**COSC326 Etude 4 – Desert Crossing**

**1.** You can safely travel 360km and make it back to the start.   
(60 litres x 12km = 720, 720/2 = 360km)

**2.** In this procedure the driver crosses to the other side of the desert using 541.087 litres of fuel. During this procedure, all of the fuel that is dropped in the desert is used at some stage, so nothing is left over. When the driver reaches the end of the desert at exactly 2413km, he has 0.013 litres of fuel left in his tank.

**Trip 1:** On this first trip, the driver makes a small run to set up for a later trip. He puts 20 litres of fuel into his tank, and loads a 10 litre can of fuel onto the back of the truck. He then drives 120km forward, using half of the fuel in the tank. He drops off the 10 litre can, and drives 120km back to the start.  
**Trip 2:** The driver fills right up with 60 litres in the tank and four 20 litre cans on the back. He then drives forward 360km using half of his tank of fuel. He drops off the four cans, and drives 360km back to the start.  
**Trip 3:** The driver fills his tank right up with 60 litres of fuel, and puts three 20 litre cans on the back. He then uses half of his tank to drive 360km forward. He then fills the 30 litres back up with fuel that was dumped at the 360km mark. He drives forward another 360km, and dumps the three cans at the 720km mark. He then drives back 360km, and takes another 30 litres from the 360km mark. He uses this to drive 360km back to the start.  
**Trip 4:** The driver fills up with 60 litres in the tank, and 3 cans of 20 litres on the back.He drives forward 720km using his full tank of fuel. He then fills up his tank 20 litres with fuel at the 720km mark. He then drives forward 120 km using half of his tank. He drops off his 3 cans of 20 litres, then drives back 120km to the 720km mark with the remainder of his tank of fuel. Here, he fills up his tank with 30litres of fuel, and uses the full tank to drive back 360km to the 360km mark. Here, he fills up 20litres, and uses the full tank to drive back 240km to the 120km mark. He then uses the 10litres that he placed here on trip 1 to return to the start.  
**Trip 5:** On the last trip, the driver fills his tank with 60litres, and puts three cans of 20litres on the back, and one can of 11.1litres. He uses his full tank to drive forward 720km. At the 720km mark, he puts 10litres in his tank, and uses it to drive forward 120km. At the 840km mark, he fills up his tank with 60litres, and uses all of it to drive forward another 720km. At the 1560km mark, he drops the three 20litre cans on the back, and uses them to fill his tank 60 litres. He then uses all of it to drive forward another 720km. At the 2280 mark, he drops the 11.1litre can, and puts it in his tank. Finally, he uses this to travel the remaining 133km to the 2413km mark.

**3.** In this procedure the driver crosses to the other side of the desert using 5,660 litres of fuel. 208.9 litres of fuel is left in the desert after this senario and the vehicle arrives back with 8.93 litres still in the tank. After each line a new trip begins. At the end of each trip we both fill the vehicle and the cans with exception for the last trip.

**T60 C80**

**F360 D80** Drive Forward - Reach Stop (360 km) - Drop Cans +80(80)

**B360 T60 C80** Drive Backward to START - Fill Cans and Vehicle

**F360 T30** Drive Forward - Reach Stop (360 km) - Fill Vehicle -30(50)

**F360 D80** Drive Forward - Reach Stop (720 km) - Drop Cans +80(80)

**B360 T30** Drive Backward to Stop (360 km) - Fill Vehicle -30(20)

**B360 T60 C80** Drive Backward to START - Fill Cans and Vehicle

**F360 D80** Drive Forward - Reach Stop (360 km) - Drop Cans +80(100)

Can’t go any further, so will drop all cans

**B360 T60 C80** Drive Backward to START - Fill Cans and Vehicle

**F360 T30** Drive Forward - Reach Stop (360 km) - Fill Vehicle -30(70)

**F360 T30** Drive Forward - Reach Stop (720 km) - Fill Vehicle -30(50)

**F360 D80** Drive Forward - Reach Stop (1080 km) - Drop Cans +80(80)  
**B360 T30** Drive Backward - Reach Stop (720 km) - Fill Vehicle -30(20)

