Reseach around the Royal Enfield Interceptor SII Camshaft profile and definition. (Ole P. Eriksen)

Finally got around to measuring the cams on the SII. Please find enclosed an xcel-file with the findings.

Also found out, that there is NO standard for how to measure cams ! A "light" study on the subject shows how amazingly different manufacturers have chosen to specify their cams. I have come across the following "measuring clearances" (i e the tappet clearance during measuring) : 0 ; 0,1 mm ; running clearance ; 0,3 mm ; 0,5 mm ; 1 mm and even 2 mm ! This is in the continental litterature. (German , Tcheck, Italien) In the anglo-litterature there is the same kind of varians - only specified in inches, of course. The explanation behind the confusion is the desire to characterize the efficient part of the curves and not the length of the "silencing ramps". It's obvious, that the same cam will give you completely different values, if you measure with for instance 0,5 mm tappet clearance instead of zero, especially if the cam has very soft ramps !

So, it is very tricky to compare cam-curves and figures ! You have to know what the measuring clearances are for a given curve - or for a set of figures.

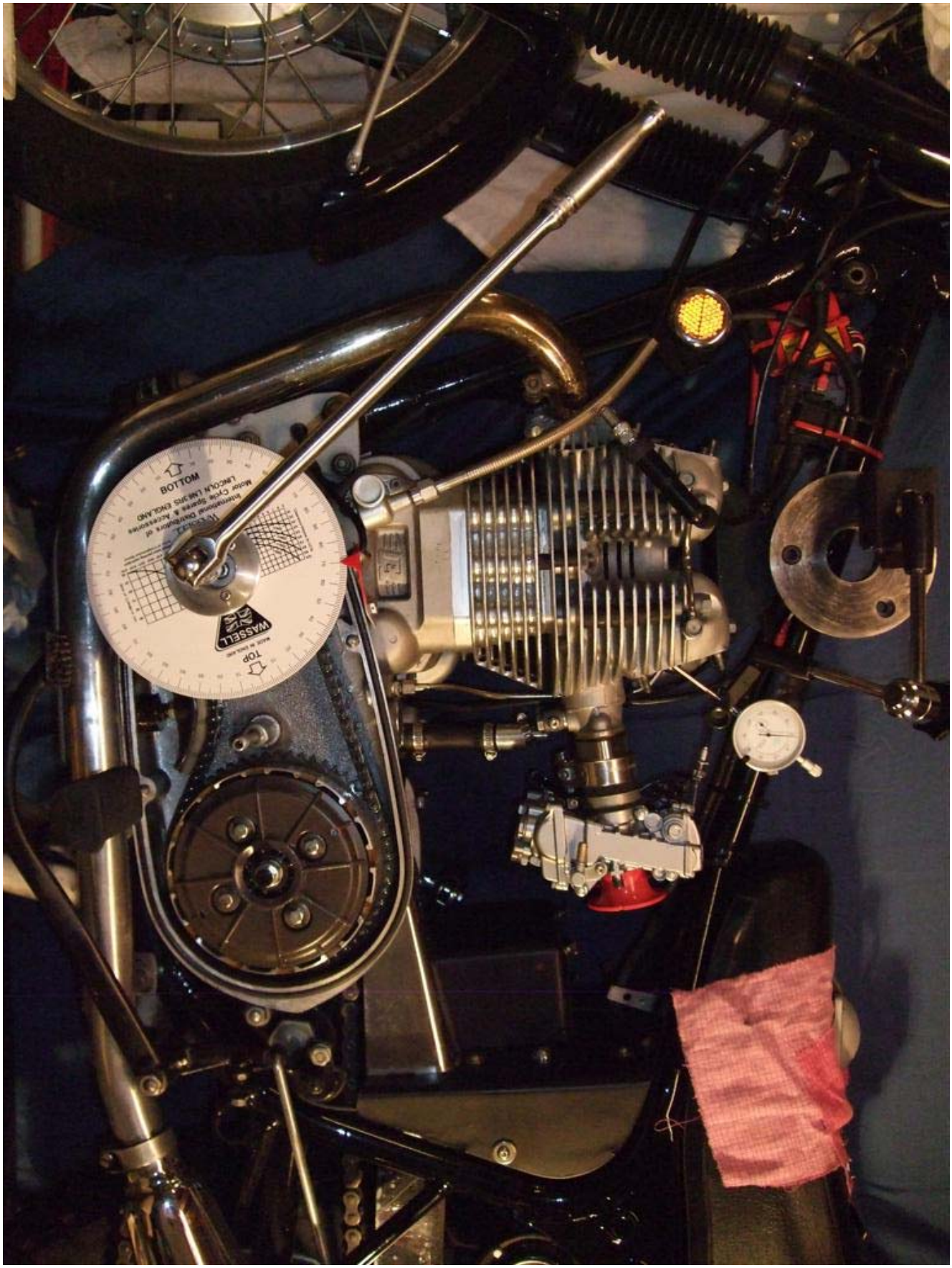
The set of figures that would (coursly) characterize the SII cams, would be : " 60 - 100 & 94 - 60 " (Unlike in the diagramme, the inlet comes first !) The figures refer to open - close degrees before / after TDC and BTC, and it should be understood, that there are 180° "open periods" in between the two figures.

