Appendix C-SSME Historic Photos

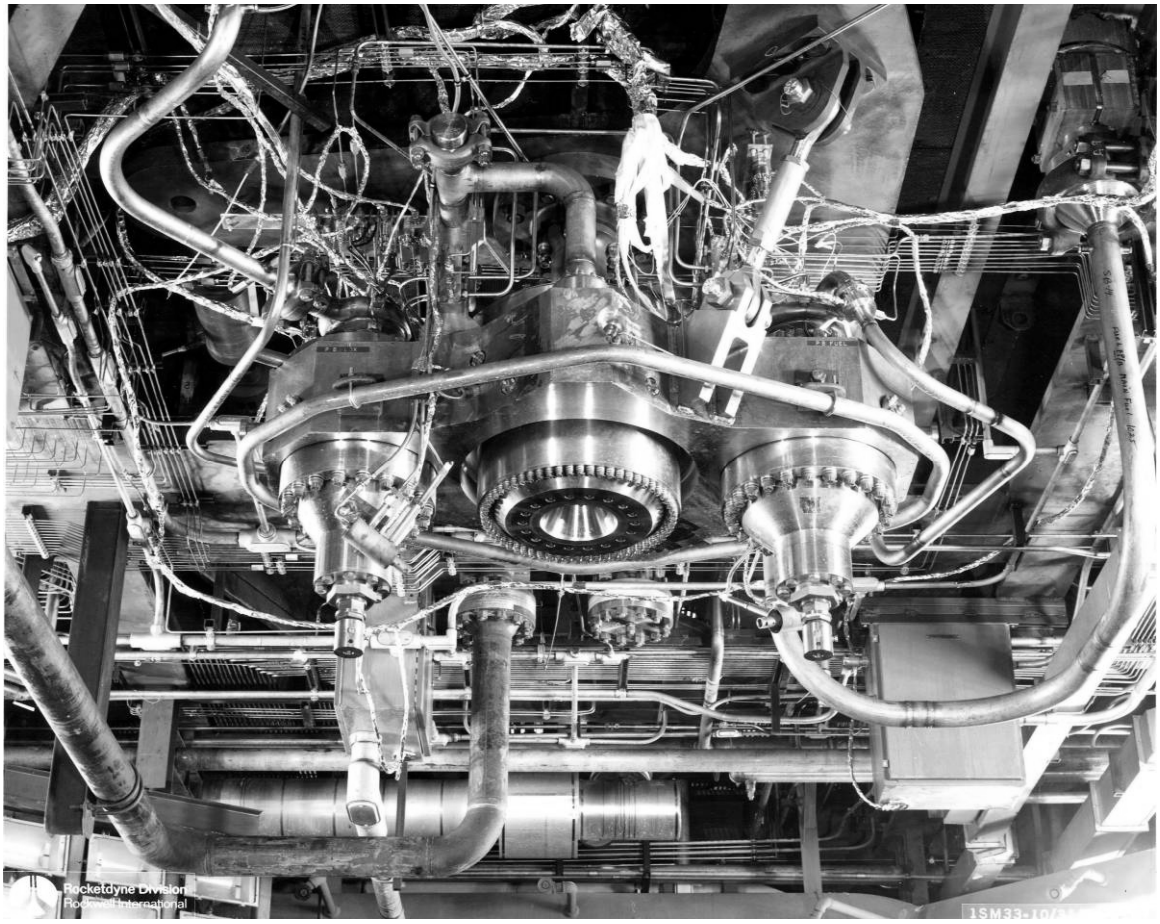

Figure C-1. SSME Solid Wall Hot Gas Manifold installed in Coca IV Test Stand, SSFL, direction unknown, October 31, 1974.
Source: Boeing Company/Santa Susana Field Laboratory, Photo No. 00395.

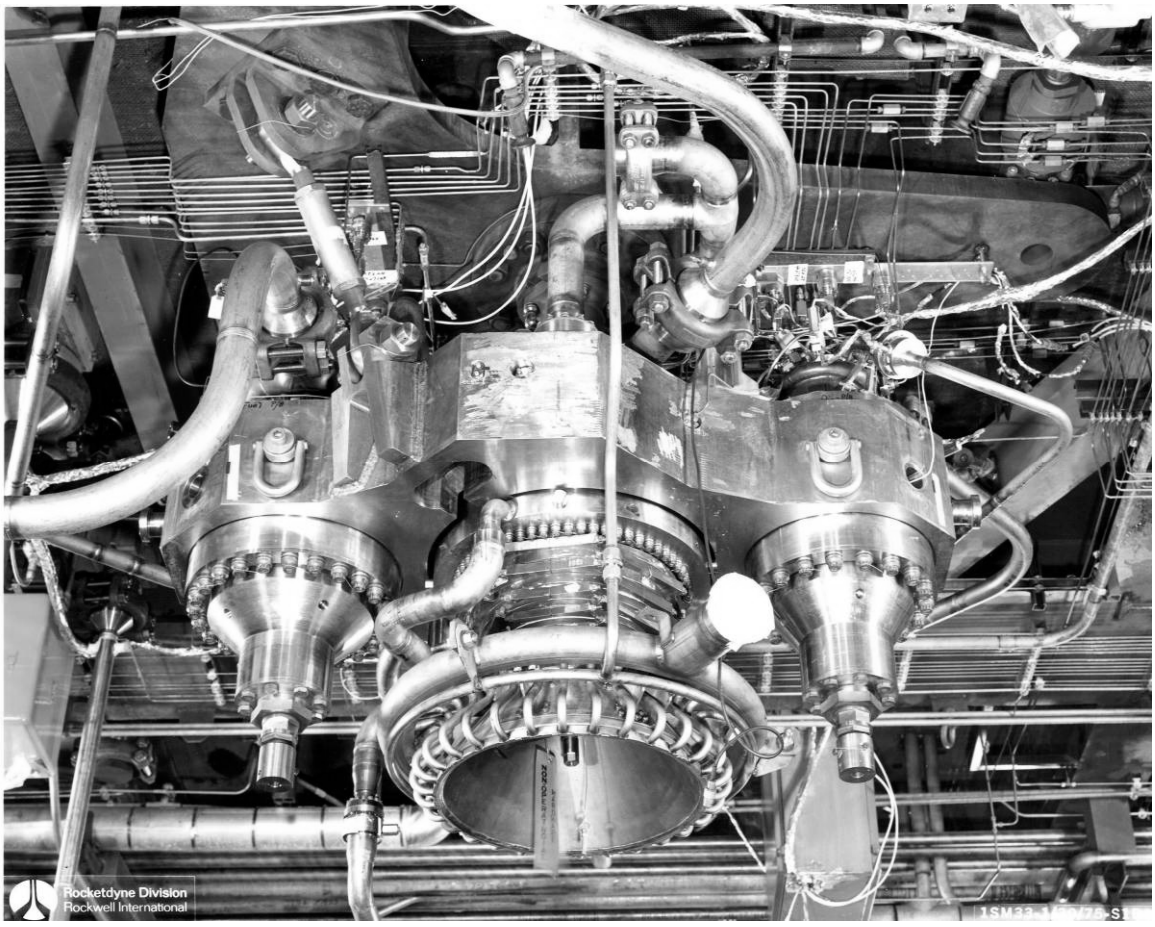

Figure C-2. SSME Solid Wall Hot Gas Manifold, with Main Combustion Chamber, installed in Coca IV Test Stand, SSFL, direction unknown, January 20, 1975.
Source: Boeing Company/Santa Susana Field Laboratory, Photo No. 00397.

Figure C-3. Testing of SSME Solid Wall Hot Gas Manifold installed in Coca I Test Stand, SSFL, direction and date unknown.
Source: Boeing Company/Santa Susana Field Laboratory, Photo No. 00299.

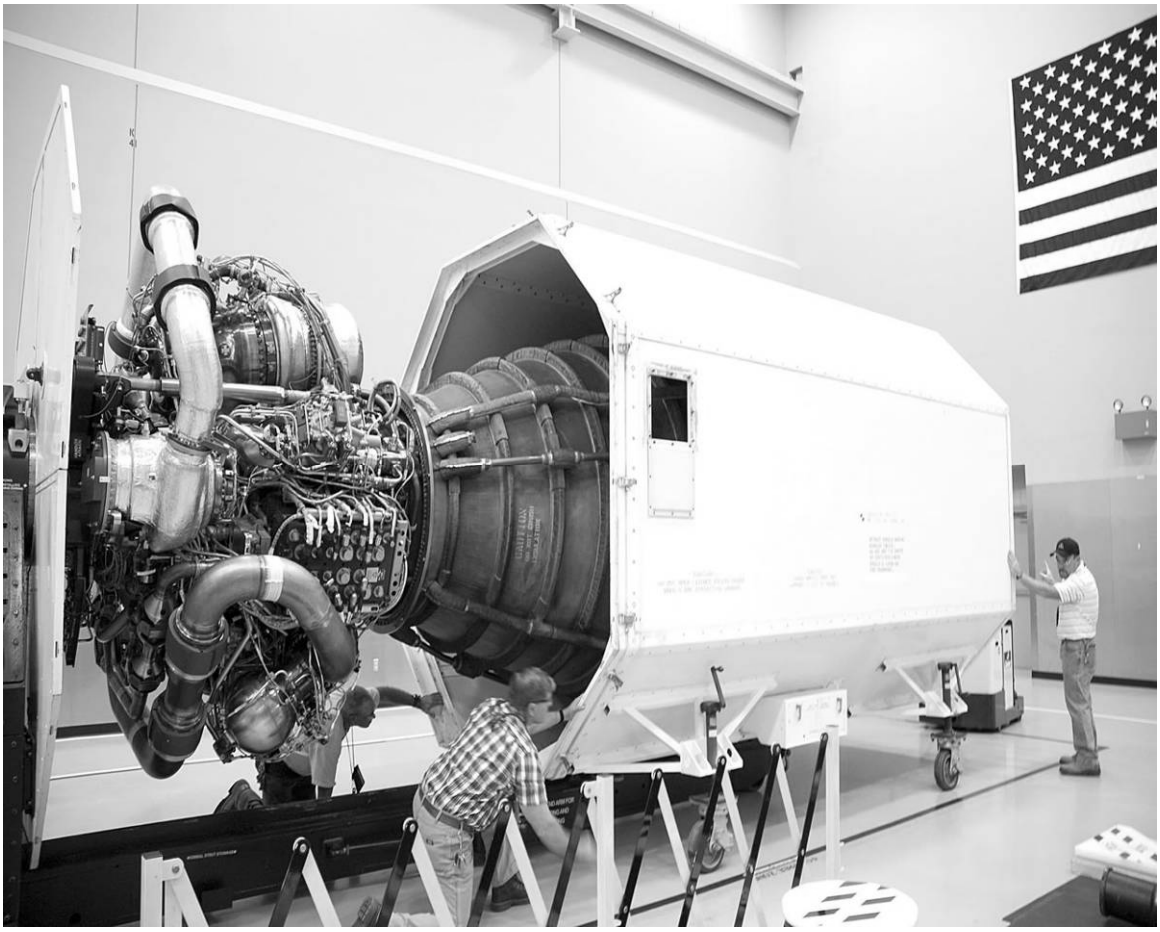

Figure C-4. Arrival of a SSME at SSC for testing, direction unknown, October 1, 2008. Source: John C. Stennis Space Center, SIRS, SSC-2008-01788, accessed at http://www.ssc.nasa.gov/sirs/scripts/xmlWelcome.pl.

