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Targets Management Office



LOW COST T&E AND TRAINING TARGETS

BRIEFER:

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Low Cost Training and T&E Targets

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Outline

- **Precision Target Signatures**
 - Program Description
 - Purpose of the Program
 - History of Development
 - Scope
 - Technical Status
- **Precision Scoring Ranges**
- **Summary**



Precision Target Signatures (PTS)

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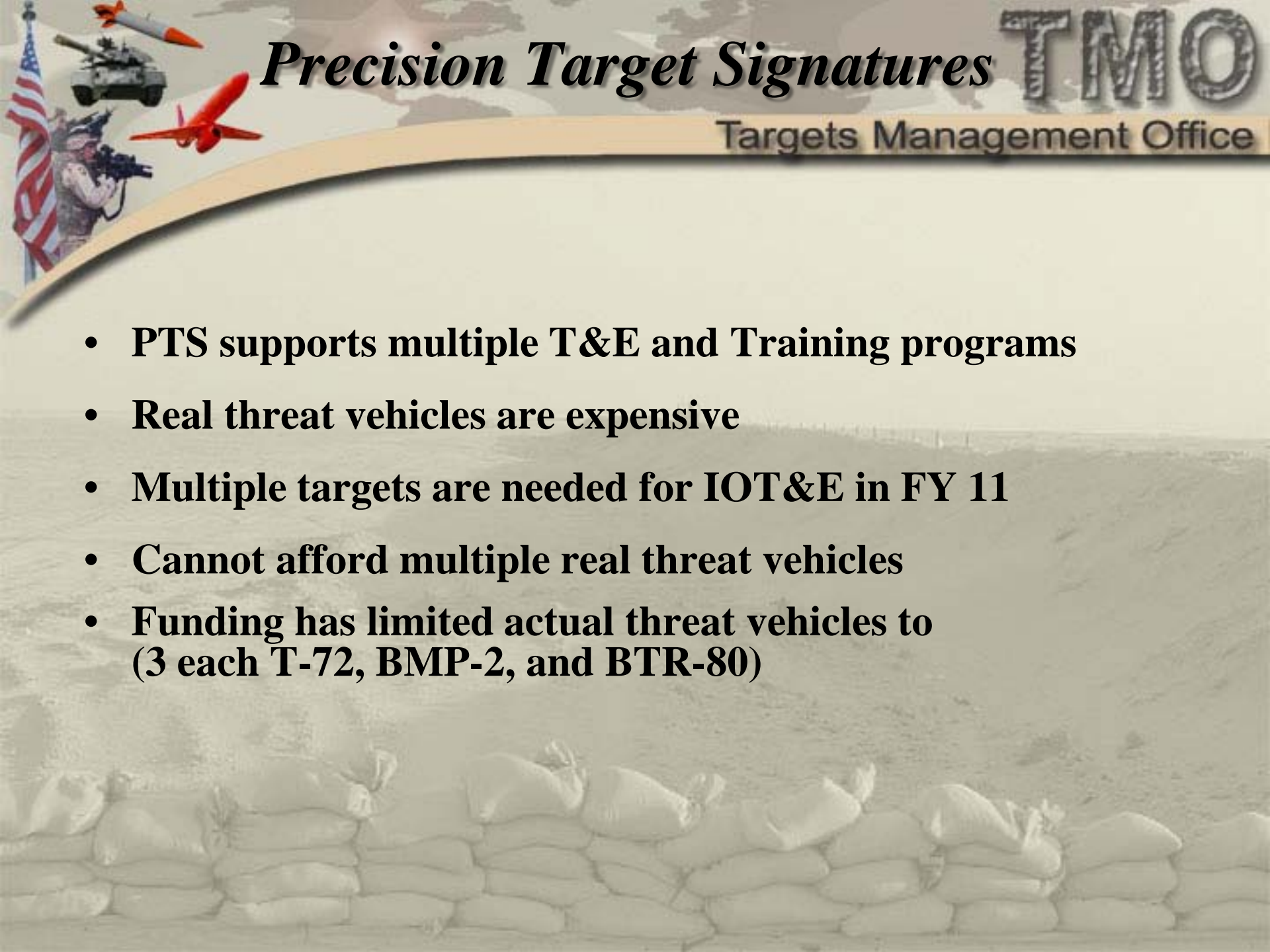
The Precision Target Signatures (PTS) project is an evolution of low cost decoys/surrogates created to develop a Full-Scale, 3-D decoy that emulates the visual and electromagnetic signatures of “Actual” Threat Vehicles (T-72M, BMP-2, BTR-80)



