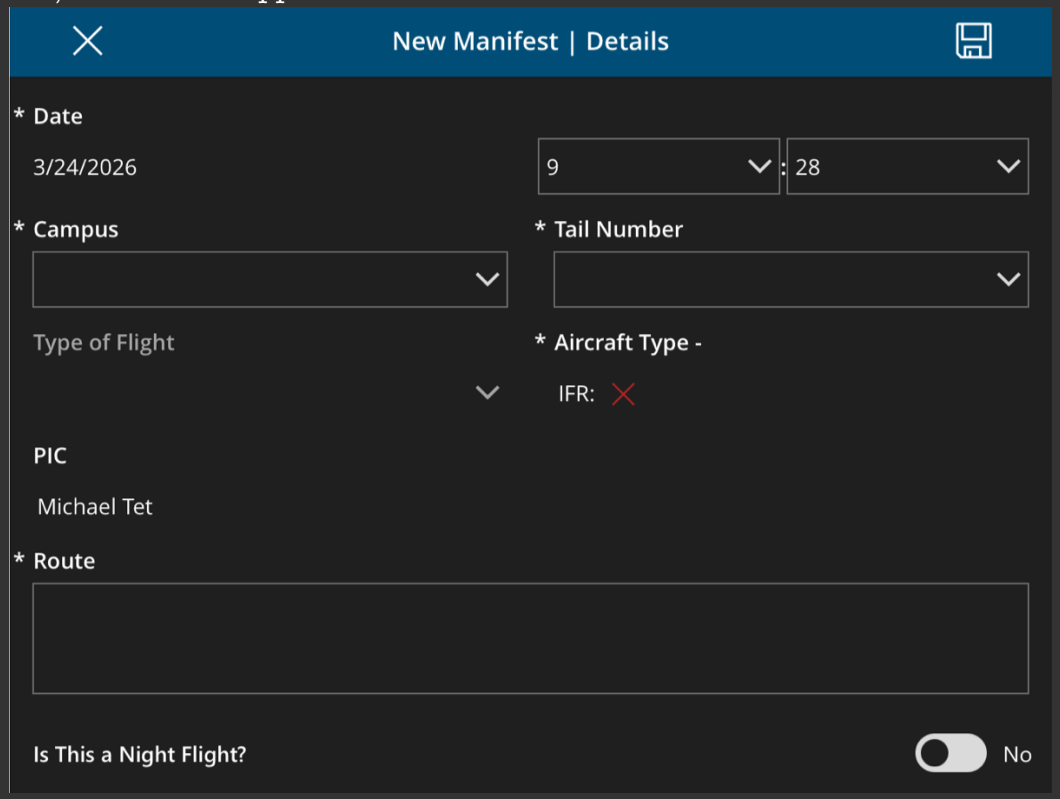
MANIFEST GUIDE

Flyhaa.com/manifest

Or, M.S. Teams App > more > Manifest



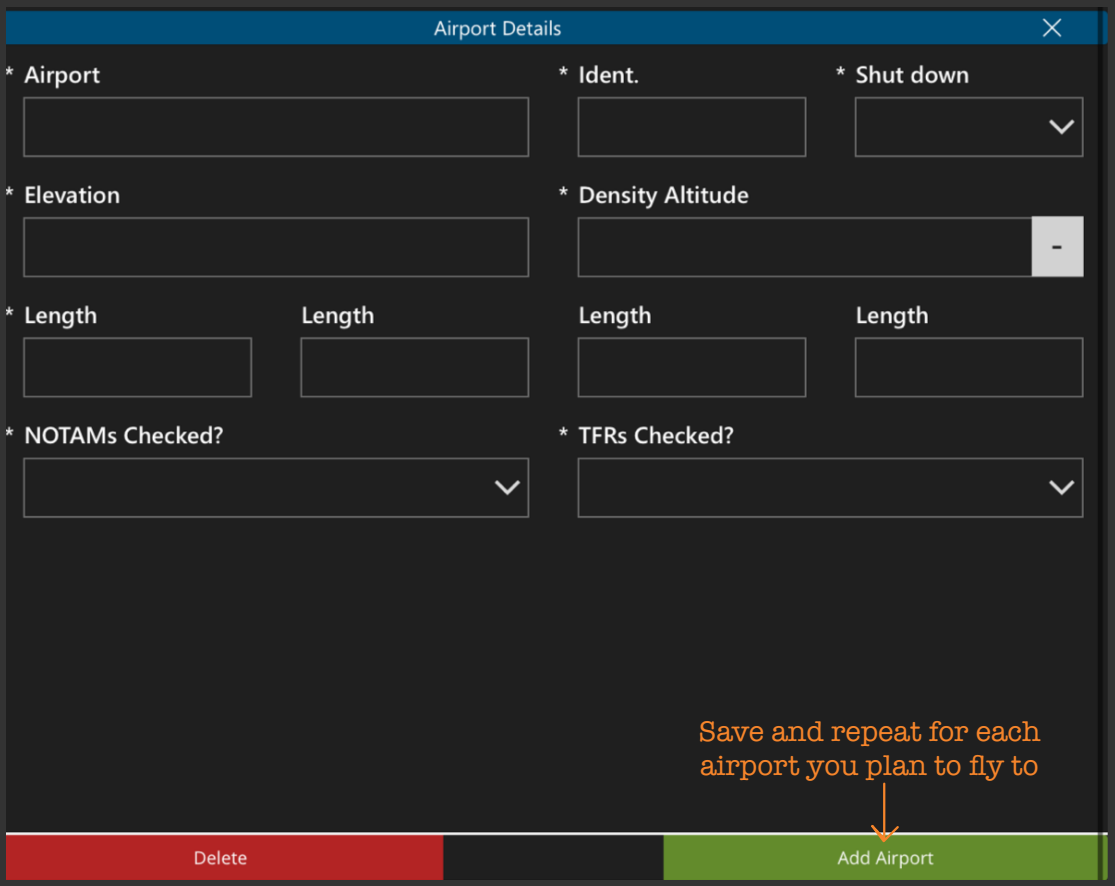
1. CHECK IN WITH DISPATCH
2. Open Manifest

