The 5 Day Momentum Method

Jeff Cooper

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Introduction

When I decided to write **Hit And Run Trading**, I knew there were a large number of people 'who were interested in very short-term trading (I define very short-term trading as a few hours to a few days). What amazed me (and my publisher) was just how big this world really is. We were so inundated with orders that the book had to go back for its fourth printing in 8 months. What amazed me even more was the even larger universe of people who didn't day-trade hut wanted a method that would allow them to trade while they went on with their everyday lives. These people did not want to (or cannot) sit in front of the screen all day (as I do) hut they also didn't want to put up with the drawdowns associated with long-term buy-and-hold strategies.

In response to this need. the following is what I believe to be one of the best 3 -7 day trading methods available. This method, which is called **5** *Day Momentum Method*, specifically identifies short-term pullbacks in strongly trending stocks and pinpoints where and when to enter to participate when the trend resumes.

THIS METHOD IS NOT THE HOLY GRAIL! It is, though, a very correct way to trade and it has proven itself over the years. More importantly, it applies to downtrending stocks as well as uptrending stocks which will allow you to profit no matter what type of market we are in.

Please read this course at least twice to make sure you fully understand the concepts and rules before trading. I also recommend paper-trading this method before using real money with it. This will allow you to better master the technique and increase the likelihood of your success.

Best of Luck With Your Trading!

Jeff Cooper

The Method Behind The Madness

One of the longest lasting and <u>truest</u> principles behind the nature of markets is this: strongly trending markets pullback for a few days and then resume their trend. This principle has been proven and exploited over and over. Recently, I wrote about it in **Hit And Run Trading** with the 1-2-3-4 strategies (3 day pullbacks), and Larry Connors and Linda Raschke wrote about it in their book *Street Smarts* where they illustrate that strongly trending markets tend to pullback to their 20 day moving average before rising again. If you go through the body of trading literature on a historical basis you can find reference to this concept and as far back as the early 1900s, when W .D. Gann wrote about it.

What happens is that a strongly trending (runaway) market will take a few days rest before continuing its trend. This is especially true in the early stages of the move. The rest, or pause, will come in the form of sideways movement or a few down days (up days for downtrending markets). This comes mostly from individuals who were lucky enough (or smart enough) to have bought at lower levels (or, in downtrends, who had shorted at higher levels) and now wish to lock in their gains. However, this pullback, or rest, is also used by the momentum growth funds and traders as a way to accumulate more stock at lower levels (or, on the downside, unload stock at higher levels), therefore once again causing prices to move higher and creating, more momentum. How far these stocks run is

absolutely impossible to predict hut the key is to climb aboard early and let the market go where it will go.

If you go back 100 years and look at stock prices (and in fact commodity prices) you will See this scenario play itself over and over and over. The age old question is, where do you enter the market to provide you with the highest possibility of profit while taking the lowest .degree of risk? I believe *The 5 Day Momentum Method* does the best most efficient job of answering this question. *The 5 Day Momentum Method* identifies only the strongest trending stocks and, with the use of an oscillator, pinpoints when the pullback will likely exhaust itself and the trend will resume.

Let's now move on to the mechanics and calculations needed to use this methodology.

The 5 Day Momentum Method utilizes two indicators to identify the correct entry-point measures the trend better than any other method (we will discuss Relative Strength in a moment). For those of you who are new, ADX stands for Average Directional Movement. The ADX measures the strength (not direction) of the trend. The higher the ADX reading, the stronger the trend. The 5 Day Momentum Method only trades stocks, whose ADX reading is 35 or higher. This means we are only looking at stocks that are moving strong in one direction. To identify the direction, we use the ADX companion +DI and -DI. Simply, if the trend is up, the +DI will be greater than the -DI and if the trend is down, the -DI will be greater than the +DI. (If you are a bit confused, the examples will simplify this for you).

Therefore, if we are looking to buy into a strongly trending stock, its ADX reading must be 35 or higher (the calculation for ADX is in the appendix) and its +DI reading must be higher than its -DI reading. If we are looking to short a downtrending stock, the ADX reading must be 35 or higher and the -DI reading must be greater than the +DI reading.

ADX requires you to have a software program to do its calculations. Most graphing services provide this (a partial list is in the appendix) but if you cannot obtain this calculation, the next best choice of indicator to use is Relative Strength (RS) used by

Investors Business Daily. The RS readings identify how a stock has performed over the

past 12 months versus other stocks. A reading of 99 means that the stock has outperformed 99% of all other stocks. Ideally, you want to only buy stocks with this method that have a RS reading of 95 or higher. This assumes you of being in the strongest uptrending stocks available. On the short side though, RS does not amply identify the tradable downtrending stocks. A very low RS reading (1-10) is usually associated with very low-priced, nearly bankrupt stocks. Also, we do not want to trade very low priced stocks due to their Jack of movement and therefore low RS is virtually useless for shorting purposes. One solution I may suggest is to look at the Falling Relative Strength List that Investors Business Daily provides of stocks recently trading <u>under</u> the RS 50 level and RS 30 level. These are stocks that are certainly sinking and they make good candidates to include in the short-selling universe.

The second indicator to complete our toolbox is stochastics. Stochastics are a mathematical formula (see appendix) that is based on the fact that as prices increase, closing prices tend to be closer to the upper end of the price range, and as prices drop, their close is usually near the bottom of the daily range. Conventional wisdom states that when readings get under 40 % the market is oversold and above 60 % the market is overbought. There are four components of stochastics -- Fast % K, Fast % D, Slow % K, and Slow % D. The only one we need to concern ourselves with is Fast % K. This is an extremely sensitive component, and it allows us to best measure overbought and oversold conditions. (A sidenote needs to be added --I have read and studied many

hooks that attempt to teach people how to trade using stochastics and for the most part they are useless. The reason is that in strongly trending upmarkets, these oscillators will tell you the market is overbought, but unfortunately markets can remain this way for days and weeks (the reverse is true for downtrending markets). Traders get killed setting into these markets as they continue to rise.

If all this sounds complicated, it really is not. Once we look at the examples, the pieces will be easier to understand.

