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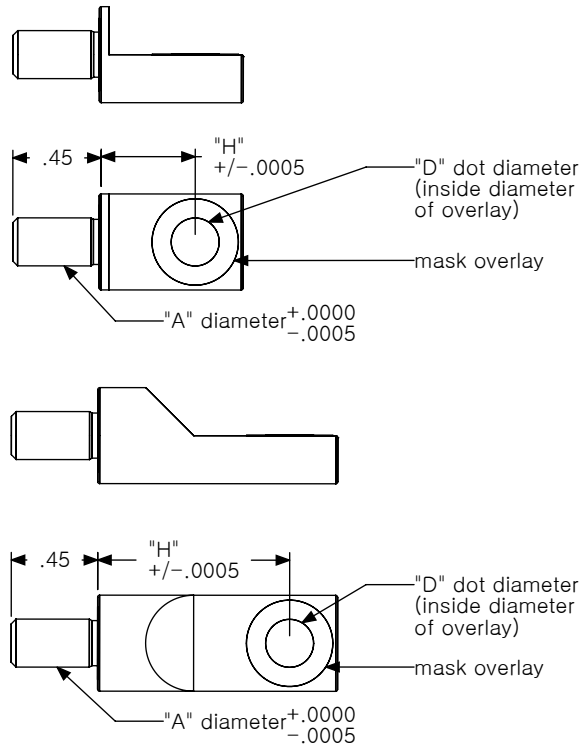
**T90R**  
Used with photogrammetry for targeting holes approximately 90° to line of sight.

**T90R (T90 .500 or T90 1.000) ORDERING INFORMATION**

	FAMILY	"H" TO CENTERLINE	"A" SHANK DIAMETER	"D" DOT DIAMETER	MATERIAL		
T90R STANDARD BUILD	T90R	↓	↓	↓	1144 steel, black oxide finish		
CUSTOMER PROVIDES INFO	T90R	▪	▪	▪			
REFERENCE NOTES	_____						
	_____						

**TARGET, 90° RETRO - REFLECTIVE (T90 .500 or T90 1.000)**

CAD on file



T90R - .500



T90R - 1.000



**T90R FEATURES**  
1144 STEEL, BLACK OXIDE FINISH (standard)

## T90MR

Used to target above and 90° to steel surfaces. The side of the body may be used to target surfaces, edges, or steps .2500 or .3750 away.

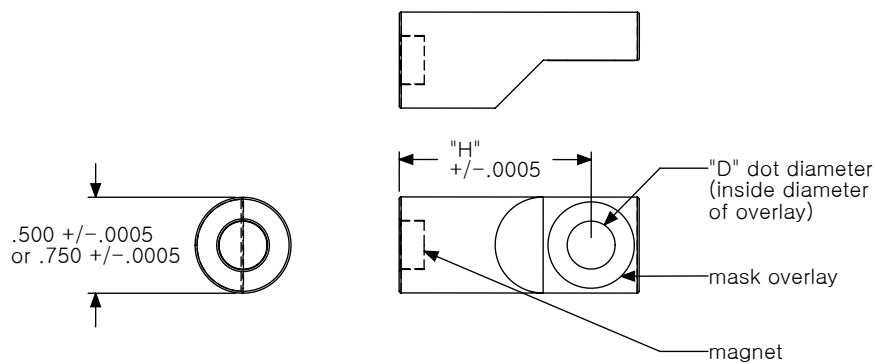
## T90MR ORDERING INFORMATION

	FAMILY	"H" TO CENTERLINE	"D" DOT DIAMETER	MATERIAL			
T90MR STANDARD BUILD	T90MR	↓	↓	1144 steel, black oxide finish			
CUSTOMER PROVIDES INFO	T90MR	■	■				
REFERENCE NOTES							

B  
2

## TARGET, 90° MAGNETIC RETRO-REFLECTIVE

CAD on file



**T90MR FEATURES**  
1144 STEEL, BLACK OXIDE FINISH (standard)

**T90MR ORDERING**  
Normal offsets for targets are:

- .3125
- .500
- 1.000
- 12mm
- 24mm

Other special offsets available, subject to quote.