3. Time = Scheduled Departure Time
4. Campus = HIO or RDM
5. Tail Number = Verify on schedule
6. CFI = Your CFI's name
7. Type of flight;
   - Dual Sudent = normal flight w/ CFI
   - Timebuilding = non-lesson flight

8. Route:
   - If local flight, "KHIO-WPA-KHIO"
   - If XC flight, define route similar to flight plan, ex "KHIO-CVO-KONP"

"WPA" = West Practice Area
"NPA" = North Practice Area
"SPA" = South Practice Area

Remember to SAVE each page!!
(Top right of screen)



9. Airport NAME = “Hillsboro”
10. Airport Identifier = “KHIO”
11. Shutdown?
- If you plan toturn off the engine at this airport, select YES.
- Ex: just doing touch and goes = “NO”, but XC flight, Maybe yes!

12. Elevation and Runway Lengths:
- Use Chart supplement (or Foreflight)

PORTLAND–HILLSBORO (HIO)(KHIO) 15 SW UTC–8(–7DT) N45°32.53′ W122°57.04′
208 B TPA—See Remarks LRA NOTAM FILE HIO MON Airport
RWY 13R–31L: H6600X150 (ASPH) S–50, D–70, 2D–110 HIRL
RWY 13R: MALSR. PAPI(P4L)—GA 3.0° TCH 49′. RVR–T
RWY 31L: REIL. PAPI(P4L)—GA 3.0° TCH 51′. Tree.
RWY 02–20: H3820X75 (ASPH) S–54.5, D–74, 2D–139 PCN 20 F/C/X/T MIRL
RWY 02: PAPI(P4R)—GA 3.0° TCH 39′. Road. Rgt tfc.
RWY 20: PAPI(P4L)—GA 3.0° TCH 38′. Tree.
RWY 13L–31R: H3600X60 (ASPH) S–28 PCN 10 F/D/Y/T MIRL
RWY 13L: PAPI(P4L)—GA 3.0° TCH 27′.
RWY 31R: PAPI(P4L)—GA 3.0° TCH 26′. Rgt tfc.

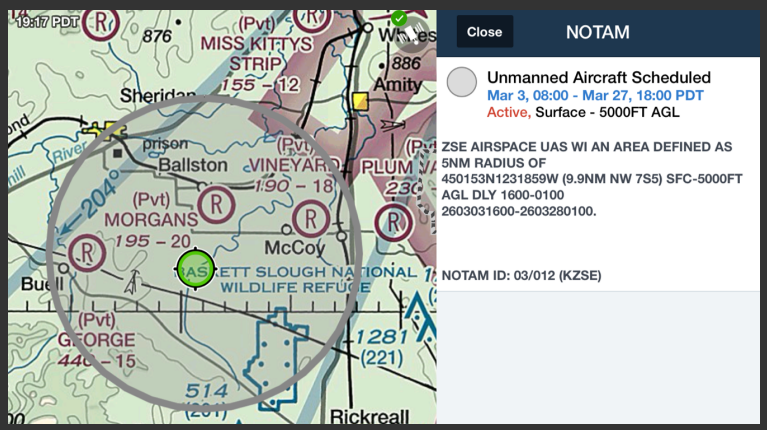
13. Density Altitude:
- Using METAR, First calculate PA (Pressure Altitude), then DA

Flyernotes.org/cheatsheet

Pressure Altitude	= Indicated alt + (1,000[Std. air pressure - Current Altimeter setting])
Density Altitude	= P.A. + (120[O.A.T. - standard temperature])

