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data

PRM-38 Annex: Current and Projected  
Warsaw Pact Nuclear Forces  
Available for Theater Use

The following tables present a variety of perspectives as well as general information on NATO and Warsaw Pact nuclear forces thought to be available for use in the European theater.

For NATO the geographic area encompassed is Western Europe (including Spain) plus the Mediterranean, North, and Norwegian Seas. French nuclear forces are incorporated in the NATO count. For the Pact, the area includes East Europe (less Yugoslavia) plus those several military districts of the Soviet Union which lie opposite the European NATO countries.\* In addition, certain elements of the Northwest and Southwest Bomber Corps of Soviet Long Range Aviation are included, as well as elements of the Northern, Baltic, and Black Sea Fleets which are thought to have theater nuclear roles.

Within this general geographic area, all nuclear capable forces in their peacetime bases have been assessed. In all likelihood, the strength and composition of nuclear forces would look somewhat different subsequent to alert and mobilization, especially one which was designed to maximize some aspect of nuclear deterrent or war-fighting capability.

The two data points selected for this study are 1978 and 1983, the latter because of the relative availability of US DoD five-year defense planning data, and NATO planning materials. For NATO, only those theater nuclear systems with fairly definite 1983 deployment plans are cited.

Aircraft delivery systems figure importantly in both NATO and the Pact's theater nuclear forces. Since air defenses have improved substantially in recent years, aircraft must penetrate at low altitudes and fly at high speeds in order to survive. Effective operational radii in the nuclear strike role are therefore substantially lower than the technically optimum. Realistic flight profiles have in all cases been chosen for this annex, to the extent that they are known. Aircraft delivery radii for both NATO and the Pact are based upon un-refueled two-way missions with the most likely nuclear weapon loading.

Beyond this, special rules have been applied to that large number of tactical aircraft on both sides which are technically nuclear-capable. The intent was to arrive at a more meaningful assessment of the number of tactical aircraft which can reasonably be expected to operate in the nuclear delivery role. For the NATO side this information is provided largely by SACEUR's nuclear tasking requirements. As a result, this annex recognizes only those NATO aircraft operationally assigned to nuclear missions and excludes trainers, reconnaissance aircraft, and maintenance and battle spares.

\* Leningrad, Baltic, Belorussia, Carpathia, Odessa, Kiev, North- and Trans-Caucasus Military Districts.

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Unlike NATO, no specific Soviet tactical aviation units appear to be identified as nuclear delivery units. In Soviet forces, nuclear missions are given to designated pilots assigned to all regiments. As of several years ago it appeared that only about one-third of a tactical aviation regiment's aircrews were nuclear qualified. Although uncertain, it is felt that the same situation holds for the two Czech and the two Polish regiments which are thought to have a nuclear mission. Thus, this annex recognizes Warsaw Pact nuclear role aircraft in terms of the number of qualified pilots currently assessed to belong to each tactical unit.

For both NATO and Warsaw Pact bomber aircraft, we have accepted as nuclear capable all those in an operational bomber unit plus those in training or reconnaissance units known or suspected to possess a nuclear delivery mission.

We have no basis for projecting with any confidence the number of 1983 nuclear role aircraft on either the NATO or Pact side. On the whole, however, we expect NATO's theater nuclear capability to remain stable, except for a variety of qualitative improvements. On the Pact side, however, it is estimated that essentially all tactical aircraft based in Europe by 1983 will be technically nuclear capable. In addition, we believe that the number of pilots trained and qualified to deliver nuclear weapons could perhaps double.

Cruise missiles, both air and sea-launched, are treated separately from their launch vehicles, and ranked in accordance with their own intrinsic ranges, at optimal launch altitudes. For the purposes of this annex, it is assumed that all aircraft capable of employing cruise missiles, will be so equipped. Hence, the cruise missile inventory numbers which appear comprise our assessment of the maximum number of missiles which could conceivably be on aircraft, being carried towards assigned targets at any one time. Many of the Soviet air-launched cruise missiles are dual mission, with either a naval or land attack mission. Others, as well as the vast majority of sea-launched cruise missiles have a distinctly secondary role of land attack. Both types have been counted.

