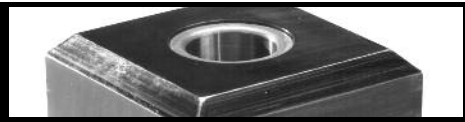


Standard Accessories

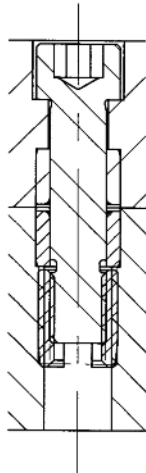
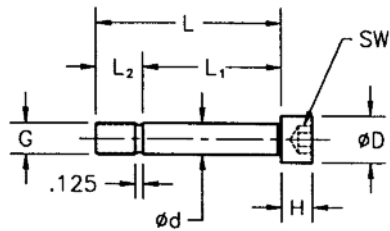


Threaded Dowel Pins

For positioning and clamping of S.A.F.E. units and universal fixture elements on grid bases, hardened and ground precision screws are used. These screws are also useful for locating fixture plates.



- Black oxide finish
- Precision Shoulder (+.0000/-.0005)
- Accurate height
- Provides optimum utilization of AMFLEX® high precision components

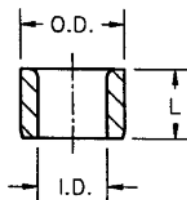


THREADED DOWEL PINS

G (UNC)	D (in)	d (in)	L (in)	L1 (in)	L2 (in)	H (in)	SW	Part Number AMF-
1/2-13	0.75	0.50	1.625	0.875	0.75	0.50	3/8	87541
1/2-13	0.75	0.50	1.469	0.719	0.75	0.50	3/8	87543
1/2-13	0.75	0.50	1.719	0.969	0.75	0.50	3/8	87544
1/2-13	0.75	0.50	1.953	1.203	0.75	0.50	3/8	87970
1/2-13	0.75	0.50	2.070	1.320	0.75	0.50	3/8	87991
1/2-13	0.75	0.50	2.187	1.437	0.75	0.50	3/8	87992
1/2-13	0.75	0.50	2.305	1.555	0.75	0.50	3/8	87993
1/2-13	0.75	0.50	2.422	1.672	0.75	0.50	3/8	87994
1/2-13	0.75	0.50	2.539	1.789	0.75	0.50	3/8	87995
1/2-13	0.75	0.50	2.656	1.906	0.75	0.50	3/8	87996
1/2-13	0.75	0.50	2.773	2.023	0.75	0.50	3/8	87997
1/2-13	0.75	0.50	2.891	2.141	0.75	0.50	3/8	87998
1/2-13	0.75	0.50	3.000	2.250	0.75	0.50	3/8	87983
1/2-13	0.75	0.50	3.150	2.400	0.75	0.50	3/8	87985
1/2-13	0.75	0.50	3.400	2.650	0.75	0.50	3/8	87986
1/2-13	0.75	0.50	3.650	2.900	0.75	0.50	3/8	87987
1/2-13	0.75	0.50	3.750	3.000	0.75	0.50	3/8	87984
1/2-13	0.75	0.50	3.900	3.150	0.75	0.50	3/8	87988
1/2-13	0.75	0.50	4.150	3.400	0.75	0.50	3/8	87989
1/2-13	0.75	0.50	5.000	4.250	0.75	0.50	3/8	59505
1/2-13	0.75	0.50	5.500	4.750	0.75	0.50	3/8	59506
5/8-11	0.94	0.625	2.016	1.078	0.937	0.625	1/2	87887
5/8-11	0.94	0.625	2.266	1.328	0.937	0.625	1/2	87886
5/8-11	0.94	0.625	2.375	1.437	0.937	0.625	1/2	87885
5/8-11	0.94	0.625	2.750	1.812	0.937	0.625	1/2	87884
5/8-11	0.94	0.625	2.828	1.891	0.937	0.625	1/2	87883
5/8-11	0.94	0.625	3.312	2.375	0.937	0.625	1/2	87882

Dimensions (in)			Steel Part # AMF-
I.D.	O.D.	L	
Ø.5001/.5005	Ø.7515/.7518	.50	80991
Ø.5001/.5005	Ø.7886/.7889	.50	80992
Ø.5001/.5005	Ø.8260/.8263	.50	80953
Ø.5007/.5013	Ø.7515/.7518	.50	80995
Ø.5007/.5013	Ø.7886/.7889	.50	80992-01
Ø.5007/.5013	Ø.8260/.8263	.50	80953-01
Ø.6251/.6255	Ø.8767/.8770	.75	80989
Ø.6251/.6255	Ø.9052/.9055	.75	80990
Ø.6251/.6255	Ø.9253/.9256	.75	80952
Ø.6257/.6263	Ø.8767/.8770	.75	80989-02
Ø.6257/.6263	Ø.9052/.9055	.75	80990-01
Ø.6257/.6263	Ø.9253/.9256	.75	80952-01

Bushings



- Hardened (60 HRC)
- Precision I.D. and concentric precision O.D. (.0001)
- Field replaceable without reworking bored hole



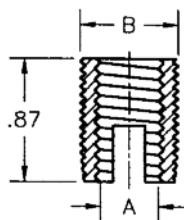
AMF-80991 (Shown above)

Threaded Inserts

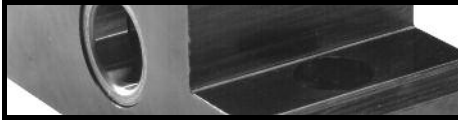


AMF-87321 (Shown above)

- Case hardened (60 HRC)
- Clear chromate coated
- High pull-out strength
- Strong wear resistant threads
- Vibration resistant
- Fast easy installation
- Field replaceable without reworking tapped hole.