For *The 5 Day Momentum Method* we use an <u>eight period Fast % K</u> for our calculations. In uptrending markets, we want the Fast % K to drop to <u>40% or under</u>. This means the market has pulled back (oversold) and there is a higher than average likelihood the market will again move higher. In downtrending markets, we want the Fast K % to climb to <u>60 % or higher</u>. This means the market is overbought and the downtrend is likely to kick in again.

Again, if this is a bit difficult to understand, please be patient. I promise you that within 60 minutes it will be second nature to you.

III -- Putting Everything Together

Let's review the rules from the previous section and add the final pieces:

1) We will only trade in THE STRONGEST TRENDING STOCKS. This means we will only buy stocks whose AD X is 35 or higher and whose +DI is greater than its -DI reading. If we do not want to use ADX, we will use Investors Business Daily Relative Strength Reading and only trade stocks whose Relative Strength reading is at 95 or higher.

For downtrending stocks (short selling), the ADX must be 35 or higher and the -DI reading will be above the +DI reading. If we use RS, we want to short those stocks who have recently dropped to under 50 or 30 as mentioned in Investors Business Daily.

2) Price is critical! The higher, the price, the better. Testing bas shown that stocks priced above 50 perform better using this method than stocks priced above 40 and stocks priced above 60 perform better than stocks priced above 50 and so on. Unfortunately, as we move into the higher price range we have fewer and fewer situations to choose from.

For short sales, we will drop the requirement to above \$40/share. This is because stocks drop quicker and their daily range is larger to the downside.

Therefore, we will only trade stocks on the long-side whose price is above \$50/share.

3) 'When we have limited our trading universe to rules 1 and 2, we will wait for a Fast % K stochastic set-up.

For Buys:

A) Today (Day One), the Fast % K must close under 40 %. This tells us we are oversold.

B) We will buy tomorrow (Day Two), one tick above today's high (1/16 point). If you are not tilled tomorrow (Day Two) you will look to buy the next day (Day Three, a tick above the Day Two high). We allow ourselves two days to get in after each under 40 reading to allow for one day consolidations that push the Fast % K above 40 (again, the examples will clarify this further).

C) Upon being tilled. our stop is at Of 1 tick under the previous day's low. This means if today's range is 54 for the high and 52 for the low, we will buy tomorrow one tick above 54 and our stop will be at 52 or 51 15/16. Unless the market does something crazy overnight, this will be our maximum risk on the trade.

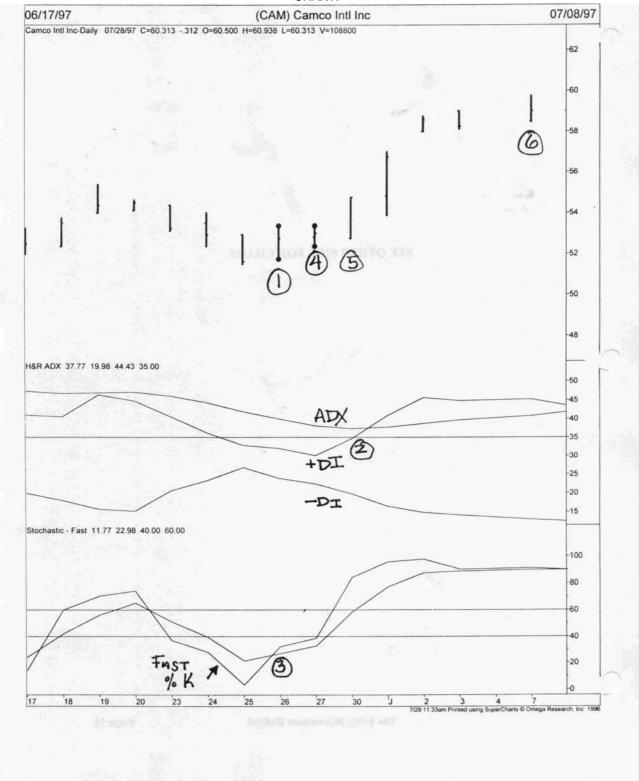
For Short Sales:

A) Today (Day One), the Fast % K must close above 60 %. This tells us we are overbought.

B) We will sell short tomorrow (Day Two), one tick below today's low (1/16 point). If you are not filled tomorrow (Day Two) you will look to sell the next day (Day Three, a tick below the Day Two low). We allow ourselves two days to get in after each above 60 reading to allow for one day consolidations that push the Fast % K below 60 (again, the examples will clarify this further).

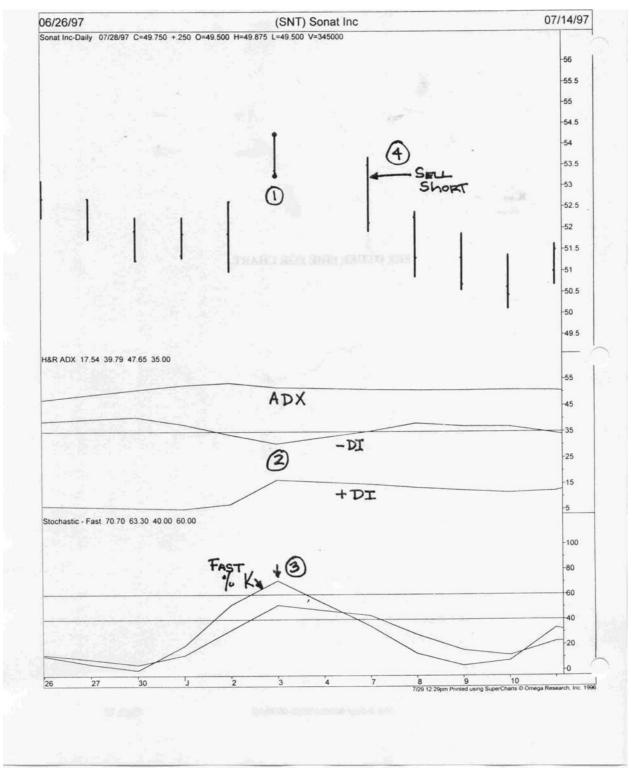
C) Upon being tilled, our stop is at or 1 tick above the previous day's high. This means if today's range is 66 for the high and 63 for the low, we will sell short tomorrow one tick below 63 and our stop will be at 66 or 66 1/16. Unless the market does something crazy overnight, this will be our maximum risk on the trade.