**B360 T30** Drive Backward - Reach Stop (360 km) - Fill Vehicle -30(40)

**B360 T60 C80** Drive Backward to START - Fill Cans and Vehicle

**F360 D80** Drive Forward - Reach Stop (360 km) - Drop Cans +80(120)

Can’t go any further, so will drop all cans

**B360 T60 C80** Drive Backward to START - Fill Cans and Vehicle

**F360 T30** Drive Forward - Reach Stop (360 km) - Fill Vehicle -30(90)

**F360 D80** Drive Forward - Reach Stop (720 km) - Drop Cans +80(100)

Can’t go any further, so will drop all cans

**B360 T30** Drive Backward - Reach Stop (360 km) - Fill Vehicle -30(60)

**B360 T60 C80** Drive Backward to START - Fill Cans and Vehicle

**F360 T30** Drive Forward - Reach Stop (360 km) - Fill Vehicle -30(30)

**F360 T30** Drive Forward - Reach Stop (720 km) - Fill Vehicle -30(70)

**F360 T30** Drive Forward - Reach Stop (1080 km) - Fill Vehicle -30(50)

**F360 D80** Drive Forward - Reach Stop (1440 km) - Drop Cans +80(80)

**B360 T30** Drive Backward - Reach Stop (1080 km) - Fill Vehicle -30(20)

**B360 T30** Drive Backward - Reach Stop (720 km) - Fill Vehicle -30(40)

**B360 T30** Drive Backward - Reach Stop (360 km) - Fill Vehicle -30(0)

**B360 T60 C80** Drive Backward to START - Fill Cans and Vehicle

**F360 D80** Drive Forward - Reach Stop (360 km) - Drop Cans +80(80)

Can’t go any further, so will drop all cans

**B360 T60 C80** Drive Backward to START - Fill Cans and Vehicle

**F360 T30** Drive Forward - Reach Stop (360 km) - Fill Vehicle -30(50)

**F360 D80** Drive Forward - Reach Stop (720 km) - Drop Cans +80(120)

Can’t go any further, so will drop all cans

**B360 T30** Drive Backward - Reach Stop (360 km) - Fill Vehicle -30(20)

**B360 T60 C80** Drive Backward to START - Fill Cans and Vehicle

**F360 D80** Drive Forward - Reach Stop (360 km) - Drop Cans +80(100)

Can’t go any further, so will drop all cans

**B360 T60 C80** Drive Backward to START - Fill Cans and Vehicle

**F360 T30** Drive Forward - Reach Stop (360 km) - Fill Vehicle -30(70)

**F360 T30** Drive Forward - Reach Stop (720 km) - Fill Vehicle -30(90)

**F360 D80** Drive Forward - Reach Stop (1080 km) - Drop Cans +80(100)

Can’t go any further, so will drop all cans

**B360 T30** Drive Backward - Reach Stop (720 km) - Fill Vehicle -30(60)

**B360 T30** Drive Backward - Reach Stop (360 km) - Fill Vehicle -30(40)

**B360 T60 C80** Drive Backward to START - Fill Cans and Vehicle

**F360 D80** Drive Forward - Reach Stop (360 km) - Drop Cans +80(120)

Can’t go any further, so will drop all cans

**B360 T60 C80** Drive Backward to START - Fill Cans and Vehicle

**F360 T30** Drive Forward - Reach Stop (360 km) - Fill Vehicle -30(90)

**F360 T30** Drive Forward - Reach Stop (720 km) - Fill Vehicle -30(30)

**F360 T30** Drive Forward - Reach Stop (1080 km) - Fill Vehicle -30(70)

**F360 T30** Drive Forward - Reach Stop (1440 km) - Fill Vehicle -30(50)

**F360 D80** Drive Forward - Reach Stop (1800 km) - Drop Cans +80(80)

Can’t go any further, so will drop all cans