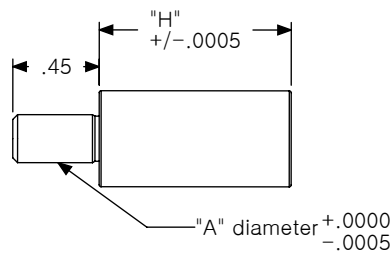
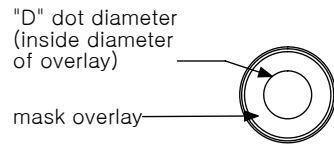
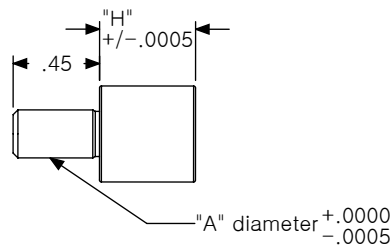
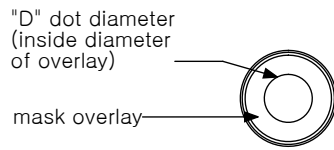
**TSOR**  
Used with photogrammetry for targeting holes approximately in line with line of sight.

**TSOR ORDERING INFORMATION**

	FAMILY	"H" TO CENTERLINE	"A" SHANK DIAMETER	"D" DOT DIAMETER	MATERIAL		
TSOR STANDARD BUILD	TSOR	↓	↓	↓	1144 steel, black oxide finish		
CUSTOMER PROVIDES INFO	TSOR	▪	▪	▪			
REFERENCE NOTES							

**TARGET, STRAIGHT-ON, RETRO - REFLECTIVE**

CAD on file



TSOR - .500



TSOR - 1.000



**TSOR FEATURES**  
1144 STEEL, BLACK OXIDE FINISH (standard)

**TSOR ORDERING**  
Normal offsets for targets are:

- .3125
- .500
- 1.000
- 12mm
- 24mm

Other special offsets available, subject to quote.

## TMR

Used to target above and 90° to steel surfaces. The side of the body may be used to target surfaces, edges, or steps .2500 or .3750 away.

## TMR ORDERING INFORMATION

	FAMILY	"H" TO CENTERLINE	"D" DOT DIAMETER	MATERIAL			
TMR STANDARD BUILD	TMR	↓	↓	1144 steel, black oxide finish			
CUSTOMER PROVIDES INFO	TMR	■	■				
REFERENCE NOTES							

B  
4

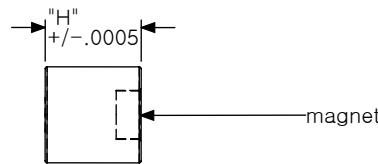
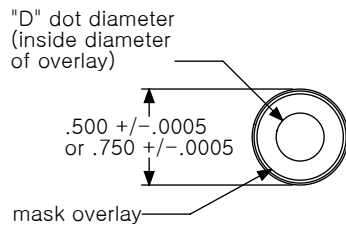
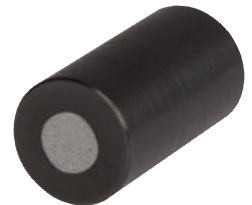
## TARGET, MAGNETIC, RETRO - REFLECTIVE

CAD on file

TMR - .500



TMR - 1.000

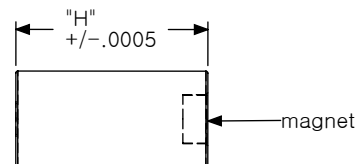
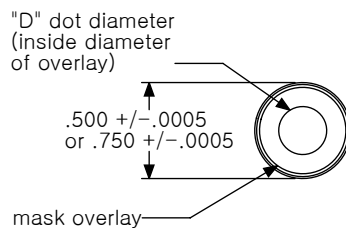


**TMR FEATURES**  
 1144 STEEL, BLACK OXIDE FINISH (standard)

**TMR ORDERING**  
 Normal offsets for targets are:

- .3125
- .500
- 1.000
- 12mm
- 24mm

Other special offsets available, subject to quote.



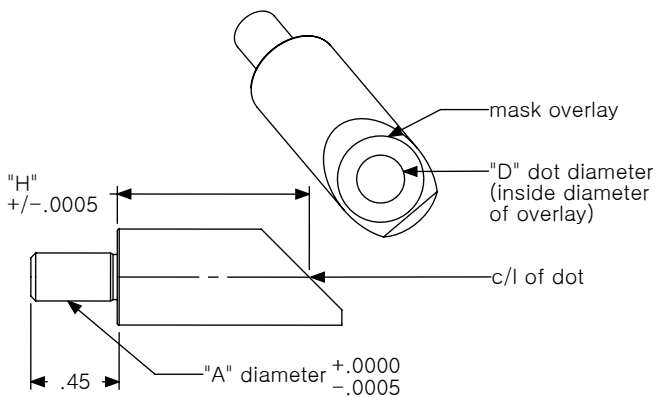
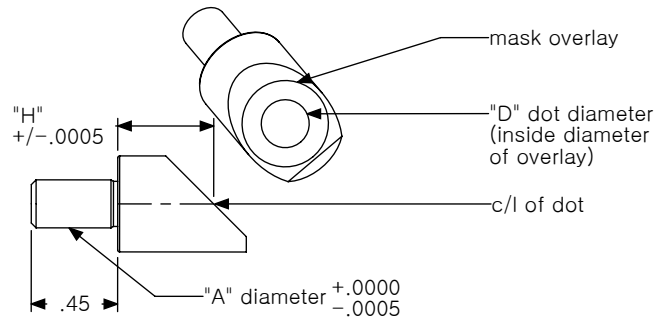
**T45R**  
Used with photogrammetry for targeting holes approximately 45° to the line of sight.