Dimensions (in)		Part # AMF-
A (Thread)	B (Thread)	
1/2"-13	M18 x 1.5	87321
1/2"-13	M20 x 1.5	87787
5/8"-11	M20 x 1.5	87293
5/8"-11	M22 x 1.5	87788

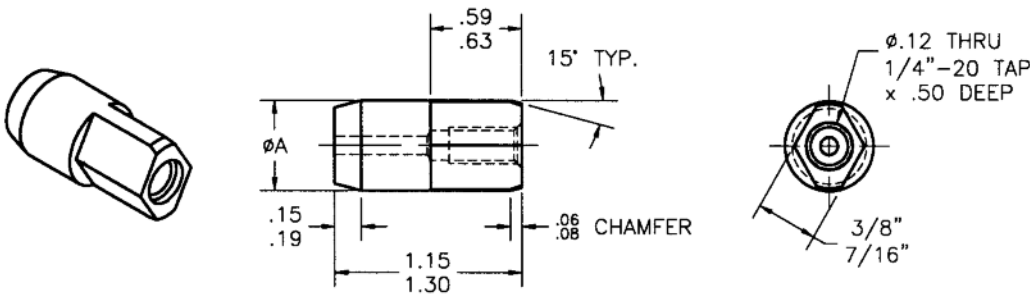
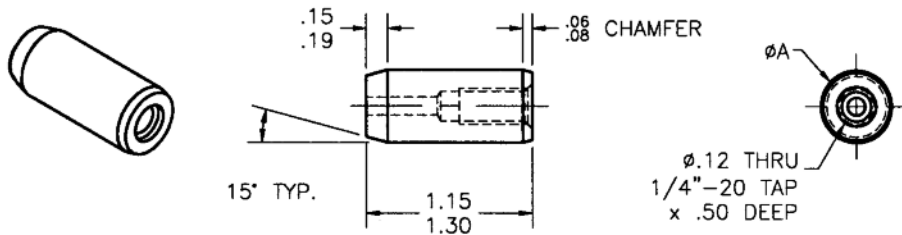


Standard Accessories

Precision Locating Pins

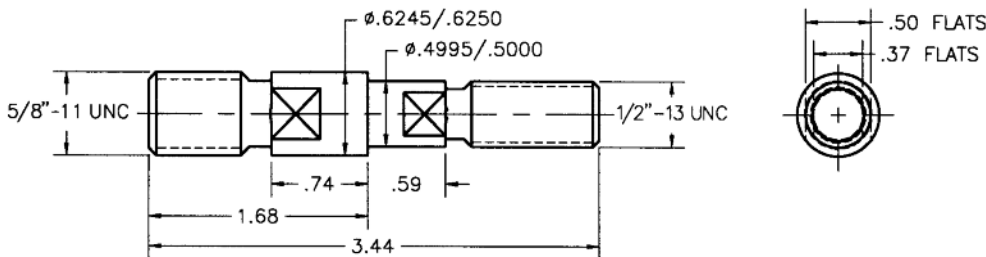
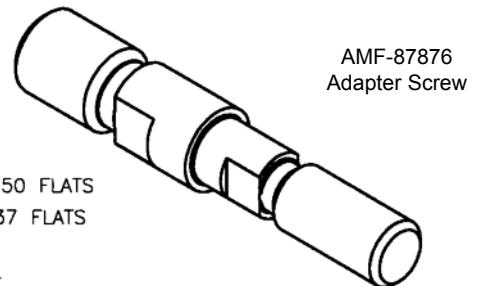
To meet the highest requirements concerning precision positioning, AMFLEX® precision locating pins are used. When used with AMFLEX® precision components such as v-blocks, horizontal stops, or even alone (placed directly in the grid for 2nd and 3rd plane positioning), AMFLEX® precision locating pins will align your parts and fixtures accurately as well as saving valuable set up time. These are available in the standard round pin style as well as a diamond head style, both of which are hardened and ground.

PRECISION LOCATING PINS 1/2" & 5/8" SYSTEMS			
Style		Ø A	Part # AMF-
Diamond	Round		
	x	.4997/.4999	87708-01
	x	.5003/.5005	87708-02
	x	.6247/.6249	87709-01
	x	.6253/.6255	87709-02
x		.4997/.4999	87738-01
x		.5003/.5005	87738-02
x		.6247/.6249	87739-01
x		.6253/.6255	87739-02

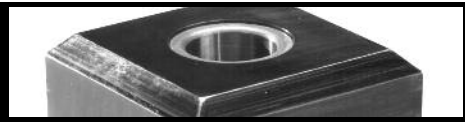


Adapter Screw

With the use of precision adapter screws, AMFLEX® units with 1/2"-13 threads can be mounted on grid bases with 5/8"-11 threads, and vice versa. These screws will also maintain precise locations similar to the locating pins.

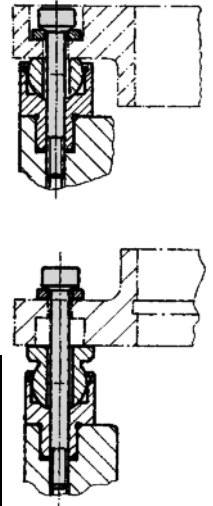
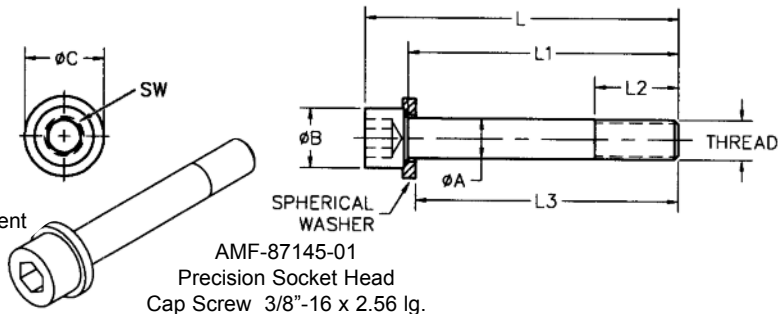


