

Metric Fixture Pins



METRIC TOLERANCE DATA & STANDARD SPECIFICATION

MATERIAL	TOLERANCE	HEAT TREAT
HARDENED & GROUND 8620	h9	12mm DIA OR LESS R "C" 50-52 .6 - .9 DEEP
STAINLESS 300 SERIES		N/A
MILD STEEL 8620		N/A
PREHARDENED A311 G & P		R "C" 22-30
		16mm DIA AND UP R "C" 58-60 .9 - 1.1 DEEP

ALL E&E FIXTURE AND CLEVIS PINS ARE MADE TO THE FOLLOWING SPECIFICATIONS:

LENGTH = NOMINAL +.6

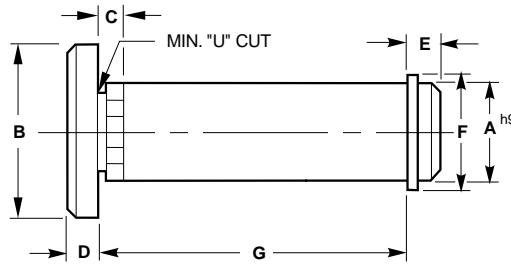
KNURL = NOMINAL +.2

LUBE OPTIONS = NOT AVAILABLE ON 6mm-8mm DIA PINS. 10mm-12mm DIA PINS ARE FURNISHED WITH A M6x1 TAPPED HOLE. 10mm DIA PINS CAN ONLY BE TAPPED ON THE END OPPOSITE THE RETAINER GROOVE. FOR PINS 16mm DIA OR LARGER A 1/8 BSPT IS FURNISHED.

Metric Head Type Fixture Pin w/Snap Ring



Metric



DIMENSIONAL INFORMATION							
CAD FILE NAME	A	B	C	D	E	F	*G 5mm INCR
MKSFIXTPIN	6.0	10.0	6.0	3.0	3.0	11.4	25-50
	8.0	11.0	6.0	3.0	3.0	13.2	25-50
	10.0	13.0	6.0	3.0	3.0	17.3	25-75
	12.0	16.0	6.0	3.0	4.0	20.8	25-75
	16.0	19.0	6.0	4.0	5.0	24.4	25-75
	20.0	24.0	6.0	4.0	6.0	29.0	25-100
	25.0	30.0	6.0	5.0	6.0	38.9	40-125
	30.0	36.0	6.0	5.0	5.0	42.4	40-125
	35.0	41.0	6.0	6.0	6.0	48.8	50-150
40.0	48.0	6.0	6.0	6.0	53.3	50-150	

*G = LENGTH IN 5mm INCREMENTS, OTHER LENGTHS AVAILABLE UPON REQUEST

H = 1/2 G UNLESS OTHERWISE SPECIFIED

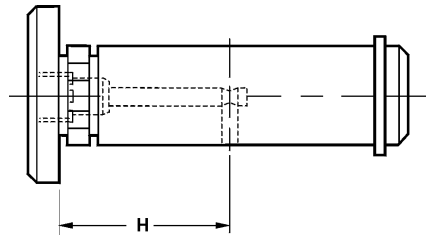
H1 = LOCATION OF ADDITIONAL CROSSHOLE IF REQUIRED

LUBE OPTION:

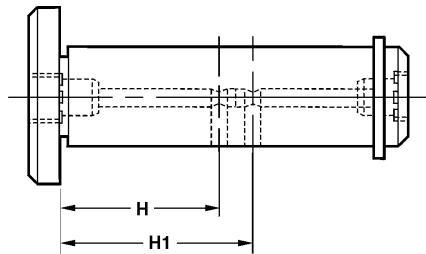
ADD "PT", "PT2" OR "RPT" AFTER PIN TYPE

Type	Description
MS	HARDENED AND GROUND, SMOOTH
MSS	STAINLESS, SMOOTH
MSU	MILD STEEL, SMOOTH
MSP	PREHARDENED, SMOOTH
MK	HARDENED AND GROUND, KNURLED
MKS	STAINLESS, KNURLED
MKU	MILD STEEL, KNURLED
MKP	PREHARDENED, KNURLED

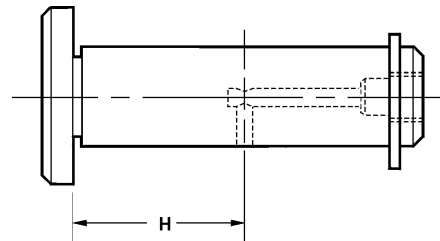
PIPE TAP LUBE OPTION PT



PIPE TAP LUBE OPTION = PT 2



PIPE TAP LUBE OPTION = RPT



ORDERING INFORMATION:

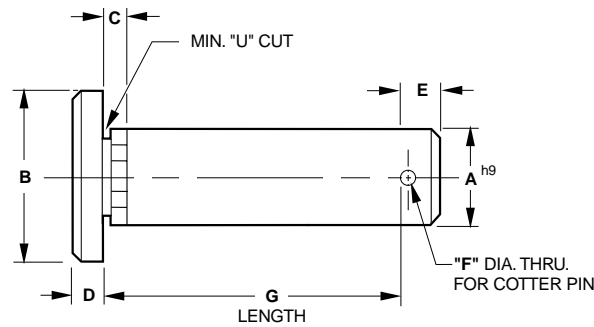
Specify: E-Pin Dia — Length — Type — Lube Option — "H" Dim — "H1" Dim

Example: E-20-45-MS-PT

"Stretch"

The shortest standard component is given. You may "Stretch" the unit to the desired length.

Metric Clevis Pin



HEAD TYPE FIXTURE PIN WITH COTTER PIN

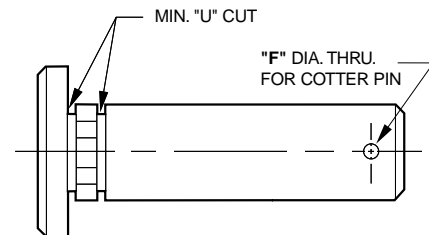
DIMENSIONAL INFORMATION							
CAD FILE NAME	A	B	C	D	E	F	*G 5mm INCR
MKSCLEVPIN	6.0	10.0	6.0	3.0	5.0	2.5	25-50
	8.0	11.0	6.0	3.0	5.0	2.5	25-50
	10.0	13.0	6.0	3.0	5.0	2.5	25-75
	12.0	16.0	6.0	3.0	6.0	3.0	25-75
	16.0	19.0	6.0	4.0	6.0	3.0	25-75
	20.0	24.0	6.0	4.0	6.0	3.0	25-100
	25.0	30.0	6.0	5.0	6.0	3.0	40-125
	30.0	36.0	6.0	5.0	8.0	5.0	40-125
	35.0	41.0	6.0	6.0	10.0	6.0	50-150
40.0	48.0	6.0	6.0	10.0	6.0	50-150	

*G = LENGTH IN 5mm INCREMENTS, OTHER LENGTHS AVAILABLE UPON REQUEST

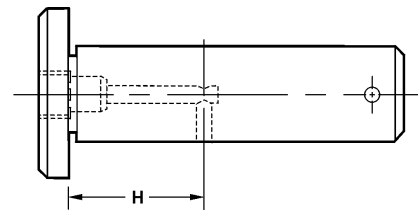
H = 1/2 G UNLESS OTHERWISE SPECIFIED

LUBE OPTION:

ADD "PT", AFTER PIN TYPE



PIPE TAP LUBE OPTION = PT



Type	Description
MSC	HARDENED AND GROUND, SMOOTH COTTER
MSCS	STAINLESS, SMOOTH, COTTER
MSCU	MILD STEEL, SMOOTH, COTTER
MSCP	PREHARDENED, SMOOTH, COTTER
MKC	HARDENED AND GROUND, KNURLED, COTTER
MKCS	STAINLESS, KNURLED, COTTER
MKCU	MILD STEEL, KNURLED, COTTER
MKCP	PREHARDENED, KNURLED, COTTER

ORDERING INFORMATION:

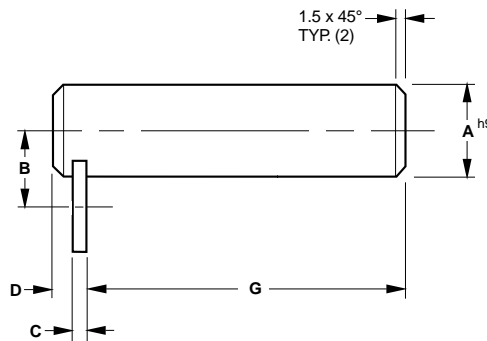
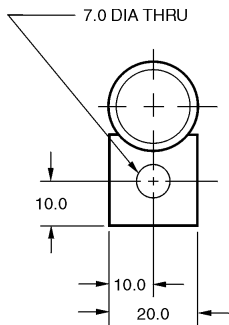
Specify: E-Pin Dia — Length — Type — Lube Option — "H" Dim

Example: E-12-55-MKCP-PT

"Stretch"

The shortest standard component is given. You may "Stretch" the unit to the desired length.