**T45R ORDERING INFORMATION**

	FAMILY	"H" TO CENTERLINE	"A" SHANK DIAMETER	"D" DOT DIAMETER	MATERIAL		
T45R STANDARD BUILD	T45R	↓	↓	↓	1144 steel, black oxide finish		
CUSTOMER PROVIDES INFO	T45R	▪	▪	▪			
REFERENCE NOTES							

**TARGET, 45° RETRO - REFLECTIVE**

CAD on file



T45R - .500



T45R - 1.000



**T45R FEATURES**  
1144 STEEL, BLACK OXIDE FINISH (standard)

## T45MR

Used to target above and 90° to steel surfaces when a 45° target face is more applicable. The side of the body may be used to target surfaces, edges, or steps .2500 or .3750 away.

## T45MR ORDERING INFORMATION

	FAMILY	"H" TO CENTERLINE	"D" DOT DIAMETER	MATERIAL			
T45MR STANDARD BUILD	T45MR	↓	↓	1144 steel, black oxide finish			
CUSTOMER PROVIDES INFO	T45MR	■	■				
REFERENCE NOTES							

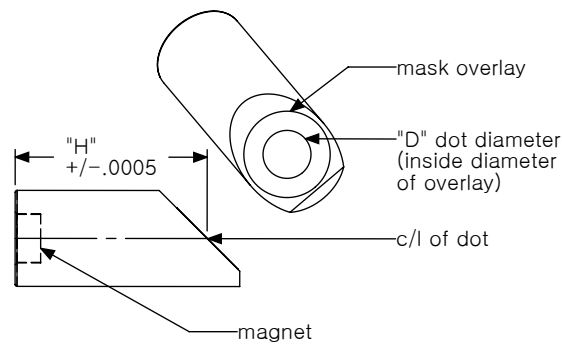
B  
6

## TARGET, 45° MAGNETIC, RETRO - REFLECTIVE

CAD on file



**T45MR FEATURES**  
1144 STEEL, BLACK OXIDE FINISH (standard)



**TCR / 45**  
(LH or RH)  
Used with  
photogrammetry  
for targeting  
edges/surfaces.

**TCR / 45 - LH or RH ORDERING INFORMATION**

	FAMILY	LEFT or RIGHT HAND	"D" DOT DIAMETER	MATERIAL			
TCR / 45 -LH or RH STANDARD BUILD	TCR / 45	LH or RH	↓	1144 steel, black oxide finish			