Many ballistic missile systems are targeted by the Soviets and the Pact against Western Europe. Most have some refire capability, but, for purposes of this annex, only the launchers are counted. At one time, it was thought that over 100 SS-11 ICBMs were targeted against Western Europe. While it is no longer possible to identify the number of ICBMs which may be so targeted, it is believed that an unknown number of SS-11 or other ICBMs may presently have this task. In addition there is evidence that an unknown number of Y class (and possibly D class) submarines may have theater target assignments.

The Nike-Hercules surface-to-air missiles, when properly equipped, can be employed in a secondary ground attack role; those NATO launchers which are rated as nuclear-capable have therefore been included in the ballistic missile total. Nuclear-capable Soviet and Pact surface-to-air missiles are not assessed as having a ground attack mode, however, and hence have not been included.

Only those NATO rocket systems and artillery tubes are counted which are currently nuclear-certified [redacted] may presumably be quickly recertified. On the Pact side, all tubes known to be nuclear-capable, and assigned to units with nuclear missions have also been counted. It should be noted that no nuclear capable artillery has yet appeared outside the Soviet Union

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As with aircraft, we expect NATO's other theater nuclear capabilities to remain approximately the same, except for the deployment of 16 additional French SLBMs and general qualitative improvements in certain other delivery systems. On the Pact side, the deployment by 1983 of substantial numbers of SS-20 MRBMs and their reloads would seem to permit the retirement of several SS-4s and 5s and certain ballistic missile submarines, as well as the retargeting of some ICBMs and SLBMs from Europe to the US or elsewhere. Whether or not this will actually occur is not possible to say.

Atomic demolition munitions and maritime defensive systems have not been considered in this annex.

Data from the tables must be used with care. The general range categories which appear--although defined by the NATO Nuclear Planning Group--are arbitrary and are utilized only for the purposes of inventory comparison.\* This categorization of delivery systems by range also tends to submerge the asymmetries in threat which derive from actual deployment location--particularly of shorter range Pact systems adjacent to NATO.

Tables 1 through 3 of this annex list by general range categories, all systems that are assessed as being located in, or oriented on Western Europe, for 1978.

Table 4 presents a profile of Pact theater nuclear forces based in Eastern Europe, and Table 5 a profile of all Soviet and Pact theater nuclear forces by services and probable mission, for 1978.

Table 6 presents a profile of British and French nuclear forces, for 1978 and 1983.

Table 7 presents an inventory of potential Warsaw Pact and NATO nuclear capable augmentation aircraft.

Table 8 through 11 contain general information on the performance characteristics and deployment numbers and patterns of aircraft, cruise missiles, ballistic missiles, and artillery, for 1978, with estimates wherever possible through 1983.

\* The NPG defined categories are: Short-range (100 km or less); Medium-range (100 km to 1,000 km); and Long-range (over 1,000 km).

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 Table 1

Long-Range Theater Delivery Systems  
 (Over 1,000 Kilometers Range)  
 Deployed or Deployable by 1983

1978 No.	US/NATO	Aircraft Radius/ Missile Range (KM)	USSR	1978 No.
			Some ICBMs (incl SS-11) <sup>1,3</sup>	Unk
			Bear Bomber/ASM Carrier <sup>1,5</sup>	Unk
			Bison Bomber <sup>1</sup>	Unk
			SS-20 IRBM	36
			SS-5 IRBM	64
			Backfire Bomber/ASM Carrier <sup>5,7,9</sup>	80
			Some SS-N-6 SLBMs <sup>1</sup>	Unk
			Badger Bomber/ASM Carrier <sup>5,9</sup>	411
			Blinder Bomber/ASM Carrier <sup>5,9</sup>	168
			SS-4 MRBM	392
			SS-N-5 SLBM	30
			Probable New ALCM	0

Summary: 10 current systems including France: as many as 176 SLBMs, 18 IRBMs, and 271 aircraft.

Summary: At least 11 current systems: 492 M/IRBMs, at least 659 bombers (of which 533 are ASM-capable), 11 at least 30 SLBMs, and an unknown number of ICBMs.