Precision Target Signatures

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- **PTS supports multiple T&E and Training programs**
 - **Real threat vehicles are expensive**
 - **Multiple targets are needed for IOT&E in FY 11**
 - **Cannot afford multiple real threat vehicles**
 - **Funding has limited actual threat vehicles to (3 each T-72, BMP-2, and BTR-80)**
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Precision Target Signatures Design Evolution

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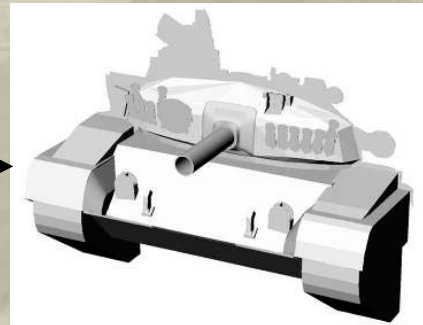
TVST 2 1/2-D



MBT-S



RLCT Concept



PTS 2.5-D Design



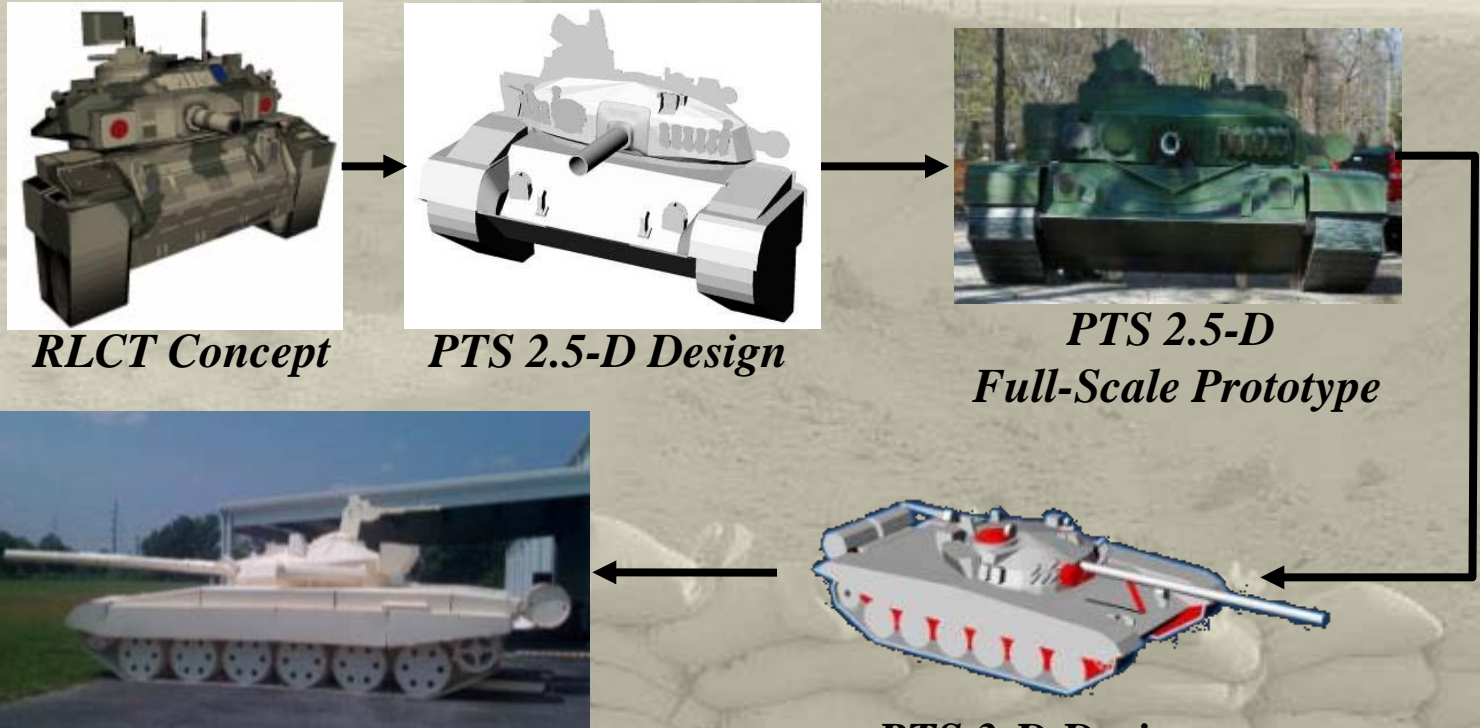
