1032	FM2-1024 FM3-1024
BN359-1032	1100	FBH1100-1032/M2 FBH1100-1032/M3	FBH1000 FBH1000	FBH200-1100-1032 FBH200-1100-1032	FM2-1032 FM3-1032
BN360-440	1200	FBH1200-440/M2 FBH1200-440/M3	FBH1000 FBH1000	FBH200-1200-5 FBH200-1200-5	FM2-5 FM3-5
BN360-632	1200	FBH1200-632/M2 FBH1200-632/M3	FBH1000 FBH1000	FBH200-1200-632 FBH200-1200-632	FM2-632 FM3-632
BN360-832	1200	FBH1200-832/M2 FBH1200-832/M3	FBH1000 FBH1000	FBH200-1200-8 FBH200-1200-8	FM2-8 FM3-8
BN360-1024	1200	FBH1200-1024/M2 FBH1200-1024/M3	FBH1000 FBH1000	FBH200-1200-1032 FBH200-1200-1032	FM2-1024 FM3-1024
BN360-1032	1200	FBH1200-1032/M2 FBH1200-1032/M3	FBH1000 FBH1000	FBH200-1200-1032 FBH200-1200-1032	FM2-1032 FM3-1032
*BB351-10, BB352-10	2000	FBH2000-10/M2 FBH2000-10/M3	FBH2000 FBH2000	FBH200-2000-10 FBH200-2000-10	FM2-10 FM3-10
BB351-12, BB352-12	2000	FBH2000-12/M2 FBH2000-12/M3	FBH2000 FBH2000	FBH200-2000-12 FBH200-2000-12	FM2-12 FM3-12
BB359-420	2100	FBH2100-420/M2 FBH2100-420/M3	FBH2000 FBH2000	FBH200-2100-12 FBH200-2100-12	FM2-420 FM3-420
BB359-428	2100	FBH2100-428/M2 FBH2100-428/M3	FBH2000 FBH2000	FBH200-2100-12 FBH200-2100-12	FM2-12 FM3-12
BB360-420	2200	FBH2200-420/M2 FBH2200-420/M3	FBH2000 FBH2000	FBH200-2200-12 FBH200-2200-12	FM2-420 FM3-420
BB360-428	2200	FBH2200-428/M2 FBH2200-428/M3	FBH2000 FBH2000	FBH200-2200-12 FBH200-2200-12	FM2-12 FM3-12

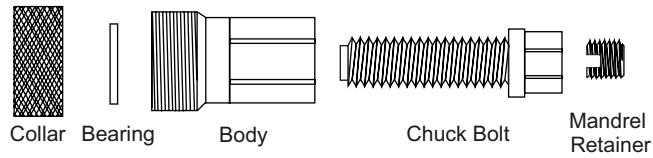
\* Alternate configuration, can be configured with both FBH1000 and FBH2000 body assemblies.



#### Steps to configure hand installation tools:

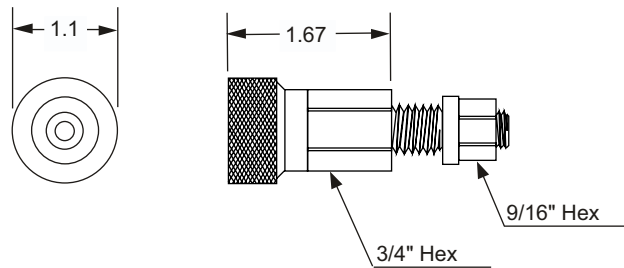
1. Verify fastener to be installed
2. Select hand tool body assembly
3. Select required anvil based on fastener style/diameter
4. Select required mandrel based on diameter and grip length
5. Follow fastener manufacturer's recommendations for installation





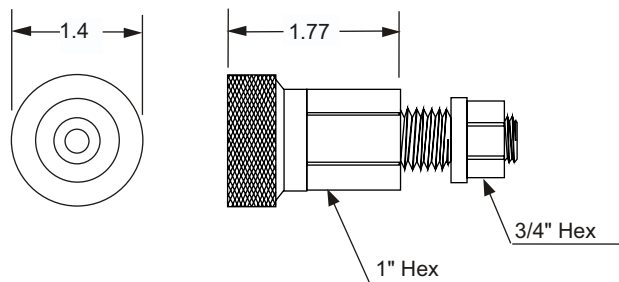
Body Assembly Includes:

- Body
- Thrust Bearing
- Collar
- Chuck Bolt
- Mandrel Retainer



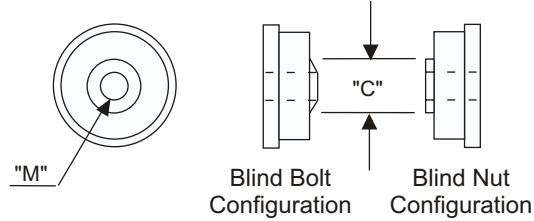
### FBH1000

For 4-40 through 12-28 Fasteners



### FBH2000

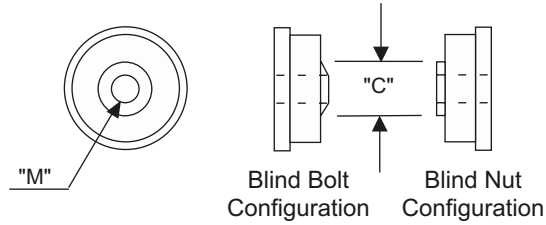
For 1/4-20, 1/4-28 Fasteners



Fastener Style	Anvil Part No.	"C"	"M"
BB351/352-5	FBH200-1000-5	.32	.113
BB351/352-6	FBH200-1000-6	.37	.125
BB351/352-8	FBH200-1000-8	.49	.166
BB351/352-10	FBH200-1000-10	.62	.219
BN157-1032	FBH200-1100-1032	.35	.191
BN359-832	FBH200-1100-8	.38	.166
BN359-1024	FBH200-1100-1032	.46	.191
BN359-1032	FBH200-1100-1032	.46	.191
BN360-440	FBH200-1200-5	.21	.113
BN360-632	FBH200-1200-632	.26	.141
BN360-832	FBH200-1200-8	.30	.166
BN360-1024	FBH200-1200-1032	.35	.191
BN360-1032	FBH200-1200-1032	.35	.191

Above anvils are used with base tool assembly FBH1000

Extended anvils and mandrels available on request.

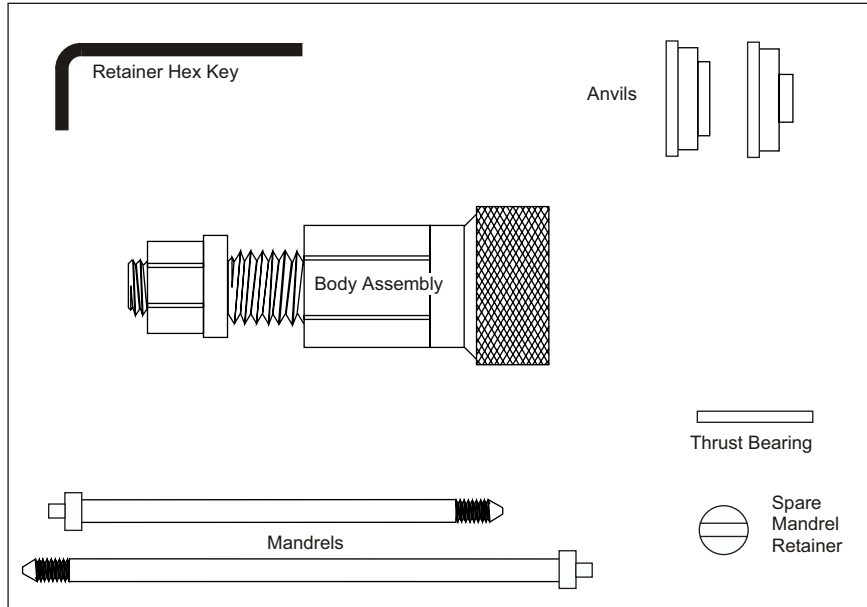


Fastener Style	Anvil Part No.	"C"	"M"
BB351/352-10	FBH200-2000-10	.62	.219
BB351/352-12	FBH200-2000-12	.75	.250
BN359-420	FBH200-2100-12	.54	.250
BN359-428	FBH200-2100-12	.54	.250
BN360-420	FBH200-2200-12	.43	.250
BN360-428	FBH200-2200-12	.43	.250

The above anvils are used with base tool assembly FBH2000

Extended anvils and mandrels available on request.

