

## *April 2017 Fleet Upgrade & Replacement Catalog*

Defense Systems: DDG 1000 equip w/ AN/SPY-3 radar, Tomahawk missiles, torpedoes, Evolved Sea Sparrow Missile, SM2/3 & SM6 standard missiles

SDI: Lynx Mk 8 helicopter equip w/ Sea Venom/ANL anti-ship missile replace Sea Skua lightweight short-range air-to-surface missile [ASM]

Scout: F-35 aircraft equip w/ AMRAAM [Advanced Medium Range Air-Air Missile], JDAM, GBU-12 munitions & AIM 9X short-range air-air missile

C4ISRNET: Reaper UAS equip w/ radar warning receiver process field signal delivered across Warfighter Survivability Support Portal [AWSSSP]

IHS4: Stand-off high-subsonic air-launched Joint Strike Missile [JSM] feature Autonomous Target Recognition by imaging infrared [IIR] seeker

Scout: B-52 aircraft equip w/ laser-guided JDAM, Joint Air-to-Surface Standoff Missile Extended Range [JASSM-ER] & MALD-J jammer variant

Military Defence: AC-130J Ghost rider aircraft equip w/ new 105mm cannon, AGM-176A Griffin missiles, GBU-30 munitions & pre-exist 30mm cannon

Military News: F-35 equip w/ AIM-120 Advanced Medium-Range Air-Air Missile [AMRAAM], GBU-31 GPS-guided JDAM & GBU-12 laser seeker munition

Defense Systems: Precision Acquisition of Vehicle Entry Phased Array Warning System [PAVE PAWS] improves sub-launch ballistic missile track

Scout: LCS equip w/ SeaRAM combines MK 15 Close-In Weapon System [CIWS] 20mm cannon & MK 31 Rolling Airframe Missile [RAM] launching system

Defense Systems: AN/TPQ-53 radar equip w/ electronically scanned array [AESA] technology to detect impact point of cannon, rocket & UAS fire

Scout: DDG-1000 equip w/ Tomahawk & Evolved Sea Sparrow Missile, SM2, SM3 & SM6 standard missiles & Vertical Launch 14-inch diameter ASROCs

Defense Systems: AN/SLQ-32 EW system equip w/ Advanced Offboard Electronic Warfare [AOEW] pod, upgraded electronic signal transmit/reception

Flight Global: Gripen E aircraft equip w/ RBS15F ER sea/land attack missile, Meteor beyond visual-range air-air missile & short-range IRIS-T

IHS4: Type 056A corvette equip w/ 30 mm H/PJ-17 mounts, HQ-10 short-range surface-to-air missiles launch & triple-barrelled torpedo launch

IHS4: Type 056A corvette equip w/ towed & variable depth sonars, standard anti-ship missile launchers & H/PJ-26 single-barrelled 76 mm gun

Flight Global: S-70B optimised for anti-sub duties, w/ L-3 long-range active sonar, torpedoes & AGM-114 Hell Fire air2surface missiles

Defcon: I-Master high-perform radar for Ground Moving Target Indication [GMTI] & Synthetic Aperture Radar (SAR) capable surveillance & detect

Military Tech: OH-1 Ninja Helicopter equip w/ multi-function LCD & head-up display [HUD], Dual Hands-on Collective Stick [HOCAS] & auto-pilot

Military Tech: S-70B w/ Mk46& Mk50 ALT torpedoes equip w/ Hellfire air-to-surface missile engage fast attack craft surface targets

Military Tech: FREMM equipped w/ torpedoes, vertical-launch self-defence missiles & active towed array sonar feature ASW & shore bombardment

Military Tech: Wildcat HMA Mk2 armed w/ Stingray missiles, conducts over-the-horizon targeting for offensive & defensive surface surveillance

## ***March 2017 Fleet Upgrade & Replacement Catalog***

Scout: F-35 aircraft equip w/ Electro-Optical Targeting System [EOTS] combines forward-looking IR search/track sensors, SAR, AMRAAM & GMTI

Business Insider: F-22 Raptor aircraft equip w/ AIM-120 beyond-visual-range AMRAAM, AIM-9 Sidewinder air-to-air missiles & 20 mm M61 cannon

Business Insider: F-15 aircraft equip w/ AIM-120 AMRAAM, radar-guided AIM-7 Sparrow, AIM-9 Sidewinder air-to-air missiles & 20 mm M61 cannon

