Tactical Parachute Delivery Systems, Inc.

Canopy Brochure

OCTOBER 2020

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TPDS CANOPY GUIDELINES

Abbreviation Guide:

M= Main Canopy
R= Reserve Canopy
F= F-111 Material
Z= Zero Porosity Material
H= Hybrid Material
07= 7 cells
09= 9 cells
V= Vectran Lines
D= Dacron Lines
LLT = Light Load Tactical
HLT= Heavy Load Tactical

Example:

TPDS-HLT- M-370

Tactical Parachute Delivery Systems - Heavy Load Tactical - Main - 370 sq. ft.

M-370Z

M-360Z Main - 370 sq.ft. Z-P Material

TPDS Canopy Specifications

• Max Deployment Speed	150 knots thru airspeed
• Max Deployment Altitude Static Line	18,000 ft. MSL
• Min Deployment Altitude Static Line	1500 ft. AGL
• Min Deployment Altitude Free-fall	2000 ft. AGL
• Max Deployment Speed Static Line	130 knots thru airspeed
• Min Deployment Speed Static Line	60 knots
• Max Exit Weight	697 lbs./ (316 kg.) depends on size of canopy and weight of jumper)
• Min Exit Weight	135 lbs./ 60 kg.
• HAHO Altitude	30,000 ft. MSL
• Glide Ratio	4 to 1
• Aspect Ratio	2.94:1
• Average Opening Force	4.2 G's
• Rate of Descent- Speed Full Flight	10-15 ft./sec. (depends on size of canopy and weight of jumper)
• Rate of Descent- 50% Brakes	5 ft./sec. (depends on size of canopy and weight of jumper)
• Forward Speed	20-35 mph (40-50 kmph). (depends on size of canopy and weight of jumper)
• Pack Volume	450 - 900 cu. in.

• Weight of Canopy	46 lbs./ (21 kg.) and less
• Hardware	Mil. Spec Forged Cadmium Plated Steel or equivalent
• Canopy Fabric	PIA C 44378 Type-4 Ripstop 0.5-3.0 and/ or Z-P combination
• Webbing	Mil. Spec. W-4088 or equivalent