14. Check NOTAMS and TFR’s with FAA database
(Or foreflight)

FAA FNS NOTAM Search



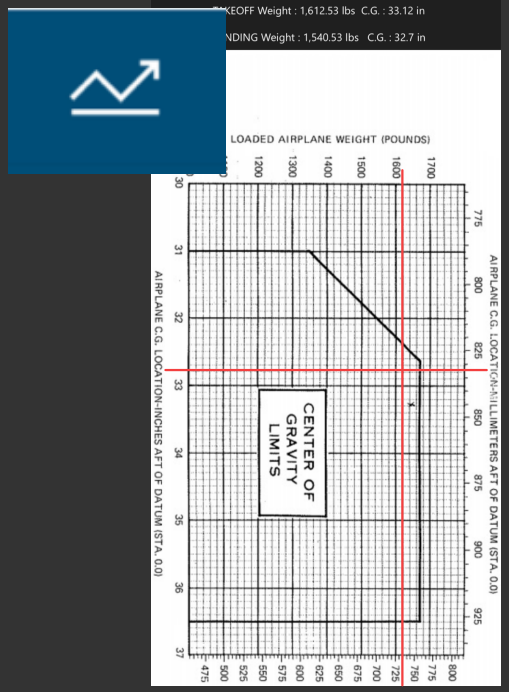
15. Front seat = You + CFI weight
16. Baggage = Your bags + your CFIs bags
17. Can you carry full fuel?

- If full fuel exceeds Max. TO weight, then reduce fuel until safe weight.

Max takeoff weight
C152-1670
C172P-2400
C172S-2550

18. Fuel Burn = how many gallons will flight require?
- Typical local practice aren't longer than 2hrs
- If XC flight, use Nav Log calculations!

19. Verify takeoff weight and C.G. Position are within the envelope!



Manifest | W & B

		Weight	Arm	Moment
N14SK (C-152)		1,164.2	30.19	35,148.97
Front Seat	*		39	
Baggage			64	
Zero Fuel		1,164.2	30.2	35,148.97
Fuel (gal)	*	0	42	
Ramp		1,164.2	30.2	35,148.97
Runup Fuel Burn		-5	42	-210
Takeoff		1,159.2	30.15	34,938.97
Fuel Burn (gal)	*	0	42	
Landing		1,159.2	30.15	34,938.97

Remember your Takeoff Weight, will be needed to calculate Va speed!

Manifest | WX & Perf.

Weather Data

* Pressure Altitude (ft)
* Density Altitude (ft)
* Surface Winds (kts)
* Crosswinds (kts)

Performance Data | Takeoff

* Ground Roll (ft)
* Ground Roll over 50 (ft)
* Max Rate of Climb (ft/min)

Performance Data | Landing

* Landing Dist (ft)
* Maneuvering Speed (kts)
* Best Glide (kts)

Finding xwind/hwind:

- Find angle between rw and winds
- Follow angle line until reaching velocity
- Straight down = xwind
- Striaght left = hwind

20. Remember PA & DA formulas:

Pressure Altitude	= Indicated alt + (1,000[Std. air pressure - Current Altimeter setting])
Density Altitude	= P.A. + (120[O.A.T. - standard temperature])