*PTS 2.5-D
Full-Scale Prototype*



Full Scale T-72M



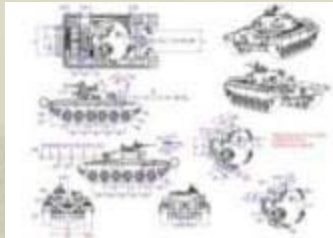
PTS 3-D Design



Precision Target Signatures Process

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Validated Model



3-D CAD Design



1/5th Scale Prototype



Full Scale Prototype



Paint
Desert Tan
OD Green



Skid-Pulled



Trailer Mounted



IR Kit

Minimal Logistical Footprint

Three PTS Full-Scale T-72s Ready for Shipment

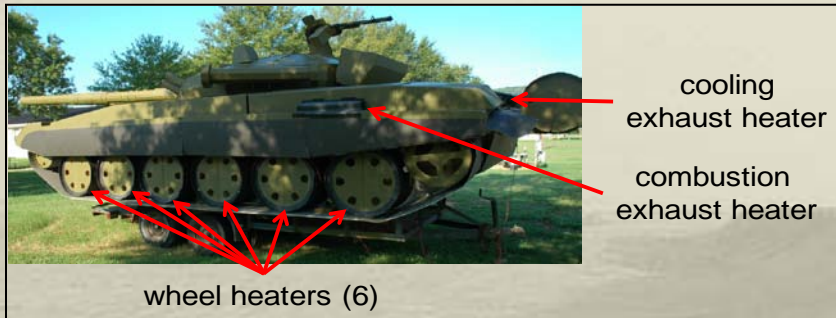


T-72 Design

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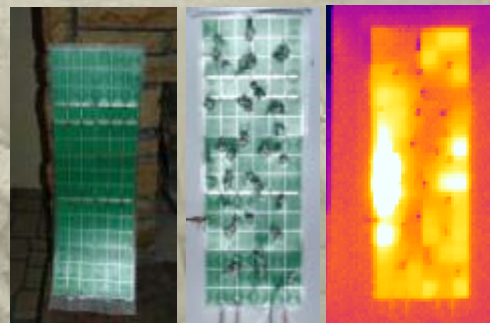
PTS T-72 on Trailer with Thermal Kit



