

9.2 ENGINE COOLING TEST

Objective: Demonstrate airplane engine **COOLING** performance.

Configuration: Climb (Gear & Flaps UP, cowls – open, engine leaned above 5,000 ft)
Power: Maximum-continuous SHP & idle (single-engine climb)

Method: In compliance with FAR Part 23 and AC 23-8B suggested methods.
(Forward CG / Maximum Weight)

Altitude: From \leq 3,000 ft MSL

Airspeed: Best SE-ROC (97 KIAS)

Procedure:

Fuel(lb): 750 (start)

<u>Time</u>	<u>Speed</u>	<u>Altitude</u>	<u>MAP</u>	<u>OAT</u>	<u>EGT</u>	<u>CHT</u>	<u>OIL</u>
Level flight:					(1650 max)	(460 max)	(225 max)
0:00	<u>160</u>	<u>1,500</u>	<u>20.0</u>	<u>48</u>	<u>1200</u>	<u>270</u>	<u>130</u>
1:00	<u>160</u>	<u>1,500</u>	<u>20.0</u>	<u>48</u>	<u>1200</u>	<u>270</u>	<u>130</u>
2:00	<u>160</u>	<u>1,500</u>	<u>20.0</u>	<u>48</u>	<u>1200</u>	<u>270</u>	<u>130</u>
Climbing:							
0:00	<u>97</u>	<u>3,000</u>	<u>26.0</u>	<u>45</u>	<u>1210</u>	<u>300</u>	<u>145</u>
1:00	<u>97</u>	<u>4,100</u>	<u>25.0</u>	<u>43</u>	<u>1210</u>	<u>310</u>	<u>145</u>
2:00	<u>97</u>	<u>5,200</u>	<u>24.0</u>	<u>41</u>	<u>1250</u>	<u>320</u>	<u>150</u>
3:00	<u>97</u>	<u>6,000</u>	<u>23.0</u>	<u>38</u>	<u>1250*</u>	<u>340</u>	<u>150</u>
4:00	<u>97</u>	<u>6,700</u>	<u>22.5</u>	<u>36</u>	<u>1240</u>	<u>350</u>	<u>155</u>
5:00	<u>97</u>	<u>7,300</u>	<u>22.0</u>	<u>35</u>	<u>1230</u>	<u>350**</u>	<u>155***</u>
6:00	<u>97</u>	<u>7,900</u>	<u>21.5</u>	<u>34</u>	<u>1240</u>	<u>350</u>	<u>155</u>
7:00	<u>97</u>	<u>8,400</u>	<u>21.5</u>	<u>32</u>	<u>1220</u>	<u>345</u>	<u>155</u>
8:00	<u>97</u>	<u>8,900</u>	<u>21.0</u>	<u>30</u>	<u>1220</u>	<u>345</u>	<u>155</u>
9:00	<u>97</u>	<u>9,400</u>	<u>20.5</u>	<u>30</u>	<u>1200</u>	<u>340</u>	<u>155</u>
10:00	<u>97</u>	<u>9,800</u>	<u>20.0</u>	<u>30</u>	<u>1180</u>	<u>320</u>	<u>155</u>
11:00	_____	_____	_____	_____	_____	_____	_____
12:00	_____	_____	_____	_____	_____	_____	_____
13:00	_____	_____	_____	_____	_____	_____	_____
14:00	_____	_____	_____	_____	_____	_____	_____
15:00	_____	_____	_____	_____	_____	_____	_____

Fuel(lb): 650 (finish)

*Note: Indicates peak EGT (subjective, due to leaning during climb).

**Note: Indicates peak EGT.

***Note: Indicates peak Oil Temperature (though constant, assumed at peak CHT).