WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD
National Park Service
U.S. Department of the Interior
1849 C Street NW
Washington, DC 20240-0001

HISTORIC AMERICAN ENGINEERING RECORD

***Forrest Sherman*–class destroyers**
HAER No. DC-69

Location:	Department of the Navy, Washington, District of Columbia	
Type of Craft:	Destroyer	
Principal Dimensions:	Length (oa):	418′-6″
	Length (bp):	407′-0″
	Beam (molded):	44′-11.5″
	Draft (full):	15′-3/8″
	Depth:	25′-2″
	Displacement (light ship):	2,734 long tons
	Displacement (full):	4,916 long tons
	Deadweight:	2,182 long tons
	Shaft horsepower (design):	70,000
	Speed (design):	33 knots
	Endurance	4,500 nm at 20 knots[1]
	(The listed dimensions are as-built for USS *Forrest Sherman* but were essentially the same for the entire class. Displacements varied due to differences in original equipment and changes to made to the vessels over time.)	
Propulsion:	Geared steam turbines driving twin screws	
Dates of Construction:	1953–1959	
Designer:	U.S. Navy Bureau of Ships	
Builders:	Bath Iron Works Corp., Bath, Maine (DD 931–933, 940–42, 945–47) Bethlehem Steel Co., Quincy, Massachusetts (DD 936–38, 943–44) Ingalls Shipbuilding Corp., Pascagoula, Mississippi (DD 948–949) Puget Sound Bridge & Dredging Co., Seattle, Washington (DD 950–951)	
Original Owner:	U.S. Navy	
Present Owners:	ex-*Forrest Sherman*: U.S. Navy ex-*Barry*: U.S. Navy ex-*Edson*: Saginaw Valley Naval Ship Museum ex-*Turner Joy*: Bremerton Historic Ships Association Balance of class no longer extant	

[1] Norman Friedman, *U.S. Destroyers: An Illustrated Design History* (Annapolis, Md.: Naval Institute Press, 2004), 482.

Disposition: Three preserved as museums; balance sunk, scrapped, or slated to be scrapped

Significance: The *Forrest Sherman* class was among the first classes of new warships developed by the U.S. Navy after World War II. These eighteen destroyers were also the last all-gun destroyers built for the navy. Designed for anti-aircraft and anti-submarine warfare, with particular emphasis on the former, these vessels served on all the world's oceans for a quarter of a century, many taking part in combat operations in the Vietnam War. Four were converted into guided-missile destroyers in 1965–68, and eight more were modified for improved anti-submarine capabilities in 1967–71. The largely unmodified *Edson* was declared a National Historic Landmark in 1990.

Author: Michael R. Harrison, 2012

Project Information: This project is part of the Historic American Engineering Record (HAER), a long-range program to document historically significant engineering and industrial works in the United States. The Heritage Documentation Programs of the National Park Service, U.S. Department of the Interior, administers the HAER program. The project was sponsored by the U.S. Navy Inactive Ships Program within NAVSEA 21 (Glen A. Clark, Deputy Program Manager). Todd Croteau, HAER Maritime Program Coordinator, directed the project, and historian Michael R. Harrison wrote the historical reports. Ryan Pierce and Todd Croteau prepared the measured drawings of ex-*Turner Joy*. Jet Lowe prepared the large-format photographs of ex-*Turner Joy* and ex-*Forrest Sherman*.

Related Documentation: For additional information about the *Forrest Sherman*–class destroyers, see the following HAER documentation:

USS *Forrest Sherman* (DD 931), HAER No. PA-648
USS *Barry* (DD 933), HAER No. DC-68
USS *Turner Joy* (DD 951), HAER No. WA-210

PART I. HISTORICAL INFORMATION

A. Physical History

1. Dates of construction: The class leader, USS *Forrest Sherman*, was laid down October 27, 1953, and commissioned November 4, 1955. The eighteenth and final vessel in the class, USS *Turner Joy*, was laid down September 30, 1957, and commissioned August 3, 1959.[2]

2. Designer: The specifications for these destroyers were developed by the navy's Ship Characteristics Board and Bureau of Ships. The working plans were probably created by Gibbs & Cox, Inc., naval architects, of New York City.[3]

3. Builder: The contracts to build these destroyers were divided among four builders, the Bath Iron Works Corporation, Bath, Maine (DD 931–933, 940–42, 945–47); the Bethlehem Steel Company, Quincy, Massachusetts (DD 936–38, 943–44); the Ingalls Shipbuilding Corporation, Pascagoula, Mississippi (DD 948–949); and the Puget Sound Bridge & Dredging Company, Seattle, Washington (DD 950–951).[4]

4. Original plans: The *Forrest Sherman*–class destroyers were designed as swift and maneuverable craft for anti-aircraft and anti-submarine warfare. They had steel hulls, and, to reduce topside weight for improved stability and speed, they were built with all-aluminum superstructures. Each vessel was powered by two geared turbine sets driving twin propellers. Four boilers, two for each engine, provided 1,200 psi steam for a total power of 70,000 shaft horsepower (shp) and a designed speed of 33 knots. Actual performance varied. For example, speed trials for the *Decatur* (DD 936) produced 71,500 shp for 33.93 knots on 3,650 tons displacement and 34.97 knots on 3,295 tons displacement.[5]

The original armament specified for the class included:

- Three 5"/54-caliber Mark 42 single-mount automatic rapid-fire guns. Each gun mount was fitted with two One Man Control (OMC) stations, one for a surface

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[2] Friedman, *U.S. Destroyers,* 513.

