# Will's passing patterns <br> by Will Murray, wmurray@csulb.edu 

I wrote down these notes after a convention in Alby, Sweden in January 2007 and last updated them on December 20, 2010. The point was just for me to remember stuff I would like to work on with my wife Rhonda Murray and my other passing friends. The notes are very Will- and Rhonda-centric (e.g. "Inventor" really means "who taught us the pattern"), but other people are welcome to try them if they're interested. Let me know how it goes!

I have more complete articles on several classes of patterns that are not listed here, Long Beach Popcorn, Scratch Your Head, and 7 Club Doubles. They are on my website, along with an electronic copy of this file:
http://www.csulb.edu/~wmurray


Clubs: 7
Inventor:
Will and Rhonda...

Related patterns
Add a club:
Other related patterns:

Jugglers: 2
We got this from Peter Kaseman, but other people do it.
can do this forever, with occasional tricks (replacing 5551 with $7441,6451,5641$, 7531, 4444 on singles, etc.).

Par, which is symmetric.
Sympar
55513pFeed

55513pFeed


Clubs: 11
Inventor:
Will and Rhonda...
Jugglers: 3
Will
haven't done this. Will did it with Peter and Greg Kennedy in Winston-Salem, and later with Laura. It's a little weird for the feeder to figure out, but ultimately not too hard.

## Related patterns

Subtract a club:

Other related patterns:
This could be done with 10 clubs with the feeder just doing all 3's. But that might be boring for the feeder and might also create a collision possiblity when he is passing to the person on his left and receiving from the person on his right. 55513p

## 5vs3



Clubs: 8
Inventor:
Will and Rhonda...
Comments:

## Related patterns

Other related patterns:
s: 11
Inventor:
Will and Rhonda...
Comments:
Related patterns
Other related patterns:

## Jugglers: 2

Rhonda
can occasionally get this for a few cycles.
Good practice for 10 club 4 -count and the 15 club feed. You can also feed 14 clubs by having the feeder do 4 club double singles 2 -count and the feedees doing 5 club 4 -count. Will has done this with Peter and Laura.

5vs3vs3
5vs3vs3


Jugglers: 3
Will
have gotten this with Athena long enough for someone to lie down underneath us and film it.
Good practice for the 15 club feed.

5vs3, Shooting Gallery (righty-lefty version of this)

## 7club3count



Clubs: 7
Inventor:
Will and Rhonda...
Comments:

Jugglers: 2
folklore
can run this all day.
This is 966 , the symmetric version of 7 club doubles.
Jon's workshop in Alby suggested changing (4.5) 3 to 4 (3.5) (French 3-count), 3 (4.5) 3 to 5 (4.5) 1, or (4.5) 33 to (4.5) 42.
$\underline{\text { Related patterns }}$
Add a club:
Subtract a club:
Other related patterns:

996 (8 club PPS)
OllerupPopcorn(10-7-7)
FrankZappalot (855)
Techno
PPSfeed

## 7 countFrenchPopcorn



Clubs: 7
Inventor:
Will and Rhonda...
Comments:

Jugglers: 2
Jon and Mandy, in a workshop in Ollerup.
may never have tried this.
This is 10666867 , the Frenchified 7 countPopcorn. In this one, the same club goes back and forth each time. Another way to think about it is as 534 (pass)333, so you can replace the 534 with different 4 -club siteswaps and 333 with different 3 -club siteswaps, as in 55513 p. (If you replace 534 with 444 , you get the slow version of French 3-count.)

## 7countPopcorn



Clubs: 7
Inventor:
Will and Rhonda...
Comments:

Jugglers: 2
Jon, in his workshop in Alby, but it's folklore.
may never have tried this.
This is 10666966 , the symmetric version of standard 7 club popcorn.


Clubs: 7
Inventor:
Will and Rhonda...

## Related patterns

Other related patterns:

Jugglers: 2
Will
have never done this. We should try it sometime.

## 8club3count



Clubs: 8
Inventor:
Will and Rhonda...

Jugglers: 2
Rhonda, among others
may have done this. Will did it with Colin in Portland.

# 8SinglesSwitchingSides <br>  

Clubs: 8
Inventor:
Will and Rhonda... Comments:

Jugglers: 2
Mandy
don't work on 8 singles much.
You can also pass crossing and throw the single self straight up. This works better than some of Mandy's other challenges (e.g. 10 club 5-count, 3-count, and 1-count.)

942


Clubs: 5
Inventor:
Will and Rhonda...
Comments:

## Related patterns

Add a club:

Jugglers: 2
Daniel
haven't done this. Daniel and Will did it successfully in Irvine.
This has three "magic" clubs and two clubs that stay on their own sides. You can make the 4's actual flips instead of just holding them.

945
Christoph's Colors (972)

Clubs: 6
Inventor:
Will and Rhonda...
Comments:


## Jugglers: 2

Will
have worked on this. It's quite challenging, but doable and really fun.
This might be a good warmup for ZapOpusTwo.
To start, the person throwing crossing has two clubs in each hand. She throws left to left crossing double and then a right to right crossing zap. The other juggler starts with one club in each hand, waits as long as possible, and then throws a right to left straight double and then a left to right straight zap.
(This is the way Will and Rhonda start because Rhonda doesn't want to throw a left zap when she has two clubs in her left hand. For other people, it might make more sense for the straight person to start with four clubs and the crossing person to start with two. Then each person can start with a right double.)

## Related patterns

Add a club:
Subtract a club:

ZapOpusTwo (975)
925

## 966777



Clubs: 7
Inventor:
Will and Rhonda...
Comments:

Jugglers: 2
Doreen, in San Diego
haven't tried this. It worked with Doreen.
This is a nice 7 club 4 handed pass pass self. For a synchronous one, see Ampersand.

## 9countPopcorn



## Clubs: 7

Inventor:
Will and Rhonda...
Comments:

Jugglers: 2
Evl
have never tried this. Will did it with Clara in Durham.
Each person does 967776777 . It's fun when you get the sequence down. Make the 9 club a different color.

