

# KISSBACKS

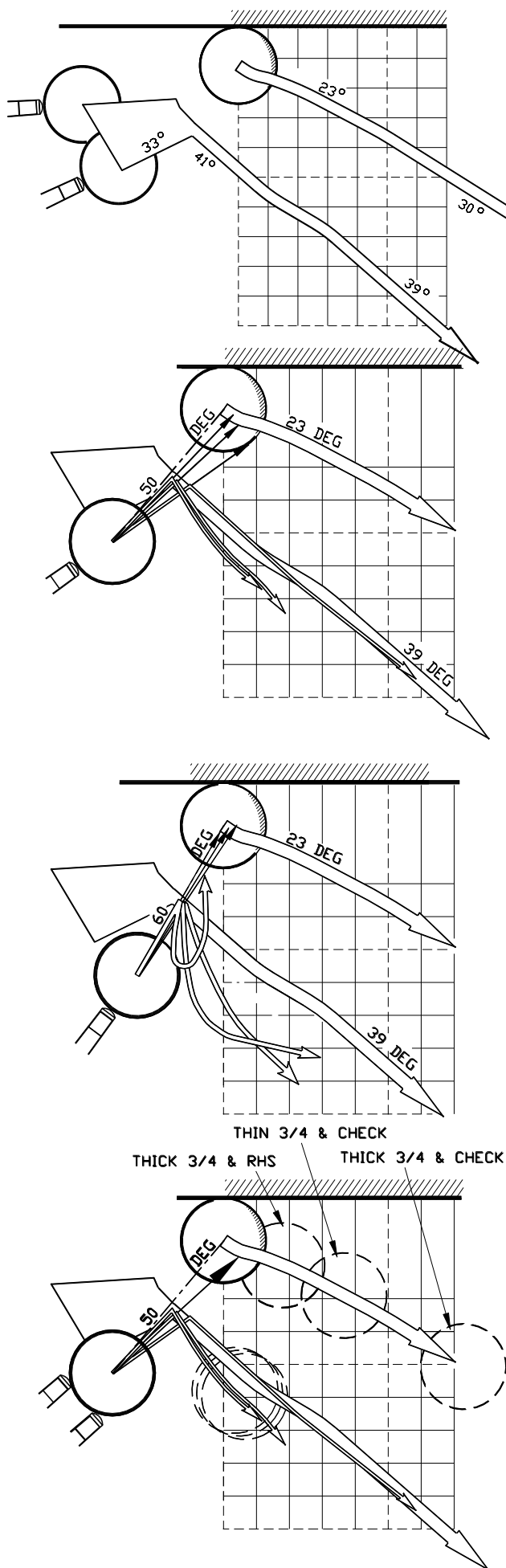
## KISSBACK 1 KISSOFFS REVIZITED

Before we look at KissBacks, let's look back at KissOffs. KissBack 9 (see later) shows that when the qball-to-yellow angle is  $40^\circ$  or less (ie if the aim angle is  $33^\circ$  or less) u get a very dependable & friendly qball KissOff angle. The qball's trajectory is  $41^\circ$  for softish shots, & it gets narrower for hardish shots (ie  $40^\circ$  then  $39^\circ$  then  $38^\circ$  etc). The angles being mezured from the center of the qball when it leevs the yellow. In fact joining the points where the qball stops givs u a sort of S-bend. Now have a look at the yellow's kissy rebound-angle. Joining the points where the yellow stops givs u a sort of S-bend as well. The yellow's trajectory is  $23^\circ$  for softish shots (ignoring the first bit), & this gets wider for hardish shots (ie  $30^\circ$ ). The kissy rebound-angle iz even more dependable & friendly than the KissOff angle, koz rebound-angles remain at  $30^\circ$  for all attack angles between  $00^\circ$  &  $120^\circ$  (az mentioned in Ch81 KissOffs). Az uzual these considerations refer to pozzys near the top-cush where the nap iz south to north. The nap-factor often makes a difference. Anyhow, with KissAlongs u will havta deal with qball attack angles of over  $33^\circ$ , ie KissBacks.