**B360 T30** Drive Backward - Reach Stop (1440 km) Fill Vehicle -30(20)

**B360 T30** Drive Backward - Reach Stop (1080 km) - Fill Vehicle -30(40)

**B360 T30** Drive Backward - Reach Stop (720 km) - Fill Vehicle -30(0)

**B360 T30** Drive Backward - Reach Stop (360 km) - Fill Vehicle -30(60)

**B360 T60 C80** Drive Backward to START - Fill Cans and Vehicle

**F360 T30** Drive Forward - Reach Stop (360 km) - Fill Vehicle -30(30)

**F360 D80** Drive Forward - Reach Stop (720 km) - Drop Cans +80(80)

Can’t go any further, so will drop all cans

**B360 T30** Drive Backward - Reach Stop (360 km) - Fill Vehicle -30(0)

**B360 T60 C80** Drive Backward to START - Fill Cans and Vehicle

**F360 D80** Drive Forward - Reach Stop (360 km) - Drop Cans +80(80)

Can’t go any further, so will drop all cans

**B360 T60 C80** Drive Backward to START - Fill Cans and Vehicle

**F360 T30** Drive Forward - Reach Stop (360 km) - Fill Vehicle -30(50)

**F360 T30** Drive Forward - Reach Stop (720 km) - Fill Vehicle -30(50)

**F360 D80** Drive Forward - Reach Stop (1080 km) - Drop Cans +80(120)

Can’t go any further, so will drop all cans

**B360 T30** Drive Backward - Reach Stop (720 km) - Fill Vehicle -30(20)

**B360 T30** Drive Backward - Reach Stop (360 km) - Fill Vehicle -30(20)

**B360 T60 C80** Drive Backward to START - Fill Cans and Vehicle

**F360 D80** Drive Forward - Reach Stop (360 km) - Drop Cans +80(100)

Can’t go any further, so will drop all cans

**B360 T60 C80** Drive Backward to START - Fill Cans and Vehicle

**F360 T30** Drive Forward - Reach Stop (360 km) - Fill Vehicle -30(70)

**F360 D80** Drive Forward - Reach Stop (720 km) - Drop Cans +80(100)

Can’t go any further, so will drop all cans

**B360 T30** Drive Backward - Reach Stop (360 km) - Fill Vehicle -30(40)

**B360 T60 C80** Drive Backward to START - Fill Cans and Vehicle

**F360 D80** Drive Forward - Reach Stop (360 km) - Drop Cans +80(120)

Can’t go any further, so will drop all cans

**B360 T60 C80** Drive Backward to START - Fill Cans and Vehicle

**F360 T30** Drive Forward - Reach Stop (360 km) - Fill Vehicle -30(90)

**F360 T30** Drive Forward - Reach Stop (720 km) - Fill Vehicle -30(70)

**F360 T30** Drive Forward - Reach Stop (1080 km) - Fill Vehicle -30(90)

**F360 T30** Drive Forward - Reach Stop (1440 km) - Drop Cans +80(100)

Can’t go any further, so will drop all cans

**B360 T30** Drive Backward - Reach Stop (1080 km) - Fill Vehicle -30(60)

**B360 T30** Drive Backward - Reach Stop (720 km) - Fill Vehicle -30(40)

**B360 T30** Drive Backward - Reach Stop (360 km) - Fill Vehicle -30(60)

**B360 T60 C80** Drive Backward to START - Fill Cans and Vehicle

**F360 T30** Drive Forward - Reach Stop (360 km) - Fill Vehicle -30(30)

**F360 D80** Drive Forward - Reach Stop (720 km) - Drop Cans +80(120)

Can’t go any further, so will drop all cans

**B360 T30** Drive Backward - Reach Stop (360 km) - Fill Vehicle -30(0)

**B360 T60 C80** Drive Backward to START - Fill Cans and Vehicle

**F360 D80** Drive Forward - Reach Stop (360 km) - Drop Cans +80(80)

Can’t go any further, so will drop all cans

**B360 T60 C80** Drive Backward to START - Fill Cans and Vehicle

**F360 T30** Drive Forward - Reach Stop (360 km) - Fill Vehicle -30(50)

**F360 T30** Drive Forward - Reach Stop (720 km) - Fill Vehicle -30(90)

**F360 T30** Drive Forward - Reach Stop (1080 km) - Fill Vehicle -30(30)

**F360 T30** Drive Forward - Reach Stop (1440 km) - Fill Vehicle -30(70)

**F360 T30** Drive Forward - Reach Stop (1800 km) - Fill Vehicle -30(50)

**F360 T30** Drive Forward - Reach Stop (2160 km) - Drop Cans +80(80)

Can’t go any further, so will drop all cans