1. Designated "central systems" in strategic arms limitations talks.
2. Approximately 48 SSBNs. 400 RVs are assigned to SACEUR.
3. At one time, about 120 SS-11 variants were assessed as being targeted on Western Europe. It is no longer possible to identify SS-11 or other ICBMs so targeted.
4. [REDACTED]
5. The range of these aircraft does not take into consideration the intrinsic range of the ASMs which they carry. See Table 2 for this information.
6. French targeting and targeting policy is unknown. All IRBMs and SLBMs have adequate range to reach far into the USSR, however.
7. The role and range of the Backfire is subject to some disagreement. Hence the number of aircraft here represents those aircraft which would be available if all were assigned to the theater strike role.
8. These are based in the UK. The Strategic Air Command variant, the FB-111, is based in the US [REDACTED]. It is designated a "non-central" system in the SALT context, however.
9. The totals for Backfire, Badger, and Blinder include Soviet Naval Aviation aircraft.
10. This is a US carrier-based system, and as such its launch point cannot be determined.
11. The total for bombers is considerably smaller than the number of ASMs which many carry as their principal weapon. The number of ASMs is provided on Table 2.

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Table 2

Medium-Range Theater Delivery Systems  
(100 to 1,000 Kilometers Range)  
Deployed or Deployable by 1983

1978 No.	US/NATO	Aircraft Radius/ Missile Range (km)	USSR/Pact	1978 No.
			Fenwick A Ftrbhr	60
			SS-12/22 SSRM	72
			Foxbat B Ftrbhr	30
			Fitter C/D Ftrbhr <sup>2</sup>	100
			Flogger Ftrbhr	315
			AS-3 ALCM (on Bear) <sup>3</sup>	45
			SS-N-4 SLBM <sup>6</sup>	3
			SS-N-12 SLCM <sup>6</sup>	32
			Brewer B/C	45
			Prob. New Antiship SLCM	0
			AS-4 ALCM (Rockfire, Blinder) <sup>3</sup>	306
			SS-N-3 SLCM <sup>6</sup>	196
			Fishbed Ftrbhr	225
			Fitter A Ftrbhr <sup>2</sup>	110
			AS-6 ALCM (on Badger) <sup>3,8</sup>	540
			SU-25 New Ftrbhr	0
			SS-1C (Scud) SSRM <sup>7</sup>	456
			AS-5 ALCM (on Badger) <sup>3,8</sup>	--
			AS-2 ALCM (on Badger) <sup>3,6,8</sup>	72
			SS-21 SSRM	0
			SS-N-9 SLCM <sup>6</sup>	122

Summary: 12 current systems including the French: 772 aircraft, and 283 SSBMs, with the potential for as many as 224 Nike-Hercules in secondary ground strike role.

Summary: 19 current systems: 885 aircraft, and 534 SSBMs, with the potential for as many as 963 ALCMs and 350 SLCMs (many in secondary land strike role).

1. A carrier-based aircraft.
2. Poland is believed to operate 10 Fitter A and 10 Fitter C/D, and Czechoslovakia 25 Fitter A, in the nuclear role.
3. ALCM range is based upon launch from optimal altitude. The number of ALCMs is the maximum potential launch rail capacity of all aircraft assessed as ALCM-capable. The Soviet LRA and SHA bombers appearing on Table 2 are the only aircraft which carry the ALCMs listed here.
4. These missiles may have been withdrawn from service.
5. All but 16 SS-N-3Cs are assessed as having a primary anti-ship role.
6. Assessed as having a primary anti-ship role.
7. It is assumed that all SS-1C Scud, regardless of Pact user, will be operated in a nuclear role.
8. It is assumed for the purposes of these tables, that the longer-range AS-6 will be carried in preference to the AS-5, or AS-2, except for one model of the Badger, which can carry only AS-2s. The AS-5 and additional AS-2 missiles remain in the inventory, however.
9. All ALCMs are carried as primary armament on long-range aircraft delivery systems listed on Table 1.