**KISSBACK 2** When the qball-to-yellow angle iz  $50^\circ$  (center-to-center), the widest KissOff angle iz got from a  $7/8$ th contact on yellow (shown). But the angle iz little wider than for a  $3/4$  contact (shown). The KissOff angle for a half-ball contact iz similar ( $39^\circ$ ) to the standard KissOff for qball-to-yellow angles of  $40^\circ$  or less.

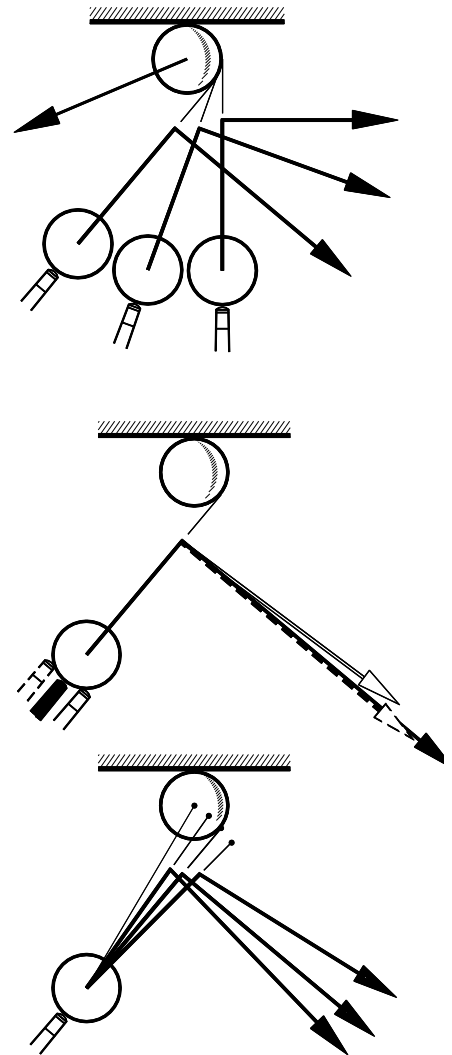
**KISSBACK 3** When the qball-to-yellow angle iz  $60^\circ$ , the widest KissOff angle iz got from a full-ball contact. But if u hit hardish the angle iz reduced, & if harder still the qball actually "goze nowhere" (az shown). This also appls to a lesser extent to  $15/16$ ths, and  $7/8$ ths contacts (shown). The tracks in 3 & 4 do not show trajectory for individual shots. Each track iz gotten by joining all of the stopping places for a number of shots played at varyus strengths, for any one contact on yellow.

**KISSBACK 4** If the qball-to-yellow angle iz  $50^\circ$  or more, u kan uze check-side or running-side (together with changing the contact on yellow) to place the yellow at a large range of different pozzys, for any one stopping place of the qball. But of course none of the yellow pozzys in this large range kan be off the  $23^\circ$  line. U karnt change this (unless u avoid the full double-kiss, praps by uzing screw or pique). For qball-to-yellow angles of  $40^\circ$  or less (ie KissOffs), any one stopping place for the qball corresponds with only one stopping place for the yellow. Uzing check-side or running-side will not overkum this.