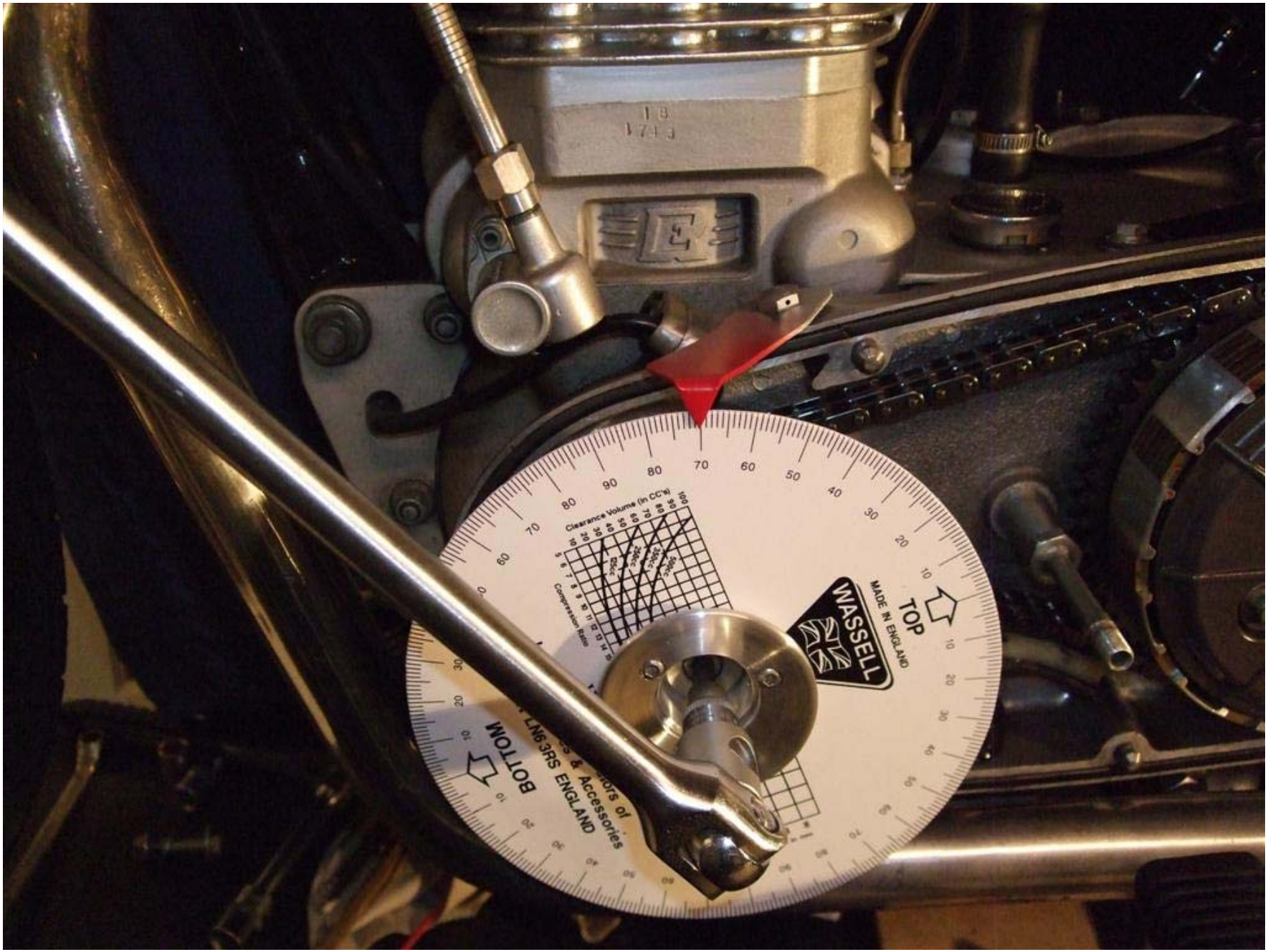
I chose to use the running clearances for the measuring - and have left it at that, after I found that this is not so uncommen a choice.