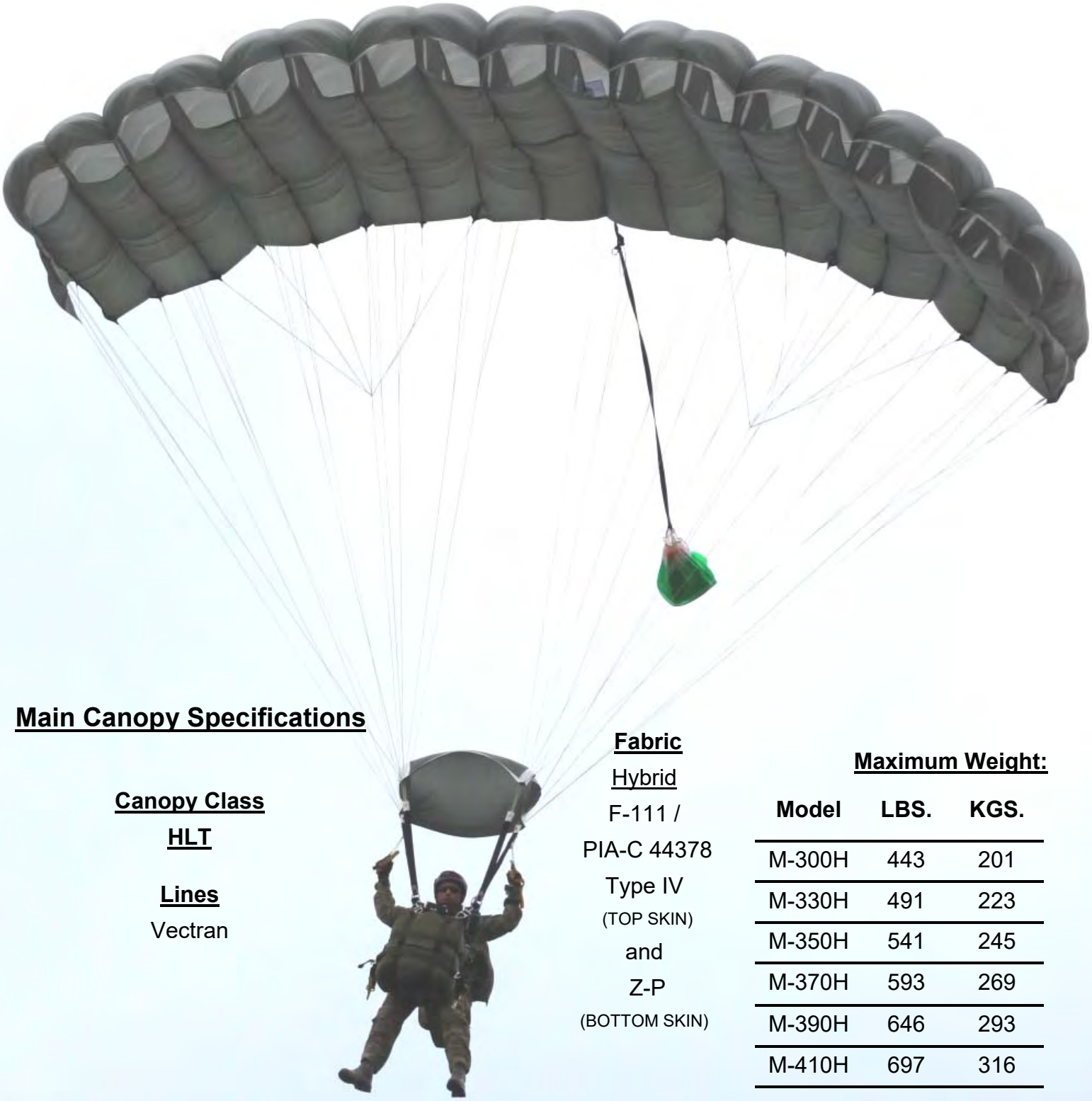
CANOPY FABRIC SPECIFICATIONS

TEST NAME		COMMERCIAL	TEST METHODS FEDERAL STANDARD 191
MATERIAL	■ 30 Denier, High Tenacity, Bright Nylon, Heat and Light Inhibitors	■ AATCC 20	Method 1530
TWIST	■ Producers Warp and Fill	■ ASTM-D-1423	Method 4050
MELTING POINT	■ 489°F + or - 10°F	■ AATCC-20	Method 1534
WEAVE PATTERN	■ Rip Stop 7.5 Minimum Repeats Per Inch	■ Visual	(Visual)
WEIGHT (max.)	■ 1.17 OSY	■ ASTM-2376 Opt. C	Method 5041
THICKNESS(max.)	■ .0030 Inches	■ ASTM-D-1777	Method 5030
STRENGTH (min.)	■ 47 x 47 Pounds	■ ASTM-D-50351 R	Method 5104
1"strip			
ELONGATON (min.)	■ 25%	■ ASTM-D-50351 R	Method 5104
TEAR STRENGTH (min.)	■ 5 x 5 Pounds	■ ASTM	Method D 2261 or 2262 (1983)
AIR PERMEABILITY	■ .5-3.0 CFM	■ ASTM-D737	Method 5450
CONSTRUCTION (min.)	■ 130 x 132	■ ASTM-D-3775	Method 5050
pH	■ 5.5-9.0	■ AATCC-81	Method 2811
COLOR FASTNESS	■ Good (Regular colors)	■ AATCC-61	Method 5614 - Laundering
		■ AATCC-107	Method 5630 - Cold Water
		■ AATCC-16 A	Method 5660 - Light (20 hrs.)
		■ AATCC-8	Method 5651 - Crocking (3.4 or better)
WIDTH (min.)	■ 48 Inches or 65 Inches	■ FED STD 191A	Method 5020
HEAT/LIGHT RESISTANCE	■ Max. 25% Change	■ MIL C 44378	Para. 4.5.3.1 Light
			Para. 4.5.3.2. Heat
BIAS/BOW (max.)	■ 2 Inches on 48": ■ $2^{1/2}$ Inches on 65"	■ ASTM-D-3882	Method 5060

Specification	Yarn	Construction	Weave	Widths**	Weight	Thickness	Air Perm	Tear W/F	Break W/F	pH
PIA C 44378	*denier*	*count/inch*	*pattern*	*inches*	*oz/sq yd*	*inches*	*Cfm*	*lbs*	*lbs*	
Type 1	30d	114 X 132	Ripstop	48"/65"	1.17	0.003	0-5	5/5	45/45	5.5-9.0
Type 2	30d	126 X 132	Ripstop	36"/48"/72"	1.11	0.003	30-50	5/5	42/42	5.5-9.0
Type 3	30d	114 X 132	Ripstop	48"/65"	1.17	0.003	30-50	5/5	45/45	5.5-9.0
Type 4	30d	126 X 132	Ripstop	36"/48"/65"	1.20	0.003	0.5-3.0	5/5	45/45	5.5-9.0