Scout: B-52 aircraft equip w/ laser-guided JDAMs, Joint Air-to-Surface Standoff Missile [JASSM ER] & Mini Air Launch Decoy Jammer [MALD-J]

Scout: Columbia SSBN Sub equip w/ Trident II D5 missiles, fly-by-wire joystick control system & large-aperture bow array sonar hydrophones

Scout: Enhanced Medium Altitude ISR System [EMARSS] equip w/ Vehicle Dismount Exploit Radar [VADER] use SAR & Ground Target Indicate [GMTI]

Defense Systems: F-22 aircraft equip w/ AIM-120D Advanced Air-to-Air [AMRAAM] "fire & forget" missile with active transmit radar guidance

Defense Systems: F-22 aircraft equip w/ AIM-9X Sidewinder missile feature lock-on-after-launch & link support beyond visual range mission

Defense Systems: P-8A Poseidon aircraft equip w/ AN/APY-10 ISR radar, Mk 54 torpedoes, cruise missiles & sonobuoys to locate submarines

SDI: Typhoon aircraft equip w/ AIM-120 Advanced Medium-Range Air-to-Air Missile, Paveway IV laser-guided GPS munitions & Brimstone missile

Defense Systems: EA-18G Growler Electronic Attack aircraft equip w/ wing tip & tail AN/ALQ-99 radar jamming pods & AN/ALQ-218[V]2 receiver

Real Clear Defense: F-22 aircraft equip w/ Advanced Medium-Range Air-to-Air Missile [AMRAAM] & AIM-9X Block II Sidewinder air-to-air missile

IHS4: F-16 Fighting Falcon aircraft equip w/ AESA AN/APG-83 Scalable Agile Beam Radar [SABR] replace mech scan AN/APG-66 & AN/APG-68 radars

Defense Systems: E-2D Hawkeye aircraft equip w/ AN/APY-9 Ultra High Frequency hybrid mechanical/electronic scan radar detect cruise missile

Scout: F/A-18 Super Hornet equip w/ upgrade long-range Infrared Search & Track [IRST] & Naval Integrated Fire Control-Counter Air [NIFC-CA]

Flight Global: P-8A aircraft equip w/ High Altitude Anti-submarine Warfare Capable [HAAWC] integrate GPS & folding wings onto Mk54 torpedo

Military Tech: F-15SA aircraft equip w/ APG-63[v]3 active scanned array radar, digital electronic system [DEWS], AAS-42 IR search & track [IRST]

Military Tech: F-15SA aircraft designed to provide multirole fighter capability to conduct long-range, high-speed interdiction missions w/o escort

Defcon: S-70i Black Hawk helicopter equip w/ digital cockpit& advanced avionics, include dual GPS/INS system w/ digital map for accurate navigate

Military Tech: JSM is long-range anti-surface missile design to integrate w/ F-35 internal weapons bay, enable advanced defence system target

Military Tech: IRIS-T SLS is ground-launched version design for air defence & object protect & provide 360° defence vs. missiles, helicopters& UAVs

Military Tech: IRIS-T air to air missile design to replace AIM-9 Sidewinders to be installed on Gripen, Typhoons, F-16, F/A-18s & Tornados aircraft

Defcon: Hydra-70 rocket composed of MK66 rocket motor& warhead used against point & area targets- mounted on most helicopters& some aircraft.

Military Tech: STUAS provide ISR support for amphib landing helicopter Dock [LHD], landing helicopter assault [LHA] & landing platform dock [LPD]

## ***February 2017 Fleet Upgrade & Replacement Catalog***

USNI: KC-130J aircraft equip w/ Harvest Hawk System feature MX-20 sensor, Intrepid Tiger EW pod, Hellfire, Griffin & Viper Strike missiles

Scout: A-10 aircraft equip w/ AGM-65s Maverick missiles, AIM-9 Sidewinder missiles, illumination flares, jammer pods & JDAM GPS munitions

Scout: F-22 aircraft equip w/ 20mm cannon, precision-guided Joint Direct Attack Munitions, SAR mapping, AIM-120 AMRAAMs & AIM-9 Sidewinders

Scout: F-22 aircraft equip w/ AIM-120D beyond visual range Advanced Medium-Range Air-Air Missile [AMRAAM] uses active transmit radar guide

Defense Media Network: Amphibious combat vehicle [ACV 1.1] equip w/ .50-caliber gun turret, 360 camera mount & 'V-over-V' blast protect hull

