

NORTHROP F-5 FREEDOM FIGHTER

F-5 SERVICE

Manufacturer: Northrop Aircraft Inc., Hawthorne, California, USA
(In 1959, became Northrop Corp., Aircraft Group)

Model: N-156

Designations: F-5; F-20, X-29, CF-116 (CAF)

Names: Freedom Fighter (F-5A / B), Tiger II (F-5E / F);
Tigereye (RF-5E), Tigershark (F-20A)

First official flight: N-156F 30/07/1959

YF-5A 31/07/1963

Factory production period: 1958 – 1989

Primary service period: 1964 – 1990's

Last official flight: F-5E 03/1996

F-5 VARIANTS

| | | | | |
|------|---------------------|--------------------------------|---|--------------------|
| 1959 | Model N-156F | N-156F <i>Prototype</i> | 2 | |
| 1963 | Model N-156F | YF-5A | 2 | Total: 0004 |

| | | | | |
|------|---------------------|--------------|-----|--------------------|
| 1963 | Model N-156A | F-5A | 621 | |
| 1968 | Model N-156C | RF-5A | 89 | |
| 1964 | Model N-156B | F-5B | 180 | Total: 0890 |

| | | | | |
|------|--------------------|--------------|------|--------------------|
| 1972 | Model N-156 | F-5E | 1150 | |
| 1982 | Model N-156 | RF-5E | 12 | |
| 1974 | Model N-156 | F-5F | 255 | Total: 1417 |

| | | | | |
|------|--------------------|-------------|---|--------------------|
| 1982 | Model N-156 | F-5G | 3 | Total: 0003 |
|------|--------------------|-------------|---|--------------------|

Total: 2314

Foreign built – Canada:

| | | | | |
|------|---------------------|--------------|----|--------------------|
| 1968 | Model CL-219 | CF-5A | 89 | |
| 1968 | Model CL-219 | CF-5D | 46 | |
| 1969 | Model CL-226 | NF-5A | 75 | |
| 1969 | Model CL-226 | NF-5B | 30 | Total: 0240 |

Foreign built – Spain:

| | | | | |
|------|-----------------|---------------|----|--------------------|
| 1968 | Model: - | SF-5A | 19 | |
| 1968 | Model: - | SRF-5A | 17 | |
| 1968 | Model: - | SF-5B | 34 | Total: 0070 |

Total: 0310

Grand Total: 2624

F-5 PRODUCTION

Development began as the company funded Northrop Model N-156, proposed in two versions as the N-156F (F-5 Freedom Fighter) and N-156T (T-38 Talon).

N-156F

Prototype twin engined light tactical fighter designed for foreign military sales.

Both later upgraded to F-5A standard.

produced 1958 – 1959

Northrop Hawthorne, California (NO)

59-4987, 59-4988 N-6001, 6002

2 Total: 0002

YF-5A

As N-156F, structural improvements for weapons carriage, engine upgrade.

Later upgraded to F-5A standard.

59-4993 was static test airframe only

designated as XF-5A.

produced 1962 – 1963

Northrop Hawthorne, California (NO)

59-4989, 59-4993 N-6003, 6000

2 Total: 0002

F-5A

As YF-5A, minor changes.

produced 1962 – 1972

Northrop Hawthorne, California (NO)

63-8367 / 63-8370 N-6004 / 6007

*- 4 to F-5B, new s/n: 65-13071 / 65-13074,
new c/n: N-6004B / 6007B.*

63-8371 / 63-8437 N-6008 / 6074

64-13306 / 64-13376 *mixed* N-6075 to 7009

65-10476 / 65-10581 *mixed* N-6137 to 7029

66-9119 / 66-9229 *mixed* N-6223 to 7052

66-14457 / 66-14466 N-6311 / 6320

67-14894 / 67-14905 N-7057 / 7068

67-21153 / 67-21218 *mixed* N-6344 to 7056

67-21236 / 67-21258 *mixed* N-6321 to 6343

67-22548 / 67-22555 *mixed* N-6406 to 6417

68-9043 / 68-9085 *mixed* N-6409 to 6456

69-7091 / 69-7134 *mixed* N-6457 to 7078

69-7174 / 69-7177 N-6491 / 6494

70-1373 / 70-1407 N-6495 / 6529

71-0260 / 71-0276 N-6530 / 6546

621 Total: 0621

18 to USAF.