TPDS
HLT - Main Parachute

9 CELL - ELLIPTICAL



Main Canopy Specifications

Canopy Class

HLT

Lines

Vectran

Fabric

Hybrid

F-111 /

PIA-C 44378

Type IV

(TOP SKIN)

and

Z-P

(BOTTOM SKIN)

Maximum Weight:

Model	LBS.	KGS.
M-300H	443	201
M-330H	491	223
M-350H	541	245
M-370H	593	269
M-390H	646	293
M-410H	697	316

Also available in Z-P only

TPDS
LLT - Main Parachute

9 CELL - ELLIPTICAL

Main Canopy Specifications

Canopy Class
LLT

Lines
Dacron

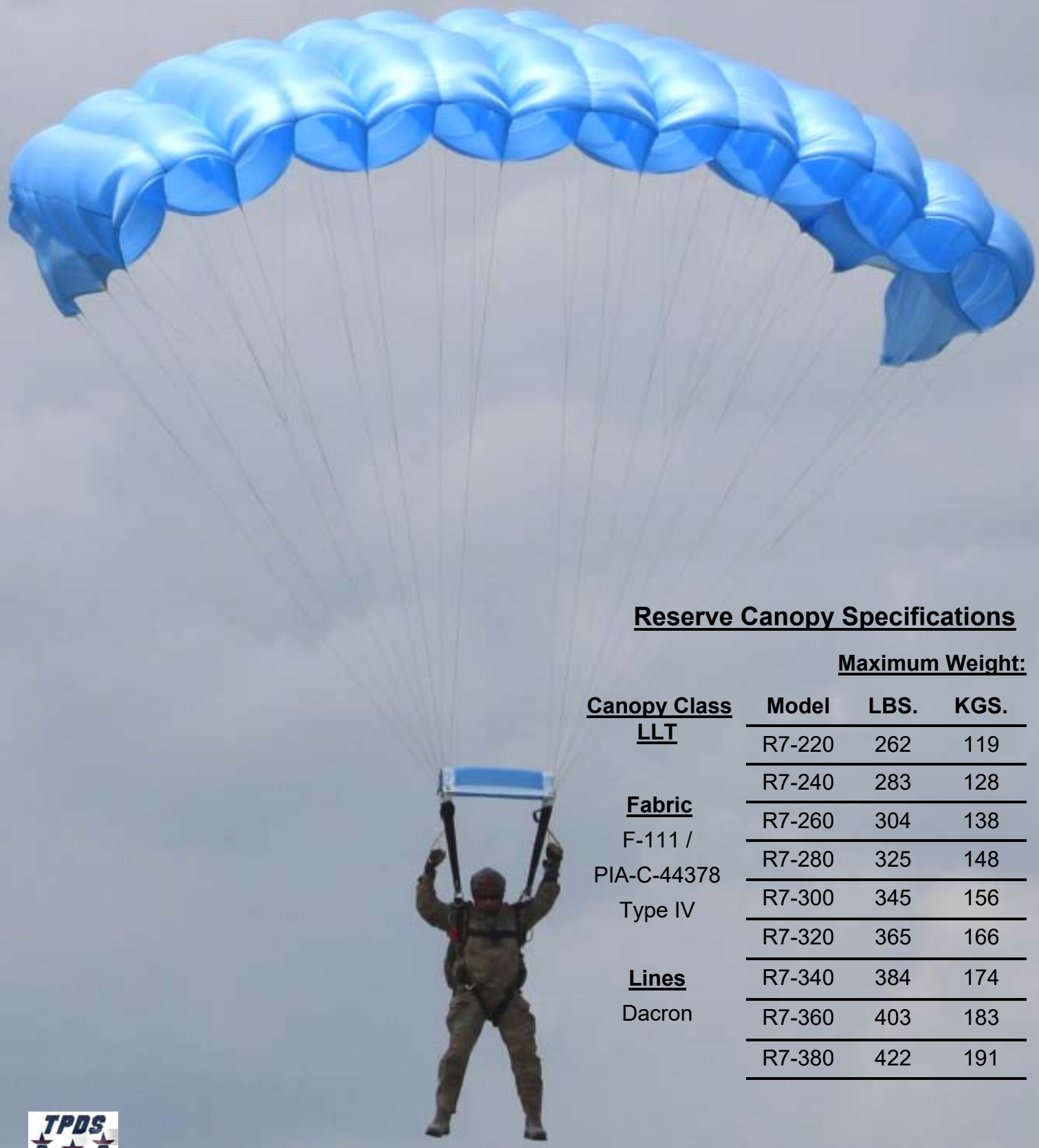
Fabric
Hybrid
F-111 /
PIA-C 44378
Type IV
(TOP SKIN)
and
Z-P
(BOTTOM SKIN)