Let's look at a handful of examples on how to enter a trade.



Camco:

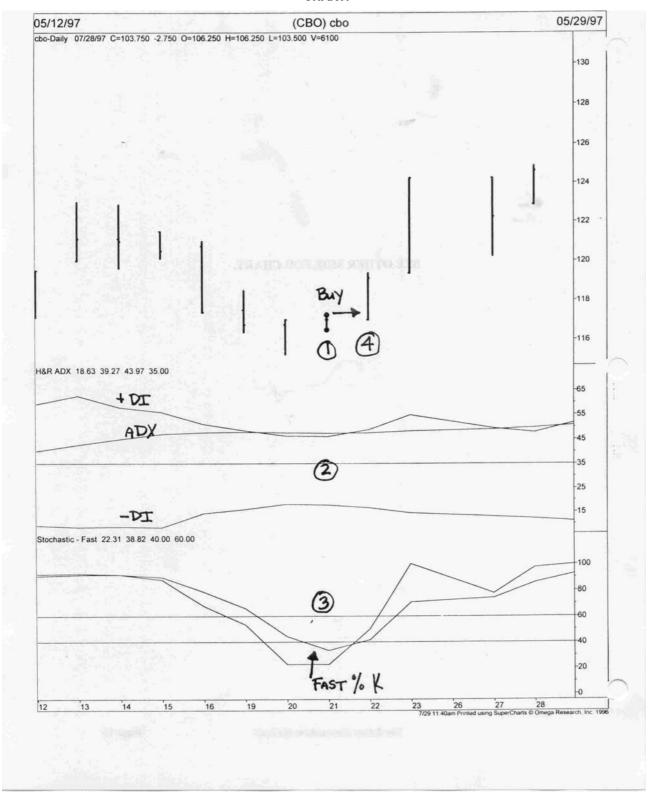
- 1) Camco is trading above \$50/share.
- 2) The ADX is above 35 and the +DI is greater than the -DI
- 3) The Fast % K stochastic reading is under 40. (We ignore the Fast % D which is the other line).
- 4) We place a buy stop one tick above the previous day's high and we do not get filled. We will try again tomorrow. (Remember: Even if the stochastic reading goes above 40, you try one more day.
- 5) We get filled and our protective stop is near yesterday's low.
- 6) A 10 % move in a week.



Sonat

Here is a short sale.

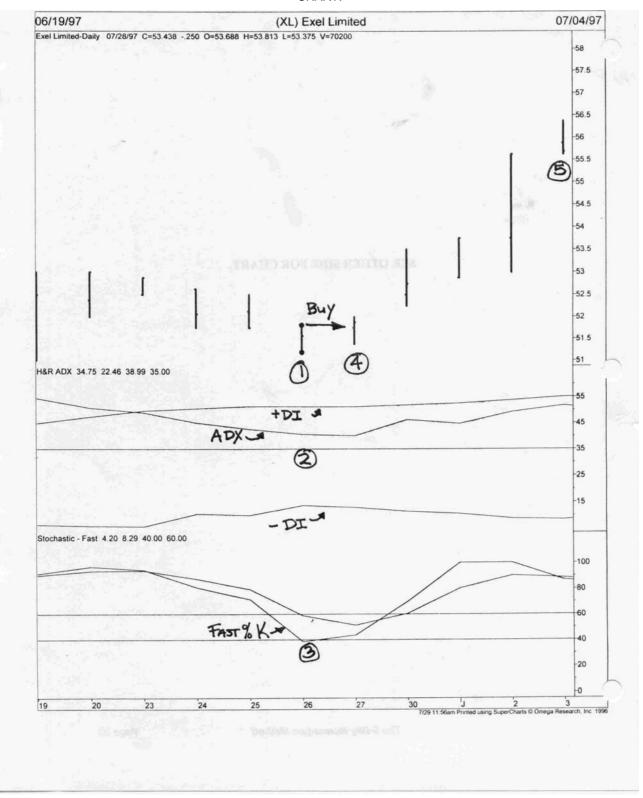
- 1) The stock is trading above \$40/share.
- 2) The ADX reading is well above 35 and the trend is down because the –DI is greater then the +DI.
- 3) The Fast % K stochastic moves above 60 signifying a signal.
- 4) We sell short at 53 3/16, one tick under the previous day's low. Our stop is near yesterday's high.



СВО

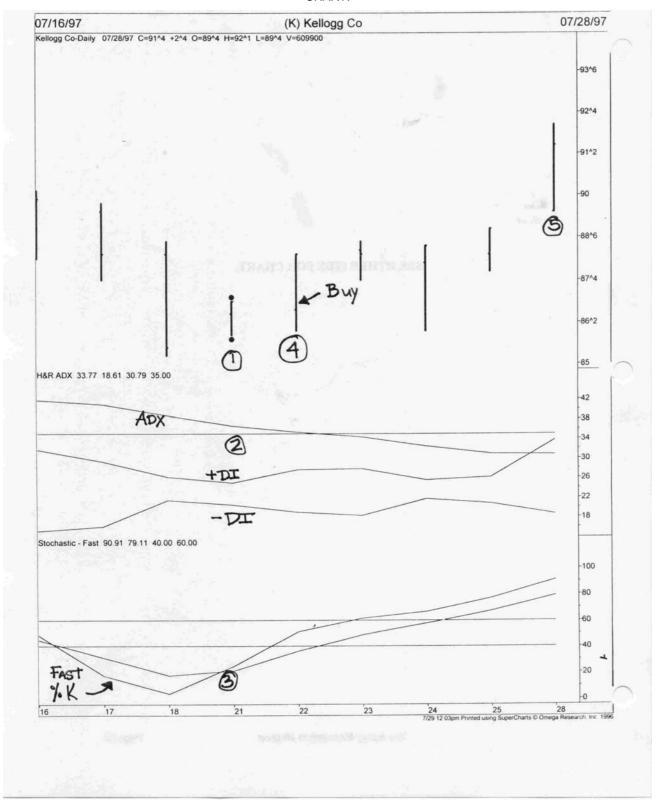
- 1) The stock is priced over \$50/share.
- 2) The ADX reading is above 35 and the +DI is greater that the -DI signifying the trend is up.
- 3) The Fast % K reading is under 40 (we ignore the Fast % D which is the other line) telling us a pullback has occurred.
- 4) We buy one tick above the signal day high at 117 1/2 and our protective stop is near the previous day's low.