[3] The role of the navy's Ship Characteristics Board and Bureau of Ships in the design process is well documented in Friedman, *U.S. Destroyers*, 245–49. Friedman does not mention Gibbs & Cox in relation to the development of this class, although he does for other classes. Gibbs & Cox collaborated extensively with the Bureau of Ships for many decades, and a drawing-room model of the DD 931 by the model shop at Gibbs & Cox in the U.S. Navy's ship-model collection indicates the firm's participation in the design of this class. Further documentation of the firm's specific role has not yet been located. See http://www.navsea.navy.mil/nswc/carderock/pub/cnsm/faq/faq_09c.aspx for information on the model (catalog no. 419); for general references to Gibbs & Cox's postwar work on destroyers, see Frank O. Braynard, *By Their Works Ye Shall Know Them: The Life and Ships of William Francis Gibbs, 1886–1967* (New York: Gibbs & Cox, 1968), 183.

[4] John Moore, ed., *Jane's American Fighting Ships of the 20th Century* (New York: Mallard Press, 1991), 168.

[5] Friedman, *U.S. Destroyers*, 482.

gunner, one for an anti-aircraft gunner. The latter OMC was eventually removed on all 5"/54 gun mounts on all ships.
- Two twin-mount 3"/50-caliber Mark 22 anti-aircraft guns
- Four 21" Mark 25 ASW torpedo tubes
- Two triple 12.75" Mark 32 ASW torpedo tubes
- Two Mark 10/11 ASW projectors (Hedgehogs)
- Mark 56 (forward) and Mark 68 (aft) Gun Fire Control Systems. The positions of these gun directors were reversed on the final seven vessels.
- Mark 105 Underwater Battery Fire Control System
- SQS-4 sonar with dual maintenance of close contact
- Electronic countermeasures
- Air search radar
- Surface radar[6]

Hulls from *Decatur* (DD 936) onward had increased freeboard forward to improve dryness.[7] The last seven hulls, starting with *Hull* (DD 945), had slightly redesigned bows.[8]

Each ship was equipped with a hull-mounted sonar dome. Although all received updated sonar systems at different points in their careers, only the *Barry* had its replacement sonar repositioned into a bow dome, the first such installation on a ship of the U.S. Navy. This arrangement required redesigning the ship's bow, which eliminated the port and starboard anchors in favor of a stem anchor.[9]

The ships were designed with accommodations for a crew of 315 plus 22 officers. In planning the accommodations, the navy's Bureau of Ships hired the firm of Lippincott and Margulies to study crew requirements and make design recommendations.[10] The navy magazine *All Hands* described the resulting crew spaces in a 1953 article.

> Habitability has been given careful study too. Compartment arrangement and color schemes were studied and specified in detail to a greater extent than previously done in destroyer design. These features include more living area per man and freedom from direct sources of noise, heat and vibration. Each living space has a small recreational area separated from the berthing

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[6] Friedman, *U.S. Destroyers*, 249, 482. According to Friedman, only the DD 931 and 932 were completed with the Mark 25 torpedo tubes, although DD 933 later acquired them.

[7] This modification was made on the suggestion of Capt. P. W. Snyder of the Bureau of Ships after observing destroyers in operation during Exercise Mariner in the Atlantic in 1953. "The sheer line of these ships was raised three feet at the bow, tapering down to the original sheer line at about the forward gun. The FY 53 units were too far along to be so modified." Friedman, *U.S. Destroyers*, 249.

[8] Raymond V. B. Blackman, ed., *Jane's Fighting Ships, 1971–72* (New York: McGraw-Hill Book Co., 1971), 467; Friedman, *U.S. Destroyers*, 249.

[9] Friedman, *U.S. Destroyers*, 251; Moore, *Jane's American Fighting Ships*, 168.

[10] R. W. Venable and R. F. ErkenBrack, "Navy's Newest Destroyer," *Bureau of Ships Journal* 2, no. 3 (July 1953): 4.

> area and furnished with tables and chairs. Crew bunks will be equipped with individual bunk lights and canvas containers for holding personal effects. In addition, living spaces, control and vital spaces are air-conditioned.
>
> The crew's messing space, which doubles as a recreational space, galley and scullery are located in a compact area on the main deck amidships. A boon to mess cooks will be the conveniently located garbage disposal unit. Accommodations for a crew of 315 men and 22 officers are about equally divided forward and aft.
>
> Washroom and water closet spaces are separate compartments. Towel drying facilities and individual drawers for stowage of toilet articles have been provided for the entire crew. One washroom will have a unique washstand which incorporates elbow operated spray heads and thermostatically controlled water. The need for all these features was indicated by wartime experiences of existing destroyers.[11]

5. Original cost: Each ship cost about $26 million.[12]

6. Alterations and additions: The development of surface-to-air missiles in the 1950s and 1960s lessened the strategic usefulness of all-gun warships. A program was initiated in 1964 to update the *Forrest Shermans* by converting them into guided-missile destroyers (DDGs). This work, begun in 1965, comprised removing the two aft 5"/54 gun mounts and replacing them with Tartar missile systems and ASROC launchers. Other new equipment included SPS-48 three-dimensional radar systems, new fire control systems (Mark 78 for missile guidance; Mark 68 retained for gunfire control), updated sonar (SQS-23), and new electronic control equipment. The original bow 5"/54 gun mounts and the two triple ASW torpedo tubes were retained from the original armament. Just four ships were converted to this arrangement before the program was canceled due to cost.