Standard Accessories



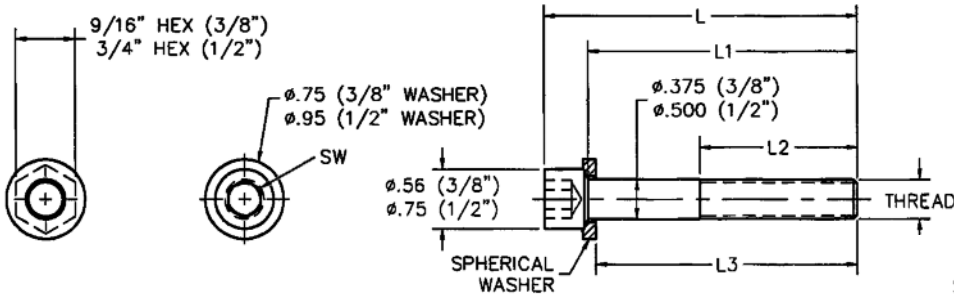
Precision Spherical Dowel Screws

- Black oxide finish
- Precision diameter
- Allows for precision positioning when used with precision ball elements
- **Spherical surface eliminates stress** due to angular misalignment on clamping bolts (up to 3°)



PRECISION, SPHERICAL, SOCKET HEAD CAP SCREW (WASHERS INCLUDED)

Ø A	Ø B	Ø C	L	L1	L2	L3	Thread	SW	Part # AMF-	Sph. Washer Part # AMF-
Ø.3739/.3745	.56	Ø.75	2.99	2.56	.79	2.46	3/8"-16	5/16"	87145-01	88116
Ø.3739/.3745	.56	Ø.75	3.39	2.95	.79	2.85	3/8"-16	5/16"	87146-01	88116
Ø.3739/.3745	.56	Ø.75	3.78	3.35	.79	3.25	3/8"-16	5/16"	87147-01	88116
Ø.4989/.4995	.75	Ø.95	3.41	2.95	.87	2.85	1/2"-13	3/8"	87311-01	88322
Ø.4989/.4995	.75	Ø.95	3.80	3.35	.87	3.25	1/2"-13	3/8"	87312-01	88322
Ø.4989/.4995	.75	Ø.95	4.19	3.74	.87	3.64	1/2"-13	3/8"	87313-01	88322
Ø.4989/.4995	.75	Ø.95	4.59	4.13	.87	4.03	1/2"-13	3/8"	87314-01	88322
Ø.4989/.4995	.75	Ø.95	4.98	4.53	.87	4.43	1/2"-13	3/8"	87315-01	88322
Ø.6239/.6245	.94	Ø1.13	3.50	2.95	.87	2.80	5/8"-11	1/2"	87270-01	88292
Ø.6239/.6245	.94	Ø1.13	3.90	3.35	.87	3.20	5/8"-11	1/2"	87271-01	88292
Ø.6239/.6245	.94	Ø1.13	4.29	3.74	.87	3.59	5/8"-11	1/2"	87272-01	88292
Ø.6239/.6245	.94	Ø1.13	4.69	4.13	.87	3.98	5/8"-11	1/2"	87273-01	88292
Ø.6239/.6245	.94	Ø1.13	5.08	4.53	.87	4.38	5/8"-11	1/2"	87274-01	88292



AMF-51426
Spherical Hex Head
Caps Screw
3/8"-16 x 2.00 lg.
(Shown above)

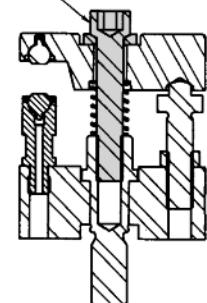


AMF-51428-02
Spherical Socket
Head Caps Screw
3/8"-16 x 3.00 lg.
(Shown above)

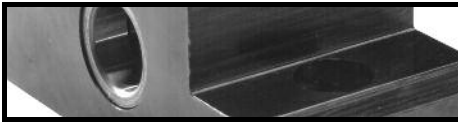
SPHERICAL S.H.C.S.
SHOWN WITH COMPACT
CLAMP ASS'Y

SPHERICAL, NON PRECISION, HEX HEAD CAP SCREWS AND
SOCKET HEAD CAP SCREWS(WASHERS INCLUDED)

L	L1	L2 (Min.)	L3	Thread	SW	S.H.C.S. Part # AMF-	H.H.C.S. Part # AMF-	Sph. Washer Part # AMF-
2.37	2.00	1.25	1.93	3/8"-16	5/16"	51426-02	51426	88116
2.87	2.50	1.25	2.43	3/8"-16	5/16"	51427-02	51427	88116
3.37	3.00	1.25	2.93	3/8"-16	5/16"	51428-02	51428	88116
2.50	2.00	1.50	1.90	1/2"-13	3/8"	51441-02	51441	88322
3.00	2.50	1.50	2.40	1/2"-13	3/8"	51442-02	51442	88322
3.75	3.25	1.50	3.15	1/2"-13	3/8"	51443-02	51443	88322



For compact clamping units series 400 and 500 spherical screws are used. The spherical surfaces of these assemblies allow for slight adjustments (up to 3°) between faces of bolts and mating faces of clamps. This in turn, corrects misaligned parts and eliminates any undue stress on clamping bolts.