**B360 T30** Drive Backward - Reach Stop (1800 km) Fill Vehicle -30(20)

**B360 T30** Drive Backward - Reach Stop (1440 km) Fill Vehicle -30(40)

**B360 T30** Drive Backward - Reach Stop (1080 km) - Fill Vehicle -30(0)

**B360 T30** Drive Backward - Reach Stop (720 km) - Fill Vehicle -30(60)

**B360 T30** Drive Backward - Reach Stop (360 km) - Fill Vehicle -30(20)

**B360 T60 C80** Drive Backward to START - Fill Cans and Vehicle

**F360 D80** Drive Forward - Reach Stop (360 km) - Drop Cans +80(100)

Can’t go any further, so will drop all cans

**B360 T60 C80** Drive Backward to START - Fill Cans and Vehicle

**F360 T30** Drive Forward - Reach Stop (360 km) - Fill Vehicle -30(70)

**F360 T30** Drive Forward - Reach Stop (720 km) - Fill Vehicle -30(30)

**F360 D80** Drive Forward - Reach Stop (1080 km) - Drop Cans +80(80)  
**B360 T30** Drive Backward - Reach Stop (720 km) - Fill Vehicle -30(0)

**B360 T30** Drive Backward - Reach Stop (360 km) - Fill Vehicle -30(40)

**B360 T60 C80** Drive Backward to START - Fill Cans and Vehicle

**F360 D80** Drive Forward - Reach Stop (360 km) - Drop Cans +80(120)

Can’t go any further, so will drop all cans

**B360 T60 C80** Drive Backward to START - Fill Cans and Vehicle

**F360 T30** Drive Forward - Reach Stop (360 km) - Fill Vehicle -30(90)

**F360 D80** Drive Forward - Reach Stop (720 km) - Drop Cans +80(80)

Can’t go any further, so will drop all cans

**B360 T30** Drive Backward - Reach Stop (360 km) - Fill Vehicle -30(60)

**B360 T60 C80** Drive Backward to START - Fill Cans and Vehicle

**F360 T30** Drive Forward - Reach Stop (360 km) - Fill Vehicle -30(30)

**F360 T30** Drive Forward - Reach Stop (720 km) - Fill Vehicle -30(50)

**F360 T30** Drive Forward - Reach Stop (1080 km) - Fill Vehicle -30(50)

**F360 D80** Drive Forward - Reach Stop (1440 km) - Drop Cans +80(120)

**B360 T30** Drive Backward - Reach Stop (1080 km) - Fill Vehicle -30(20)

**B360 T30** Drive Backward - Reach Stop (720 km) - Fill Vehicle -30(20)

**B360 T30** Drive Backward - Reach Stop (360 km) - Fill Vehicle -30(0)

**B360 T60 C80** Drive Backward to START - Fill Cans and Vehicle

**F360 D80** Drive Forward - Reach Stop (360 km) - Drop Cans +80(80)

Can’t go any further, so will drop all cans

**B360 T60 C80** Drive Backward to START - Fill Cans and Vehicle

**F360 T30** Drive Forward - Reach Stop (360 km) - Fill Vehicle -30(50)

**F360 D80** Drive Forward - Reach Stop (720 km) - Drop Cans +80(100)

Can’t go any further, so will drop all cans

**B360 T30** Drive Backward - Reach Stop (360 km) - Fill Vehicle -30(20)

**B360 T60 C80** Drive Backward to START - Fill Cans and Vehicle

**F360 D80** Drive Forward - Reach Stop (360 km) - Drop Cans +80(100)

Can’t go any further, so will drop all cans

**B360 T60 C80** Drive Backward to START - Fill Cans and Vehicle

**F360 T30** Drive Forward - Reach Stop (360 km) - Fill Vehicle -30(70)

**F360 T30** Drive Forward - Reach Stop (720 km) - Fill Vehicle -30(70)

**F360 D80** Drive Forward - Reach Stop (1080 km) - Drop Cans +80(100)  
**B360 T30** Drive Backward - Reach Stop (720 km) - Fill Vehicle -30(40)