Please notice the stochastic reading was above 40 on May 20, therefore a signal wasn't triggered.



Exel Limited

- 1) The stock is trading above \$50.
- 2) The ADX reading is above 35 and the +DI reading is greater than the -DI reading. This tells us the trend is up.
- 3) The Fast % K drops under 40.
- 4) Buy one tick above yesterday's high of 5113/16. Our protective stop is near the previous day's low.
- 5) Exel moves more than 4 points higher.



Kellog

- 1} Here is a solid move from a fairly conservative stock. Kellogg is trading above \$50.
- 2) The ADX is above 35 and the +DI is greater than the -DI.
- 3) Fast % K is below 40
- 4) Buy at 86 7/8 and our protective stop is near 85 13/16. Our risk is approximately 1 1/16 points.
- 5) The stock moves nearly 5 points in 5 days.

When To Get Out

Earlier, I mentioned that *The 5 Day Momentum Method* was an ideal strategy for traders Who did not wish to or could not sit in front of a trading terminal all day. Because the strategy is a 1-7 day set-up, you can place the entry stops with your broker and give instructions for the initial protective stop upon being tilled. From there, you have two exit choices. The first is simply a 5 trading day exit and is specifically for those individuals who are just too busy to be more pro-active. The second exit strategy is a more dynamic strategy and allows you to maximize gains further.

The 5 Day Exit

Research on *The 5 Day Momentum Method* has found that the average period to maximize gains after being tilled is five trading days (hence, the name). This gives the trade ,enough time to develop as the trend kicks back in. Therefore the exit rules are as follows:

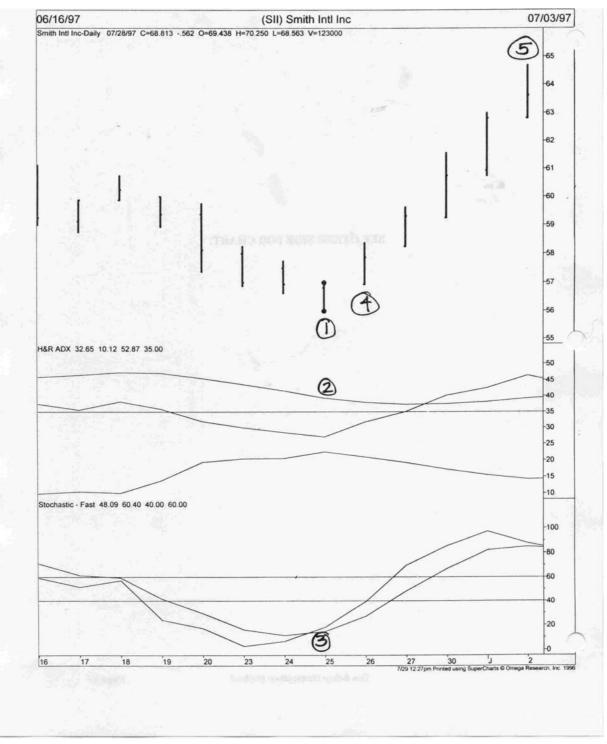
- 1) Upon being filled, place a protective stop near the low of the previous day's bar (near the high of the previous day's bar for short sales). This should be a good till canceled (GTC) order and it wilt remain intact until you are filled or you have canceled the order.
- 2) If you are not stopped out, exit the trade on the close four trading days from today. This means if you are filled on Monday, you will exit on Friday (this keeps you in the position for 5 trading days, Monday inclusive).

This is the simplest way to trade. You are simply exiting the trade upon either being stopped out or five days later, which is likely a profit. Please remember to cancel your good till canceled stop order upon being tilled on the fifth day. Failure to do this can be not only embarrassing, but also quite costly.

Finally, the one suggestion I may add to this comes when you have an extraordinary gain,

It is quite frustrating to allow a large profit to vaporize because you are waiting for the

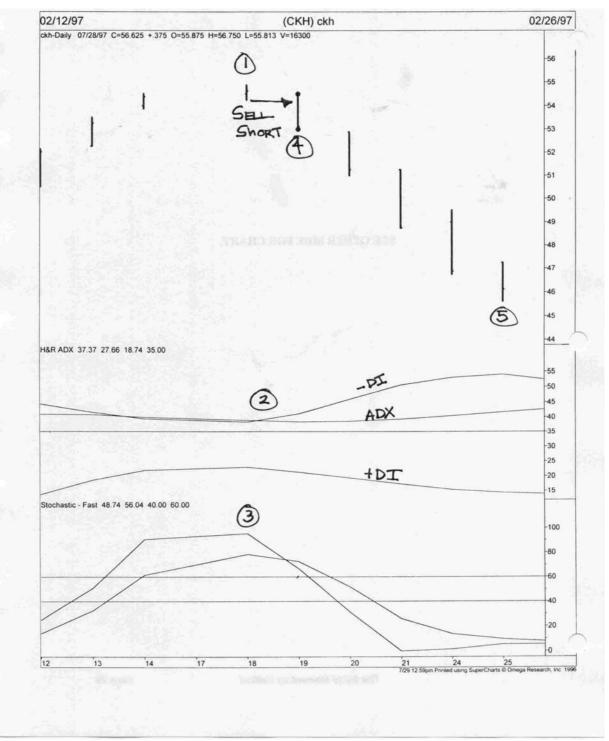
fifth day. Therefore, on profits you are happy with, sell half your position (and cancel half your GTC order) and let the other half go the full period. This should basically give you a very solid chance of furthering your overall gains.