Standard Accessories

Repair Kit

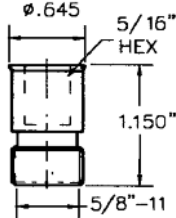
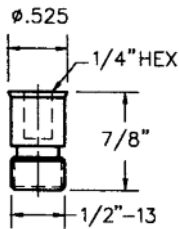
- Extraction tool (1)
- Insertion tool (1)
- Bushings (5)
- Inserts (5)

**Note: Bushings and inserts provided in kits are standard O.D. and external thread.*

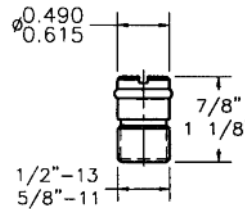
Bushing I.D.	Part # AMF-
.5001/.5005	59070
.5007/.5013	59071
.6251/.6255	54591
.6257/.6263	54592



Hole Plugs



Plastic Hole Plug
 AMF-87944 1/2"-13
 AMF-87944-01 M12x1.75
 AMF-89976 5/8"-11

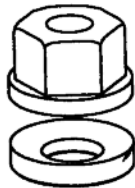


Aluminum Hole Plug
 AMF-87918
 1/2"-13
 (Shown to right)
 AMF-87919
 5/8"-11
 (Not shown)



Spherical Nut Assembly

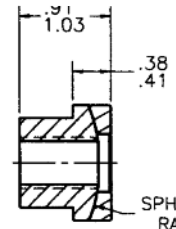
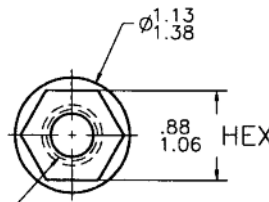
1/2"-13 Part # AMF-87100
 5/8"-11 Part # AMF-87100-03



SPHERICAL WASHER (BASE):

1/2"-13 Part # [AMF-87100-01](#)
 5/8"-11 Part # AMF-87100-04

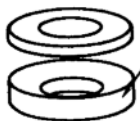
1/2"-13 THRU
 5/8"-11 THRU



Section A-A
 SPHERICAL RADIUS

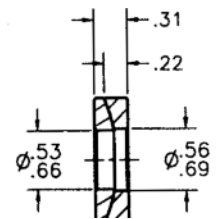
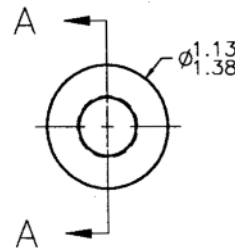
Spherical Washer Assembly

1/2"-13 Part # [AMF-59633](#)
 5/8"-11 Part # [AMF-59634](#)



SPHERICAL WASHER (BASE):

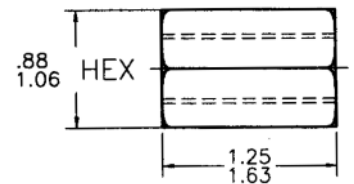
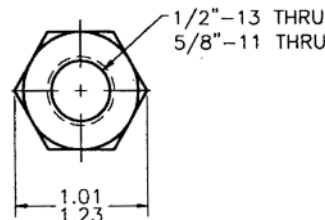
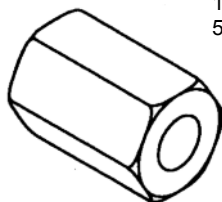
1/2"-13 Part # AMF-87100-01
 5/8"-11 Part # AMF-87100-04



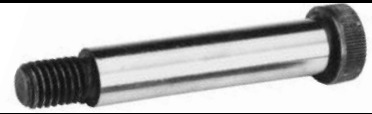
Section A-A

Coupling Nut

1/2"-13 Part # [AMF-54590](#)
 5/8"-11 Part # [AMF-54590-01](#)



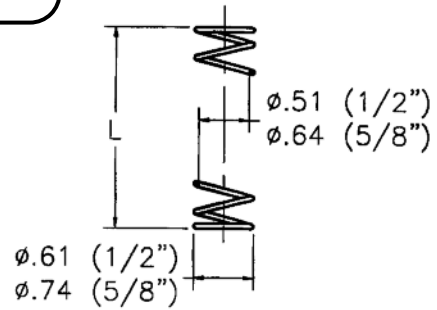
Standard Accessories



Springs



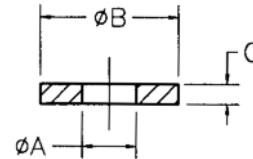
Dimensions (in)		1/2" -13 Part # AMF-	5/8" -11 Part # AMF-
Free State	Compressed		
1	3/4	88181	88181-01
3 1/8	2 1/2	88107	88107-01
5 1/8	3 3/4	88108	88108-01



Washers

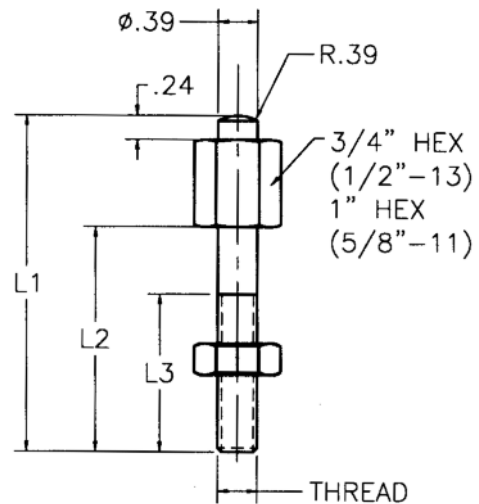


Dimensions (in)			Part # AMF-
Ø A	Ø B	C	
Ø .53	Ø 1.13	.125	87746-01
Ø .66	Ø 1.38	.125	87746-02
Ø .53	Ø .95	.188	87747
Ø .66	Ø .95	.188	87747-01