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Table 5

Short-Range Nuclear Systems and Artillery  
(Less than 100 Kilometers Range)  
Deployed or Deployable by 1983

(b)(1)	USSR/Pact	1978 No.
	FROG-7 Rocket <sup>4</sup>	
SS-N-7 SLCM		72
203-mm Howitzer <sup>2</sup>		144
240-mm Mortar <sup>2</sup>		144

(b)(1)

Summary: 4 current delivery means: 670  
Rockets and missiles, and 288 artillery  
tubes.

1. (b)(1) intends to certify an additional 18 203-mm Howitzers, in the near future.
2. No Soviet nuclear capable artillery is known to be deployed outside the USSR.
3. (b)(1) This affects 26 launchers which should be subtracted from the number appearing above. A similar situation also exists with (b)(1) artillery which affects a total of 40 tubes.
4. It is assumed that all FROG-7s, regardless of Pact users will be operated in a nuclear role.
5. These towed howitzers may not be nuclear certified but are capable of firing the US 155-mm nuclear round.

(b)(1)

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Table 4

Profile of USSR/Pact Nuclear Forces  
Based in Eastern Europe, 1978

System	Aircraft Radius/ Missile Range (KM)	1978 Total		User in E.E.	Locations in E.E.
		in Nuclear Role	of which in E. E.		
Foxbat B	900	30	10	UR	PL, CC
Fitter C/D <sup>1,3</sup>	740	100	70 <sup>1,3</sup>	UR, PL	PL, CC, HU
Flogger B/D	740	315	150	UR	CC, CZ
Brewer	550	45	15	UR	HU
Fitter A <sup>1,3</sup>	370	110	50 <sup>1,3</sup>	UR, PL, CC	CC, PL, CZ
Fishbed	370	225	165	UR, PL, CZ, BU	CC, PL, CZ, HU, BU
SS-1C (Scud) <sup>2,3</sup>	300	456	252 <sup>2,3</sup>	UR, PL, CZ, CC, RO, BU, HU	UR, CC, PL, CZ, HU, RO, BU
FROG-7 <sup>2</sup>	70	598	306 <sup>2</sup>	UR, CC, PL, CZ, HU, RO, BU	UR, CC, PL, CZ, HU, RO, BU

Summary: There are currently 8 nuclear delivery systems which are based in E. E. This force constitutes about 52 percent of the Pact's medium-range aircraft systems, 45 percent of the medium-range ballistic missile systems, and 35 percent of the short-range delivery systems. There are no nuclear artillery systems based in E. E.

1. Poland is assessed to operate 10 Fitter A and 10 Fitter C/D in the nuclear role and Czechoslovakia 25 Fitter A.
2. It is assumed that all SS-1C Scud and FROG-7s will be operated in the nuclear role.
3. The USSR has custody of all nuclear warheads.
4. Not necessarily in nuclear role.