Section 3  
Hand Tool Kits

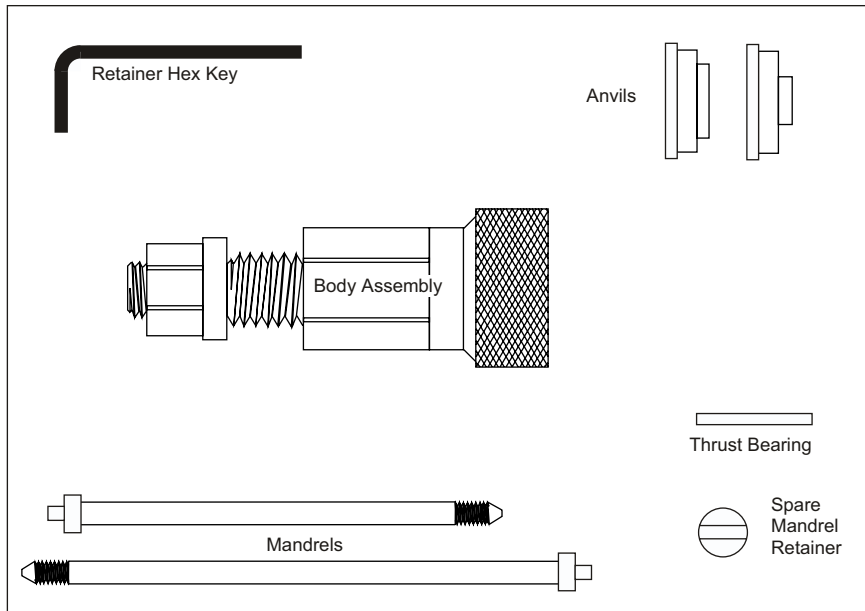


- Kit Contents:
- Base Tool Assembly
  - 2 Anvils
  - M2 & M3 Length Mandrels
  - Spare Mandrel Retainer
  - Spare Mandrel Adapter (-8 and smaller)
  - Spare Thrust Bearing
  - Hex Key(s)

FBHK1000-( )  
 Tool Series      Thread Designation

Fastener Series	Kit Number	Individual Components		
		Body Ass'y No.	Anvil No.	Mandrel No.
BB351-5, BB352-5 BN360-440	FBHK1000-5	FBH1000	FBH200-1000-5 FBH200-1200-5	FM2-5 FM3-5
BB351-6, BB352-6	FBHK1000-6	FBH1000	FBH200-1000-5	FM2-6 FM3-6
BN360-632	FBHK1200-632	FBH1000	FBH200-1200-632	FM2-632 FM3-632
BB351-8, BB352-8 BN359-832, BN360-832	FBHK1000-8	FBH1000	FBH200-1000-8 FBH200-1100-8 FBH200-1200-8	FM2-8 FM3-8
BN157-1032 BN359-1032 BN360-1032	FBHK1000-1032	FBH1000	FBH200-1100-1032 FBH200-1200-1032	FM2-1032 FM3-1032
BN359-1024 BN360-1024	FBHK1000-1024	FBH1000	FBH200-1100-1032	FM2-1024 FM3-1024
BB351-10, BB352-10	FBHK1000-10	FBH1000	FBH200-1000-10	FM2-10 FM3-10

Call for optional configurations



- Kit Contents:
- Base Tool Assembly
  - 2 Anvils
  - M2 & M3 Length Mandrels
  - Spare Mandrel Retainer
  - Spare Mandrel Adapter (-8 and smaller)
  - Spare Thrust Bearing
  - Hex Key(s)

FBHK1000-( )  
 Tool Series | Thread Designation

Fastener Series	Kit Number	Individual Components		
		Body Ass'y No.	Anvil No.	Mandrel No.
BB351-10, BB352-10	FBHK2000-10	FBH2000	FBH200-2000-10	FM2-10 FM3-10
BB351-12, BB352-12	FBHK2000-12	FBH2000	FBH200-2000-12	FM2-12 FM3-12
BB359-420 BB360-420	FBHK2000-420	FBH2000	FBH200-2100-12 FBH200-2200-12	FM2-420 FM3-420
BB359-428 BB360-428	FBHK2000-428	FBH2000	FBH200-2100-12 FBH200-2200-12	FM2-12 FM3-12

Call for optional configurations