## Ampersand



Jugglers: 2
Rhonda, from Tom Hamill's 6-club Nizer's Nightmare. can run this all day.
For a 7 club 4 handed pass pass self, see 966777 .

Ampersand8
Nizer's Nightmare
6-club PPS
same pattern with crossing singles and straight doubles AmpersandSwitch
Ollerand

## AmpersandSwitch



Clubs: 7
Inventor:
Will and Rhonda...
Comments:

Jugglers: 2
Rhonda
may not have tried this.
This is Ampersand with two people switching the two roles.

## Related patterns

## Ampersand8



Clubs: 8
Inventor:
Will and Rhonda...
Comments:

## Related patterns

Subtract a club:
Other related patterns:

## Clubs: 7

Inventor:
Will and Rhonda...
Comments:

Jugglers: 2
Rhonda, from basic Ampersand.
can run this a bit.
This is just 8 club 1-count (97) with heffs on every third throw (PPS).

Ampersand
868677
This is 979788 . You can also do it with half as many passes, 978888.

## AntoniosAngst



Jugglers: 2
Antonio, in Vitoria
did this in Irvine in August 2009.
This is really a two person pattern; the top line in the diagram above is just to show that the top person is throwing multiplexes. Will starts with two in each hand and throws left to right self, then right multiplex with one club going as a single to his left hand and one as a crossing double to Rhonda's right, then right to left self, then left multiplex. Rhonda throws standard three-count, passing straight, with the first pass from the left hand, maybe slightly techno-ish.

## Related patterns

Other related patterns:

# AntoniosAnxiety 

Clubs: 7
Inventor:
Will and Rhonda...
Comments:


Jugglers: 2
Antonio, in Vitoria
did this in Irvine in August 2009.
This is really a two person pattern; the top line in the diagram above is just to show that the top person is throwing multiplexes. Will does the same thing as in Antonio'sAngst, except that he has time to do an extra 2 in the hand that just threw the multi (and do it as a shoulder throw, albert, or whatever). Rhonda throws BogotáPopcorn, passing straight, starting with a triple from the left hand. She has to wait a little on the triples since the incoming passes are doubles instead of the normal singles in BogotáPopcorn.

## Related patterns

Other related patterns:

Antonio'sAngst, FiveWithBenefits

## BogotaLine



Clubs: 10
Inventor:
Will and Rhonda...
Comments:

Jugglers: 3
someone in Bogotá, probably Nene.
probably did this in Bogotá.
To do this, the middle person has to make every left hand throw over the head and do a half pirouette. This gets pretty dizzifying. Maybe I'm misremembering this?

## BogotaLine



Clubs: 10
Inventor:
Will and Rhonda...
Comments:

Jugglers: 3
Will
have not done this.
The middle person alternates dropbacks and throws over the head with half pirouettes.

## BogotaPopcorn



Clubs: 7
Inventor: Will and Rhonda... Comments:

## Related patterns

Other related patterns:

Clubs: 10
Inventor:
Will and Rhonda...
Comments:

Jugglers: 2
Wilson "Nene" Vargas taught it to us, but it's folklore.
can run this.
We had fun doing this one with Steve Healy. We used oversize tennis balls for the clubs that do triples.
You can replace the 53 with 44 .

BogotaFeed
BogotaBigFeed

BogotaFeed


Jugglers: 3
Jon?
have never tried this. Will did it with Rasmus and Jon in Alby.
Fairly tricky for the feeder because the passes are coming from unexpected places.
Would be fun to do with Steve Healy sometime using tennis balls for the triples.
This is asymmetrical. The clubs from the different feedees do different things in the feeder's hands.

## Related patterns

Add a club:
Other related patterns:

## BogotaBigFeed

BogotaPopcorn
Why not (This is what the feeder is doing.)

## BogotaBigFeed



Clubs: 11
Inventor:
Will and Rhonda...
Comments:

## Related patterns

Subtract a club:
Other related patterns:

Jugglers: 3
Will
have never tried this. Will did it with Rasmus and Jon in Alby.
Symmetric version of the classic 11 club feed from the 7 club 6 -count popcorn. Fun for the feeder and not as hard as it might seem.

BogotaFeed
BogotaPopcorn

## Bookends-86777



Clubs: 7
Inventor:
Will and Rhonda...

Jugglers: 2
Jon and Mandy, at their workshop in Ollerup. have never done this, but it should be feasible.

## BrunosAmbidextrousNightmare



Clubs: 9
Inventor:
Will and Rhonda...

Comments:

Jugglers: 3
Staffan and Jochen in Durham.
haven't worked on this because Will wishes to preserve his marriage. Will worked on it with Aidan and James in Durham with reasonable success.
The diagram above doesn't show the selves. The full " 9 -count" pattern is PSSPSSPSS. When you do this, imagine Bruno's hands juggling the three jugglers. If the feeder starts in Bruno's right hand, as in the pattern above, everyone starts right-handed. The 7 -count pattern is PSPSPSS, and you use the same starting rule. The 5 -count pattern is PSPPS, and you use the opposite rule: If there are two balls in Bruno's right hand, everyone starts right-handed. (The 3-count version would be PPP with the original rule, but this doesn't seem feasible.)

The reason for this is that on the third pass, the feeder is leading one feedee up through the middle. If the feeder is in Bruno's right hand, he that third pass should come from his right hand so that giving the feedee a big lead spreads the clubs out instead of making them crash in the feedee's face. So you want that pass on an odd beat. In the 9 -count and 7 -count, that pass is on beats 7 and 5 , respectively. In the 5 -count, that pass is on beat 4 , so you reverse the rule.

## ChaChaPeter



Clubs: 8
Inventor:
Will and Rhonda...

Comments:

## Related patterns

Other related patterns:

Jugglers: 2
Peter, in December 2006.
have never tried this. Will and Mandy got it for a few throws in Alby, but it's tough.
Symmetric version of ChocolateBar

## ChaChaWill7



Clubs: 7
Inventor:
Will and Rhonda. . .
Comments:

## Related patterns

Subtract a club:
Other related patterns:

Jugglers: 2
Will, in December 2006, inspired by Peter.
have never tried this. Rhonda and Staffan worked on it in Lexington. It's probably best to do this with triples and lofty singles.

