

N3735F C-172H

Version 3.0 Updated 04/02/2025

Cabin

Pitot Tube Cover	Remove
Flashing Beacon	On
Ignition Switch	Off
Avionics	Off
Master Switch	On
Flaps	Extend / Full
Exterior Lights	On / Check / Off
Fuel Quantity (L & R)	Check
Oil Pressure(d-Engine Monitor)	Check
Ammeter(d-Engine Monitor)	Check
Pitot Heat	Check
Master Switch	Off
Right Fuel Quantity	Check
Engine Oil Quantity	Check
Left Fuel Quantity	Check
Documents	Check
POH	Available
Supplements	Available
Parking Brake	Set
Control Wheel Lock	Remove
Flight Controls	Free/Correct
Fire Extinguisher (not required)	Check
Fuel Selector	Check / Both
Elevator Trim	Check / Takeoff
Mixture	Idle Cut-Off
Throttle	Closed
Carb Heat	Off
Alternate Static Source	Check / Off
Aft Fuselage & Empennage	
Cargo	Secured
Baggage Door	Secured
Horizontal Stabilizer	Inspect
Elevator & Trim Tab	Inspect
Vertical Stabilizer	Inspect
Tie-down	Remove
Antennas	Inspect

Right Wing

Flap / Aileron	Inspect
Wing Tip / Lights	Inspect
Leading Edge	Inspect
Landing / Taxi Light	Inspect
Tie-Down / Chocks	Remove
Main Gear	Inspect
Right Fuel Sump	Drain
Fuel Quantity	Verify
Fuel Cap / Vent	Check / Secure
Overhead Cabin Vents	Clear

Forward Fuselage

Cabin Air Inlet	Clear
Oil Quantity	Verify
Engine Cowling	Inspect
Exhaust Stack	Inspect
Reservoir / Strainer	Drain
Engine Cooling Inlet	Check
Propeller	Inspect
Induction Inlet / Filter	Inspect
Nose Gear	Inspect
Tie-Down	Remove
Static Source Opening	Inspect
External Power	Closed / Latched

Left Wing

Left Fuel Sump	Drain
Fuel Quantity	Verify
Fuel Cap / Vent	Check / Secure
Leading Edge	Inspect
Overhead Cabin Vents	Clear
Pitot Tube	Inspect
Fuel Vent	Inspect
Stall-Warning Opening	Inspect
Landing / Taxi Light	Inspect
Wing Tip / Lights	Inspect
Flap / Aileron	Inspect
Tie-Down / Chocks	Remove
Main Gear	Inspect
360° Walk-Around	Perform

Ramp Out

NOTE: AVIONICS IS ALWAYS OFF PRIOR TO MASTER GOING OFF

Master Switch	On
Avionics Switch	On
ATIS / Clearance	Obtain
Avionics Switch	Off
Master Switch	Off

Passenger Briefing

Seatbelts / Air Vents
Air Sickness / Exit Use
Traffic Watch

Crew Briefing

Airport Diagram / ATIS
Runway In Use / Departure Clearance
V _a / PIC, PF, PM
Positive Exchange Of Flight Controls
Sterile Cockpit / Safe Attitude

Before Start

Fuel Selector	Both
Mixture Control	Full Rich
Throttle	Open 1/4"
Navigation Lights	As Required
Circuit Breakers	In
Parking Brake	Set
Seatbelts	On

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Engine Start

Master Switch	On
Prime	As required
Prop Area	Clear
Brakes	Hold
Keys	Both
Starter	Engage
Throttle	1000 RPM
Engine Gauges	Check

Ammeter	Check
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Mixture **Lean**

Before Taxi

Avionics Switch	On
Radios	Set
Instruments	Set
Transponder	Check / On
Flaps	Up
Parking Brake	Release

Run-Up

Parking Brake	Set
Flight Controls	Free / Correct
Windows	Close
Fuel Selector	Both
Mixture	Full Rich
Throttle	1700 RPM
Magnetos [150 / 50]	Check
Carb Heat	Check
Engine Gauges	Check
Primer	Verify In & Locked
Throttle	Idle
Mixture	Lean
Throttle	1000 RPM
Parking Brake	Release

IF MAG DROPS OUTSIDE OF LIMITS, YOU MAY ATTEMPT A SPARK PLUG FOULING PROCEDURE. AFTER COMPLETING A FOULING PROCEDURE, IF IT IMPROVES AND IS OUTSIDE OF LIMITS, YOU MAY ATTEMPT ANOTHER.