13 to Ethiopia.

42 to Greece.

104 to Iran.

8 to Libya.

20 to Morocco.

78 to Norway as F-5A(G).

19 to The Philippines.

87 to South Korea.

35 to South Vietnam.

101 to Taiwan, 7 as 1201 / 1207.

21 to Thailand.
75 to Turkey.
181 additional airframes cancelled.

RF-5A

As F-5A, photo reconn. version,
camera in modified nose section.
produced

Northrop Hawthorne, California (NO)
67-21219 / 67-21231 RF-1001 / 1013
68-9097 / 68-9099 RF-1014 / 1016
68-9100 / 68-9113 RFG-1001 / 1014
68-10489, 68-10490 RFG-1015, 1016
69-7137 / 69-7173 RF-1017 / 1053
70-1614 / 70-1622 RF-1054 / 1062
71-0277 / 71-0279 RF-1063 / 1065
71-1029 / 71-1032 RF-1066 / 1069
71-1035 / 71-1038 RF-1070 / 1073

89 **Total: 0089**

16 to Greece.
13 to Iran.
2 to Morocco.
16 to Norway as **RF-5A(G)**.
8 to South Korea.
10 to South Vietnam.
4 to Thailand.
20 to Turkey.
23 additional airframes cancelled.

F-5B

As F-5A, tandem 2-seater trainer version.
4 also upgraded from **F-5A**.
produced 1963 – 1975

Northrop Hawthorne, California (NO)
63-8438 / 63-8451 N-8001 / 8014
63-13692 N-8015
64-13377 / 64-13388 mixed N-8016 to 9002
65-10582 / 65-10595 mixed N-8026 to 9004
66-9230 / 66-9244 mixed N-8038 to 9008
67-14906 / 67-14909 N-9009 / 9012
67-21272 / 67-21284 N-8049 / 8061
67-22556, 67-22557 N-8062, 8063
68-9086 / 68-9096 N-8064 / 8074
69-7089, 69-7090 N-8075, 8076
69-7135, 69-7136 N-9013, 9014
70-1408 N-8077
70-1608 / 70-1613 N-8078 / 8083
70-1948 N-8084
71-1033, 71-1034 -
72-0436 / 72-0449 N-8087 / 8100
72-1337 / 72-1356 N-8101 / 8120
73-1602 / 73-1613 N-8121 / 8132
74-0775 / 74-0786 N-8133 / 8144
74-1576 / 74-1581 X-1001 / 1006
74-2114 / 74-2129 -

180 **Total: 0180**

23 to USAF.

6 to Brazil as 4800 / 4805.
 2 to Ethiopia.
 8 to Greece.
 24 to Iran.
 5 to Jordan.
 2 to Libya.
 2 to Malaysia as FM2201, FM2202.
 14 to Norway.
 1 to The Philippines.
 20 to Saudi Arabia.
 34 to South Korea.
 6 to South Vietnam.
 12 to Taiwan.
 5 to Thailand.
 16 to Turkey.
 44 additional airframes cancelled.

F-5D – Proposed F-5B version for USAF, cancelled.

F-5E

*As F-5A, fuselage / engine / avionics
armament upgrade.*

produced 1971 – 1989

Northrop Hawthorne, California (NO)