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Table 5

Profile of USSR/Pact Theater Nuclear  
Forces, by Service, 1978

<u>System</u>	<u>Aircraft Radius/ Missile Range (NM)</u>	<u>Primary Mission*</u>	<u>Number in Theater Role</u>	<u>Locations (No.)</u>
<u>Strategic Rocket Forces</u>				
Some ICBMs	Various	I	Unk	All USSR
SS-20 IRBM	4,400	P	56	West UR
SS-5 IRBM	4,100	P	64	West, South UR
SS-4 MRBM	1,900	P	392	West, South UR
<u>Long-Range Aviation</u>				
Bear	8,000	I	Unk	
(AS-3)	680	I		West UR
Bison	4,600	I	Unk	West UR
Backfire	4,000	P	44	West UR
(AS-4)	196	P/N		
Badger	2,500	P	237	West UR
(AS-5)	230	P/N		
(AS-6)	570	P/N		
Blinder	2,400	P	159	West UR
(AS-4)	460	P/N		
<u>Soviet Navy**</u>				
Backfire	4,000	P/N	36	BAL(19)BS(17)
(AS-4)	460	P/N		
SS-N-6 SLBM	3,000	I	Unk	NOR(20)
Badger	2,500	P/N	174	NGR(66)BAL(54)BS(54)
(AS-2)	190	N		
(AS-5)	230	P/N		
(AS-6)	570	P/N		
BLINDER	2,400	P/N	42	BAL(21)BS(21)
SS-N-5 SLBM	1,600	P	30	
SS-N-4 SLBM	555	P	3	
SS-N-12 SLCM	550	N	32	NOR(24)BS(8)
SS-N-3c SLCM	460	P	16	BAL(8)BS(8)
SS-N-3a,b SLCM	410	N	180	NOR(164)BS(16)
SS-N-9 SLCM	110	N	122	NOR(52)BAL(40)BS(50)
SS-N-7 SLCM	55	N	Unk	NOR(72)
<u>Tactical Air Forces</u>				
Fencer A	980	T	60	UR only
Foxbat B	900	T	30	UR, E.E. (10)
Fitter C/D	740	T	100	UR, E.E. (70)
Flourer B/D	740	T	315	UR, E.E. (150)
Brower B/C	550	T	45	UR, E.E. (15)
Fitter A	370	T	110	UR, E.E. (50)
Fishbed	370	T	225	UR, E.E. (165)
<u>Army</u>				
SS-12/22	900	I	72	UR only
SS-1c Scud	300	T	456	UR, E.E. (252)
SS-11	120	T	6	UR only
FRY-7	70	T	598	UR, E.E. (306)
Artillery	18	T	288	UR only

\* I = Intercontinental, P = Peripheral, T = Tactical, N = Naval.

\*\* NOR = Northern Fleet Area, BAL = Baltic Fleet, BS = Black Sea Fleet.

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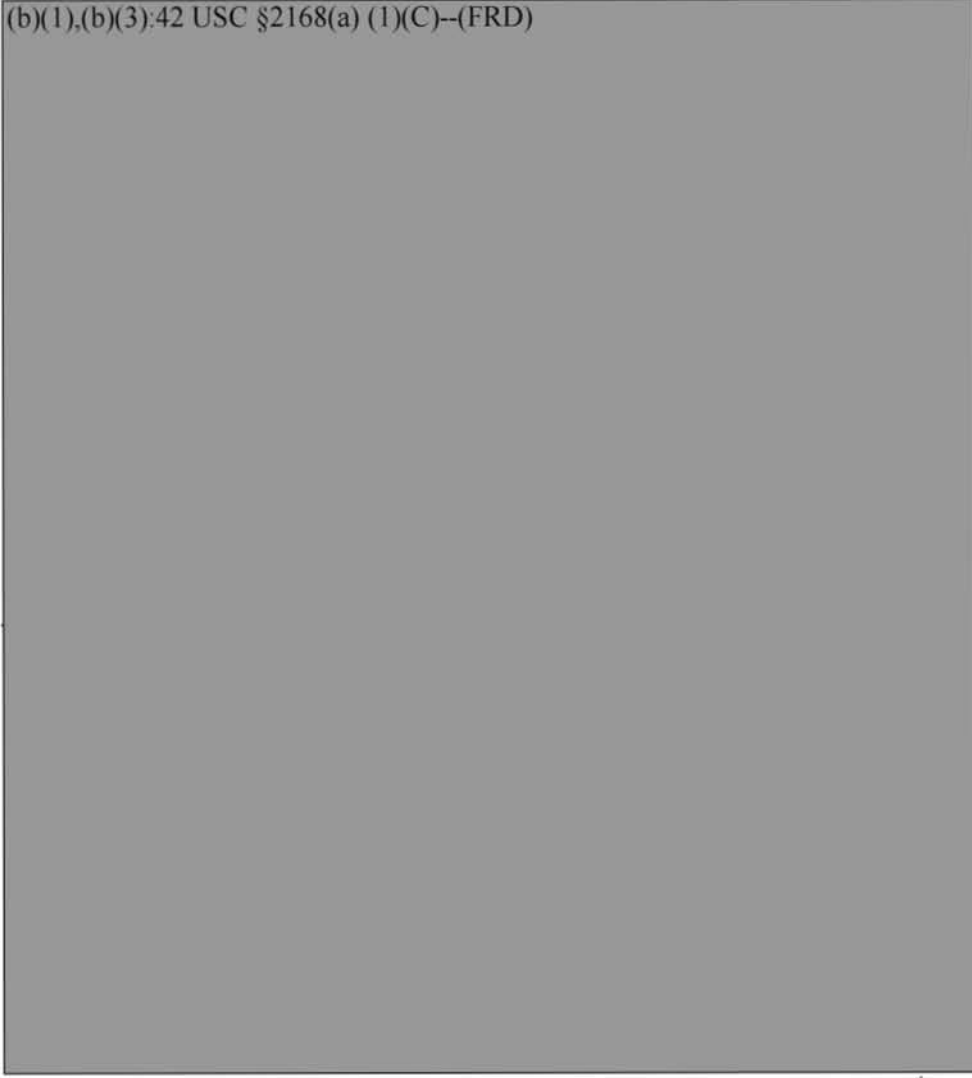


