



# AERO- MECHANICAL SYSTEMS



Parker Meggitt  
Defense Systems Division

For decades, Parker Meggitt Defense Systems Division has led the way in innovative design and development of affordable, operationally effective aerial target systems. These include systems such as the first center-of-gravity and supersonic towed targets. Our glide targets are released from a towline to carry out pre-programmed autonomous missions at speeds ranging from 250 to 400 KIAS over 20 to 50 nautical miles. Whether it is US Army training with our customized towed targets, the French Navy honing weapon training skills with our glide targets, or naval forces using our sea-skimming targets to exercise against low level threats, our products are used to test the best of air defenses.



# GT-400 Glide Target

The GT-400 glide target is a low cost, expendable target designed for day-to-day, live-fire exercises where conventional towed targets or expensive jet target drones are not an option.



The GT-400 has been successfully deployed and engaged by radar guided air-to-air and sea launched missiles such as the AMRAAM (AIM-120), Standard Missile and Aster 15 from target towing aircraft.

Carried and launched in the same way as a standard towed target, the GT-400 is reeled out and towed for as long as needed (time limited only by the tow aircraft on-station fuel limitations) prior to being released to execute a mission profile that has been pre-loaded into the autopilot. The flight profile can be changed up to the point of release, to allow for any required last minute flight changes that might arise due to a fouled range area or operational need.

# TLX-1 Low-Level Height-Keeping Tow Target

The TLX-1 target realistically simulates an extremely low altitude missile threat. This is accomplished with a height-keeping flight profile which positions the TLX-1 at any desired mission altitude from 20-500 feet, while providing constant altitude feedback to the towing aircraft via telemetry link.



The TLX-1 offers the unique advantage of fully adjustable altitude settings during flight. This selected altitude is maintained to within  $\pm 6$  feet throughout the mission. In addition to the low altitude simulation feature, the TLX-1 can be fitted with various augmentation packages as required by the mission. All of these augmentation packages may be used simultaneously.

Passive radar enhancement is provided by an I/J/X-band screen reflector, which is coaxially mounted in the nose of the target. This reflector provides forward aspect radar augmentation to 3.5 square meters at I/J/X band. This reflector is used in conjunction with a clear plastic nose cone housing a 600,000 candlepower lamp if light augmentation is desired.

# TRX Radar Augmented Tow Target

The TRX radar augmented tow target is designed for use with any gun or missile weapons system that requires a radar signature for acquisition, tracking, ranging, guidance or fusing.



The TRX's normally passive radar augmentation system uses the arrangement of lenses or reflectors to change the target radar signature to effectively emulate a variety of airborne threats.

The TRX also operates within a wide range of bands to meet precision radar signature requirements. Varying Radar Cross Section (RCS) sizes are provided by either the TRX-14 passive precision target or through active augmentation. Ultrasmall (stealth type) radar characteristics are also available.

# TPT Plume Augmented Infrared Target

The TPT plume target is an infrared augmented target which provides an all-aspect infrared signature for use in evaluation and training with weapons systems and trackers employing infrared guided missiles or infrared fuzed ordnance.



The TPT uses readily available jet fuel (JP-4, JP8, JET A, etc.) which, when burned, produces an infrared signature very similar to that produced by a jet aircraft engine exhaust. Pilot light ignition is accomplished with a pyrotechnic ignitor which is activated by a computer linked to the towing aircraft via telemetry. The main plume ignition is controlled via the computer, and there is sufficient fuel for (4) 2-minute main runs and 20 minutes of loiter time.

The TPT is designed to be flown in either a one-way configuration from the Parker Meggitt LTC series of launchers, or in a two-way (recoverable) configuration. It can be flown from any commercial or military aircraft capable of carrying external stores. It can also be flown from sub-scale or full-size drone aircraft.

# AGTS-36 Aerial Gunnery Target System

The AGTS-36 Aerial Gunnery Target System consists of an RMK-35 towreel along with the TDK-39 towed target. The TDK-39 is the housing platform for a deployed banner system for live-fire aerial gunnery. With a 6g maneuver capability, tow aircraft are able to execute high-performance combat profiles that allow for realistic training.