Departure Briefing

Runway Available / Required
Airspeeds / Crosswind / Gust
Terrain / Obstacles / Wake Turbulence
Noise Abatement / Departure Plan
Sterile Cockpit / Emergency Procedure

Departure

Seatbelts	On
Cabin Doors	Closed / Locked
Elevator Trim	Set
Flaps	Set / Verify
Heading Indicator	Set
Flight Instruments	Set
Autopilot (If Installed)	Off

Before Takeoff

Traffic	Check
Windows	Close / Locked
Fuel Selector	Both
Mixture	Full Rich
Carb Heat	Off
Lights	On
Pitot Heat	As Required

Climb

(Complete prior to 1,000 AGL)

Flaps	Up
Climb Power	Set
Mixture	As Required
Engine Instruments	Check

Cruise

Cruise Power	Set
Elevator Trim	Set
Mixture	Lean

Heading Indicator	Set
Engine Instruments	Monitor
Fuel Quantity	Monitor
Lights	On

Arrival Briefing

Arrival Plan / TPA
Runway Distance Available / Required
Approach Speed / Crosswind
Terrain / Obstacles
Wake Turbulence / Wind Shear
Noise Abatement / Sterile Cockpit

Arrival

Seatbelts	On
Fuel Selector	Both
Lights	On
Flight Instruments	Set

Before Landing

NOTE: TO BE COMPLETED AT 500' AGL

Fuel Selector	Both
Mixture	Full Rich
Carb Heat	On
Autopilot (If Installed)	Off

After Landing

Lights	As Required
Pitot Heat	Off
Carb Heat	Off
Mixture	Lean
Flaps	Up
Elevator Trim	Takeoff

Go-Around

Throttle	Full
Carb Heat	Off
Positive Rate	Flaps 20
60 KIAS	Flaps 10
65 KIAS	Flaps Up
Climb Checklist	Complete

Shutdown

NOTE: AVIONICS IS ALWAYS OFF PRIOR TO MASTER GOING OFF

Parking Brake	Set
Avionics	Off
Throttle	1000 RPM
Mixture	Idle cut-off
Ignition Switch	Off
Navigation / Taxi Lights	Off
Master	Off

Secure

Lights / Elec. Switches	Off
Flaps	Up
Control Wheel Lock	Install
Fuel Selector	Off
Pitot Tube Cover	Install
Gust Locks	Install If Required)
Tie-Downs	Secure
Main wheels	Chock
Parking brake	Release
Trash	Remove
Windows / doors	Close / lock

NOTE: STUDENTS AND RENTERS WILL BE CHARGED AN AIRPLANE CLEANING FEE FOR TRASH LEFT IN AIRPLANES.

Lean Procedure

Throttle	1200RPM
Mixture Control	Lean to Drop in RPM
Mixture Control	Return to Max RPM
Throttle	1000RPM

Engine Failure During Takeoff Roll

Directional Control	Maintain
Throttle	Close Immediately
Brake	As Required
<u>Insufficient Rwy for Stop:</u>	
Flaps	Up
Mixture	Idle Cut-Off
Ignition	Off
Master	Off

Engine Failure Immediately After Takeoff

Airspeed	70 UP/65 DOWN
Throttle	Close Immediately
Fuel Selector	Off
Mixture	Idle Cut-Off
Flaps	As Required
Ignition	Off
Master	Off
Doors	Unlatch
Land	Straight Ahead

Spin Recovery

Throttle	Close
Ailerons	Neutral
Rudder	Opposite Direction of Spin
Control wheel	Full forward
<u>When Rotation Stops:</u>	
Rudder	Neutralize
Control Wheel	Apply Back Pressure

Static Source Blockage

Alternate Static Source	On
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Cabin heat / air	On
Vents	Closed
Airspeed	Use calibration table(sec.5)

Engine Failure During Flight

Airspeed	65
Flaps	Up
Landing Site	Select
Fuel Selector	Both
Mixture	Rich
Carb Heat	On
Ignition	Both (Start)

If Engine Fails to Start:

Transponder	7700
Radio(121.5)	Mayday

Proceed with Emergency Landing Without Engine Power.