5 Day Exit

SII

- 1) Smith International is trading above 50, off its pullback.
- 2) The ADX and +DI, -DI signify a strong uptrend.
- 3) The Fast % K stochastic is under 40.
- 4) We buy the next day at 57 1/16. Our protective stop is at 56.
- 5) 5 days later, we exit at 63 5/8 and we cancel our stop. Our reward/risk was 7-1.



- 1) The stock is above \$40/share.
- 2) ADX signifies a strong downtrend.
- 3) Stochastic above 60.
- 4) Sell short at 54 1/8, one tick under the previous day's low and place a stop near the previous day's high. Remember, the protective stop should be placed, Good Till Canceled (GTG)
- 5) We buy back our short position 8 points lower and cancel our stop order.

The Trailing Stop Exit

This exit strategy requires you to be more hands on and the added effort should increase your profits by an added amount.

Here is how to execute the exit strategy:

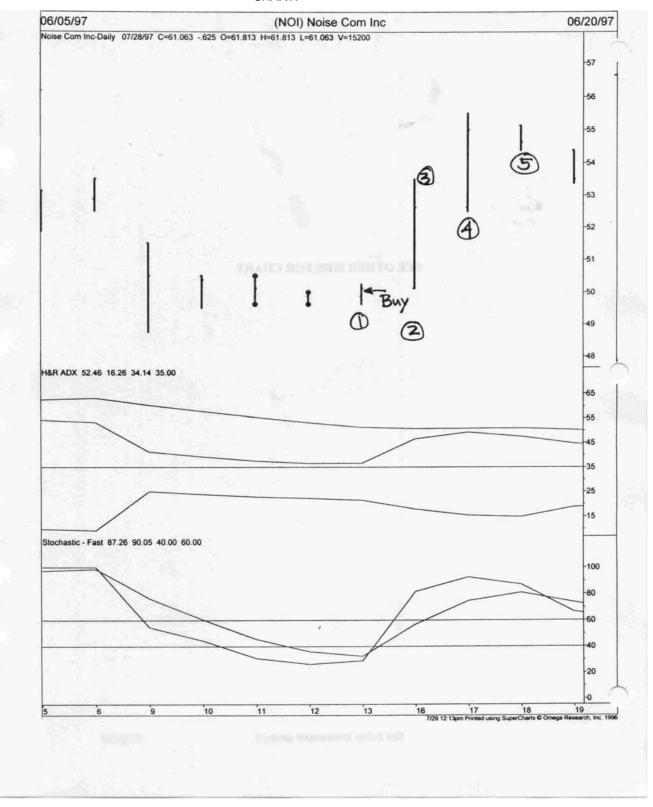
For Buys:

- 1) Upon being tilled, place your stop at or near the bottom of the previous day's bar.
- 2) Measure the risk of your trade and upon profiting by that much move your stop to break-even. This means if you buy at 52 and your initial protective stop is at 50, your risk is 2 points (commissions are omitted). When the stock trades up to 54 (2 points) your protective stop immediately moves up two points to 52 and puts you in the position of, at worst, scratching the trade (barring an unforeseen calamity).
- 3) When the stock moves to a price that is double your initial risk, sell half. This means at 56 (double the initial2 points risk) you will take profits on half the position.

4) Let the other half run as y u see fit. It is impossible to know how far the trend will carry the position and, by trailing the stop, you have the chance to further maximize your gains.

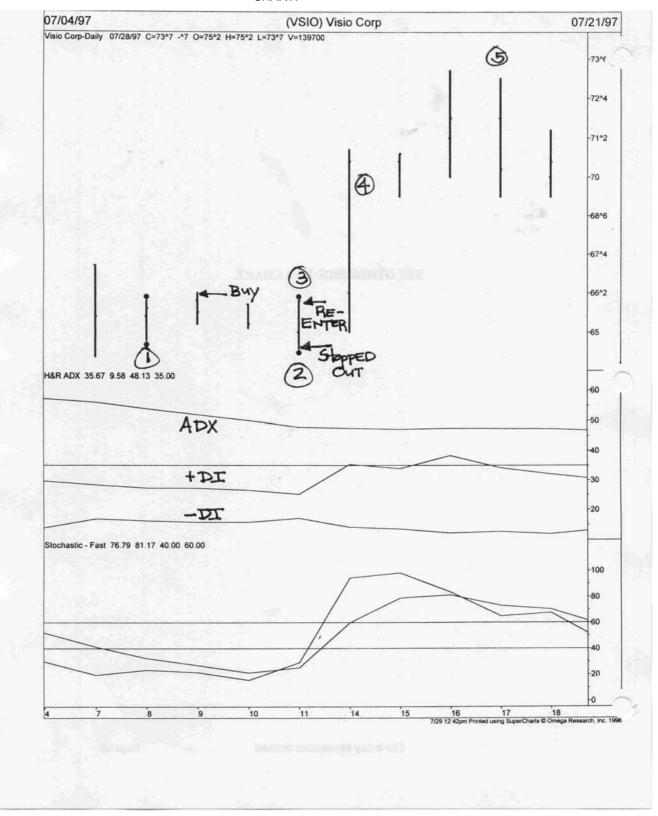
For Short Sales:

- 1) Upon being filled, place your stop at or near the top of the previous day's bar.
- 2) Measure the risk of your trade, and upon profiting by that much, move your stop to break-even. This means if you sell short at 59 and your initial protective stop is at 61, your risk is 2 points (commissions are omitted). When the stock trades down to 57 (2 points) your protective stop immediately moves down two points to 59 and puts you in the position of, at Worst, scratching the trade (barring an unforeseen calamity).
- 3) When the stock moves to a price that is double your initial risk, buy back half. This means at 55 (double the initial 2 points risk) you will take profits on half the position.
- 4) Let the other half run as you see fit. It is impossible to know how far the trend will carry the position and by trailing the stop, you have the chance to further maximize your gains.