21. Check winds (METAR) and find crosswind and headwind component.

KHIO 250310Z AUTO 24007KT 10SM FEW030 BKN043 BKN050 12/08 A3000

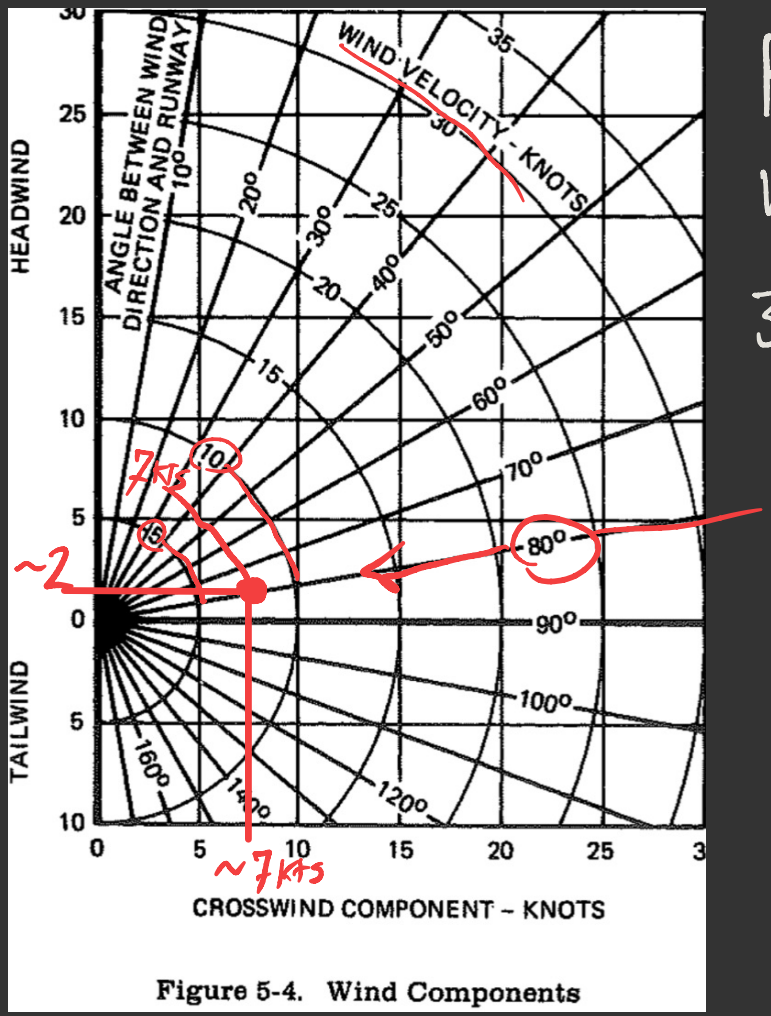


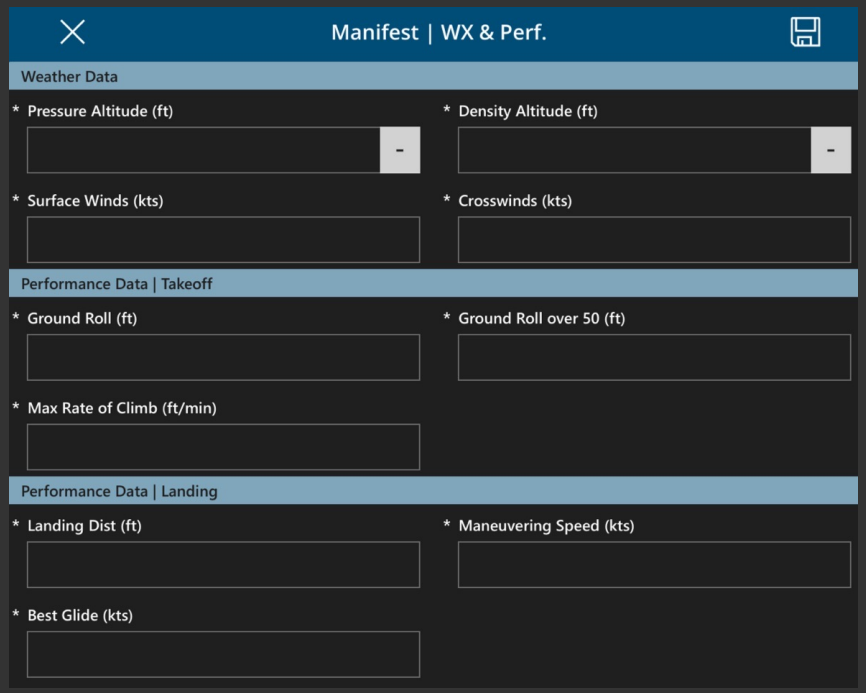
Figure 5-4. Wind Components

RW 31 = 310°M

Winds = 240°T

310°M → 320°T

40° difference



22. Find T/O Ground roll distance to clear 50ft obstacle
23. Find max climb rate (departure airport)
24. Find landing distance
    - I recommend using landing over 50 ft obstacle distance.

TAKEOFF DISTANCE

SHORT FIELD

CONDITIONS:
Flaps 10°
Full Throttle Prior to Brake Release
Paved, Level, Dry Runway
Zero Wind

NOTES:
1. Short field technique as specified in Section 4.
2. Prior to takeoff from fields above 3000 feet elevation, the mixture should be leaned to give maximum RPM in a full throttle, static runup.
3. Decrease distances 10% for each 9 knots headwind. For operation with tailwinds up to 10 knots, increase distances by 10% for each 2 knots.
4. For operation on a dry, grass runway, increase distances by 15% of the "ground roll" figure.

WEIGHT LBS	TAKEOFF SPEED KIAS		PRESS ALT FT	0°C		10°C		20°C		30°C		40°C	
	LIFT OFF	AT 50 FT		GRND ROLL FT	TOTAL FT TO CLEAR 50 FT OBS	GRND ROLL FT	TOTAL FT TO CLEAR 50 FT OBS	GRND ROLL FT	TOTAL FT TO CLEAR 50 FT OBS	GRND ROLL FT	TOTAL FT TO CLEAR 50 FT OBS	GRND ROLL FT	TOTAL FT TO CLEAR 50 FT OBS
1670	50	54	S.L.	640	1190	695	1290	755	1390	810	1495	875	1605
			1000	705	1310	765	1420	825	1530	890	1645	960	1770
			2000	775	1445	840	1565	910	1690	980	1820	1055	1960
			3000	855	1600	925	1730	1000	1870	1080	2020	1165	2185
			4000	940	1775	1020	1920	1100	2080	1190	2250	1285	2440
			5000	1040	1970	1125	2140	1215	2320	1315	2525	1420	2750
			6000	1145	2200	1245	2395	1345	2610	1455	2855	1570	3125
			7000	1270	2470	1375	2705	1490	2960	1615	3255	1745	3590
			8000	1405	2800	1525	3080	1655	3395	1795	3765	1940	4195

MAXIMUM RATE OF CLIMB

CONDITIONS:
Flaps Up
Full Throttle

NOTE:
Mixture leaned above 3000 feet for maximum RPM.