Emergency Landing Without Engine Power

Passenger Seats	Upright
Seatbelts	On
Fuel Selector	Off
Mixture Control	Idle Cut-Off
Flaps	Full Recommended
ELT Switch	On
Ignition Switch	Off
Master Switch	Off (Landing Assured)
Cabin Doors	Unlatch
Touchdown	Slightly Tail-Low
Brakes	Apply Heavily

Autopilot/ Trim Runaway

Autopilot Trim Switch	Disconnect
Trim Circuit Breaker	Pull
Autopilot Circuit Breaker	Pull

Engine Fire During Start

Starter	Continue to Engage
<u>If Engine Starts:</u>	
Throttle	1700 RPM (Few Min.)
Mixture	Idle Cut-Off
Engine	Inspect

If Engine Fails to Start:

Starter	Continue to engage
Fuel selector	Off
Mixture	Idle Cut-Off
Throttle	Full Forward
Master	Off
Ignition	Off
Parking Brake	Release
Fire Extinguisher	Obtain
Airplane	Evacuate

Engine Fire in Flight

Mixture	Idle Cut-Off
Fuel Selector	Off
Master	Off

Cabin Vents	Open (As Needed)
Cabin Air/Heat	Off
Flaps	Up
Airspeed	100+ KIAS / Extinguish

Proceed with Emergency Landing without Engine Power.

Cabin Fire in Flight

Master	Off
Cabin Vents/Air/Heat	Off
Fire Extinguisher	Obtain/Discharge

Once Fire is Extinguished:

Cabin Vents/Air/Heat	Open
Airport	Land

Electrical Fire in Flight

Master	Off
Avionics	Off
Electrical Switches	Off
Vents/air/heat	Closed
Fire Extinguisher	Obtain/Discharge

Once Fire is Extinguished:

Cabin Vents/Air/Heat	Open
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If Electrical Power Necessary:

Circuit Breakers	Check
Master	On
Avionics	On

Wing Fire in Flight

Landing/Taxi Lights	Off
Nav Lights	Off
Strobe	Off
Pitot Heat	Off
Sideslip	(Step on Fire, Fly Away)

Carbon Monoxide Level High

Cabin Heat	Off
Cabin Air	On
Cabin Vents	Open

Windows	Open
Airport	Land

Inadvertent Icing Encounter

Pitot Heat	On
Altitude or Direction	Change
Carb Heat	On
Cabin Heat	On
Defroster Outlets	Open
Cabin Air	Open/Max

Airport	Plan Landing
Flaps	Up
Approach Speed	65-70

Autopilot Malfunction / Pitch Trim Runaway

NOTE: IN FLIGHT, DO NOT OVERPOWER THE AUTOPILOT. THE TRIM WILL OPERATE IN THE DIRECTION OPPOSING THE OVERPOWER FORCE, WHICH WILL RESULT IN LARGE OUT-OF-TRIM FORCES.

Control Wheel	Grip Firmly
AP DISC/TRIM INIT	Press and Hold
Aircraft Attitude	Recover

Elevator Trim	Re-Trim
Autopilot Circuit Breaker	Pull
AP DISC / TRIM INIT Button	Release

Oil Pressure Low

If Oil Temp. Normal:

Airport	Land
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If Oil Temp. Rising:

Power	Reduce
Landing Field	Select
Power	Minimum Use

Rough Engine Operation / Loss of Power

Spark Plug Fouling

Ignition	Check
Mixture	Adjust

If Roughness/Power Loss Persists:

Ignition	As Required
Airport	Land

Ignition Malfunction:

Ignition	Check Both, R, L
Power	Adjust
Mixture	Enrichen

If Roughness/Power Less Persists:

Ignition	As required
Airport	Land

High Volts

Alternator Switch	Off
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Electrical Load Reduce:

Avionics	Off (Unless Req.)
Pitot Heat	Off
Lights	Off
Airport	Land

Low Voltage at High RPM

Alternator	Off
Alternator Circuit Breaker	Reset
Master	On
Low volts	Check Off

If Low Volts Continues:

Alternator	Off
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Electrical Load Reduce:

Avionics	Off (Unless Req.)
Pitot Heat	Off
Lights	Off
Airport	Land

Landing with Flat Main Tire

Approach	Normal
Flaps	Full
Touchdown	Good Tire First
Directional Control	Maintain

Landing with Flat Nose Tire

Approach	Normal
Flaps	Full
Touchdown	Main Gear
Directional Control	Maintain

Landing Without Elevator Control

Flaps	20
Airspeed	65
Trim	Horizontal Flight
Control Glide with Power	
Landing flare	Trim Nose Up
Throttle	Close

Ditching

Radio	Mayday
Heavy Objects	Secure/Jettison
Passenger Setbacks	Upright
Seatbelts	On
Flaps	20-Full
Power	300fpm Descent@55

Approach:

High Wind, Heavy Seas:	Into wind
Light wind, Heavy Swells:	Parallel Swell

Cabin doors	Unlatch
ELT	On
Touchdown	Level
Face	Cushion at Touchdown
Airplane	Evacuate
Life vest/raft	Inflate

Fouled Spark Plug Burn Off Procedure

NOTE: WHEN LEANING, YOU ARE LEANING TO THE DROP IN RPM. DO NOT INCREASE MIXTURE AFTER DROP

TRY CLEARING THE PLUGS BY RUNNING YOUR ENGINE UP TO 2000 RPM ON BOTH MAGS LEANING TO ABOUT 50 RPM LEAN OF PEAK (CONTINUE TO LEAN UNTIL YOU MAXIMIZE RPM, THEN LEAN FURTHER UNTIL YOU LOSE ABOUT 50 RPM). LET THE ENGINE RUN FOR ABOUT 30 SECONDS AND THEN TRY ANOTHER NORMAL RUN-UP (AT THE NORMAL RUN-UP RPM) TO SEE IF THE PROBLEM CLEARED UP. IF NOT, TRY THE SAME PROCEDURE AGAIN.

IF AFTER THE 3RD TRY IT DOESN'T CLEAR UP, GET SOME MAINTENANCE HELP TO CORRECT THE PROBLEM BEFORE FLYING THE AIRPLANE.

SPARK PLUG CARBON BUILD UP CAN BE A RESULT OF RUNNING THE MIXTURE TOO RICH. TO AVOID THIS, WAIT UNTIL LAST MINUTE TO APPLY FULL MIXTURE FOR TAKEOFF/LANDING. LEAN FOR TAXI. RUNNING THE ENGINE HOT CAN ASSIST WITH BURNING OFF CARBON DEPOSITS.

Throttle	2000 RPM
Mixture Control	Lean of Peak EGT
Time	45-60 Seconds
Throttle	1000 RPM
Run-Up Checklist	Complete

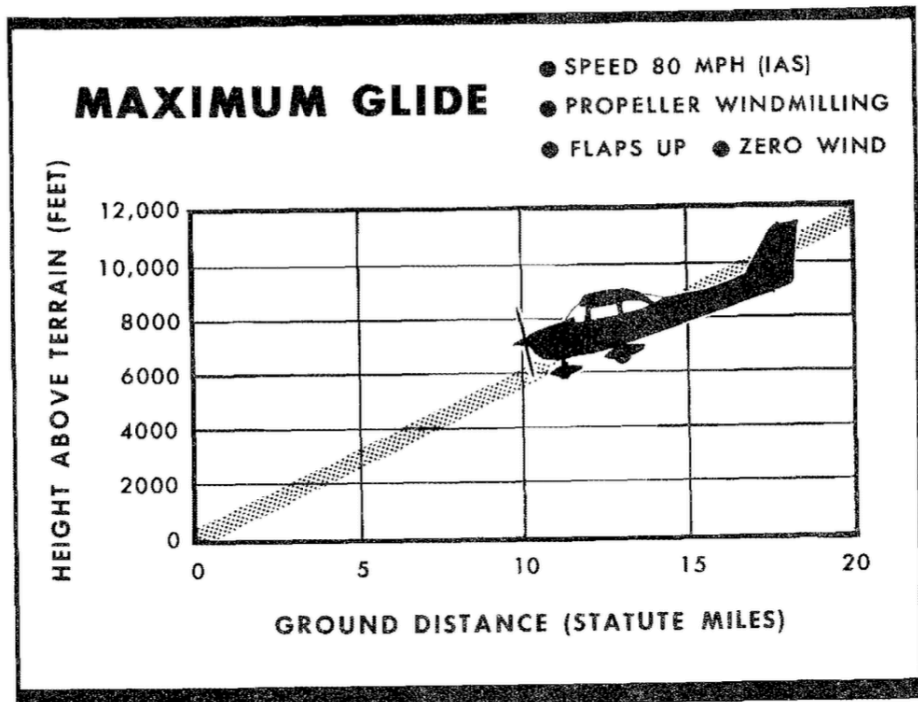


Figure 5-7.