Metric Headless Fixture Pin with Retainer



METRIC HEADLESS FIXTURE PIN WITH RETAINER

DIMENSIONAL INFORMATION					
CAD FILE NAME	A	B	C	D	*G 5mm INCR
MHRFIXTPIN	6.0	10.0	3.0	6.0	25-50
	8.0	11.0	3.0	6.0	25-50
	10.0	12.0	3.0	6.0	25-75
	12.0	13.0	3.0	6.0	25-75
	16.0	15.0	3.0	6.0	25-75
	20.0	17.0	3.0	6.0	25-100
	25.0	19.5	3.0	6.0	40-125
	30.0	22.0	6.0	12.0	40-125
	35.0	24.5	6.0	12.0	50-150
	40.0	27.0	6.0	12.0	50-150
	45.0	29.5	6.0	12.0	75-200
	50.0	32.0	6.0	12.0	75-200
	60.0	37.0	6.0	12.0	75-200
	75.0	44.5	6.0	12.0	100-300
90.0	52.0	6.0	12.0	150-350	
100.0	57.0	6.0	12.0	150-350	

*G = LENGTH IN 5mm INCREMENTS, OTHER LENGTHS AVAILABLE UPON REQUEST

H = 1/2 G UNLESS OTHERWISE SPECIFIED

H1 = LOCATION OF ADDITIONAL CROSSHOLE IF REQUIRED

LUBE OPTION:

ADD "PT" "PT2" OR "RPT" AFTER PIN TYPE

*RETAINER OPTION:

RETAINER #EM-1R SUPPLIED ON 6.0 – 25.0 DIA PINS AND #EM-2R SUPPLIED ON 30-100 DIA PINS UNLESS OTHERWISE SPECIFIED. DO NOT SPECIFY WHEN STANDARD RETAINER IS REQUIRED. SEE PAGE E-55 FOR ADDITIONAL RETAINER OPTIONS.

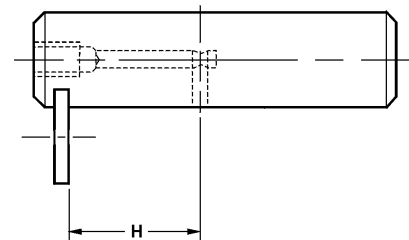
ORDERING INFORMATION:

Specify: E-Pin Dia — Length — Type — Lube Option —
— "H" Dim — "H1" Dim — *Retainer Option

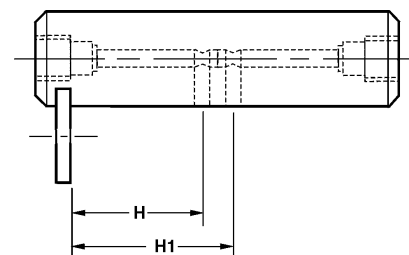
Example: E-12-60-MHR-PT-EM-1RD

CAD Directory
Mach-Tool\Met-FixtPin

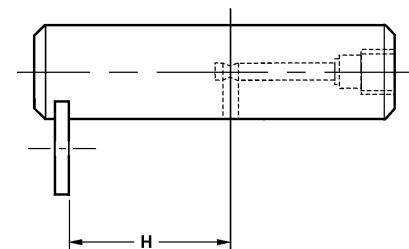
PIPE TAP LUBE OPTION = PT



PIPE TAP LUBE OPTION = PT2



PIPE TAP LUBE OPTION = RPT



Type

MHR
MHRs
MHRU
MHRP

Description

HARDENED AND GROUND
STAINLESS
MILD STEEL
PREHARDENED, GROUND
AND POLISHED

"Stretch"

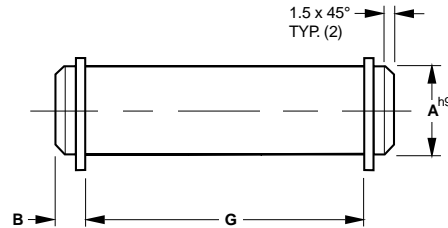
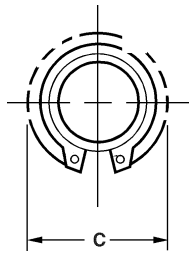
The shortest standard component is given. You may "Stretch" the unit to the desired length.

