Running fix with course change using StarPilot.

Example Problem 15, Hawaii by Sextant

DR at moon sight

Moon LL—July 15, 1982 DR 30° 05' N, 139° 40' W 0728 WT C= 260, S= 7.5

0832 change course to 240, S=7.5

Sun LL—July 15, 1982 DR 30° 00' N, 139° 54' W 0917 C =240, S=7.5

Figure distance made good and CMG = 13.1 nmi at 247.7T

•				
umb Line				×
elp				
DR Lat:	30.050	RL Course:	247.7°T	
DR Lon:	-139.400	RL Dist(nm):	13.17	
Dest Lat:	30.000	GC Course:	247.6°T	
Dest Lon:	-139.540	GC Dist(nm):	13.11	
	ompute	Clear	Done	
	umb Line elp DR Lat: DR Lon: Dest Lat: Dest Lon:	umb Line elp DR Lat: 30.050 DR Lon: -139.400 Dest Lat: 30.000 Dest Lon: -139.540 Compute	elp DR Lat: 30.050 RL Course: DR Lon: -139.400 RL Dist(nm): Dest Lat: 30.000 GC Course: Dest Lon: -139.540 GC Dist(nm): Compute Clear	Jamb Line JP DR Lat: 30.050 RL Course: 247.7*T DR Lon: -139.400 RL Dist(nm): 13.17 Dest Lat: 30.000 GC Course: 247.6*T Dest Lon: -139.540 GC Dist(nm): 13.11

Compute time between sights 1h 49m

Add Ti	mes				×
Help					_
	Time: Sum: Mean:	00:00:00	÷	±	
	Cle	ear	Done		

Use time and distance to compute SMG = 7.25 kts

	/		*	
	Speed/Time/Distance	Calculator		\times
	Help			
1				
	Speed:	7.24954128	34403	
	DR Time:	01:49:00	*	
	Distance:	13.17		
I	Compute	Clear	Done	
L				

Compute fix at time of last set of sights 0919. Be sure to use then the DR for that location to get proper range and bearing

or • 10					
Running Fix	by Computation			×	
Help					
10.000					
Speed:	7.25	DR Lat:	30.000		
Course:	247.7	DR Lon:	-139.540		
Fix Time:	09:19:15 🛟	Fix Lat:	029*47.3'		
Date:	7/15/82 💌	Fix Lon:	-139°52.0'		
Range:	12.79	Bearing:	172.1°T	_	
Running Fix					
Iteration #1 / Lat / Lon / Range(nm) / Bearing(T) 029°47.3' -139°52.0' 12.78 172.1°					
				~	
Cor	mpute Upda	te DR	Done	8	

Now show the plotted solution... need to fix the DR again....

we used here all 7 sights for the fix. The answer in the book using just two sights is

Problem 15. 0917 FIX using CMG250, SMG7.1 29° 48.4'N, 139° 51.9'W (Fix had a course change.)

So it did not have the best course or speed. Lat is off by about 1 nmi.

prob 15.s	ip - StarPilot PC	
File Edit	View Celestial DR-and-Piloting Help	
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030*05 11	-140°26.9'	-139°16.8'
	Plot LOPs — × Print Help Speed: 7.25 DR Lat: 30.000 Course: 247.7 DR Lon: 139540 Fix Time: 09.19.15 Fix Lat: 029'47.8' Date: 7/15/82 Fix Lat: 029'47.8' Scale: 2 Range: 12.36 Zoom: Bearing: 171.4'T Plot Update DR Done	
029'30.5'		

If we use the book speed and course and time we get this below, but the above is a better solution.

Running Fix by Computation						
Help						
80 L						
Speed:	7.1	DR Lat:	30.000			
Course:	250	DR Lon:	-139.540			
Fix Time:	09:17:00	Fix Lat:	029*47.8'	1		
Date:	7/15/82 💌	Fix Lon:	-139°51.8'	1		
Range:	12.39	Bearing:	171.0°T	1		
Running Fix:						
Iteratio Lat / Lo	ing(T)	~				