Figure C-5. A SSME being lifted into Stand A-2 at SSC for testing, camera facing east, 1996. Source: John C. Stennis Space Center, SIRS, 96-427-13, accessed at http://www.ssc.nasa.gov/sirs/scripts/xmlWelcome.pl.

Figure C-6. Hoisting a SSME into SSC Test Stand A-2, direction unknown, 1979.
Source: John C. Stennis Space Center, Stennis Image Retrieval System (SIRS), 79-116-7, accessed at http://www.ssc.nasa.gov/sirs/scripts/xmlWelcome.pl.

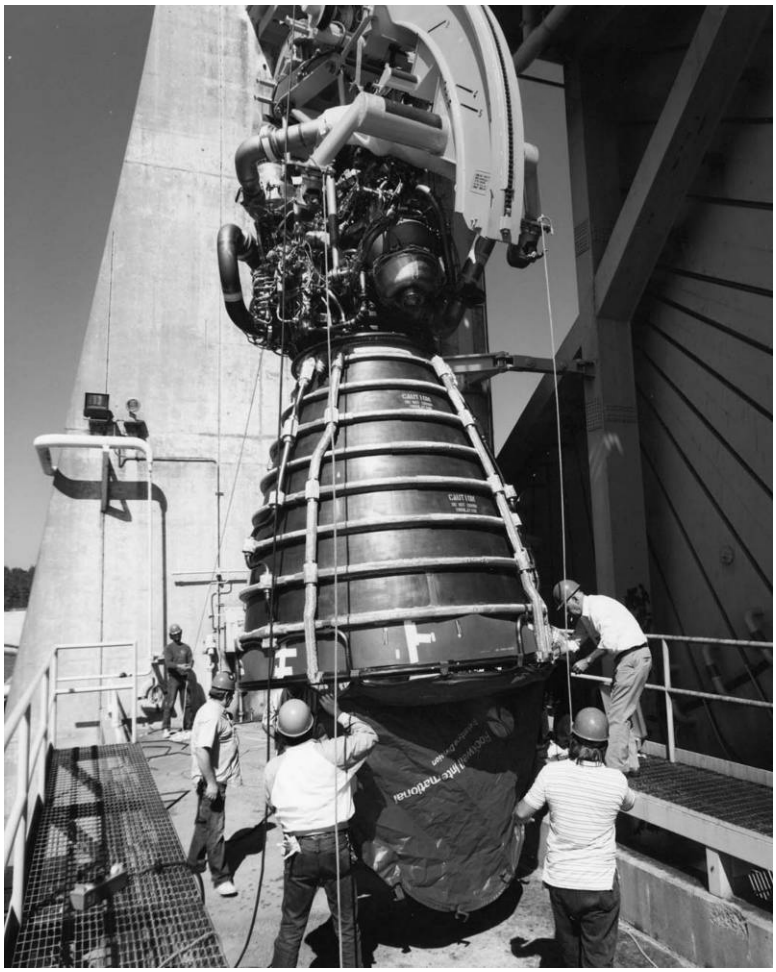

Figure C-7. Hoisting a SSME into SSC Test Stand A-2, camera facing north, 1990.
Source: John C. Stennis Space Center, Stennis Image Retrieval System (SIRS), 90-548-15, accessed at http://www.ssc.nasa.gov/sirs/scripts/xmlWelcome.pl.

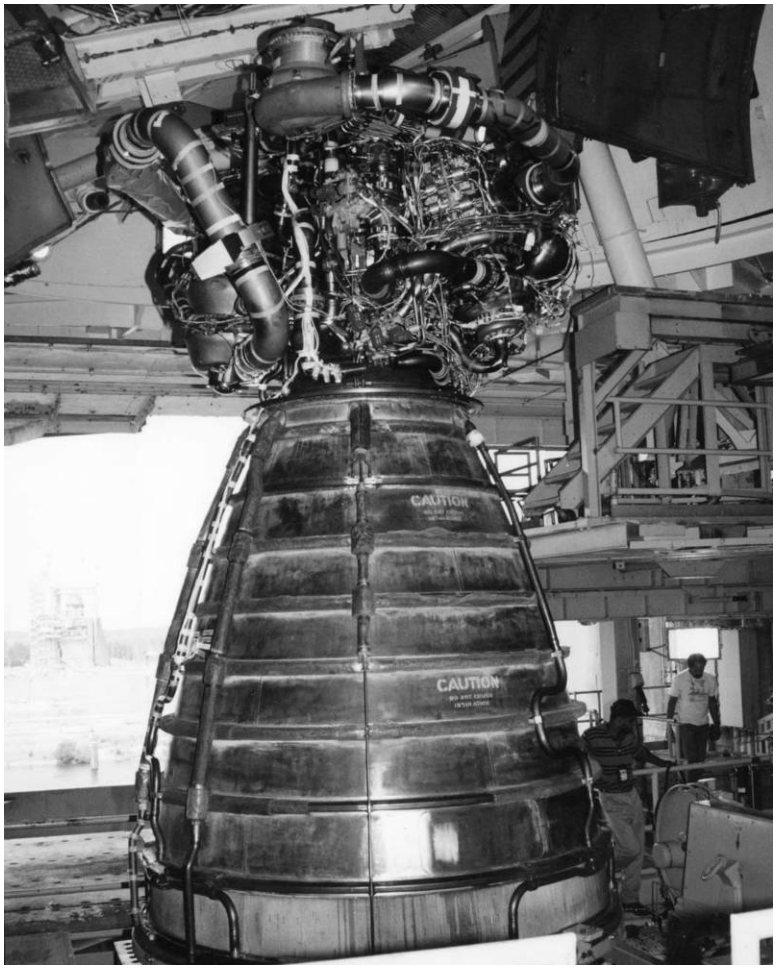

Figure C-8. Installing a SSME into SSC Test Stand A-2, camera facing northwest, 1996. Source: John C. Stennis Space Center, SIRS, 96-430-19, accessed at http://www.ssc.nasa.gov/sirs/scripts/xmlWelcome.pl.

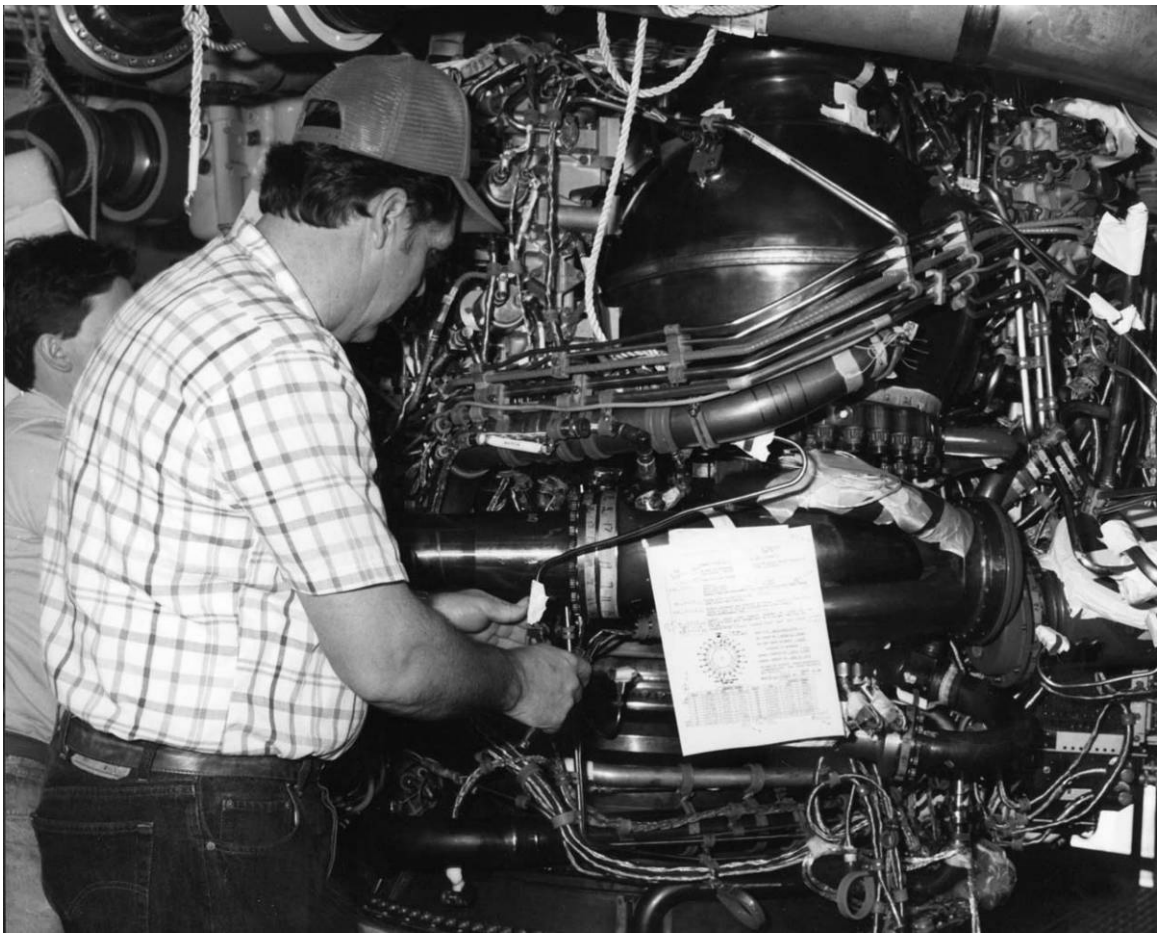

Figure C-9. Preparing a SSME for testing, direction unknown, 1989.
Source: John C. Stennis Space Center, SIRS, 89-082-4, accessed at http://www.ssc.nasa.gov/sirs/scripts/xmlWelcome.pl.