Metric

Metric Headless Fixture Pin with Double Snap Ring



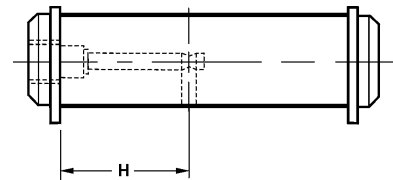
Metric



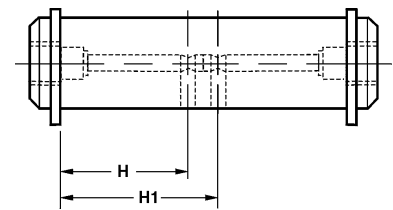
METRIC HEADLESS FIXTURE PIN WITH DOUBLE SNAP RING

DIMENSIONAL INFORMATION				
CAD FILE NAME	A	B	C	*G 5mm INCR
MSXFIXTPIN	6.0	3.0	11.4	25-50
	8.0	3.0	13.2	25-50
	10.0	3.0	17.3	25-75
	12.0	4.0	20.8	25-75
	16.0	5.0	24.4	25-75
	20.0	6.0	29.0	25-100
	25.0	6.0	38.9	40-125
	30.0	5.0	42.4	40-125
	35.0	6.0	48.8	50-150
	40.0	6.0	53.3	50-150
	45.0	6.0	59.2	75-200
	50.0	6.0	64.5	75-200
60.0	8.0	76.5	75-200	

PIPE TAP LUBE OPTION = PT



PIPE TAP LUBE OPTION = PT2



*G = LENGTH IN 5mm INCREMENTS, OTHER LENGTHS AVAILABLE UPON REQUEST

H = 1/2 G UNLESS OTHERWISE SPECIFIED

H1 = LOCATION OF ADDITIONAL CROSSHOLE IF REQUIRED

LUBE OPTION:

ADD "PT" OR "PT2" AFTER PIN TYPE

Type	Description
MSX	HARDENED AND GROUND, DOUBLE SNAP RING
MSXS	STAINLESS, DOUBLE SNAP RING
MSXU	MILD STEEL, DOUBLE SNAP RING
MSXP	PREHARDENED, GROUND AND POLISHED, DOUBLE SNAP RING

ORDERING INFORMATION:

Specify: E-Pin Dia — Length — Type —
Lube Option — "H" Dim —
"H1" Dim

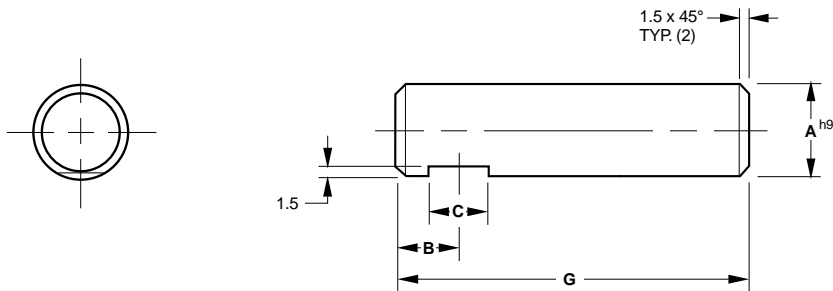
Example: E-10-45-MSXP-PT2-15-30

CAD Directory
Mach-Tool\Met-FixtPin

"Stretch"

The shortest standard component is given. You may "Stretch" the unit to the desired length.

Metric Set Screw Fixture Pin



METRIC SET SCREW FIXTURE PIN

DIMENSIONAL INFORMATION				
CAD FILE NAME	A	B	C	*G 5mm INCR
MHSFIXTPIN	6.0	*	6.0	25-50
	8.0	*	10.0	25-50
	10.0	*	10.0	25-75
	12.0	*	10.0	25-75
	16.0	*	15.0	25-75
	20.0	*	15.0	25-100
	25.0	*	15.0	40-125
	30.0	*	15.0	40-125
	35.0	*	15.0	50-150
	40.0	*	15.0	50-150
	45.0	*	15.0	75-200
	50.0	*	15.0	75-200
	60.0	*	15.0	75-200
	75.0	*	15.0	100-300
90.0	*	15.0	150-350	
100.0	*	15.0	150-350	

*B = SPECIFY LOCATION

*G = LENGTH IN 5mm INCREMENTS, OTHER LENGTHS AVAILABLE UPON REQUEST

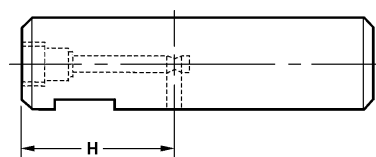
H = 1/2 G UNLESS OTHERWISE SPECIFIED

H1 = LOCATION OF ADDITIONAL CROSSHOLE IF REQUIRED

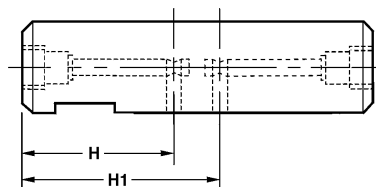
LUBE OPTION:

ADD "PT", "PT2" OR "RPT" AFTER PIN TYPE

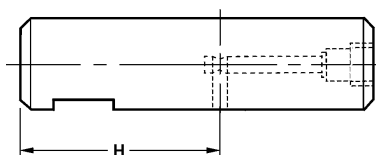
PIPE TAP LUBE OPTION = PT



PIPE TAP LUBE OPTION = PT2



PIPE TAP LUBE OPTION = RPT



ORDERING INFORMATION:

Specify: E-Pin Dia — Length — Type — Lube Option — "B" Dim — "H" Dim — "H1" Dim

Example: E-12-65-MHS-PT-10-25

Type

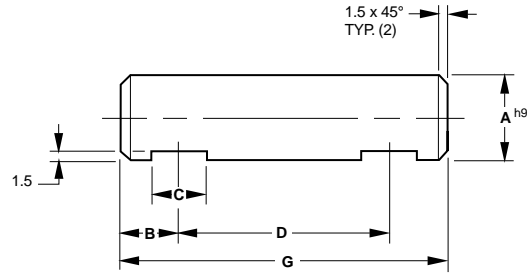
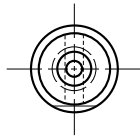
Description

MHS	HARDENED AND GROUND
MHSS	STAINLESS
MHSU	MILD STEEL
MHSP	PREHARDENED, GROUND AND POLISHED

"Stretch"

The shortest standard component is given. You may "Stretch" the unit to the desired length.

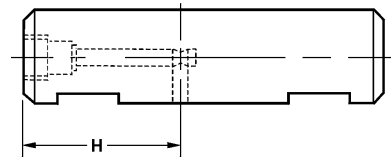
Metric Set Screw Fixture Pin with Double Flat



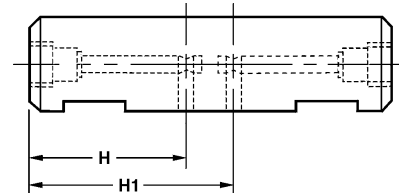
METRIC SET SCREW FIXTURE PIN WITH DOUBLE FLAT

DIMENSIONAL INFORMATION					
CAD FILE NAME	A	B	C	D	*G 5mm INCR
MHDSFIXTPIN	6.0	*	6.0	*	25-50
	8.0	*	10.0	*	35-50
	10.0	*	10.0	*	35-75
	12.0	*	10.0	*	35-75
	16.0	*	15.0	*	45-75
	20.0	*	15.0	*	45-100
	25.0	*	15.0	*	45-125
	30.0	*	15.0	*	45-125
	35.0	*	15.0	*	50-150
	40.0	*	15.0	*	50-150
	45.0	*	15.0	*	75-200
	50.0	*	15.0	*	75-200
	60.0	*	15.0	*	75-200
	75.0	*	15.0	*	100-300
	90.0	*	15.0	*	150-350
100.0	*	15.0	*	150-350	

PIPE TAP LUBE OPTION = PT



PIPE TAP LUBE OPTION = PT2



- *B = SPECIFY LOCATION AFTER PIN TYPE
- *G = LENGTH IN 5mm INCREMENTS, OTHER LENGTHS AVAILABLE UPON REQUEST
- *D = SPECIFY DISTANCE BETWEEN CENTER LINE OF FLATS
- H = LOCATION OF CROSSHOLE
- H1 = LOCATION OF ADDITIONAL CROSSHOLE IF REQUIRED
- LUBE OPTION:**
- ADD "PT" OR "PT2" AFTER PIN TYPE

Type	Description
MHDS	HARDENED AND GROUND
MHDS	STAINLESS
MHDSU	MILD STEEL
MHDS	PREHARDENED, GROUND AND POLISHED

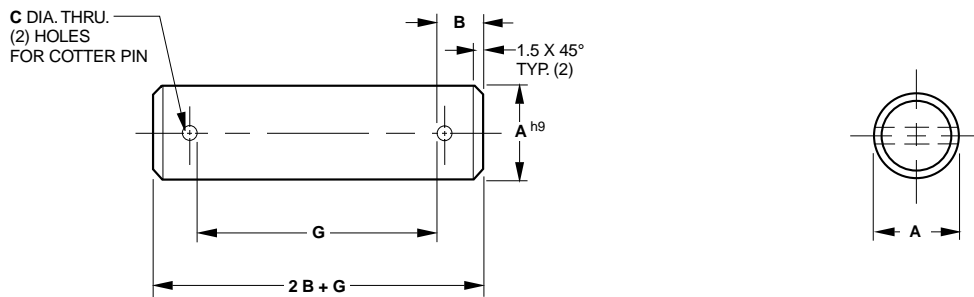
ORDERING INFORMATION:

Specify: E-Pin Dia — Length — Type — Lube Option — "B" Dim — "D" Dim — "H" Dim — "H1" Dim

Example: E-40-125-MHDS-PT-1-20-50

"Stretch"
The shortest standard component is given. You may "Stretch" the unit to the desired length.