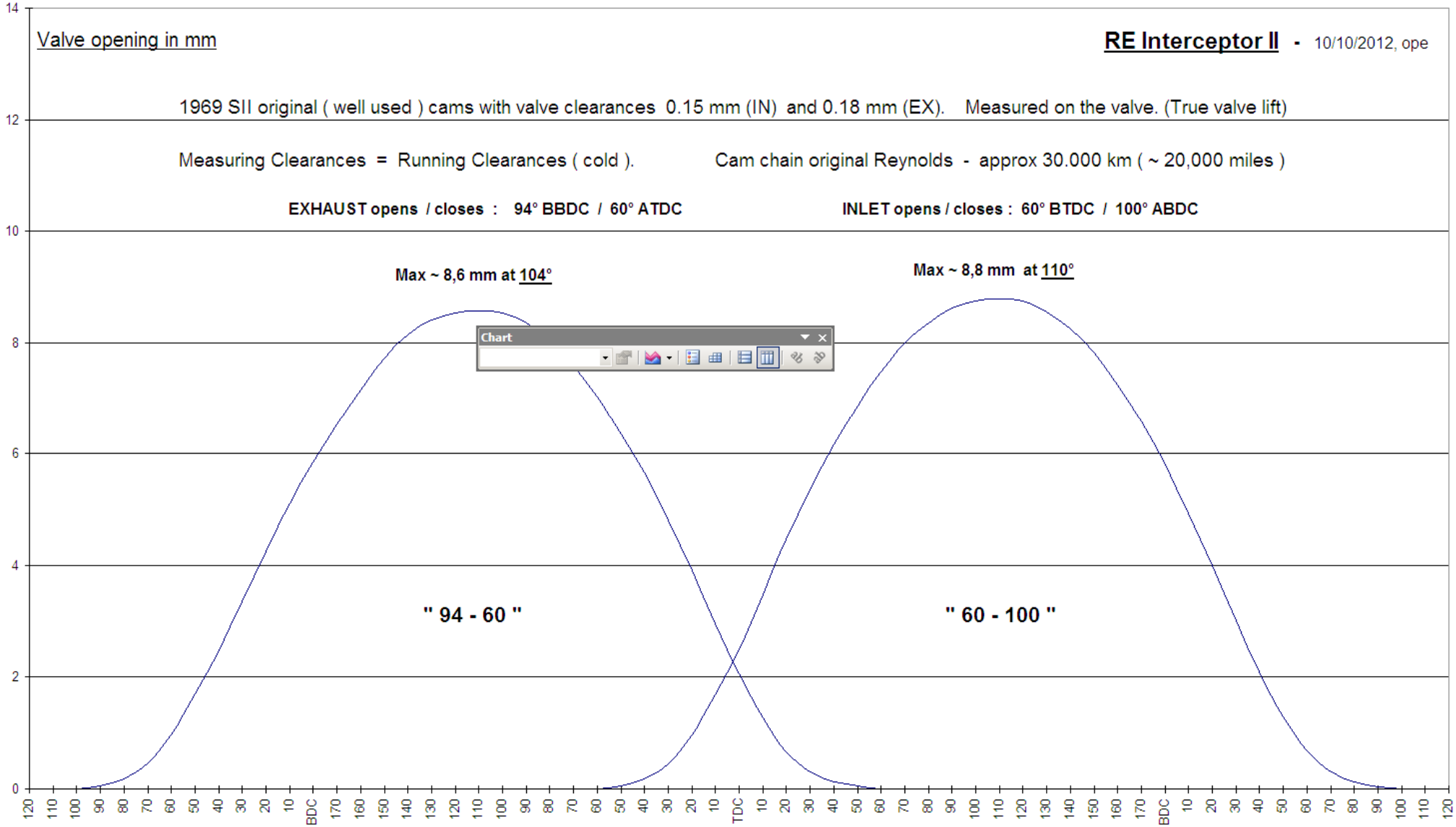
Ole

PS : The SII cam is "pretty hot" ! Much "hotter" than the std cams in my 1989 500 cc Gilera Saturno, and equally "hot" as the hottest aftermarket racing cams for that engine. According to some authors too "hot" for an "allround road bike" (ie "lousy idling") !?

(*Photos and Profile on following pages)*


BOTTOM
TOP
WASSELL


WASSELL
MADE IN ENGLAND
TOP
BOTTOM
Clearance Volume (in CC's)
Compression Ratio


Valve opening in mm
RE Interceptor II - 10/10/2012, ope
1969 SII original (well used) cams with valve clearances 0.15 mm (IN) and 0.18 mm (EX). Measured on the valve. (True valve lift)
Measuring Clearances = Running Clearances (cold).
Cam chain original Reynolds - approx 30.000 km (~ 20,000 miles)
EXHAUST opens / closes : 94° BBDC / 60° ATDC
INLET opens / closes : 60° BTDC / 100° ABDC
Max ~ 8,6 mm at 104°
Max ~ 8,8 mm at 110°
Chart
" 94 - 60 "
" 60 - 100 "
0
2
4
6
8
10
12
14
120 110 100 90 80 70 60 50 40 30 20 10 BDC 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 TDC 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 BDC 10 20 30 40 50 60 70 80 90 100 110 120