Navy Lookout: Type 23 Frigates equip w/ Magazine Launch Torpedos [MLTS] fire Stingray anti-sub torpedoes or RUM-139 ASROC rocket torpedo

Navy Lookout: Type 26 Frigates equip w/ Future Cruise & Anti-Ship Weapon [FCASW] replace SCALP/Tomahawk long-range, subsonic cruise missiles

Navy Lookout: Type 26 Frigates equip w/ Mk 41 Vertical Launch System [VLS] cells replace canister-launched anti-ship or land-attack missiles

Scout: B-2 aircraft equip w/ Joint Direct Attack Munition [JDAM], Joint Air-to-Surface Standoff Missiles & bunker buster GBU 28 munitions

Defence Talk: F-16 aircraft equip w/ Miniature Air Launched Decoy-Jammer [MALD-J] feature GAINS II upgrade for mobility in GPS jam scenario

Defense News: Brimstone Missile to replace Hellfire on MQ-9 Reaper remotely piloted air systems [RPAS] w/ WaveRadar & semi-active Laser Guidance

Military Tech: HMS Dragon Type45 Destroyer replace Type42 Frigates w/ SeaViper anti-air missiles, 114mm Mk8 mod 1 medium-calibre & 30mm guns

Flight Global: F-35 basic synthetic aperture radar [SAR] mode of current APG-81 improvement over APG-70 on F-15Es

Defense Leaders: MiG-29Ks & MiG-29KUBs fighters armed w/ R-73s, RVV-AEs & Kh-35Es missiles, KAB 500KR/OD TV guided bombs & S-8KOM rockets

Military Tech: Virginia-class sub equip w/ vertical missile launch & torpedo tubes capacity to launch Tomahawks, mk48 ADCAP torpedoes & harpoon



Military Tech: AN/AAQ-24(v) LAIRCM directed infrared countermeasures system upgrade to NEMESIS defends aircraft from IR-guided missiles

Military Tech: Converted UH-1N Huey helicopters modified to include ILS [Instrument Landing System] & FLIR [Forward Looking Infrared] systems

Military Tech: F-16 fighter jets armed w/ MK-82 inert low-drag general-purpose, GBU-12 inert laser-guided & GBU-38 inert GPS guided bombs

DID: MiG-29 aircraft upgrade to MiG-29SMT include updated radar & missile launch capabilities w/ R-77 air2air & UR Kh-29 air2surface missiles

Popular Mechanics: MQ-4 aircraft modified RQ-4 Global Hawk version w/ radar upgrade & serves as P-3C replacement working w/ P-8 Poseidon

Military Tech: MQ-4C UAS provide signals intelligence [SIGNET], intelligence, surveillance & recon [C4ISR] w/ maritime strike capabilities

Military Tech: Lynx Mk8 helicopter armed w/ SeaSkua missiles & Stingray torpedoes or depth-charges to strike ships, subs & smaller surface targets

Military Tech: F-15SE fighter kits include AIM-120C-7 advanced medium range air-to-air missiles [AMRAAM], AIM-120C-7 guidance sections & JDAM

Defcon: F-35 Block 2B provide basic close air support & fire AMRAAM, JDAM [Joint Direct Attack Munition] or GBU 12 [laser-guided aerial bomb]

## *January 2017 Fleet Upgrade & Replacement Catalog*

Scout Warrior: Reaper UAV equip w/ AGM-114 Hellfire missile, laser-guided GBU-12 Paveway II munitions & Joint Direct Attack Munitions [JDAM]

Naval Tech: V-247 Vigilant Tiltrotor UAS equip w/ EOTS, LiDAR & surface radar modules, sonar buoys, MK-50 torpedo, Hellfire or JAGM missiles

Scout Warrior: J-20 aircraft equip w/ Electro-Optical targeting system,IRST sensor, stealth configuration, AESA radar & PL-15/PL-21 missiles

Scout Warrior: F-22 stealth/supersonic aircraft equip w/ AIM-120 Advanced Medium-Range Air-Air Missile [AMRAAM] & AIM-9X sidewinder missile

Scout Warrior: MH-60 R/S helicopters equip w/ Advanced Offboard Electronic Warfare [AOEW] pod, airborne sensor/links for EW attack potential

USNI: LCS equip w/ MH-60S helicopter carrying Airborne Laser Mine Detect [ALMDS] & Airborne Mine Neutralise [AMNS] & towed AN/AQS-20A sonar

Real Clear Defense: FF4923 frigate equip w/ SeaRAM close-in defense systems, both remote control & manual operated .50 caliber machine guns