Metric Headless Fixture Pin with Double Cotter Pin



METRIC HEADLESS FIXTURE PIN WITH DOUBLE COTTER PIN

DIMENSIONAL INFORMATION				
CAD FILE NAME	A	B	C	*G 5mm INCR
MHDCFIXTPIN	6.0	5.0	3.0	25-50
	8.0	5.0	3.0	25-50
	10.0	5.0	3.0	25-75
	12.0	6.0	3.7	25-75
	16.0	6.0	3.7	25-75
	20.0	6.0	4.5	25-100
	25.0	6.0	4.5	40-125
	30.0	8.0	5.0	40-125
	35.0	10.0	5.5	50-150
	40.0	10.0	6.8	50-150
	45.0	10.0	6.8	75-200
	50.0	10.0	8.5	75-200
	60.0	10.0	8.5	75-200
	70.0	13.0	10.5	100-300
	75.0	13.0	10.5	100-300

*G = LENGTH IN 5mm INCREMENTS, OTHER LENGTHS AVAILABLE UPON REQUEST

Type	Description
MHDC	HARDENED AND GROUND
MHDCS	STAINLESS
MHDCU	MILD STEEL
MHDCP	PREHARDENED, GROUND AND POLISHED

ORDERING INFORMATION:

Specify: E-Pin Dia. — Length — Type

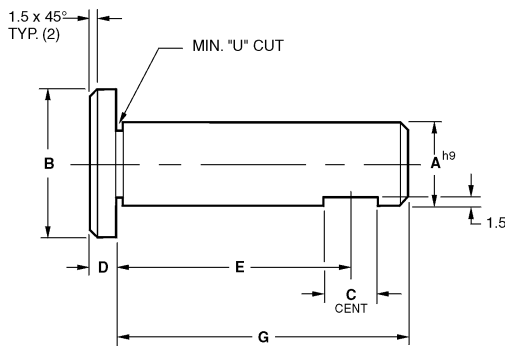
Example: E-16-45-MHDCP

“Stretch”
The shortest standard component is given. You may “Stretch” the unit to the desired length.

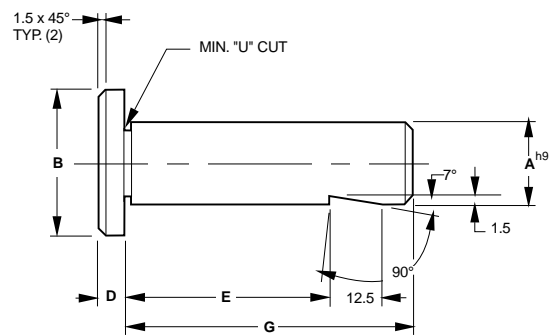
Metric Head Type Fixture Pin with Set Screw Flat & Whistle Notch



METRIC HEAD TYPE PIN WITH SET SCREW
FLAT



METRIC HEAD TYPE PIN WITH
WHISTLE NOTCH



METRIC HEAD TYPE FIXTURE PIN WITH SET SCREW
FLAT OR WHISTLE NOTCH

DIMENSIONAL INFORMATION					
CAD FILE NAME	A	B	C	D	*G 5mm INCR
MSFFIXTPIN OR MSWFIXTPIN	6.0	10.0	6.0	3.0	25-50
	8.0	11.0	10.0	3.0	25-50
	10.0	13.0	10.0	3.0	25-75
	12.0	16.0	10.0	3.0	25-75
	16.0	19.0	15.0	4.0	25-75
	20.0	24.0	15.0	4.0	25-100
	25.0	30.0	15.0	5.0	40-125
	30.0	36.0	15.0	5.0	40-125
35.0	41.0	15.0	6.0	50-150	
40.0	48.0	15.0	6.0	50-150	

E = LOCATION OF FLAT OR WHISTLE NOTCH

***G** = LENGTH IN 5mm INCREMENTS, OTHER LENGTHS
AVAILABLE UPON REQUEST

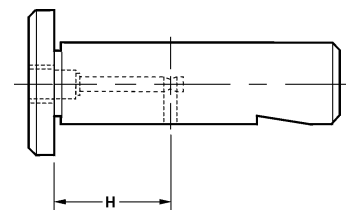
H = 1/2 G UNLESS OTHERWISE SPECIFIED

H1 = LOCATION OF ADDITIONAL CROSSHOLE IF
REQUIRED

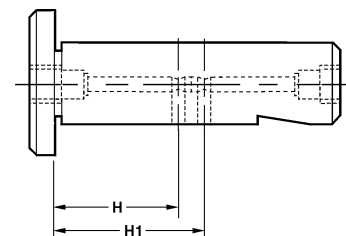
LUBE OPTION:

ADD "PT", "PT2" OR "RPT" AFTER PIN TYPE

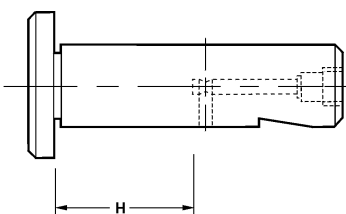
PIPE TAP LUBE OPTION = PT



PIPE TAP LUBE OPTION = PT2



PIPE TAP LUBE OPTION = RPT



Type

Description

MSF	HARDENED AND GROUND, SET SCREW
MSFS	STAINLESS, SET SCREW
MSFU	MILD STEEL, SET SCREW
MSFP	PREHARDENED, SET SCREW
MSW	HARDENED AND GROUND, WHISTLE NOTCH
MSWS	STAINLESS, WHISTLE NOTCH
MSWU	MILD STEEL, WHISTLE NOTCH
MSWP	PREHARDENED, WHISTLE NOTCH

ORDERING INFORMATION:

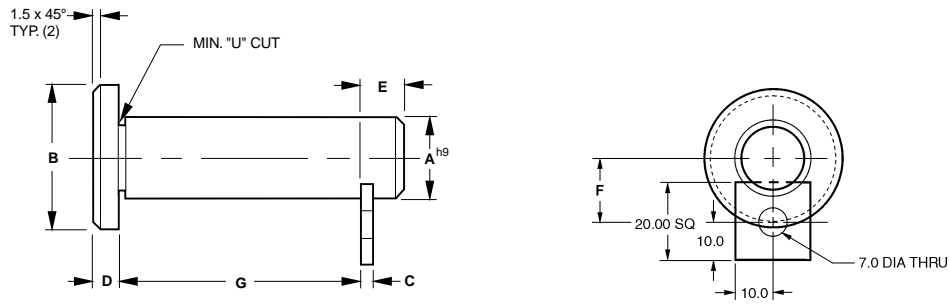
Specify: E-Pin Dia. — Length — Type —
Lube Option — "E" Dim —
"H" Dim — "H1" Dim

Example: E-40-120-MSF-RPT-100-80-60

"Stretch"

The shortest standard component is given. You may "Stretch" the unit to the desired length.

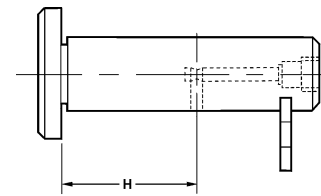
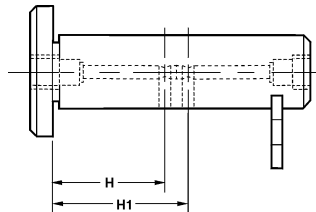
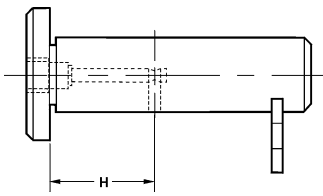
Metric Head Type Fixture Pin with Retainer



PIPE TAP LUBE OPTION = PT

PIPE TAP LUBE OPTION = PT2

PIPE TAP LUBE OPTION = RPT



METRIC HEAD TYPE FIXTURE PIN WITH RETAINER

DIMENSIONAL INFORMATION							
CAD FILE NAME	A	B	C	D	E	F	*G 5mm" INCR
MSRFXTPIN	6.0	10.0	3.0	3.0	6.0	10.0	25-50
	8.0	11.0	3.0	3.0	6.0	11.0	25-50
	10.0	13.0	3.0	3.0	6.0	12.0	25-75
	12.0	16.0	3.0	3.0	6.0	13.0	25-75
	16.0	19.0	3.0	4.0	6.0	15.0	25-75
	20.0	24.0	3.0	4.0	6.0	17.0	25-100
	25.0	30.0	3.0	5.0	6.0	19.5	40-125
	30.0	36.0	6.0	5.0	9.0	22.5	40-125
	35.0	41.0	6.0	6.0	9.0	24.5	50-150
	40.0	48.0	6.0	6.0	9.0	27.0	50-150

*G = LENGTH IN 5mm INCREMENTS, OTHER LENGTHS AVAILABLE UPON REQUEST

H = 1/2 G UNLESS OTHERWISE SPECIFIED

H1 = LOCATION OF ADDITIONAL CROSSHOLE IF REQUIRED

LUBE OPTION:

ADD "PT", "PT2" OR "RPT" AFTER PIN TYPE

*RETAINER OPTION:

RETAINER #EM-1R SUPPLIED ON 6-25 DIA PINS AND #EM-2R SUPPLIED ON 30-100 DIA PINS UNLESS OTHERWISE SPECIFIED. DO NOT SPECIFY WHEN STANDARD RETAINER IS REQUIRED. SEE PAGE E-55 FOR ADDITIONAL RETAINER OPTIONS.