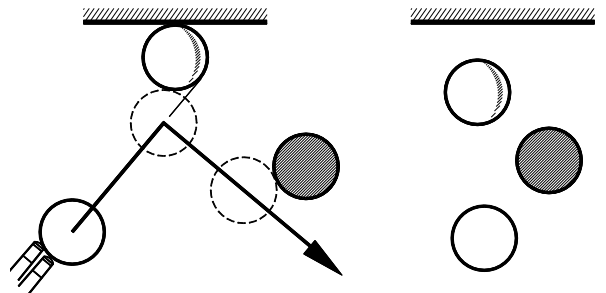
## 90° KISSBACKS

**KISSBACK 4** We all know that the natural half-ball deflexion angle iz a relyable 35°, near'nuff. This iz probly what makes English billiards the game that it iz. But few know that the natural half-ball KissBack angle iz a relyable 90°, near'nuff. The drawing shows three 90° KissBacks for 3 attack angles, each for a half-ball contact. This iz good news for cushion crawlers, it kan help heaps for judging some of our cannons. This 90° iz not mezured from a line joining the centers of the 3 balls, it iz a 90° bend in the actual trajectory taken by the qball, so u might havta uze yor imagination a bit. I don't remember seeing any of this 90° sort of stuff in any book. Altho, az uzual, **CD LOCOCK, SIDE & SCREW, 1901**, haz about the best effort, in a chapter on Kiss Strokes. I seem to recall Ron Cole telling me that he heard Bob Marshall talking about this 90° stuff. Praps Bob got it from Wally. **KISSBACK 5** Here we show that the 90° angle iz made narrower by uzing running-side. But, the main news iz that check-side duznt make any difference to the 90° angle. This iz more good news for us cushion crawlers. Koz now we kan uze check-side to moov the yellow further east, without needing to worry about any increased angle. **KISSBACK 6** Here we show that hitting the yellow three-quarter-ball givs a larger KissBack angle (say 95°). And hitting the yellow quarter-ball givs a narrower KissBack angle (say 80°). So, any error in contact kan rezult in a fairly large departure from yor intended angle. So be careful. This kan be a worry when uzing check-side or running-side, koz then it iz difficult to aim accurately, the squirt kan vary a lot, plus the problem of a mini-miscue, all affecting the contact.



### UZING THE FRIENDLY HALFBALL 90° KISSBACK ANGLE

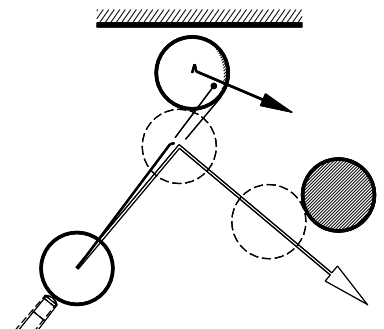
**KISSBACK 7** We kan see that a half-ball KissBack will giv a thinnish contact on red, which iz good, koz we want the qball to finish south of red. We kan also see that it would be a good idea to send the yellow az far east az possible. So we elect to uze some check-side, we know that check-side will maximize the moovment of yellow to

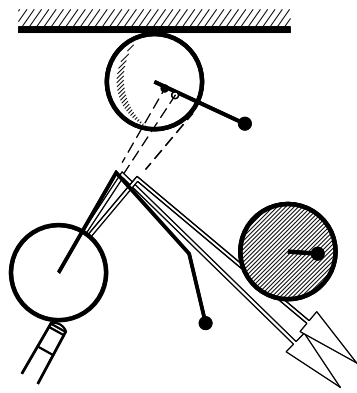


the east, & we know that check-side will not affect the 90° KissBack angle. So, we play the shot & get the leev shown in 7B, perfikt. In 7, if the red woz a little further south, then a half-ball contact on yellow would hav rezulted in the qball hitting red fullish. To avoid that, we would hav played a thick half-ball on yellow, uzing feel etc to judge how thick the thick. And we probly wouldnt hav needed any check-side koz the thick plainball will send the yellow east nicely.

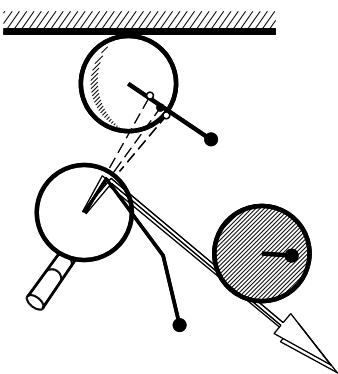
### OFF THE CUSHION

**KISSBACK 8** In KissBack 7, if the yellow were a couple of mm off the cushion we could ignore this gap, there wouldn't be any great need to make any allowance in aim etc. But here in KissBack 8 the 3 balls hav the identical dispozition to 7 except that they are all 10mm further from the cushion. However we kan still play a similar shot to KissBack 7 & get a similar rezult. We pretend that the yellow iz frozen, all we need do iz aim further left, instead of half-ball. The extra thickness in aim on yellow needs to be equal to the distance between the yellow & cushion. If we wish to uze some check-side (not shown), we should actually aim a little less thick than this (not shown).