Eight additional vessels in the class received extensive anti-submarine warfare modernizations between 1967 and 1971. This work included the removal of one of the after 5"/54 gun mounts and replacing it with an ASROC launcher, plus the installation of new torpedo tubes, SQS-23 sonar arrays, stern-mounted SQS-35 variable depth sonar arrays, and expanded deckhouses to contain new electronics systems. The modified ships lost their 3" guns and Hedgehogs. The remaining six ships in the class were not similarly modified due to cost and remained largely in their original configurations throughout their careers. It should be noted, however, that their weapons, propulsion, and other systems were extensively overhauled from time to time, and redundant equipment, such as extra depth-charge racks, Hedgehogs, and the forward 3" gun mounts, were removed on most ships.[13]

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[11] "New Class of Large Destroyers Under Construction," *All Hands* (November 1953): 36.

[12] John Moore, ed., *Jane's Fighting Ships, 1987–88* (New York: Jane's Publishing Inc., 1987), 748.

[13] John Moore, ed., *Jane's Fighting Ships, 1982–83* (London: Jane's Publishing Co., 1982), 635, 639; idem, ed., *Jane's American Fighting Ships*, 168; Friedman, *U.S. Destroyers*, 247, 249, 250–52.

Forrest Sherman–class destroyers

Guided-missile destroyer conversions		ASW modernized		Not converted	
John Paul Jones	DD 932/DDG 32	*Barry*	DD 933	*Forrest Sherman*	DD 931
Decatur	DD 936/DDG 31	*Davis*	DD 937	*Bigelow*	DD 942
Somers	DD 947/DDG 34	*Jonas Ingram*	DD 938	*Mullinnix*	DD 944
Parsons	DD 949/DDG 33	*Manley*	DD 940	*Hull*	DD 945
		Du Pont	DD 941	*Edson*	DD 946
		Blandy	DD 943	*Turner Joy*	DD 951
		Morton	DD 948		
		Richard S. Edwards	DD 950		

B. Historical Context

In the first decades of the twentieth century, destroyers, descended from the fast "torpedo-boat destroyers" that developed toward the end of the nineteenth century, became the primary raiding, screening, and patrol craft of the world's navies because of their maneuverability, modest size, and multi-purpose flexibility. Those in service at the start of World War II were armed for ship-to-ship and anti-submarine fighting and designed for speed, endurance, and good sea-keeping. Combat experience during the war led the U.S. Navy to order increased anti-aircraft capabilities built into its destroyers, making them, in the words of Rear Adm. Mahlon S. Tisdale, commander of destroyers in the Pacific, "the nearest approach to the 'all purpose' vessel of any combatant type." The great numbers of *Fletcher*-, *Allen M. Sumner*–, and *Gearing*-class destroyers built during and just after the war were equipped to effectively protect merchant convoys and capital ships from increasingly advanced enemy submarines and aircraft.[14]

Many warships on order for the government were cancelled at war's end, but destroyer construction continued, as military leaders saw that anti-submarine and anti-aircraft warfare (ASW and AAW) would remain primary strategic concerns for the postwar navy. Soviet military construction in the late 1940s and 1950s proved this to be correct, and many existing destroyers were overhauled to strengthen their ASW and AAW capabilities. These vessels were also seen as useful for "shore bombardment, radar picketing, transfer of mail and personnel, aircraft guarding, air-sea rescue, and many other tasks."[15]

The first new class of U.S. destroyers developed after the war, the *Mitschers*, laid down in 1949, were designed larger than existing destroyers to carry more types of ASW equipment.

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[14] Quote from Friedman, *U.S. Destroyers*, 235. Friedman thoroughly discusses the development of the destroyer in his early chapters. See also chapters 2 and 3 in Eric W. Osborne, *Destroyers: An Illustrated History of their Impact* (Santa Barbara, Calif.: ABC-CLIO, 2005). The United States built destroyers in great numbers during the war, there being in the end 175 *Fletcher*-class ships, 58 *Sumner*-class, and 98 *Gearing*-class.

[15] Venable and ErkenBrack, "Navy's Newest Destroyer," 2.

In fact, their expanded size led the navy to reclassify them before completion as destroyer leaders, a new type. Characterized by historian Norman Friedman as "largely experimental" and "designed to incorporate the fruits of wartime research," these ships were expensive and not particularly successful in service. Only four ships were built in the class, leaving the navy in need of a general-purpose destroyer design that would better balance speed and endurance with ASW and AAW capabilities.[16]

The design the navy developed became the *Forrest Sherman* class. In 1951, the Chief of Naval Operations rejected the *Mitscher* class as the basis for mass production of new destroyers and asked the Ship Characteristics Board (SCB) to develop specifications for a destroyer of "reasonable" size. The SCB proceeded to design an update of the highly successful wartime *Fletcher* class, with strong AAW characteristics and somewhat weakened ASW capabilities. The board's new type, designated SCB 85, had a maximum standard displacement of 2,500 long tons, three 5"/54-caliber single-mount guns, four twin 3"/50-caliber anti-aircraft guns, four fixed torpedo tubes, two fixed Hedgehog anti-submarine projectors, and depth charges. Maximum speed was set at 32 knots and endurance at 4,500 miles. After additional discussion with the Bureau of Ships, which had developed its own specifications for a mass-production destroyer between December 1950 and March 1951, the SCB proposed a revised arrangement: a standard displacement of 2,800 tons and armament including three 5"/54s (one forward and two aft) and two twin 3"/50 guns.[17]