WEIGHT LBS	PRESS ALT FT	CLIMB SPEED KIAS	RATE OF CLIMB - FPM			
			-20°C	0°C	20°C	40°C
1670	S.L.	67	835	765	700	630
	2000	66	735	670	600	535
	4000	65	635	570	505	445
	6000	63	535	475	415	355
	8000	62	440	380	320	265
	10,000	61	340	285	230	175
	12,000	60	245	190	135	85

Figure 5-6. Maximum Rate of Climb

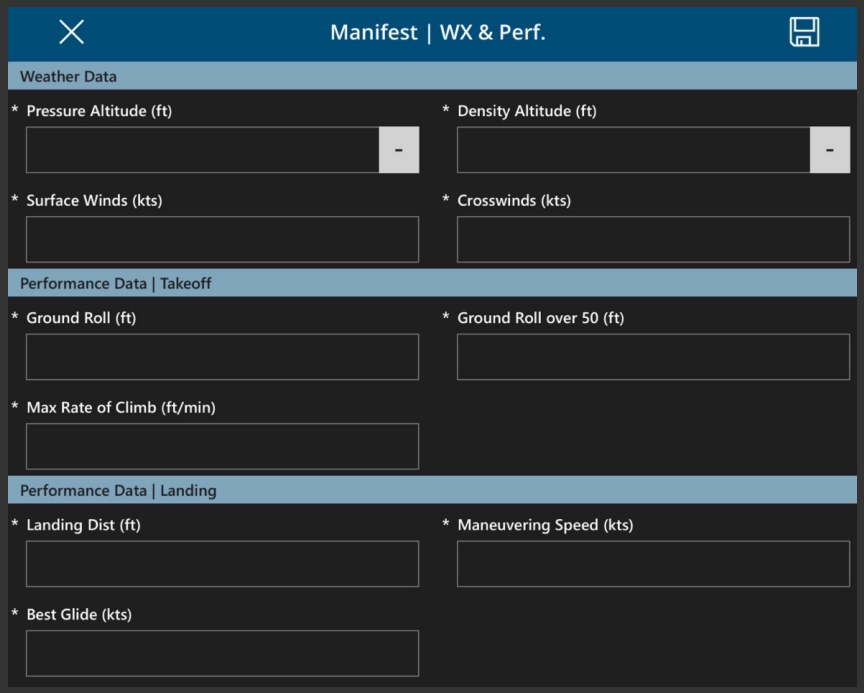
LANDING DISTANCE

SHORT FIELD

CONDITIONS:
Flaps 30°
Power Off
Maximum Braking
Paved, Level, Dry Runway
Zero Wind

NOTES:
1. Short field technique as specified in Section 4.
2. Decrease distances 10% for each 9 knots headwind. For operation with tailwinds up to 10 knots, increase distances by 10% for each 2 knots.
3. For operation on a dry, grass runway, increase distances by 45% of the "ground roll" figure.
4. If a landing with flaps up is necessary, increase the approach speed by 7 KIAS and allow for 35% longer distances.

WEIGHT LBS	SPEED AT 50 FT KIAS	PRESS ALT FT	0°C		10°C		20°C		30°C		40°C	
			GRND ROLL FT	TOTAL FT TO CLEAR 50 FT OBS	GRND ROLL FT	TOTAL FT TO CLEAR 50 FT OBS	GRND ROLL FT	TOTAL FT TO CLEAR 50 FT OBS	GRND ROLL FT	TOTAL FT TO CLEAR 50 FT OBS	GRND ROLL FT	TOTAL FT TO CLEAR 50 FT OBS
1670	54	S.L.	450	1160	465	1185	485	1215	500	1240	515	1265
		1000	465	1185	485	1215	500	1240	520	1270	535	1295
		2000	485	1215	500	1240	520	1270	535	1300	555	1330
		3000	500	1240	520	1275	540	1305	560	1335	575	1360
		4000	520	1275	540	1305	560	1335	580	1370	600	1400
		5000	540	1305	560	1335	580	1370	600	1400	620	1435
		6000	560	1340	580	1370	605	1410	625	1440	645	1475
		7000	585	1375	605	1410	625	1440	650	1480	670	1515
		8000	605	1410	630	1450	650	1480	675	1520	695	1555