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Table 6

(b)(1),(b)(3):42 USC §2168(a) (1)(C)--(FRD)



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Table 7

Theater Nuclear Augmentation Assets  
Available Within About Thirty Days, 1978

US			USSR		
<u>Aircraft</u>					
<u>Aircraft</u>	<u>Nuclear Capable Inventory<sup>1</sup></u>	<u>Nuclear Role<sup>2</sup></u>	<u>Aircraft</u>	<u>Nuclear Capable Inventory<sup>3</sup></u>	<u>Nuclear Role</u>
F-111	(b)(1)		Foxbat	14	7
A-6			Flogger B	16	8
A-7			Brewer	80	30
A-4			Fitter A	40	15
F-4			Fishbed	40	15

Missiles, Rockets, and Artillery

<u>Weapon</u>	<u>Inventory</u>	<u>Weapon</u>	<u>Inventory<sup>7</sup></u>
Pershing	(b)(1)	SS-12	16
Lance		Scud	33
8-inch		FROG-7	52
155-mm			

(b)(1)

3. Includes only those tactical air forces aircraft based in Moscow and Kiev Military Districts.

(b)(1)

7. Includes only those assets of the Moscow and Ural Military Districts.

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RUSSIAN NATIONALS

Missile (IOC)	Mission	Range (mi)	Terminal Homing (type)	Warhead Yield	Base	Carrier	Launchers per Carrier	Launchers	Remarks
AS-6 (1970)	Land attack/ anti-ship	370	Yes (anti-radiation homing/active radar)	2.0 MT	Air	Boat	2	540/540	It is assumed that the longer range AS-6 will be carried in preference to the AS-5 or AS-2 except for one model of the Bojger which can carry only AS-2's. Some Bojgers can carry an alternate payload of 2 AS-6s, or 1 AS-2.
AS-5 (1965)	Land attack/ anti-ship	230	Yes (anti-radiation homing/active radar in anti-ship role)	1.5 MT	Air	Bojger	2	(see AS-6)	Some Bojgers can carry an alternate payload of 2 AS-5s, or 2 AS-6s. Possesses a possible secondary land attack role.
AS-2 (1961)	Anti-ship	190	Yes (Active radar)	1.2 MT	Air	Bojger	1	72/70	Possesses a possible secondary land attack role.
ISSR									
SS-N-9 (1971)	Anti-ship	110	Yes (Active radar or Infrared)	200 KT	Sea	Konchika Patrol boat	6	84/144	
ISSR						Sarencha Patrol boat	4	4/4	
						C-II Submarine	8	24/24	
						P Submarine	10	10/10	
SS-N-7	Anti-ship	55	Yes (Active radar)	200 KT	Sea	Submarine	9	72/72	Possible secondary land attack role



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(b)(1),(b)(3):42 USC §2168(a) (1)  
 (C)--(FRD)











Country Digraphs Used in This Annex

(b)(1)



Other Abbreviations

IOC Initial Operational Capability  
LRA Long-Range Aviation  
NSWP Non-Soviet Warsaw Pact  
SNA Soviet Naval Aviation  
SRF Strategic Rocket Forces  
TAF Tactical Air Forces