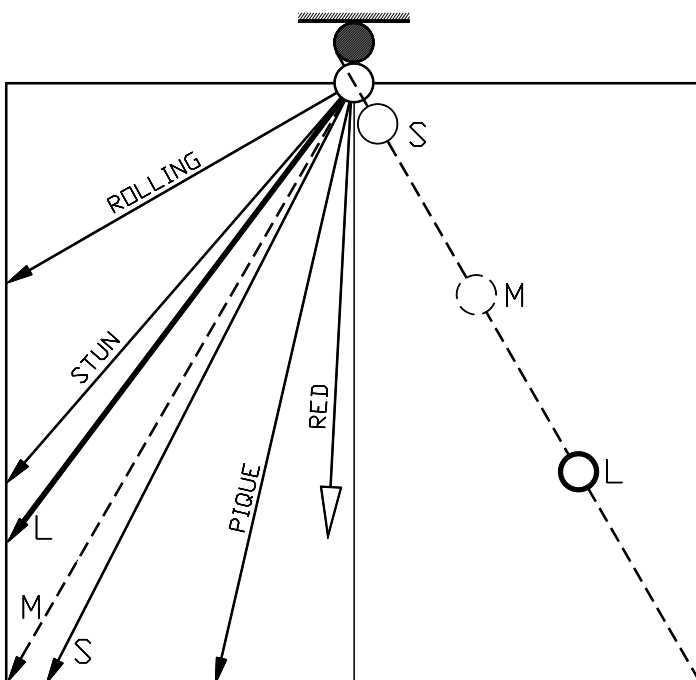
**KISSBACK 9** Here iz 7 again, except that the qball & red are closer to yellow, & the red iz further west. The 90° KissBack arrow for a ½ ball contact iz shown, & the KissBack arrow for a ¾ ball contact. This time a ½ ball KissBack will contact red **TOO THICKLY**. A ¾ ball KissBack would be ok, but the yellow would go too far east (not shown). We can play slightly thicker than ¾ ball, with some running-side (not shown). The running-side would keep the yellow from leaking too far east, & the thick contact would regain the angle lost by uzing running-side. But, if u are game, u kan play nearer 7/8<sup>th</sup> ball, az shown, with lots of running-side, az shown, to get the perfikt rezult shown.



**KISSBACK 10** Here iz 9 again, except that the qball iz closer to yellow. The 90° KissBacks for a ½ ball contact & a ¾ ball are shown again. This time, in theory, there iz no gain by hitting the yellow thick. What's going on?

It's that Deflexion Angle Paradox again, only in reverse. Az Geza Gazdag sez, the balls are **SHORT-SIGHTED**. The extra angle of KissBack for a three-quarter-ball contact iz eroded by the extra angle needed to re-aim. If we moovd the qball even closer to yellow, the three-quarter-ball KissBack angle may actually be less than the half-ball KissBack angle. No wonder we wonder.