CUSTOMER PROVIDES INFO    TCR / 45    ■    ■

REFERENCE NOTES \_\_\_\_\_

**TARGET CORNER, 45° RETRO - REFLECTIVE (LEFT HAND or RIGHT HAND)**

CAD on file

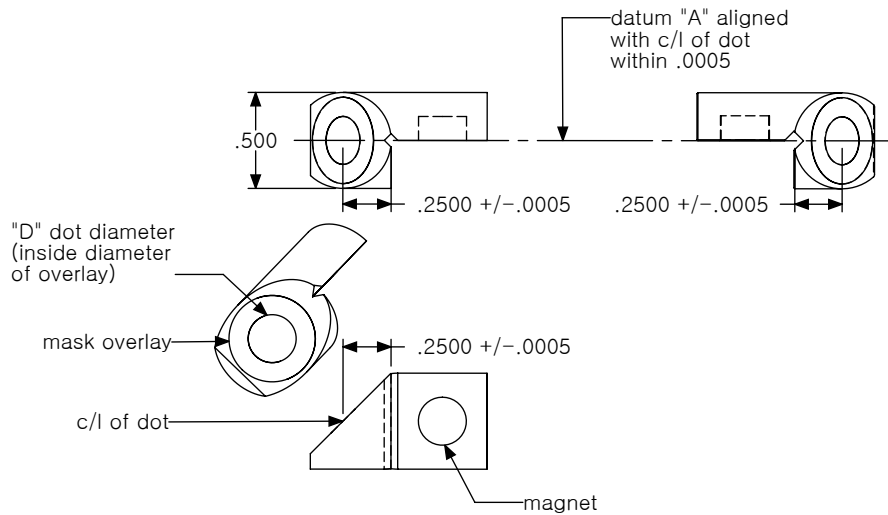
TCR / 45-LH



TCR / 45-RH



**TCR / 45 - LH or RH FEATURES**  
1144 STEEL, BLACK OXIDE FINISH (standard)





**TCR / 45**  
 (NEG or POS)  
 Used with  
 photogrammetry  
 for targeting  
 edges/surfaces.

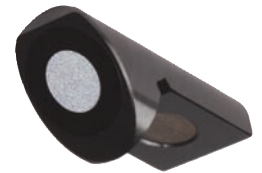
**TCR / 45 - NEG or POS ORDERING INFORMATION**

	FAMILY	NEGATIVE or POSITIVE	"D" DOT DIAMETER	MATERIAL			
TCR / 45-NEG or POS STANDARD BUILD	TCR / 45	NEG or POS	↓	1144 steel, black oxide finish			
CUSTOMER PROVIDES INFO	TCR / 45	▪	▪				
REFERENCE NOTES							

**TARGET CORNER, 45° RETRO - REFLECTIVE (NEGATIVE or POSITIVE)**

CAD on file

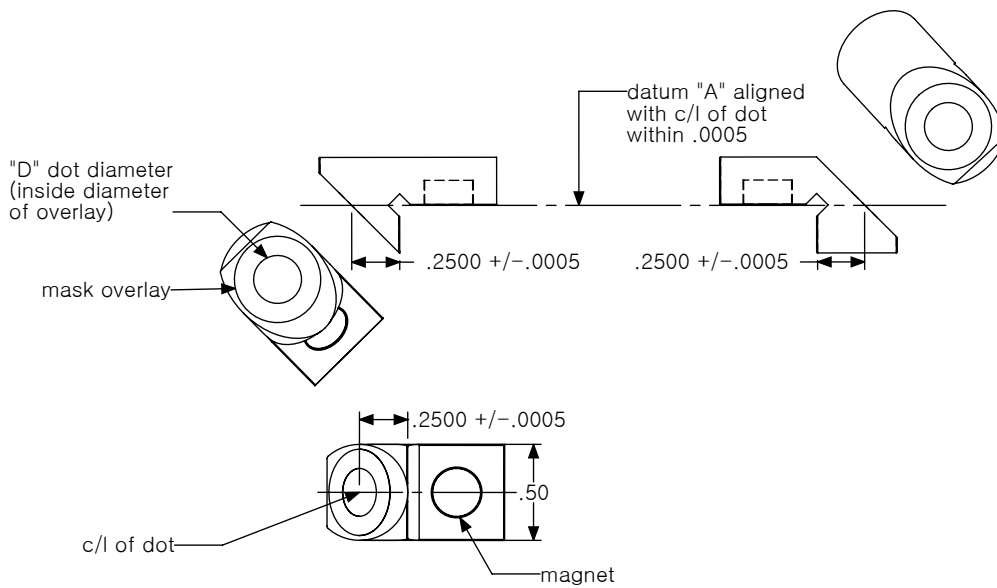
TCR / 45-NEG



TCR / 45-POS



**TCR / 45**  
 NEG or POS  
**FEATURES**  
 1144 STEEL, BLACK OXIDE  
 FINISH (standard)



### TBR and TBRV

Used with photogrammetry for targeting .125 diameter tooling holes. For any other requirements, refer to TBRV design.

### TBR ORDERING INFORMATION

	FAMILY	"D" DOT DIAMETER	MATERIAL				
TBR STANDARD BUILD	TBR	↓	1144 steel, black oxide finish	/	/	/	/
CUSTOMER PROVIDES INFO	TBR	▪					

### TBRV ORDERING INFORMATION

	FAMILY	"A" SHANK DIAMETER	"B" SHANK LENGTH	"D" DOT DIAMETER	MATERIAL		
TBRV STANDARD BUILD	TBRV	↓	↓	↓	1144 steel, black oxide finish	/	/
CUSTOMER PROVIDES INFO	TBRV	▪	▪	▪			