The lofty single pass is always the same club, so you can practice a six-club pattern without this club.
all the other ChaChas

## ChaChaWill7club1count



Clubs: 7
Inventor:
Will and Rhonda...
Comments:

Jugglers: 2
Will, in December 2006, inspired by Peter.
tried this in Alby, but it was surprisingly hard. Staffan and Will got several cycles of this in Lexington. It is doable and fun!
Try this with lofty singles and doubles. They may get a little random, but that's ok. In particular, the top juggler should really loft the first left-handed single (i.e., the second left-handed throw), to avoid rushing the bottom juggler.

Related patterns
Other related patterns:
all the other ChaChas

## ChaChaWill8



Clubs: 8
Inventor:
Will and Rhonda...

Jugglers: 2
Will, in December 2006, inspired by Peter.
tried this in Alby, and got it for a few rounds. It may be possible.

## ChocolateBar



Clubs: 8
Inventor:
Will and Rhonda...

Comments:
Related patterns
Other related patterns:

Jugglers: 2
Luke Emery
may or may not have done this. Will has done it fairly successfully with Peter and with Mandy.
Right-handed version of ChaChaPeter
all the other ChaChas

## ChristophsColors



Clubs: 6
Inventor:
Will and Rhonda...
Comments:

Jugglers: 2
Christoph Shumacher
have not done this. Will did it with Christoph in Durham.
This is 972 . Do it with 3 red and 3 yellow clubs, so that all doubles are yellow and all singles are red. Or do it with 2 red, 2 blue, and 2 yellow clubs, so that each double and answering single are the same color. The former looks better to jugglers in the pattern, and the latter looks better to spectators.

Related patterns
Add a club:
Subtract a club:

## ZapOpusTwo

942

## DDD1



Clubs: 7
Inventor:
Will and Rhonda...
Comments:

## Related patterns

Other related patterns:

Jugglers: 2
Doreen and Daniel, in Durham
have not done this.
This is 7868686 . The same club is passed every time, so this could be color-coded.

DDD2, FrenchCanadian7Count, SuperNovaScotia

## DDD2



Clubs: 7
Inventor:
Will and Rhonda...
Comments:

## Related patterns

Other related patterns:

Clubs: 9
Inventor:
Will and Rhonda...
Comments:

Related patterns
Other related patterns:

Jugglers: 2
Doreen and Daniel, in Durham
have not done this.
This is 7786786 . The same clubs are passed every time, so this could be color-coded.

DDD2, FrenchCanadian7Count, SuperNovaScotia

## FiveWithBenefits



Jugglers: 2
Antonio, in Vitoria
have not done this. Will and Antonio got it to work a bit.
This is just five club one count with each hand throwing a multi on every throw and one club coming back to the hand that threw it.

## FrankZappalot



Clubs: 6
Inventor:
Will and Rhonda...
Comments:

## Related patterns

Add a club:
Subtract a club:

Other related patterns:

Clubs: 11
Inventor:
Will and Rhonda...
Related patterns
Add a club:

Jugglers: 2
Will
can do this a bit. With practice, we should be able to run it.
This is just 855 .

Heffalump (885), 7club3count (966)
A good warmup for this is ZapHeff (84445).
Another 4-club version is 552 (FrankZappalite?), which is a good way to start learning this. Then you do 552 vs. 558 , which is already challenging.
Of course, there is also 5 -club one count, which is pretty hard with zaps.
It is also fun to do 852 and 582 , which can be done separately, or one person can do one and the other person can do the other. Will has worked on these with Athena, and gotten them after a while.
FrankZappaFeed

## FrankZappaBigFeed



Jugglers: 3
Will
have never tried this, but it might be feasible with good four-club jugglers.

FrankZappaFeed

## FrankZappaFeed



Clubs: 10
Inventor:
Will and Rhonda...

Comments:

## Related patterns

Add a club:

Jugglers: 3
Will
worked on this with Jason in Highgate, and again with Louis in Vitoria, and started to get it.
Frank Zappa feeds the heffalumps!

## FrenchCanadian7Count



Clubs: 7
Inventor:
Will and Rhonda...
Comments:
Related patterns
Other related patterns:
ubs: 11
Inventor:
Will and Rhonda...

Comments:

Jugglers: 2
Doreen and Daniel, in Durham
have not done this.
This is 7778686 . The same clubs are passed every time, so this could be color-coded.

DDD1, DDD2, SuperNovaScotia

## FrenchFeed



Jugglers: 3
Christoph Shumacher
have not done this. Will did it with Doreen and Matt in Isla Vista, fairly successfullly.
The feedees are essentially doing French 3-count, except that the passes are 4's instead of 3.5 's. This seems easier than the traditional 11 club PPSfeed, but maybe that's the effect of having Doreen and Matt as partners.

# FrenchFeedForFour 



Clubs: 15
Inventor:

Will and Rhonda...
Comments:

## Related patterns

Other related patterns:

Clubs: 7
Inventor:
Will and Rhonda...
Comments:

## Jugglers: 4

Staffan suggested that Christoph Shumacher's FrenchFeed for three could be extended.
have not done this. Will would really like to try it.
The feedees are essentially doing French 3-count, except that the passes are 4's instead of 3.5 's.

French 3-count, PPSfeed, FrenchFeed

## FrostFrenzy



Jugglers: 2
Martin
have never done this. Will does it with Martin, sometimes with long runs.
All passes are very floaty singles, although it might work nicely with doubles. (It's very strenuous on singles.) How to start: The top person holds four clubs and starts with pass, self, pause, pass, pass, pause, pass, pass, pause,.... The bottom person holds three and starts like 7 singles, throwing pass, self, pass, pass, self, pass. . . . To avoid collisions, he should throw the second pass on each side more inside.

