29 CANNONS (Dia1 \& Table1) I attempted 29 outside-cannons. The yellow woz halfway tween the pyramid-spot \& right-cush. I played from the yellow-spot, kontakting the yellow thick-halfball on its lhs, uzing left-spin. The qball hit the top-cush then left-cush. The red woz sitting near the lucky-S-zone az shown. Dia1 shows an inoff.

THE HOCKEY STICK SHOWS IDEAL POZZYS WHERE U NEED A SIMILAR THICK HALFBALL KONTAKT WITH SOME LEFT-SPIN, PLAYING FROM THE YELLOW-SPOT. ONE PROBLEM WITH OUTSIDE-CANNONS IZ KNOWING \& JUDGING THE ANGLES. THIS HERE IDEAL-LINE IZ A GOOD GUIDE. A YELLOW LYING NEARER THE SIDE-CUSH WOULD NEED MORE LEFT-SIDE. A YELLOW L YING NEARER THE CENTERLINE MIGHT NEED ZERO SIDE.


LUCKY ZONES (Dia1 2 3) I show the two standard lucky-zones az a reference. Az kan be seen i placed the red a little outside the lucky-S-zone, to try to hide some of the sidejaw void. Praps $i$ would hav skored better had $i$ placed the red in its uzual lucky place on the nearest apex of the lucky-S-zone.


15 CANNONS (Dia2) I got 15 cannons in 29 shots ( $51.7 \%$ )(6 off bottom-cush)(3 off bottom\&side cush)(0 off bottom-jaw)(0 off side-jaw)(1 direkt)(5 off the side-cush).
4 INOFFS (Dia2) I got 4 inoffs in 29 shots (13.8\%). If $u$ are keen on getting the inoff then u must make sure the yellow ends up out of baulk, otherwize the inoff iz wasted (koz $u$ are double-baulked). Re the 4 inoffs, i had 4 fair leevs, \& 0 poor.
FAIR LEEVS
My diary tells me that of the 19 cannons \& inoffs 12 gave me a fair leev (or a good leev), \& 7 gave a poor leev. On Shot5 \& 24 \& 28 i left the yellow in-baulk koz i hit too thick, but this didnt hurt koz i didnt get an inoff.
19 IN 29 Anyhow, 19 skoring shots in 29 iz $65.5 \%$. Not bad, but not az good az the inside-cannon where i skored 23 in 29 for $79.3 \%$.


10 MISSES (Dia3) Shot2 hit the side-cush \& would hav cannoned but stopped short az shown. Shot7 \& 14 hit the side-cush too wide. Shot 11 \& 12 \& 13 \& 15 hit the bottom-cush \& missed too narrow. Shot19 \& 23 (not shown) missed koz the qball kollided with the yellow (the qball woz heading for the red ok). And in Shot21 (not shown) i potted yellow in the right-top-pkt (i hit too thick), \& the qball stopped an inch short of getting the inoff (i hit too slowly). Shot21 woz counted az a miss, even tho i skored (fluked) that there pot-yellow.

## 20 BALL PATTERN (Dia3) Az shown by the 21 balls, i managed to shoot a

 20ball pattern for 29shots. The center of the pattern looks pretty perfikt, ie heading for the red-side of the pocket. Anyhow, the 20ball pattern iz much much worse than the 6 ball pattern for my 29 inside-cannons (see that chapter). This shows that inside-cannons are more forgiving. Outside cannons are very touchy, too thin or too much side \& u miss. A yellow sitting opposit the pyramid-spot halfway to the cush happens to lye on the junction of the ideal outside-cannon line \& the ideal inside-cannon line, so u hav a choice. Looks like the insidecannon iz the way to go.TABLE 1 REZULTS OF 29 ATTEMPTED OUTSIDE CANNONS.