Model	Maximum Weight: LBS.	KGS.
M-200H	240	109
M-220H	265	120
M-240H	290	132
M-260H	316	143
M-280H	342	155
M-300H	368	167
M-330H	406	184
M-360H	445	202

Also available in Z-P only

TPDS
Reserve Parachute - R7

7 CELL - RECTANGULAR



Reserve Canopy Specifications

Canopy Class
LLT

Fabric
F-111 /
PIA-C-44378
Type IV

Lines
Dacron

Model	Maximum Weight: LBS.	Maximum Weight: KGS.
R7-220	262	119
R7-240	283	128
R7-260	304	138
R7-280	325	148
R7-300	345	156
R7-320	365	166
R7-340	384	174
R7-360	403	183
R7-380	422	191

TPDS
Reserve Parachute - R9

9 CELL - RECTANGULAR

Reserve Canopy Specifications

Canopy Class
LLT

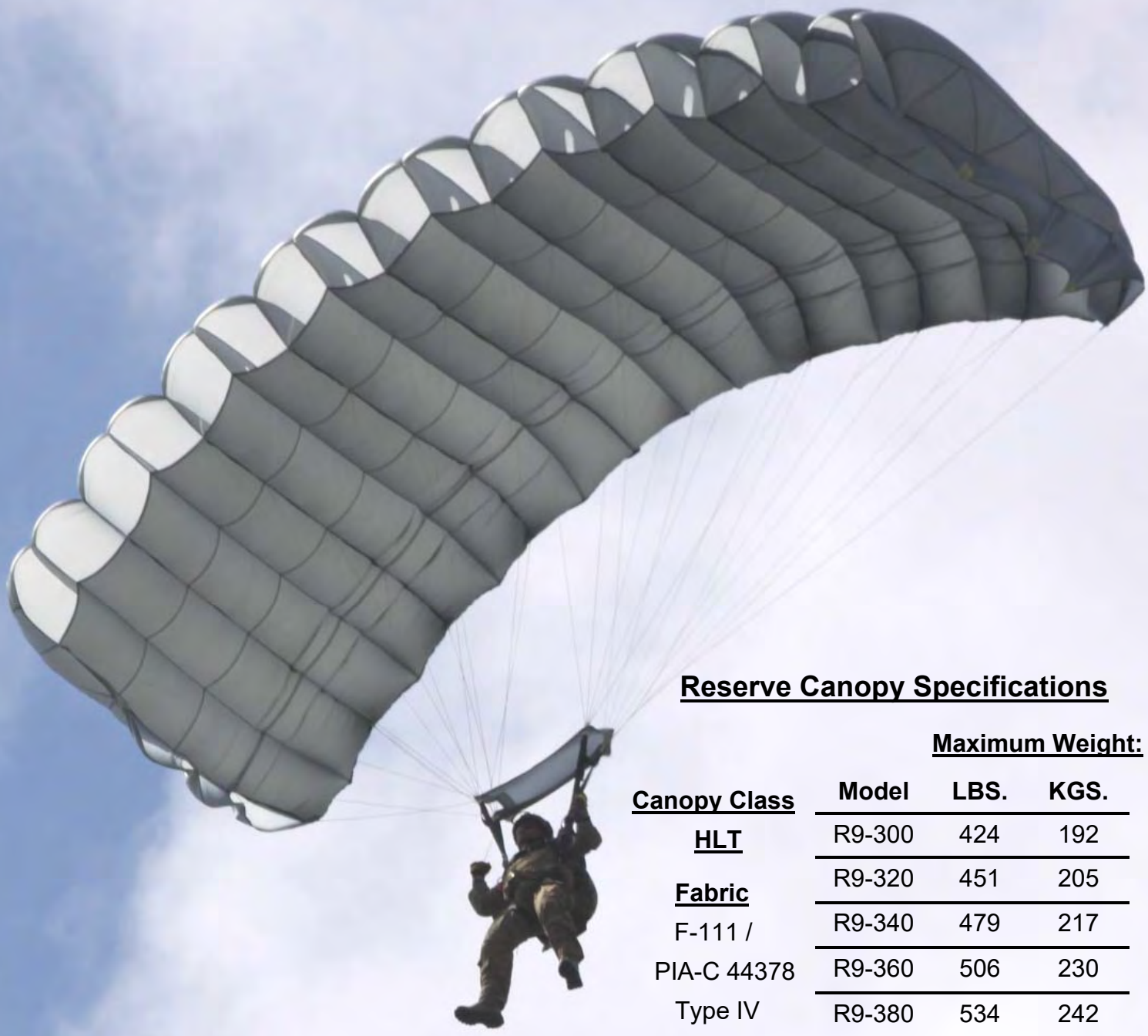
Fabric
F-111 /
PIA-C 44378
Type IV

Lines
Dacron

Model	Maximum Weight: LBS.	Maximum Weight: KGS.
R9-220	312	142
R9-240	340	154
R9-260	368	167
R9-280	396	180
R9-300	424	192
R9-320	451	205
R9-340	479	217
R9-360	506	230
R9-380	534	242
R9-400	561	254
R9-420	588	267

TPDS
Reserve Parachute - R9

9 CELL - RECTANGULAR



Reserve Canopy Specifications

Canopy Class

HLT

Fabric

F-111 /
PIA-C 44378
Type IV

Lines

Dacron

Model	Maximum Weight: LBS.	Maximum Weight: KGS.
R9-300	424	192
R9-320	451	205
R9-340	479	217
R9-360	506	230
R9-380	534	242
R9-400	561	254
R9-420	588	267

TPDS
Accuracy Parachute
"TARGET"
7 CELL - RECTANGULAR

Canopy Class
ACCURACY

Fabric
F-111 /
PIA-C 44378
Type IV

Lines
Dacron
#525

Target Canopy Specifications

Maximum Recommended