FeedingFrenzy, a 10 club pattern in which the feeder does pass pass pause and the feedees do pass self self (I think).


Clubs: 7
Inventor:
Will and Rhonda...

Comments:

## Related patterns

Add a club:
Subtract a club:
Other related patterns:

Clubs: 12
Inventor:
Will and Rhonda...
Comments:

Jugglers: 2
Will
can do this a bit. With practice, we should be able to run it. Will has also started to get it with Dave.
This is just 885 . It feels a lot like solo 441.

8-club PPS (996)
FrankZappalot (855)
We haven't tried 774, but it doesn't sound too interesting.
FrankZappaFeed

## GorillaMixed



Jugglers: 3
Will
haven't tried this, but should sometime. It might work with double and single passes.
The standard 12 -club gorilla feed is two unrelated 6 -club patterns, which tend to drift in and out of synch. In this feed, the clubs visit all three jugglers, and it might be easier to keep the rhythm.

## IrrationalGoat



Clubs: 8
Inventor:
Will and Rhonda...

Comments:

Jugglers: 2
Staffan in Durham, in an attempt to find a mixed rhythm pattern that is not as extreme as the ChaChas.
haven't tried it together, but we each did it with Staffan and Jason with some success. It's not that bad once you figure out which clubs you're supposed to catch. This is homotopic to Svendborg1.5, with self doubles instead of self triples. That changes the rhythm and probably makes it a bit easier.
This pattern has endless names. Andy called it the Lumberjack because Rhonda and Staffan were wearing matching lumberjack shirts on its maiden flight. Staffan said he couldn't name it after himself because "it's not that great!" So he called it Irrational Goat Choking on Popcorn, and the rest of us called it the Pattern Unworthy of Staffan, the Pattern Formerly Known as Staffan's Pattern, Drunken Goat, or just the Goat.

You can learn this pattern by taking out one club on one side, the club that does the self double. In that case, that side throws no self double and no selves, so that person just throws two double passes and then waits to throw the next two.
Other related patterns:


Clubs: 9
Inventor:
Will and Rhonda...

## Related patterns

Other related patterns:

Jugglers: 2
Jim and Rhonda
can run this for a while on good days.

Nine3count, Nine4count
This becomes a 14 -club feed with the feeders doing 534 p .

## JensThreeCount



Clubs: 7
Inventor:
Will and Rhonda...
Comments:

## Related patterns

Add a club:
Other related patterns:

Jugglers: 2
Will
have never done this. Will tried it with Jen, fairly successfully. It's not too fast. This is 868677 .

Ampersand8 (979788)
867777

## JimsBookends



Clubs: 6
Inventor:
Will and Rhonda...
Comments:
Related patterns
Add a club:

Jugglers: 2
Ross, in Ollerup
have never done this
This is PPSPS with one person throwing straight and one crossing.

There is probably a seven club version with double passes, but I haven't worked it out.

JonsWeeder


Clubs: 7
Inventor:
Will and Rhonda...
Comments:

Jugglers: 2
Will, from suggestions from Jon in Madrid
may have worked on this in Madrid
The point of this is to get passes of three different heights peaking simultaneously.
The 44 solo could also be done as a 53 .

## LongBeachPopcorn



Clubs: 8
Inventor:
Will and Rhonda...
Comments:

Jugglers: 2
Will, inspired by Nate and Adam's 13 club feed
can run this all day, with occasional syncopations (see LongBeachPopcOrrn).
See Will's article.
Luke Emery pointed out that this is just the staggered four-handed siteswap D77797, where staggered means you use the hand order AR-AL-BR-BL. This describes the timing quite accurately.

Related patterns
Add a club:
Subtract a club:

Other related patterns:

## LongBeachSuperPop

9 club 2-count
LongBeachWimpyPop, i.e. 7 club traditional 6 -count popcorn
53 (4) 3 (or (6) 333 ) vs. 333 (4), which might be a good way to begin learning right-handed double selves.
Lopsided Popcorn
WaR
Right-handed 8 club PPS ( 9 club 2-count with a hole)
12 club feed (feedees doing 4-count triples, or single passes with right-handed double selves)
13 club feed
LongBeachCycle
LongBeachSpiderweb

## LongBeachPopcOrrn



Clubs: 8
Inventor:
Will and Rhonda...
Comments:

Jugglers: 2
Isaac Orr
haven't worked on these enough.
You can switch in and out of this from the regular pattern, (6) 353 (4) 3, without disrupting your partner. Or just do the first two throws, 4 (5) instead of (6) 3. Other possible syncopations include replacing 53 with 44 or replacing (4) 3 with 4 (3). You can also replace (6) 353 (4) 3 with (6) 3 (6) 333.


Clubs: 17
Inventor:
Will and Rhonda...
Comments:

## Related patterns

Other related patterns:

Clubs: 9
Inventor:
Will and Rhonda...

Comments:
Jugglers: 4
Will
have never tried this.

LongBeachPopcorn
LongBeachSpiderweb

## LongBeachSuperPop



## Jugglers: 2

Luke Emery. Mondo 2010 and it looks cool.

This can be done in a square passing left (four collisions), a square passing right (no collisions), a Y (one collision), or two facing two (two collisions).
have never done this. The self quads would have to be very high and there are no recovery throws. But apparently Peter and Stefan (Brancel?) got some runs at

In Luke Emery's staggered four-handed notiation, this is D797B7. The right hand throws self quad, triple pass, self double. Luke points out that there is a whole family in descending order: Super (9 clubs), Classic (8), Wimpy (7), Extra Wimpy ( 6 clubs, 773757 , with the 3 being a very fast zap), and Ultra Wimpy ( 5 clubs, 571737, with the 1 being a zip). You can merge any one of them with the pattern two (or four) levels higher or lower.

LongBeachPopcorn
LongBeachSuperWimp, which might be a good warmup for this.