| $\begin{aligned} & \text { 흐 } \\ & \stackrel{\text { B }}{\text { I }} \end{aligned}$ | qball |  |  |  |  |  |  |  |  | yellow |  |  |  | leev |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | $\begin{aligned} & \frac{0}{\infty} \\ & \infty \\ & \infty \\ & \pm \\ & \hline 0 \end{aligned}$ |  |  | $$ | $\begin{aligned} & \stackrel{\rightharpoonup}{0} \\ & \stackrel{\bar{\omega}}{\overline{0}} \end{aligned}$ | $\begin{aligned} & \pm \\ & \stackrel{\#}{0} \\ & \infty \\ & \stackrel{0}{\infty} \end{aligned}$ | $\begin{aligned} & \frac{\widetilde{N}}{\varrho} \\ & 0 \\ & 0 \\ & \frac{0}{\omega} \end{aligned}$ | $\begin{aligned} & \frac{\pi}{0} \\ & \frac{0}{\omega} \\ & 0 \\ & 0 . \\ & \stackrel{0}{0} \end{aligned}$ |  | $\begin{aligned} & \stackrel{\circ}{\mathrm{N}} \\ & \hline \overline{\overline{\mathrm{~N}}} \end{aligned}$ |  |  | - | \% |
| 1 | B |  |  |  |  |  |  |  |  |  |  |  |  | F |  |
| 2 |  |  |  |  |  |  |  | $\mathbf{X}$ | X |  |  |  |  |  |  |
| 3 |  |  |  | 10 |  |  |  |  |  |  |  |  |  | F |  |
| 4 | B |  |  |  |  |  |  |  |  |  |  |  |  |  | P |
| 5 |  |  |  |  |  |  |  | S |  |  |  | e |  | F |  |
| 6 |  |  |  |  |  |  |  | S |  |  |  |  |  |  | P |
| 7 |  |  |  |  |  |  |  | X |  |  |  |  |  |  |  |
| 8 |  |  |  |  |  |  |  | S |  |  |  |  |  | F |  |
| 9 |  |  |  | 10 |  |  |  |  |  |  |  |  |  | F |  |
| 10 |  |  |  |  |  |  |  | S |  |  |  |  |  | F |  |
| 11 | X |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 12 | X |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 13 | X |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 14 |  |  |  |  |  |  |  | $\mathbf{X}$ |  |  |  |  |  |  |  |
| 15 | X |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 16 |  |  |  | 10 |  |  |  |  |  |  |  |  |  | F |  |
| 17 |  |  |  | 10 |  |  |  |  |  |  |  |  |  | F |  |
| 18 |  |  |  |  |  |  |  | S |  |  |  |  |  |  | P |
| 19 |  |  |  |  |  |  |  |  |  |  | K |  |  |  |  |
| 20 |  | BS |  |  |  |  |  |  |  |  |  |  |  | F |  |
| 21 |  |  |  | X |  |  |  |  | X | PY |  |  |  |  |  |
| 22 | B |  |  |  |  |  |  |  |  |  |  |  |  | F |  |
| 23 |  |  |  |  |  |  |  |  |  |  | K |  |  |  |  |
| 24 | B |  |  |  |  |  |  |  |  |  |  | e |  |  | P |
| 25 | B |  |  |  |  |  |  |  |  |  |  |  |  | F |  |
| 26 |  | BS |  |  |  |  |  |  |  |  |  |  |  |  | P |
| 27 |  | BS |  |  |  |  |  |  |  |  |  |  |  |  | P |
| 28 |  |  |  |  |  | D |  |  |  |  |  | e |  | F |  |
| 29 | B |  |  |  |  |  |  |  |  |  |  |  |  |  | P |
|  | 6 | 3 | 0 | 4 | 0 | 1 |  | 5 | 2 | 1 | 2 |  |  | 12 | 7 |

15 cannons in 29 shots plus 4 inoffs makes 19 skoring shots in 29 , or $65.5 \%$.
Cannons off side\&bottom are not possible when the red iz near the lucky-S-zone.
10 misses inklooded 2 kollizions, 2 shots stopped short, 4 went too narrow, 2 went too wide.
Shot21 -- the pot-yellow woz into the righthand top-pkt -- the qball stopped short of the inoff.