REFERENCE NOTES

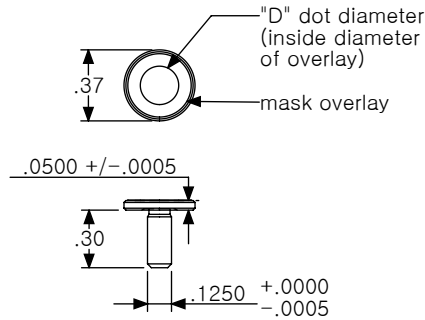
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## TARGET, BUTTON RETRO - REFLECTIVE

CAD on file

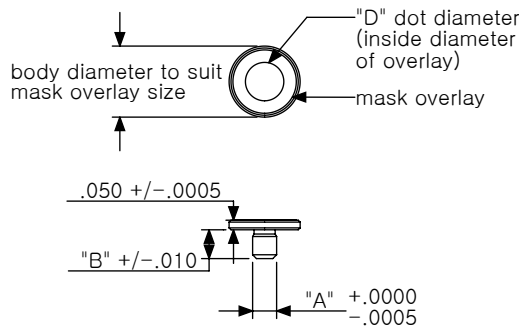


**TBR FEATURES**  
1144 STEEL, BLACK OXIDE FINISH (standard)

**TBR ORDERING**  
Can only select dot diameter.

## TARGET, BUTTON, RETRO - REFLECTIVE VARIABLE

CAD on file



**TBRV FEATURES**  
1144 STEEL, BLACK OXIDE FINISH (standard)

## FMR

Used for targeting holes when a zero height value is required.

## FMR ORDERING INFORMATION

	FAMILY	"A" SHANK DIAMETER	"D" DOT DIAMETER	MATERIAL			
FMR STANDARD BUILD	FMR	↓	↓	1144 steel, black oxide finish			
CUSTOMER PROVIDES INFO	FMR	▪	▪				
REFERENCE NOTES	_____						

B  
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## FLUSH MOUNT RETRO - REFLECTIVE

CAD on file

### NOTE

Some limitations of dot diameters relative to shank diameters.

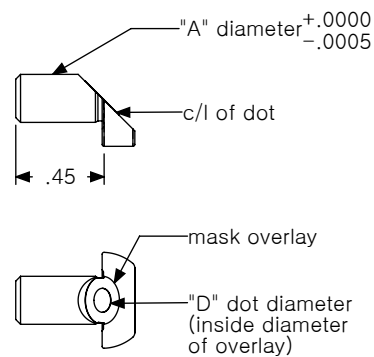


**FMR FEATURES**  
1144 STEEL, BLACK OXIDE FINISH (standard)

**FMR ORDERING**  
STANDARD SHANK SIZES:

.1250  
.1875  
.2500  
.3125  
.3750  
.4375  
.5000  
.6250  
.7500  
1.000  
6mm  
8mm

Other shank sizes possible, but subject to call-out quote.



**DVTR**

Used to measure location and angularity of a hole.

**DVTR ORDERING INFORMATION**

	FAMILY	"A" SHANK DIAMETER	"D" DOT DIAMETER	MATERIAL			
DVTR STANDARD BUILD	DVTR	↓	↓	1144 steel, black oxide finish			
CUSTOMER PROVIDES INFO	DVTR	▪	▪				
REFERENCE NOTES	_____						
	_____						

**DOUBLE VECTOR TARGET RETRO - REFLECTIVE**

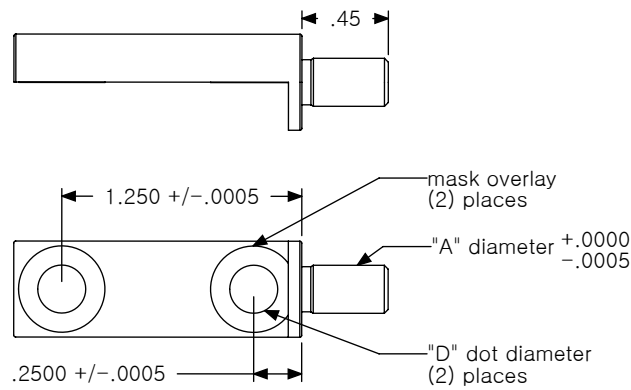
CAD on file

**NOTE**

.2500 maximum dot diameter. For larger dot diameters, use DVTV on page B13.