Figure C-10. Final preparations being made to a SSME for testing, direction unknown, October 25, 2005.
(Note: This is the first engine to be tested at SSC following Hurricane Katrina.)
Source: John C. Stennis Space Center, SIRS, 89-082-4, accessed at http://www.ssc.nasa.gov/sirs/scripts/xmlWelcome.pl.

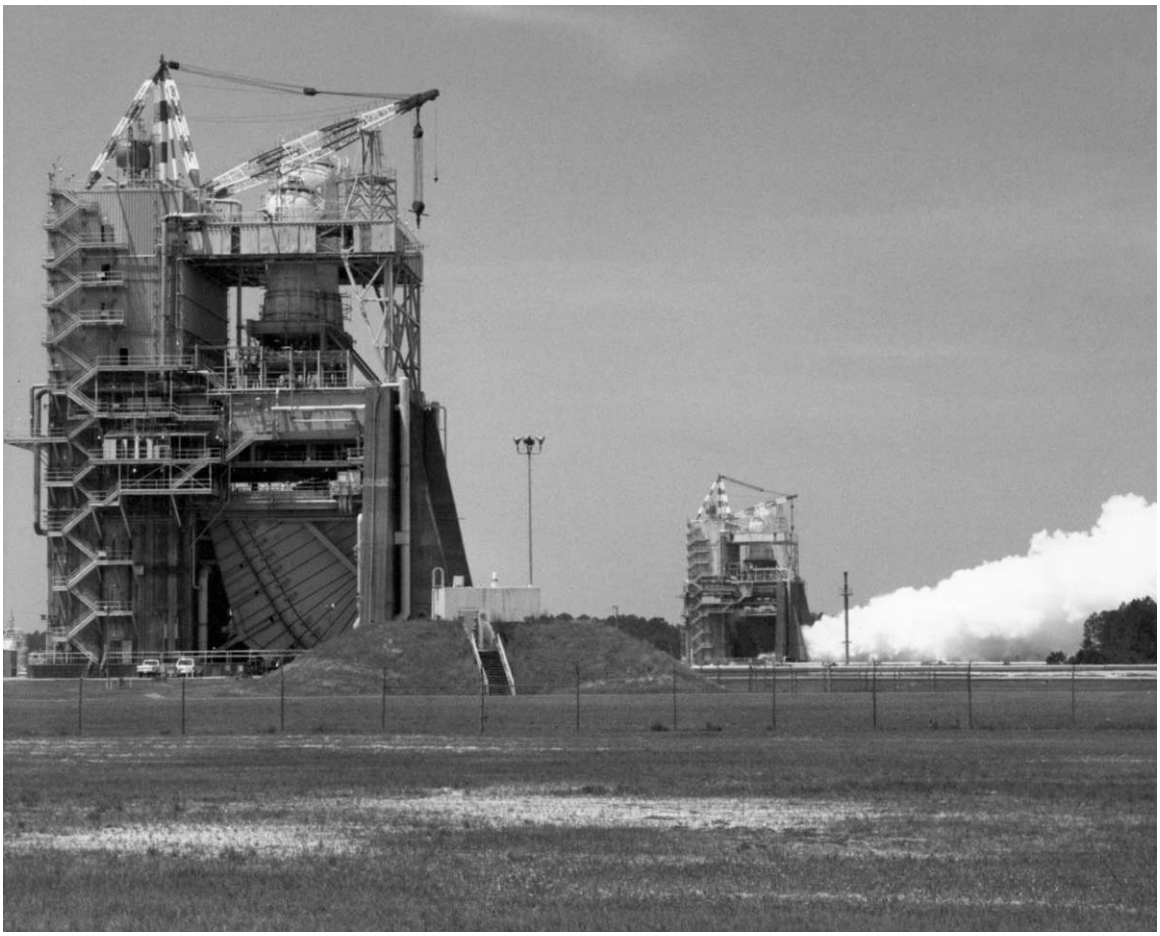

Figure C-11. A SSME undergoing testing on Stand A-1 (Stand A-2 in the foreground), camera facing southwest, 1987.
Source: John C. Stennis Space Center, SIRS, 87-242-23, accessed at http://www.ssc.nasa.gov/sirs/scripts/xmlWelcome.pl.

Figure C-12. A SSME undergoing testing on Stand A-2, camera facing southwest, March 30, 2009.
Source: John C. Stennis Space Center, SIRS, SSC-2009-00417, accessed at http://www.ssc.nasa.gov/sirs/scripts/xmlWelcome.pl.

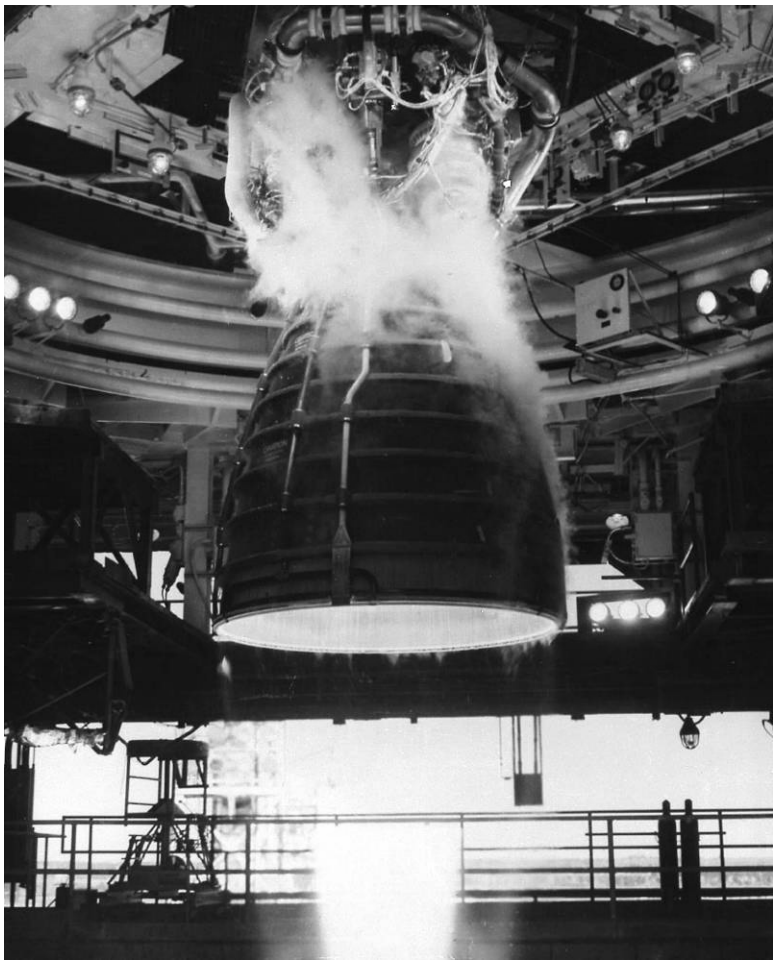

Figure C-13. Close-up view of a SSME test, direction unknown, April 1, 1979.
Source: George C. Marshall Space Flight Center, Marshall Image Exchange (MIX), 7995081, accessed at http://mix.msfc.nasa.gov/.

Figure C-14. Close-up view of a SSME test, direction unknown, 1994. Source: John C. Stennis Space Center, SIRS, 94-engine, accessed at http://www.ssc.nasa.gov/sirs/scripts/xmlWelcome.pl.

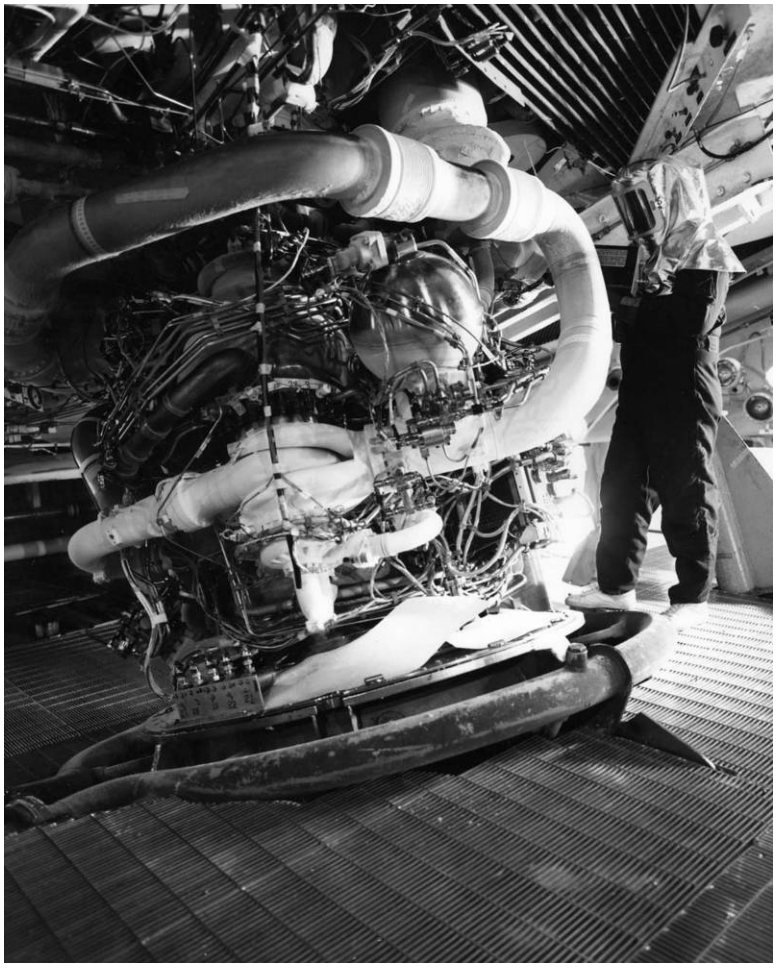

Figure C-15. Post-test inspection of a SSME, direction unknown, 1991.
Source: John C. Stennis Space Center, SIRS, 91-080-27, accessed at http://www.ssc.nasa.gov/sirs/scripts/xmlWelcome.pl.