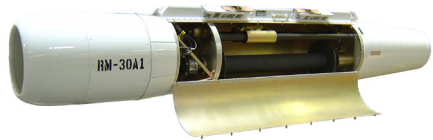


Advanced Doppler Radar Scoring (RADOPS), installed in the target's forebody, features a self-contained telemetry transmitter and antenna for real-time hit/miss assessment. During live-fire training, scores are displayed in real-time to the tow pilot, allowing for maximum training value in each flying sortie.

In volume production, AGTS-36 is the standard gunnery target system for the US Air Force and Air National Guard as well as the Japanese, South Korean, and Taiwanese Defense Forces.

# RM-30A1 Reeling Machine-Launcher

The RM-30A1 represents the state-of-the-art in high performance reeling machine equipment. The primary feature of the RM-30A1 over Meggitt's original RM-30A machine, is the complete elimination of all pneumatic and hydraulic systems. The RM-30A1 operates exclusively on electric power and remains compatible with all aircraft on which the original RM-30A system has been qualified. This improved machine is even simpler to maintain than its predecessor and retains all of the original automatic reeling functions, enabling the tow aircraft pilot to operate the RM-30A1 with minimal interference to its normal cockpit workload. The control panel provides a selectable digital display of towline length and tension. The spool can hold up to 9,450 meters (31,000 feet) of towline depending on the target configuration being towed, mission safety requirements, and towline size.



The RM-30A1, RM-30A, and its derivative, the RMK-35 (AGTS-36), are currently in use by many of the military forces of the world, including the United States, Japan, Korea and England. These machines are readily adaptable and certifiable with other tow aircraft.

# Surface-To-Air Towed Targets

Weapon System	TRX	TIX	TPT	TLX	TGX	TDK	POTATOW	Drone Pods APC-4 APC-11 APC-12 Blazer3C
SEA SPARROW	x			x				
CHAPARRAL		x	x					
HAWK - I.HAWK	x							
PATRIOT							x	
STINGER		x	x					x
CROTALE, SHAHINE	x	x	x		x			x
RAPIER, JERNAS					x			
ROLAND	x							
RAM			x					x
STANDARD								x
ASPIDE	x			x				
RBS-23 / RBS-70 / RBS-90	x				x			
SAVH-3		x	x					x
M-SAM (CHU-SAM)							x	
ASTER	x							
SEAWOLF				x	x			x
STRELA, HN-5, SAKR		x	x	x				x
IGLA		x	x					x
MISTRAL, SADRAL		x	x					x
KEIKO		x	x					x
ANZA		x	x					x
STARSTREAK, HVM	x				x	x		
JAVELIN / STARBURST	x				x	x		
ADATS			x		x			
BARAK				x	x			
TIEN KUNG, SKY SWORD		x	x					x
NAVAL GUNS	x			x	x	x		
NAVAL GUNS (IR FUSE)		x	x	x				
SURFACE GUNS	x				x	x		
CIWS (PHALANX, ETC)	x			x	x			

# Air-To-Air Towed Targets

Weapon System	TRX	TIX	TPT	TLX	POTATOW	Drone Pods APC-4 APC-11 APC-12 Blazer3C
ASRAAM		X	X			
SIDEWINDER		X	X			X
STINGER		X	X			X
SPARROW	X					X
AMRAAM	X				X	
MATRA R-530, SUPER 530	X	X	X		X	X
MAGIC R-550		X	X			X
SHAFIR		X	X			X
PYTHON 3		X	X			X
ASPIDE					X	X
PIRANHA		X	X			X
KUKRI		X	X			X
AAM-1		X	X			X
ACRID (AA-6)	X	X	X			X
ASH (AA-5)	X	X	X			X
APEX(AA-7)	X			X		
ANAB(AA-3)	X	X	X			X
ATOL(AA-2)	X	X	X			X

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