**DVTR FEATURES**  
1144 STEEL, BLACK OXIDE FINISH (standard)



**TCR**  
Used with photogrammetry for targeting edges/surfaces.

TCR ORDERING INFORMATION

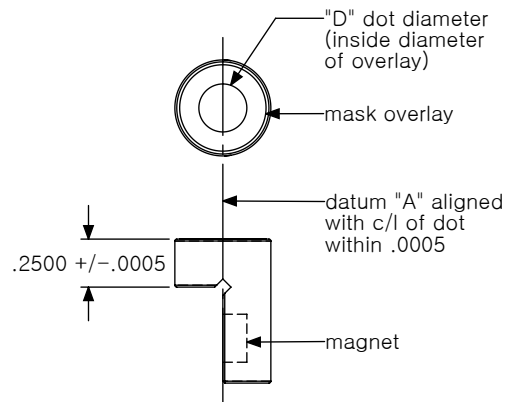
	FAMILY	"D" DOT DIAMETER	MATERIAL				
TCR STANDARD BUILD	TCR	↓	1144 steel, black oxide finish				
CUSTOMER PROVIDES INFO	TCR	▪					
REFERENCE NOTES	_____						
	_____						

TARGET CORNER, RETRO - REFLECTIVE

CAD on file



**TCR FEATURES**  
1144 STEEL, BLACK OXIDE FINISH (standard)



**DTET**

Used to target edges/surfaces.

**DTET ORDERING INFORMATION**

	FAMILY	"D" DOT DIAMETER	MATERIAL				
DTET STANDARD BUILD	DTET	↓	1144 steel, black oxide finish				
CUSTOMER PROVIDES INFO	DTET	▪					

**DVTV**

Used to measure location and angularity of a hole.

**DVTV ORDERING INFORMATION**

	FAMILY	"A" SHANK DIAMETER	"B" SHANK LENGTH	"D" DOT DIAMETER	MATERIAL		
DVTV STANDARD BUILD	DVTV	↓	↓	↓	1144 steel, black oxide finish		
CUSTOMER PROVIDES INFO	DVTV	▪	▪	▪			

REFERENCE NOTES

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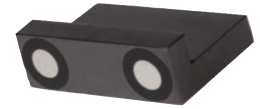
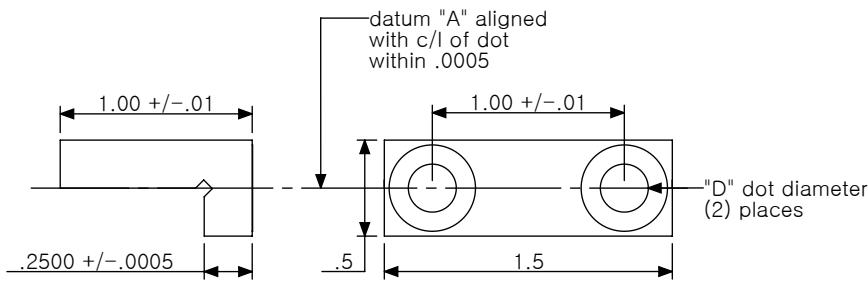
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**DOUBLE TARGET EDGE TARGET**