| | |
|-------------------|------------------------------|
| 71-1417 / 71-1421 | R-1001 / 1005 |
| 72-1386 / 72-1406 | R-1006 / 1026 |
| 73-0846 / 73-0888 | R-1027 / 1069 |
| 73-0890 | R-1070 |
| 73-0892 / 73-0902 | R-1071 / 1081 |
| 73-0903 / 73-0932 | T-1001 / 1030 |
| 73-0933 / 73-0990 | U-1001 / 1058 |
| 73-1626 / 73-1646 | R-1082 / 1102 |
| 74-0958 / 74-0997 | V-1001 / 1040 |
| 74-1362 / 74-1444 | U-1059 / 1141 |
| 74-1445 / 74-1575 | R-1103 / 1233 |
| 74-1582 / 74-1617 | Y-1001 / 1036 |
| 75-0314 / 75-0373 | V-1041 / 1100 |
| 75-0442 / 75-0456 | I-1001 / 1015 |
| 75-0457 / 75-0461 | R-1234 / 1238 |
| 75-0462 / 75-0490 | T-1031 / 1059 |
| 75-0491 / 75-0527 | R-1239 / 1275 |
| 75-0562 / 75-0572 | T-1060 / 1070 |
| 75-0573 / 75-0627 | <i>mixed</i> R-1276 to 1332 |
| 76-0471 / 76-0490 | V-1101 / 1120 |
| 76-1526 / 76-1591 | L-1001 / 1066 |
| 76-1616 / 76-1639 | V-1121 / 1144 |
| 76-1643 / 76-1676 | R-1317 / 1350 |
| 76-1677 / 76-1686 | I-1016 / 1025 |
| 77-0328 / 77-0335 | V-1145 / 1152 |
| 77-0366 / 77-0379 | HA-1001 / 1014 |
| 77-1767 / 77-1770 | <i>mixed</i> HA-1015 to 1018 |
| 77-1771 / 77-1777 | <i>mixed</i> R-1365 to 1373 |
| 78-0028 / 78-0037 | V-1153 / 1162 |

| | | |
|-------------------|-----------------------------|-------------------------|
| 78-0770 / 78-0773 | <i>mixed</i> R-1371 to 1375 | |
| 78-0789 / 78-0798 | R-1376 / 1385 | |
| 78-0814 / 78-0821 | IE-1001 / 1008 | |
| 78-0826 / 78-0829 | IE-1009 / 1012 | |
| 78-0865 / 78-0875 | VE-1015 / 1025 | |
| 78-2447 | R-1390 | |
| 79-1681 / 79-1687 | TU-1001 / 1007 | |
| 79-1688 / 79-1691 | R-1386 / 1389 | |
| 79-1694 / 79-1697 | TU-1008 / 1011 | |
| 79-1698 / 79-1701 | R-1391 / 1394 | |
| 79-1702 / 79-1707 | TU-1012 / 1017 | |
| 79-1717 / 79-1720 | VG-1001 / 1004 | |
| 79-1920 / 79-1925 | ME-1011 / 1016 | |
| 79-1926 / 79-1931 | HA-1019 / 1024 | |
| 79-1932 / 79-1941 | ME-1001 / 1010 | |
| 80-0299 / 80-0319 | VG-1005 / 1025 | |
| 81-0558 / 81-0593 | - | |
| 81-0614 / 81-0625 | - | |
| 81-0632 / 81-0638 | - | |
| 81-0823 / 81-0857 | - | |
| 82-0634 / 82-0639 | - | |
| 82-0644, 82-0645 | - | |
| 83-0083 / 83-0112 | - | |
| 84-0183, 84-0184 | - | |
| 84-0490, 84-0491 | - | |
| 85-0043, 85-0044 | - | |
| 85-0057, 85-0058 | - | |
| 85-1586 / 85-1595 | - | |
| 86-0405 / 86-0409 | - | 1150 Total: 1150 |

49 to USAF.
31 to US Navy, 11 as BuNo. 159878 / 159882,
160792 / 160796, 162307.
8 to Bahrain as 645, 681 / 684, 686 / 688.
52 to Brazil, 36 as 4820 / 4855.
15 to Chile as J-800 / J-814.
8 to Ethiopia as 417 / 424.
12 to Indonesia as TS-0501 / TS-0512.
171 to Iran.
61 to Jordan as 902 / 941, 1145 / 1165.
10 to Kenya as 901 / 910.
17 to Malaysia as FM2203 / FM2217, M29-21, M29-22.
10 to Mexico as 4001 / 4010.
26 to Morocco.
12 to North Yemen.
40 to Saudi Arabia.
35 to Singapore, 14 *mixed*-801 / 820, 821 / 824, 830 / 841, 870 / 874.
161 to South Korea.
58 to South Vietnam.
2 to the Sudan as 206, 208.
98 to Switzerland as J-3001 / J-3098.
226 to Taiwan as 5101 / 5244, 5253 / 5298, 5313 / 5342, 5378 / 5383.
35 to Thailand.
13 to Tunisia, 8 as Y-92501, 03, 05, 07, 09, 11, 13, 15.
40 additional airframes cancelled.