"The new destroyers will be able to perform all the usual functions of a destroyer," an article for the navy personnel magazine *All Hands* announced in 1953, "such as anti-submarine and anti-aircraft protection in the screen, shore bombardment, radar picketing, transfer of mail and personnel, aircraft guarding and air-sea rescue, and perform them better."[18] All told, the navy built eighteen vessels to this design, dividing their cost across four fiscal years.[19] These were the first vessels in the U.S. Navy that concentrated more firepower aft than forward, a choice that reflected the desire for improved AAW and shore-bombardment capabilities over surface-attack ability, while the four fixed torpedo tubes, dual Hedgehogs, and depth-charge racks included in the original design suited ASW work.[20]

The increased production of jet aircraft in the 1950s, however, rendered ship-mounted anti-aircraft guns ineffective against fighter and airborne nuclear attacks, and the armament choices made for the *Forrest Sherman* class were obsolete by the early 1960s. To meet new threats, weapons research attention shifted during the 1950s to the development of more

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[16] Quote from Friedman, *U.S. Destroyers*, 245; Osborne, *Destroyers*, 120.

[17] Friedman, *U.S. Destroyers*, 246–47.

[18] "New Class of Large Destroyers Under Construction," *All Hands* (November 1953): 36.

[19] DD 931–933 were authorized in fiscal year 1953, 936–938 in FY 54, 940–944 in FY 55, and 945–951 in FY 56; Friedman, *U.S. Destroyers*, 249.

[20] Friedman, *U.S. Destroyers*, 247, 249. Friedman speculates that the decision to place two gun mounts aft and only one forward may also have been influenced by a desire to improve dryness on the forward deck.

effective surface-to-air (SAM) missile systems, which the navy began deploying in the mid 1950s. Even as the last *Forrest Sherman* units were still at their builders, the navy reconfigured its next class of destroyers and next class of frigates as guided-missile ships, resulting in the *Farragut* class (ten ships, commissioned in 1960 and 1961) and the *Charles F. Adams* class, a lengthened version of the *Forrest Sherman* design (twenty-three ships, commissioned between 1960 and 1964).[21]

As a result of these developments, the *Forrest Shermans* became the last American destroyers built as all-gun ships, but only six of the eighteen vessels in the class remained this way throughout their careers. Four were converted in mid 1960s to guided-missile destroyers, receiving the Tartar SAM system and ASROC, the navy's anti-submarine rocket missile system. These two systems became the mainstays of the navy's new focus on missile-based destroyers, with eight additional Forrest Sherman–class vessels receiving the latter system between 1967 and 1971.[22]

Although originally intended to remain in service into the 1990s, the entire class was retired in 1982 and 1983 due to ongoing problems with their high-pressure engine systems.[23]

C. Operational History

The *Forrest Sherman*–class destroyers entered service between 1955 and 1959. They were deployed across the globe, taking part in American military operations in the Atlantic, Pacific, and Indian oceans, the Persian Gulf, the Mediterranean and many other seas. Most saw action in southeast Asia during the Vietnam War, some serving for extended periods on the gunline shelling targets in North Vietnam. The *Turner Joy*, in fact, was one of two U.S. destroyers involved in the Tonkin Gulf Incident, an alleged attack by North Vietnamese gunboats that precipitated greater American involvement in the war in August 1964.

The service life of the *Forrest Sherman* is typical. Like other destroyers in the class named for recently deceased navy heroes and leaders, the ship was christened by the widow of its namesake. (Those named for long-dead naval heroes were usually christened by descendants.) Upon commissioning, the vessel spent a few months in shake down training, sailing in the Caribbean and along the South African coast. In 1957 and 1958, the ship sailed in the Caribbean, the Atlantic, the North Sea, the Mediterranean, and the Pacific, transiting both the Suez and Panama canals. Succeeding years were similar, with training exercises in various waters punctuated by goodwill and recreational port calls, periods of repair and overhaul, and the occasional at-sea rescue. The *Forrest Sherman* did not serve in southeast

[21] Osborne, *Destroyers*, 128–31.

[22] Osborne, *Destroyers*, 131.

[23] Moore, *Jane's Fighting Ships, 1987–88*, 745.

Asia during the Vietnam War, but was deployed to the Caribbean, the Mediterranean, and on the Atlantic.[24]

The *Forrest Sherman* took part in numerous ceremonial duties. It sailed to Washington, D.C., in January 1956 to represent the Atlantic fleet at the inauguration of President Eisenhower. In 1959, it was one of a number of vessels present in Montreal at the dedication of the St. Lawrence Seaway. It then sailed through all five Great Lakes paying visits to inland ports. During 1961, the ship made a goodwill tour to countries in Africa, carrying 10,000 lollipops to hand out to children who came aboard.[25]

"FORREST SHERMAN is especially well suited for providing off shore Naval gunfire support to assist Marine amphibious landings," a "Welcome Aboard" booklet proclaimed in 1980,

> but she is versatile enough to detect and prosecute submarine contacts, act as a search and rescue unit, or provide screening for a task group. Fleetwide inspections have proven FORREST SHERMAN to be one of the best ships in the U.S. Navy, and our officers and crew take pride in keeping her that way. . . .[26]

This booklet also informed visitors that, as the oldest active destroyer in the fleet and one of the few to retain its original guns, the ship was called "the last of the great gunships." The 5" main guns, it also revealed, were nicknamed Judge, Jury, and Executioner.[27]

> During her 24 years of service, [the booklet concluded,] FORREST SHERMAN has compiled a distinguished record of 18 major overseas deployments, carrying the American flag to countless ports around the world. She has operated with the navies of over twenty allied nations, helping to maintain trust, understanding, and international teamwork. FORREST SHERMAN has previously been homeported in Newport, Rhode Island and Norfolk, Virginia. She is currently based in Charleston, South Carolina, as a member of Destroyer Squadron Four.[28]

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[24] "USS Forrest Sherman Ship's History," Jan. 6, 1966, in Naval History and Heritage Command, Ships' History Branch, Ships' Histories, box 295a, folder "Forrest Sherman (DD 931) General Histories."