Target at RTTC Pre-Test

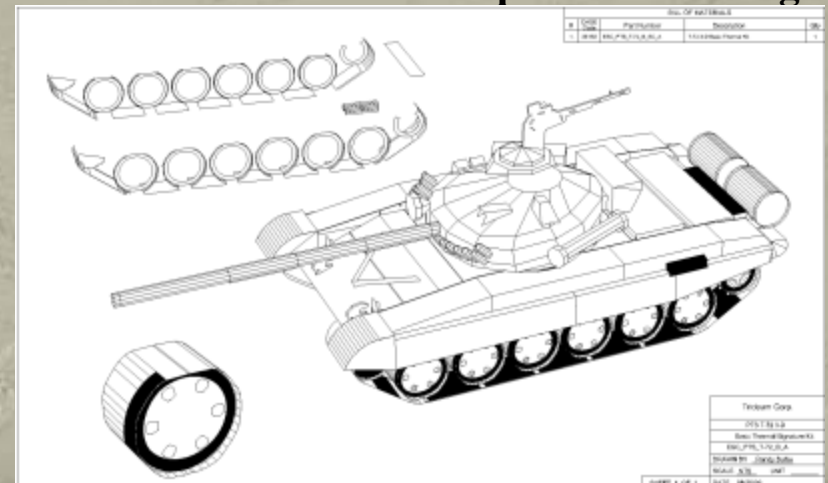


Thermal Imagery



38 Hits

PTS T-72 Thermal Kit Top Level Drawing

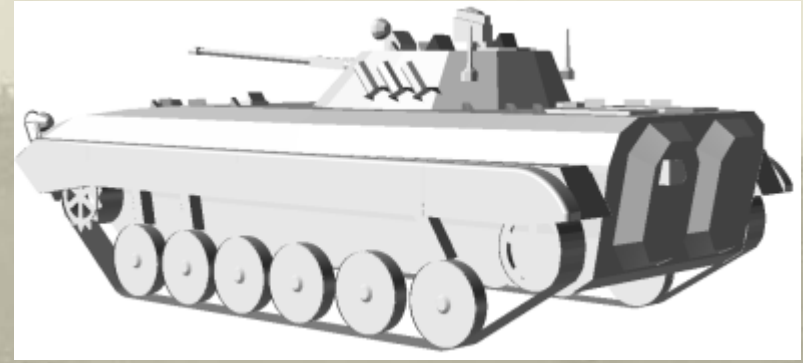


- 60 individual heaters total on five independently adjustable circuits.

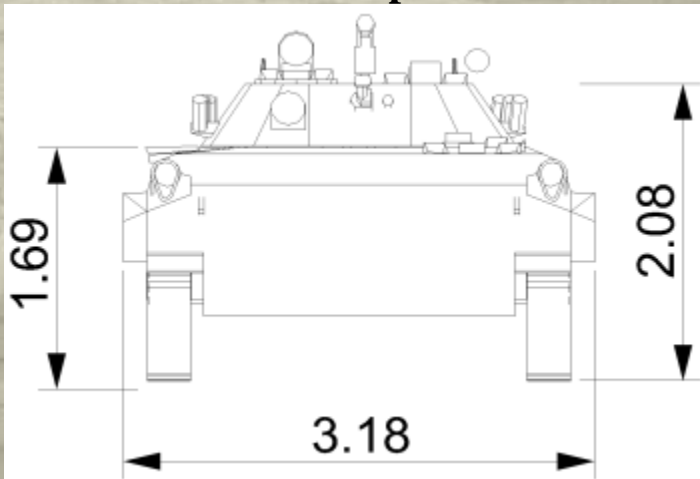


BMP-2 Concept Design

- 3-D model of BMP-2 concept design is shown below.
- Geometry is based off of approved model, extensive measurements, and verified data.



PTS BMP-2 Concept Dimensions



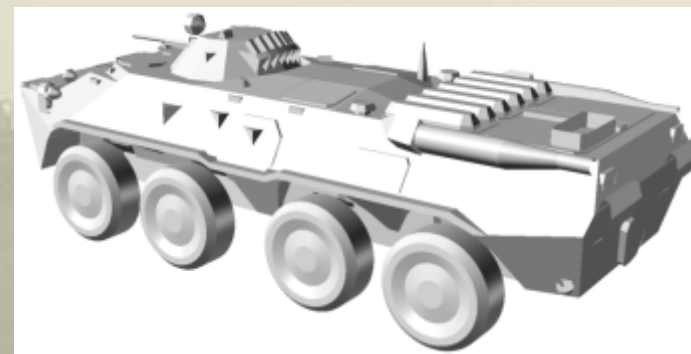
Dimension	PTS	Model	Δ
Overall Width (m)	3.18	3.165	0.015
Height to top of hull (m)	1.69	1.7	0.01
Height to top of turret (m)	2.08	2.077	0.03
Overall Length (m)	6.69	6.72	0.03