Figure C-16. A “Return to Flight,” Phase II SSME undergoing testing on Stand A-1, camera facing northeast, 1988.
Source: John C. Stennis Space Center, SIRS, 88-072-11, accessed at http://www.ssc.nasa.gov/sirs/scripts/xmlWelcome.pl.

Figure C-17. A Block I SSME undergoing testing on Stand A-1, direction unknown, 1995. Source: John C. Stennis Space Center, SIRS, 95-088-1, accessed at http://www.ssc.nasa.gov/sirs/scripts/xmlWelcome.pl.

Figure C-18. A Block II SSME undergoing flight certification testing on Stand A-2, camera facing west, July 25, 2000.
Source: John C. Stennis Space Center, SIRS, 00-176-22A, accessed at http://www.ssc.nasa.gov/sirs/scripts/xmlWelcome.pl.

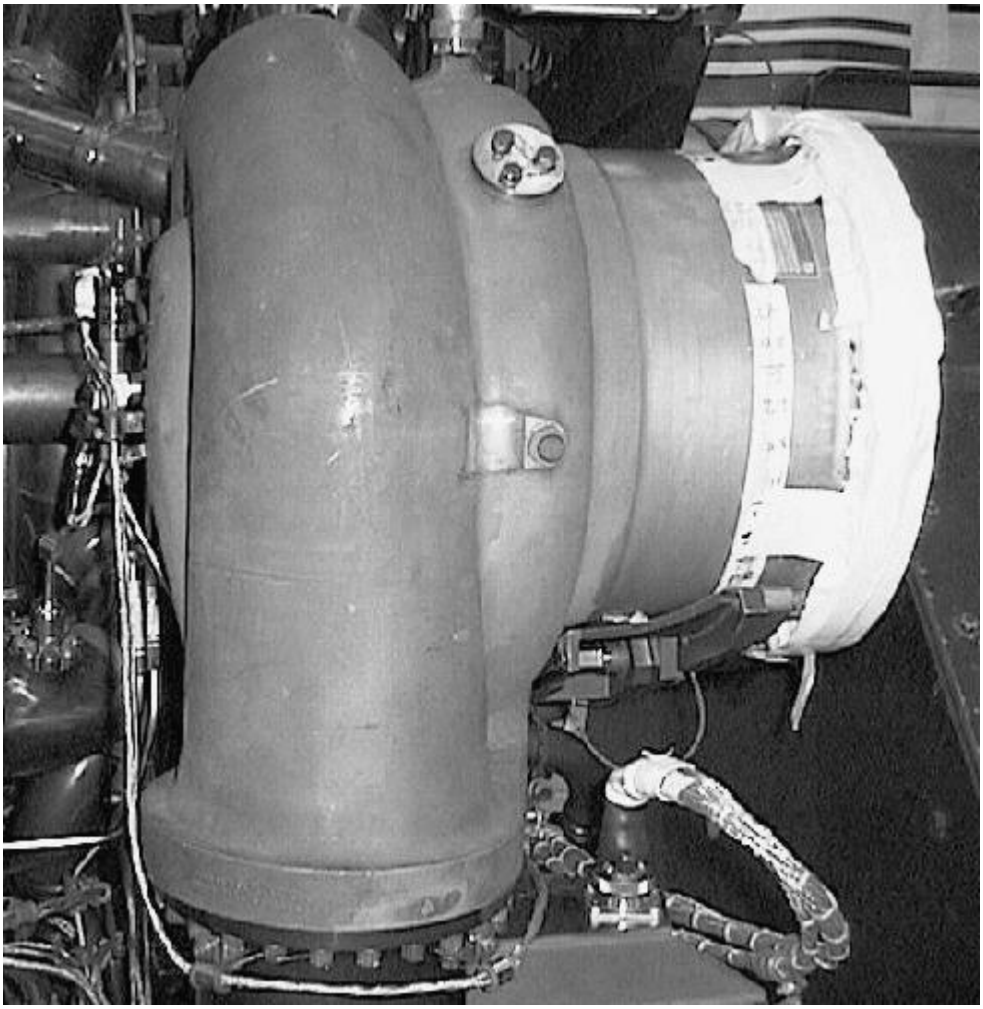

Figure C-19. SSME Low Pressure Oxidizer Turbopump.
Source: George C. Marshall Space Flight Center.

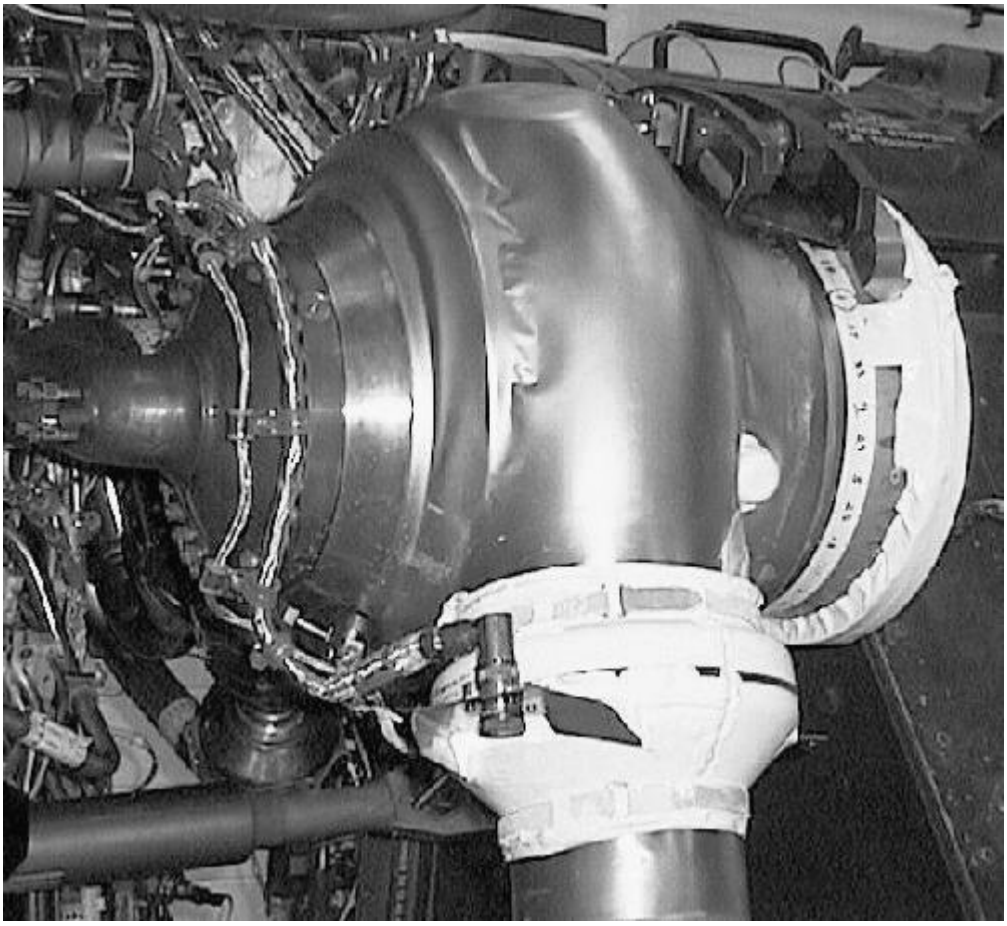

Figure C-20. SSME Low Pressure Fuel Turbopump.
Source: George C. Marshall Space Flight Center.

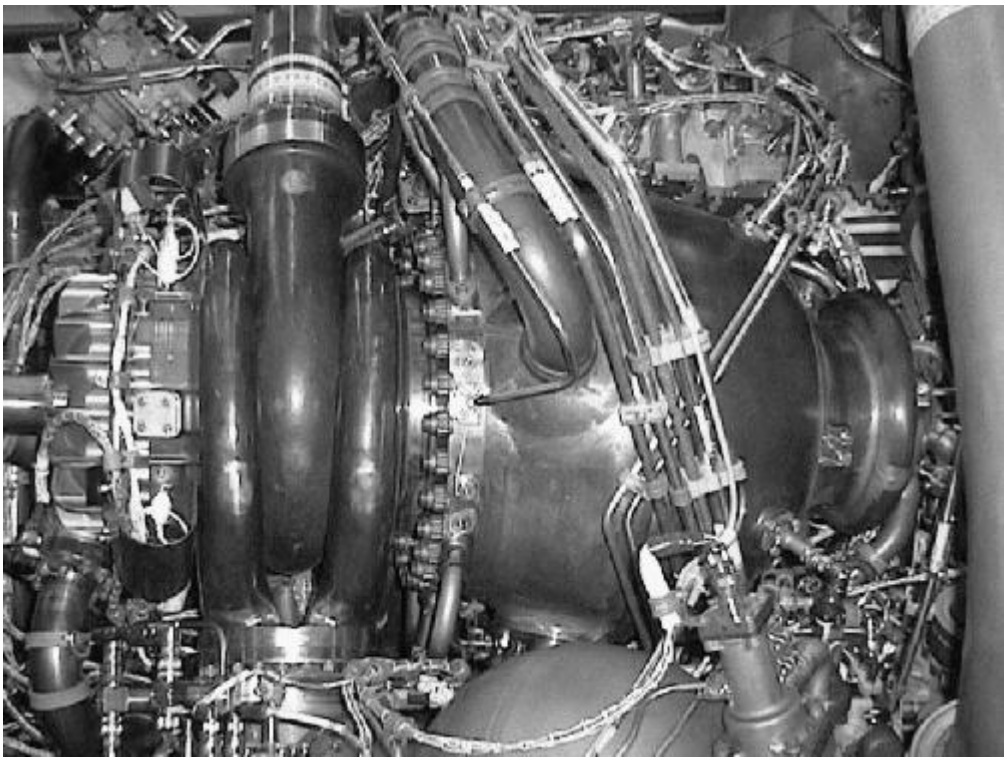

Figure C-21. SSME High Pressure Oxidizer Turbopump.
Source: George C. Marshall Space Flight Center.