ORDERING INFORMATION:

Specify: E-Pin Dia. — Length — Type — Lube Option — "H" Dim — "H1" Dim — *RETAINER OPTION

Example: E-20-80-MSR-PT-EM-1RD

Type	Description
MSR	HARDENED AND GROUND, SMOOTH, RETAINER
MSRS	STAINLESS, SMOOTH, RETAINER
MSRU	MILD STEEL, SMOOTH, RETAINER
MSRP	PREHARDENED, SMOOTH, RETAINER

CAD Directory
Mach-Tool\Met-FixtPin

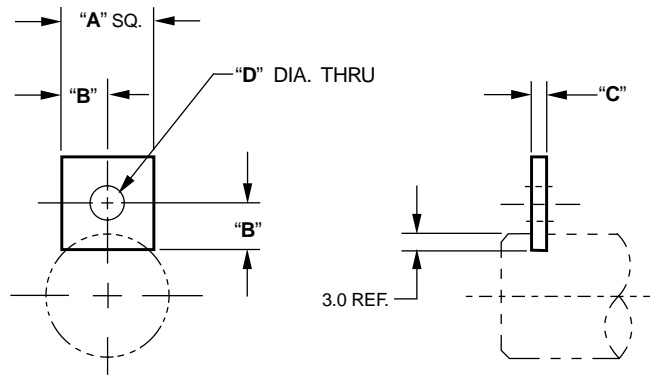
"Stretch"

The shortest standard component is given. You may "Stretch" the unit to the desired length.

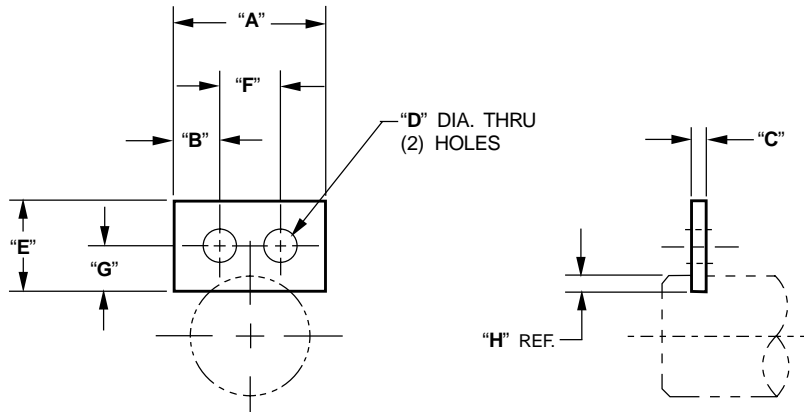
Metric Retainers



Metric



CAD FILE NAME	RETAINER NUMBER	"A" DIM	"B" DIM	"C" DIM	"D" DIM
EM-RET	EM-1R	20.0	10.0	3	7.0
	EM-2R	20.0	10.0	6	7.0
	EM-3R	25.0	12.5	3	7.0
	EM-4R	25.0	12.5	6	11.0
	EM-5R	30.0	15.0	6	11.0



CAD FILE NAME	RETAINER NUMBER	"A" DIM	"B" DIM	"C" DIM	"D" DIM	"E" DIM	"F" DIM	"G" DIM	"H" DIM
EM-RET	EM-1RD	30.0	7.5	3	7.0	20.0	15.0	10.0	3.0
	EM-2RD	30.0	7.5	6	7.0	20.0	15.0	10.0	3.0
	EM-3RD	40.0	12.5	3	7.0	25.0	15.0	12.5	3.0
	EM-4RD	45.0	12.5	6	11.0	25.0	20.0	12.5	3.0
	EM-5RD	50.0	15.0	6	11.0	30.0	20.0	15.0	3.0
	EM-6RD	65.0	20.0	6	13.0	40.0	25.0	20.0	3.0
	EM-7RD	30.0	7.5	3	9.0	20.0	15.0	10.0	3.0
	EM-8RD	50.0	10.0	6	9.0	30.0	30.0	15.0	6.0
	EM-9RD	65.0	12.5	6	11.0	40.0	40.0	20.0	10.0