AIRSPEED CORRECTION TABLE												
	IAS	40	50	60	70	80	90	100	110	120	130	140
FLAPS UP	CAS	48	55	63	71	80	89	98	108	117	128	138
FLAPS DOWN	CAS	48	56	64	72	81	90	99	•	•	•	•

Figure 5-1.

POWER OFF STALLING SPEEDS MPH - CAS					
		ANGLE OF BANK			
		0°	20°	40°	60°
2300 LBS. GROSS WEIGHT	FLAPS UP	57	59	65	81
	FLAPS 10°	52	54	59	74
	FLAPS 40°	49	51	56	69

Figure 5-2.

TAKE-OFF DATA

TAKE-OFF DISTANCE FROM HARD SURFACE RUNWAY, FLAPS UP

GROSS WEIGHT LBS.	IAS AT 50 FT. MPH	HEAD WIND KNOTS	@ S.L. & 59° F		@ 2500 ft. & 50° F		@ 5000 ft. & 41° F		@ 7500 ft. & 32° F	
			GROUND RUN	TOTAL TO CLEAR 50' OBS.	GROUND RUN	TOTAL TO CLEAR 50' OBS.	GROUND RUN	TOTAL TO CLEAR 50' OBS.	GROUND RUN	TOTAL TO CLEAR 50' OBS.
2300	70	0	865	1525	1040	1910	1255	2480	1565	3855
		10	815	1170	750	1485	920	1955	1160	3110
		20	405	850	505	1100	630	1480	810	2425
2000	65	0	630	1095	755	1325	905	1625	1120	2155
		10	435	820	530	1005	645	1250	810	1685
		20	275	580	340	720	425	910	595	1255
1700	60	0	435	780	520	920	625	1095	765	1370
		10	290	570	355	680	430	820	535	1040
		20	175	385	215	470	270	575	345	745

- NOTES: 1. Increase distance 10% for each 25°F above standard temperature for particular altitude.
 2. For operation on a dry, grass runway, increase distances (both "ground run" and "total to clear 50 ft. obstacle") by 7% of the "total to clear 50 ft. obstacle" figure.

MAXIMUM RATE-OF-CLIMB DATA

GROSS WEIGHT LBS.	@ S.L. & 59° F			@ 5000 ft. & 41° F			@ 10,000 ft. & 23° F			@ 15,000 ft. & 5° F		
	IAS MPH	RATE OF CLIMB FT/MIN.	GALS OF FUEL USED	IAS MPH	RATE OF CLIMB FT/MIN.	FROM S.L. FUEL USED	IAS MPH	RATE OF CLIMB FT/MIN.	FROM S.L. FUEL USED	IAS MPH	RATE OF CLIMB FT/MIN.	FROM S.L. FUEL USED
2300	80	645	1.0	78	435	2.6	77	230	4.8	76	22	11.5
2000	77	840	1.0	76	610	2.2	74	380	3.6	73	155	6.3
1700	75	1085	1.0	73	825	1.9	71	570	2.9	70	315	4.4

- NOTES: 1. Flaps up, full throttle and mixture leaned for smooth operation above 5000 ft.
 2. Fuel used includes warm-up and take-off allowance.
 3. For hot weather, decrease rate of climb 20 ft./min. for each 10°F above standard day temperature for particular altitude.

Figure 5-3.