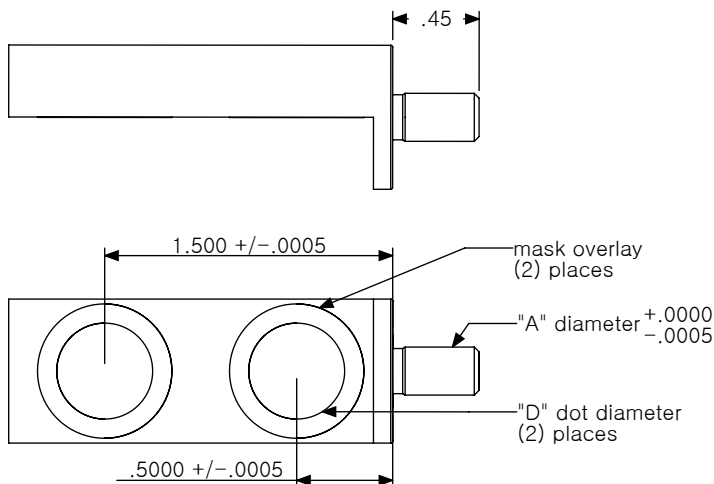
CAD on file



**DTET FEATURES**  
1144 STEEL, BLACK OXIDE FINISH (standard)

**DOUBLE VECTOR TARGET VIDEO**

CAD on file



**DVTV FEATURES**  
1144 STEEL, BLACK OXIDE FINISH (standard)

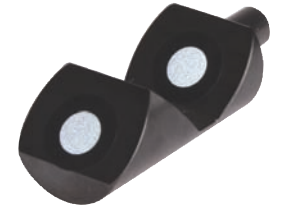
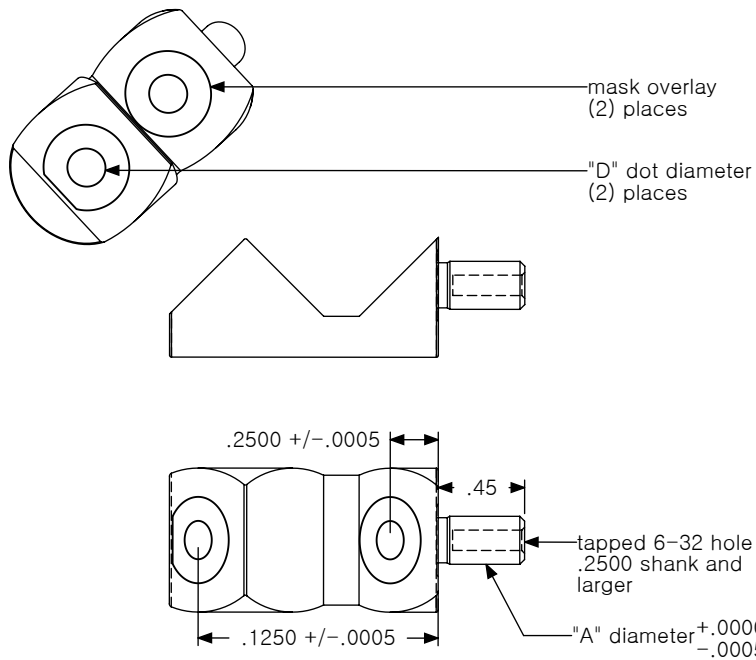
**45 DVTR**  
Used to measure  
location and angularity  
of a hole.

45 DVTR ORDERING INFORMATION

	FAMILY	"A" SHANK DIAMETER	"D" DOT DIAMETER	MATERIAL			
45 DVTR STANDARD BUILD	45 DVTR	↓	↓	1144 steel, black oxide finish			
CUSTOMER PROVIDES INFO	45 DVTR	■	■				
REFERENCE NOTES	_____						

45° DOUBLE VECTOR TARGET RETRO - REFLECTIVE

CAD on file



**45 DVTR FEATURES**  
1144 STEEL, BLACK OXIDE FINISH (standard)

**TCR / 90**  
(LH or RH)  
Used with  
photogrammetry  
for targeting  
edges/surfaces.

**TCR / 90 LH or RH ORDERING INFORMATION**

	FAMILY	LEFT or RIGHT HAND	"D" DOT DIAMETER	MATERIAL			
TCR / 90-LH or RH STANDARD BUILD	TCR / 90	LH or RH	↓	1144 steel, black oxide finish			
CUSTOMER PROVIDES INFO	TCR / 90	▪	▪				
REFERENCE NOTES	_____						

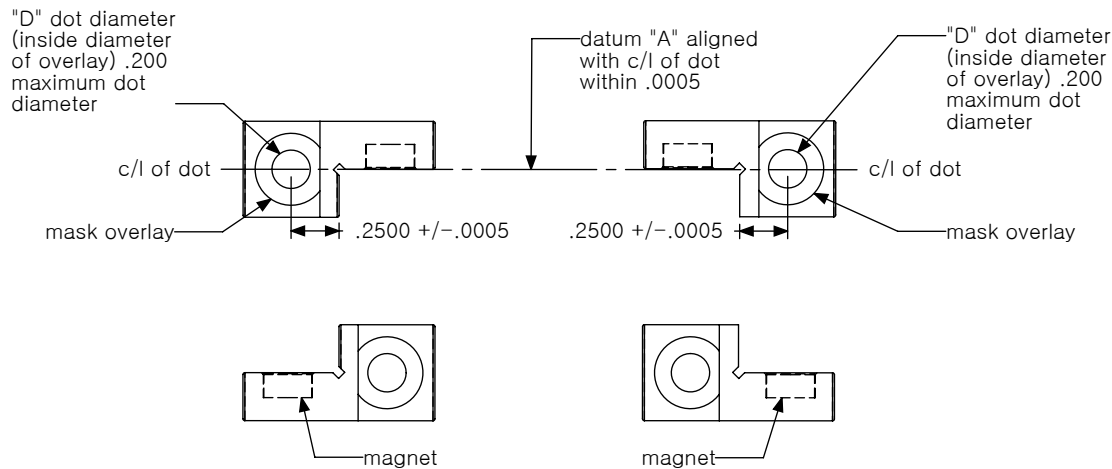
**TARGET CORNER, RETRO - REFLECTIVE, 90° (LEFT or RIGHT HAND)**

CAD on file

TCR / 90-LH



TCR / 90-RH



**TCR / 90**  
LH or RH  
**FEATURES**  
1144 STEEL, BLACK OXIDE  
FINISH (standard)



TCR / 90  
(NEG or POS)  
Used with  
photogrammetry  
for targeting  
edges/surfaces.