[25] "USS Forrest Sherman Ship's History"; "The good ship Lollipop," *Guardian* (UK), Aug. 24, 1961, 9.

[26] "Welcome Aboard USS Forrest Sherman," booklet, ca. 1980, in Naval History and Heritage Command, Ships' History Branch, Ships' Histories, box 295a, folder "Forrest Sherman (DD 931) Welcome Aboard."

[27] "Welcome Aboard USS Forrest Sherman."

[28] "Welcome Aboard USS Forrest Sherman."

The entire class, including the four hulls converted to DDGs, was decommissioned in 1982 and 1983 due to chronic problems with the high-pressure steam engine systems. The *Edson*, used as a training vessel since 1977, alone was excepted, surviving in service until 1988.[29]

All but four were initially laid-up in reserve, but all had been struck from the navy list by the end of 1990. Nine were sunk as targets, and five were scrapped. Three are now preserved as museums or slated to become museums. The *Forrest Sherman*, although sought by a nonprofit group for a museum, is to be scrapped by 2013.

D. Vessel Summaries

USS *Forrest Sherman* DD 931
- Builder: Bath Iron Works Corp., Bath, Maine; hull number 324
- Laid down: 27 October 1953
- Launched: 5 February 1955
- Delivered: 4 November 1955
- Commissioned: 9 November 1955
- Decommissioned: 5 November 1982
- Struck: 27 July 1990
- Disposition: Slated for scrapping 2012[30]

Named for Adm. Forrest P. Sherman (1896–1951).[31]

USS *John Paul Jones* DD 932 / DDG 32
- Builder: Bath Iron Works Corp., Bath, Maine; hull number 325
- Laid down: 18 January 1954
- Launched: 7 May 1955
- Delivered: 30 March 1956
- Commissioned: 5 April 1956
- Decommissioned: 15 December 1982
- Struck: 30 November 1985
- Deposition: Sunk as target 2001

Named for Cdre. John Paul Jones (1747–92). Converted to guided-missile destroyer, 1966–67; redesignated DDG 32 on March 15, 1967.[32]

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[29] Moore, *Jane's Fighting Ships, 1987–88*, 745.

[30] Construction and service dates here and following compiled from Friedman, *U.S. Destroyers,* 513, and Tim Colton, "Destroyers built since World War II," Shipbuilding History, http://shipbuildinghistory.com/history/navalships/destroyers3.htm, accessed Jan. 26, 2012.

[31] "*Forrest Sherman*," *Dictionary of American Naval Fighting Ships* (*DANFS*), http://www.history.navy.mil/danfs/f3/forrest_sherman.htm.

[32] "*John Paul Jones*," *DANFS*, http://www.history.navy.mil/danfs/j3/john_paul_jones.htm.

USS *Barry* DD 933

Builder:	Bath Iron Works Corp., Bath, Maine; hull number 326
Laid down:	15 March 1954
Launched:	1 October 1955
Delivered:	31 August 1956
Commissioned:	7 September 1956
Decommissioned:	5 November 1982
Struck:	31 January 1983
Disposition:	Retained by the navy as a display ship at the Washington Navy Yard, Washington, D.C., 1983.

Named for Cdre. John Barry (1745–1803). First ship of the U.S. Navy to have sonar installed in a bow dome, 1959. Vessel took part in the quarantine of Cuba during the Cuban Missile Crisis, October–November 1962, and saw service along the coast of Vietnam, 1965–66. Extensively altered 1967–68 for improved anti-submarine warfare capability. Overhauled 1976–77 and again in 1980. The ship earned two battle stars for service in the Vietnam War.[33]

USS *Decatur* DD 936 / DDG 31

Builder:	Bethlehem Steel Co., Quincy, Massachusetts; hull number 1648
Laid down:	13 September 1954
Launched:	15 December 1955
Delivered:	30 November 1956
Commissioned:	7 December 1956
Decommissioned:	30 June 1983
Struck:	30 March 1988
Disposition:	Sunk as target off Hawaii, 21 July 2004

Named for Cdre. Stephen Decatur (1779–1820). The *Decatur* was deployed largely to the Mediterranean and the Atlantic from 1956 to 1964. The ship was severely damaged after running under the bow overhang of the aircraft carrier *Lake Champlain* after refueling operations on May 4, 1964. During 1965–67, the ship was repaired and converted to a guided-missile destroyer, being reclassified as DDG 31 on September 15, 1966. The ship made tours to Vietnam in 1968, 1970, 1973, and 1974, for which service it received six battle stars. The ship was used as the navy's Self Defense Test Ship at Fort Hueneme, California, from 1993 to 2003, before being sunk as a target off Hawaii in 2004.[34]

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[33] "*Barry*," *DANFS*, http://www.history.navy.mil/danfs/b3/barry-iii.htm.

[34] "*Decatur*," *DANFS*, http://www.history.navy.mil/danfs/d2/decatur-iv.htm.