Jack Screws

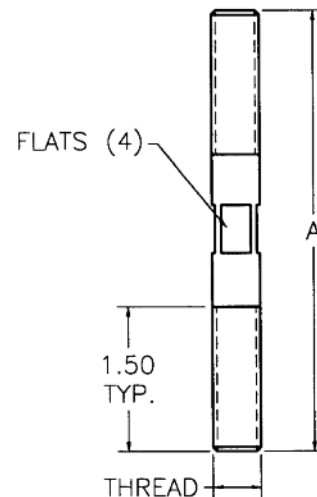
Dimensions (in)			1/2" -13 Part # AMF-	5/8" -11 Part # AMF-
L1	L2	L3		
1.31	.87	.87	87338	87338-01
1.75	1.00	1.00	87339	87339-01
2.13	1.50	1.44	87182	87182-01
2.75	1.75	1.56	87183	87183-01
3.13	2.13	2.00	87184	87184-01
3.38	2.25	2.13	87053	87053-01
3.93	2.88	2.50	87070	87070-01
4.5	3.44	2.50	87054	87054-01

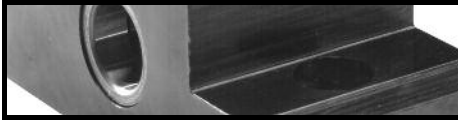


Studs



Dimensions (in)	1/2" -13 Part # AMF-	5/8" -11 Part # AMF-
A		
3.00	77560	77660-01
4.00	77561	77561-01
5.00	77562	77562-01
6.00	77563	77563-01
7.00	77564	77564-01
8.00	77565	77565-01
9.00	77566	77566-01
10.00	77567	77567-01



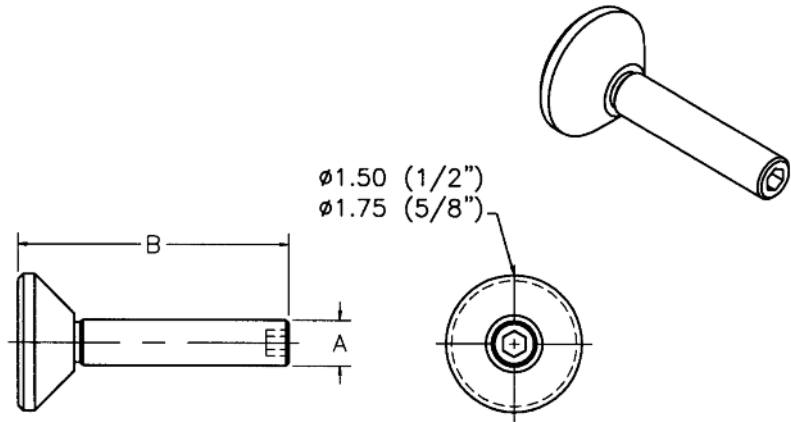


Standard Accessories

Heel Rests

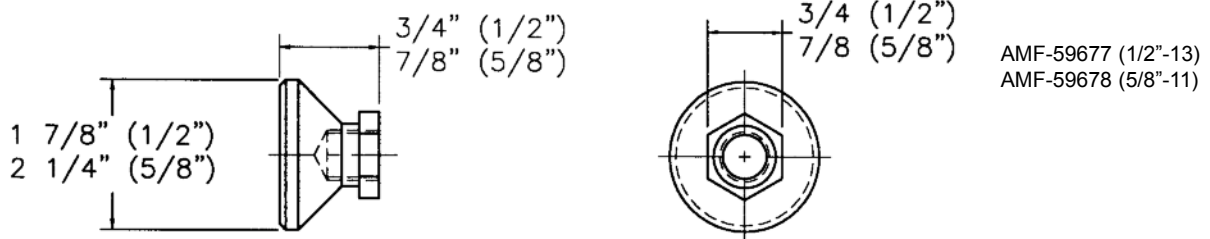
- For use with clamps with tapped through holes

HEEL RESTS		
Dimensions (in)		Part # AMF-
A	B	
1/2"-13	3	59575
1/2"-13	4	59576
1/2"-13	5	59577
5/8"-11	4	59578
5/8"-11	5	59579
5/8"-11	6	59580

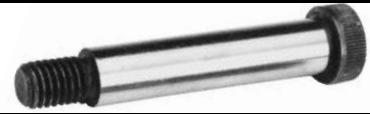


Leveling Rest Pads

- For use with clamping screws



Standard Accessories

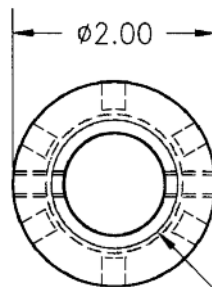


Universal Body

- Black oxide finish
- Heavy-duty support for large workpieces
- Bodies can be joined with threaded connecting rods to form taller supports
- Use universal threaded plug to mount ball elements, V's or other accessories
- ACME thread for greater strength



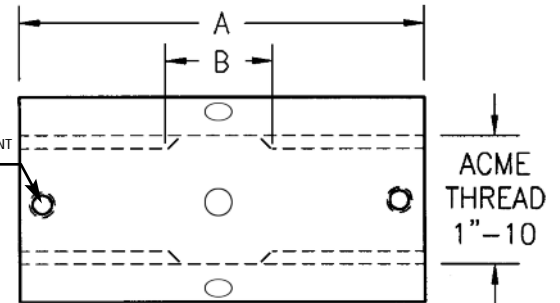
AMF-66512
AMF-66514
AMF-66516
(Shown to left)



S.H. DOG POINT
SET SCREW
5/16"-18
QTY: 4
PROVIDED

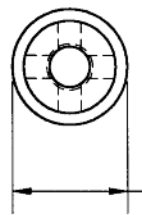
1.05 UNDERCUT I.D.