BTR-80 Concept Design

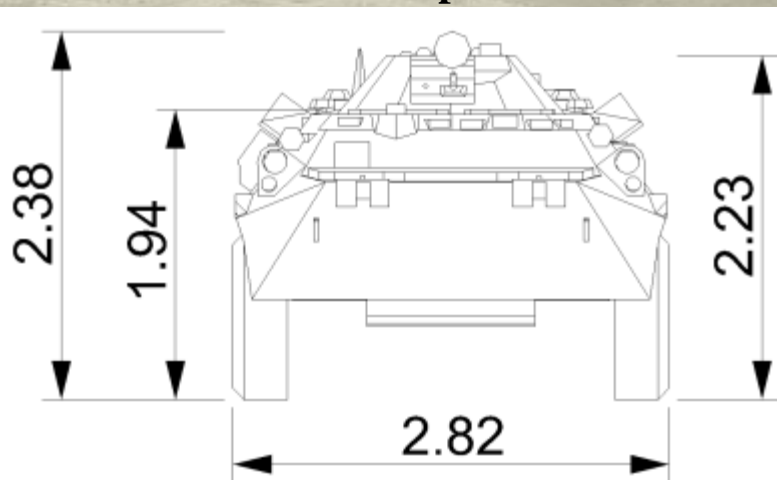
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- 3-D model of BTR-80 concept design is shown below.
- Geometry is based off of a VTC model, and verified with approved data.



PTS BTR-80 Concept Dimensions



Dimension	PTS	Model	$ \Delta $
Overall Width (m)	2.82	2.95	0.13
Height to top of hull (m)	1.94	1.94	0.0
Height to top of turret (m)	2.23	2.235	0.005
Overall Height (m)	2.38	2.41	0.03
Overall Length (m)	7.58	7.65	0.07



Precision Target Signatures

Deliverables

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- **LRIP Targets**
 - 15 T-72
 - 15 BMP-2
 - 15 BTR-80
- **“Dial-A-Signature” IR Kit**
 - 45 IR Signature Kits
- **Reduce Cost of Targets**
 - < \$20K for Production
 - Potentially < \$15K if high rate production

Precision Scoring

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Known Distance (KD) and Field Fire ranges on Army installations are being modernized with Precision Scoring technology that provides more efficient marksmanship training time.

Both DoD
and FMS

Key advantages and features:

- Immediate feedback on firing point display.
- Instructors can identify and correct trainee problems immediately.
- Printer score cards provide each shooter with a shot-by-shot performance record.
- Lanes can be operated by a central control computer or individually at the firing point.

BRM 06 Score Card

Shot	Score	Time	Remarks
1	2	0:15	
2	2	0:15	
3	2	0:15	
4	2	0:15	
5	2	0:15	
6	2	0:15	
7	2	0:15	
8	2	0:15	
9	2	0:15	
10	2	0:15	
11	2	0:15	
12	2	0:15	
13	2	0:15	
14	2	0:15	
15	2	0:15	
16	2	0:15	
17	2	0:15	
18	2	0:15	
19	2	0:15	
20	2	0:15	
21	2	0:15	
22	2	0:15	
23	2	0:15	
24	2	0:15	
25	2	0:15	
26	2	0:15	
27	2	0:15	
28	2	0:15	
29	2	0:15	
30	2	0:15	



- Currently Precision Scoring ranges are being used for basic rifle marksmanship tables BRM 06 thru BRM 14.
- Grouping and zeroing can be accessed at any time to allow individuals to adjust weapon sights.
- LOMAH technology has been applied to training for various weapon types using 5.56mm to 120mm ammunition.