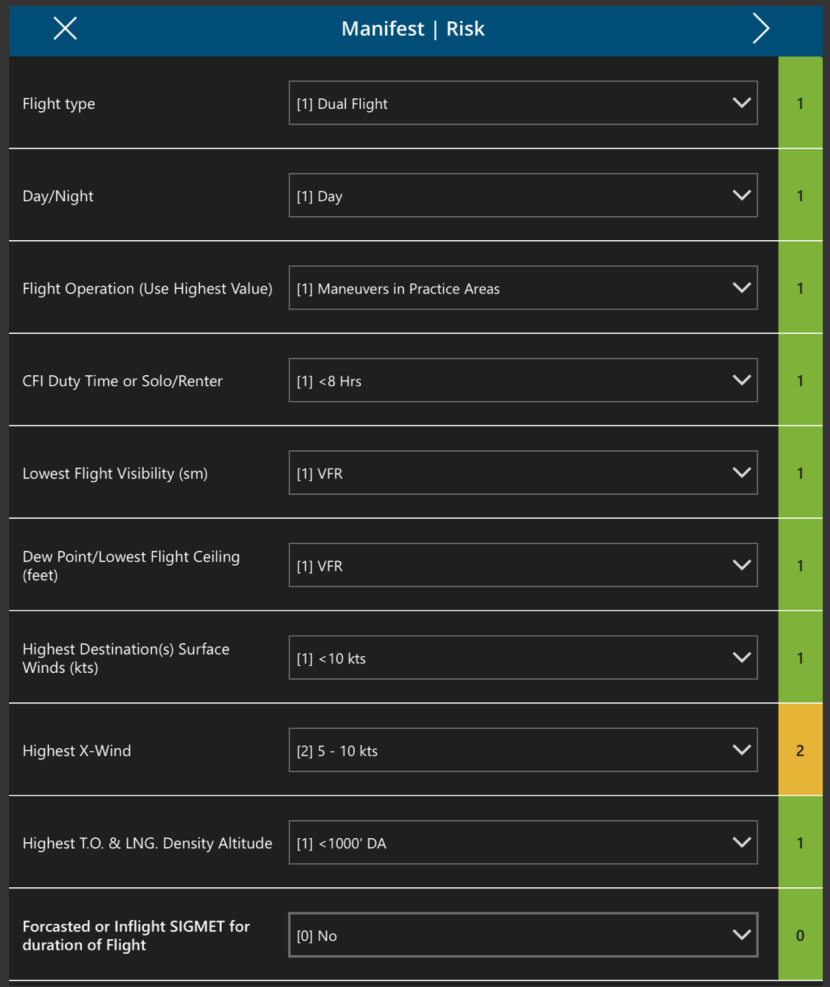


25. Best glide =
C152 = 60
C72P = 65
C172S = 68

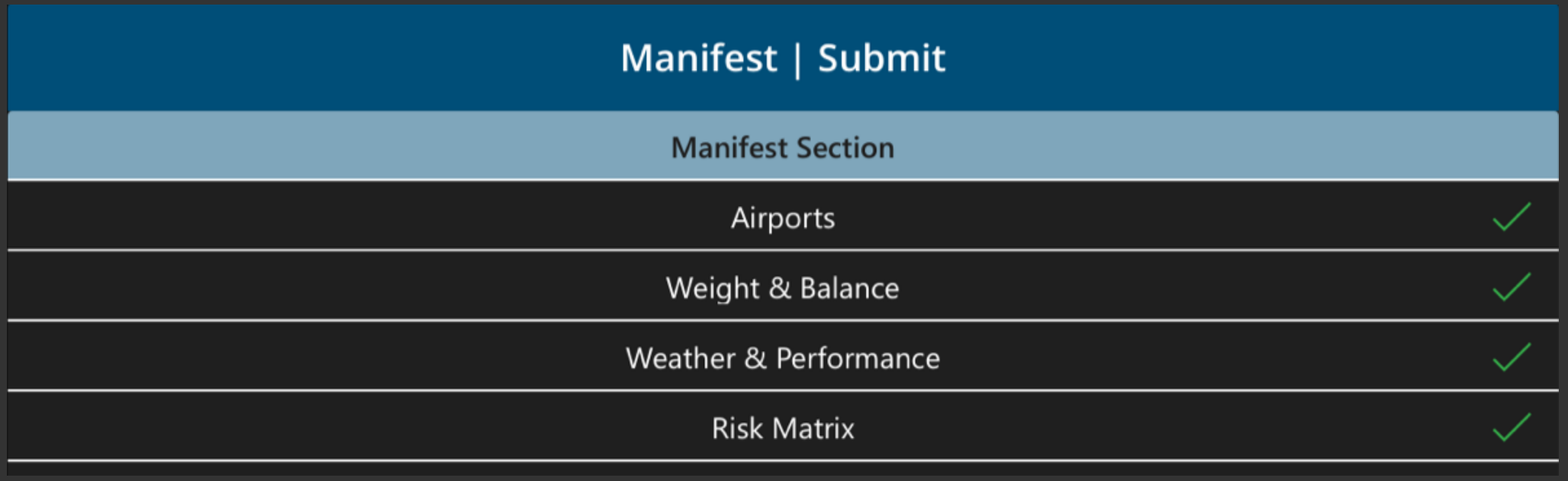
26. Calculate todays Maneuvering speed (Va)