Real Clear Defense: FF4923 frigate equip w/ ASROC anti-sub rockets, Harpoon anti-ship missiles, single triple torpedo launcher & 76mm gun

Real Clear Defense: FF4923 frigate equip w/ passive ECM, Mk-4 vertical launchers for Standard SM-2 & RIM-162 Evolved Sea Sparrow Missiles

Real Clear Defense: FF4923 frigate equip w/ 3D rotating phased array radar, EO/IR sensor, hull-mount, towed-array or variable depth sonar

Scout Warrior: Multi-Mission Launcher [MML] fires kinetic energy Mini Hit-to-Kill missile, AIM-9X Sidewinder & AGM-114 Hellfire missile.

Scout Warrior: V-280 Valor aircraft equip w/ 2.75in folding-fin rockets, infrared [IR] heat suppress systems & laser-guided Hellfire missile

Defense Systems: DDG-51 Destroyers equip w/ Multi-Mission Signal Processor [MMSP] & solid-state antenna on AN/SPY-1[V] radar sensor systems

Real Clear Defense: MH-60 Helicopters equip w/ Off-Board Electronic Warfare Active Mission Payload & AN/ALQ-248 pods to jam incoming missile

Scout Warrior: AH-1Z Viper Helicopter equip w/ target sight system, Longbow radar, Hellfire missiles & AIM-9 Sidewinder air-to-air missiles

Defense News: F-16 aircraft equip w/ ALQ-213[V] EW Units, AN/ALQ-184 ECM pods, AIM-9X Sidewinder air-to-air missile & GPS/laser munitions

Defense News: F-16 aircraft equip w/ AN/APG-83 Active Electronic Scan Array [AESA] radar, target pods & dual-mode GPS/laser-guided munitions

Defence Watch: Stryker Ragoon combat vehicle equip w/ 30mm cannon, TOW missiles & ECB2a upgrade feature Javelin launch anti-tank missile

Scout Warrior: F-35 aircraft equip w/ medium range AMRAAR air-to-air Missile, JDADM or GBU Munitions & AIM 9X Sidewinder air-to-air missile

Scout Warrior: Amphibious Combat Vehicle [ACV] equip w/ .50-cal guns, Mk 19 grenade launch & Common Remote Operated Weapons Systems [CROWS]

Scout Warrior: LCS equip w/ seeker aim-point determination, proficiency to include specified fuze effects, fire-control & launch sequencing

Scout Warrior: Joint Light Tactical Vehicle [JLTV] equip w/ 30mm Cannon, .50-cal machine gun, blast-protect & TAK-4i independent suspension

Defense Tech: LCS ASW mission package works w/ Fire Scout UAS & MH-60R airborne torpedoes using Variable Depth Sonar deep water drops

Defense Tech: America-class amphibians upgrade to Wasp-class built for MV-22 Osprey, VTOL Harrier Jet & short take off and landing F-35B variant

Military Tech: SSN 783 submarines feature AN/WLY-1 acoustic countermeasures & AN/BLQ-10 electronic support measures for radar processing

Military Tech: V-22 Osprey features VTOL & STOL capabilities w/ M240G 7.62mm machine gun & ATK AN/AAR-47 missile warning system

Defense Tech: F/A-18 upgrade infrared search and track [IRST] w/ passive forward-looking infrared sensor to locate jets & helicopters

DoD Buzz: F-16 Fighting Falcon upgrade include active electronic scanned array radar, high-resolution display unit & single-point EWC access

Defence Talk: AGM-158B JASSM-ER integrate w/B-1 Lancer, B-2 Spirit, F-15E StrikeEagle, F-16 Falcon, F/A-18E/F SuperHornet & F-35A-C Lightning

Defense Tech: Predator XP drone equip w/ radar & sensors for wide-area surveillance but not laser-guided bombs or air-to-ground missiles

Military Tech: AGM-88 HARM supersonic air-to-surface & AARGM missiles for EA-18G Growler, F/A-18, F/A-18C/D, F/A-18E/F & Tornado ECR aircraft

Military Tech: Lynx Mk88A helicopter upgrade to Super Lynx w/ AN/AQS-18 active dipping sonar, SeaSkua anti-ship missile & Seaspray Mark 3000

Military Tech: RQ-21A STUAS UAV equip w/ Flight Control System & Real Time Kinematic [RTK] Selective Availability Anti-Spoofing Module [SAASM]