## LongBeachSuperWimp



Clubs: 9
Inventor:
Will and Rhonda...
Comments:

## Related patterns

Subtract a club:
Other related patterns:

Clubs: 7
Inventor:
Will and Rhonda...
Comments:

## $\underline{\text { Related patterns }}$

Add a club:

Jugglers: 2
Will, combining two patterns from Luke Emery.
have never done this. Luke reports that he and Peter made it work at Mondo 2010. In Luke Emery's staggered four-handed notiation, this is D777B7579797. One person is doing LongBeachSuperPop and the other LongBeachWimpyPop.

LongBeachSuperPop
LongBeachWimpyPop

## LongBeachWimpyPop



Jugglers: 2
Luke Emery, but generations of IJA competitors have done it. have done this.
In Luke's staggered four-handed notiation, this is 975777 . This is just the standard seven-club popcorn with all the throws brought down by one spin. Ideally, then, the right hand would throw flats to the left for the 5's.

LongBeachPopcorn

## LongBeachSpiderweb



Clubs: 17
Inventor:
Will and Rhonda...
Comments:

## Related patterns

Other related patterns:

Jugglers: 4
Will
have never tried this.
Must be done in a square since each person is either passing or receiving from every other person.

LongBeachPopcorn
LongBeachCycle
Spiderweb

## LopsidedPPS8



Jugglers: 2
Clubs: 8
Will
have had little success with this.

## LukasHandoff



Clubs: 3
Inventor:
Will and Rhonda...
Comments:

Jugglers: 2
Lukas from Freiburg, in Ollerup
haven't tried this, but it should be doable.
The high throw should be a really high triple. It's fun to do the low throws as zero spin chops, as vertical flats, treblas, shoulder throws, or whatever. You can even stand back to back and hand them back by your hips or over the shoulders (do a half flip to set them up).

Clubs: 8
Inventor:
Will and Rhonda...

## Related patterns

Subtract a club:

Other related patterns:

Clubs: 8
Inventor:
Will and Rhonda...
Comments:

## Related patterns

Subtract a club:
Other related patterns:

LukeEmerySimul


Jugglers: 2
Luke, in discussion on the Passout list have never tried this.

You can have just one person throwing simul triple-singles while the other throws single-singles. Will has tried this with Mandy in Millstreet and Berengar in Alby, and it's still plenty tough. You can also have lots of other combinations.
LukeEmerySimulDoubles

## LukeEmerySimulDoubles



Jugglers: 2
Will, in an attempt to make LukeEmerySimul easier have never tried this.
This gallops RLLR, which might make it interesting, or extremely hard.
probably the same possibilities as LukeEmerySimul LukeEmerySimul

## LukesVolleyclub



Clubs: 8
Inventor:
Will and Rhonda...

Jugglers: 2
Luke
have never tried this. Luke says it's quick, but not too hard.

## MarchingToSvendborg



Clubs: 8
Inventor:
Will and Rhonda...

## Related patterns

$\overline{\text { Other related patterns: }}$

Jugglers: 2
Rhonda, as a transition between 2-count and Svendborg haven't quite done this yet.

## Nine3count



Clubs: 9
Inventor:
Will and Rhonda...

## Related patterns

Subtract a club:
Other related patterns:

Jugglers: 2
Rhonda, en route to Lexington in 2008.
have never tried this.

Will's warmup pattern is $\left(\begin{array}{ccc}(3) & 5 & 5 \\ 4 & 4 & (3)\end{array}\right)$, with the 5 s as doubles and the 4 s as singles. Nine4count, Jar

## Nine4count



Clubs: 9
Inventor:
Will and Rhonda...
Related patterns
Other related patterns:

Jugglers: 2
Will
tried this in Alby and got it a bit.

Nine3count, Jar

## Ollerand



Clubs: 7
Inventor:
Will and Rhonda...

## Related patterns

Add a club:
Other related patterns:

Clubs: 8
Inventor:
Will and Rhonda...
Comments:

Related patterns
Subtract a club:

Jugglers: 2
Will
can do this for a bit, with lots of staggering around.

OllerupPopcorn(10-7-7)
Ampersand

## OllerupPopcorn-10-7-7



Jugglers: 2
Will
have never succeeded at this.
Each of the $\binom{4}{3}$ groups of three hands has exactly two clubs cycling through it. (See ZapOpusOne.)

Ollerand
966 (7 club 3-count)
7 club 1-count
1077477 , which might be a good warmup for this.

## Par



Clubs: 8
Inventor:
Will and Rhonda...

Comments:

Related patterns
Subtract a club:
Other related patterns:

Jugglers: 2
Peter and Rhonda, in Lexington in 2008.
worked on this with lots of people in Durham. The record is around four or five 5551's each.
To make this right-handed, do two passes instead of one, i.e. replace 55514 p with 55514 p 4 p .

55513p. Do this left-handed as practice for Par. 55515p3

Jugglers: 3
Will
haven't tried this. It might be pretty hard.

Clubs: 11
Inventor:
Will and Rhonda...
Related patterns
Other related patterns:

## PPPSS



Clubs: 7
Inventor:
Will and Rhonda...

Jugglers: 2
Jon and Mandy, at a workshop in Ollerup.
haven't tried this, but it's feasible.

## PPS444333Crossing



Clubs: 7
Inventor:
Will and Rhonda...
Related patterns
Other related patterns:

Clubs: 7
Inventor:
Will and Rhonda...

## $\underline{\text { Related patterns }}$

Other related patterns:

Clubs: 11
Inventor:
Will and Rhonda...
Comments:

## Related patterns

Other related patterns:

Jugglers: 2
Will
did this in January 2007. It's amusing for a little while.

Ampersand PPS444333Straight

## PPS444333Straight



Jugglers: 2
Will
did this in January 2007. It's amusing for a little while.

