

Section 7.7 PEO LS Program

# INTERNALLY TRANSPORTABLE VEHICLE

## Program Background

The Internally Transportable Vehicle (ITV) Family of Vehicles (FoV) is comprised of lightweight wheeled vehicle systems that are internally transportable in the V-22, CH-53D, and CH-53E. There are two variants, the Prime Mover (PM) and Light Strike Vehicle (LSV). The PM variant tows the M327 120mm Rifled Towed Mortar and M1164 ammo trailer of the Expeditionary Fire Support System. The LSV variant serves as a 4-man light attack vehicle with crew-served weapons (MK-19 or M-2 capability). The LSV also provides Special Operations Forces with a platform to support their primary and secondary missions.

The vehicle has four-wheel drive, an adjustable suspension system, and adjustable tire pressure to adapt to different ground conditions. Its ability to mount weapons, its all-terrain maneuverability, and its ability to carry supplies and equipment over long distances make the ITV a valuable addition to expeditionary operations. The vehicle's speed and maneuverability and the use of cover and concealment provide the crew its primary means of survival.

## Program Status

The ITV Program is currently in sustainment. Support will transition from contractor logistics



support to organic support in FY18. Follow-on performance and reliability testing has identified numerous ITV safety/reliability issues that are currently being investigated, and PM LTV plans to identify upgrades to address these issues.

## **ITV'S Top Technical Issues:**

### **1. Safety (Stability)**

Technologies are needed that increase vehicle safety in terms of stability to decrease the probability of vehicle rollovers and to mitigate the severity of rollovers if they do occur. While minimal weight can be added, these technologies must allow the ITV to maintain current off-road/on-road mission profile requirements. In addition, the ITV must maintain the current curb-to-curb turning radius requirement, which is currently achieved through the use of a rear steer system.

### **2. Weight Saving Technology**

The current curb weight of the ITV allows for minimal payload capability due to transport mode weight restrictions. Material technologies are needed that decrease the weight of low-technology assemblies and components (e.g., hood, chassis, roll cage, skid plate, etc...) at a minimal cost.

### **3. Digital Architecture**

Material technologies are needed in order to enable and facilitate the exchange and update of vehicle diagnostics data through the use of a vehicle sensor data bus that is compliant with the SAE J1939 standard. The current engine, an MWM 2.78L turbo diesel, has no compatible electronic components to interface with diagnostic equipment. The current transmission is a GM 4L70-E. The vehicle does not have anti-lock brakes or electronic stability control. The material technologies must at a minimum have a zero net weight gain to the vehicle curb weight.



An ITV being offloaded from an AAV



ITVs aligned and conducting a fire mission with the Expeditionary Fire Support System