USS *Davis* DD 937
Builder: Bethlehem Steel Co., Quincy, Massachusetts; hull number 1649
Laid down: 1 February 1955
Launched: 28 March 1956
Delivered: 28 February 1957
Commissioned: 6 March 1957
Decommissioned: 20 December 1982
Struck: 27 July 1990
Disposition: Scrapped 1994

Named for Cmdr. George F. Davis (1911–45), posthumous recipient of the Medal of Honor for actions during World War II. The unexceptional career of the *Davis* took the vessel all over the world, where it participated in operations in the Atlantic, the Mediterranean, Northern Europe, the Persian Gulf, the western Pacific, and many other waters. The destroyer was deployed to Vietnam twice, in 1968–69 and again in 1972, and underwent two extensive periods of overhaul, the first from October 1969 to October 1970, and the second from December 1974 to December 1975. The destroyer was awarded five battle stars and two meritorious unit commendations for service in Vietnam.[35]

USS *Jonas Ingram* DD 938
Builder: Bethlehem Steel Co., Quincy, Massachusetts; hull number 1650
Laid down: 15 June 1955
Launched: 8 July 1956
Delivered: 10 July 1957
Commissioned: 19 July 1957
Decommissioned: 4 March 1983
Struck: 15 June 1983
Sunk as target: 23 July 1988

Named for Adm. Jonas Ingram (1886–1952). The destroyer was extensively overhauled in 1969–70 for enhanced anti-submarine capability. As on other modified vessels in the class, an ASROC launcher replaced one of the destroyer's 5" gun turrets, and more modern electronics were installed.[36]

USS *Manley* DD 940
Builder: Bath Iron Works Corp., Bath, Maine; hull number 327
Laid down: 10 February 1955
Launched: 12 April 1956
Delivered: 25 January 1957

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[35] "*Davis,*" *DANFS*, http://www.history.navy.mil/danfs/d2/davis-iv.htm.

[36] "Jonas Ingram," *DANFS*, http://www.history.navy.mil/danfs/j4/jonas_ingram.htm.

Commissioned: 1 February 1957
Decommissioned: 4 March 1983
Struck: 1 June 1990
Disposition: Scrapped 1994
Named for Revolutionary War Captain John Manley (1733–93). Overhauled for ASW modernization, 1970–71.[37]

USS *Du Pont* DD 941
Builder: Bath Iron Works Corp., Bath, Maine; hull number 328
Laid down: 11 May 1955
Launched: 8 September 1956
Delivered: 21 June 1957
Commissioned: 1 July 1957
Decommissioned: 4 March 1983
Struck: 1 June 1990
Disposition: Scrapped 1992
Named for RAdm. Samuel Francis Du Pont (1803–65). Modernized for enhanced ASW capabilities, 1969–70.[38]

USS *Bigelow* DD 942
Builder: Bath Iron Works Corp., Bath, Maine; hull number 329
Laid down: 6 July 1955
Launched: 2 February 1957
Delivered: 1 November 1957
Commissioned: 8 November 1957
Decommissioned: 5 November 1982
Struck: 1 June 1990
Disposition: Sold for scrap 1993, but taken back by the navy in 1996 and sunk as target 2003
Named for Water Tender Second Class Elmer Charles Bigelow (1920–45), posthumous Medal of Honor recipient for actions in World War II. This vessel participated in the blockade of Cuba in fall 1962 and later took part in combat operations in Vietnam.[39]

USS *Blandy* DD 943
Builder: Bethlehem Steel Co., Quincy, Massachusetts; hull number 1651
Laid down: 29 December 1955

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[37] "*Manley*," *DANFS*, http://www.history.navy.mil/danfs/m3/manley-iii.htm.

[38] "*Du Pont*," *DANFS*, http://www.history.navy.mil/danfs/d6/du_pont-iii.htm.

[39] "The Naval Quarantine of Cuba, 1962," Naval History and Heritage Command, http://www.history.navy.mil/faqs/faq90-5a.htm; "*Bigelow*," *DANFS*, http://www.history.navy.mil/danfs/b6/bigelow-i.htm.

Launched: 19 December 1956
Delivered: 20 November 1957
Commissioned: 26 November 1957
Decommissioned: 5 November 1983
Struck: 27 July 1990
Disposition: Scrapped 1994
Named for Adm. William H. P. Blandy (1890–1954), one-time commander-in-chief of the Atlantic fleet. The destroyer was extensively overhauled in 1969–70 for enhanced anti-submarine capability.[40]

USS *Mullinnix* DD 944
Builder: Bethlehem Steel Co., Quincy, Massachusetts; hull number 1652
Laid down: 5 April 1956
Launched: 18 March 1957
Delivered: 26 February 1958
Commissioned: 7 March 1958
Decommissioned: 11 August 1983
Struck: 26 July 1990
Disposition: Sunk as target 23 August 1992
Named for RAdm. Henry Mullinnix (1892–1943).[41]

USS *Hull* DD 945
Builder: Bath Iron Works Corp., Bath, Maine; hull number 330
Laid down: 12 September 1956
Launched: 10 August 1957
Delivered: 25 June 1958
Commissioned: 3 July 1958
Decommissioned: 11 July 1983
Struck: 15 October 1983
Disposition: Sunk as target 7 April 1998
Named for Cdre. Isaac Hull (1773–1843). From 1975–79, the *Hull* mounted an experimental 8"/55-caliber Mark 71 gun on its foredeck.[42]

USS *Edson* DD 946
Builder: Bath Iron Works Corp., Bath, Maine; hull number 331
Laid down: 3 December 1956
Launched: 1 January 1958

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[40] "*Blandy*," *DANFS*, http://www.history.navy.mil/danfs/b7/blandy-i.htm.

[41] "*Mullinnix*," *DANFS*, http://www.history.navy.mil/danfs/m15/mullinnix.htm.