CRUISE & RANGE PERFORMANCE				Gross Weight- 2300 Lbs. * Standard Conditions * Zero Wind * Lean Mixture * 36 Gal. of Fuel (No Reserve)		
NOTE: Maximum cruise is normally limited to 75% power. For standard 172 performance, subtract 1 MPH from the higher cruise speeds shown.						
ALT.	RPM	% BHP	TAS MPH	GAL. / HOUR	ENDR. HOURS	RANGE MILES
2500	2700	93	138	10.5	3.4	470
	2600	84	131	9.5	3.8	495
	2500	75	125	8.5	4.2	530
	2400	67	119	7.6	4.7	560
	2300	59	113	6.8	5.3	595
	2200	52	106	6.2	5.8	615
	2100	46	100	5.7	6.4	635
5000	2700	87	136	9.8	3.7	500
	2600	78	130	8.8	4.1	525
	2550	74	127	8.4	4.3	550
	2500	70	124	7.9	4.5	560
	2400	62	118	7.1	5.1	600
	2300	55	111	6.4	5.6	625
	2200	49	105	5.9	6.1	640
2100	44	98	5.5	6.4	640	
7500	2650	77	132	8.7	4.2	550
	2600	73	129	8.2	4.3	560
	2500	65	123	7.4	4.9	600
	2400	58	116	6.7	5.3	620
	2300	52	110	6.1	5.9	650
	2200	47	103	5.7	6.4	655
	2100	42	97	5.3	6.7	655
10,000	2600	68	128	7.7	4.7	605
	2500	61	121	7.0	5.2	625
	2400	55	115	6.4	5.6	645
	2300	49	108	5.9	6.1	655
	2200	45	102	5.5	6.6	670
	2100	41	96	5.2	6.8	655
12,500	2600	63	126	7.2	5.0	630
	2500	57	120	6.6	5.4	650
	2400	52	113	6.1	5.9	670
	2300	47	107	5.7	6.3	670
	2200	43	101	5.4	6.6	670

The performance figures above apply to aircraft equipped with a standard McCauley 1C172/EM7653 propeller. Refer to figure 5-5 for information concerning aircraft with an optional McCauley 1C172/EM7651 climb propeller.

Figure 5-4.

LANDING DATA									
LANDING DISTANCE ON HARD SURFACE RUNWAY									
NO WIND - 40° FLAPS - POWER OFF									
GROSS WEIGHT LBS.	APPROACH IAS MPH	@ S.L. & 59° F		@ 2500 ft. & 50° F		@ 5000 ft. & 41° F		@ 7500 ft. & 32° F	
		GROUND ROLL	TOTAL TO CLEAR 50' OBS.	GROUND ROLL	TOTAL TO CLEAR 50' OBS.	GROUND ROLL	TOTAL TO CLEAR 50' OBS.	GROUND ROLL	TOTAL TO CLEAR 50' OBS.
2300	69	520	1250	560	1310	605	1385	650	1455

NOTES: 1. Reduce landing distance 10% for each 5 knot headwind.
2. For operation on a dry, grass runway, increase distances (both "ground roll" and "total to clear 50 ft. obstacle") by 20% of the "total to clear 50 ft. obstacle" figure.

Figure 5-6.

Knots to MPH WindSpeed Conversion

1 Knot = 1.152 MPH 1 MPH = 0.868 Knot

Knots MPH		Knots MPH		Knots MPH		Knots MPH	
1	1	31	36	61	70	91	105
2	2	32	37	62	71	92	106
3	3	33	38	63	73	93	107
4	5	34	39	64	74	94	108
5	6	35	40	65	75	95	109
6	7	36	41	66	76	96	111
7	8	37	43	67	77	97	112
8	9	38	44	68	78	98	113
9	10	39	45	69	79	99	114
10	12	40	46	70	81	100	115
11	13	41	47	71	82	101	116
12	14	42	48	72	83	102	118
13	15	43	50	73	84	103	119
14	16	44	51	74	85	104	120
15	17	45	52	75	86	105	121
16	18	46	53	76	88	106	122
17	20	47	54	77	89	107	123
18	21	48	55	78	90	108	124
19	22	49	56	79	91	109	126
20	23	50	58	80	92	110	127
21	24	51	59	81	93	111	128
22	25	52	60	82	94	112	129
23	26	53	61	83	96	113	130
24	28	54	62	84	97	114	131
25	29	55	63	85	98	115	132
26	30	56	65	86	99	116	134
27	31	57	66	87	100	117	135
28	32	58	67	88	101	118	136
29	33	59	68	89	103	119	137
30	35	60	69	90	104	120	138

miles per hour to knots conversion scale