Ampersand
PPS444333Crossing

## PPSfeed



Jugglers: 3
folklore
can probably run this.
fun for the feeder

7club3count, FrenchFeed

## Programmer1



Clubs: 6
Inventor:
Will and Rhonda...
Comments:

## Related patterns

Other related patterns:

Clubs: 6
Inventor:
Will and Rhonda...
Comments:

Jugglers: 2
Doreen and Staffan, in San Diego
can probably run this.
The point of this one is that either side can "program" the other one into switching sides. To program the switch in one direction, do 3.5 p 3.5p 1 [3] 3.5p 3.5p 3; in the other, do 3.5 p 3.5p 3 [3.5p 3.5p] 3.5p 3.5p 1. (Note that the union of the throws in the two transitions is the same as the set of throws of the juggler doing more clubs, a common feature of programming patterns.)

## Programmer2, WhyRei

## Programmer2



Jugglers: 2
Doreen and Staffan, in San Diego
have never tried this.
The point of this one is that either side can "program" the other one into switching sides. To program the switch in one direction, do 3.5 p 41 [3] 3.5p 33 ; in the other, do 3.5 p 33 [3.5p 3] 3.5p 4 . (Note that the union of the throws in the two transitions is the same as the set of throws of the juggler doing more clubs, a common feature of programming patterns.)

Programmer1, WhyRei

## Raw



Clubs: 9
Inventor:
Will and Rhonda...
Comments:

Jugglers: 2
Rhonda or Will
have never tried this.
This may be way too hard unless we can do the 5's on doubles, which may not work because of the 3 's. It might be slightly easier if we switch the hands of the bottom person so he leads with the right hand and the passes are diagonal.

Related patterns
Other related patterns:

## Roundabout



Clubs: 7
Inventor:
Will and Rhonda...
Comments:

Jugglers: 3
Take That Out, a.k.a. Florian, Jochen, and Jochen do this with Jim and Jen.
Also known as Slap My Face. To mix it up, add pirouettes whenever possible, or do the Chopabout.

## Samerup-96677



Clubs: 7
Inventor:
Will and Rhonda...

Jugglers: 2
Sam, in Ollerup
have never tried this.

## ScratchYourNose



Clubs: 7
Inventor:
Will and Rhonda...

Comments:

Related patterns
Add a club:

Jugglers: 2
Luke Emery
have never tried this. Will worked on it with Luke in San Diego and had a very hard time of it.
This is just like Scratch Your Head, but with self doubles that cross instead of going straight up. It shouldn't be as hard as it is.

Like Scratch Your Head, you could in theory make the passes doubles and add more clubs.

## Sewell1



Clubs: 6
Inventor:
Will and Rhonda. . .
Related patterns
$\overline{\text { Other related patterns: }}$

Jugglers: 2
Jeff Wiggs, after passing with Bill Sewell in Flatland 2007
haven't tried this.

Sewell2, which is this pattern out of phase.
Sewellite

## Sewell2



Clubs: 6
Inventor:
Will and Rhonda...

## Related patterns

Other related patterns:

Jugglers: 2
Jeff Wiggs, after passing with Bill Sewell in Flatland 2007
haven't tried this.

This would be fun to do as a feed with both feedees throwing this in various phases relative to each other.
Sewell1, which is this pattern in phase.
Sewellite

## Sewellite



Clubs: 6
Inventor:
Will and Rhonda...
Comments:

Jugglers: 2
Will, as a 3-count version of Jeff Wiggs' Sewell patterns.
have tried this, with some success.
Watch for collisions and be careful on the timing.
This can be done with the 5's as doubles and the 4's as singles, but it's pretty weird timing.
This is just a 3-count with late doubles and triples.
Related patterns
Add a club:
Other related patterns:

Because of the pauses, maybe another club could be squeezed in here. Sewell1, Sewell2

## Shamrock5



Clubs: 5
Inventor:
Will and Rhonda...

## Related patterns

Add a club:
Other related patterns:

Jugglers: 3
Take That Out, a.k.a. Florian, Jochen, and Jochen have done this, but Will mostly does it with Athena and Dave.

Shamrock6
Assume Dave is starting with 3 clubs, Athena is to his left, and Will is to his right. Then the hand order is DR, WL, AR, DL, WR, AL. The global siteswap for the 5 -club version is 50673955 , and the local one is 57503569 . For the 6 -club version, replace the 0 's by 8 's. Here is what Dave's hands do:
575 Zap out the first three clubs.
8 Lob a club (caught from Will's left) left-handed to Athena's left.
35 Hand the club that Will just handed him over from his right to his left, and then hand it to Athena's right.
6 Just hold a club in his right hand.
9 Throw a self from his left to his right.

## Shamrock6



Clubs: 6
Inventor:
Will and Rhonda...
Related patterns
Subtract a club:

Jugglers: 3
Take That Out, a.k.a. Florian, Jochen, and Jochen have done this, but Will mostly does it with Athena and Dave.

## ShootingGallery



Clubs: 11
Inventor:
Will and Rhonda...
Comments:

Jugglers: 3
Will
have tried this with Jim, not very successfully.
This is a righty-lefty version of 5 vs 3 vs 3 , and you can start it directly from that. Either the feeder starts throwing to the feedees' right hands, or the feedees just move over.

## Spiderweb



Jugglers: 4
Madison jugglers
can run this with strong right-handed passers.
We should try this sometime passing singles and doubles instead of doubles and triples.

LongBeachSpiderweb (17 clubs)
Tarantulaweb (16 to 18 clubs)
Warmup versions of this pattern, omitting some of the triples.

## Steves4count



Jugglers: 2
Steve Healy and Rhonda
can run this.
If you do the 4's as singles, then you have to do the 3 's a little fast. It would probably work better to do the 4's as doubles, but it's fun to do the fast version.

## SuperNovaScotia



Clubs: 7
Inventor:
Will and Rhonda...
Comments:
Related patterns
Other related patterns:

## Clubs: 8

Inventor:
Will and Rhonda...

## Related patterns

Other related patterns:

Jugglers: 2
Doreen and Daniel, in Durham
have not done this.
This is 7777786 . The same clubs are passed every time, so this could be color-coded.

DDD1, DDD2, FrenchCanadian7Count

## SvendborgPopcorn



Jugglers: 2
Mandy and Jochen Pfeiffer, but they deny memory of it can do this for a bit on a good day.