RF-5E Tigereye

*As F-5E, photo reconn. version,
camera in modified nose section.*

produced 1982 – 1983

Northrop Hawthorne, California (NO)

80-0333, 80-0334 RA-1001, 1002

- 2 to Malaysia as M29-19, M29-20.

84-0194 / 84-0203 -

- 10 to Saudi Arabia.

12 Total: 0012

F-5F

As F-5E, tandem 2-seater trainer version.

produced 1974 – 1986

Northrop Hawthorne, California (NO)

73-0889, 73-0891 W-1001, 1002

75-0681 / 75-0708 Z-1001 / 1028

75-0709 / 75-0711 J-1001 / 1003

75-0712 / 75-0731 H-1001 / 1020

75-0735 / 75-0742 *mixed W-1008 to 1013*

75-0753 / 75-0755 *mixed W-1006 to 1012*

76-1592 / 76-1597 M-1001 / 1006

76-1611 / 76-1613 W-1014 / 1016

76-1614, 76-1615 J-1004, 1005

76-1640 / 76-1642 K-1001 / 1003

77-0336 / 77-0350 K-1004 / 1018

77-0359 / 77-0361 HC-1001 / 1003

77-0362 / 77-0365 H-1021 / 1024

77-1778, 77-1779 W-1019, 1020

78-0774 / 78-0787 W-1021 / 1034

78-0802, 78-0803 W-1035, 1036

78-0822 / 78-0825 IF-1001 / 1004

78-0876 / 78-0884 VF-1001 / 1009

78-2435, 78-2436 W-1017, 1018

78-2444 / 78-2446 W-1037 / 1039

79-1692, 79-1693 TV-1001, 1002

79-1708, 79-1709 TV-1003, W-1041

79-1721 / 79-1726 VH-1001 / 1006

79-1916 / 79-1919 *mixed W-1040 to 1044*

79-1942 / 79-1945 MF-1001 / 1004

80-0296 / 80-0298 VH-1007 / 1009

81-0006 / 81-0019 -

81-0594 / 81-0613 -

81-0639 / 81-0642 -

81-0858 / 81-0863 -

82-0004, 82-0005 -

82-0089 / 82-0091 -

82-0187 / 82-0189 -

82-0640 / 82-0643 -

83-0072 / 83-0074 -

83-0113 / 83-0142 -

84-0456, 84-0457 -

85-0053 / 85-0056 -

86-0090, 86-0091 -
 86-0388 - 255 **Total: 0255**
 12 to USAF.
 4 to US Navy, 3 as BuNo. 160964 / 160966.
 4 to Bahrain as 641 / 644.
 3 to Brazil as 4806, 4807, 4809.
 3 to Chile as J-815 / J-817.
 4 to Indonesia as TS-0513 / TS-0516.
 28 to Iran.
 12 to Jordan, 2 as 1751, 1752.
 4 to Kenya as 911 / 914.
 4 to Malaysia as FM2251 / FM2254.
 2 to Mexico as 4501, 4502.
 4 to Morocco.
 24 to Saudi Arabia.
 9 to Singapore as 850 / 855, 860 / 862.
 40 to South Korea.
 2 to the Sudan as 200, 201.
 12 to Switzerland as J-3201 / J-3212.
 74 to Taiwan as 5299 / 5312, 5351 / 5377, 5384 / 5416.
 6 to Thailand, 3 as 40301 / 40303.
 4 to Tunisia as Y-92502, 04, 06, 08.
 5 additional airframes cancelled.

F-5G

As F-5E, fuselage / engine / avionics
 armament upgrade. All carried civil reg.
 as N4416T, N3986B and N44671.
 Later redesignated as **F-20A Tigershark**.
 produced 1981 – 1982
 Northrop Hawthorne, California (NO)
 82-0062 / 82-0064 - 3 **Total: 0003**
 1 additional airframe cancelled.