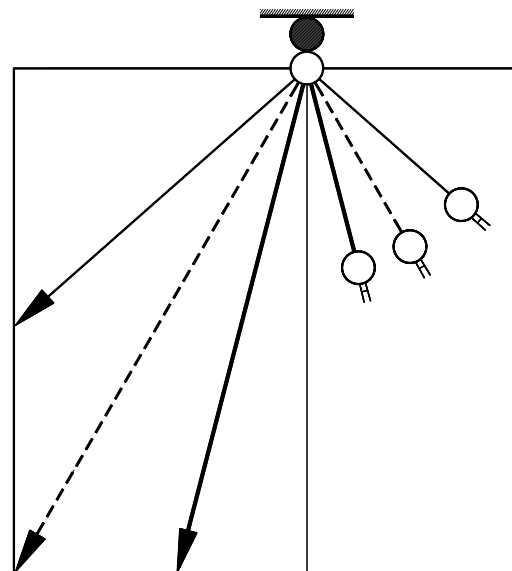
Luckily, when u get so close to yellow that the Deflexion Angle Paradox bites u, u are uzually close enuff to play with soft-screw. So, az shown, we decide on a thick-half-ball contact on yellow, with deep soft-screw, with a touch of running-side. The running-side i reckon makes it eezyer to aim, & here givs an accurate travel for the qball on its journey to the yellow. The rezult iz perfikt az uzual. Notice that koz the screw robs some of the double-kiss the yellow kums out lower than its uzual 1 in 2 (a bonus). If the red were further west or south, we would need to uze pique. But don't fall for the trap of thinking that one needs to get perfikt pozzzy, all u need iz better pozzzy. Don't play a risky shot to get perfikt pozzzy, when u kan play a shot u know to improov.



**KISS-SCREW 1** shows the rezults of half-ball contacts uzing **SCREW**. Theze screws are from short-range, medium range & long-range, here i meen the range between qball & red. We also show the rezults of **STUN**, **PIQUE**, & **ROLLING**. The red iz hard-up, & we also show the qball at the moment of contact. For each of theze, if u make accurate half-ball contact, the red **ALLWAYS** kums back just inside the **90°** line, az shown. Az karnt be seen, for the medium-range screw, the KissBack angle equals the attack-angle, ie 30° & 30°, or 60° & 60°, depending on how u mezure them. Theze medium-range attack & KissBack trajektorys are shown by the broken-lines. However, a short-range screw kan giv a slightly better angle, az shown. And a long-range screw

givs less angle. So, judging Kiss-Screws kan be a worry, for long-range cannons at least. They depend so much on how good u & yor cue are, & on the range etc, but mainly they depend on yor accuracy. Short-range nursery cannons are less of a worry, u would uzually uze feel for theze, i think, altho knowledge of theze sorts of Kiss-Screw angles won't hurt.

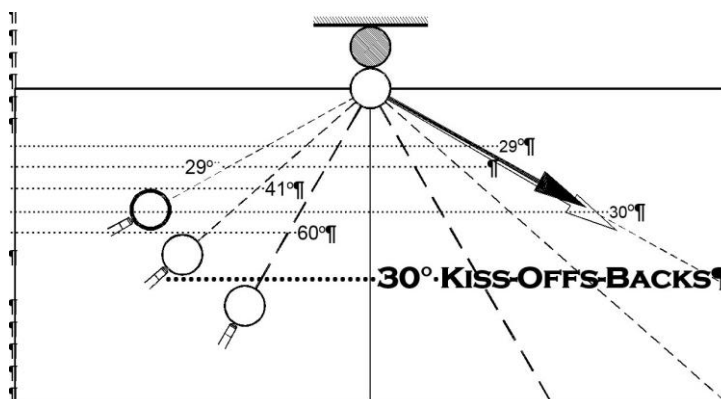
**KISS-SCREW 12** Further to Kiss-Screw 11. I havnt dunn many tests, but, it appears that, for a half-ball contact, u get the **BIGGEST KISS-SCREW ANGLE** when u aim az if to hit the red at **90°** into the cushion. So, for our half-ball contact, any smaller or larger attack angle yields a smaller KissBack angle. And, this iz probly so for all contacts. The angle of attack that drives the red at 90° iz the attack that givs the biggest KissBack angle. And, for medium-range, this biggest KissBack angle, iz actually equal to the attack-angle. We are talking about uzing maximum screw, albeit perhaps softish. Like we sed earlyer, for short-ranges, the KissBack angle might be more than the attack-angle. Here in Kiss-Screw 12, we try to show that, for medium-range Kiss-Screws, the KissBack angle equals the attack-angle, if u aim so az to drive the red at 90° (this medium range attack & KissBack are shown by the broken lines). The red iz hard-up, & we also show the qball at the moment of contact. So, this iz another reference for when cushion-crawlers want to judge any Kiss-Screw. Hence, when u step up to a similar shot, the following thorts might go throo yor head.