Figure C-22. SSME High Pressure Fuel Turbopump.
Source: George C. Marshall Space Flight Center.

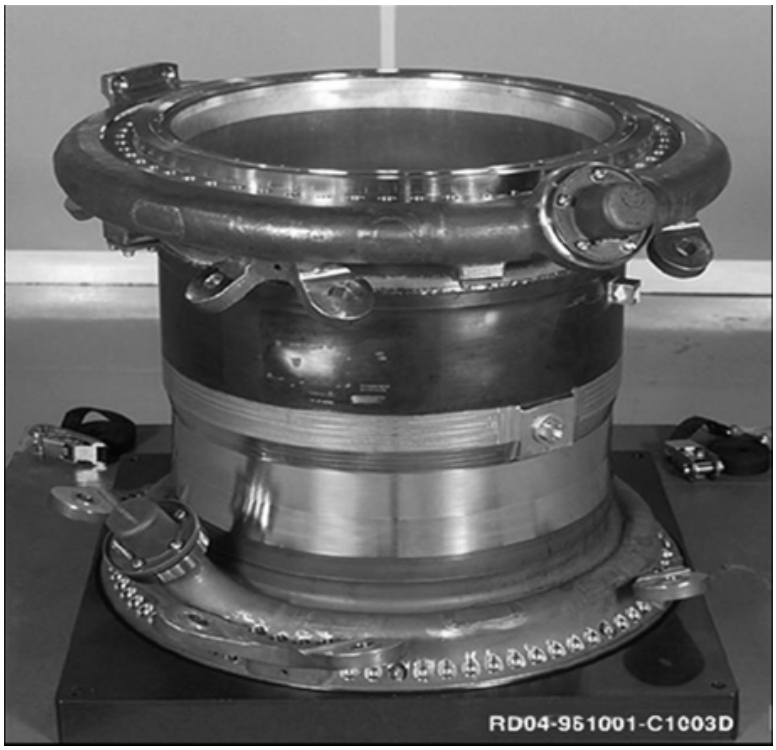

Figure C-23. SSME Main Combustion Chamber.
Source: George C. Marshall Space Flight Center.

Figure C-24. SSME Nozzle.
Source: George C. Marshall Space Flight Center.

Figure C-25. A technician reams holes into the SSME main injector body at Rocketdyne's Canoga Park, California, facility, direction unknown, August 1, 1978.
Source: George C. Marshall Space Flight Center, Marshall Image Exchange (MIX), 7779474, accessed at http://mix.msfc.nasa.gov/.

Figure C-26. A technician machining a SSME Oxidizer Preburner Body on the 5-Axis Omni Mill, Canoga Park, 1973.
Source: *History of the Air Force Plant Representative Office Rockwell International Corporation Rocketdyne Division 1 July – 31 December 1973.*

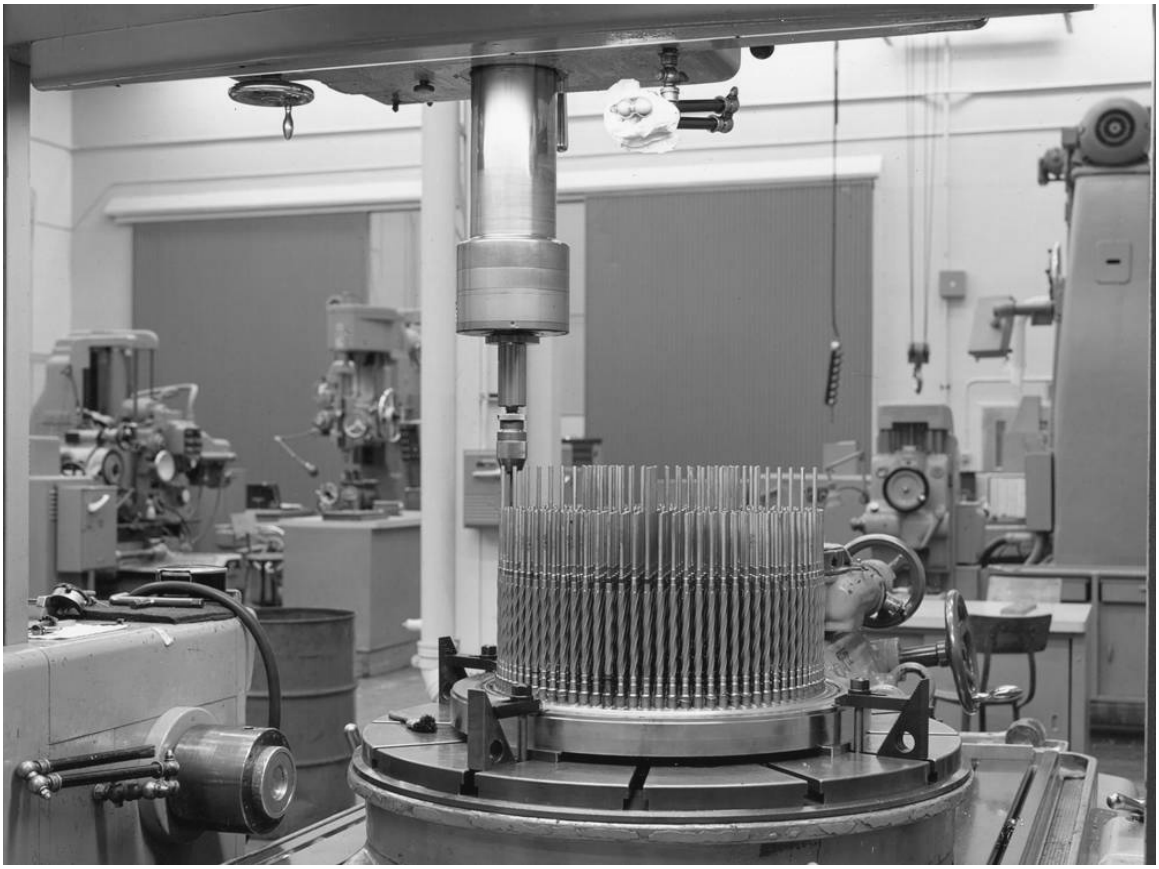

Figure C-27. Line Reaming of 600 Injector Posts for the Assembly of the Main Injector Body of the SSME, on a Precision Jig Bore, Canoga Park, 1974.
Source: *History of the Air Force Plant Representative Office Rockwell International Corporation Rocketdyne Division 1 January – 30 June 1974.*

Figure C-28. Milling of the 390 Inlet Slots around the outer periphery of the Main Combustion Chamber of the SSME, on a Sundstrand Numerical Controlled Mill.
Source: *History of the Air Force Plant Representative Office Rockwell International Corporation Rocketdyne Division 1 January – 30 June 1974.*

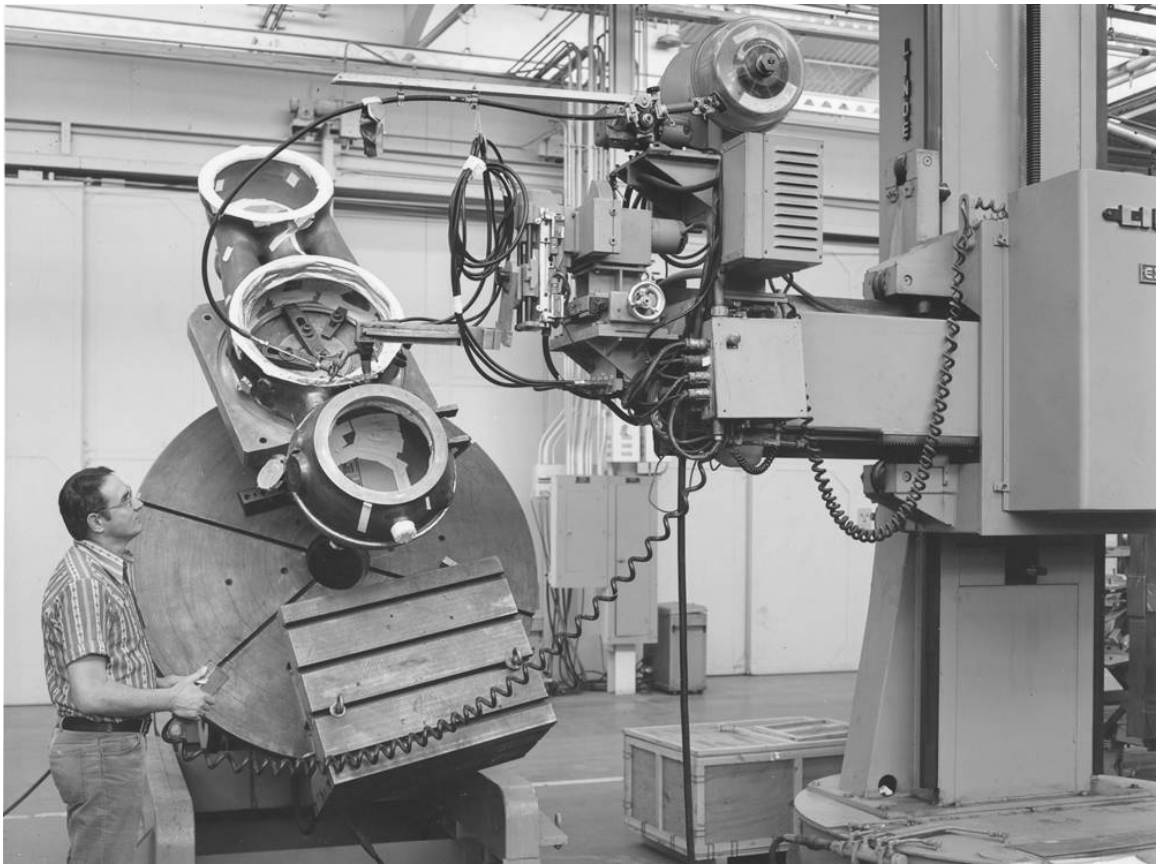

Figure C-29. A Rocketdyne technician uses the Linde Automatic Welder to apply Weld Overlay Material on the Heat Exchanger to the Manifold Joint of the SSME 0001's Solid Wall Hot Gas Manifold (SWHGM), Canoga Park, 1974.
Source: *History of the Air Force Plant Representative Office Rockwell International Corporation Rocketdyne Division 1 July – 31 December 1974.*