$$V_A = Va_{max} \times \sqrt{\frac{current\ Weight}{Max\ Weight}}$$

Max T/O weight Va speeds
C152 = 104@1670
C72P = 99@2400
C172S = 105@2550



27. Flight Type (dual or solo)
28. Day or Night
29. Flight operation
    - Maneuvers = local practice area flight
    - Traffic pattern = practice landings
    - Away from base (XC) = cross country
30. CFI time or Solo = this refers to how long you CFI has been working (fatigue avoidance), or if solo. Use highest value.
31. Lowest flight visbility (in vicinity of flight
32. Dew point spread or ceiling height
    - Dew point spread = OAT-dew point
    - Use highest value. Ex, sky clear, but temp 10, and dewpoint 8, set “3”
33. Surface winds, Xwinds, and Density alt
34. Verify no SIGMETS on AWC (Aviationweather.gov)



SUBMIT!

- It is OK to submit practice manifests!
- Dispatch has PAPER MANIFESTS if wifi is INOP

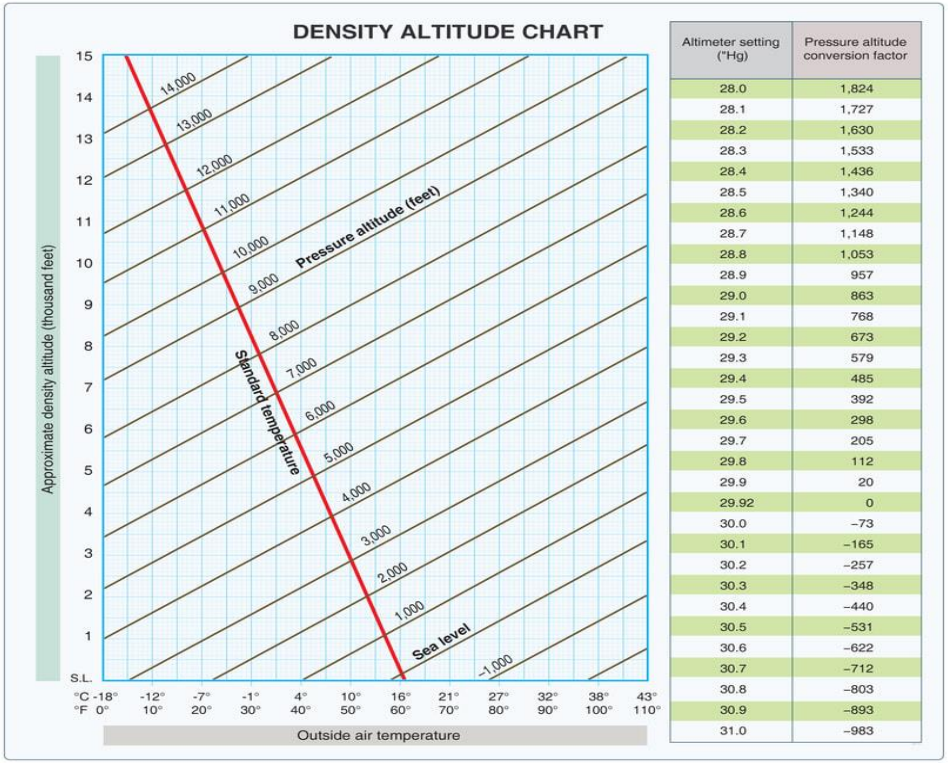
If your cfi “rejects” manifest, you will recieve a notification.
This just means that you need to make an edit, once corrected, it is OK.

WEATHER			
LOCATION	METAR/ASOS/AWOS OR ATIS INFORMATION:		
RUNWAY:	HEADWIND:	CROSSWIND:	
RUNWAY:	HEADWIND:	CROSSWIND:	
PRESSURE ALT	FT	DENSITY ALT	FT
WINDS ALOFT	_____FT	9000FT	12000FT
DIR/SPD/TEMP			