If it iz a longish-range to the red, the KissBack angle will be less-ish.  
 If u are driving the red thinner than **90°** to the cushion, the KissBack angle will be less-ish.  
 If u are driving the red thicker than **90°** to the cushion, the KissBack angle will be more-ish.  
 If u are hitting softish, or with less screw, the KissBack angle will be less-ish.

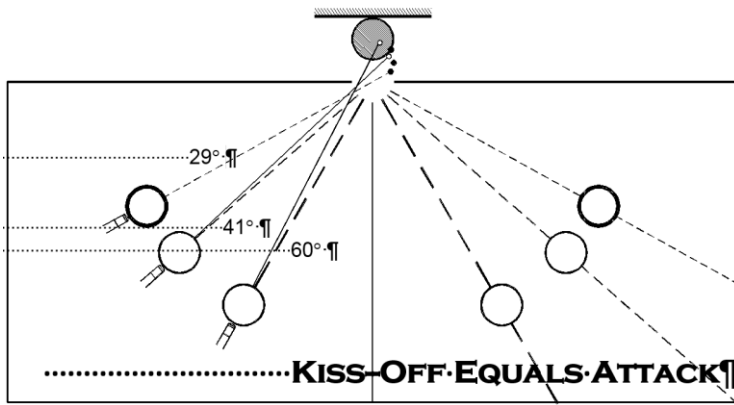
If u aim to hit the frozen red at 90° to the cushion, there are some fairly reliable KissOffBacks. For an attack-angle of 60° (in which case the contact iz half-ball), the KissOff iz near'nuff 30°, az shown by the white arrow. We show the qball az it meets the red. For an attack-angle of 41° (in which case the contact iz a quarter-ball), the KissBack angle iz near'nuff 30°, az shown by the white arrow. For an attack angle of 29° (in which case the contact

### KISSOFFBACK 13



iz 1/8th ball), the KissOff angle iz near'nuff equal, ie 29°, az shown by the black arrow. So, these 3 attacks, & the attacks in between (29° to 60°), all giv a similar KissOff. Don't forget, here we are talking about driving the red (slowly) at 90° into the cushion. Attack-angles finer than 29° (not shown) rezult in a wider KissOff, but less than 29°. What i mean iz that say the attack iz 15°, then the KissOff iz say 25° (not shown). Attack-angles thicker than 60° (not shown) rezult in a narrower KissOff, but wider than 29°. What i mean iz that say the attack iz 75° (not shown), then the KissOff iz say 50°. The only attack-angle that givs an equal KissOff iz 29°. Here we are hitting the red at 90° into the cushion, with slowish roll on the qball. For attack-angles larger than 29° the KissOff angle iz lesser than the attack-angle, i think the less iz at a max when the attack-angle iz 60° (the loss iz 30°). After that, the loss lessens, so that at 90° the loss iz zero again, ie the KissOff equals the attack. When the qball & the third ball (yellow here, not shown) are the same distance from the cushion, it iz eezy to see what iz needed. But, when the qball iz much closer to the red the difference in the 2 legs of the cannon makes it difficult to see whether the necessary angle iz equal. Then the best way iz to line up the stroke (ie az if to make the red drive square to the cushion), & then hav a look at the line of yor cue. The line of the cue kan more eezyly be compared to the line to the yellow (iz the attack angle more or less than the angle to the yellow?) thusly u kan re-aim to get the needed rezult.

## KISSOFFBACK 14



Here we look at what contact is needed if we want the KissOff angle to equal the attack-angle. The red is frozen we are talking about a slowly rolling qball, with no sidespin.