TCR / 90 NEG or POS ORDERING INFORMATION

	FAMILY	LEFT or RIGHT HAND	"D" DOT DIAMETER	MATERIAL			
TCR / 90-NEG or POS STANDARD BUILD	TCR / 90	NEG or POS	↓	1144 steel, black oxide finish			
CUSTOMER PROVIDES INFO	TCR / 90	▪					
REFERENCE NOTES							

TARGET CORNER, RETRO - REFLECTIVE, 90° (NEGATIVE or POSITIVE)

CAD on file

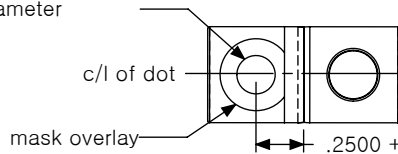
TCR / 90-NEG



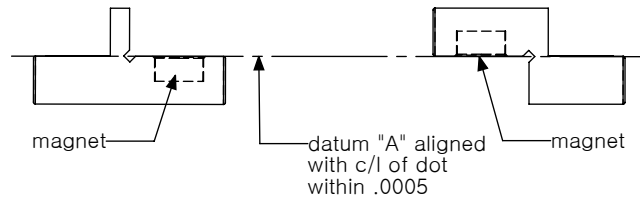
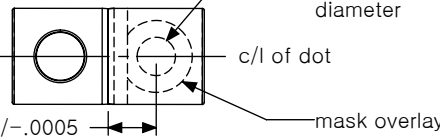
TCR / 90-POS



"D" dot diameter  
(inside diameter  
of overlay) .200  
maximum dot  
diameter



"D" dot diameter  
(inside diameter  
of overlay) .200  
maximum dot  
diameter



TCR / 90  
NEG or POS  
FEATURES  
1144 STEEL, BLACK OXIDE  
FINISH (standard)

**SBR**

Designed for use where radial location is desired.

**SBR ORDERING INFORMATION**

	FAMILY	BALL DIAMETER	"D" DOT DIAMETER	MATERIAL			
SBR STANDARD BUILD	SBR	↓	↓	1144 steel, black oxide finish			
CUSTOMER PROVIDES INFO	SBR	▪	▪				
REFERENCE NOTES	_____						
	_____						

**SPLIT BEARING RETRO - REFLECTIVE**

CAD on file



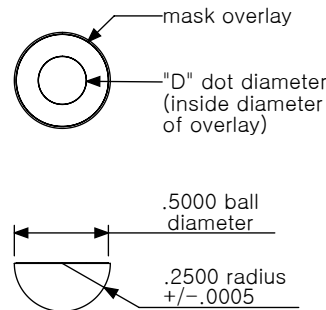
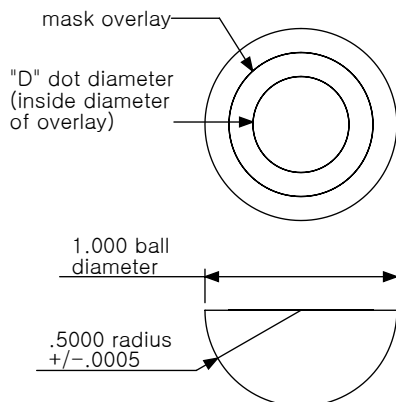
**SBR FEATURES**  
1144 STEEL, BLACK OXIDE FINISH (standard)

- .5 and 1.5 SBR can be used with standard Laser Tracker Sphere Mounts.

**SBR ORDERING**  
STANDARD BALL DIAMETER SIZES

- .500
- 1.000
- 1.500

Other ball diameter sizes possible, but subject to call-out quote.





### R1.5S

Provides same centerline value as a Spherically Mounted Retro-Reflector. This allows interchangeability from Laser Tracker systems to Photogrammetry or Videogrammetry systems.

### R1.5S ORDERING INFORMATION

	FAMILY	"D" DOT DIAMETER	MATERIAL				
R1.5S STANDARD BUILD	R1.5S	↓	stainless steel(SS) and 1144 steel				
CUSTOMER PROVIDES INFO	R1.5S	■					
REFERENCE NOTES							

## RETRO - REFLECTIVE 1.5 SPHERE

CAD on file



**R1.5S FEATURES**  
 HARDENED STAINLESS STEEL SHELL/SPHERE  
 R/C 53 – 55 with 1144 STEEL,  
 BLACK OXIDE INSERT