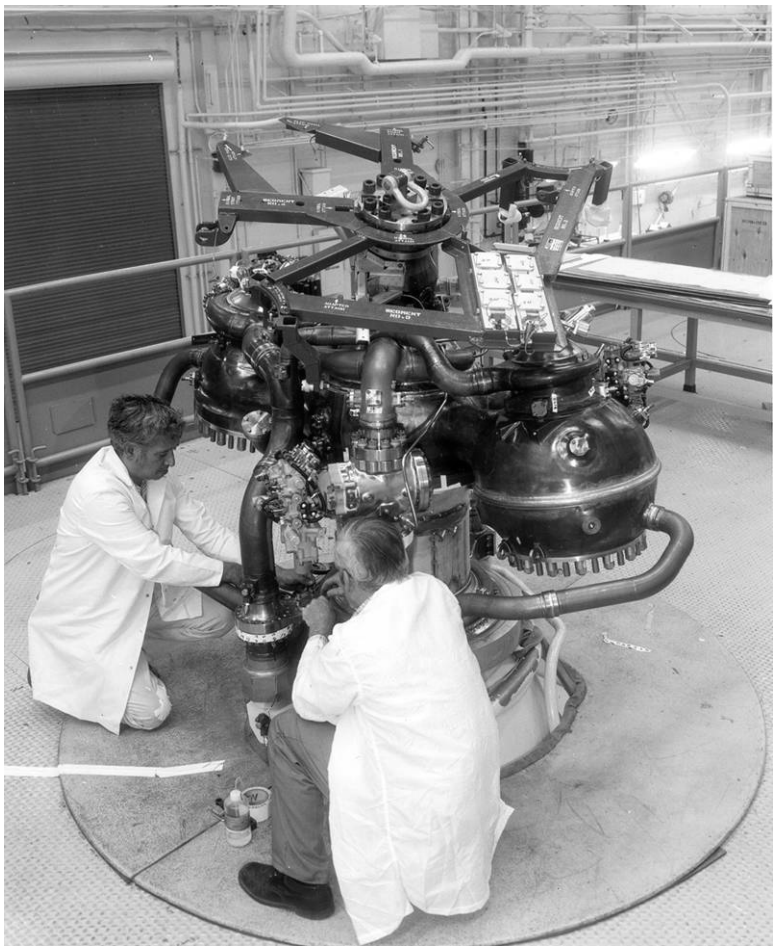

Figure C-30. Rocketdyne technicians connect a Powerhead Duct to a Combustion Device on SSME 0004, 1976.
Source: *History of the Air Force Plant Representative Office Rockwell International Corporation Rocketdyne Division 1 January – 31 December 1976.*

Figure C-31. Technicians attach the Main Combustion Chamber to the Nozzle in the SSMEPF at Kennedy Space Center, camera facing northeast, date unknown.
Source: George C. Marshall Space Flight Center.

Figure C-32. Attachment of the Powerhead to the Main Combustion Chamber, SSMEPF, camera facing northeast, date unknown.
Source: George C. Marshall Space Flight Center.

Figure C-33. A technician attaches the High Pressure Oxidizer Turbopump to the SSME, SSMEPF, camera facing northeast, date unknown.
Source: George C. Marshall Space Flight Center.

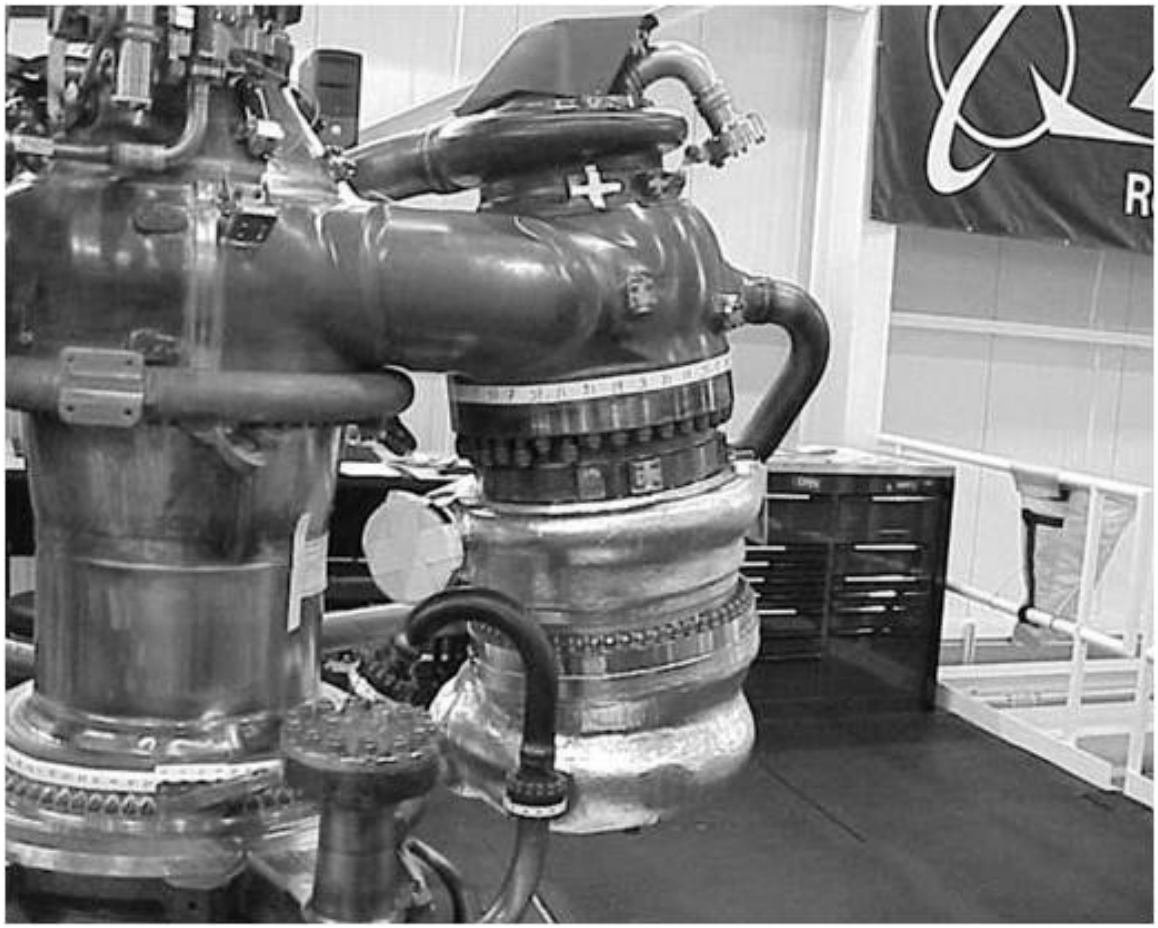

Figure C-34. Attachment of the High Pressure Fuel Turbopump to the SSME, SSMEPF, camera facing north, date unknown.
Source: George C. Marshall Space Flight Center.

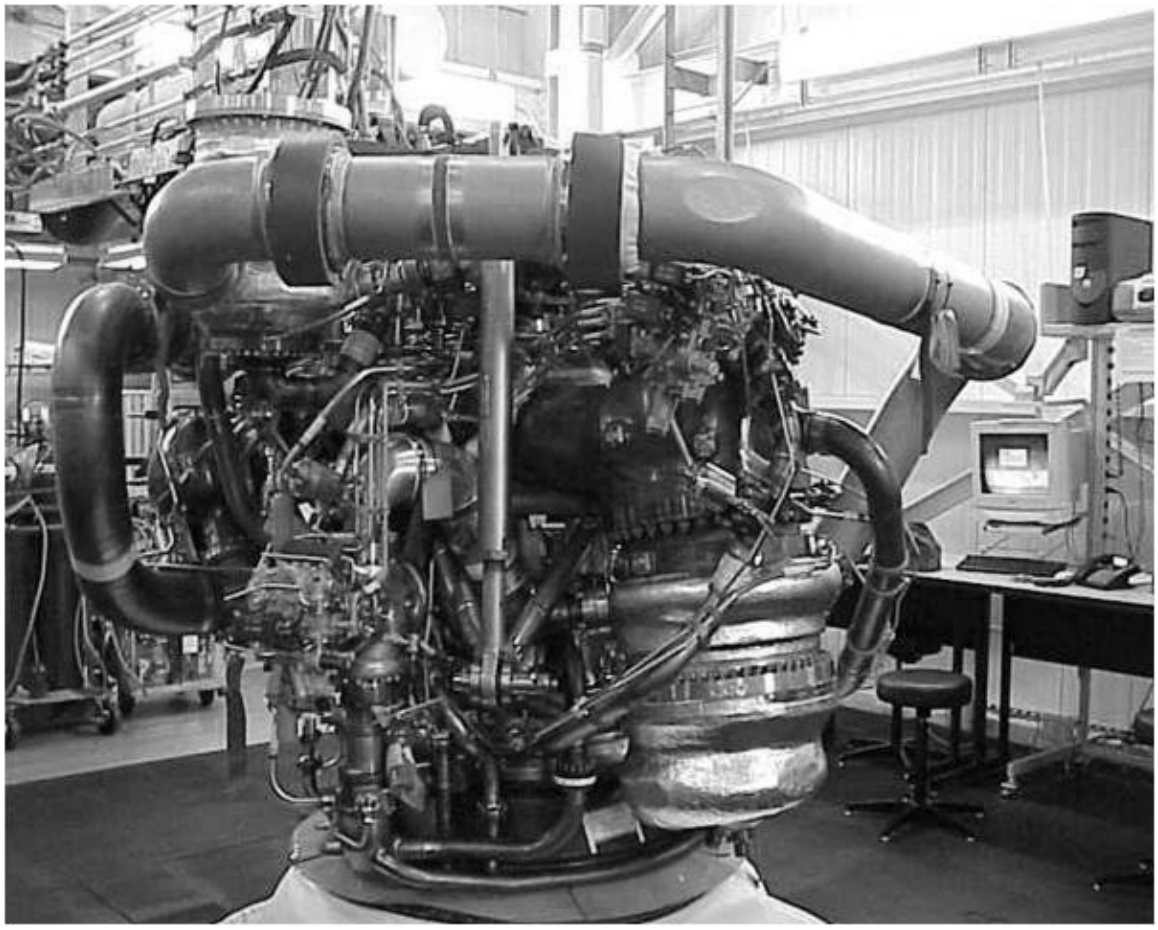

Figure C-35. Attachment of engine ducts and lines to the SSME, SSMEPF, camera facing northeast, date unknown.
Source: George C. Marshall Space Flight Center.