UNIVERSAL BODY		
Dimensions (in)		Part # AMF-
A	B	
2.00	NA	66512
4.00	1.0"	66514
6.00	2.0"	66516

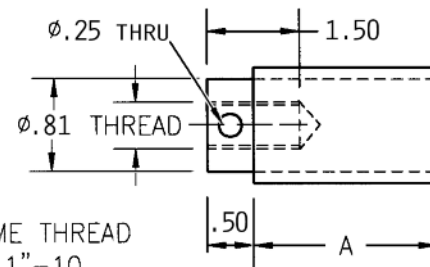


Universal Threaded Plug

- Black oxide finish
- Use universal threaded plug to mount ball elements, V's or other accessories to universal or rotating bodies
- ACME thread for greater strength
- ACME jamnut included



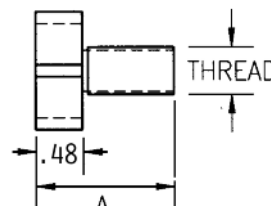
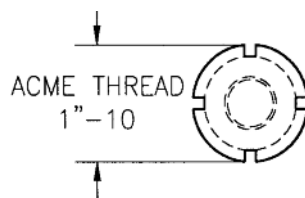
ACME THREAD
1"-10



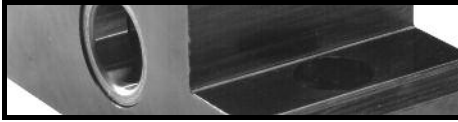
UNIVERSAL THREADED PLUG		
Dimensions (in)		Part # AMF-
A	System	
1.00	1/2"-13	66521
2.00	1/2"-13	66522
3.00	1/2"-13	66523
1.00	5/8"-11	66621
2.00	5/8"-11	66622
3.00	5/8"-11	66623

Bottom Plug

- Black oxide finish
- Use bottom plug to mount universal or rotating bodies in threaded holes
- ACME thread for greater strength



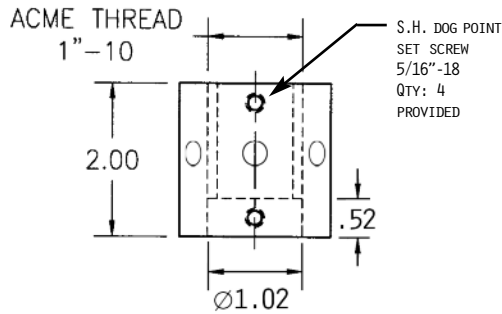
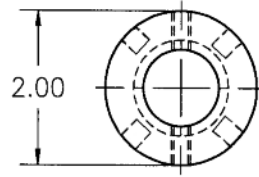
BOTTOM PLUG		
Dimensions (in)		Part # AMF-
A	System	
1.45	1/2"-13	66530
1.45	5/8"-11	66630
2.00	5/8"-11	66630-1
1.45	3/4"-10	66730
1.45	1"-8	66130



Standard Accessories

Rotating Body

- Black oxide finish
- Heavy-duty support for large workpieces
- Bodies can be joined with threaded connecting rods to form taller support
- Use Universal threaded plug rods to mount ball elements, V's or other accessories
- ACME thread for greater strength
- Can be used with bottom plug or rotating plug

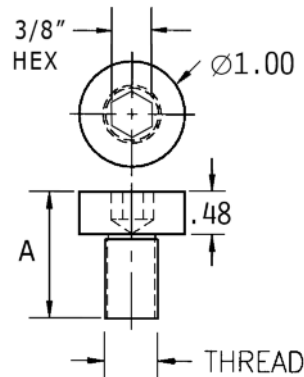


AMF-66540
(Shown above)

Rotating Plug

- Black oxide finish
- Allows rotating body to rotate threaded V into axial alignment with part

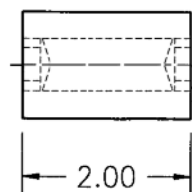
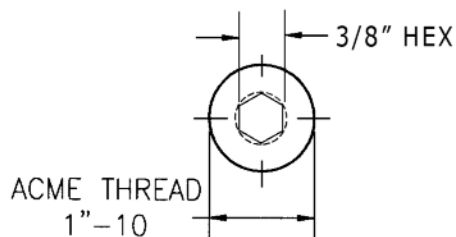
BOTTOM PLUG		
Dimensions (in)		Part # AMF-
A	System	
1.45	1/2"-13	66541
1.45	5/8"-11	66641
2.00	5/8"-11	66641-01
1.45	3/4"-10	66741
1.45	1"-8	66141



AMF-66541
(Shown above)

Connecting Rod

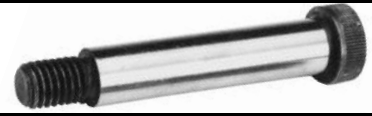
- Black oxide finish
- Used to join universal bodies to rotating bodies, or another universal body
- ACME thread for greater strength



AMF-66640
(Shown above)

Standard Accessories

Universal & Rotating Support Bodies



Universal Body Application



Rotating Body



Universal/Rotating Body Family of Components

BALL ELEMENTS (600)

1/2"-13 OR 5/8"-11 THREADS,
SERRATED OR SMOOTH BALL,
FIXED OR ADJUSTABLE.

UNIVERSAL THREADED PLUG

- 66521 (1/2"-13 x 1")
- 66522 (1/2"-13 x 2")
- 66523 (1/2"-13 x 3")
- 66621 (5/8"-11 x 1")
- 66622 (5/8"-11 x 2")
- 66623 (5/8"-11 x 3")

UNIVERSAL BODY

- 66512 (2")
- 66514 (4")
- 66516 (6")

CONNECTING ROD

- 66640 (2")