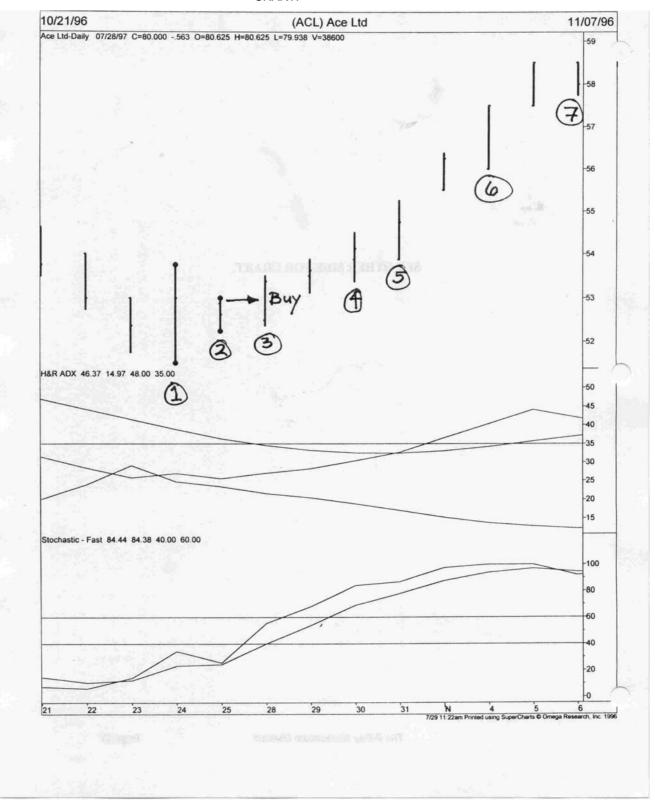


NOI

- 1) We enter NOI at 50 1/8 and our stop is at 49 3/8 risking 3/4 points (not including slippage and commissions),
- 2) The next day the stock rises intraday to 50 7/8 which is equal to our initial risk. We therefore raise our stop to yesterday's entry at 50 1/8.
- 3) The stock continues to rise and we have doubled our return versus our risk and we take profits on half the position
- 4) The stock remains strong and we raise our stop by at least one point or more to lock in further profits.
- 5) The stock closes under where it opened and we should strongly consider exiting, as it appears the momentum has faded.



- 1) A set-up and we are filled the next day.
- 2) Two days later, we are stopped out for a loss. Please notice though we again intraday have a signal.
- 3) We enter at 66 and our stop is at 65 1/4 risking 3/4 of a point.
- 4) Intraday, our position moves equal to our initial risk and we move the stop to breakeven. When the stock rises to 67 1/2 (double our risk), we take profits on half.
- 5) As the stock rises, we will trail our stop higher to lock in the remaining profits.



- 1) A buy signal.
- 2) No entry, as we do not trade above the previous day's high.
- 3} We enter at 53 1/8 and our initial protective stop is at 52 1/8 risking 1 point.
- 4) The stock rises 1 point (our initial risk) and we move our stop to breakeven.
- 5) At 55 1/8 (double our risk), we sell half.
- 6) As the stock rises, you should raise your stops to protect your profits.
- 7) A down day --profits should be locked into near the \$58 range.

In conclusion, exit strategies are always a bit more difficult than entry strategies. I realize the trailing stop exit is more complicated than the 5 day exit, but if you have the time and ability to utilize it, your returns should be greater .

One final note to remember: you are risking a fairly small amount (usually a few points) in order to make larger gains. Therefore it is critical to adhere to the protective stop rules. Small losses can be survived but large losses will definitely kill you. This can be avoided with good discipline on your part.

Money Management

We have discussed the importance of stops and I would like to again mention it. I know of too many traders who allow one loss to wipeout many gains. *The 5 Day Momentum Method* is a fairly low-risk (compared to other trading systems I have come across) trading strategy that hits lots of singles. <u>PLEASE NOTE:</u> In backtesting the method on a universe of over 500 stocks (above \$50/share) over a seven year period, there was an approximately 1 5/8 point average gain per trade over a five day period. The method was successful a little <u>under 50% of the time (due to being stopped *out*). This means that the profit to loss per trade was approximately 3-1. Some trades had home-runs, and the remaining winning trades grinded out small gains. Therefore, allowing a loss to run on you will greatly lower your chances for success.</u>

On the percentage returned side, the results are excellent. If we lower our 1 5/8 point average trading profit by 3/8 point for the spread and slippage (this is generous) and another 1/8 for round-trip commission (6 cents per share), we still are left with 1 1/8 points per trade. The average price of the stocks tested was approximately \$71 per share. Therefore, each trade made 1.58% for five days work! (1 1/8 divided by 71) Annualize this on a one trade per week basis and the results are staggering. Is this return guaranteed? Absolutely Not. It only shows that on a historical basis, *The 5 Day Momentum Method* provided a healthy edge to those willing to follow the rules and use proper money management.

I cannot stress strong enough the importance of remembering this when the urge to ignore your protective stops arise. It is the single most common reason why traders fail, and if you wish to avoid joining their club, protect yourself and abide by the rules!

Trading Options With The 5 Day Momentum Method

I will begin this section by telling you I am not an options trader . I trade equities and this keeps me busy enough. There are, though, many people who focus on the options markets as a leveraged way to make their money grow. Unfortunately, the overwhelming majority of traders lose money buying options. My observation is they commit two trading sins: 1) They guess where the market (stock) is going and 2) when they are wrong, they don 't use stops and they let their options go to zero. In my opinion, *The 5 Day Momentum Method* lends itself well to short-term options trading and it helps cleanse the above mistakes.

In order to utilize *The 5 Day Momentum Method* with options, you need to apply the exact same rules you would use as if you were trading the underlying equities. The only difference will be is that you will be buying deep in the money calls for long set-ups and deep in the money puts for short set-ups. Also, you will purchase the options only after the signal is triggered on the underlying equity .This means that if *The 5 Day Momentum Method* buy stop is to be triggered on the stock at 57 3/4, you will not buy the options until the stock trades at that price.