**B360 T30** Drive Backward - Reach Stop (360 km) - Fill Vehicle -30(40)

**B360 T60 C80** Drive Backward to START - Fill Cans and Vehicle

**F360 D80** Drive Forward - Reach Stop (360 km) - Drop Cans +80(120)

Can’t go any further, so will drop all cans

**B360 T60 C80** Drive Backward to START - Fill Cans and Vehicle

**F360 T30** Drive Forward - Reach Stop (360 km) - Fill Vehicle -30(90)

**F360 D80** Drive Forward - Reach Stop (720 km) - Drop Cans +80(120)

Can’t go any further, so will drop all cans

**B360 T30** Drive Backward - Reach Stop (360 km) - Fill Vehicle -30(60)

**B360 T60 C80** Drive Backward to START - Fill Cans and Vehicle

**F360 T30** Drive Forward - Reach Stop (360 km) - Fill Vehicle -30(30)

**F360 T30** Drive Forward - Reach Stop (720 km) - Fill Vehicle -30(90)

**F360 T30** Drive Forward - Reach Stop (1080 km) - Fill Vehicle -30(70)

**F360 T30** Drive Forward - Reach Stop (1440 km) - Fill Vehicle -30(90)

**F360 D80** Drive Forward - Reach Stop (1800 km) - Drop Cans +80(100)

Can’t go any further, so will drop all cans

**B360 T30** Drive Backward - Reach Stop (1440 km) Fill Vehicle -30(60)

**B360 T30** Drive Backward - Reach Stop (1080 km) - Fill Vehicle -30(40)

**B360 T30** Drive Backward - Reach Stop (720 km) - Fill Vehicle -30(60)

**B360 T30** Drive Backward - Reach Stop (360 km) - Fill Vehicle -30(0)

**B360 T60 C80** Drive Backward to START - Fill Cans and Vehicle

**F360 D80** Drive Forward - Reach Stop (360 km) - Drop Cans +80(80)

Can’t go any further, so will drop all cans

**B360 T60 C80** Drive Backward to START - Fill Cans and Vehicle

**F360 T30** Drive Forward - Reach Stop (360 km) - Fill Vehicle -30(50)

**F360 T30** Drive Forward - Reach Stop (720 km) - Fill Vehicle -30(30)

**F360 D80** Drive Forward - Reach Stop (1080 km) - Drop Cans +80(120)  
**B360 T30** Drive Backward - Reach Stop (720 km) - Fill Vehicle -30(0)