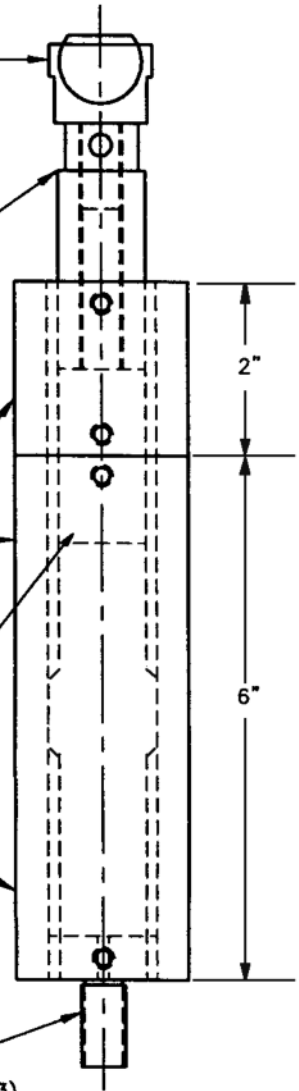
ROTATING BODY

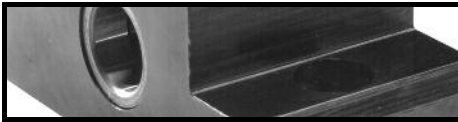
- 66540 (2")

ROTATING PLUG OR BOTTOM PLUG

- | | |
|-----------------|-----------------|
| 66541 (1/2"-13) | 66530 (1/2"-13) |
| 66641 (5/8"-11) | 66630 (5/8"-11) |
| 66741 (3/4"-10) | 66730 (3/4"-10) |
| 66141 (1"-10) | 66130 (1"-10) |

NOTE: Rotating plug is used only for
AMF-66540 Rotating Body.
Cannot be used Universal Bodies.



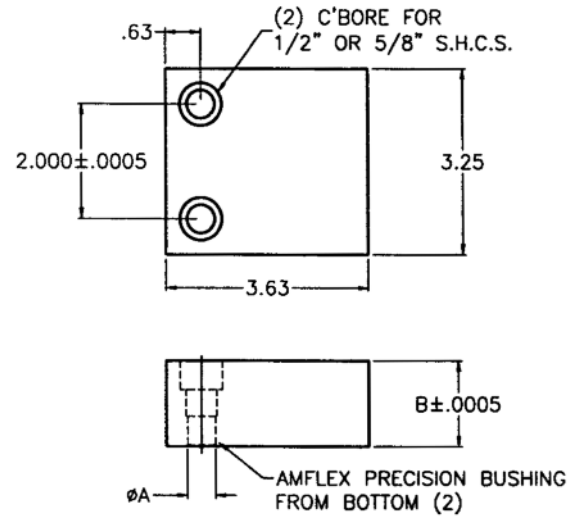


Standard Accessories

Tooling Block

- Precision Thickness
- You purchase the blank tooling block with two precision locating bushings and then machine the block to your specifications for locating parts on the S.A.F.E. grid
- Allows 2nd operation fixturing using pre-machined features or bores for locating
- Specify material when ordering (steel or aluminum)

Dimensions (in)		Steel Part # AMF-
Dia. A	B	
.5001/.5005	1.0000	75500*
.5007/.5013	1.0000	75501*
.6251/.6255	1.0000	75600*
.6257/.6263	1.0000	75601*
.5001/.5005	1.5000	75510
.5007/.5013	1.5000	75511
.6251/.6255	1.5000	75610
.6257/.6263	1.5000	75611
.5001/.5005	2.0000	75520
.5007/.5013	2.0000	75521
.6251/.6255	2.0000	75620
.6257/.6263	2.0000	75621

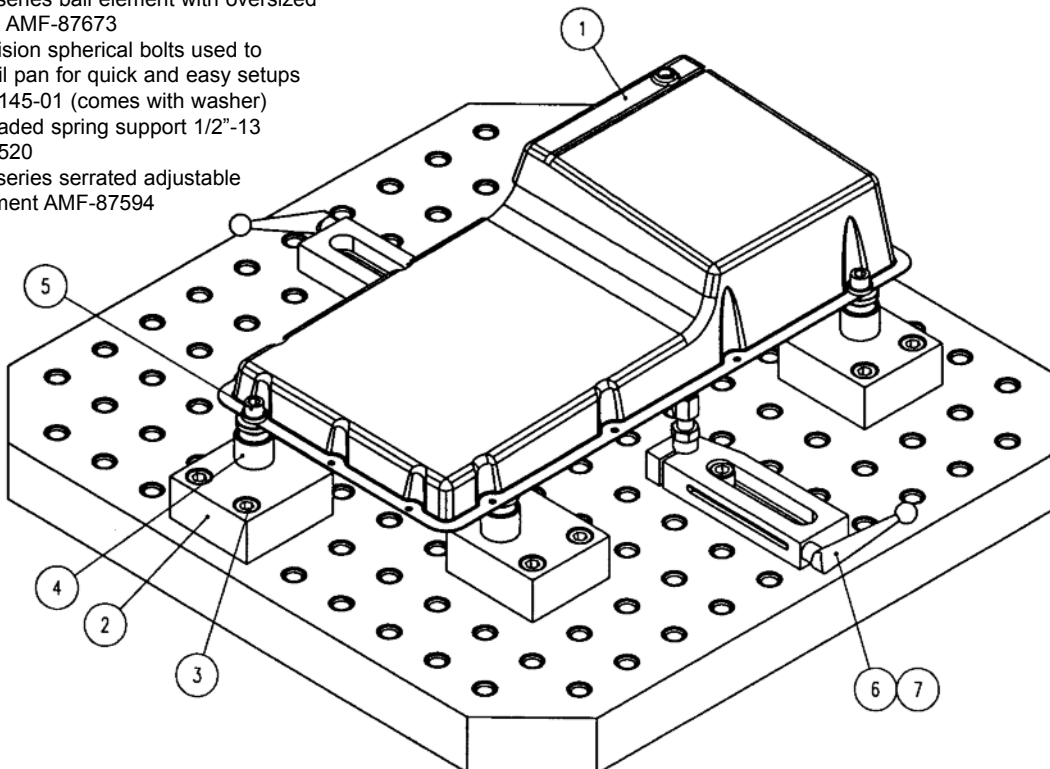


* No precision bushing, precision bored only

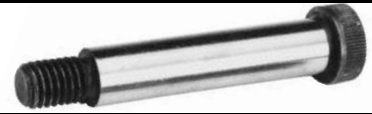
Bill of Materials

1. (1) Machined oil pan
2. (4) Tooling block AMF-75510 (Does not come with hole for ball element)
3. (8) Precision dowel screw AMF-87992
4. (4) 600 series ball element with oversized rest pad AMF-87673
5. (2) Precision spherical bolts used to locate oil pan for quick and easy setups AMF-87145-01 (comes with washer)
6. (2) Threaded spring support 1/2"-13 AMF-76520
7. (2) 500 series serrated adjustable ball element AMF-87594