## MarchingToSvendborg

You can also do 5 (4) (4) 3, right-handed vs. left-handed with straight passes, or both right-handed with crossing passes. (Will and Rhonda ran the right-handed version pretty well in Durham.) Or you can add $n$ extra triples and $n$ extra singles.

## SvendborgOnePointFive



Clubs: 8
Inventor:
Will and Rhonda...
Comments:

Jugglers: 2
Doreen, but she says it's an old one.
have never tried this. Doreen and Will got good runs of it in Isla Vista.
This is homotopic to IrrationalGoat, with self triples instead of self doubles. That changes the rhythm and probably makes it a bit harder.
This is also the symmetrized version of the compressed SvendborgPopcorn.
To start it, Will holds five clubs and throws two straight doubles, right hand first. Rhonda holds three clubs, waits, and starts with a right self triple.

Related patterns
$\overline{\text { Other related patterns: }}$

## SvendborgLopsided



Clubs: 8
Inventor:
Will and Rhonda...

Jugglers: 2
Luke Emery
have never tried this. Peter and Luke do it.

Related patterns
Other related patterns:

All the other Svendborgs.

Sympar


Clubs: 7
Inventor:
Will and Rhonda...
Comments:

Jugglers: 2
Will
can do this pretty well now.
Do the 3's really fast.

Related patterns
Other related patterns:
55513p, the right-handed version


Clubs: 16 to 18
Inventor:
Will and Rhonda...

## Related patterns

Subtract a club:

Clubs: 7
Inventor:
Will and Rhonda...
Comments:
Related patterns
Add a club:

Jugglers: 4
Luke Emery
yeah, right. I would like to see the jugglers who can do this!

This is the Spiderweb with hohos added after every throw. (Right doubles followed by left doubles to the same person, right triples followed by left triples to the same person.) You could make it a 16 or 17 club pattern by only adding some of the hohos.


Jugglers: 2
folklore, but I got it from Jon.
can run this.
This is just 7 club 3-count on singles.

Techno8

## Techno8



Clubs: 8
Inventor:
Will and Rhonda. . .
Comments:

Jugglers: 2
Aidan and Rasmus, but I got it from Doreen.
tried this and got it a bit. It's fun.
To start, each juggler throws a right crossing double, then pauses (as long as possible), then goes into the pattern starting with a left crossing double and right self.

## Related patterns

## Towers



Clubs: 7
Inventor:
Will and Rhonda...
Related patterns
Other related patterns:

Jugglers: 2
Rasmus
have never tried this. Will did it with Rasmus in Durham.

This is 948 , which is homotopic to Scratch Your Head. To see this, take out the 4's and then make the left and right hand throws simultaneous. Rasmus likes to do it with the 8's as singles, which makes it quite challenging. He said it can be done against Techno. When he did it with doubles, it worked well with Techno, but when he did it with singles, the other guy complained.

## TTSeS



Clubs: 7
Inventor:
Will and Rhonda...
Comments:

Jugglers: 2
lost in the mists of time.
haven't tried this, but could probably run it.
Each person's right hand does triple triple self single.

## Related patterns

Other related patterns:

TTTTHS

## TTTTHS



Clubs: 7
Inventor:
Will and Rhonda...
Comments:

Related patterns
Other related patterns:
TurboWeeder


Clubs: 7
Inventor:
Will and Rhonda...
Related patterns
Other related patterns:

Jugglers: 2
TTSeS

Will
can run this.
all the other Weeders

Jugglers: 2
lost in the mists of time.
haven't tried this, but could probably run it.
Each person's right hand does triple triple triple triple handacross single. In fact, the handacross is superfluous and you can do a flourish instead.

## TucsonTwostep



Clubs: 6
Inventor:
Will and Rhonda...
Comments:

## Jugglers: 2

Rhonda
can do this. Rhonda learned it with Dave in Tucson.
One of the points of this pattern is that every pass is a collision. But it still works if you choose lanes for the straights and pass the diagonals wide.

WillMakesMyDreamsComeTrue. You can mix and match these patterns to get a seven club pattern, which we did successfully in Isla Vista in 2010.

## Volleyclub



Clubs: 7
Inventor:
Will and Rhonda...
Comments:
Related patterns
Add a club:

Jugglers: 2
Jon, in his workshop in Alby
have never tried this. Will and Ross got it for a bit in Alby.
This is 116666 , the symmetric version of 4 count triples.

In theory, you could also do 1111666 , or 1161166 . The former is locally similar to Luke's Volleyclub, but it has one person throw the two high passes and then the other throw two, whereas with Luke's pattern, they throw both of them simultaneously. The latter is symmetrized Chocolate Bar.

## Weeder



Clubs: 7
Inventor:
Will and Rhonda...

## Related patterns

Add a club:
Subtract a club:
Other related patterns:

Jugglers: 2
Will watering down a pattern by Rhonda (hence the name WDR) can run this.

Weeder8
Weeder6
all the other Weeders

## Weeder8



Clubs: 8
Inventor:
Will and Rhonda...
$\underline{\text { Related patterns }}$
Other related patterns:

Jugglers: 2
Will
can probably run this.
all the other Weeders
This is just two people doing double singles and passing two out of four.

## Weeder6



Clubs: 6
Inventor:
Will and Rhonda...

Jugglers: 2
Will
could probably run this.

Related patterns
Other related patterns:
all the other Weeders

## WeederFeeder



Clubs: 11
Inventor:
Will and Rhonda...

## Related patterns

Other related patterns:

Jugglers: 3
Will
may never have tried this.
all the other Weeders

## WhyRei



Clubs: 7
Inventor:
Will and Rhonda...
Comments:

Jugglers: 2
Doreen and Staffan, in San Diego
have never tried this.
WhyRei is the name of a German detergent. The point of this one is that either side can "program" the other one into switching sides. To program the switch in one direction, do 4.5p 34.5 p 41 [4.5p 3 3] 4.5p 34.5 p 3 3; in the other, do 4.5p 34.5 p 3 3 [4.5p 3] 4.5p 34.5 p 4 1. (Note that the union of the throws in the two transitions is the same as the set of throws of the juggler doing more clubs, a common feature of programming patterns.)