**B360 T30** Drive Backward - Reach Stop (360 km) - Fill Vehicle -30(20)

**B360 T60 C80** Drive Backward to START - Fill Cans and Vehicle

**F360 D80** Drive Forward - Reach Stop (360 km) - Drop Cans +80(100)

Can’t go any further, so will drop all cans

**B360 T60 C80** Drive Backward to START - Fill Cans and Vehicle

**F360 T30** Drive Forward - Reach Stop (360 km) - Fill Vehicle -30(70)

**F360 D80** Drive Forward - Reach Stop (720 km) - Drop Cans +80(80)

Can’t go any further, so will drop all cans

**B360 T30** Drive Backward - Reach Stop (360 km) - Fill Vehicle -30(40)

**B360 T60 C80** Drive Backward to START - Fill Cans and Vehicle

**F360 D80** Drive Forward - Reach Stop (360 km) - Drop Cans +80(120)

Can’t go any further, so will drop all cans

**B360 T60 C80** Drive Backward to START - Fill Cans and Vehicle

**F360 T30** Drive Forward - Reach Stop (360 km) - Fill Vehicle -30(90)

**F360 T30** Drive Forward - Reach Stop (720 km) - Fill Vehicle -30(50)

**F360 T30** Drive Forward - Reach Stop (1080 km) - Fill Vehicle -30(90)

**F360 T30** Drive Forward - Reach Stop (1440 km) - Fill Vehicle -30(30)

**F360 T30** Drive Forward - Reach Stop (1800 km) - Fill Vehicle -30(70)

**F360 T30** Drive Forward - Reach Stop (2160 km) - Fill Vehicle -30(50)

**F253** Drive Forward - Reached End of the Desert

**B360 T21.1** Drive Backward - Reach Stop (2160 km) Fill Vehicle -21.1(28.9)

**B360 T30** Drive Backward - Reach Stop (1800 km) Fill Vehicle -30(40)

**B360 T30** Drive Backward - Reach Stop (1440 km) Fill Vehicle -30(0)

**B360 T30** Drive Backward - Reach Stop (1080 km) - Fill Vehicle -30(60)

**B360 T30** Drive Backward - Reach Stop (720 km) - Fill Vehicle -30(20)

**B360 T30** Drive Backward - Reach Stop (360 km) - Fill Vehicle -30(60)

**B360 T60 C80** Drive Backward to START - Mission Complete

**4.** In this procedure the driver crosses the desert using far less fuel than in procedure 2, and one less trip. No fuel is left in the desert, and the driver arrives at the end with no fuel left in his tank. Four trips and 387.53 litres are used in this procedure.

**Trip 1:** The driver loads up 2.166 litres of fuel in his tank, 5.417 litres on the back, and drives forward 13km. He then dumps the 5.417 litres here, and drives back 13km to the start using the remaining fuel in his tank.

**Trip 2:** The driver fills his tank right up with 60 litres, and loads three 20 litre cans on the back. He then drives forward 13km, and tops his tank back up with the fuel he used to get there. He then drives forward 360km to the 373km mark, where he drops the three cans of fuel. He then drives back 360km to the 13km mark using the rest of his fuel. Here he tops up 1.083 litres, and drives the 13km back to the start.

**Trip 3:** The driver fills right up with 60 litres of fuel in his tank, and four 20 litre tanks on the back. He drives forward to the 13km mark, and tops his tank back up with 1.084 litres of fuel. He then drives forward 360km to the 373km mark, and tops his tank back up 30 litres. He uses this to drive forward another 360km to the 733km mark, where he drops off the 80 litres of fuel. He drives back 360km to the 373km mark, and tops up another 30 litres. He uses this to drive back 360km to the 13km mark, where he tops up 1.083 litres to drive the 13km back to the start.

**Trip 4:** The driver fills right up with 60 litres in the tank, and 80 litres on the back. He drives forward 13km, and fills his tank back up to the top. He then uses a full tank of gas to drive forward 720km to the 733km mark. Here, he fills his tank right up with 60 litres, and uses this full tank to drive another 720km forward. Here, at the 1453km mark, he drops three cans of fuel to fill his tank back to the top. He then drives another 720km forward using the full tank. At the 2173km mark, he drops his last 20 litres of fuel and loads it into his tank. He uses this to drive the final 240km to the 2413km mark.

**5.** In this procedure the driver crosses the desert and returns using the minimum amount of fuel. The fuel left in the desert totals to 17.83 litres. There is no fuel left in the tank or the cans on board the vehicle when it returns to the start. After each line a new trip begins. At the end of each trip we both fill the vehicle and the cans with exception for the last trip.

**T60 C80** - Fill Cans and Vehicle

**F360 D80** Drive Forward - Reach Stop (360 km) - Drop Cans +80(80)

**B360 T60 C80** Drive Backward to START - Fill Cans and Vehicle

**F360 T30** Drive Forward - Reach Stop (360 km) - Fill Vehicle -30(50)

**F360 D80** Drive Forward - Reach Stop (720 km) - Drop Cans +80(80)

**B360 T30** Drive Backward to Stop (360 km) - Fill Vehicle -30(20)

**B360 T60 C80** Drive Backward to START - Fill Cans and Vehicle

**F360 D80** Drive Forward - Reach Stop (360 km) - Drop Cans +80(100)

Can’t go any further, so will drop all cans

**B360 T60 C80** Drive Backward to START - Fill Cans and Vehicle

**F360 T30** Drive Forward - Reach Stop (360 km) - Fill Vehicle -30(70)

**F360 T30** Drive Forward - Reach Stop (720 km) - Fill Vehicle -30(50)

**F360 D80** Drive Forward - Reach Stop (1080 km) - Drop Cans +80(80)  
**B360 T30** Drive Backward - Reach Stop (720 km) - Fill Vehicle -30(20)