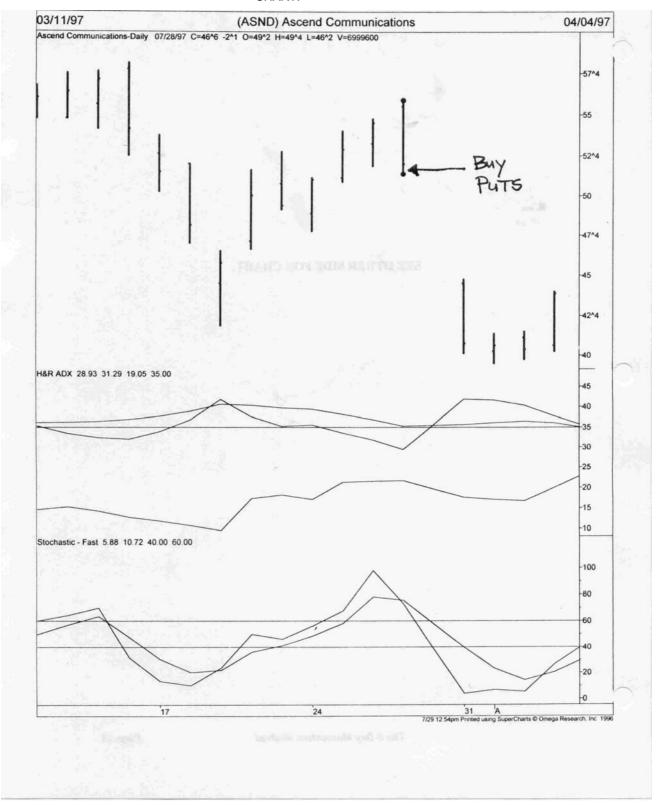
Now the question to answer is, which options to trade? You should be at least 2 strike prices in-the-money to minimize the option premium. In the above example, we used 57 3/4 as the trigger price. Therefore the 55 calls are one strike in the money and the 50 calls.

are two strikes in the money. The front month 50 calls are the ones to focus on and to buy (if the expiration date is within 5 trading days, trade the following month options).

As far as exit strategies, they are identical to the equities. Protective stops should be in place at the same levels as the stocks and you should exit in the same manner.

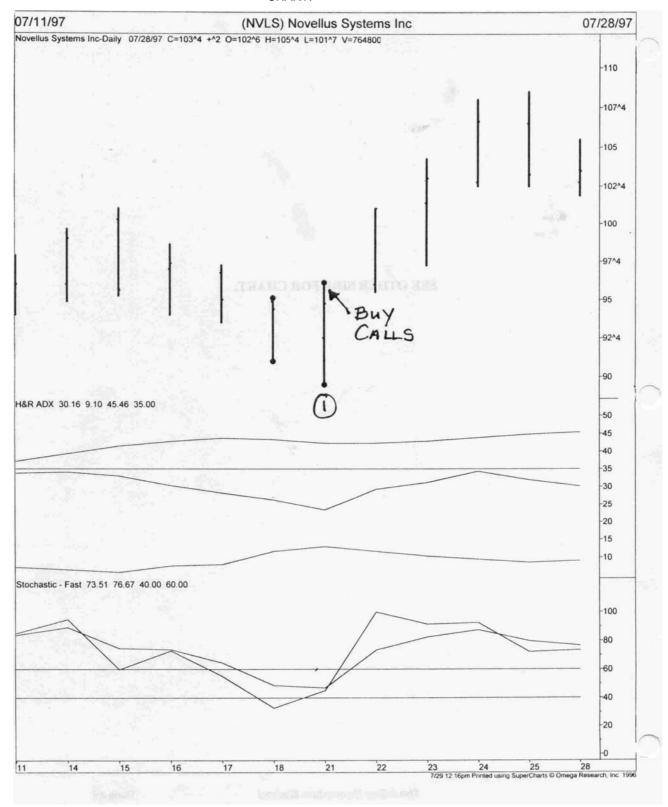
One last point should be made. As I mentioned earlier, the higher the price of the stock you are trading, the larger the profit. Therefore, it is even better to focus on the options whose underlying stock price is above 80 or 90 or higher. Again, the higher the stock price, the better!

Let's look at a few examples to help further understand the above:



Ascend Communications

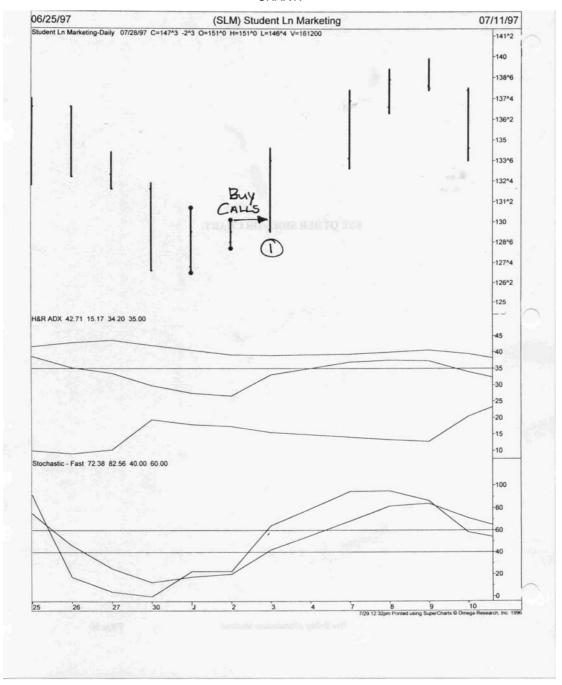
1) A set-up and a trigger to buy the August 60 puts at 8 1/4. The next day, the stock collapses and the puts more than double, closing at 19 1/4.



Novellus Systems

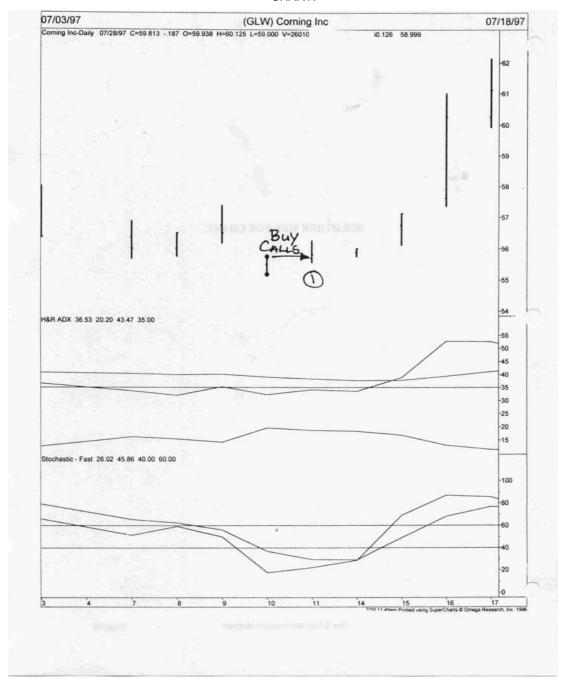
1) On July 21, 1997, Novellus has a 5 Day Momentum Method set-up. The entry price is above 95 and therefore we will buy the August 90 calls, which are trading at 9.