Related patterns
Other related patterns:

## WillMakesMyDreamsComeTrue



Clubs: 8
Inventor:
Will and Rhonda...

Comments:

## Related patterns

Subtract a club:

Clubs: 4
Inventor:
Will and Rhonda...
Comments:

Jugglers: 2
Rhonda
haven't done the full pattern yet. We have done the seven club version on both sides, so the full pattern should be doable.
One of the points of this pattern is that every pass is a collision. But it still works if you choose lanes for the straights and pass the diagonals wide.

TusconTwostep. You can mix and match these patterns to get a seven club pattern, which we did successfully in Isla Vista in 2010.

## Windmill



## Jugglers: 2

That Out, a.k.a. Florian and Jochen.
have never done this.
This looks good with Jochen juggling and Florian doing really fast windmilly steals.

## ZapFour



Jugglers: 2
Will
have never done this.
This is just 988 vs. 665 . It could also be done with all crossing passes.
$\underline{\text { Related patterns }}$
Other related patterns:

## ZapFourFeed11



Jugglers: 3
Will
have never done this.
This is 788 and 788 vs. 776.

All the other ZapFours.


Jugglers: 3
Will
have never done this.
This is 788 and 788 vs. 998.

All the other ZapFours.

## ZapFourFeedHigh



Jugglers: 3
Will
have never done this.
This is 988 and 988 vs. 994 .

All the other ZapFours.

## ZapFourFeedLow



Clubs: 12
Inventor:
Will and Rhonda...
Comments:

## $\underline{\text { Related patterns }}$

Other related patterns:

Jugglers: 3
Will
have never done this. It looks hard.
This is 988 and 988 vs. 778.

All the other ZapFours.

## ZapHeff



Clubs: 5
Inventor:
Will and Rhonda...
Comments:

## Related patterns

Add a club:
Other related patterns:

Jugglers: 2
Athena and Dave
haven't tried this.
This is 84445 . Each hand holds one club, and there is a fifth one zapping around. When the extra club comes to a hand, that hand does a heff to make time to catch the extra one and rezap it.
$89445,84945,84495$, and 95556 all sound challenging, but might be interesting and possible since they're only six clubs.
This is a good warmup to FrankZappalot and Heffalump.

## ZapOpusOne



Clubs: 6
Inventor:
Will and Rhonda...
Comments:

## Jugglers: 2

Will
can run this all day.
This is interesting because each of the $\binom{4}{2}$ pairs of hands has exactly one club moving back and forth between the two hands. This is easy to see if you use six different colored clubs. (See Ollerup Popcorn.)
To start it, Rhonda holds two clubs in each hand. She throws a right crossing zap, then a left straight lofty single, then a right crossing self, then repeat on the other side. Will starts with one club in each hand and does a right crossing self, then a left straight zap, then a right crossing lofty single, then repeat on the other side.

## ZapOpusOnePointTwo-75756



Clubs: 6
Inventor:
Will and Rhonda...
Related patterns
Other related patterns:

Jugglers: 2
Daniel
haven't tried this. It might be hard.

All the other Zaps.

## ZapOpusOneHalf-75666



Clubs: 6
Inventor:
Will and Rhonda...
Comments:

Jugglers: 2
Will
can run this all day.
There are a couple collision dangers where crossing zaps go under crossing passes.
If you keep the zaps low and the passes high, and focus on the timing (the passes are thrown slightly before the zaps), they aren't problems and you don't have to choose lanes.
The same club is zapping every time, so it may help in remembering the sequence to use a different color club for that one at first.

Related patterns
Other related patterns:

All the other Zaps.

## ZapOpusTwo



Clubs: 7
Inventor:
Will and Rhonda...
Comments:

Related patterns
Add a club:

Subtract a club:

Jugglers: 2
Will
haven't had much succes with this.
This can also be done one-sided with the other person doing 7 club 1-count (977757). This may be a good way to build up to this.

978 is hard, but feasible for a few rounds. Will has done it for a few throws with Ross, Berengar, and Mandy.
756 is ZapOpusOne, which is fun.
456 might be called ZapOpusZero, and might be a good way to learn zaps. 945
972 is Christoph's Colors.

## ZapTriangle



Clubs: 9
Inventor:
Will and Rhonda...
Comments:

## Jugglers: 3

Will
haven't tried this but really should.
This could be varied by switching who stands where. It could also be changed to a LLLRRR hand order, but with LRLRLR, all the throws are straight, which seems less likely to give collisions. The zaps here are a little faster than regular zaps ( 2.3 instead of 2.5) and the singles are a little higher (3.7 instead of 3.5).

## Related patterns

Other related patterns:
ZapOpusOne

## Other 7-club chestnuts

Some old favorites that haven't yet gotten added to the master list:

- Every other triples (makes a nice 11-club feed)
- Singles versus triples (good practice for 8 triples)
- Eleven club gorilla feed (all passes are doubles for the easiest rhythm)
- Classic popcorn (the right hand throws triple self, double pass, single self)
- Classic popcorn elongated (as above, but replace 3(2)1 with $3(2)(2) 1(2))$
- Lopsided popcorn (one juggler does triple self, double pass; the other does single self, double pass; good practice for 10 -club feed and 11-club feed respectively)
- 11-club feed from 7-club one count
- Oddz Goddz (RRLL: really hard but doable if you lob the passes super high)
- Staggered goddz (one person feeds doubles to the other person's right and left hands; the other person does Oddz Goddz)
- French 3-count (867)
- Fast slow simul (Only hard because of the collision. To avoid it, the fast person should throw the crossing pass from the inside to the outside, and the slow person should throw that pass from the outside to the inside. To start, fast person (with 4 clubs) throws to slow's left hand, and slow person (with 2 clubs in right hand) throws from right hand to fast's left hand.)
- Classic PPS (Keep the singles low and the doubles high. There's a collision risk, but you can avoid it if you watch for it.)