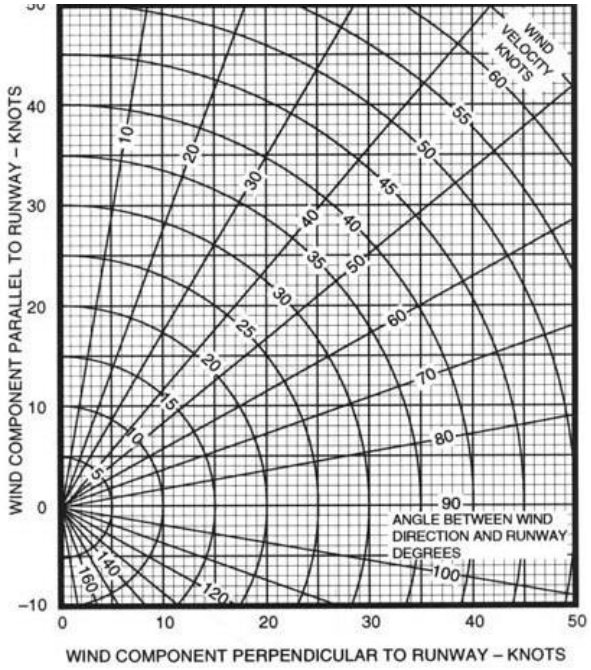
A/C ID:	**WEIGHT**	**ARM**	**MOMENT**
BASIC EMPTY WEIGHT			
PILOT/FRONT PASSENGER			
REAR PASSENGERS			
BAGGAGE AREA 1			
BAGGAGE AREA 2			
FUEL (_____GAL.)			
RAMP		CG	
START UP, TAXI, RUN-UP	-		-
TAKE OFF		CG	
EST. FUEL BURN (____GAL)	-		-

PERFORMANCE				
TAKE OFF DATA	*Pressure Alt*	*Temp*	*Ground Roll*	*50FT Obstacle*
	FT	*C*	*FT*	*FT*
CLIMB	*Vx:*		*Vy:*	*FPM:*
CRUISE	*RPM*	*M.P.*	*TAS*	*GPH*
FT				
FT				
LANDING DATA	*Pressure Alt*	*Temp*	*50FT Obstacle*	*Ground Roll*
	FT	*C*	*FT*	*FT*

NOTAMS	



Altimeter setting ("Hg)	Pressure altitude conversion factor
28.0	1,824
28.1	1,727
28.2	1,630
28.3	1,533
28.4	1,436
28.5	1,340
28.6	1,244
28.7	1,148
28.8	1,053
28.9	957
29.0	863
29.1	768
29.2	673
29.3	579
29.4	485
29.5	392
29.6	298
29.7	205
29.8	112
29.9	20
29.92	0
30.0	–73
30.1	–165
30.2	–257
30.3	–348
30.4	–440
30.5	–531
30.6	–622
30.7	–712
30.8	–803
30.9	–893
31.0	–983



Airworthiness Checklist / TOLD

Pilot_____ Date_____

N-Number_____ Pilot Signature_____

Pilot		X
Documents	Government Issue Photo ID	
	Pilot Certificate	
	Logbook+ Endorsements	
	Medical	
Physiological	I.M.S.A.F.E.	
Preflight action 91.103 N.W.K.R.A.F.T. Each pilot in command shall, before beginning. a flight, become familiar with all available information concerning that flight	NOTAMS	
	Weather	
	Known ATC Delays/Frequencies	
	Runways	
	Alternates	
	Fuel Requirements REQ/REGs/P-MINs	
	Take-Off and Landing Data	

Aircraft Documents		X
A	Airworthiness Certificate	
R	Registration Certificate	
R	Radio Station License	
O	Operating Handbook	
W	Weight and Balance	
C	Compass Deviation Card	

Required Aircraft Inspections					X
			DATE or TACH	NEXT DUE	
V F R	A	Annual (12 CAL.)			
	H	Hundred Hour (100HR)			
	E	ELT INSPECTION (12CAL.)			
		ELT HALF LIFE/USE			
	A	Airworthiness Directives			
	T	Transponder (24 CAL.)			
I F R	P	Pitot Static System -24 Cal			
	A	Altimeter (24 CAL.)			
	V	VOR Equipment Check (30DAYS)			

Required Aircraft Equipment 91.205(b)			X
V F R		DAY	
	A	Anti-Collison Light System	
	T	Tachometer	
	O	Oil Pressure Gauge	
	M	Manifold Pressure (Altitude Engine)	
	A	Airspeed Indicator	
	T	Temp Gauge (Liquid Cooled Engine)	
	O	Oil Temperature Gauge (Air-Cooled Engine)	
	F	Fuel Quantity Indicator	
	L	Landing Gear Position Indicator (RG A/C)	
	A	Altimeter	
	M	Magnetic Compass	
	E	ELT	
	S	Safety Belts	
		NIGHT	
	F	Fuses' (3 Per kind per fuse)	
	L	Landing Light	
	A	Anti-Collision Lights	
	P	Position Indicator Lights	
	S	Source of Electricity	

Required Equipment 91.205(b)			X
I F R		ALL DAY AND NIGHT VFR	
	G	Generator or Alternator	
	R	Rate of Turn Indicator	
	A	Attitude Indicator	
	B	Ball (Slip/Skid Indicator)	
	C	Clock with second sweep or read	
	A	Altimeter (Pressure Sensitive)	
	R	Radio Equipment	
	D	Directional Gyro	
	D	DME Above FL250 and using VOR's	