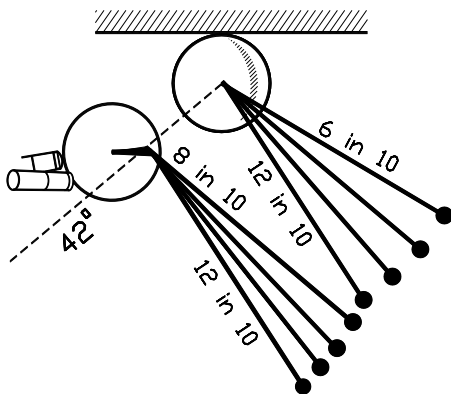
Here we are looking at the same 3 qballs that we had in KissOff-Back 13. There they were going to drive the red at 90° into the cushion, by contacting the red an 1/8 ball, a 1/4 ball, & a 1/2 ball. But here, we don't care what angle we

drive the red, nor what the contact needs to be, as long as the KissOffBack angle **EQUALS** the attack-angle. We start by looking at the 1/8<sup>th</sup> ball. This owns an attack-angle of 29°, & we already know that this 1/8 ball contact gives a KissOff-Back angle of 29°. So, no need to alter anything here. Next, we look at the 1/4 ball contact. This is 41°. Here, trial & error shows that the needed contact, to give a 41° KissOff-Back angle, is a little finer than half-ball. Just by the way, from earlier on, we already know that a half-ball contact would give a 90° deflection, i.e. a KissOff-Back angle of 49°. Thirdly, we look at the 1/2 ball contact. This is 60°. Here the needed contact is almost 7/8<sup>th</sup> ball to give a 60° KissOff-Back angle. So, the needed contact to give an equal angle can be drastic. Except for the 29° case, where we simply aim to drive the red (slowly) at 90° into the cushion. But, at our usual nursery range, i.e. usually less than 2 balls, judging the needed contact is not so difficult.