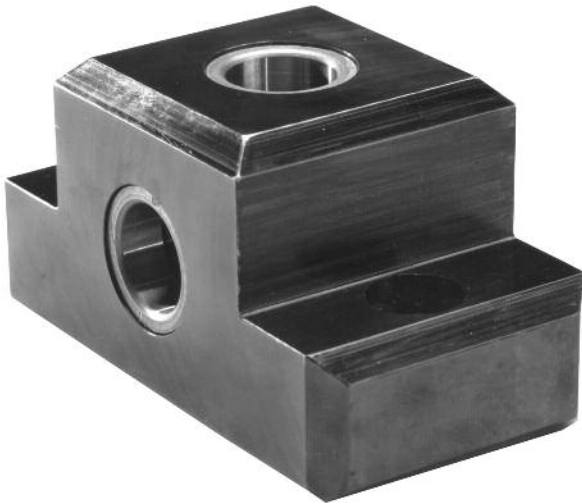
Tooling Plate Application



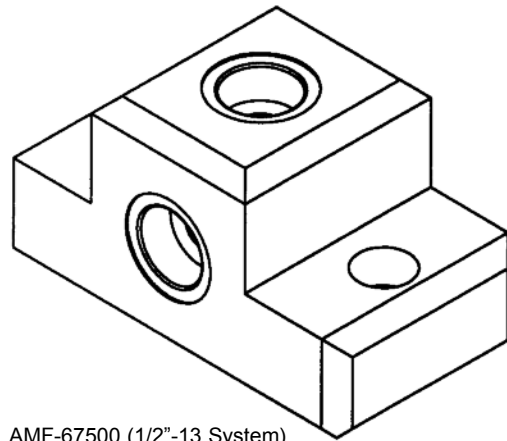
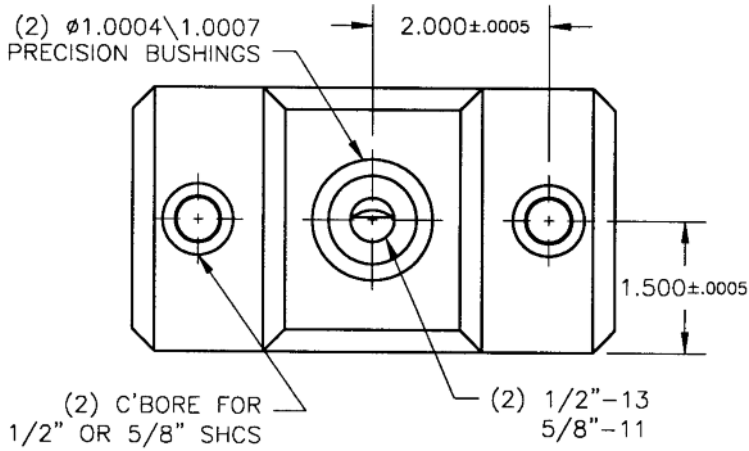
Standard Accessories



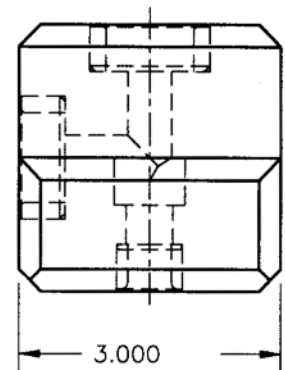
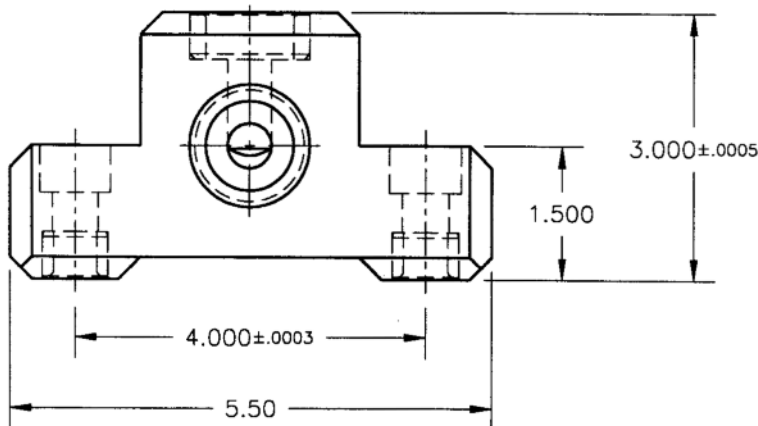
Calibration Block



- Standard size unit works on both horizontal and vertical machines
- Once block is initially positioned and indicated, it will greatly speed up and simplify probe calibrations
- Standardizes probe calibration and other checking procedures on all machines equipped with AMFLEX® grid plates
- Useful in checking machine repeatability and directional stability after a crash or any major maintenance procedure - such as a ball screw or bearing replacement



AMF-67500 (1/2"-13 System)
AMF-67600 (5/8"-11 System)





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2500 Latham Street Rockford, IL 61103

Phone: 815-962-6076 Fax: 815-962-6483 Toll Free: 1-800-225-2331

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