Total: 2314

Foreign built – Canada:

CF-5A

Canadian version of the F-5A,
 engine upgrade, minor changes.
 CAF designation: **CF-116**, pre-1968
 RCAF s/n: 14701 / 14789.
 Convertible reconn. version was **CF-5A(R)**.
 produced 1967 – 1974
 Canadair Ltd., Cartierville, Montreal,
 Quebec, Canada
 (CAF) 116701 / 116789 1001 / 1089 89

CF-5D

Canadian version of the F-5B,
 engine upgrade, minor changes.
 CAF designation: **CF-116D**, pre-1968
 RCAF s/n: 14801 / 14846.
 produced 1967 – 1975
 Canadair Ltd., Cartierville, Montreal,
 Quebec, Canada
 (CAF) 116801 / 116846 2001 / 2046 46

NF-5A

*The Netherlands version of the F-5A,
engine upgrade, minor changes.
produced 1968 – 1972
Canadair Ltd., Cartierville, Montreal,
Quebec, Canada
(Dutch)
K-3001 / K-3075 -*

75

NF-5B

*The Netherlands version of the F-5B,
engine upgrade, minor changes.
produced 1968 – 1972
Canadair Ltd., Cartierville, Montreal,
Quebec, Canada
(Dutch)
K-4001 / K-4030 -*

30 **Total: 0240****Foreign built – Spain:****SF-5A**

*Spanish version of the F-5A designated
as C.9, later A.9 for attack.
produced 1967 – 1971
Construcciones Aeronauticas SA (CASA),
Madrid & Seville, Spain
(Spain)
C.9-035 / C.9-053 -*

19

SRF-5A

*Spanish version of the RF-5A designated
as CR.9, later AR.9 for attack.
produced
Construcciones Aeronauticas SA (CASA),
Madrid & Seville, Spain
(Spain)
CR.9-054 / CR.9-070 -*

17

SF-5B

*Spanish version of the F-5B designated
as CE.9, later AE.9 for attack.
produced
Construcciones Aeronauticas SA (CASA),
Madrid & Seville, Spain
(Spain)
CE.9-001 / CE.9-034 -*

34 **Total: 0070****Total: 0310****F-5 CONVERSIONS****USAF**

| | | |
|-------|---|------------------------------------------------------------------------|
| NF-5A | 1 | F-5A, permanent conversion for testing as N6004 (<i>civil reg.</i>). |
| GF-5B | 4 | F-5B, ground instructional conversions. |

| | | |
|-----------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| YF-5B-21 | 1 | F-5B(63-8445), 1969, prototype with engine upgrade, developed into the F-5E <i>Tiger II</i> . |
| F-5C | 12 | F-5A, 1965, temporary designation for USAF tests in Vietnam under the " <i>Skoshi Tiger</i> " evaluation program. Production orders cancelled. |
| X-29A | 2 | F-5A(63-8372, 65-10573), 1984-1991, components used to build two prototypes with forward-swept wings and other aerodynamic features. Built by Grumman Aerospace Corp. as Model G-712, tested by NASA. New s/n: 82-0003, 82-0049. |

US Navy

| | | |
|------|----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| F-5N | 32 | Swiss F-5E, 2004-present, re-manufactured airframes, avionics upgrade as aggressor aircraft in combat training. Retained former USAF s/n's. Conversions by Northrop-Grumman Corp., Florida. |
|------|----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Foreign Conversions

| | | |
|-------------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| F-5S | 34 | F-5E, 1994, life-extension upgrades for Singapore. 8 reconnaissance upgrades designated as RF-5S. Upgrades by Singapore Technologies Aerospace (STAE), Singapore. |
| F-5T | 9 | F-5F, 1994, life-extension upgrades for Singapore. Upgrades by Singapore Technologies Aerospace (STAE), Singapore. |

FOREIGN MILITARY SERVICE

- *F-5 aircraft in military service with the air forces of Austria, Bahrain, Botswana, Brazil, Canada, Chile, Ethiopia, Greece, Honduras, Indonesia, Iran, Jordan, Kenya, Libya, Malaysia, Mexico, Morocco, The Netherlands, North Yemen, Norway, Pakistan, The Philippines, Saudi Arabia, Singapore, South Korea, South Vietnam, Spain, Sudan, Switzerland, Taiwan, Thailand, Tunisia, Turkey and Venezuela.*
- *F-5 fighters still a major component with many air forces worldwide, some upgrades available are the (EADS-CASA) **F-5EM / FM**, (IAI) **F-5Plus Tiger III**, (Northrop-Grumman) **F-5E Tiger IV** and **F-5 Tiger 2000**.*