## WIDENING THE YELLOW'S

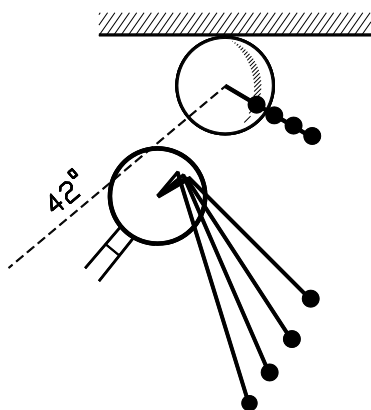
### KISSY REBOUND ANGLE

## KISSBACK 15 KISSOFFS KAN DO



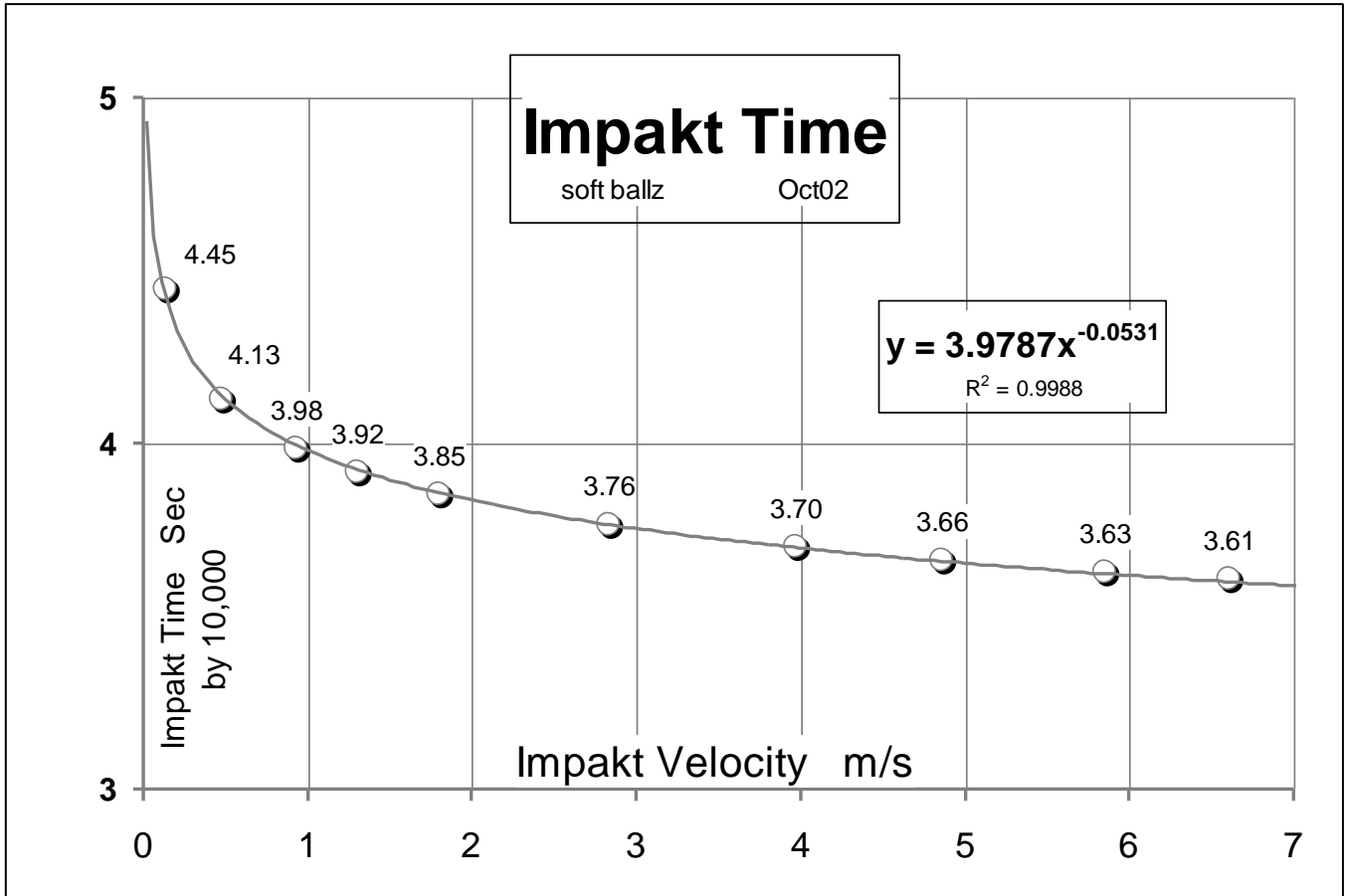
We know that the yellow kisses out at 6 in 10, & the qball kisses off at 8 in 10, for slowish pace. Here we are talking about the qball contacting the yellow thicker than 1/4 ball & thinner than 5/8 ball, not to be confused with some of the recent pages where the contacts have been something else, or where we have been using screw.

Ok, for these 1/4 ball to 5/8 ball contacts, if you use running-side the yellow's rebound angle, & the qball's KissOff-angle, increase a bit. And if you use soft-screw, these angles increase much more. If you arrange the contacts so that the qball & yellow remain close together for all such KissOffs the yellow won't rebound more than say 12 in 10, & the qball more than say 12 in 10 also. When I say remain close together I mean that the qball & yellow move off at the same speed, & hence stop at the same time. Thusly, it's a bit easier to increase the yellow's rebound angle than it is to increase the qball's KissOff-angle.



## KISSBACK 16 KISSBACKS NO KAN DO

KissBacks are different to KissOffs. The qball KissBack angle can be much widened using screw, but there will be zero increase in the yellow's kissy rebound-angle (as shown). Here we aren't talking about arranging the contacts so that the balls remain close together, because this is impossible, because (a) because of the difference in the angles taken, & (b) because the yellow doesn't roll as far as the qball.



The Impakt Times were kalkulated from some of the load tests & flatspot tests.

The Impakt Force below iz the maximum force reeched, ie at mid impakt.