[42] "*Hull*," *DANFS*, http://www.history.navy.mil/danfs/h9/hull-iv.htm; Friedman, *U.S. Destroyers*, 513.

Delivered:	31 October 1958
Commissioned:	7 November 1958
Decommissioned:	15 December 1988
Struck:	15 October 1983
Disposition:	Museum at New York, 1989; returned to navy 2004; slated to become museum at Bay City, Michigan, 2012

Named for Marine Corps Major Gen. Merritt Austin Edson (1897–1955). This destroyer served in the Pacific initially. In 1964, it was deployed to Vietnam. The ship saw further service as a gunfire support ship in Vietnam from 1965 to 1971 and later served in the Atlantic and Caribbean before being assigned to the Naval Reserve Force in 1977 for use as a training ship for reservists and engineers at Newport, Rhode Island.[43] At the time of its decommissioning, the *Edson* was the final *Forrest Sherman*–class destroyer in service. It was also the last vessel in the U.S. Navy armed solely with guns.

In 1989, the navy transferred the vessel to the Intrepid Sea-Air-Space Museum, and it was placed on public view at Pier 86 in Manhattan. Based on its integrity as a largely unaltered example of its class, the vessel was declared a National Historic Landmark on June 21, 1990.[44] The museum returned the *Edson* to the navy in 2004 when extensive repairs were made to its pier in New York, after which the navy solicited new applications for donation of the ship. The navy accepted the Saginaw Valley Naval Ship Museum's application in 2010, and the vessel was towed to Bay City, Michigan, in 2012.[45]

USS *Somers*	DD 947 / DDG 34
Builder:	Bath Iron Works Corp., Bath, Maine; hull number 332
Laid down:	4 March 1957
Launched:	30 May 1958
Delivered:	1 April 1959
Commissioned:	3 April 1959
Decommissioned:	19 November 1982
Struck:	26 April 1988
Disposition:	Sunk as target 22 July 1998

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[43] Moore, *Jane's Fighting Ships 1982–83*, 639.

[44] James P. Delgado, National Historic Landmarks nomination for "USS Edson (DD-946)," U.S. Department of the Interior, National Park Service, 1990.

[45] "Ex-Edson (DD 946)," Navy Inactive Ships Program, http://www.navsea.navy.mil/teamships/Inactiveships/Donation/pdf/ships_on_hold/soh_ex_edson.pdf; "Saginaw Valley Naval Ship Museum News," http://www.ussedson.org/index.php?module=publisher, both accessed March 26, 2012; "Contract for the donation of the Destroyer ex-Edson (DD 946)," http://www.navsea.navy.mil/teamships/Inactiveships/Donation/pdf/museum_transfer_contracts/DOCedson_contract.PDF, accessed June 20, 2012.

Named for Lt. Richard Somers (c1778–1804). Converted to a guided-missile destroyer between April 1966 and February 1968, and redesignated as DDG 34 on March 15, 1967. The ship received five battle stars for service in the Vietnam War.[46]

USS *Morton*	DD 948
Builder:	Ingalls Shipbuilding Corp., Pascagoula, Miss.; hull number 1019
Laid down:	4 March 1957
Launched:	23 May 1958
Delivered:	14 May 1959
Commissioned:	26 May 1959
Decommissioned:	22 November 1982
Struck:	7 February 1990
Disposition:	Scrapped 1992

Named for Cmdr. Dudley Walker Morton (1907–45). The ship was modernized for enhanced ASW capabilities between September 1969 and August 1970.[47]

USS *Parsons*	DD 949 / DDG 33
Builder:	Ingalls Shipbuilding Corp., Pascagoula, Miss.; hull number 1020
Laid down:	17 June 1957
Launched:	19 August 1958
Delivered:	26 October 1959
Commissioned:	29 October 1959
Decommissioned:	19 November 1982
Struck:	15 May 1984
Disposition:	Sunk as target 25 April 1989

Named for RAdm. William Sterling Parsons (1901–53). This vessel was converted to a guided-missile destroyer between January 1966 and October 1967, being reclassified as DDG 33 in March 1967.[48]

USS *Richard S. Edwards*	DD 950
Builder:	Puget Sound Bridge & Dredging Company, Seattle, Washington
Laid down:	20 December 1956
Launched:	24 September 1957
Commissioned:	5 February 1959
Decommissioned:	15 December 1982
Struck:	7 February 1990
Disposition:	Sunk as target 12 May 1997

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[46] "*Somers*," *DANFS*, http://www.history.navy.mil/danfs/s15/sommers-vi.htm.

[47] "*Morton*," *DANFS*, http://www.history.navy.mil/danfs/m15/morton.htm.

[48] "*Parsons*," *DANFS*, http://www.history.navy.mil/danfs/p2/parsons.htm.

Named for Adm. Richard S. Edwards (1885–1956). Underwent ASW modernization in 1970. The ship received six battle stars for service in Vietnam.[49]

USS *Turner Joy* DD 951
Builder: Puget Sound Bridge & Dredging Company, Seattle, Washington
Laid down: 30 September 1957
Launched: 5 May 1958
Commissioned: 3 August 1959
Decommissioned: 22 November 1982
Struck: 13 February 1990
Disposition: Museum at Bremerton, Washington, 1991

Named for Adm. Charles Turner Joy (1895–1956). The *Turner Joy* is best known as one of two U.S. Navy destroyers that took part in the Tonkin Gulf Incident which led to the escalation of American involvement in Vietnam. USS *Maddox* evaded a North Vietnamese torpedo-boat attack on August 2, 1964, and two days later both *Maddox* and *Turner Joy* took evasive action against and fired upon radar ghosts their crews mistook for attacking boats. Reports of this supposed attack prompted Congress to authorize deeper intervention in the region and President Johnson to order air strikes against North Vietnam.[50]