BRM 07 & 08 Score Card

Shot	Score	Time	Remarks
1	2	0:15	
2	2	0:15	
3	2	0:15	
4	2	0:15	
5	2	0:15	
6	2	0:15	
7	2	0:15	
8	2	0:15	
9	2	0:15	
10	2	0:15	
11	2	0:15	
12	2	0:15	
13	2	0:15	
14	2	0:15	
15	2	0:15	
16	2	0:15	
17	2	0:15	
18	2	0:15	
19	2	0:15	
20	2	0:15	
21	2	0:15	
22	2	0:15	
23	2	0:15	
24	2	0:15	
25	2	0:15	
26	2	0:15	
27	2	0:15	
28	2	0:15	
29	2	0:15	
30	2	0:15	



Precision Scoring

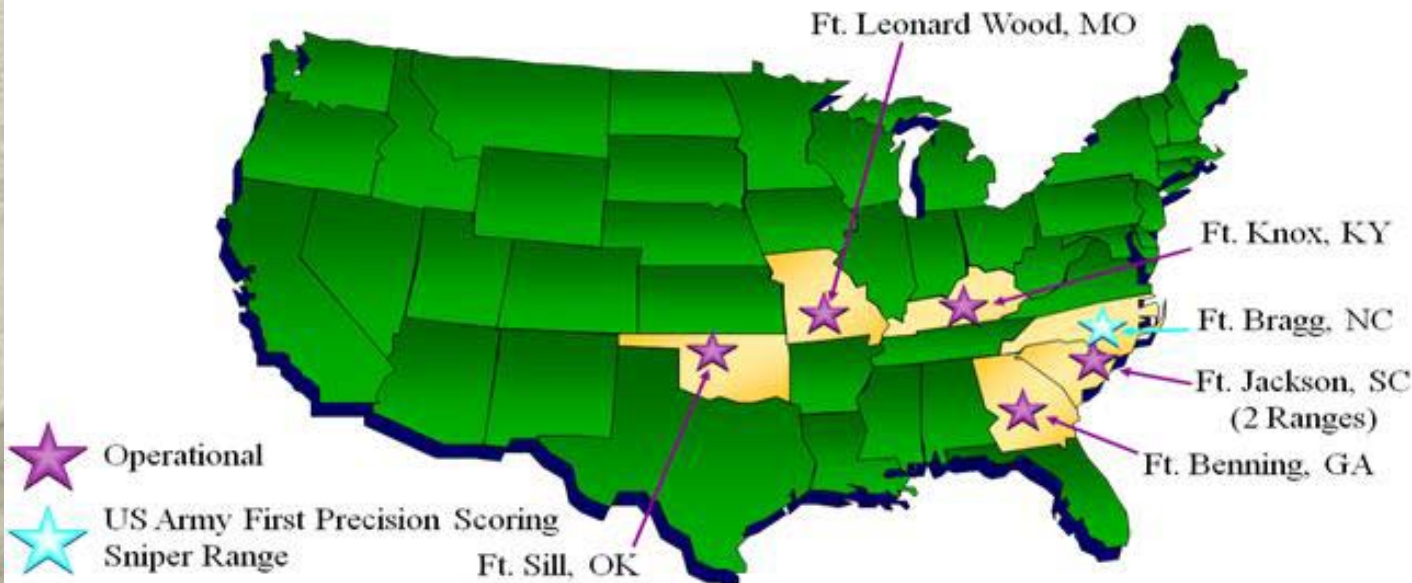
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Currently Precision ranges are being used for Rifle Grouping/Zeroing, Down Range Feedback, Field Fire, Qualification Firing, Auto Burst Firing, Protective Mask Firing, Night Fire, Suppressive Fire Training, Sniper Training, "Quick Kill" Training, and Moving Target Engagements, all in single shot slow, single shot rapid, and/or automatic fire burst modes.



Precision Scoring Locations



Summary

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- **Providing the T&E and Training Communities with Low Cost Validated Target and Scoring Alternatives**
- **Meeting Required Schedules**
- **Ready to Meet Any Customer's Needs**

*Low Cost
T&E and Training Targets
Ready!*