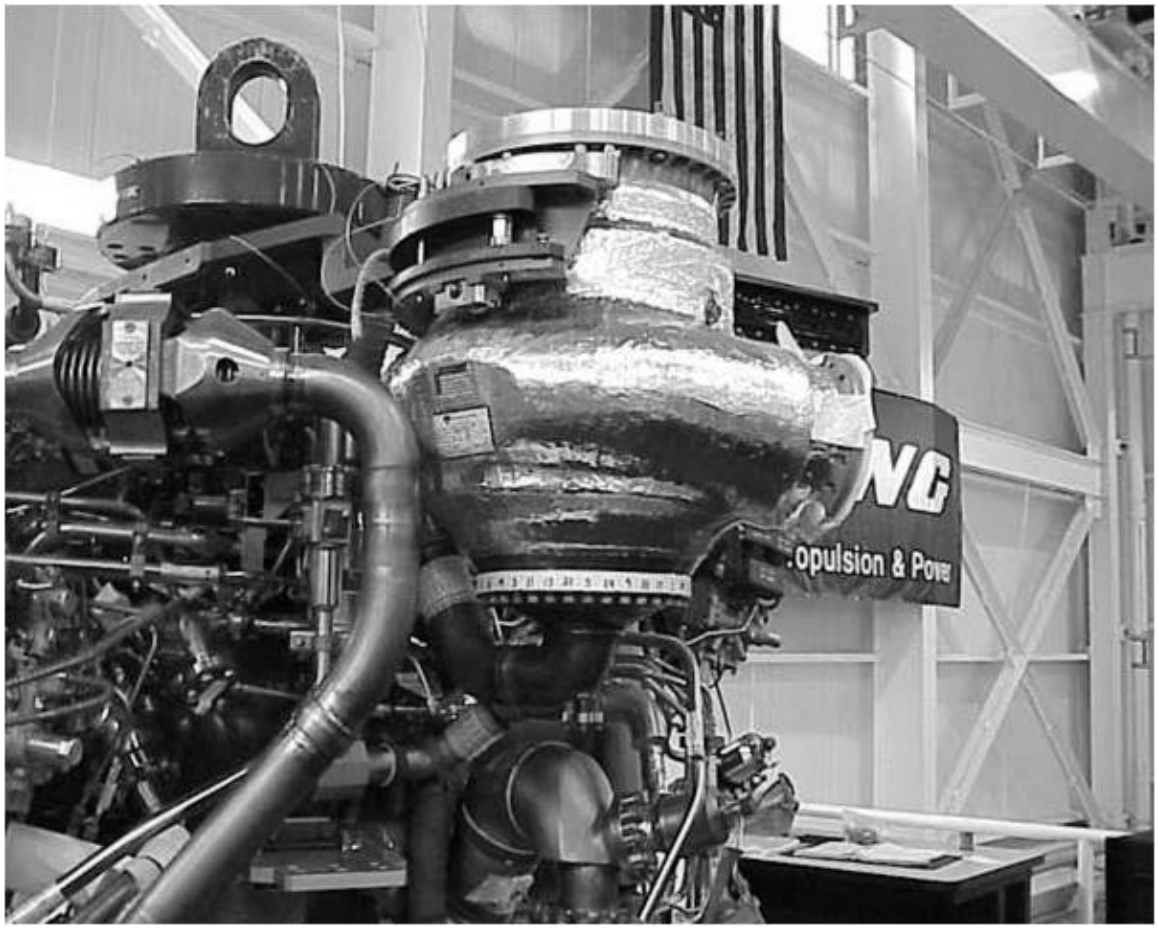

Figure C-36. Attachment of the Low Pressure Oxidizer Turbopump and the Low Pressure Fuel Turbopump to the SSME, SSMEPF, camera facing northeast, date unknown.
Source: George C. Marshall Space Flight Center.

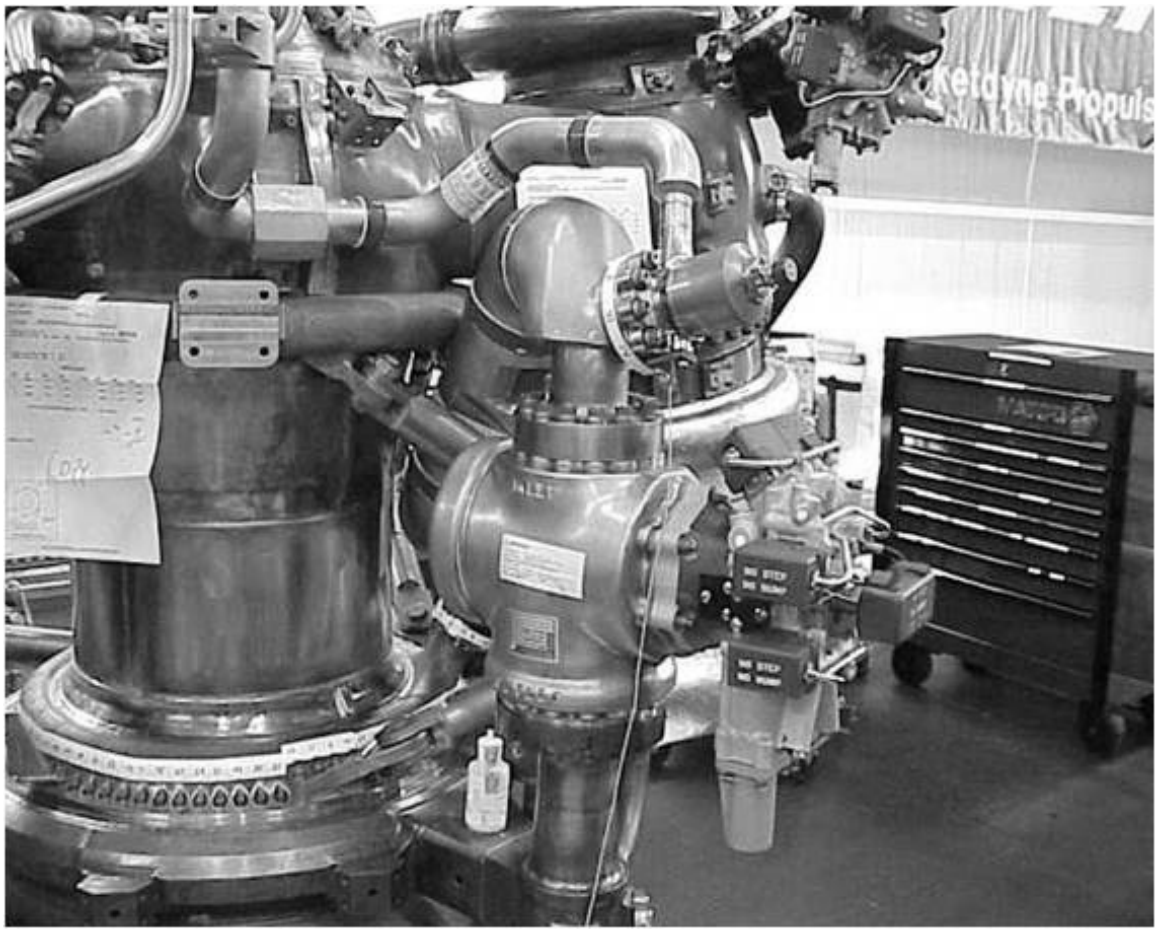

Figure C-37. Attachment of the main fuel valve and the main fuel valve assembly to the SSME, SSMEPF, camera facing northeast, date unknown.
Source: George C. Marshall Space Flight Center.