The *Turner Joy* was extensively overhauled in 1972, receiving new 5"/54 gun mounts. The ship was overhauled again in 1978 after spending much of the preceding two years in port because of engineering difficulties. The ship received nine battle stars for service in the Vietnam War.[51]

PART II. STRUCTURAL / DESIGN INFORMATION

A. General Description

1. Overall: With narrow, all-welded steel hulls, low displacement, aluminum-alloy superstructures, and high-pressure turbine engines, the eighteen destroyers in the *Forrest Sherman*–class were designed for speed and maneuverability to support anti-aircraft and anti-submarine warfare missions. All were originally armed with three main 5" single-gun mounts, two twin 3" guns mounts, and ASW torpedo tubes, these and the two tripod masts supporting radar, communication, and electronic countermeasures antennas being the

[49] "*Richard S. Edwards*," *DANFS*, http://www.history.navy.mil/danfs/r6/brichard_s_edwards.htm.

[50] "*Turner Joy*," *DANFS*, http://www.history.navy.mil/danfs/t9/turner_joy.htm. For a thorough discussion of the Tonkin Gulf Incident, see Edwin E. Moïse, *Tonkin Gulf and the Escalation of the Vietnam War* (Chapel Hill: University of North Carolina Press, 1996).

[51] "*Turner Joy*," *DANFS*, http://www.history.navy.mil/danfs/t9/turner_joy.htm.

outwardly visible evidence of the vessels' military purpose. Twin funnels reflected the twin engine rooms with their corresponding firerooms. A sonar dome is mounted beneath the hull near the bow.

The interiors of these vessels were highly compartmentalized to provide a high level of stability in the event of a hull breech. Crew living compartments, store rooms, reefer compartments, the sonar equipment, and the mechanism and magazine for the forward 5" gun were clustered in the bow forward of the superstructure. The middle third of the hull was taken up by the four engine and fireroom compartments, divided into pairs by fuel tanks and the interior-communications room. Additional crew living spaces and the magazines, hoists, and other equipment for the after gun mounts were clustered in the stern.[52]

2. Decks: The lowest level in the hull contained fuel and ballast tanks forward and aft with the bed plates for the engines and boilers amidships. There were then three platform decks forward and two platform decks aft of the engine rooms.

The forward and aftmost gun mounts rested on the main deck. Between them, the superstructure contained crew quarters, with the wardroom forward, the crew mess and galley amidships, and the chief petty officers' mess and crew heads aft. Various officers' staterooms, the pharmacy, the post office, barber shop, disbursing office, and equipment rooms and lockers were fit in around this level.

The 01 level next above supported one 3" double gun mount and two Hedgehog ASW projectors forward, with the second 3" gun mount and the middle 5" gun turret positioned aft. On most units the 3" guns and the Hedgehogs were eventually removed, and the space thus freed up forward was sometimes enclosed to provide additional accommodation. The torpedoes tubes were mounted amidships on this level, with electronics rooms in the amidships deckhouses and the radio rooms, operations office, and captain's stateroom in the forward deckhouse.

The 02 level contained the bridge, pilot house, chartroom, combat information center, and the electronic countermeasures room. The 03 level formed a signaling platform around the target designation equipment room and supported the forward gun director on the 04 level above. The aft gun director was on the 03 level just aft of the second funnel.

B. Mechanical Features

1. Propulsion machinery: The propulsion machinery was divided into two pairs of compartments. Forwardmost was the no. 1 fireroom, containing two boilers plus feed-water pumps and other auxiliaries. Just aft of it was the no. 1 engine room, with a geared turbine

[52] This description of the *Forrest Sherman*–class destroyers is based on site visits to ex-*Turner Joy*, ex-*Forrest Sherman*, and ex-*Edson* and on U.S. Navy, Booklet of Plans for DD 951 [USS *Turner Joy*], Bureau of Ships plan no. DD951–845-17, corrected to Feb. 9, 1979, copy made available by the Bremerton Historic Ships Association.

set to starboard to drive the starboard propeller and two turbo-generators to port. The no. 2 fireroom and no. 2 engine room, positioned to drive the port propeller, were set up in mirror image to the forward machinery rooms.

The high-temperature, high-pressure boilers were rated for 1,200 psi steam. In eleven hulls they were manufactured by the Babcock & Wilcox Co.; in the remaining seven hulls, the boilers were by Foster Wheeler Corporation.[53]

The turbine sets comprised paired high- and low-pressure turbines coupled through a double-reduction gear to the propeller shafts. The engines were designed to generate 35,000 shp each for a combined power of 70,000 shp and a designed speed of 33 knots. General Electric manufactured the turbines and reduction gearing for all hulls except DD 931–933, which were made by Westinghouse. [54]

3. Electrical system: Each vessel had four 500 kW steam turbo-generators for main ship's service as well as two 100kW AC diesel emergency generators.[55]

4. Weapons systems: see section 1.A.4, "Original Plans," above.

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[53] Babcock & Wilcox made the boilers in DD 931–933, 940–942, 945–947, and 950–951; Foster Wheeler made those in 936–938, 943–944, 948–949; Moore, *Jane's American Fighting Ships*, 168.

[54] Moore, *Jane's American Fighting Ships*, 168.

[55] Friedman, *U.S. Destroyers*, 482; main turbogenerator capacity ascertained by author from builder's plate during site visit to ex-*Forrest Sherman.*

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