Suspended Weight for Accuracy

Model	LBS.	KGS.
T-240	180	81.64
T-260	200	90.72
T-280	220	99.80
T-300	230	104.32

Target Canopy Specifications

Model	Chord (ft.)	Span (ft.)	Sq.Ft.
T-240	11.68	21.63	252.64
T-260	12.16	23.47	285.40
T-280	12.62	24.34	307.17
T-300	13.08	25.19	329.49

NITRON

9 CELL ELLIPTICAL

MAXIMUM WEIGHT

MODEL	LBS.	KGS.
Nitron 78	137	62
Nitron 88	154	70
Nitron 98	172	78
Nitron 108	189	86
Nitron 120	210	95
Nitron 135	236	107
Nitron 150	263	119
Nitron 170	298	135

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FALCON 7

7 CELL RECTANGLE

MAXIMUM WEIGHT

MODEL	LBS.	KGS.
Falcon7 120	122	55
Falcon7 135	138	63
Falcon7 150	153	70
Falcon7 175	179	81
Falcon7 195	199	90
Falcon7 215	219	99
Falcon7 235	240	109
Falcon7 265	270	122
Falcon7 300	306	139

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FALCON 9

9 CELL RECTANGLE

MAXIMUM WEIGHT

MODEL	LBS.	KGS.
Falcon9 120	122	55
Falcon9 135	138	63
Falcon9 150	153	70
Falcon9 175	179	81
Falcon9 195	199	90
Falcon9 215	219	99
Falcon9 235	240	109
Falcon9 265	270	122
Falcon9 300	306	139

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R-MAX

7 CELL RESERVE

MAXIMUM WEIGHT

MODEL	LBS.	KGS.
r-Max 108	220	100
r-Max 118	220	100
r-Max 128	220	100
r-Max 138	254	115
r-Max 148	254	115
r-Max 168	254	115
r-Max 188	254	115
r-Max 208	254	115
r-Max 228	264	120
r-Max 248	284	129
r-Max 268	300	136
r-Max 288	317	143

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