

IMPROVED TURRET DRIVE SYSTEM (ITDS)

TRL-9 VEHICLE TURRET SOLUTION

Motorized Turret Control Without Interrupting Fire



TRL-9 PERFORMANCE Proven. Fielded. Trusted.

- › 2010 BAE BRONZE SUPPLIER AWARD WINNER
- › SOLE-SOURCE SOLUTION FOR OGPK TURRET SYSTEMS
- › ROBUST MOTOR + PATENTED SYSTEM
- › INTEGRATED GEARBOX + TURRET BRAKE
- › HIGHLY-FIELDED, COMBAT-PROVEN TRL-9 DESIGN

OPERATIONAL CHALLENGE

Legacy turret systems on up-armored HMMWVs, MRAPs, and MATVs required gunners to suspend fire to traverse—creating a critical vulnerability in active threat environments.

THE NPC SOLUTION

NPC Robotics developed the Battery Powered Motorized Traversing Unit (BPMTU)—a patented electromechanical drive system that became the sole-source foundation for the U.S. Army's Objective Gunner Protection Kit (OGPK). Building on the success of more than 80,000 systems fielded, NPC evolved this technology into the Improved Turret Drive System (ITDS)—a next-generation turret rotation solution with enhanced performance, improved ergonomics, and a reduced profile.

IMPROVED TURRET DRIVE SOLUTION (ITDS)

Advanced turret rotation for modern combat vehicles

Proven across decades of deployment on HMMWVs, MRAPs, and MATVs, ITDS integrates real-world operational feedback to deliver improved capability, enhanced usability, and reliable performance in demanding environments.

NPC Robotics is proud to support the U.S. Army as the sole-source baseline provider for OGPK turret systems—helping protect those who protect us.



Improvements Over BMPTU

- Increased power
- More robust gear box
- Better ergonomics
- Reduced profile
- Supports heavier GPKs
- Reduced lifecycle costs
- Simplified installation and operation
- Integrated emergency manual crank
- Near-silent operation to eliminate skipping and chattering



Key Features

- Retrofit or new production
- Easily remove and replace drive motor
- Quick disconnect system for rapid replacement
- Flexible install with left and right-hand configurations and motorized options
- Patented system
- Sustainable
- Variable speed rotation up to 8 RPM
- Tested at Aberdeen and Yuma



NPC Robotics is a trusted provider of electric and hydraulic motion control systems for military and commercial platforms with over 100,000 systems in use. Our patented, award-winning technologies support mission-critical applications worldwide, with solutions ranging from configurable COTS products to fully customized systems engineered to meet unique operational requirements. By managing design, prototyping, testing, manufacturing, deployment, and lifecycle support under one roof, NPC reduces integration risk, simplifies procurement, and delivers reliable solutions that perform in the most demanding environments.

©2026 NPC Robotics LLC. All rights reserved. Specifications are subject to change. This product is controlled under the International Traffic in Arms Regulations (ITAR) and cannot be exported without first obtaining specific export authority from the United States Department of State. Product and company names listed are trademarks or trade names of their respective companies. Use of image does not constitute endorsement by government or private entity.