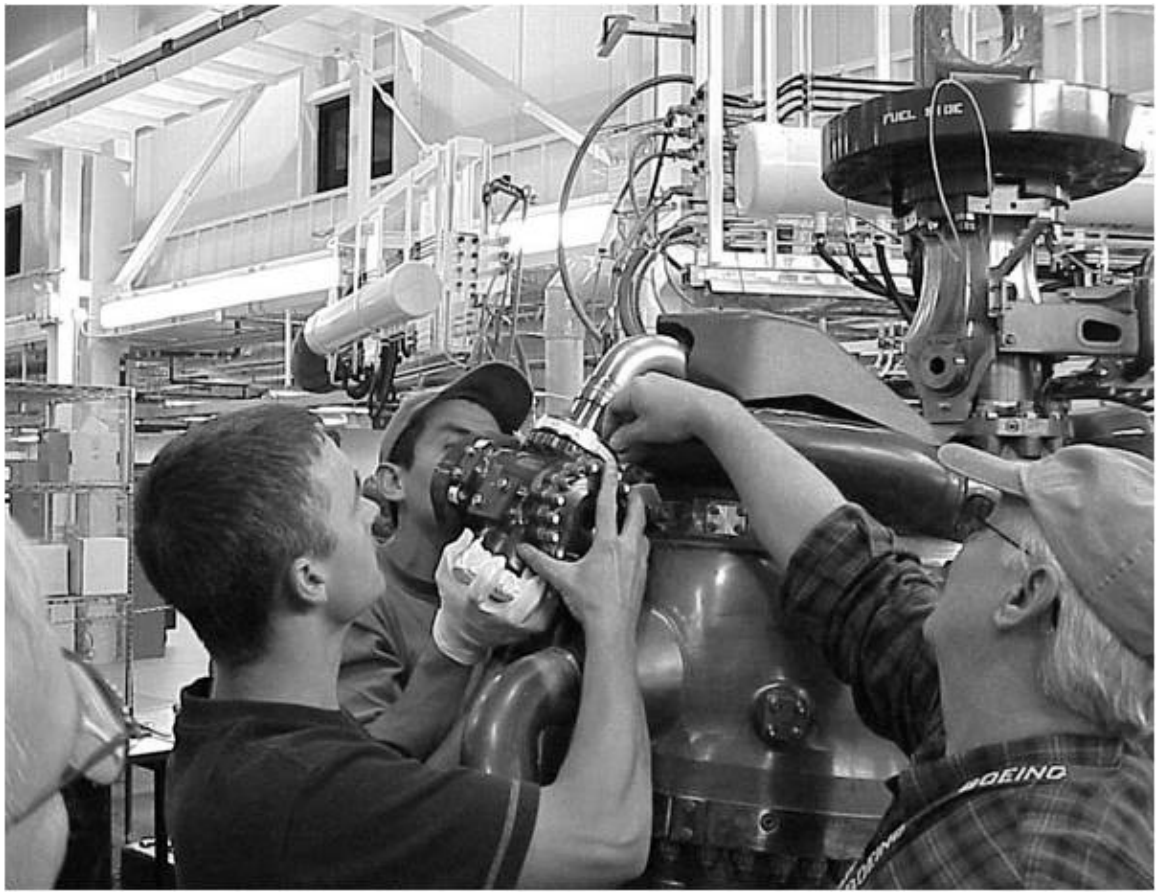

Figure C-38. Technicians attach the fuel preburner oxidizer valve and the fuel preburner oxidizer valve assembly to the SSME, SSMEPF, camera facing southwest, date unknown.
Source: George C. Marshall Space Flight Center.

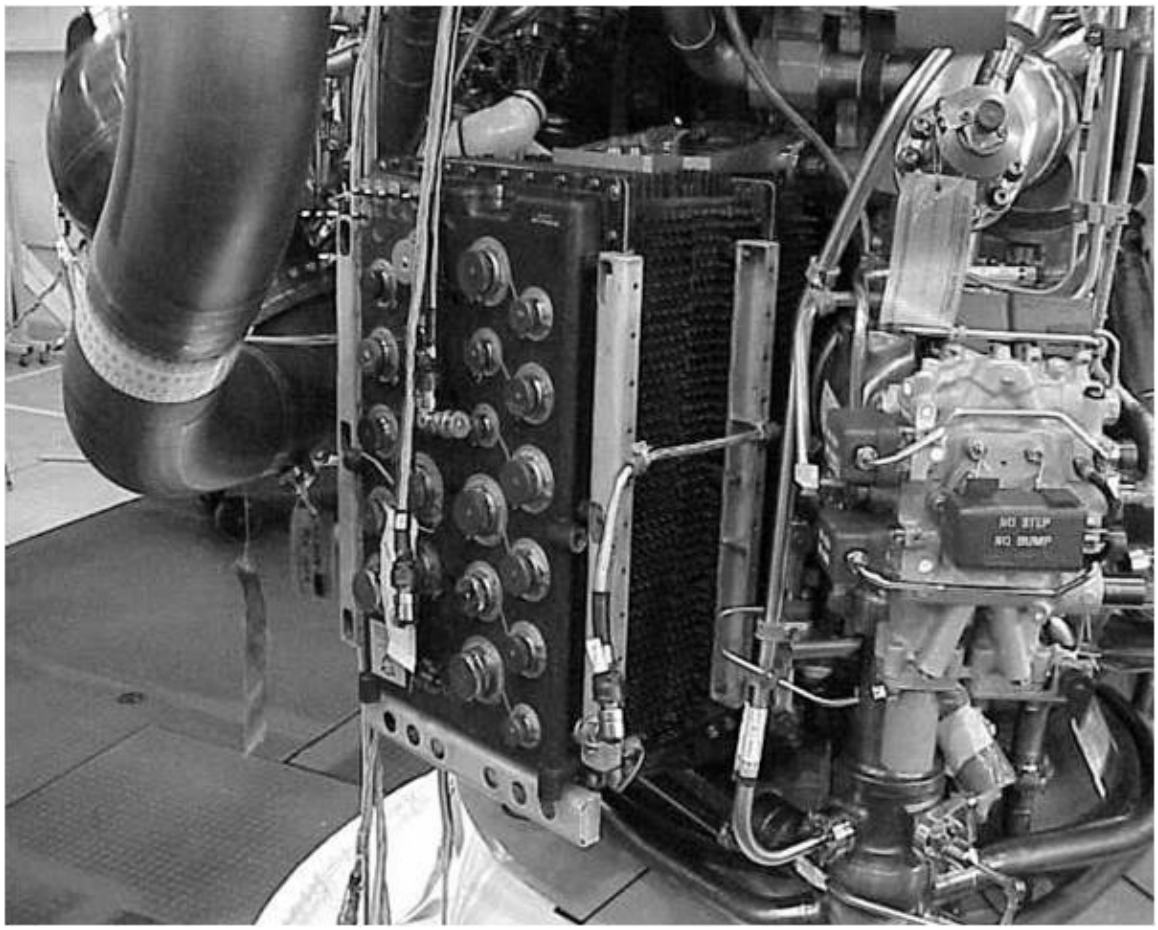

Figure C-39. Attachment of the main engine controller to the SSME, SSMEPF, camera facing northeast, date unknown.
Source: George C. Marshall Space Flight Center.

Figure C-40. Arrival of a SSME at OPF-3, Kennedy Space Center, for installation into engine position No. 1 of *Discovery*, camera facing northwest, June 30, 2010.
Source: John F. Kennedy Space Center Online Multimedia Gallery, KSC-2010-3923.

Figure C-41. A SSME lifted for installation into engine position No. 1 of *Discovery*, OPF-3, camera facing northwest, June 30, 2010.
Source: John F. Kennedy Space Center Online Multimedia Gallery, KSC-2010-3925.
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Figure C-42. A SSME being maneuvered into engine position No. 1 of *Discovery*, OPF-3, camera facing west, June 30, 2010.
Source: John F. Kennedy Space Center Online Multimedia Gallery, KSC-2010-3927.

Figure C-43. A SSME lifted for installation into engine position No. 3 of *Discovery*, OPF-3, camera facing northeast, June 30, 2010.
Source: John F. Kennedy Space Center Online Multimedia Gallery, KSC-2010-3929.

Figure C-44. A SSME being maneuvered into engine position No. 3 of *Discovery*, OPF-3, camera facing northeast, June 30, 2010.
Source: John F. Kennedy Space Center Online Multimedia Gallery, KSC-2010-3932.

Figure C-45. A SSME being brought into OPF-3 for installation into engine position No. 2 of *Discovery*, camera facing northeast, July 1, 2010.
Source: John F. Kennedy Space Center Online Multimedia Gallery, KSC-2010-3933.

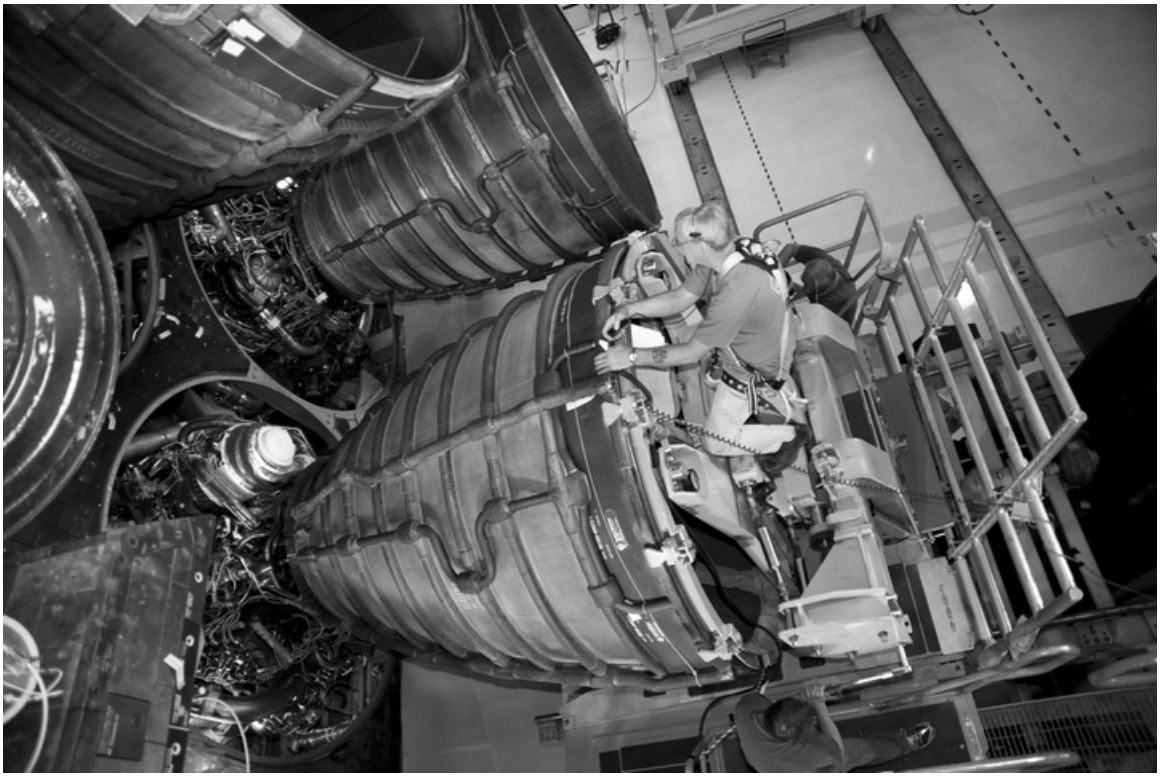

Figure C-46. A SSME being maneuvered into engine position No. 2 of *Discovery*, OPF-3, camera facing northeast, July 1, 2010.
Source: John F. Kennedy Space Center Online Multimedia Gallery, KSC-2010-3936.