**B360 T30** Drive Backward - Reach Stop (360 km) - Fill Vehicle -30(40)

**B360 T60 C80** Drive Backward to START - Fill Cans and Vehicle

**F360 D80** Drive Forward - Reach Stop (360 km) - Drop Cans +80(120)

Can’t go any further, so will drop all cans

**B360 T60 C80** Drive Backward to START - Fill Cans and Vehicle

**F360 T30** Drive Forward - Reach Stop (360 km) - Fill Vehicle -30(90)

**F360 D80** Drive Forward - Reach Stop (720 km) - Drop Cans +80(100)

Can’t go any further, so will drop all cans

**B360 T30** Drive Backward - Reach Stop (360 km) - Fill Vehicle -30(60)

**B360 T60 C80** Drive Backward to START - Fill Cans and Vehicle

**F360 T30** Drive Forward - Reach Stop (360 km) - Fill Vehicle -30(30)

**F360 T30** Drive Forward - Reach Stop (720 km) - Fill Vehicle -30(70)

**F360 T30** Drive Forward - Reach Stop (1080 km) - Fill Vehicle -30(50)

**F360 D80** Drive Forward - Reach Stop (1440 km) - Drop Cans +80(80)

**B360 T30** Drive Backward - Reach Stop (1080 km) - Fill Vehicle -30(20)

**B360 T30** Drive Backward - Reach Stop (720 km) - Fill Vehicle -30(40)

**B360 T30** Drive Backward - Reach Stop (360 km) - Fill Vehicle -30(0)

**B360 T60 C80** Drive Backward to START - Fill Cans and Vehicle

**F360 D80** Drive Forward - Reach Stop (360 km) - Drop Cans +80(80)

Can’t go any further, so will drop all cans

**B360 T60 C80** Drive Backward to START - Fill Cans and Vehicle

**F360 T30** Drive Forward - Reach Stop (360 km) - Fill Vehicle -30(50)

**F360 D80** Drive Forward - Reach Stop (720 km) - Drop Cans +80(120)

Can’t go any further, so will drop all cans

**B360 T30** Drive Backward - Reach Stop (360 km) - Fill Vehicle -30(20)

**B360 T60 C80** Drive Backward to START - Fill Cans and Vehicle

**F360 D80** Drive Forward - Reach Stop (360 km) - Drop Cans +80(100)

Can’t go any further, so will drop all cans

**B360 T60 C80** Drive Backward to START - Fill Cans and Vehicle

**F360 T30** Drive Forward - Reach Stop (360 km) - Fill Vehicle -30(70)

**F360 T30** Drive Forward - Reach Stop (720 km) - Fill Vehicle -30(90)

**F360 D80** Drive Forward - Reach Stop (1080 km) - Drop Cans +80(100)

Can’t go any further, so will drop all cans

**B360 T30** Drive Backward - Reach Stop (720 km) - Fill Vehicle -30(60)

**B360 T30** Drive Backward - Reach Stop (360 km) - Fill Vehicle -30(40)

**B360 T60 C80** Drive Backward to START - Fill Cans and Vehicle

**F360 D80** Drive Forward - Reach Stop (360 km) - Drop Cans +80(120)

Can’t go any further, so will drop all cans

**B360 T60 C80** Drive Backward to START - Fill Cans and Vehicle

**F360 T30** Drive Forward - Reach Stop (360 km) - Fill Vehicle -30(90)

**F360 T30** Drive Forward - Reach Stop (720 km) - Fill Vehicle -30(30)

**F360 T30** Drive Forward - Reach Stop (1080 km) - Fill Vehicle -30(70)

**F360 T30** Drive Forward - Reach Stop (1440 km) - Fill Vehicle -30(50)

**F133 D22.2** Drive Forward - Reach Stop (1573 km) - Drop Cans +40(22.2)

**B133 T30** Drive Backward - Reach Stop (1440 km) Fill Vehicle -30(20)

**D40** (1440 km) - Drop Cans +40(60)

**B360 T30** Drive Backward - Reach Stop (1080 km) - Fill Vehicle -30(40)

**B360 T30** Drive Backward - Reach Stop (720 km) - Fill Vehicle -30(0)

**B360 T30** Drive Backward - Reach Stop (360 km) - Fill Vehicle -30(60)

**B360 T60 C80** Drive Backward to START - Fill Cans and Vehicle

**F360 T30** Drive Forward - Reach Stop (360 km) - Fill Vehicle -30(30)

**F360 D80** Drive Forward - Reach Stop (720 km) - Drop Cans +80(80)

Can’t go any further, so will drop all cans

**B360 T30** Drive Backward - Reach Stop (360 km) - Fill Vehicle -30(0)

**B360 T60 C80** Drive Backward to START - Fill Cans and Vehicle

**F360 D80** Drive Forward - Reach Stop (360 km) - Drop Cans +80(80)

Can’t go any further, so will drop all cans

**B360 T60 C80** Drive Backward to START - Fill Cans and Vehicle

**F360 T30** Drive Forward - Reach Stop (360 km) - Fill Vehicle -30(50)

**F360 T30** Drive Forward - Reach Stop (720 km) - Fill Vehicle -30(50)

**F360 D80** Drive Forward - Reach Stop (1080 km) - Drop Cans +20(60)

**B360 T30** Drive Backward - Reach Stop (720 km) - Fill Vehicle -30(20)

**D40** (720 km) - Drop Cans +40(60)

**B360 T30** Drive Backward - Reach Stop (360 km) - Fill Vehicle -30(20)

**D40** (360 km) - Drop Cans +20(40)

**B360 T60 C20** Drive Backward to START - Fill Cans and Vehicle

**F360 D20** Drive Forward - Reach Stop (360 km) - Drop Cans +20(60)

Can’t go any further, so will drop all cans

**B360 T60 C80** Drive Backward to START - Fill Cans and Vehicle

All stops in the desert now have 60L at their location with the exception of 1573 km which has the appropriate amount of 22.9L which will get us from 1440 km to 1573 km and back to 1440 km again. When we reach 1573 the tank will be full and so will the cans. This means we will be able to get to the end of the desert and back to 1573 km. From there we will be able to use the fuel left in the desert on the way back leaving next to no fuel left in the desert.

**F360 T30** Drive Forward - Reach Stop (360 km) - Fill Vehicle -30(90)

**F360 T30** Drive Forward - Reach Stop (720 km) - Fill Vehicle -30(30)

**F360 T30** Drive Forward - Reach Stop (1080 km) - Fill Vehicle -30(70)

**F360 T30** Drive Forward - Reach Stop (1440 km) - Fill Vehicle -30(50)

**F133 T11.1** Drive Forward - Reach Stop (1573 km) - Fill Vehicle -11.083(11.1)

**F720 D60** Drive Forward - Reach Stop (2293 km) - Drop Cans +60(60)

**T60** (2293 km) - Fill Vehicle -60(0)

**F120** Drive Forward - Reach Stop (2413 km) - REACHED END OF DESERT

**B600 D20** Drive Backward - Reach Stop (1813 km) - Drop Cans +20(20)

**T20** (1813 km) - Fill Vehicle -20(0)

**B240 T11.1** Drive Backward - Reach Stop (1573 km) - Fill Vehicle -11.083(0)

**B133 T30** Drive Backward - Reach Stop (1440 km) - Fill Vehicle -30(0)

**B360 T30** Drive Backward - Reach Stop (1080 km) - Fill Vehicle -30(0)

**B360 T30** Drive Backward - Reach Stop (720 km) - Fill Vehicle -30(0)

**B360 T30** Drive Backward - Reach Stop (360 km) - Fill Vehicle -30(0)

**B360** Drive Backward to START - MISSION COMPLETE