The stock explodes higher and a few days later our calls close at 17 1/2 for a better than 90% gain. (Please remember you would sell your calls beforehand, anytime the stock traded under the July 20 low).



Corning Inc.

1) A buy set-up. We purchase the August 50 calls for 7. Four days later the calls are trading better than 70% higher.



Student Loan Marketing

- 1) Another buy set-up. The stock is trading a bit above 130, and we purchase the 125 calls at 7
- 3/4. As you can see, we double our money within 3 days.

In conclusion, I prefer to trade the underlying stocks with all my strategies instead of the options. This is a personal choice and it has worked well for me. If, though, you can overcome the lack of liquidity and large spreads associated with options, they certainly do provide you with a lower cost, higher leveraged means to play the game.

Summary

In conclusion, you will only be trading strongly trending stocks that briefly move opposite

the trend and then resume their overall trend. Again, this concept bas been succesfully

used for decades and in my opinion The 5 Day Momentum Method does an excellent

job of identifying and trading this natural tendency.

Remember, this method is correct a little less than half the time. Do not become

discouraged. The losses should be small and a handful of gains will be large. This is

quite normal for this strategy.

Please re-read this manual and before applying the rules, and paper trade it. It will only

make you more confident of both the method and your abilities.

Finally, use good (and disciplined) money management strategies as described previously.

This will be the ultimate reason for your success.

Best of Luck,

Jeff Cooper

APPENDIX

How To Increase The Potential Of The 5-Day Momentum Method

The most direct way to participate in large moves is to trade volatile NASDAQ stocks.

These are the stocks that move up Of down 3-5 points some days. Names like Intel,

Microsoft, Dell Computer, and Applied Materials are just a few of the companies that do
that. By focusing on these types of stocks, you will be in the position to participate in
substantial moves. The drawback though is that by trading these highly volatile names,
your risk will be exponential higher. This means you must put up with the fact that you
will be stopped out at a higher rate than less volatile stocks. Please remember this before
you trade these (and their counterpart) companies.

Scanning for Set-ups

It is an inefficient use of time to calculate this strategy by hand. If you use Omega TradeStation or Omega SuperCharts you can order the software that will do this for you (see the back of this course). If you have other software, call a programmer or technical support at those organizations. They can create the scanning software for you in under one hour.

Upticks

One of the problems with shorting stocks is the need for an uptick. Stocks can, and sometimes do, drop <u>points</u> before upticking. Therefore, to assure this not happening, I recommend you place a sell short stop limit order and give the broker 3/8 or 1/2 point discretion. This means if you wish to sell a stock short the order should read: "sell short at 62 stop limit with 1/2 point discretion." This will assure you that your fill will not be worse than 61 1/2. Remember though that this does not guarantee a fill. you will only get tilled if there is an uptick from 61 1/2- 62 and you are in line and entitled to the fill.

Brokers

You must use a deep discount broker for this strategy. It is critical to your success and the methodology's success to keep transactional costs to an absolute minimum. Read Investors Business Daily and/or Barrons. Both papers have numerous ads from discount brokerage firms who are aggressively competing for your business. Before opening an account make sure they understand what you are accomplishing and also make sure they have the ability to tell you within minutes whether or not you can borrow a stock to short.

ADX and Stochastic Formulas

ADX and +DI/-DI

The first +DI and -DI (Directional Indicators) are calculated by summing up the Directional Movements and dividing that by the true range over a period of time (Default: 14 days).

- +DM (Positive Directional Movement) = High Price (today) -High Price (yesterday)
- -DM (Negative Directional Movement) = Low Price (yesterday) -Low Price (today)

Days on which today's high or low does not exceed yesterday's are ignored.

If
$$-DM > +DM$$
, $+DM = 0$. If $+DM > -DM$, $-DM = 0$.

True Range is determined by the largest absolute value of :

- 1. Today's high today's low, or
- 2. Today's high yesterday's close, or
- 3. Today's low -yesterday's close.

The +DI measures upward movement and the -DI measures downward movement

- +DM (today) = +DM (previous point) -(+DM (previous point)/Cycle length) + +DM (today)
- -DM (today) = -DM (previous point) -(-DM (previous point)/Cycle length) + -DM (today)

Trnge (today) = Trnge (previous point) -(trnge (previous point)/Cycle length) + trnge (today)

- +DI (today) = (+DM(today)/trnge(today)) * 100.
- -DI (today) = (-DM(today)/trnge(today)) * 100.

NOTE: "Trnge" denotes true range.

NOTE: "Trnge" denotes true range.

The DX is the directional movement index . It is calculated by dividing the absolute value of the difference of DIs by the sum of DIs and normalizing this by multiplying by 100. The higher the DX, the more directional the movement; the lower the DX, the less directional the movement Whether the price movement is up or down is irrelevant to the DX; the DX solely measures how much up or down the movement is (the amount of the movement).

$$DX = (| (+DI) - (-DI) | / (+DI) + (-DI) * 100.0$$

The ADX, Average Directional Movement Index, is a kind of moving average of the DX

Today's ADX = { (Previous ADX * (number of days -1)) + Today's DX} / number of days

The ADXR line, an Average Directional Movement Index Rating, is simply an average of the ADX at the beginning and the ADX at the end of a period:

ADXR = (ADX (today) + ADX (today -number of days)) / 2.0

An ADXR value above 20 is considered to be a significantly trending market

Stochastic Formula

%K: An unsmoothed Relative Strength Indicator of daily close (Default: 8 days).

%K = (Current Close -Low for Period)/(High for Period -Low for Period) * 100